APPENDIX 3A

CLINICAL SPECIFICATION

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3A.1.1 INTRODUCTION

3A.1.1.1 The BC Children's Hospital (BC Children's) and the BC Women's Hospital and Health Centre (BC Women's) – collectively referred to as Children's & Women's (C&W), are leaders in clinical excellence, delivery of patient and family-centred care, clinical teaching and research. C&W has a mandate to deliver a comprehensive range of specialized tertiary and quaternary patient care services for the sickest children and most complex obstetrical cases in a culturally and linguistically diverse province.

3A.1.1.2 The projected demand for services resulting from population growth, combined with existing longstanding and significant infrastructure shortcomings has precluded C&W's ability to fulfill their provincial mandate and ensure the highest level of care delivery, clinical teaching and research in support of British Columbia's most vulnerable patients.

3A.1.1.3 The C&W Redevelopment Project has carefully planned programs and services based on projected demand for services. Central to this, the project has engaged in an Integrated Facility Design (IFD) process focused on developing information necessary to guide the preparation of these clinical specifications. IFD is based on the concepts of Lean process design; and utilizes many of the Lean tools already in use at Provincial Health Services Authority (PHSA). The IFD process has tested seven flows of medicine; patients, providers, supplies, medications, information, equipment, and families, throughout the facility in order to optimize productivity and reduce waste on a system-wide basis.

3A.1.1.4 This document outlines each functional area of the new Acute Care Centre (ACC) along with a schedule of accommodation necessary to realize future care delivery.

3A.1.2 MISSION, VISION, GUIDING PRINCIPLES

3A.1.2.1 **Project Vision** The overall vision of the project is "to develop a campus of patient-centred care that operates in an environment of quality, excellence and innovation".

3A.1.2.2 **Project Guiding Principles** for the project are grouped into four main themes:

(1) Reflect patient and family-centred care philosophy;

(2) Reflect the culture and core values of BC Children's, BC Women's and University of British Columbia (UBC);

(3) Maximize operational efficiency; and

(4) Ensure environmental sustainability.

3A.1.2.3 For each guiding principle, a few examples of desirable features have been identified in the following table:

Guiding Principle	Desirable Features
Reflect patient and family-centred care philosophy	Create facilities that: • Put patients and families first and treat the whole person; and • Support a healing environment.
Reflect the culture and core values of BC Children's, BC Women's and UBC	Create facilities that: • Maintain the individual identities of the organizations that occupy the site now and in the future; • Are appropriate for diverse patient populations and ensure accessibility; • Promote patient-provider collaboration and lifelong health and wellness for patients, families and workers; • Treat the whole person (physical, emotional, social, spiritual dimensions); and • Provide space for clinical education and clinical research that supports the core mandate of the organizations.
Maximize operational efficiency	Create facilities that: • Are cost-effective; • Support the relationship between services and people; • Incorporate technologies that benefit patient care and support clinical education and clinical research; • Support changes in health care models, including response to public health and environmental disasters, technological changes, and changes to the province's demographics; and • Support the needs of staff, physicians, volunteers, learners, patients and visitors.
Ensure environmental sustainability	Create facilities that: • Are sensitive to, and work within, the natural environment; and • Are sensitive to, and work within, the neighbourhood.

3A.1.2.4 **The ultimate goal of the Project** is to create affordable and sustainable strategies to address challenges associated with the existing BC Children's and BC Women's Hospital facilities.

3A.1.2.5 In Scope Objectives

(1) Incorporate Lean and evidence-based design principles in facility design to improve the delivery of patient-centred care.

(2) To build a new tertiary integrated hospital facility serving patients from across the province by utilizing sustainable and fiscally-responsible strategies to address the challenges of the existing BC Children's and BC Women's site.

(3) Provide a facility that improves operational efficiency and capacity utilization by developing flexible spaces to support effectiveness in health care service delivery and respond to public health and environmental disasters.

(4) Provide space for clinical education and clinical research that supports the core mandate of BC Children's and BC Women's.

(5) Build a facility that is environmentally responsible to LEED Gold and supports a safe and healthy work environment.

(6) Integrate with site wide IMIT.

3A.1.3 MAJOR CLINICAL SERVICE ROLES AND SCOPE

3A.1.3.1 Clinical and Patient and Family Centred Care

(1) The major clinical and academic service roles for BC Children's and BC Women's include:

- **(a)** Serve as the province's only tertiary and quaternary care facility for women, newborns, children and youth;
- **(b)** Provide limited primary and secondary care for surrounding geographic area (Vancouver);
- **(c)** Serve as one of two surgical centres for the Western Canadian Children's Heart Network;
- **(d)** Serve as a western regional resource for pediatric neurosurgery;
- **(e)** Serve as the provincial resource for maternal, newborn health and women's specialized health;
- **(f)** Serve as the provincial resource for Child Development & Rehabilitation (acute through rehab in a continuum of care);
- **(g)** Serve as the provincial hub of the Child Health Network (CHN);
- **(h)** Clinical teaching of health care professionals; and
- **(i)** Clinical research.

(2) As an agency of the Provincial Health Services Authority (PHSA), BC Children's supports PHSA's three primary strategic directions, outlined in the PHSA Strategic Plan:

- **(a)** Improving quality outcomes and providing better value for patients;

(b) Promoting healthier populations; and

(c) Contributing to a sustainable health care system.

(3) BC Children's supports PHSA's strategic directions by delivering on its seven Core Actions and five Key Initiatives.

(a) Core Actions

(i) Improve quality. Be Safe;

(ii) Educate, learn and discover;

(iii) Deliver innovative sub-specialized care;

(iv) Work together as a caring team;

(v) Partner with families;

(vi) Plan provincially; and

(vii) Collaborate to create novel community-based approaches.

(b) Key Initiatives

(i) New Academic Health Centre Site Redevelopment;

(ii) Collaborative Areas of Innovation;

(iii) Child Health Information Strategy;

(iv) Provincial Child Health Framework; and

(v) Advance the Academic Health Science Model.

(4) BC Women's identified eleven priority actions for 2012-2013 to help realize PHSA's strategic directions and core actions:

(a) Enhance Neonatal Intensive Care program infrastructure and Model of Care to create a centre of excellence;

(b) Provide timely access to state-of-the-art breast diagnostic care;

(c) Create an integrated specialty reproductive health program;

(d) Increase access to medical genetics diagnostics and treatment through outreach and training expansion;

(e) Enhance services, outreach and education and training to develop an HIV/AIDS centre of excellence for women and families;

(f) Develop and consolidate women's population health initiatives to promote women's health;

(g) Create a quality, safety training and education program to reduce adverse outcomes related to team communication to enhance patient care;

(h) Advance integrated research agenda to support translational research in women's health;

(i) Lead our component of site redevelopment to redesign clinical processes to inform the design of the new site;

(j) Implement Lean Management for excellence in quality, safety and efficient patient care; and

(k) Implement workforce strategy to strengthen and optimize health human resources.

(5) Education C&W will continue to provide a learning environment for undergraduate and post-graduate students from medical and nursing programs. Technical and professional trainees in the allied health disciplines will also continue to be accommodated on-site for the practicum phase(s) of their curricula. This volume of students is expected to increase and currently exceeds 3,000 students.

(6) Research C&W will continue to actively promote on-site basic and clinical research. Clinical research protocols will encompass epidemiological-type studies as well as clinical trials; the latter may be coordinated through established clinical programs or may be conducted as independent protocols.

(7) The ACC is a facility which will support the clinical services provided by C&W and support services provided by a consortium known as Lower Mainland Consolidation (LMC). In addition, these agencies will provide on-site academic training and clinical research. Within the ACC, there are eight programs; Birthing Program, Neonatal Intensive Care Unit (NICU), Medical/Surgical Inpatient Units (IPU), Oncology/Hematology/Bone Marrow Transplant (Onc/Hem/BMT) Program, Pediatric Intensive Care Unit (PICU), Emergency Department (ED), Procedures Suite, and Renal Dialysis. LMC will provide the ACC with Medical Imaging (MI), Pharmacy and Laboratory services. C&W will provide a Medical Equipment Depot (MED), Medical Device Reprocessing (MDR) and ACC Entry Facilities services.

3A.1.4 CURRENT PROGRAMS/POPULATIONS OF CARE

3A.1.4.1 Model of Care Strategy

(1) Planned patient care at C&W will be further organized according to patient flows. Under this model, professional services staff will be deployed to meet the needs of patients and families, to achieve true inter-professional practice and collaboration, a best practice standard of care supported by Health Canada. Under this model, representatives from different disciplines will combine their skills to address the therapeutic and preventive needs of discrete patient populations.

(a) The care will be designed around the needs of the patient/resident/consumer and stem from the health needs of the population.

(b) Clinical leaders/administrators will have full accountability for fiscal and human resources.

(c) Care and services are integrated and delivered by inter-professional teams.

(d) Staff are recognized for their problem-solving skills and are empowered to make decisions at the point-of-care.

(2) Planning will accommodate the need for decentralization of care workers and supplies towards the site of patient care, as opposed to the more traditional centralization. The model will require a reorganization of selected facilities into patient flow-oriented clusters and increase the need for flexible office and meeting rooms.

(3) The Model of Care will not be limited to care conducted within C&W. It will be equally relevant to inpatient and outpatient services, and will provide a continuum of service beyond the facility's walls either in the form of follow-up care by staff based at C&W or through liaison with community-based workers.

3A.1.5 KEY SHARED PROFESSIONAL AND SUPPORT SERVICES

3A.1.5.1 This section describes key professional and support services shared by BC Children's and BC Women's Hospitals including a range of allied health services and involving the movement of patients, visitors, staff, specimens, materials, equipment, and information on the C&W campus.

(1) **Shared Professional Services**

(a) Audiology and Speech Language Pathology

(i) The Audiology discipline provides hearing testing for children 0-16 years of age from British Columbia and the Yukon who do not have access to local services or to the appropriate level of care.

(ii) Audiologists conduct many types of hearing tests, including counselling sessions with children and family to discuss the results. Consultation on a patient's hearing loss also occurs with caregivers such as educators and other care providers.

(iii) The discipline directs the Cochlear Implant Service at C&W. This service involves the selection, assessments and follow-up care.

(iv) All infants in the NICU and newborns at BC Women's are part of a screening program that involves the screening of each infant's hearing prior to discharge. Follow-up assessments and treatment for those infants is done in the community.

(v) The majority of Audiology patients are ambulatory. A limited number of inpatients are seen as part of a team service or as individuals requiring assessment.

(vi) Speech language pathologists provide extensive outpatient and inpatient services including:

(A) Assessment, inter-professional consultation and counselling services to parents and caregivers;

(B) All inpatients and outpatients by referral; and

(C) Education services within the Hospital and in the larger community.

(vii) In addition, speech language pathologists provide educational services to:

(A) Community therapists;

(B) Large groups of professionals and parents; and

(C) Students from various university programs (up to six at C&W per year).

(b) Biomedical Engineering (part of LMC)

(i) Biomedical Engineering (BE) will continue to provide medical technology management of electronic and electromechanical medical devices focusing on equipment used for the diagnosis, monitoring and treatment of patients that fall outside the scope of Project Company (Project Co) responsibility.

(ii) Personnel are also responsible for determining electrical standards for clinical areas and may participate in inspection visits to ensure compliance with safety standards.

(iii) Equipment that falls outside the scope of Project Co responsibility and cannot be serviced at point-of-use will be transported by an equipment portering service. Some equipment may go to the Equipment Depot or to the main BE department on Level 0 of the 1982 building. Equipment that cannot be serviced at C&W is transported off-site.

(c) Interpreting Services

(i) Interpreting services provide either on-site or remote translation for health care providers, patients, and families as needed.

(d) Nutrition Services

(i) Nutrition Services will continue to provide leadership and expertise in the delivery and promotion of quality nutritional care to children, youth, women and their families.

(ii) The focus of dietitians working in the C&W programs will be to optimize nutrition in order to support growth, development and well-being. Given the acuity of medical conditions the children in care face and the resulting impact on nutritional status and growth, a significant number of the children followed require lifelong modifications to their diet or are receiving nutrition through total parenteral nutrition or parenteral tube feeding.

(iii) The dietitians will work closely with other members of the health care team to ensure premature infants receive the nutrition they need which is critical to their growth and development.

(iv) Functions provided through the Formula Room (FR)/milk bank will include the procurement, preparation and distribution of infant and parenteral formulas utilizing aseptic technique, to designated patient care populations of the ACC (except NICU). This is currently located on Level 1 D wing, Shaughnessy building and is anticipated to move into the 1982 building prior to the opening of the ACC.

(v) The Satellite Milk and Formula Preparation Room (SMFPR) located inside the Satellite Pharmacy (Critical Care) in the ACC, will provide service exclusively to patients in the NICU. Mother's milk storage freezers will be attached to the SMFPR. Services provided will include receiving of supplies from the Main Formula Room/Donor Milk Bank/Stores/Kitchen (as needed), electronic order entry, management, and aseptic preparation and distribution of fortified donor milk, mother's milk, powder, additives and formulas. Resources to allow for

point of care pick-up and delivery will be made possible through a shared resource model with pharmacy.

(vi) Patients requiring the services of the Special Products Distribution Centre (SPDC) located on Level 1, C Wing, Shaughnessy building will be referred there. Patients may also be directed to a community pharmacy carrying specialty products.

(e) Occupational Therapy

(i) The Occupational Therapy Department will be located on Level 1 Ambulatory Care Building (ACB) for therapy and 3rd floor for office space, and Level 1 in the 1982 building where the physiotherapy/occupational therapy (PT/OT) gym is located. The discipline will continue to provide a range of specialized clinical services, education and research activities. There will be a new PT/OT gym located on the surgical inpatient level of the ACC. On the medical inpatient unit level of the ACC, there will be a smaller respiratory therapy (RT) PT/OT room used for patient care.

(ii) This department will provide services to inpatients admitted to the various programs of the BC Children's and BC Women's NICU, as well as the Mental Health Program's Child and Adolescent Psychiatry.

(iii) OT's are an integral part of the interdisciplinary teams which provide service to the many ambulatory clinics of BC Children's including general and specialty Orthopedic and Plastics clinics, BC Women's Neonatal Follow-up Clinic and outpatient clinics of Child and Adolescent Psychiatry. They see outpatients referred to OT through the Plagiocephaly Clinic, Torticollis Clinic and Feeding and Swallowing Clinic. OT's provide consulting services only to children referred to several other specialty clinics.

(iv) The OT staff are committed to the education of OT students. The therapists provide opportunities for clinic visits, tutoring for courses, lectures and support for required research projects in addition to offering clinical placements for Masters OT students and students of College Therapy Assistant Diploma Programs. They provide educational services to community therapists, large groups of health care professionals and parents.

(v) As the province's pediatric tertiary care centre, the OT's at C&W support community therapists through providing consultations in assessment and interventions for children with complex problems. The department liaises with and supports community-based programs, will organize courses, teleconference in-services, and workshops for other therapists in the province.

(f) Pathology and Laboratory Services

(i) Pathology and Laboratory Services located on Level 2 North of the 1982 building provides comprehensive chemistry, hematology, microbiology, genetics and diagnostic, pathology and morgue services at C&W. This includes accessioning and specimen drop off in the lab area, and a family viewing area within the morgue.

(ii) More than two-thirds of clinical decisions are driven by data obtained from the pathology laboratory. Accurate and state-of-the-art diagnostic assays, and

clear and timely personal, paper and electronic communication of assay results is mandatory.

(iii) The laboratory acts as a reference centre for specialized testing and pediatric pathology services throughout BC and in the Yukon, and, as well, is the centre for provincial newborn and prenatal screening programs. In addition, the combination of the infection control service within the laboratory ensures that infection control issues unique to pediatric and maternal health receive immediate, relevant, and appropriate attention from experienced infection control experts.

(iv) The department consists of seven subsections as follows:

(A) Core Lab: accessioning, blood collection, referred-in sample reception, routine chemistry and hematology open 24-7;

(B) Anatomic Pathology: biopsies, surgical pathology, newborn, pediatric and fetal autopsy pathology, neuropathology and coroner's autopsies, provincial resource. Ease of movement between Procedures and Anatomic Pathology is required, as is access for the discreet movement of bodies to the morgue;

(C) Complex Chemistry: specialized chemistry testing, newborn and maternal screening;

(D) Complex Hematology: specialized hematology, coagulation, immunology, and transfusion medicine, provincial centre for pediatric hematologic malignancy, immunopathology, red cell diseases, cryopreservation;

(E) Microbiology: virology, food diagnosis, and provincial resource: bacteriology, virology, molecular diagnostics, rapid microbiology testing and infection control: provincial resource for the detection of pediatric and maternal pathogens;

(F) Laboratory Genetics: prenatal, cytogenetics, provincial centre for molecular genetics and biochemical genetics; and

(G) For some areas of the lab, such as transfusion medicine, physical proximity to patient care areas is an absolute requirement of proper patient care. Transfusion medicine is the only section of the lab that will be moving into the new ACC. This area must continue to supply blood and components to the entire site. Blood supply is received from Canadian Blood Services and therefore an appropriate supply route must be provided.

(g) Pharmacy

(i) The main Department of Pharmacy located on Level 0 of the 1982 building provides a full range of inpatient services to all acute care inpatient pediatric, neonatal, rehabilitation pediatric, obstetrical programs, and to designated pediatric and women's ambulatory clinics.

(ii) The primary goal of Pharmacy is to promote patient risk reduction through the safe, effective and economical use of drugs. This is achieved through a variety of activities, including:

(A) Direct Clinical Pharmacy Services, which includes direct program clinical services (multi-disciplinary rounding, problem-resolution, consultation); academic teaching; publications, presentations and multi-disciplinary education;

(B) Distribution and Compounding Services, which includes prescription order entry, sterile compounding (IV admixture and others), sterile compounding (chemotherapy and parenteral nutrition), oral/solid distribution, ward stock and Automated medication cabinets (AMC's) top-up, non-sterile compounding, and pre-packaging;

(C) Automation and Information System Support, which includes automated medication cabinet (AMC) drug distribution, a pharmacy information system, bedside dose verification methods and informatics. A system that is safe and rapid, must be available to link to the 1982 building central Pharmacy; and

(D) Supply Chain and Inventory Control, which includes purchasing and inventory control, receiving and stock returns, financial data entry and coordination with individuals, national groups and Health Canada.

(iii) Medication systems, including the level of pharmacy operations, can be expected to continue to evolve as a result of two identifiable drivers:

(A) Increased demand for patient medication safety; and

(B) Workload, and related efficiencies, including improved packaging and verification methods for both pharmacy and nursing.

(iv) The medication distribution system utilized site-wide is based on corporate risk management standards agreed upon by the executive and quality assurance committees, including medical groups. Attention shall be paid to creating well-lit, distraction-free medication preparations areas.

(v) Program management brings diagnostic and treatment services directly to the patient, primarily in the form of a clinical pharmacist participating in interdisciplinary teams in the various programs.

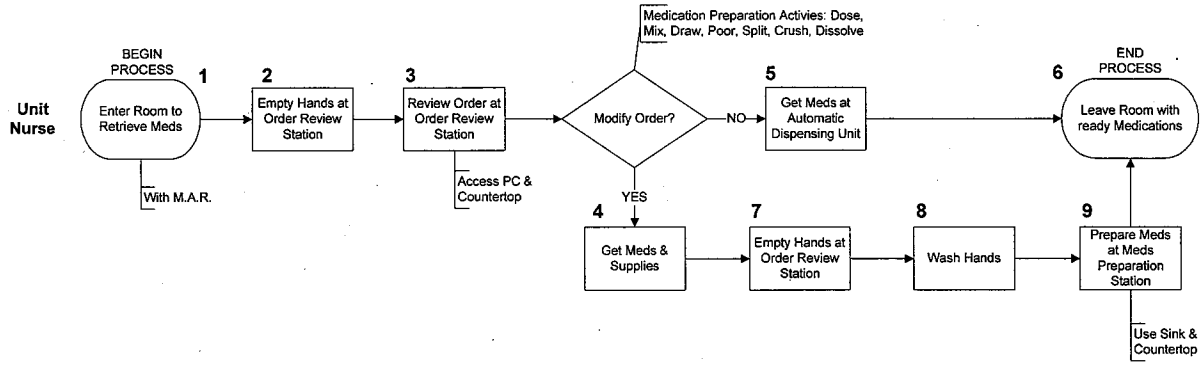
(vi) There are clinical and inventory services that will remain centrally coordinated, such as drug information, drug utilization coordination, and contracting and specialized purchasing.

(vii) Components of the medication system are both centralized and decentralized, based on current trends of physically separating the roles of clinical pharmacists from the "production technology" of pharmacy operations.

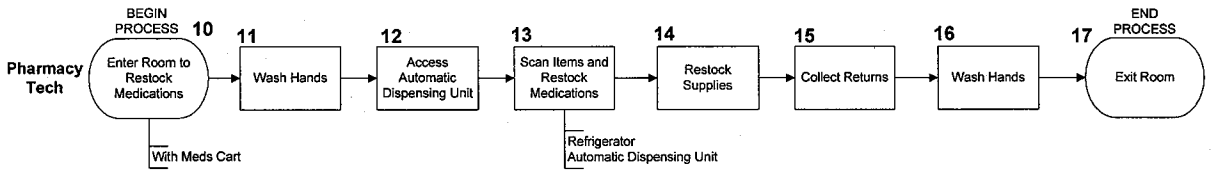
(viii) Acute inpatient drug services are planned on the basis of an automated unit dose system supplemented by cassette trays. AMC's are located in medications rooms in clinical units and selected ambulatory clinics. Unit dose cassettes of non-AMC medications will be prepared and dispatched daily from the central Pharmacy by Pharmacy staff.

(ix) The diagrams below depict the key provider flows for medication rooms. They may not apply within the Clean Core Area of the Procedures Suites or Birthing, nor does it apply to the Pharmacy areas:

Medication Room: Process Map #1



Medication Room: Process Map #2



(x) Two satellite pharmacies will be providing service to the ACC in the following areas:

(A) Oncology/Hematology/BMT Program;

(B) Pediatric ICU (PICU); and

(C) Neonatal ICU (NICU).

} *These are combined and served by a Satellite Pharmacy (Critical Care) service.*

(xi) Pharmacy information access includes (paperless) on-line ordering, charting and prescribing, and wireless access to PharmaNet at key locations throughout the site. It is anticipated that all appropriate health care providers will use the Prescription Order Entry System and that an appropriate number of workstations will be provided to double-check orders.

(xii) In addition to its clinical service and education roles, Pharmacy will continue to participate in clinical research protocols.

(h) Physiotherapy

(i) The Physiotherapy (PT) Department located on Level 1 of the Ambulatory Care building (ACB) and Level 1 of the 1982 building for therapy, will provide preventive, diagnostic and rehabilitative services to promote the quality of physical function in children and women. Level 3 of the ACB will accommodate the PT department offices. The physiotherapists will engage both the patient and families in setting short and long-term goals. They work in partnership with

children and families to develop programs and treatment strategies that meet the individual physical function, mobility and fitness needs of each child.

(ii) They will provide services on an inpatient, outpatient, community, and outreach basis. Services include the following:

(A) Specialized clinical services that optimize health and wellness;

(B) Collaboration with other health care team members;

(C) Provincial resource;

(D) Ongoing professional development;

(E) Teaching;

(F) Research; and

(G) Advocating for the profession of physical therapy.

(iii) Two satellite treatment areas will be provided in the ACC to provide service in the following areas:

(A) Inpatient gym – this is to service the rehabilitation needs of inpatient orthopedic, neurological and oncology patients; and

(B) Inpatient respiratory treatment unit – to service the needs of inpatient respiratory patients.

(iv) Minimally, the assessment/treatment areas shall be under the latest applicable CSA standards for negative pressure spaces for cystic fibrosis patients. A gym is required, as well as a treatment room adjacent to inpatient units and shared between three levels.

(v) Most outpatient services are provided by the PT as part of a multidisciplinary team in a clinic setting. PT's also provide outpatient services to children and women who require specialized treatment not available elsewhere in BC.

(i) Psychology

(i) The Psychology Department has its main department offices in the Clinical Support building (CSB). The Psychology Department develops and participates in independent and collaborative clinical research activities and provides a wide range of assessment, diagnostic and therapeutic activities to children, and their families on an inpatient and outpatient basis. The Department is committed to teaching and training of internationally trained psychologists, post-doctoral fellows, and residents (including psychiatry). Independent and collaborative research is conducted in the department.

(ii) Clinical services provided include:

(A) BC Children's: Teaching, assessment, diagnostic and therapeutic activities delivered at point of care in ED and PICU, Medical/Surgical and Oncology inpatient units. Consultation to the various medical specialty teams is ongoing. Play therapy will be provided in the ACC as well as private consultation/therapeutic services for children and their families coping with acute and chronic medical conditions including those

children with mental health and psychiatric conditions. Clinical services are provided at an individual, family and group level, with service delivery conducted in the play therapy room, family therapy room, assessment specific offices and within psychology offices;

(B) Psychologists in Mental Health provide teaching, assessment, diagnostic and therapeutic activities within acoustically appropriate, specialized ambulatory care clinics and inpatient psychiatric units.

(C) BC Women's: Staff work in reproductive mental health providing short-term therapy to women and their partners going through a difficult pregnancy or postpartum period.

(D) Training and mentorship of allied professionals, postdoctoral fellows, residents, and practicum students is provided, as well as opportunities for members of the department to develop and participate in clinical research activities.

(j) Respiratory Therapy

(i) The Respiratory Therapy (RT) Department located on Level 1 of the 1982 building will respond to clinical, diagnostic, educational, and technical needs of respiratory patients for C&W, often on an emergency basis. Services will be provided to the Procedures Suite, critical care areas (PICU and NICU), Emergency and general patient care. Respiratory Therapists (RT's) are also involved in neonatal resuscitation performed at BC Women's.

(ii) RT's (anesthesia assistants) are members of the Code Blue team for C&W and will assist anesthesiologists with anesthesia inductions, patient monitoring while under anesthesia and post-anesthetic recovery.

(iii) RT's accompany all pediatric transport patients to Vancouver General Hospital (VGH), for procedures requiring anesthesia or sedation that cannot be performed at C&W. RT's are also involved in outreach education for:

(A) Home tracheotomy program;

(B) Home ventilator program;

(C) Provincial O2 program for infants; and

(D) Home oximeter program.

(iv) RT's trained in the Extracorporeal Life Support (ECLS) will be providing ECLS services to patients under the direction of the primary physician. Patients on this modality are the most complicated to move through the environment.

(v) The pulmonary function laboratory located in the 1982 building is operated by RT, and specializes in complex pediatric diagnostic procedures not available elsewhere in the province. It will perform pulmonary diagnostic procedures in accordance with established policies and procedures, professional standards and diagnostic accreditation programs. Inpatients must visit this location.

(vi) RT's perform pentamidine treatment for oncology patients.

(vii) Educational initiatives that will be accommodated in this component include training and work experience for students enrolled in British Columbia Institute

of Technology (BCIT)'s Nursing program, UBC's Department of Pediatrics and Thompson River University's Respiratory Care program. As a result of the role in education, RT's require access to enclosed meeting rooms and provider/ learner workspace.

(k) Social Work

(i) The Social Work discipline is committed to improving the emotional, social, spiritual, and physical health of children, youth, women and their families at C&W. The main department is located in the CSB building.

(ii) Social workers are part of the clinical team assisting patients and families with the social and emotional impact of an identified medical/mental condition, perinatal care or disability. Social workers provide a variety of health services to the patient and family, both in the inpatient and ambulatory programs. These services include crisis intervention; assessment; individual, family and group psychosocial counselling; parent groups; financial/practical assistance, as well as liaison with community resources and child protection.

(iii) Most referrals for Social Work services come from the clinical teams throughout C&W with a few coming directly from the family and community. Social Work works closely with community services and private charitable foundations throughout the province for purposes of continuity of care and referral to services closer to home.

(iv) Social Work liaises with social workers from other hospitals, community mental health, schools, child development centres, public health, and government ministries throughout the province.

(v) Social Work has a close working relationship with Ministry of Children & Family Department (MCFD). C&W has a memoranda of understanding which outlines the duties and responsibilities of the social workers at C&W and the social workers from MCFD in reference to reporting child protection concerns and working with children under the guardianship of the MCFD and Vancouver Aboriginal Child and Family Services Society (VACFSS).

(vi) Social Work works closely and meets with representatives from the Ministry of Social Development to develop protocols and to enhance the working relationship between the two organizations.

(vii) Social workers are available to all inpatients and outpatients, as well as their families, who are hospitalized in any of these locations. All spaces used for interviewing or therapy shall comply with acoustic and noise control requirements.

(viii) Social Work provides practice education experience for 8-12 Master of Social Work (MSW) students per year and one art therapy student per year.

(l) Child Life

(i) The Child Life Department at BC Children's provides services to children, youth and families aged birth to adolescence. Child Life Specialists promote coping through various interventions to help children, youth and families with stressful

events. Providing play and other normal activities can help with this coping process.

(ii) Child Life programs endeavour to meet each family's unique emotional and social needs. In order to address social and emotional needs, Child Life programs typically offer:

(A) Preparation before, and support during, and after procedures and tests;

(B) Coping techniques for procedures and tests, such as distraction, breathing and relaxation techniques;

(C) Age-appropriate activities and explanations; and

(D) Therapeutic and recreational play opportunities to ease a child's fear and anxiety.

(m) Spiritual Care

(i) Practitioners and students provide spiritual and emotional support, and grief and crisis counselling to families and staff of all communities, faiths and religions and non-religious traditions. The offices of spiritual care are located in the 1982 building along with the only dedicated sacred space. Several areas in the ACC have been identified as quiet spaces to be used for spiritual purposes. These spaces must provide a calm meditative environment for prayer and some religious rites and comply with acoustic and noise control requirements. Natural light is desired.

(n) Mental Health and Addictions

(i) Collocated on campus is a unique health care agency for the care of children living with mental health and addiction issues. There are several collaborations that occur between this program and BC Children's. For the ACC, approximately 400 of the most critical and at times dangerous to themselves or others, mental health patients arrive in the ED for initial treatment and are transferred internally for inpatient care to the Mental Health Building. Conversely, should a child admitted to Mental Health have a serious health event, they will be transferred to the ACC for care. Patients, families and providers also flow between the two areas to provide care, or use services. The other key critical relationship is to the Code Blue response team emanating from PICU. This team of providers require quick access to the Mental Health building to provide lifesaving support.

(o) Infant Transport Team

(i) Collocated on this campus is a base station for the Infant Transport Team, (ITT). This branch of the British Columbia Ambulance Service (BCAS), is located on the south side of the S buildings. At all times, vehicles will need rapid access out of the campus and roadways need to be kept clear as ambulances must be able to exit their 4 bay parking area to respond to a call. This unique team moves neonates from the helipad, or into the NICU. While occasionally they will enter the ED, a more direct route to the NICU is required.

(2) Shared Support Services

(a) Medical Equipment Depot

(i) The provision of a Medical Equipment Depot in the ACC is to ensure large and/or mobile equipment is not stored within the clinical unit but is available inside a 15 minute turnaround time from the initial request. This will be a new program and the governance and process have yet to be determined. Based on similar programs, this area will need access to information technology (IT), power supply for electronic equipment and commercial band radio. Flows and storage of equipment will be based on best practices for infection control.

(b) Food Services

(i) Business Initiatives & Support Services (BISS) contract management group manages this contract. Food Services is located on Level 1, B Wing, Shaughnessy building, consisting of both patient/resident and non-patient (retail) food preparation and distribution for all agencies on site.

(ii) The main conventional food production kitchen and ware washing is located in the B wing of the existing Shaughnessy building. Currently "CBord" nutritional software interfaces with patient data for menu selection.

(iii) Food Services' stores are located in the kitchen area which is served by its own separate loading dock for receiving supplies. In addition to supplying the primary food distribution locations, located on Level 1, E Wing Shaughnessy building, it carries ward kitchen supplies and supplements including parenteral products for C&W, Brock Farhni, and the Cancer Agency. Access will be maintained during construction.

(iv) Food delivery to patients consists of multiple systems, including central tray assembly and distribution, bulk food cart assembly, delivery for plating on unit in a dining room arrangement and bulk food delivery. This site subscribes to a healthy food policy.

(v) Food delivery in the ACC is anticipated to be an on-demand, room service type delivery model. In this instance, the food will travel on smaller delivery carts. A separate location for dirty dish trays needs to be available within the room and at a central collection point at the floor level. Nourishment stations and family dining areas will be available to families. A 12 slot closable tray rack will be accessible to patients and families in any dining area or at the nourishment stations located in patient care areas for centralized tray collection.

(c) Information Management and Information Technology Services

(i) Information Management and Information Technology Services (IMITS) supports the Provincial Health Services Authority (PHSA) as well as: Vancouver Costal Health (VCH), Providence Health Care (PHC), Provincial eHealth Operations, BC Ambulance Service (BCAS), and Occupational Health & Safety Agency for Health care (OHSAH) including telehealth services. Partnering with Health Shared Services British Columbia (HSSBC) PHSA, IMITS also supports desktop, network, telecommunications, storage, and datacentre services. IMITS currently manages more than three hundred applications which support their clients to manage the business of more than

1.1 million patient visits annually. The IMITS strategy for 2011-14 is encapsulated in the vision statement: One Person, One Record, Better Health. IMITS has identified five key strategic imperatives that guide the delivery of services to clients and customers:

(A) Drive thought Leadership;

(B) Enable health outcomes;

(C) Deliver operational excellence;

(D) Foster collaboration and knowledge; and

(E) Build a world class team.

(ii) Through these imperatives PHSA IMITS will continue to lead and transform information management and technology products, services and support. IMITS process areas include Opportunity Identification, Enterprise Architecture, and the implementation of IMITS products and services, Operations and management of IMITS products and services and Strategic development and evaluation of these products, services and solutions.

(iii) The scope of IMITS products, services and solutions encompass all aspects of Information Management and Information Technology and can generally be described as follows:

(A) Provincial Solutions responsible for eHealth, PeopleSoft, Sharepoint, Web Solutions, Integration, Registries, Videoconferencing, and Telehealth;

(B) Clinical Solutions responsible for Clinical Information Solutions, Radiology Systems, Lab Systems, Health Information Management Systems Society (HIMSS), Operating Room (OR) Systems, Cardiology Systems, Speciality Systems, Pharmacy Systems, Cancer Care Systems, and Project Portfolio Management and the Cerner CIS Program;

(C) Client Experience responsible for Customer Service, Request Management, Technical Engagement (HSSBC), Disaster Recovery Planning, Switchboard Services, Environmental Health Support Centre (EHSC) IT Services; and

(D) Enterprise Architecture – A function that supports strategic design and implementation of applications and solutions aligned to enterprise level architecture principles and guidelines.

(iv) HSSBC responsibilities can be divided into four portfolios:

(A) Networks and Collaboration Services responsible for Operations Engineering, Data Network Services, Collaboration and Unified Communications Services, Voice Services;

(B) Customer Technologies and Services responsible for Desktop Management Services, Business Management Services, Technology Refresh, Output Management;

(C) Technical Infrastructure responsible for Servers and Storage, Data Centres and Operations; and

(D) Technical Architecture, Security, and Transformation Services responsible for Architecture and Security, Strategic Planning and Innovation, Engagement and Project Management Office.

(v) IMITS and HSSBC are jointly responsible for determining and auditing compliance with standards (security, quality, performance, privacy, etc.) for Information Technology infrastructure. IMITS or HSSBC staff will participate in inspection visits to ensure compliance with industry and authority standards.

(vi) The ACC will operate utilizing paper and electronic charts and records. As rapid technological advances continue, there will be a substantial increase in organizational reliance on IMIT services. A correspondingly increased requirement for robust, available, accessible, reliable, secure, and flexible IMIT infrastructure and services is required.

(d) Volunteers

(i) Volunteers assist patients and families with access to information, diversion, fundraising, etc. The central office of Volunteer Services is currently located in the 1982 building. In addition to many of the existing functions, the role of the volunteer is valued for receiving patient families. The participation of volunteers in reception and wayfinding is anticipated to increase. Many reception/check in areas have identified a volunteer station.

(e) Facility Maintenance and Operations

(i) Angus Consulting Management Ltd (ACML) manages C&W Plant Operations and Maintenance site-wide building systems operations and maintenance, operations and maintenance of the centralized first class steam plant and distribution piping, supervision of contract services, and minor and major construction project management and drafting services. Trades staff disciplines will include electrical, plumbing, steam and mechanical, heating ventilation and air conditioning, carpentry, locksmith, sheet metal, painting and signage, refrigeration, maintenance workers and groundskeepers. Facilities Maintenance is also responsible for rolling stock equipment and some other equipment (e.g., ceiling lifts).

(ii) With the exception of the central mechanical room in the basement of the 1982 building, there are no satellite shops. All maintenance shop supplies, tools and equipment are stored in the Shaughnessy building. This service supports and maintains the "Stentofon" system of internal communications in the 1982 building.

(iii) The C&W site is serviced by a high pressure steam plant, requiring 24/7 staff tending on a shift basis. This service also acts as after-hours site fire marshall and an on-call response service, with expected response times, as determined by the Authority is required.

(iv) Project Co will provide Plant Services for the Facility, all as described within Schedule 4, Appendix 4C.

(f) Integrated Protection Services

(i) The Integrated Protection Services (IPS) program is currently vested with the responsibility to create and maintain a safe and secure environment for everyone in the health care setting. This integrated program increases our ability to respond to emergency events and deliver on ensuring a safe, secure, and accessible environment.

(ii) IPS is currently responsible for:

(A) Security and alarm systems;

(B) Parking;

(C) Photo identification; and

(D) Liaison with the Ministry of Transport for the Helipad.

(iii) IPS operates based on a hybrid model, which includes C&W in-house Protection Services representatives and external, contracted security service providers. IPS has a call centre in the 1982 building to handle emergent and routine calls, as well as a monitoring station. IPS further includes:

(A) Operations support for any site, including liaison with site managers/staff, liaison with property management and participation in site projects and committees;

(B) Linkages with local criminal justice organizations; including information sharing with police, developing linkages to police investigations, developing memorandums of understanding (MOU) and protocols in conjunction with Corrections, and facilitating linkages between workers and court/victim services;

(C) Management of the security services contract;

(D) Mid to high level investigations of threats against the organization, including narcotic diversion, pornography, fraud and other criminal acts;

(E) Physical risk assessments of PHSA property and threat assessments for targeted violence issues, including the development of personal safety plans and issues associated with community worker safety; and

(F) Providing technical input in the design of new construction, building and major renovations.

(iv) IPS is supported by a contracted security vendor partner. Site security personnel provide both non-emergency (routine) and emergency (urgent) support to PHSA staff, patients/clients, and the public on the Oak Street Campus centre sites, and at acute facilities and agencies.

(v) The basic responsibilities of the security vendor partner vary from site to site and include but are not limited to the following:

(A) Acute site security operations as well as supervision management;

(B) Conducting routine security patrols;

(C) Responding accordingly to all security and safety issues as they occur. This includes assisting with aggressive patients, conduction standbys, and staff escorts;

(D) Provision of first aid services at some sites;

(E) Responding to all alarms, including intrusion and panic alarms, fire alarms, etc.;

(F) Locking and unlocking doors; and

(G) Provide additional security officers and/or sitter coverage as required.

(g) Emergency Management

(i) Consolidated Emergency Management and Business Continuity (EM BC) provides three branches of services: fire safety, incident command and business continuity. These services ensure:

(A) Consistency in fire safety education and the application of required standards;

(B) Education and support to essential managerial staff (including any operational proponent staff) in the application of Health Incident Command;

(C) Maintenance of the effective functioning of the emergency operations centre(s);

(D) Provision of management, support and guidance in risk identification, mitigation and response;

(E) Support of decontamination services standards.

(ii) This service is responsible for ensuring the amateur radio and satellite radio redundant communication systems and the disaster supply cabinets are located throughout the ACC.

(iii) This group organizes all large scale response exercises.

(h) Health Support Services British Columbia (HSSBC) Supply Chain Services

(i) HSSBC Supply Chain provides purchasing, inventory management/control, receiving, processing, assembling, storage and distributing for most supply materials (excluding linen) that fall outside Project Co scope of responsibility on the C&W site. Services also include an interdepartmental mail service and a distribution/non-patient portering service. All activities related to Supply Chain will continue to be provided from their current location within F and H Block of the Shaughnessy building.

(ii) Inventories of consumable supplies required by inpatient care units and departments in their day-to-day operations are generally maintained close to point-of-use, using a top-up system to mobile carts. An inventory system will be used to increase the efficiency of maintaining inventory through automatic ordering and purchasing. This is currently a par level system, is under review and could change to a two bin system.

(iii) The Supply Chain inventory services for items that fall outside of Project Co scope of responsibility, are located in Shaughnessy F Wing, Level 1, at C&W and include:

(A) The storage and supply of items for all clinical and support functions;

(B) Maintaining safety stock and disaster stock which support the operation of C&W in the event of unexpected demand increases;

(C) Non-perishable food supplies; and

(D) Cart staging and topping-up of supplies for clinical and support services.

(iv) Supply Chain's centralized materials management service will also include archival storage and retrieval. Traditional users of this type of service (administration, health records, MI and laboratory) will have access to a central inactive stores area, which will be located on-site. However, the use of Clinical Information Systems and the EHR will decrease the need for paper and film storage in the future.

(v) Laundry will continue to be purchased from off-site providers. This service will undergo a review in the next five years. Currently, on-site services consist of:

(A) General administration;

(B) Storing and assembling linen exchange cart;

(C) Restocking and monitoring decentralized inventory; and

(D) Uniform distribution and collection.

(vi) The Logistics Centre will be a new service for the ACC. This function recognizes the need for some supplies to have a small, truck friendly access point into the building. Some unique deliveries may not use the campus receiving area and will be received at the Logistics Centre. These include delivery of blood and blood products, gas cylinders, isotopes and some pharmaceuticals. This location may also be the hand-off point for waste materials exiting the building.

3A.1.6 GENERAL PLANNING REQUIREMENTS

3A.1.6.1 This section of the document is intended to provide an understanding of selected Lean design principles related to the needs of patients and families, staff, and visitors which impact the BC Children's and BC Women's ACC.

3A.1.6.2 The intention of this section is not to suggest physical planning solutions, but rather to identify the functional requirements for planning that give direction to development of the most appropriate environment for people and systems. In all cases, the IFD events revealed a need for balance in the design to achieve maximum safety with regard to infection control, patient confidentiality, and family friendly environments. Elimination of waste such as waiting and adequate visibility by providers to ensure the safety of children and clinically unstable patients were also critical enhancements desired through the design features.

3A.1.6.3 Selected Lean design principles serving as general planning criteria include:

(1) Design around flows, not around departments or provider groups:

(a) The building will be designed around value streams representing the care provided to logical patient groupings. The performance of the value stream is maximized by optimizing the relevant flows of patients, families, providers, information, medications, supplies and equipment;

(2) Create multiple simple flows rather than single complex flows:

(a) When flows are complex, they are less reliable and require complex (usually inefficient) methods for staffing and control. When the flow is too complex to comprehend visually, the ability of individuals to improve the performance through changes to their own work is diminished. Simple flows are easier for patients to navigate. Flows should be one-way with clear entry and exit points;

(3) Build tents not castles:

(a) Building projects can focus energy on the new building rather than on the processes and systems which it contains. It is more effective to consider the building as a tent whose purpose is to maintain the required environment and to deliver essential services for the work within. The space should be designed for easy reconfiguration for improvement and as conditions change over time;

(4) Create line-of-sight:

(a) "Line-of-sight" is literally the ability to see what is important from where you are. It assists communication, improves ability to find people, improves safety and increases the ability to assist others in the process. The implications on design would include the use of: low walls and furniture; low equipment; clear versus opaque walls; corridors and doorways that line up. Line-of-sight has additional benefits to wayfinding;

(5) Design for demand fluctuations;

(a) We can predict there will be daily, seasonal and episodic fluctuations in demand. The design should consider how the facility and the people will adapt for both short-term (minute-to-minute) and longer term fluctuations. This starts with the ability to see the fluctuation happening and includes the ability of individuals to flex their work to compensate. Isolated or compartmentalized areas inhibit this;

(6) Separate front-of-house from back-of-house (on-stage vs. off-stage):

(a) This is the separation of activity central to the value stream from supporting activity. In the Disneyland analogy the visitor-experience is separated from ancillary functions such as movement of supplies, equipment, garbage and off-duty staff by the use of tunnels and concealed pathways,

(b) In a hospital it benefits the patient and family experience as well as improving efficiency of supporting flows and cleanliness. This does not mean there must be absolute separation of staff from patients. It does mean it would be mutually beneficial to separate a busy patient flow corridor from one routinely used for transporting supplies, equipment, soiled linen and garbage, and

(c) There will be separation of public and non-public areas within the ACC whenever possible. Arriving patients, family members, and visitors will enter the ACC from four directions. The main entrance will receive in- and out patients on Level 1 and the parking levels. Emergency Department patients and families will arrive from the exterior parking lot, and if arriving from the underground parkade, will have clear

access to the front of the Emergency Department. Some BC Women's patients in the 1982 building will use a connecting corridor and links to the NICU area. There will be public elevators for access to all levels in the ACC. Mental Health patients who arrive in the Emergency Department and are to be admitted to Mental Health services, will require a safe internal transfer route to the inpatient unit in the Mental Health building;

(7) Enable point of use resources;

(a) It is wasteful to travel or search for supplies and other resources. Small "point-of-use" supply points must be capable of efficient re-stocking with minimal impact to other flows;

(8) Avoid monuments – or position them carefully where unavoidable:

(a) Monuments are pieces of the building or equipment which are difficult to move and will inhibit future improvements to layout and flows. Hospitals include monuments such as large equipment, infrastructure or whole departments which might provide better service to the value stream if they were more distributed, and

(b) When monuments cannot be avoided try to position them on the periphery so the central area remains more flexible;

(9) Equipment should be embedded in the flow, right-sized and mobile:

(a) Simple, single-purpose equipment will be more flexible for future improvements than large multipurpose equipment. A relatively slow piece of equipment embedded into the process flow is better than a faster piece of equipment that has to be centralized because it serves multiple flows. Equipment should be low in height to enable line-of-sight communications;

(10) Make work areas "narrow-and-deep" rather than "wide-and-shallow":

(a) Travelling distances will be reduced where work areas are narrow-and-deep rather than wide-and-shallow. The shape of a room may be limited by other factors regarding internal functionality, but consider the reduced repetitive walking distance for staff;

(11) Facilitate rapid changeover:

(a) Changeover times encourage batching and reduce system capacity. There are aspects of facility design which can either enable or disable improvements. For example, the changeover time for a room may be reduced by facilitating for mobile storage and equipment. Mobile units can be prepared for the next procedure or patient outside the room (while it is still occupied) and then quickly exchanged for the used item. This requires an area in which to do the external set-up or additional storage space for the changeover units; and

(12) Meet all applicable provisions and requirements of Schedule 3 and its Appendices.

3A.1.7 DOCUMENT ORGANIZATION

3A.1.7.1 Sections 3A.2 to 3A.14 contain descriptions of each clinical specification. The descriptions follow a standard format presented under the following headings:

(1) **Functional Description** typically provides an overview of the clinical, education and research scopes of service provided;

(2) **Operational Description** provides minimum hours of operation, a review of patient management processes and flows, provider work processes and flows, and specific clinical or logistical support processes and flows;

(3) **Activity Capacity** provides a tabulation of minimum expected level of activity that must be accommodated;

(4) **People Requirements** provides a tabulation of the assumed maximum number of people to be accommodated within each functional area as outlined in the schedule of accommodation section of Design Criteria; and

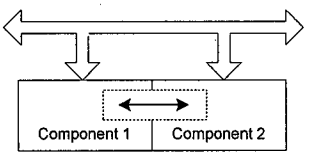
(5) **Design Criteria** provides graphic and narrative descriptions of key external relationships, key internal relationships/environmental considerations and schedules of accommodation.

(a) The key external relationship diagrams and text in each clinical specification section indicate the priorities of the subject component for its location relative to other components.

(b) There are three definitions of terms used in the external relationship description which are as follows:

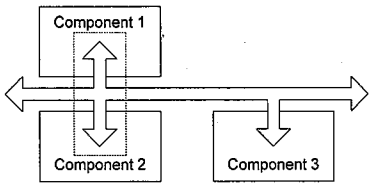
(i) Direct Access by Internal Circulation

(A) "Direct access by internal circulation" refers to components, which are located together and linked internally. This form of access avoids movement through the general circulation system of the facility. An acceptable alternative to horizontal contiguity may be vertical contiguity by means of a dedicated elevator or internal stairs;



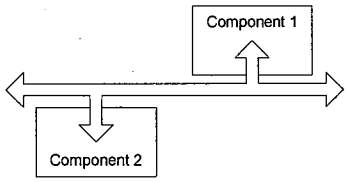
(ii) Direct Access by General or Non-Public Circulation

(A) "Direct access by general or non-public circulation" refers to components located near to each other and linked by minimal or moderate amount of horizontal and/or vertical general circulation; and



(iii) Convenient Access by General Circulation

(A) "Convenient access by general circulation" refers to components, which are located at a distance from each other and are linked by extended horizontal and/or vertical general circulation.



(c) The internal relationships/concepts section indicates basic criteria and concepts for the organization or environmental design of space (e.g., zoning, flexibility, segregation, environmental ambiance, privacy, sound attenuation, safety features, etc.).

(d) The schedules of accommodation are tabulated with a space identification number (Space ID#) and a reference number (Ref) for cross referencing within this document and which may be used in any future supplementary document. Also illustrated is the number of projected rooms or spaces (units), the net square metres per unit (nsm/unit), and the total net square metres for each room or space (nsm). Indented line items indicate a close adjacency with the preceding line item. Net square metres (nsm) is stated to the nearest 0.5 m^2 and is the required minimum and is summarized at the end of each space list.

3A.1.8 DEMAND PROJECTIONS SUMMARY

3A.1.8.1 The tables below present baseline (2010/11 fiscal year – FY) demand projections for each of the major activities of the components that comprise the ACC, and projected demand volumes to the year 2017/18 (which is assumed to represent opening day volumes) and to year 2025/26 (which represents the C&W Redevelopment Project planning window).

(1) Outpatient Care

Planning Area	Baseline 2010/11	Projected 2017/18	Projected 2025/26	Build
BC Children's Emergency Department Visits	41,850	44,578	49,090	33 (Position)
BC Children's Clinical Decision Unit Visits	1,404	1,524	1,658	6 (Positions)
BC Children's Surgical Suite Visits	8,069	9038	9900	10 (OR's)
BC Children's Oncology/Hematology/BMT	6,618	7,685	8,398	22 (Positions)
Medical Imaging Exams	62,773	78,690	95,427	N/A
BC Women's Urgent Care Suite Visits	12,521	13,517	13,805	10 (Positions)
Total Visits	**133,235**	**155,032**	**178,278**	**N/A**

(2) Inpatient Care

Planning Area	Baseline 2010/11	Projected 2017/18	Projected 2025/26	Build
Acute Beds				
Medical/Surgical	73	81	88	96
Oncology/Hematology/BMT	24	31	34	27
Pediatric Intensive Care Unit	22	23	24	28
Total, Projected BC Children's Acute Beds	**119**	**135**	**146**	**151**

Planning Area	Baseline 2010/11	Projected 2017/18	Projected 2025/26	Build
Women's & Family Health				
Acute Beds				
Labour/Delivery Patient Positions	10	8	9	10
Neonatal Intensive Care Unit	60	66	68	70
Total BC Women's Acute Beds (above programs only)	**70**	**74**	**77**	**80**

3A.1.9 STAFFING AND FAMILY HEADCOUNT SUMMARY

3A.1.9.1 The following table summarizes the existing FY 2010/11 staff and family headcounts, by functional component comprising the ACC together with the projected headcount estimates for FY 2017/18 (on opening) and 2025/26.

CHILD HEALTH AND REHABILITATION	Maximum Staff Headcounts		
Service Group/Component	2010/11	2017/18	2025/26
Programs and Inpatient Services			
3A.2 Medical/Surgical Inpatient Units	261	326	337
3A.3 Oncology/Hematology/BMT Program	107	119	124
3A.4 Pediatric Intensive Care Unit	98	98	98
Outpatient Services			
3A.7 Emergency Department	32	50	52
3A.12 Renal Dialysis Unit	9	10	11

WOMEN'S & FAMILY HEALTH	Maximum Staff Headcounts		
Service Group/Component	2010/11	2017/18	2025/26
Programs and Inpatient Services			
3A.5 Neonatal Intensive Care Unit	106	140	147
3A.6 Birthing Program	66	76	76
Transfusion Medicine	9	10	10
SHARED SERVICES			
Shared Professional Services			
3A.8 Procedure Suites	133	191	193
3A.9 Medical Imaging	65	95	110
Shared Support Services			
3A.10 Medical Device Reprocessing	10	11	12
3A.13 Satellite Pharmacy, Critical Care	N/A	N/A	33
3A.14 Medical Equipment Depot & Logistics Centre	10	12	12

CHILD HEALTH AND REHABILITATION	Maximum Family Headcounts		
Service Group/Component	2010/11	2017/18	2025/26
Programs and Inpatient Services			
3A.2 Medical/Surgical Inpatient Units	180	213	258
3A.3 Oncology/Hematology/BMT Program	90	115	121
3A.4 Pediatric Intensive Care Unit	64	80	80
Outpatient Services			
3A.7 Emergency Department	75	90	90
3A.12 Renal Dialysis Unit			
WOMEN'S & FAMILY HEALTH			
Programs and Inpatient Services			
3A.5 Neonatal Intensive Care Unit	120	134	136
3A.6 Birthing Program	16	16	16

CHILD HEALTH AND REHABILITATION	Maximum Family Headcounts		
Service Group/Component	2010/11	2017/18	2025/26
SHARED SERVICES			
Shared Professional Services			
3A.8 Procedure Suites	82	88	88
3A.9 Medical Imaging	N/A	N/A	60

3A.1.10 SCHEDULE OF ACCOMMODATION SUMMARY

3A.1.10.1 The building space summary in the table below tabulates the net square metres (NSM) for each functional component that comprises the ACC project.

CHILD HEALTH AND REHABILITATION	
Service Group/Component	NSM
Programs and Inpatient Services	
3A.2 Medical/Surgical Inpatient Units	5,192.5
3A.3 Oncology/Hematology/BMT Program (incl. Satellite Pharmacy)	2,273.5
3A.4 Pediatric Intensive Care Unit	1,872.5
Subtotal, Programs and Inpatient Services	**9,338.5**
Outpatient Services	
3A.7 Emergency Department	1,755.0
3A.12 Renal Dialysis Unit	288.0
Subtotal, Outpatient Services	**2,043.0**

WOMEN'S & FAMILY HEALTH	
Service Group/Component	NSM
Programs and Inpatient Services	
3A.5 Neonatal Intensive Care Unit	2,988.5
3A.6 Birthing Program (incl. Transfusion Medicine Laboratory)	
a) LDRs, ORs, HDU	1,380.0
b) SRMC (included in Phase 3)	0.0
Subtotal, WH Programs and Inpatient Services	**4,368.5**

SHARED SERVICES	
Service Group/Component	NSM
Shared Professional Services	
3A.8 Procedure Suites	3,915.5
3A.9 Medical Imaging (including shared staff areas w / 3A.7 Emergency Dept)	2,079.5
Subtotal, Shared Professional Services	**5,995.0**
Shared Support Services	
3A.10 Medical Device Reprocessing	917.0
3A.11 ACC Main Entry Facilities	246.0
3A.13 Satellite Pharmacy, Critical Care & Satellite Milk & Formula Preparation Room	228.0
3A.14 Medical Equipment Depot & Logistics Hub	1,079.0
Subtotal, Shared Support Services	**2,470.0**
TOTAL BUILDING NET SQUARE METRES	**24,215.0**

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3A.2.1 FUNCTIONAL DESCRIPTION

3A.2.1.1 Scope of Clinical Services

(1) This specification outlines the requirements for the 96 Medical and Surgical Inpatient Care beds that will be accommodated in support of 2025/26 projected demand. This component will provide facilities for the delivery of tertiary and selected quaternary acute care services in a specialized pediatric academic and research centre. Secondary services will be provided to children in Vancouver Coastal and other Health Authorities as per current referral patterns. A range of medical and surgical services will be provided to the following groups of patients up to the age of 19 years:

(a) Patients who undergo **surgical** procedures and require inpatient post-operative care and monitoring will be accommodated together on one level, Level A.

(i) This patient population includes, but is not limited to: cardiac and vascular surgery, orthopedic surgery, neuro surgery, general surgery, plastic surgery (burn treatment/care), ENT surgery, urology, ophthalmology, gynecology, and dental.

(A) Patients who require inpatient monitoring, intervention and/or diagnostics in order to develop appropriate care and treatment plans for conditions such as: epilepsy, cardiac disease or conditions related to prematurity.

(b) Patients who undergo **medical** procedures, treatments and/or assessments and who require inpatient care and monitoring will be accommodated together on another level, Level B.

(i) These patient populations include those who require care for metabolic, endocrine, biochemical, rheumatology or gastrointestinal conditions such as: end stage renal disease, diabetes mellitus/indipidus, liver failure, Crohn's disease, juvenile rheumatoid arthritis or cystic fibrosis; and includes long-term Trach/Bi-Level Positive Airway Pressure (BiPAP) patients who are stable.

(A) Patients who require assessment and treatment for infectious/ inflammatory/allergic conditions such as respiratory syncytial virus (RSV), asthma, allergies, immune deficiencies or dermatitis.

(c) Acuity for all patient populations is expected to increase and there will be fluctuations in census throughout the year requiring flexibility of patient flows.

(2) Model of Care

(a) The Model of Care will operate with a Care Team consisting of three segmented Core groups.

(b) The Core Care Team activity is built on a foundation of standard work and optimizing role, scope and function.

(c) The Core Care Team membership is constructed with a triad of shared accountability of the patient and family, the most responsible health care provider (i.e. admitting

physician), and the Registered Nurse (RN). At any point, these team members can be uniquely named/touched.

(d) The Core Care Team is supported by additional care providers as defined by the Plan of Care. In this way, the team is inter-professional in nature and adds value to the patient's defined goals and overall Plan of Care. This Core Care Team and the defined Model of Care is utilized 24/7 with the Core Care Team covering activity seven days a week.

(e) The patient/family, the RN, and the most responsible health care provider share accountability and are jointly responsible for the Plan of Care that guides activity for the entire length of the patient's stay. They are jointly involved and dedicated to achieving the patient's goals.

(f) There is a single Plan of Care (i.e., goals, single repository, accessible, integrated) that is developed and owned by the Core Care Team. Ownership means accountability for process and outcomes. The Core Care Team proactively advances the Plan of Care through anticipating the trajectory of the plan.

(g) If escalation on an issue is required, the team will move up their respective line management streams (chain of command).

(h) Any care provider or Core Care Team member, can anticipate variation and must take action. The hour-by-hour plan for the day is managed by adherence to Standard Work/ Clinical Pathways/Protocols/Reliable Methods and executing predictable contingency plans when variation is encountered.

(i) The Plan of Care is communicated to the Core and Supporting Care Teams (i.e., Allied Health) in real time by updating the plan immediately following action.

(j) The interdisciplinary charting and documentation is performed by the Core and Supporting Care Teams as care is provided. The patient/family own the information. The institution maintains the record/documentation.

(k) There are adjusting routines defined for variances from plan. The Core Care Team will coordinate the responses to these variations. An updated plan is then created. Multiple patient resource conflicts are identified and prioritized (acuity/demand/ urgency/resource) by Core Care Team member discussion.

(l) At the system level (24, 48 and 96-bed), variation is managed through leader Standard Work (leadership routines) and a system of tier accountability (specific accountability role).

(m) The Plan of Care is initiated by care provider/family and adopted and thereafter adapted by the Core Care Team.

(n) The Core Care Team acts as a care facilitator/initiator of ancillary service and professional support. The coordination of the professional/ancillary/ support services activities are executed by the RN. Core Care Team care coordination accountability is accomplished through RN/patient and family review of the Plan of Care and flagging/notifying through technology, those who may have incomplete actions or tasks.

(o) Core Care Team response to Plan of Care variation eliminates dependency on the current state team rounding model. Care does not depend on the timing of team rounding and is not interrupted or batched. The assembly of the Core and Support Care Team for care review is essential for patient care.

(p) Discharge authority belongs to any member of the Core Care Team after notification to the most appropriate physician/provider (e.g., attending, fellow, resident). Discharge can occur at any time of day and is not dependent upon rounding. Where defined, discharge will be done by the patient meeting goals and auto-notification to the Core Care Team.

(q) Plan of Care transfer may occur at break, shift to shift, inter/intra transfer (team, location, facility, community) and at discharge planning/discharge. Plan of Care hand-off or transfer is performed via an electronic tamper proof template with a sign off (outgoing) by all present and receiving (incoming) signoff by the receiver. The transfer activity must adhere to process standard work, have sufficient detail and format, and utilize a forced function checklist.

(r) The RN is the Core Care Team coordinator/leader/manager/during the patient's stay. The Care Team Leader (RN) manages the Plan of Care.

(3) Outlined are the requirements for a "typical" 24-bed general-purpose inpatient unit. Although unique needs of subspecialties may promote some physical differences between each 12-bed pod, the intent remains to provide highly flexible units capable of adapting to changes in inpatient care and methods over the building's life.

(4) Promotion of "flexibility" does not preclude the designation of beds for special purposes or for design modifications around these designated beds to enhance functionality. The new units will accommodate the following sub populations of patients who have unique assessment, monitoring and care needs:

(a) Patients who require invasive "high acuity" post-operative monitoring as well as a nurse to patient ratio consistent with high levels of direct patient observation. Patient groupings will include postoperative cardiac or orthopedic surgery patients and/or apnea monitoring as well as neurology patients who require video intensive monitoring (VIM); and

(b) Patients who require complex respiratory monitoring and support due to dependency on technology, i.e., tracheostomy and/or artificial ventilation (including BiPAP). These patients may be technology assisted or dependent.

(5) The new facilities will provide for an enhanced focus on ergonomic design for patients families, and staff. An increased emphasis will be placed on a family-centred approach in support of holistic patient care.

(6) Patient and family treatment and care services typically provided by health care professionals on the Inpatient Units (IPU's) will include, among others:

(a) Admission and orientation to the unit;

(b) Providing care in a manner that reflects a family-centred philosophy;

(c) Receiving, assessing and monitoring patients' holistic needs;

(d) Developing, implementing, and evaluating individual patient care plans;

(e) Providing telemetry/video intensive monitoring (VIM), electroencephalography (EEG) monitoring, intracranial pressure monitoring (ICP) monitoring, cerebrospinal fluid (CSF) infusion testing, and other specialized services to selected patients;

(f) Educating interdisciplinary teams, including students and patients/families;

(g) Facilitating patient/family comfort and relaxation, recreation and rehabilitation;

(h) Meeting daily physical and psychosocial patient needs with privacy for conversations;

(i) Providing family/visitor support, consultation and counselling;

(j) Care coordination, discharge planning and individualized patient/family teaching;

(k) Shift communication/report and interdisciplinary patient/family conferences;

(l) Coordinating, implementing, communicating, administering, scheduling, and evaluating overall clinical outcomes;

(m) Documenting patients' progress and maintaining patient paper and electronic charts/ records;

(n) Providing symptom management (e.g., specialized interventions for acute and/or chronic pain management with support from anesthetists); and

(o) Providing safe medication delivery to patients.

(7) Medical/surgical services on the inpatient unit will include among others:

(a) Documenting historical medical information;

(b) Admitting patients directly to the units or via Emergency, anesthetic care unit (ACU), operating room (OR) or ambulatory clinics;

(c) Ordering medical diagnostic and treatment procedures with point of care services (i.e., x-ray, ultra sound, lab, etc.);

(d) Performing physical examinations and procedures;

(e) Prescribing medications, in consultation with nursing staff, pharmacists, and other members of the interdisciplinary team;

(f) Providing routine and emergency care, including examinations and treatments;

(g) Educating patients, family, staff, students, and residents;

(h) Documenting patients' medical progress on patient paper and electronic charts;

(i) Participating in interdisciplinary patient and family conferences with privacy for conversations;

(j) Participating in the overall program development for their respective divisions/ programs; and

(k) Team consultations, rounds, meetings (including family members).

3A.2.1.2 Scope of Education Activity

(1) Each of the 24-bed IPU's will generally provide clinical resources in support of teaching programs for 50-55 students at any given time. The Level B medical units will typically have a larger proportion of students than the Level A surgical units.

(2) A wide range of individual and small group clinical teaching activity will be accommodated directly in the inpatient care areas. Large formal lectures or large continuing education programs will be accommodated in the Education & Clinical Research areas on each level of the inpatient units, as well as other buildings on campus.

(3) Inservice education and patient teaching programs will be conducted on a regular basis throughout the unit's patient/clinical care spaces as well as in staff conference/meeting room(s) and patient/family teaching room(s).

3A.2.1.3 Scope of Research Activity

(1) A range of clinical research activities will occur within this component and touchdown workstations will be provided in the inpatient unit 48-bed Staff Support areas for use by clinical researchers.

3A.2.1.4 Specific Scope Exclusions

(1) This Medical/Surgical Inpatient specification excludes several BC Children's inpatient services/requirements provided elsewhere, including:

(a) BC Children's Pediatric Critical Care Services (see Part 3A.4 Pediatric Intensive Care Unit and Part 3A.5 Neonatal Intensive Care Unit);

(b) BC Children's Pediatric Oncology/Hematology/BMT Program (see Part 3A.3 Oncology/Hematology/Bone Marrow Transplant Program);

(c) BC Children's Psychiatric/Mental Health Inpatient and Outpatient Services (to be retained in the existing Mental Health Building on site); and

(d) BC Children's Child Development and Rehabilitation Program, Inpatient and Outpatient Services to be included within the 1982 building during Phase 3 of the Redevelopment Project.

3A.2.2 OPERATIONAL DESCRIPTION

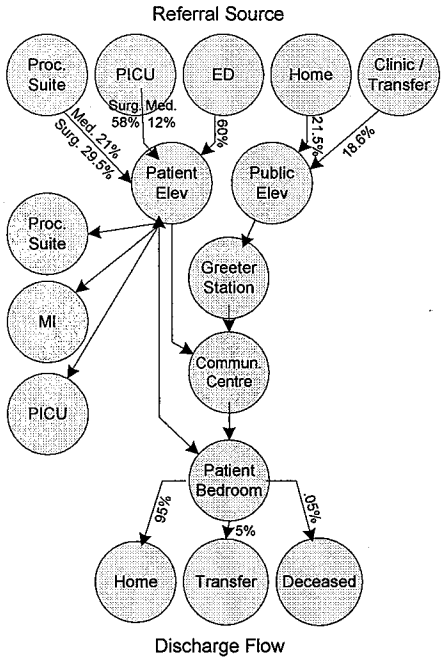
3A.2.2.1 Minimum Hours of Operation

(1) The Medical/Surgical Inpatient Units will be staffed 24/7.

3A.2.2.2 Patient & Family Management Processes and Flows

(1) Patients will be placed on the most appropriate inpatient level according to their most important need and care teams will travel to the patient area if the patient is not on the team's home unit.

(2) Patients will be admitted to an inpatient unit by pre-arrangement (direct admission), unscheduled patients through the Emergency Department, and through inter-hospital transfers. On admission, ambulant patients will report to the unit communications centre (24-bed level). The communications centre will act as the unit clerk and charge nurse/Clinical Nurse Coordinator's (CNC) base of operations.



(3) Each 24-bed inpatient unit will be administered from a centralized communications centre, which will also act as a reception/control point for access to the unit. This communication centre will include the patient care unit clerk, CNC's/Charge Nurse's workstation, providing daily flow management of 24-beds, touchdown stations for providers and a conference/report room. The communications centre will be the coordination centre for the unit, handling admissions, discharges, answering incoming calls, and be the staff and provider access location for patient assignment and information distribution. There needs to be regular face-to-face contact with the unit clerk and the nurses on the respective units. Team care stations will also be provided ensuite with clusters of 12 patient beds.

(4) Care delivery will be based on a patient-centred, family-involved service supported by an interdisciplinary team. An RN will be assigned for all of the nursing care provided for one to four patients during the day shift. On night shift, each 12-bed group will be nursed based on patient acuity and care needs.

(5) Higher or lower levels of care may be required for selected patients, but generally lower than for critical care patients. For selected patient groupings, a nurse may be assigned a particular patient with higher acuity.

(6) Patients will be admitted to a specific bed based on requisite care needs. All patients will be monitored from one of the team care stations, each supporting 12-beds.

(7) The medical and surgical step-down patients will be accommodated throughout the Medical/Surgical Inpatient Units with acuity adaptable rooms and appropriate equipment.

(8) The patient turnover on Surgical, Level A will be higher than on Medical, Level B where patients tend to have longer average length of stays.

(9) One patient room in each 12-bed pod will accommodate bariatric patients and family members and/or patients and family members with disabilities.

(10) 50% of patient rooms will be able to accommodate more than one patient in the event of a pandemic, therefore require a double headwall and gases.

(11) In keeping with evidenced based research, all patient bedrooms will be private with a three piece (wc, lavatory sink, tub/shower, except for bariatric which requires a wc, lavatory sink and shower) ensuite washroom. One patient room per 12 bed pod will be airborne isolation

(AIR), complete with ante room for isolation capability. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(12) There is both inpatient, and outpatient flow to the burn bath room forming a burn bath suite on Level A, surgical inpatient level that requires a pre-prep area and a post bath recovery area.

3A.2.2.3 Patient Information Management and Flows

(1) Patient rooms and patient team care stations must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

(2) Patient information systems will be automated with access to information by means of computer terminals located at all staff work areas distributed throughout each unit. Computer charting will occur at the patient bedside, likely through the use of hand-held wireless devices. Ordering and scheduling of tests, procedures, and medications will be managed through terminals in the staff work areas or through the hand-held devices. Patient information will be available throughout the unit wirelessly or through computer terminal positions at the bedsides, team care stations and observation alcoves.

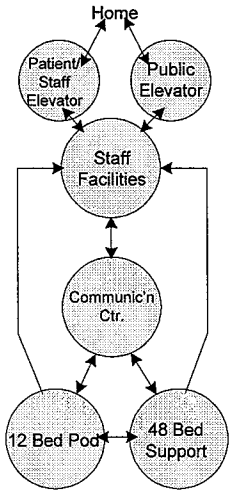
(3) Electronic patient status board and patient monitoring will be available at the 12-bed level.

(4) Staff will be able to communicate utilizing a hands-free communication system.

3A.2.2.4 Provider Work Processes and Flows

(1) A multidisciplinary team approach to care will be carried out in the units. Workstations at the communications centre, at the team care stations, rooms for visiting professionals and for interviewing/counselling shall achieve an ordered use of space.

(2) Each 24-bed inpatient unit will be administered from a centralized communications centre, which will also act as a reception/control point for access to the unit. This communication centre will include the patient care unit clerk's workstation, the workspace of the CNC's, touchdown stations for providers and learners and a conference/ report room. Team care stations will also be provided ensuite within each pod of 12 patient beds.



(3) In addition to direct care nursing staff, selected clinical professional service team members (e.g., child life specialists, social worker, dietitian, physiotherapist, occupational therapist, respiratory therapist, pharmacist, speech language pathologist, nurse practitioner, clinical nurse specialist, etc.) will be provided with multipurpose workstations or shared offices as required on unit as follows:

(a) <u>12-bed Level</u>:

(i) Team care stations each with three to four dedicated workstations, six to eight interdisciplinary team workstations for physiotherapist(s), occupational therapist(s), respiratory therapist(s), child life specialists, social worker, psychologists, pharmacist, physician(s), dietitian and students;

(b) 24-bed Level:

(i) Communications centre with workstations for the unit clerk, and office of the CNC's; and

(c) 48-bed Level:

(i) Selected office and touchdown/drop-in workstations in staff areas.

(4) Minimize nurse "travel time" and maximize nurse-patient visibility by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the patient bed spaces. Team care station(s) with designated and touchdown workstations and observation alcoves will be provided as well as a central communications centre within each inpatient unit.

(5) Each team care station will be located en-suite with a 12-bed cluster. Two clusters consisting of 24-beds will be managed as an inpatient unit.

(6) Maintain only essential patient care support areas within the unit proper. All other support areas shall be centralized for sharing between two or more inpatient units ("48-bed Support areas"). Within the unit, spaces will be located close to patient bedrooms in the following order of priority: team care station(s), medication dispensing area and clean preparation/ supply area, staff conference area, dictation area, and utility rooms.

(7) Although it is agreed that the 12-bed pod is the most efficient for general nursing care, an occasional requirement for a larger or smaller cluster to meet specific demands may be considered and the physical layout shall recognize this and must provide the flexibility to achieve it.

(8) Care providers will require an area where they can discuss or document a patient's condition/information in private. Since the team care station area will likely be highly accessible to patients and their family/visitors, a private staff conference/charting room will also be provided. These two areas shall allow staff observation of patients from within, and facilitate frequent access and visualization between them.

(9) The medication rooms shall be discreetly located. Access to them shall be visually supervised from the team care station, and shall be securable with a separate lockable narcotics cupboard.

(10) Lab service will consist of routine collection at the bedside, with specimen transportation to the main laboratory in the 1982 building.

(11) All patient rooms shall be visible to a staff base, while allowing a degree of patient privacy to be maintained.

(12) Multidisciplinary clinical staff and patient family will enter information to clinical records by electronic or manual means; clinical staff will discuss clinical issues, make confidential telephone calls, review x-ray and other diagnostic results in a discreet area. This touchdown space should have good connectivity between it and the team care station and may be shared and accessible from four pods. The stations need to accommodate three to four persons with associated workstations, printer, telephones and computers.

(13) Medical imaging examinations (specifically mobile x-ray and mobile ultrasound) will be carried out at the bedside in the inpatient unit. Mobile fluoroscopy may be carried out in the treatment/procedure room.

(14) Services that may be carried out at the bedside include anesthesia (complications involving high risk patients), respiratory therapy, neuro diagnostics, diagnostic cardiology (electrocardiogram [ECG], echocardiographic [ECHO]), ophthalmology, social work, and rehabilitation services. Each of these services may have staff participating in rounds and also be providing services from within touchdown or designated office or rehab space on the floor(s).

(15) Conference/team support space for up to 12 persons shall be provided at the 24 bed support area for the care provider teams to undertake handover meetings during shift changes. Counselling and interview meetings will also be undertaken here.

(16) Staff outer clothing shall be stored in lockers in a "back of house" corridor. Students and volunteers will also have space for coat storage in the lockers. Purse lockers shall be provided at team care stations for personal valuables and will be shared across shifts. A staff lounge shall be provided for beverage making, staff debriefing, grieving and a separate quiet rest area shall be provided for brief rests during long shifts.

(17) Imaging and laboratory services will flow through the communication centre to the patient room.

3A.2.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications. Most services will be delivered to point of care.

(a) Biomedical Engineering (BE)

(i) Equipment storage space shall be provided within this component area for frequent use items (e.g., stretcher, wheelchairs, IV carts and poles). More bulky items and less frequent use items will be stored in the ACC central medical equipment depot with anticipated delivery within 15 minutes of notification.

(b) Nutrition Services

(i) Specialty formula will be delivered to the bedside upon request and ready-to-use formula will be available on the unit. Breast milk will be held for 24 hours in a fridge in each patient room.

(c) Pharmacy Services

(i) Most prescribed medications will be distributed to the various medication rooms of the component using a computerized unit dose distribution system. Dispensing of medications is generally conducted using automated medication cabinet (AMC) technology. Pharmacy information access including paperless/ on-line charting and prescribing, and access to PharmaNet at key locations is also provided.

(ii) A very limited supply of pharmaceuticals will be distributed using a ward stock system and stored in the medications room. There will be an adjacent clean prep room that will include space for line prep.

(iii) All meds will be ordered electronically and STAT requests will be transported manually via porters, or through a pneumatic tube system.

(iv) Clinical pharmacists will utilize touchdown workstations within the component while participating in a range of care activities, as well as participate in clinical research protocols.

(v) A Satellite Pharmacy (Critical Care) component, located in the ACC, will provide support through clinical consultations, provision of initial medication doses, and response to STAT medication needs.

(d) Food Services

(i) Food supply within the component will be in tray form delivered to each patient room with tray storage and timely removal of post-meal trays.

(ii) Delivery is anticipated to be an on demand, room service type model, available at the point of care.

(e) Supply Chain Services

(i) Clean/soiled linen is transported to/from the component daily using an exchange cart system in clinical areas at the 12-bed level. Clean laundry will remain individually pieced to reduce waste.

3A.2.3 ACTIVITY CAPACITY

3A.2.3.1 The table below summarizes the baseline activity and projected demand for BC Children's Medical/Surgical Inpatient. The projections are based on the assumption of 80% occupancy for physical beds/patient positions.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Medical/Surgical				
Inpatient Days*	21,827	23,703	25,732	n/a
Physical Beds	73	81	88	96

**Medical/Surgical inpatient days include Trach/Vent/BiPAP days and Oncology/Hematology surgical days to account for future reorganization of services.*

3A.2.4 PEOPLE REQUIREMENTS

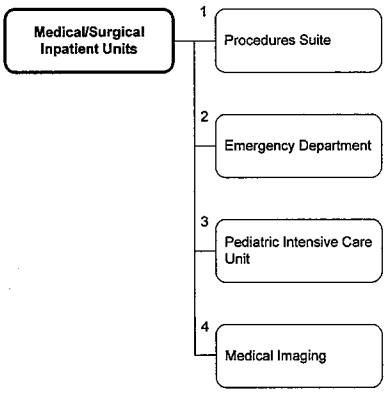
3A.2.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
12-Bed Care Pod Areas (8)	292	49	35		41	**417**
24-Bed Support Areas (4)		24	4		14	**42**
48-Bed Support Areas (2)	63	22	15	6	51	**157**

3A.2.5 DESIGN CRITERIA

3A.2.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by general circulation to/ from the Procedures Suite for patient transport.

2 Provide direct access by general circulation from Emergency Department for patient transport.

3 Provide direct access by general circulation to/ from the Pediatric Intensive Care Unit for patient transport.

4 Provide direct access by general or non-public circulation to Medical Imaging for patient transport.

3A.2.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) General Physical Organization

(i) The "front of house/back of house" concept will be supported with staff workspace, education/academic space and rest space all located away from public areas, with the "front of house" access supporting patient/family/provider community of care from primary or public corridors on each level.

(ii) The four 24-bed inpatient units shall be organized to provide for medical/ surgical patient groupings as well as provide certain patient care and staff support facilities dispersed to groupings of 12-beds, 24-beds, and up to 48-beds (two 24-bed units).

(iii) The initial organization of programs will include one floor level (Level 'A') generally assigned to surgical services including:

(A) Neurosciences (neurosurgery and neurology) and surgical subspecialties (one 12-bed care pod);

(B) Surgical subspecialties, including but not limited to: orthopedics/general surgery/urology, all surgical subspecialties (two 12-bed care pods); and

(C) Cardiosciences (cardiac surgery and cardiology) and surgical subspecialties (one 12-bed care pod).

(iv) Cardiosciences and neurosciences census will fluctuate and surgical bed capacity needs will be accommodated with flow into these 12-bed pods.

(v) And another floor level (Level 'B') generally assigned to medical services including:

(A) Subspecialty pediatrics – metabolics (including nephrology, endocrinology and diabetes, gastroenterology and biochemical diseases) (one 12-bed care pod);

(B) Subspecialty pediatrics – respirology/trach/ventilatory (one 12-bed care pod); and

(C) General pediatrics (two 12-bed care pods).

(vi) The Medical/Surgical IPU's will be designed utilizing 100% private patient rooms with each room consisting of three distinct zones as follows:

(A) Patient Zone in the centre of the room with adequate area for providers and equipment;

(B) Provider Zone nearest the entry to the room with a preparation and procedures area; and

(C) Family Zone located on the exterior window wall with sleeping accommodation.

(vii) Each patient room shall have its own washroom suite with a toilet, lavatory sink and tub/shower area with a fixed shower head. The location of this washroom must not interfere with patient direct line of sight to the window or the family zone, or from patient room door to patient head of bed.

(b) Visibility/Patient Sub Groups

(i) Visibility of staff work areas from the individual patient beds is required in order to reassure patients and families that care is close at hand.

(ii) Minimize provider walking distances and maximize provider-patient visibility by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the patient bed spaces.

(iii) In order to achieve the above criteria, team care stations as well as a central communications centre will be provided within each inpatient unit. Observation alcoves will be located between every two patient rooms within the 12-bed care pods.

(iv) Video Intensive Monitoring (VIM) will be accommodated in the neurosciences pod with central monitoring of six rooms. The two EEG monitoring rooms will be provided between two sets of patient bedrooms in this pod with the ability to watch behavioural response with communication between a provider in the patient room and a technician in the monitoring room.

(c) Zones of Activity

(i) Support spaces potentially unpleasant to see/smell will be accessed away from the public corridors.

(d) Acuity-Adaptable Room

(i) Acuity-adaptable rooms are rooms that are identically sized and designed for the full spectrum of patient care. These include a washroom, are fully accessible, allow maximum observation of the patient from the corridor, and have a designated family zone and staff work zone. The rooms must provide space for monitoring/other equipment to adapt the room to level of acuity of the patient.

(e) Safe Room

(i) Nine patient safe rooms must be distributed between the medical and surgical floor levels. One per 12 bed pod is required, two in the neuro pod.

(f) Patient and Family Environment/Activities

(i) Easily accessible shelf space for patients' personal items shall be provided.

(ii) Attractive options to encourage patient mobilization and promote patient independence shall be incorporated.

(iii) Wall, floor and ceiling surfaces, as well as furnishings, shall be carefully designed and selected to create a bright, cheerful, and safe environment for patient recovery.

(iv) Volunteers will operate a greeter station on each level near public elevators at the public arrival point to the floor during regular hours. When there is no volunteer on duty, a computer will function as a multilingual information kiosk in the same location for wayfinding.

(v) A central patient/family/visitor lounge(s) per inpatient floor level will be provided with the option to be designated by activity type to suit the varied environmental needs of patients (e.g., active/noisy, passive/quiet, etc.). These spaces will be accessible 24 hours per day.

(vi) A sense of personal scale within the unit shall be established by considering each 12-beds a "pod", each 24-bed unit a "neighbourhood" and 48-beds a "community" on each level.

(vii) Opportunities for patient and staff access to outdoor space (balconies, roof gardens, etc.) shall be provided.

(viii) Physical layouts and design features that minimize the typical institutional aspects of inpatient accommodation and maximize non-institutional hotel/ residential aspects shall be provided in order to create a therapeutic healing environment, including natural light that promotes quicker recovery and ambulation.

(g) Room Isolation Capability/Infection Control

(i) In the case of a pandemic outbreak, at least one 12-bed pod on each inpatient level will have negative air pressurization capability relative to the surrounding areas to segregate the area and air handling from the rest of the site. To

accommodate the above, the location of the ante room shall be included in the design process and meet all latest applicable CSA standards as the individual patient room. (For example: the ability to convert a meeting space near the entrance to a 12-bed pod to an ante room for access to an isolation zone).

(ii) One patient bedroom in each of seven care pods and six patient rooms in the respiratory/trach care pod will be AIR's, complete w/ante rooms. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(h) Safety in the Workplace

(i) Design of staff workstations, especially those used by staff at night, shall ensure the maximum safety of staff and allow access to staff emergency call system.

(i) Disposal of Infectious Material

(i) Infectious waste material is disposed of quickly and conveniently in the correct receptacle according to its classification and locale inclusive of all patient care and support areas.

(j) Accessibility

(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms shall have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(k) Flexibility of Space

(i) Flexibility is required in order to respond to evolving programmatic requirements to achieve functional sustainability of the space in the longer term. Space will need to respond to demographic changes and the development of alternative care programs in the community (or lack thereof). Versatile or convertible space will ensure the space is fully utilized as program requirements change daily and over the life of the building.

(l) Security

(i) The security of both patients and staff shall be assured. Staff will carry wireless communications devices which will be operational throughout the ACC, including in stairwells. All entry points of the unit will allow appropriate screening for security, and accessibility to patient care areas.

(m) Staff Privacy

(i) Care providers require an area where they can discuss or document a patient's condition/information in private. Since the team care station area will

likely be highly accessible to patients and their family/visitors, an acoustically private staff conference/charting room will also be provided.

(ii) Interdisciplinary conversations shall be private and not overheard by patients. Activities in the team care stations shall not disturb sleeping patients.

(n) Medications Security/Controlled Access

(i) The medications room shall be discreetly located. Access shall be visually supervised from the team care station, and shall be securable with a separate lockable AMC system.

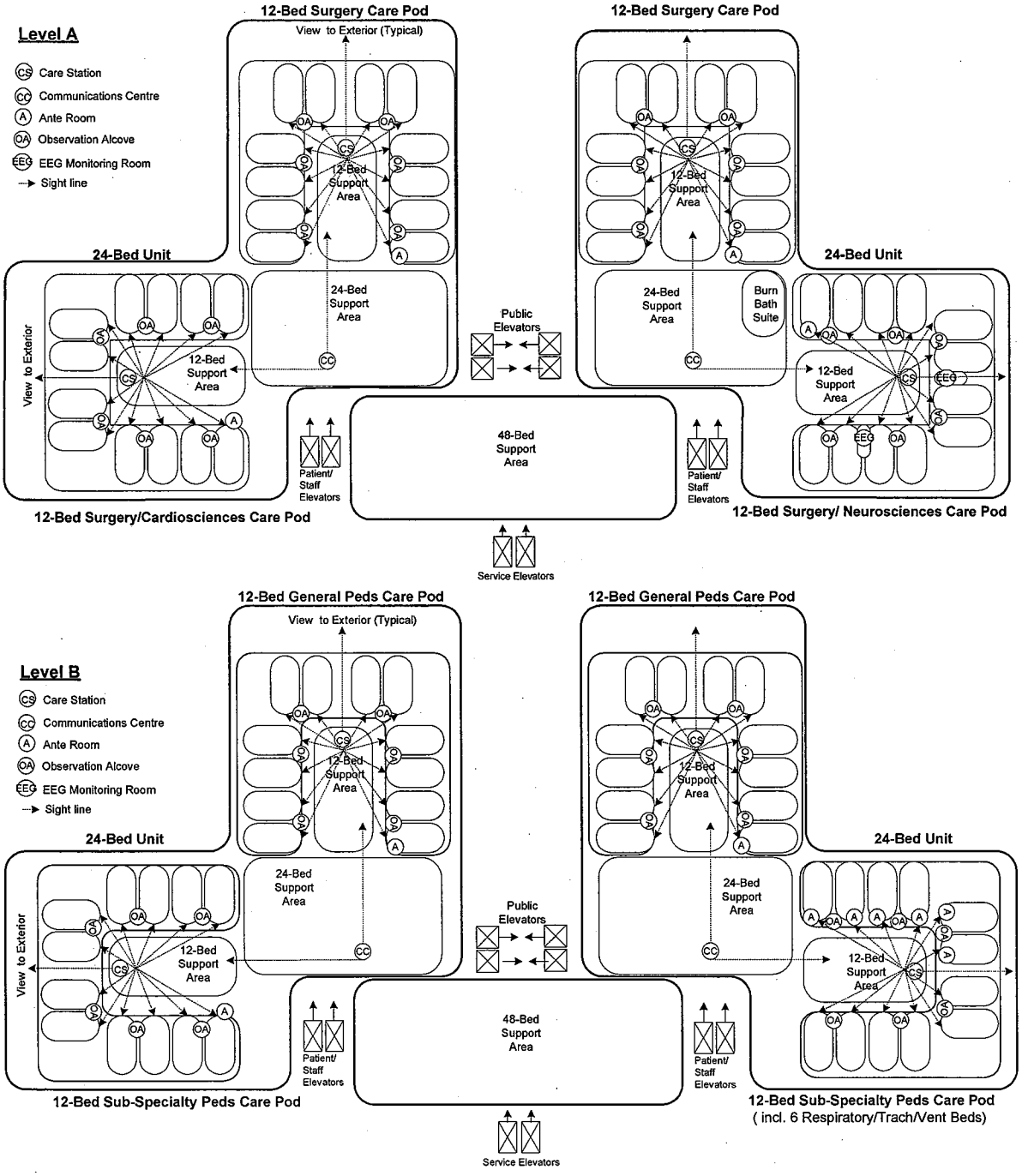
(ii) The medication rooms and clean prep room will have sufficient privacy for non-interruption of medications preparation.

(o) Equipment Storage Requirement

(i) See the space and equipment requirements lists for items of equipment stored on or close to the IPU's. The floor plan shall provide equipment storage alcoves close to bed areas for items used on a frequent basis including space for large personal wheelchairs of patients. (e.g., wheelchairs for patient transfers) and convenient access to the medical equipment depot.

(p) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagrams below. The diagrams illustrate conceptual relationships, and shall not be treated as a floor plan.



(ii) Key Design Features to be achieved:

(A) The "front of house/back of house" concept will be supported with staff work space, education/academic space and rest space all located away from public areas, with the "front of house" access supporting patient/ family/provider community of care from primary or public corridors on each level;

(B) Doors shall be located to achieve separation of a 12-bed pod for infection control purposes. One room in the 24-bed support area shall be located to become an anteroom in pandemic situations;

(C) The team care station at the 12-bed level will have sight lines to:

(C1) The door of each patient bedroom,

(C2) The communication centre at the 24-bed level,

(C3) The open and enclosed meeting spaces within the 12-bed support area;

(D) Where staff open and enclosed work areas utilize modular, adjustable furniture to meet flexibility and ergonomic requirements; configuration will reflect Model of Care and incorporate work and meeting space for all care providers and learners;

(E) Cross corridors are encouraged for staff through the 12-bed support areas to achieve minimum travel distance for care providers;

(F) The medications room shall be discretely located. Access shall be visually supervised from the team care station, and shall be securable with a separate lockable AMC system;

(G) The medications room, clean supply holding/clean utility and clean prep rooms should be contiguous;

(H) The clean prep room and clean supply holding/utility rooms will have access to each other;

(I) All clean, soiled, and equipment storage rooms will have secure automatic closure systems;

(J) All patient rooms will have point of care stocking at the individual patient room level, and removal of soiled, waste, and recyclable materials;

(K) The access to the soiled utility room will be positioned away from public spaces;

(L) Rooms in support areas must be multifunctional. Lockable storage within some interview/meeting rooms for supplies needed by various disciplines is required;

(M) The communication centre must be accessible and positioned to be a "home base" for the unit clerk/CNC/charge nurse with direct sightlines into each 12-bed pod;

(N) The OT/PT gym will be accessible to patient areas on both medical and surgical levels, be central to the 24-bed units and designed to accommodate use by immune compromised patients, including oncology;

(O) All staff will have controlled access to the stairwells between levels of the component and the rest of the ACC building;

(P) The location of the Burn Bath Suite will be adjacent to a subspecialty surgery care pod and privacy must be maintained while achieving easy movement for inpatients in beds. The Burn Bath Suite will also be accessed by outpatients and must be positioned to promote easy wayfinding for these patients;

(Q) The procedure rooms on each level must be able to accommodate patients in a surge or disaster situation;

(R) The child playroom and teen room will be accessible in the evening. The doors between these two spaces will open completely to create one large space for special events/activities;

(S) The neurosciences care pod will be adjacent to a procedure room;

(T) The cardioscience care pod will be located with the closest adjacency to the patient elevators leading to the cardiac OR in the Procedures Suite (Special);

(U) Cardiosciences and neurosciences census will fluctuate, and the adjacent surgery care pods will be able to expand into these beds as required;

(V) The EEG monitoring rooms in the neurosciences care pod will be:

- **(V1)** Positioned on the floor to allow surgical patients to overflow into the neurosciences care pod without impacting the use of the EEG rooms for neuro patients, and
- **(V2)** Positioned between neuro patient bedrooms to allow direct observation between a care provider and patient in the bedroom and the technician in the EEG monitoring room;

(W) The parent space in the patient room will incorporate storage space below the sleeping area. The sleeping surface is to become seating when required;

(X) The lavatory sink in the patient washroom will be of sufficient size and ergonomically accessible to support the bathing of infants;

(Y) The hand hygiene sink in each patient bedroom will be positioned so the provider will not have their back to the patient;

(Z) The minimum distance between the foot of the bed and fixed objects will be no less than 1200 mm; and

(AA) The 12-bed Support area will be either an open plan configuration or constructed with pony walls and glazing where required for conversational confidentiality per acoustic and noise control requirements.

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Level A – Neurosciences, Cardiosciences & Subspecialty Surgery

3A.2.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		48-Bed Support Area				
		Public Area				
11131	01	Greeter/Wayfinding Station	1		1.0	Directional information kiosk to be located near elevator
11132	02	Family Dining	1		25.0	
11263	03	Laundry, Family	1		5.0	
11137	04	Mother's Pump Area	1		4.0	1 single kitchen sink
11134	05	Washroom, Public, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
11264	06	Parent Lounge	1		20.0	
11135	07	Quiet Room, Spiritual Care	1		15.0	
11133	08	Family Member Resource Kiosk	1		4.0	
		Subtotal, Public Area			83.0	
		Patient Care Support Area				
11139	09	Multi-Use Counselling Room	1		15.0	1 hand hygiene sink
11140	10	Child Life Playroom	1		50.0	1 double kitchen sink, connecting doors to SpaceID# 11276, access to exterior play area
11276	11	Teen Room	1		30.0	Connecting doors to SpaceID# 11140, accessible after hours
11141	12	Child Life Support Room	1		10.0	
11142	13	Procedure/Treatment Room	1		25.0	Equipped differently dependent on service/ program
11143	14	Physiotherapy/OT Gymnasium	1		51.0	
11144	15	Assessment Room	1		14.0	Access to room on "long" wall
11145	16	PT/OT Equipment	1		5.0	
11146	17	Burn Bath/Assisted (Treatment) Bath/Shower Suite	1		35.0	Raised pier tub, 1 utility/ cleaning sink, 1 hand hygiene sink
11147	18	Ante Room, Burn Bath	1		8.5	Preparation room, includes parent observation window into main Burn Bath, 1 hand hygiene sink
11434	86	Alcove, Disaster Response Cabinet	1		1.5	

3A.2 BC CHILDREN'S MEDICAL/SURGICAL INPATIENT UNITS

Level A – Neurosciences, Cardiosciences & Subspecialty Surgery

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
11277	19	Recovery Room, Burn Bath	1		8.5	1 hand hygiene sink
		Subtotal, Patient Care Support Area			253.5	
		Staff Support Area				
11150	20	Office, Nurse Educator/CRN	1		36.0	8 purse lockers
11151	21	Office, Program Manager	1		9.5	
11152	22	Shared Offices, Unassigned	4	12.0	48.0	
11126	23	Office/Interview, Social Worker	1		11.0	Family interview area
11153	24	On-Call Room	1		7.5	Located away from high traffic areas
11154	25	Washroom, Staff On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
11155	26	Lounge, Staff	1		40.0	
11156	27	Rest Area	1		10.0	
11157	28	Locker Area, Staff	1		28.0	110 'z type' lockers
11158	29	Washroom, Staff, Female	1		10.5	2 wc's, 2 lavatory sinks, 1 shower, vestibule
11160	30	Washroom, Staff, Male	1		10.5	1 wc, 1 urinal, 2 lavatory sinks, 1 shower, vestibule
		Subtotal, Staff Support Area			216.0	
		Education & Clinical Research Area				
10862	32	Research, Workstation	1		12.0	
10863	33	Conference/Classroom	1		72.0	Flexible seating, subdivisable
10865	34	Locker, Student	1		6.0	30 half lockers off of corridor
		Subtotal, Education & Clinical Research Area			90.0	
		Subtotal, 48-Bed Support Area	1		642.5	
		24-Bed Support Area				
		Staff/Student Work Area				
11120	35	Communications Centre	1		15.0	20 purse lockers
11367	36	Pneumatic Tube Station	1		0.5	
11122	37	Workroom, Office Equipment	1		10.0	
11123	38	Alcove, Docking Station	1		1.5	

3A.2 BC CHILDREN'S MEDICAL/SURGICAL INPATIENT UNITS

Level A – Neurosciences, Cardiosciences & Subspecialty Surgery

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
11127	39	Office, Clinical Nurse Coordinator	1		9.5	
11138	40	Alcove, Crash Cart	1		0.5	
11128	41	Nourishment Station	1		6.0	1 double kitchen sink
11124	42	Conference/Team Report Room	1		24.0	Divisible, at least partially glazed to allow visibility in/out of room to Space ID#11120
11117	43	Soiled Utility Room	1		15.0	1 utility/cleaning sink, 2 hands-free automatic open/close access points for staff away from public corridors
11118	44	Storage Room, Equipment	1		20.0	
11130	46	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, Staff/Student Work Area			105.5	
		Subtotal, Two 24-Bed Support Areas	2	105.5	211.0	
		12-Bed Care Pod Area				*1 pod w/ Cardiosciences*
		Patient Care Area				
11103	47	Bedroom, Private	10	22.0	220.0	
11104	48	Washroom, Patient, Wheelchair	10	6.0	60.0	3 fixtures (incl. tub/shower), wheelchair access
11105	49	Bedroom, Private, AIR	1		22.0	
11106	50	Washroom, Patient, Wheelchair AIR	1		6.0	3 fixtures (incl. tub/shower), wheelchair access
11107	51	Ante Room, AIR	1		4.0	PPE supply storage
11108	52	Bedroom, Private, Bariatric	1		28.0	
11109	53	Washroom, Patient, Bariatric, Wheelchair	1		7.0	3 fixtures (incl. shower), wheelchair access, 2 sided access to wc
11110	54	Alcove, Patient Observation	6	2.0	12.0	Located between 2 patient rooms, views into patient rooms
11111	55	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate in corridor between 4 patient rooms, PPE supply storage
		Subtotal, Patient Care Area			360.5	
		Patient Care Support Area				
11112	56	Team Care Station	1		15.0	6 purse type lockers
11368	57	Pneumatic Tube Station	1		0.5	
11113	58	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access

3A.2 BC CHILDREN'S MEDICAL/SURGICAL INPATIENT UNITS

Level A – Neurosciences, Cardiosciences & Subspecialty Surgery

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
11114	59	Clean Prep Room	1		8.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID#11113
11121	60	Charting Area, Provider/ Learner	1		7.5	
11125	61	Charting Area, Provider/ Learner	1		6.0	
11115	62	Clean Supply Holding Room	1		15.0	Through access for staff
11116	63	Alcove, Linen	2	1.0	2.0	
11119	64	Storage Alcove, Equipment	2	2.0	4.0	
		Subtotal, Patient Care Support Area			68.0	
		Subtotal, Three 12-Bed Care Pod Areas	3	428.5	1 285.5	*1 pod for Cardiosciences*
		12-Bed Care Pod Area				*For Neurosciences Patients*
		Patient Care Area				
11191	65	Bedroom, Private	6	22.0	132.0	
11192	66	Washroom, Patient, Wheelchair	6	6.0	36.0	3 fixtures (incl. tub/shower), wheelchair type access
11193	67	EEG Technologist Monitoring/Physician Read Room	2	12.5	25.0	1 room between 2 patient rooms. Monitoring equipment linked to adjacent patient rooms, EEG department
11194	68	Bedroom, Private	4	22.0	88.0	
11195	69	Washroom, Patient, Wheelchair	4	6.0	24.0	3 fixtures (incl. tub/shower), wheelchair type access
11196	70	Bedroom, Private, AIR	1		22.0	
11197	71	Washroom, Patient, Wheelchair AIR	1		6.0	3 fixtures (incl. tub/shower), wheelchair type access
11198	72	Ante Room, AIR	1		4.0	PPE supply storage
11199	73	Bedroom, Private, Bariatric	1		28.0	
11200	74	Washroom, Patient, Bariatric, Wheelchair	1		7.0	3 fixtures (incl. shower), wheelchair type access, 2-side access to w/c
11201	75	Alcove, Patient Observation	6	2.0	12.0	Located between 2 patient rooms, views into patient rooms
11202	76	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate in corridor between 4 patient rooms, PPE supply storage, etc.
		Subtotal, Patient Care Area			385.5	

3A.2 BC CHILDREN'S MEDICAL/SURGICAL INPATIENT UNITS

Level A – Neurosciences, Cardiosciences & Subspecialty Surgery

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Patient Care Support Area				
11203	77	Team Care Station	1		15.0	6 purse type lockers
11369	78	Pneumatic Tube Station	1		0.5	
11204	79	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
11205	80	Clean Prep Room	1		8.0	1 utility/cleaning sink, 1 hand hygiene sink, adjacent to SpaceID#11204
11287	81	Charting Area, Provider/ Learner	1		6.0	
11288	82	Charting Area, Provider/ Learner	1		7.5	
11206	83	Clean Supply Holding Room	1		15.0	Through access for staff
11207	84	Alcove, Linen	2	1.0	2.0	Unrestricted, clear access to alcove to facilitate moving of carts
11210	85	Storage Alcove, Equipment	2	2.0	4.0	Unrestricted, clear access to alcove to facilitate moving of equipment
		Subtotal, Patient Care Support Area			68.0	
		Subtotal, One 12-Bed Care Pod Area	1		453.5	*Neurosciences Patients*
		Summary Level A				
		48-Bed Support Area	1		642.5	
		24-Bed Support Area	2	105.5	211.0	
		12-Bed Care Pod	3	428.5	1 285.5	*1 pod for Cardiosciences*
		12-Bed Care Pod	1		453.5	*1 pod for Neurosciences*
		Total Level A			**2 592.5**	

Level B – General Pediatrics & Subspecialty Pediatrics

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		48-Bed Support Area				
		Public Area				
11002	01	Greeter/Wayfinding Station	1		1.0	Directional information kiosk to be located near elevator
10074	02	Family Dining	1		25.0	
11261	03	Laundry, Family	1		5.0	Enclosed room
11001	04	Mother's Pump Area	1		4.0	1 single kitchen sink
10075	05	Washroom, Public, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
11262	06	Parent Lounge	1		20.0	
10076	07	Quiet Room, Spiritual Care	1		15.0	
11433	84	Alcove, Disaster Response Cabinet	1		1.5	
10067	08	Family Member Resource Kiosk	1		4.0	
		Subtotal, Public Area			84.5	
		Patient Care Support Area				
10079	09	Multi-Use Counselling Room	1		15.0	Hand hygiene sink
10088	10	Interview/Parent Teaching Room	1		20.0	Hand hygiene sink
10080	11	Child Life Playroom	1		50.0	1 double kitchen sink, connecting doors to SpaceID#11269
11269	12	Teen Room	1		30.0	Connecting doors to SpaceID#10080, accessible after hours
10081	13	Child Life Support Room	1		10.0	
10082	14	Procedure/Treatment Room	1		25.0	Equipped differently dependent on service/ program
10089	15	RT/PT/OT Treatment Room	1		30.0	Located adjacent to Resp/ Trach patient rooms, for respiratory patients
10091	16	Satellite "After Hours" Formula Supply Room	1		9.5	
10961	17	Family Education Room	1		12.0	
10093	18	School Room	1		40.0	Locate close to Subspecialty Peds Care Pod
10094	19	School Support Room	1		10.0	
		Subtotal, Patient Care Support Area			251.5	

Level B – General Pediatrics & Subspecialty Pediatrics

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Staff Support Area				
10095	20	Office, Nurse Educator/CRN	1		36.0	8 purse lockers
10096	21	Office, Program Manager	1		9.5	
10097	22	Shared Offices, Unassigned	4	12.0	48.0	4 purse lockers each
10098	23	On-Call Room	1		7.5	Located away from high traffic areas
10099	24	Washroom, Staff On- Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
10100	25	Lounge, Staff	1		40.0	
10101	26	Rest Area	1		10.0	
10102	27	Locker Area, Staff	1		28.0	110 'z type' lockers
10103	28	Washroom, Staff, Female	1		10.5	2 wc's, 2 lavatory sinks, 1 shower, vestibule
10105	29	Washroom, Staff, Male	1		10.5	1 wc, 1 urinal, 2 lavatory sinks, 1 shower, vestibule
		Subtotal, Staff Support Area			205.0	
		Education & Clinical Research Area				
10858	31	Research, Workstation	1		12.0	
10859	32	Conference/Classroom	1		72.0	Subdivisable
10861	33	Locker, Student	1		6.0	30 half lockers off of corridor
		Subtotal, Education & Clinical Research Area			90.0	
		Subtotal, 48-Bed Support Area	1		631.0	
		24-Bed Support Area				
		Staff/Student Work Area				
10061	34	Communications Centre	1		15.0	20 purse lockers
10064	35	Workroom, Office Equipment	1		10.0	
10066	36	Alcove, Docking Station	1		1.5	
10062	37	Pneumatic Tube Station	1		0.5	
10070	38	Office, Clinical Nurse Coordinator	1		9.5	
10078	39	Alcove, Crash Cart	1		0.5	
10069	40	Office/Interview, Social Worker	1		11.0	Family interview area
10071	41	Nourishment Station	1		6.0	1 double kitchen sink

Level B – General Pediatrics & Subspecialty Pediatrics

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10065	42	Conference/Team Report Room	1		24.0	Divisible, at least partially glazed to allow visibility in/ out of room to Space ID#10061
10015	43	Soiled Utility Room	1		15.0	1 utility/cleaning sink, temporary storage for soiled equipment, 2 hands-free automatic open/close access points for staff away from public corridors
10017	44	Storage Room, Equipment	1		20.0	
10073	46	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, One 24-Bed Support Area			116.5	
		Subtotal, Two 24-Bed Support Areas	2	116.5	233.0	
		12-Bed Care Pod Area				*1 pod for Subspecialty Peds, 2 pods for General Peds*
		Patient Care Area				
10000	47	Bedroom, Private	10	22.0	220.0	
10001	48	Washroom, Patient, Wheelchair	10	6.0	60.0	3 fixtures (incl. tub/shower), wheelchair access
10004	49	Bedroom, Private, AIR	1		22.0	
10005	50	Washroom, Patient, Wheelchair AIR	1		6.0	3 fixtures (incl. tub/shower), wheelchair access
10006	51	Ante Room, AIR	1		4.0	PPE supply storage
10002	52	Bedroom, Private, Bariatric	1		28.0	
10003	53	Washroom, Patient, Bariatric, Wheelchair	1		7.0	3 fixtures (incl. shower), wheelchair access, 2 side access to wc
10007	54	Alcove, Patient Observation	6	2.0	12.0	Located between 2 patient rooms, views into patient rooms
10008	55	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate in corridor between 4 patient rooms, PPE supply storage
		Subtotal, Patient Care Area			360.5	
		Patient Care Support Area				
10009	56	Team Care Station	1		15.0	6 purse type lockers
10010	57	Pneumatic Tube Station	1		0.5	

Level B – General Pediatrics & Subspecialty Pediatrics

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10011	58	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10012	59	Clean Prep Room	1		8.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10011
10068	60	Charting Area, Provider/ Learner	1		6.0	
10063	61	Charting Area, Provider/ Learner	1		7.5	
10013	62	Clean Utility Room	1		15.0	Through access for staff
10014	63	Alcove, Linen	2	1.0	2.0	Unrestricted, clear access to alcove to facilitate moving of carts
10018	64	Storage Alcove, Equipment	2	2.0	4.0	Unrestricted, clear access to alcove to facilitate moving of equipment
		Subtotal, Patient Care Support Area			68.0	
		Subtotal, Three - 12-Bed Care Pod Areas	3	428.5	1 285.5	*1 pod for Subspecialty Peds, 2 pods for General Peds*
		12-Bed Care Pod Area				*For Respiratory and Trach/ Vent Patients*
		Patient Care Area				
10019	65	Bedroom, Private	6	22.0	132.0	
10020	66	Washroom, Patient, Wheelchair	6	6.0	36.0	3 fixtures (incl. tub/shower), wheelchair type access
10021	67	Bedroom, Private, AIR	5	22.0	110.0	
10022	68	Washroom, Patient, Wheelchair AIR	5	6.0	30.0	3 fixtures (incl. tub/shower), wheelchair type access
10023	69	Ante Room, AIR	5	4.0	20.0	PPE supply storage
10024	70	Bedroom, Private, Bariatric, AIR	1		28.0	
10025	71	Washroom, Patient, Bariatric, AIR	1		7.0	3 fixtures (incl. shower), wheelchair type access
10026	72	Ante Room, AIR	1		4.0	PPE supply storage
10027	73	Alcove, Patient Observation	6	2.0	12.0	Located between two patient rooms
10028	74	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate in corridor between 4 patient rooms, PPE supply storage
		Subtotal, Patient Care Area			380.5	

Level B – General Pediatrics & Subspecialty Pediatrics

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Patient Care Support Area				
10029	75	Team Care Station	1		15.0	6 purse type lockers
10030	76	Pneumatic Tube Station	1		0.5	
10031	77	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10032	78	Clean Prep Room	1		10.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10031
11267	79	Charting Area, Provider/ Learner	1		6.0	
11268	80	Charting Area, Provider/ Learner	1		7.5	
10033	81	Clean Utility Room	1		15.0	Through access for staff
10034	82	Alcove, Linen	2	1.0	2.0	Unrestricted, clear access to alcove to facilitate moving of carts
10038	83	Storage Alcove, Equipment	2	2.0	4.0	Unrestricted, clear access to alcove to facilitate moving of equipment
		Subtotal, Patient Care Support Area			70.0	
		Subtotal, One 12-Bed Care Pod Area	1		450.5	*Respiratory/Trach/ Vent*
		Summary Level B				
		48-Bed Support Area	1		631.0	
		24-Bed Support Area	2	116.5	233.0	
		12-Bed Care Pod Area	3	428.5	1285.5	*1 pod for Subspecialty Peds, 2 pods for General Peds*
		12-Bed Care Pod Area	1		450.5	*1 pod for Respiratory/ Trach/Vent*
		Total Level B			**2 600.0**	
		GRAND TOTAL LEVEL A & LEVEL B			**5 192.5**	

3A.3.1 FUNCTIONAL DESCRIPTION

3A.3.1.1 Scope of Clinical Services

(1) This specification outlines the requirements for the 27 inpatient beds and the 22 exam/ treatment room outpatient program (OP) for the Oncology/Hematology/Bone Marrow Transplant Program (Onc/Hem/BMT), that will be accommodated in support of 2025/26 projected demand. This component will provide facilities for the delivery of secondary, tertiary and selected quaternary acute care services.

(2) BC Children's Onc/Hem/BMT program is the provincial referral centre providing comprehensive care for all children in BC with cancer and complex blood disorders both at BC Children's and in the community. Because these patients require several years of therapy and the need for continuity of care, most patients continue to be managed at BC Children's until their early 20's. The Onc/Hem/BMT primary mission is to improve the health and welfare of children in BC with cancer and blood disorders through research, education and care. This care is provided by a team of experts knowledgeable in the specialized laboratory, radiological, surgical and medical evaluation of children with cancer and complex blood disorders.

(3) The team works in close collaboration with the BC Cancer Agency (BCCA) in providing treatment and follow-up. Children over the age of 17 at diagnosis are typically referred to the BCCA. The program is also a member of the Children's Oncology Group (COG), a cooperative clinical trials group of prominent children's hospitals in North America. COG is a leading organization in the diagnosis and treatment of childhood cancer. Children's cancer specialists are in constant communication with centres all over the world and are able to decide the best possible treatment for any childhood cancer.

(4) Model of Care

(a) Onc/Hem/BMT provides a continuum of care for all patients, many of whom are being treated for chronic life threatening illness. In the Model of Care, the patient experiences safe and uninterrupted continuum of care from diagnosis. Whenever possible, care is brought to the patient rather than the patient traveling to multiple providers in various locations.

(b) A patient's care journey is directed by a Core Care Team. The Core Care Team consists of a triad of the attending physician, family and nurse clinician/nurse practitioner with the attending physician as the leader of this triad. This triad of individuals can be uniquely identified by name for every patient.

(c) Treatment means addressing the needs of the entire family, not only the needs of the patient. The patient's continuum of care is not limited to within the ACC and must consider all the resources essential to the treatment plan (e.g. community physicians). The continuum of care and responsibility for care resides with the Core Care Team, and extends offsite and encompasses the patient's entire treatment journey (e.g. community, other provider).

(d) Onc/Hem/BMT is moving away from an inpatient/outpatient designation. The team of health care providers is not constrained by specific areas of care, and operates with a holistic connected view of treatment. Onc/Hem/BMT provides care that accommodates the needs of the child and family to maintain overall well-being.

(e) An interdisciplinary team of care providers as defined by the Plan of Care supports the care of the patient. This interdisciplinary team consists of physicians, nurses and allied health professionals (e.g. Child Life, Dietician, Pharmacy, Psych, PT/OT, Social Work, Spiritual Care).

(f) There is a single Plan of Care (i.e. goals, single repository, accessible, integrated) that is developed and owned by the Core Care Team. Ownership means accountability for process and outcomes. The Core Care Team proactively advances the plan of care through anticipating the trajectory of the plan. Plan of Care decision making is the responsibility of the triad.

(g) The triad of the attending physician, family/patient and nurse clinician share accountability and are responsible for the Plan of Care. The three are jointly involved and dedicated to achieving the patient's goals.

(h) Team consistency through the journey is highly valued. The Core Care Team facilitates responsibility for transition to best meet the needs of the patient and family.

(i) Any care provider or patient/family member can suggest plan variation. The daily plan is managed by adherence to Standard Work/Clinical Pathways/Protocols/ Reliable Methods and executing predictable contingency plans when variation is encountered.

(j) There are adjusting routines defined for variances from the plan. The Core Care Team will coordinate the responses to these variations. Any proposed change to the Plan of Care must be discussed with the Core Care Team as soon as possible. The Core Care Team is responsible for ensuring that documentation and execution have occurred for all changes to the Plan of Care. An updated plan is then created. Currently Onc/Hem/BMT consists of inpatient, a range of short stay outpatient and outreach services, and a long stay medical day unit for a variety of procedures and treatments (IV therapy, chemotherapy, blood transfusions etc.).

(k) Plan of Care decisions and adjustments to the plan can be made without the necessity of planned or scheduled team rounds. Patient care and progress (e.g. discharge, treatment) does not depend on the timing of team rounding. In this manner, care is not interrupted or delayed due to rounding.

(l) Scheduled interdisciplinary assemblies of the inter-disciplinary teams (where the team reviews each patient plan) are formalized and are essential for patient care.

(m) The Core Care Teams and others perform the inter-professional charting and documentation of care as provided. The patient/family own the information, the institution maintains and safeguards the record/documentation.

(n) The Onc/Hem/BMT program is designed with a single clinical/operational management structure that does not separate outpatient and inpatient activities into departments. If escalation of an operational issue is required, the individuals involved move up their respective line management streams (chain of command) for resolution.

(o) As an integral part of the Model of Care, Onc/Hem/BMT is an Academic Health Science Centre and has responsibility for the ongoing cycle of interdisciplinary education and development of learners.

(p) Continuing professional education and development for all team members is vital for success of the team.

(q) Onc/Hem/BMT Patient Care is responsive to, and driven by, local, national, and international research.

(r) As an Academic Health Science Center, Onc/Hem/BMT actively leads and participates in research, including clinical trials, which advance the body of knowledge. It is the responsibility of Onc/Hem/BMT to generate new knowledge and translate knowledge into improved best practice and patient outcomes.

(5) There are primarily four types of ambulatory treatment programs provided including:

(a) Active treatment which involves diagnostic and therapeutic procedures, as well as anticancer therapy (chemotherapy);

(b) Short and long-term follow-up which assesses disease status, active surveillance and evaluation of late effects;

(c) Palliative care; and

(d) Hematology consultations and continuing care for complex hematological diseases.

(6) All radiotherapy services are provided through BCCA.

(7) It is anticipated there will be an incremental increase in the intensity of treatment in the coming years, based largely on the degree to which the department is engaged in clinical trials and treatment of non-oncologic/hematologic diseases, such as genetic and metabolic diseases for which application of stem cell research is likely to provide cures.

(8) Future demand on Onc/Hem/BMT is in response to the fact that there are unique health problems for the survivor of childhood cancer. As more children are cured of cancer, they will often encounter increased health risks as they continue to grow.

(9) Since the intensity of treatment for childhood cancer will continue to increase requiring potential increasing hospitalizations for intensive supportive care, the impact of any increase in community care will primarily be on a reduction of outpatient visits to BC Children's.

3A.3.1.2 Scope of Education Activity

(1) Onc/Hem/BMT will generally provide clinical resources in support of teaching programs for the following types of students at any given time:

(a) Fellows;

(b) Medical/surgical residents;

(c) Medical undergraduates;

(d) Nursing undergraduate and graduate students;

(e) Social work students;

(f) Physiotherapy students;

(g) Occupational therapy students;

(h) Pastoral care students;

(i) Speech language pathology students;

(j) Respiratory therapy students;

(k) Dietetic interns; and

(l) Unit clerk students.

(2) Pharmacy students and residents will use the Oncology Satellite Pharmacy as a base while in their Oncology rotation. The location will be used for presentations and teaching to fulfill the teaching mandate of the department.

(3) A wide range of individual and small group clinical teaching activities will be accommodated directly in the inpatient care areas.

(4) Inservice education and patient teaching will be conducted on a regular basis throughout the unit's patient/clinical care spaces as well as in conference/meeting room(s) and teaching room(s).

3A.3.1.3 Scope of Research Activity

(1) Clinical research and evidence-based treatment is conducted through the Childhood Cancer Research Program, as a combined program of the BC Research Institute for Children's & Women's Health, the Division of Pediatric Onc/Hem/BMT of BC Children's, and the University of British Columbia. There is also close collaboration with the research endeavours of the BC Cancer Agency.

(2) There are three key areas of current investigation including:

(a) Clinical Research: As a member of the COG, BC Children's participates in Phase II and Phase III trials, as well as local and national Canadian trials and the study of late effects in survivors of childhood cancer;

(b) Immunity, immune response and bone marrow transplantation; and

(c) Cell signalling and genetics.

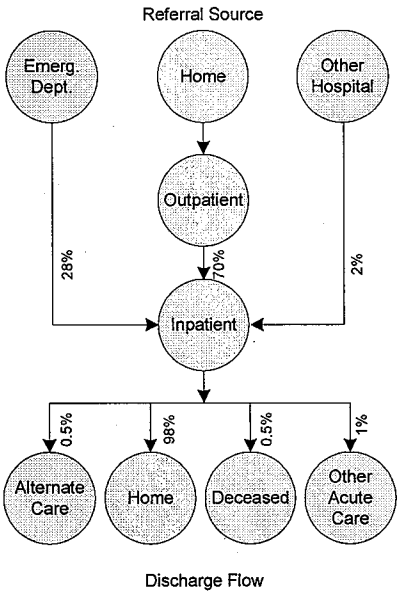
3A.3.2 OPERATIONAL DESCRIPTION

3A.3.2.1 Minimum Hours of Operation

(1) The Onc/Hem/BMT inpatient unit is staffed 24/7.

(2)	Outpatient Service	0800h to1800h/Monday-Friday
(3)	Oncology Satellite Pharmacy (distribution and clinical services)	0700h to 1600h/7 days/wk

3A.3.2.2 Patient & Family Management Processes and Flows



(1) The 27-bed inpatient program and 22 room outpatient program will be administered from a centralized reception/communication station, which will also act as a control point for access to the unit. Team care stations will also be provided in support of each of the programs.

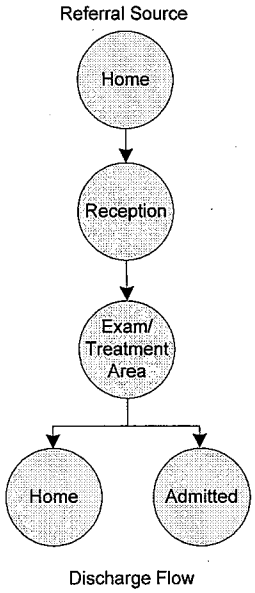
(2) Patient scheduling will be level loaded.

(3) The patient arrives, is assigned a room and seen by a physician or directed to the appropriate area. Typically, the family flow will follow the patient.

(4) Care delivery will be based on a family-centred model of care supported by an interdisciplinary team. An RN will be assigned to patients based on acuity and care needs.

(5) Higher or lower levels of care may be required for selected patients, but lower than for critical care patients.

3A.3.2.3 Patient Information Management and Flows



(1) Patient rooms and patient team care stations must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

(2) Monitoring alarms will be provided inside the room, outside the room and centrally at the team care stations.

(3) Most bedside forms will be generated electronically and when hard copies are needed these will be printed at the team care station.

(4) Patient information systems will be automated with access to information by means of computer terminals located at all staff work areas distributed throughout the unit including the Oncology Satellite Pharmacy. Computer and paper charting will occur at the patient bedside. Ordering and scheduling of tests, procedures, and medications will be managed through the terminals in the staff work areas or through hand-held devices. Patient information will be available throughout the unit wirelessly or through computer terminal positions, at team care stations and viewing stations.

(5) Patient monitoring/tracking will be available at each pod level.

(6) Monitoring of patients and safety equipment will be available in the playroom.

(7) An internal anesthesia code blue system will be available from the procedure and recovery rooms.

(8) Emergency call bells will be available in all outdoor areas.

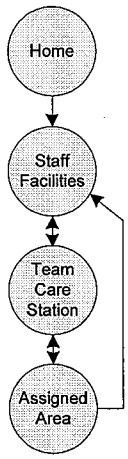
(9) Oncology Satellite Pharmacy

(a) Patient information flow will be fully integrated with the Pharmacy Information System (IS) providing full electronic medication profiles and administration records.

(b) Patient information will be accessed through computer terminals throughout patient care areas.

3A.3.2.4 Provider Work Processes and Flows

(1) A multidisciplinary and multi-team approach to care will be carried out in Onc/Hem/BMT with each staff member/care provider starting each day at a touchdown station to receive patient assignments. Once assignment is determined, the provider proceeds to the designated patient area, team care station or family area.



(2) Nurse travel time will be minimized and nurse-patient visibility maximized by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the patient bed spaces. In order to achieve the above criteria, team care stations will be provided within inpatient unit and outpatient/daycare area. These team care stations accommodate workstations for (computer) charting purposes.

(3) Only essential patient care support areas will be maintained within the unit proper. All other support areas shall be centralized for sharing between the outpatient and inpatient areas ("Shared Support areas").

(4) Care providers will require an area where they can discuss or document a patient's condition/information in private. Since the team care station will be highly accessible to patients and their family/visitors, private staff conference/charting room areas will also be provided. These two areas shall allow staff observation of patients from within, and facilitate frequent access and visualization between them.

(5) Conversations requiring confidentiality shall not be overheard by patients. Activities in the team care stations shall not disturb sleeping patients. The team care stations shall be designed to maintain sightlines.

(6) Appropriate staff will have personal communications devices.

(7) The medications room shall be centrally located to minimize travel distance to patient rooms. Access to the medication rooms shall be visually supervised from the team care station.

(8) Multidisciplinary clinical staff will enter information to clinical records by electronic or manual means, discuss clinical issues, make confidential telephone calls, review x-ray and other diagnostic results in a discreet area.

(9) Conference/Team Report rooms for up to 15 persons shall be provided for the care teams to undertake handover meetings during shift changes. Counselling and interview meetings will also be undertaken here.

(10) Staff outer clothing shall be stored in lockable coat closets. Students will also have space for coat storage in the coat closets. Purse lockers shall be provided for personal valuables

and will be shared across shifts. A staff lounge shall be provided for beverage making, staff debriefing, grieving and rest.

3A.3.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications. Most services will be delivered to point of care.

(a) Biomedical Engineering (BE)

(i) Equipment storage space shall be provided within this component area for frequent use items (e.g., stretcher, wheelchairs, IV carts and poles). More bulky items and less frequent use items will be stored in the ACC medical equipment depot with anticipated delivery within 15 minutes of notification.

(b) Anesthesia Services

(i) Anesthesia services will be provided in the procedure room five days per week, minimum.

(ii) Participation in the pain management of medical/surgical complications of high risk patients will be provided.

(c) Diagnostic Cardiology Services

(i) Portable electrocardiograms (ECG) and Echocardiographic (ECHO) testing will occur within Onc/Hem/BMT. Diagnostic cardiology technicians will be called and will bring necessary diagnostic equipment with them. A dedicated link to a management system will be provided for the sending and retrieval of data and to enable viewing and reporting of ECGs on-line.

(ii) If invasive cardiac procedures are required the patient will be transported to the interventional rooms within the Procedures Suite component.

(d) Medical Imaging

(i) General radiographic and ultrasound imaging will occur within Onc/Hem/BMT utilizing portable equipment, while patients requiring other imaging procedures will need to be transported to either the Procedures Suite or the Medical Imaging components.

(ii) Iodine Meta-Iodobenzylguanidine (MIBG) imaging is to be available on-site for optional high dose therapy.

(e) Nutrition Services

(i) Clinical dietitians will be active members of the interdisciplinary care team and will be based in Onc/Hem/BMT.

(ii) Specialty formula will be delivered to the bedside upon request and ready-made formula will be available on the unit. Access to a temperature controlled fridge for breast milk will be provided in each inpatient room.

(f) Rehabilitation Services

(i) Rehabilitation staff (Physical Therapy [PT], Occupational Therapy [OT], Speech Language Pathology [SLP] and Audiology) will provide assessments and therapy at the patients' bedside; and within flexible spaces shared between the outpatient and inpatient units.

(ii) Facilities to accommodate immune-compromised patients will be provided in the shared rehabilitation therapy space on the Surgical Inpatient floor Level A.

(g) Laboratory Services

(i) Cryopreservation lab services will be available Monday to Friday.

(ii) Turn around times (TAT) are expected to be 15 minutes for STAT, one hour for routine collection, 15 minutes from Outpatient Diagnostics (OPD), Complete Blood Count (CBC) and chemistry.

(h) Oncology Satellite Pharmacy Services

(i) Medication Flow

(A) Purchasing and bulk storage of medications will occur through the Main Pharmacy. Deliveries of medication stock will be received from the Main Pharmacy on a regular (minimum daily) basis. Top up of the automated medication cabinets (AMC) will generally be from the Main Pharmacy; however, the Satellite may perform this service in an emergency. The Oncology Satellite will hold approximately 3 – 7 days stock on hand.

(B) An exchange cart/bin system will be utilized as much as possible to restock the satellite from the main pharmacy, reducing the generation of waste in the satellite.

(C) Satellite stocks will be appropriately located dependent on the location and nature of additional preparation e.g. intravenous or oral.

(D) Patient specific intravenous and oral medications will be delivered via pneumatic tube (chemotherapy cannot be transported via pneumatic tube), by pharmacy staff, picked up by nursing or support staff depending on the location, nature and urgency of the request.

(E) Electronically entered orders (computerized prescriber order entry - CPOE) are reviewed and approved by the pharmacists remotely or within the satellite.

(ii) Preparation

(A) Medication doses will be prepared and checked by pharmacy technicians within the satellite, using stock items or prepared-on-demand product. The satellite will be responsible for preparation of all chemotherapy medications required by the Oncology areas.

(B) The satellite will be responsible for distribution of first dose oral medications (not contained in the AMC) required by Oncology. Note: The

satellite will not provide service for medications to be taken home. An Ambulatory Care Pharmacy will be located on campus to provide this service.

(C) The satellite will be responsible for the preparation of adjunct intravenous solutions required by the Oncology areas including but not limited to: high risk solutions, standard intravenous solutions, and patient specific, non-standard solutions.

(iii) Oncology Satellite Pharmacy Provider & Staff Flow

(A) Pharmacists will be fully integrated with the multidisciplinary team spending the majority of their time within Oncology patient care areas.

(B) Pharmacists will interact with members of the multidisciplinary team during formal rounding and as required on an individual basis. The intent is for clinical pharmacists to be available for each team.

(C) Pharmacy Technicians located within the satellite and in conjunction with staff located in the Main Pharmacy will perform medication preparation activities.

(D) Checking of high risk medications by pharmacists, may be performed potentially via wireless devices.

(E) Pharmacy Technicians and/or Assistants from the Main Pharmacy will perform refill activities, i.e. AMC top up, supplemented by urgent top up activities performed by satellite based staff.

(F) Pharmacy Technicians/Assistants will transfer medication stock from the Main Pharmacy using motor assisted carts.

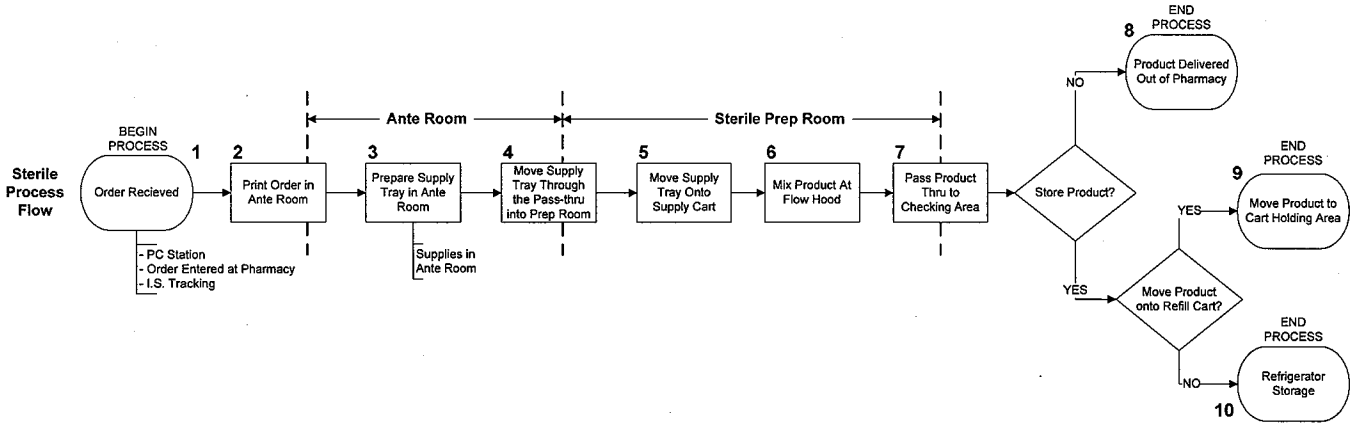
(G) Communication between pharmacy staff will be accomplished using wireless devices within the satellite and the ACC.

(H) Patient information flow will be fully integrated with the Pharmacy IS providing full electronic medication profiles and administration records.

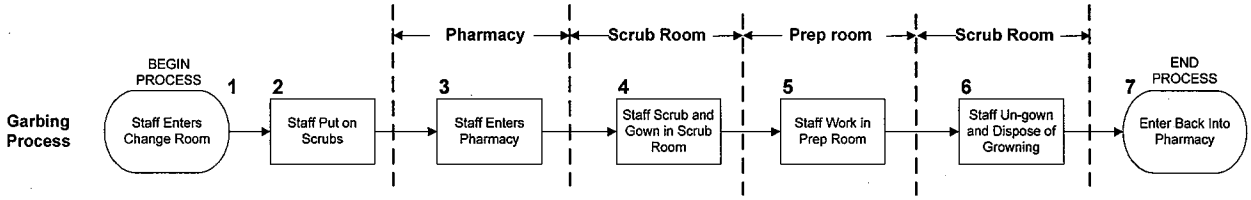
(I) Patient information will be accessed through computer terminals located within the Pharmacy Satellite and pharmacy staff will also have access to terminals throughout the patient care areas and/or utilize wireless hand-held devices.

3A.3 BC CHILDREN'S ONCOLOGY/HEMATOLOGY/BMT PROGRAM

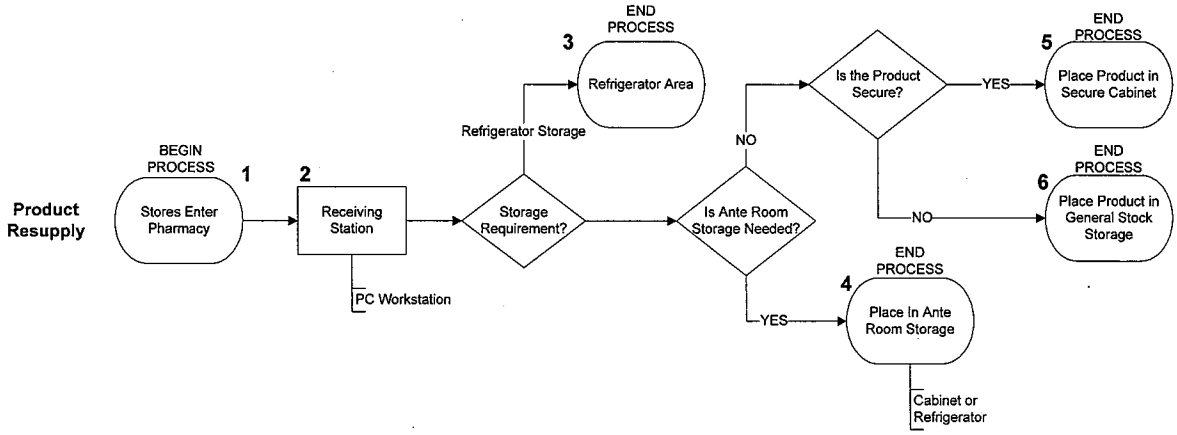
Pharmacy: Process Map #1



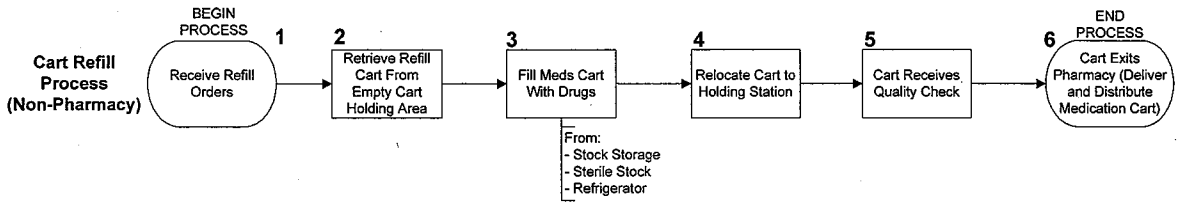
Pharmacy: Process Map #2



Pharmacy: Process Map #3



Pharmacy: Process Map #4



(i) Respiratory Therapy Services

(i) Respiratory therapy staff will provide services to Onc/Hem/BMT 24 hours a day, seven days a week.

(j) Social Work

(i) Social workers based in Onc/Hem/BMT will conduct interviews at the bedside or in consult/interview rooms within close proximity to clinical areas. Discharge and other necessary resource information will be discussed in an office or interview room setting.

(k) Food Services

(i) Food supply within the component will be in tray form delivered to each patient room with tray storage and timely removal of post-meal trays; and

(ii) Delivery is anticipated to be an on demand, room service type model, available at the point of care.

(l) Supply Chain Services

(i) Clean/soiled linen is transported to/from Onc/Hem/BMT using an exchange cart system, generally to designated linen alcoves and soiled utility rooms;

(ii) Oncology Satellite Pharmacy:

(A) Deliveries of stock solutions from Central Stores will be on a regular basis using an exchange cart system.

(B) Delivery and pickup of scrubs and non-disposable gowns is required for the sterile preparation area.

(C) Non-confidential paper waste will be kept to a minimum and will require recycling.

(D) Confidential paper – pharmacy generated refill lists and labels will require confidential shredding/disposal on a regular basis.

(E) Biohazard waste – pharmacy staff will place waste generated from sterile and oral preparation areas in designated bins for pickup on a regular basis.

(m) Volunteer Services

(i) Volunteers will augment the clinical services provided in Onc/Hem/BMT.

3A.3.3 ACTIVITY CAPACITY

3A.3.3.1 The table below summarizes the baseline activity and projected demand for BC Children's Onc/Hem/BMT Program. The projections are based on the assumption of 80% occupancy for physical beds/patient positions.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Oncology/Hematology/BMT				
Inpatient Days	7,327	9,066	9,944	n/a
Physical Beds	24	31	34	27
Outpatient Visits	6,618	7,685	8,398	n/a

3A.3.3.2 Onc/Hem/BMT Satellite Pharmacy volumes:

Planning Area		Medication Dose Activity Baseline 10/11	Medication Dose Activity Projection 16/17	Medication Dose Activity Projection 25/26	Solution Dose Activity Baseline 10/11	Solution Dose Activity Projection 16/17	Solution Dose Activity Projection 25/26
BC Children's	Onc Outpatient & Inpatient	74 460	91 665	100 680	32 890	40 606	44 564

**Planning areas identified are those which are anticipated to be serviced through the Oncology Satellite Pharmacy.*

3A.3.4 PEOPLE REQUIREMENTS

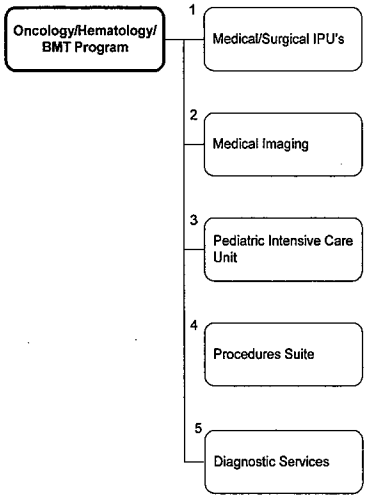
3A.3.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Visitors	Others	Total
Outpatient Care Area					
22-Room Patient Care Area	70	40		8	**118**
Patient Care Support Area		4	2	1	**7**
Inpatient Care Area					
27-Bed Patient Care Area	94	32		6	**132**
Patient Care Support Area	6	8		1	**15**
Patient/Family Care Support Area	15	10	3		**28**
Shared Outpatient/Inpatient Support Area					
Satellite Pharmacy Area					
Modular Sterile Prep Room		4			**4**
Dispensary/Checking/Workstations		6			**6**
Patient Care Support Area	4			1	**5**
Staff/Student Support Area			2	3	**5**

3A.3.5 DESIGN CRITERIA

3A.3.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



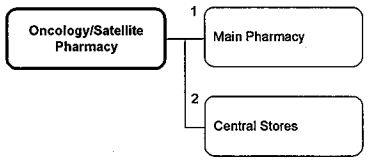
1 Provide direct access by general circulation to the Medical/Surgical Inpatient Units for shared use of the School Room, PT/OT Therapy Room and Education & Clinical Research area.

2 Provide direct access by general circulation to Medical Imaging for patient transport.

3 Provide direct access by general circulation from Pediatric Intensive Care Unit for patient transport.

4 Provide convenient access by general circulation to the Procedures Suite for patient transport.

5 Provide convenient access by general circulation to other Diagnostic Services for patient and/or equipment transport.



1 Provide convenient access by general circulation to/from the Main Pharmacy in the 1982 building for medication transfer.

2 Provide convenient access by general circulation from Supply Chain (Central Stores) for supply transfer.

3A.3.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) General Physical Organization

(i) The inpatient unit will be organized in a single 27-bed unit with the patient rooms around the periphery and team care station and patient support areas. A team care substation will specifically serve the seven BMT beds.

(ii) The outpatient unit will be organized with the exam/treatment rooms surrounding the team care station central support and play area.

(iii) Both units will have access to exterior courtyards from play and family support areas.

(iv) Both units will be served by a central reception, patient, family and staff support areas.

(b) Overview & Configuration

(i) Onc/Hem/BMT will be a secured environment and it will not be possible for those unauthorized to use as a route to or from other areas of the Hospital.

(ii) Onc/Hem/BMT will be configured with a "public" front door and a separate staff/ service entrance.

(iii) Onc/Hem/BMT will be physically organized into three basic zones:

(A) Outpatient care area;

(B) Inpatient care area; and

(C) Shared OP/IP support services area.

(c) Patient Rooms

(i) Each acuity adaptable inpatient room will have its own washroom suite with a toilet, lavatory sink and adjustable height, tub/shower area. The location of this washroom must not interfere with patient direct line of sight to the window or the family zone, or from the patient room door to patient head of bed.

(ii) Onc/Hem/BMT will be designed utilizing 100% private patient rooms.

(iii) Easily accessible shelf space for patient's personal items shall be provided.

(iv) Privacy is required for all interior and perimeter glazing.

(v) All inpatient rooms and all outpatient exam treatment rooms must be able to accommodate mobile equipment from equipment list including portable x-ray machine.

(vi) The layout of the patient room shall allow for conducting rehabilitation treatments including accommodating one physiotherapy floor mat.

(d) Provisions Supporting Family-Centred Care

(i) Inpatient rooms will consist of three zones: patient zone, provider zone and family zone. The patient zone is the area surrounding the bed area; the provider zone is closest to the door and includes supplies, hand hygiene sink and charting area and the family zone is located farthest from the door and includes seating that flexes into sleeping accommodation and lockable storage for a family member.

(ii) Space design will focus on "humanizing" the environment.

(iii) A quiet room will be provided for emotionally distressed or grieving family members away from the patients and other family members. Natural light is desired.

(iv) In addition, a family/visitor support zone will be provided in the shared support area. This area consists of spaces accommodating rest and relaxation, cooking, eating, entertainment, laundry facilities, self-education, and hygienic

activities for family members who wish to stay overnight or for longer periods of time.

(e) Flexibility

(i) All patient bed spaces will be as physically identical as possible in order to maximize flexibility of use and reduce risks by promoting staff familiarity with placement of supplies and equipment.

(f) Visibility/Patient Sub Groups

(i) The inpatient unit layout, will allow visual supervision of and direct access to patient rooms from the staff work areas.

(ii) Visibility of staff work areas from the individual patient rooms is required to reassure patients nursing care is close at hand will be provided.

(iii) Nurse travel time will be minimized and nurse-patient visibility will be maximized by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the patient bed spaces.

(g) Zones of Activity

(i) Only essential Patient Care Support areas will be maintained within the outpatient and inpatient areas proper. All other support areas shall be centralized for sharing between outpatient and inpatient areas ("Shared Support areas").

(h) Acuity-Adaptable Room

(i) Acuity-adaptable rooms are rooms that are identically sized and designed for the full spectrum of patient care. These include a washroom, are fully accessible, allow maximum observation of the patient from the corridor, and have a designated family zone and staff work zone. The rooms must provide space for monitoring/other equipment to adapt the room to level of acuity of the patient.

(i) Patient Environment/Activities

(i) Multiple opportunities for patient, family and staff access to outdoor space (balconies, roof gardens, etc.) shall be provided.

(ii) Wall, floor and ceiling surfaces, as well as furnishings, must be carefully designed and selected to create a bright, cheerful, and safe environment for patient recovery.

(iii) Physical layouts and design features that minimize the typical institutional aspects of inpatient accommodation and maximize non-institutional hotel/ residential aspects in order to provide a more therapeutic healing environment promoting quicker recovery, ambulation, etc. are required.

(iv) A central patient/family/visitor lounge(s) with the option to be designated by activity type to suit varied environmental needs of patients (e.g., active/ noisy, passive/quiet, etc.) is required.

(j) Room Isolation Capability/Infection Control

(i) The 7 BMT inpatient rooms and 4 of the outpatient exam/treatment rooms require protective isolation (PIR). The BMT rooms will be complete with ante rooms. Additionally, 2 inpatient rooms and 3 outpatient exam/treatment rooms require airborne isolation (AIR), complete with ante rooms. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(ii) Provide hand hygiene sinks and hand sanitizers in patient rooms and in central locations, which are readily accessible to staff.

(k) Accessibility

(i) Patient, staff and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(l) Safety in the Workplace

(i) Design of staff workstations, especially those used by staff at night, shall ensure maximum visibility and safety for staff including access to the staff emergency call system.

(m) Security

(i) The security of both patients and staff must be assured. Staff may use personal alarm devices or carry wireless communications devices which must be operational throughout the ACC, including stairwells. Areas where family and patient access is restricted will have authorized employee entry.

(ii) All persons entering will be directly observed. Controlled access is required for all entry doors.

(iii) Traffic into the Oncology Satellite Pharmacy is restricted and doors will always be closed. A communication system from outside to the inside will be provided.

(iv) The security for the Oncology Satellite Pharmacy must meet the College of Pharmacists BC requirements.

(n) Medications Security/Controlled Access

(i) The medications room(s) shall be discreetly located. Access shall be visually supervised from the team care station, and shall be securable with a separate lockable AMC.

(ii) The medications room, clean supply holding and clean prep areas will have sufficient privacy for non-interruption of medications preparation. Hands-free staff access will be provided for this room.

(o) Staff Privacy

(i) Health care providers will require an area where they can discuss or document a patient's condition/information in private. Since the team care station area will be highly accessible to patients and their family/visitors, a private staff conference/charting room will also be provided as per acoustical and noise control requirements.

(ii) Activities in the team care stations shall not disturb sleeping patients; therefore, the stations shall be designed per acoustical and noise control requirements.

(p) Oncology Satellite Pharmacy

(i) The layout of the satellite pharmacy must facilitate maximum visibility between the internal components.

(ii) The dispensary/production area includes receiving, storage of supplies, preparation, and checking and dispensing of medications. In general, this will be an open environment with zones designated by activity. Use of modular furniture will be maximized to allow flexibility and relocation as required. Access to the AMC from this area is required.

(iii) The order review/entry area includes workstations and support materials to accommodate distribution and clinical pharmacy staff.

(iv) The internal staff support area will also have convenient access to supplemental external staff facilities.

(v) Storage will include secure, refrigerated storage for narcotics and controlled access medications. Flexible storage shelving is required for drugs and supplies, bulk solutions, boxed medications and unit dose packaged product. Chemotherapy stock requires separate storage for room temperature and refrigerated product. All staff workstations will include storage for reference materials and files. Access to the main storage area must accommodate the movement of large equipment and supplies on pallets.

(vi) The sterile preparation area is a standalone modular suite of rooms as per Schedule of Accommodation.

(vii) Separate component spaces are required for chemotherapy preparation (negative pressure) and intravenous medication preparation (positive pressure) with access through associated scrub room (both positive pressure). Transfer of medications and supplies in and out of the IV and chemotherapy preparation areas is achieved via a pass-through access designed to maintain pressure

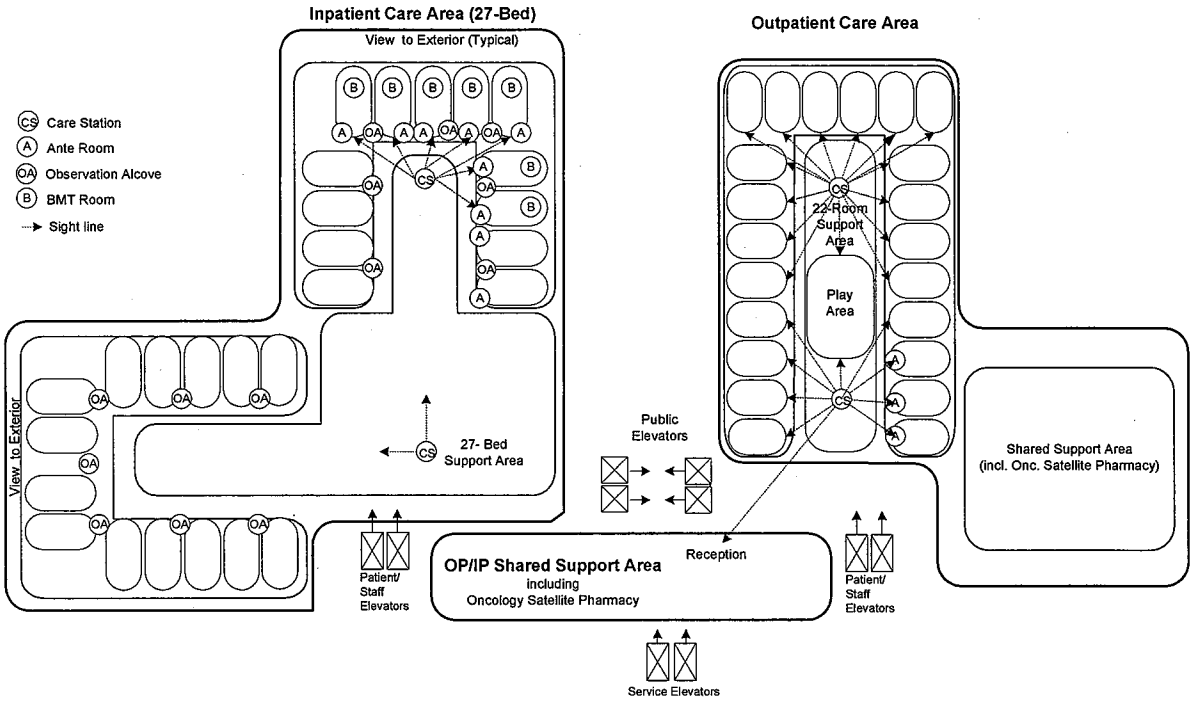
variances. Pass-through access is required between the ante room and preparation room, and between the preparation room and external checking zone located in the dispensary.

(viii) The security of the Oncology Satellite Pharmacy must be maintained.

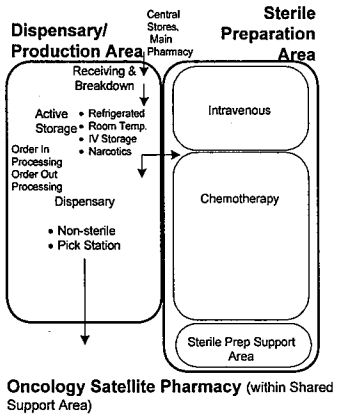
(ix) The Oncology Satellite Pharmacy will also serve as a contingency location for Pharmacy activities in the event of a disaster causing significant impact on the Main Pharmacy operations.

(q) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagrams below. The diagrams illustrate conceptual relationships, and shall not be treated as a floor plan.



(ii)



(iii) Key Design Features to be achieved:

(A) The "front of house/back of house" concept will be supported with staff work space, education/academic space and rest space all located away from public areas, with the "front of house" access supporting patient/ family/provider community of care from primary or public corridors;

(B) Sightlines to patient care areas must be optimized;

(C) The reception area must be accessed via doors as a check point for hand washing and check-in;

(D) The PT/OT equipment storage room should be central to the programmed area. The room must be designed and fit out to allow easy access to all equipment stored in the room;

(E) An adjustable handrail is required for physiotherapy use as an alternative to parallel bars. This handrail must be in a "back of house" corridor;

(F) The team care station shall be contiguous with or in close proximity to the learner/provider area and the team conference room. The learner/ provider area and the team conference room shall be contiguous. The learner/provider area and the team conference room will allow visibility and access to/from both areas;

(G) Where staff open and enclosed work areas utilize modular, adjustable furniture to meet flexibility and ergonomic requirements; configuration will reflect Model of Care and incorporate work and meeting space for all care providers and learners;

(H) Cross corridors are encouraged for staff through the central team and support areas to achieve minimum travel distance for care providers;

(I) Alcove and equipment room walls shall be kept low and maintain visibility;

(J) The medications room, clean supply holding and clean prep rooms will be glazed above a pony wall to maintain acoustic privacy per acoustic and noise control requirements and security;

(K) The clean prep room and clean supply holding rooms will have access to each other;

(L) Medications shall be secured in AMC's including refrigerated items. Each medication room will include a utility/cleaning sink and work surface in addition to other storage shelves and cupboards for supplies;

(M) Medications room, clean supply holding and clean prep rooms should be contiguous and in this same order in the outpatient area;

(N) Medications room, clean prep and clean supply holding rooms should be contiguous and in this same order in the inpatient area;

(O) All clean, soiled, and equipment storage rooms accessed by staff and care providers will be secure. The access to the soiled utility and housekeeping room will be positioned away from public spaces;

(P) All patient rooms will have point of care stocking at the individual patient room level, removal of soiled, waste, and recyclable materials;

(Q) Access to outdoor space from both in- and outpatient areas shall be level, surfaces shall be soft and uniform. Play areas will include both active and quiet play zones. Provide as many opportunities as possible for access to outdoor space. At least one outdoor area shall have access that is not through patient or family areas;

(R) The team care stations in the outpatient area must have visibility and accessibility to the exam/treatment rooms and play area in the centre of the pod;

(S) The parent shower/washroom facilities will be located away from the main entrance to the unit, and be adjacent to, or across from, the family lounge;

(T) Interview rooms must have the flexibility to open up and combine together to accommodate conversations with large families;

(U) The pause area near interview rooms in outpatient area needs to have the flexibility to enlarge into the adjacent interview rooms and could be open to the corridor;

(V) The central playroom in the outpatient exam/treatment area must be enclosed;

(W) Shared office spaces will be contiguous and maintain individual workstations. Sound mitigation within the open office area as well as from areas outside the shared area is required as per acoustical and noise control requirements;

(X) The CNC office should be in the middle of the inpatient area;

(Y) Six adjacent inpatient bedrooms (2 bariatric and 4 others) shall be designated for adolescents and the décor shall suit this age group. The teen lounge must be close to the adolescent rooms;

(Z) Each exam/treatment room shall have access to height and weight measurement capability;

(AA) The procedure room must be easily accessible to the service and patient elevators and central to the clinical areas to accommodate recovery overflow or isolation needs. The procedure room and recovery room must be adjacent to each other with a door in between;

(BB) Staff washrooms are to be distributed evenly across and throughout the component; and

(CC) The apheresis room should be in close proximity to the outpatient exam/ treatment rooms.

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3A.3.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Outpatient Care Area (22 Positions)				*Entire Outpatient Care Area to be HEPA filtered*
		Patient Care Area				
10111	01	Pause Area, Patients	1		10.0	For non-treatment and long-term follow-up patients. To be close to point of entry to unit, open to surrounding space
10110	02	Pause/Playroom Area, Patient/Family	1		78.0	1 double kitchen sink, close access to exterior play area, located central to exam rooms
10943	03	Teen Room	1		20.0	Teen lounge w/ access to exterior
10927	04	Team Care Station	2	10.0	20.0	
10129	05	Pneumatic Tube Station	1		0.5	
10130	06	Provider/Learner Work Area	1		10.0	8 purse lockers
10935	07	Conference/Team Report Room	1		20.0	
10131	08	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10133	09	Clean Supply Holding Room	1		12.0	Should be located with SpaceID#10132, 10131
10132	10	Clean Prep Room	1		8.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10133, 10131
10113	11	Exam/Treatment Room	19	12.0	228.0	4 rooms to be PIR and clustered together, locker, height & weight measurement capability
10114	12	Washroom, Patient, Wheelchair	3	4.5	13.5	1 wc, 1 lavatory sink, vestibule
10928	13	Exam/Treatment Room, AIR	3	12.0	36.0	Locker, height & weight measurement capability
10929	14	Washroom, Patient, Wheelchair AIR	3	4.5	13.5	1 wc, 1 lavatory sink, vestibule
10930	15	Ante Room, AIR	3	4.0	12.0	PPE supply storage
10115	16	Alcove, Hand Hygiene Sink	4	0.5	2.0	Locate in corridor between 4 exam/treatment rooms
		Subtotal, Patient Care Area			493.5	
		Patient Care Support Area				
10932	17	Weigh Scale Area	1		0.5	
10931	18	Nourishment Station	1		6.0	1 double kitchen sink

3A.3 BC CHILDREN'S ONCOLOGY/HEMATOLOGY/BMT PROGRAM

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10122	19	Alcove, Hand Hygiene Sink	2	0.5	1.0	Locate in corridor between 3 exam/treatment rooms
10123	20	Apheresis Room	1		14.0	Alcove for apheresis machine, locker
10125	21	Procedure Room	1		25.0	1 scrub sink, 2 entrances (1 swing, 1 sliding), no access to exterior light
10934	22	Alcove, Hand Hygiene Sink	1		0.5	Adjacent to entrance opposite the scrub sink in SpaceID#10125
10126	23	Observation/Recovery Room	1		40.0	No access to light
10127	24	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10137	25	Storage, Equipment	1		15.0	Locate with SpaceID# 10132, 10133
10134	26	Alcove, Linen	1		1.0	
10135	27	Soiled Utility Room	1		13.0	1 utility/cleaning sink
10138	28	Alcove, Equipment	2	1.5	3.0	
11238	29	Alcove, Disaster Response Cabinet	1		1.5	
10139	31	Office, Clinical Nurse Coordinator	1		9.5	This room can be located anywhere within the outpatient area, proximity to Space ID#10164 is required
10140	32	Office, Shared	1		32.0	This room needs to be co-located with the 12 station shared office
10141	33	Office, Shared	1		48.0	This room needs to be co-located with the 8 station shared office
10142	34	Washroom, Staff, Public	1		3.5	1 wc, 1 lavatory sink
		Subtotal, Patient Care Support Area			218.0	
		Subtotal, Outpatient Care Area			711.5	
		Inpatient Care Area (27 positions)				*Entire Inpatient Care Area to be HEPA filterd*
		Patient Care Area				
10143	35	Bedroom, Private	16	22.0	352.0	
10144	36	Washroom, Patient, Wheelchair	16	6.0	96.0	3 fixtures (incl. tub), wheelchair type access

3A.3 BC CHILDREN'S ONCOLOGY/HEMATOLOGY/BMT PROGRAM

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10145	37	Bedroom, Private, AIR	2	22.0	44.0	One room to be utilized for patient care post MIBG therapy. This room should be located to minimize traffic flow past room
10146	38	Washroom, Patient, Wheelchair AIR	2	6.0	12.0	3 fixtures (incl. tub), wheelchair type access
10147	39	Ante Room, AIR	2	4.0	8.0	PPE supply storage
10148	40	Bedroom, Private, Bariatric	2	28.0	56.0	
10149	41	Washroom, Patient, Bariatric, Wheelchair	2	7.0	14.0	3 fixtures (incl. shower), wheelchair type access
10150	42	Alcove, Patient Observation	10	2.0	20.0	Located between 2 patient rooms, views into patient rooms
10159	43	Bedroom, Private, PIR, BMT	7	22.0	154.0	Need to be close to elevators going to PICU. Cluster to maximize air handling
10160	44	Washroom, Patient, PIR, BMT, Wheelchair	7	6.0	42.0	3 fixtures (incl. tub/shower), wheelchair type access
10161	45	Ante Room, PIR, BMT	7	4.0	28.0	PPE supply storage
10162	46	Alcove, Patient Observation	4	2.0	8.0	Located between 2 patient rooms
11421	47	Alcove, Hand Hygiene Sink	4	0.25	1.0	
11037	48	Teen Room	1		25.0	
10165	49	Playroom	1		35.0	Subdivide for BMT patients, 1 double kitchen sink, access to exterior play area
10166	50	Workstation, Child Life Worker	1		4.0	
10167	51	Storage, Child Life	1		5.0	
10171	52	Nourishment Station	1		6.0	1 double kitchen sink
10936	53	Exterior Activity Area, Patient			0.0	
11422	54	Alcove, Hand Hygiene Sink	2	0.25	0.5	Locate at entry to Inpatient Area
		Subtotal, Patient Care Area			910.5	
		Patient Care Support Area				
10151	55	Team Care Station	1		20.0	
11425	56	Team Care Sub Station	1		4.0	Locate adjacent to BMT beds
10152	57	Pneumatic Tube Station	2	0.5	1.0	
10163	58	Charting, Provider/Learner	1		17.5	10 purse lockers
10192	59	Conference/Team Report Room	1		24.0	

3A.3 BC CHILDREN'S ONCOLOGY/HEMATOLOGY/BMT PROGRAM

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10153	60	Medications Room	2	10.0	20.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10155	61	Clean Supply Holding Room	2	10.0	20.0	Locate with Space ID#10154, 10153
10154	62	Clean Prep Room	2	10.0	20.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10155, 10153
10156	63	Alcove, Linen	2	1.0	2.0	
10157	64	Soiled Utility Room	2	13.0	26.0	1 utility/cleaning sink
10164	65	Office, Clinical Nurse Coordinator	1		9.5	Locate within the unit, proximity to Space ID# 10139 is required
10920	66	Office, Shared	1		12.0	Needs to be located close to Family Support Area
10921	67	Office, Shared	1		24.0	
10168	68	Interview Room, Family	1		12.0	1 hand hygiene sink
10190	69	Interview Room, Family	1		9.0	1 hand hygiene sink
10191	70	Interview Room, Family	1		8.0	1 hand hygiene sink
10169	71	Storage, Equipment	1		15.0	
10170	72	Alcove, Equipment	1		2.0	
11423	73	Washroom, Staff	2	3.5	7.0	1 wc, 1 lavatory sink
		Subtotal, Patient Care Support Area			253.0	
		Family Support Area				
10201	75	Lounge, Family	1		35.0	
10941	76	Nourishment Station	1		6.0	1 double kitchen sink
11424	77	Alcove, Laundry	1		3.0	
10203	78	Washroom, Parent	2	5.0	10.0	1 wc, 1 lavatory sink, 1 shower
10204	79	Interview/Quiet Room	1		10.0	
10205	80	Multi-use Family/Patient Interview/Teaching Room	1		20.0	1 hand hygiene sink
		Subtotal, Family Support Area			84.0	
		Subtotal, Inpatient Care Area			1 247.5	

3A.3 BC CHILDREN'S ONCOLOGY/HEMATOLOGY/BMT PROGRAM

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		OP/IP Shared Support Area				
		Reception Area				*Area needs to be close to public elevators for wayfinding/greeting*
10107	81	Reception/Communication Centre	1		25.0	Sightline priority to long stay rooms, long stay play area
10108	82	Pneumatic Tube Station	1		0.5	
10109	83	Records Filing Room	1		23.0	
		Subtotal, Reception Area			48.5	
		Satellite Pharmacy Area				
		Sterile Prep Area				*Entire area needs to be a "Modular Clean Room"*
10938	84	Ante Room, IV, PIR	1		11.0	Pass-through counter
10175	85	IV Admixture Preparation Room, PIR	1		7.0	Pass through counter
10939	86	Ante Room, Chemo, AIR	1		15.0	Pass-through counter
10176	87	Chemotherapy Prep Room, AIR	1		15.0	Pass through counter
10177	88	Scrub Room	1		5.5	Scrub sink, eye wash area, safety shower
		Sterile Prep Support Area				
10174	89	Change Room	1		6.0	1 lavatory sink, change area, to be located adjacent to SpaceID#10175, 10176, 4 half lockers
		Dispensary/Production Area				*Entire area to be open plan*
10179	91	Receiving, Break Down	1		4.0	Decasing, waste handling
10180	92	Active Storage (3 days)	1		5.0	
10181	93	Preparation Station, Oral	1		2.0	
10182	94	Dispensing	1		7.0	
10183	95	Pneumatic Tube Station	1		0.5	
10940	96	Meeting Room	1		12.0	
10184	97	Pharmacist Work Room	1		9.0	Service wicket to corridor
10942	98	Waste Holding Room	1		2.5	
		Subtotal, Satellite Pharmacy Area			101.5	

3A.3 BC CHILDREN'S ONCOLOGY/HEMATOLOGY/BMT PROGRAM

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Patient Care Support Area				
		PT/OT Therapy Room	1		0.0	Located in and shared w/ 3A.2 Medical/Surgical IPU, Level A
10186	99	Storage, PT/OT Equipment	1		5.0	
11427	100	POCT Laboratory Work Area	1		6.0	
		Subtotal, Patient Care Support Area			11.0	
-		Staff/Student Support Area				
10187	101	Office, Program Manager	1		9.5	
10188	102	Office, Shared	1		33.0	
10189	103	Office, Shared	1		12.0	
10193	104	On-Call Room	1		7.0	Located away from high traffic areas
10194	105	Washroom, On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
10195	106	Lounge, Staff	1		40.0	1 double kitchen sink
10196	107	Locker Area, Staff	1		23.0	105 'z type' lockers
11426	108	Change Room	1		3.0	
10197	109	Washroom, Staff, Female	1		10.5	2 wc's, 2 lavatory sinks, 1 shower, vestibule
10199	110	Washroom, Staff, Male	1		10.5	1 wc, 1 urinal, 2 lavatory sinks, 1 shower, vestibule
		Subtotal, Staff/Student Support Area			153.5	
-		Subtotal, OP/IP Shared Support Area			314.5	
		Summary				
		Outpatient Care Area	1		711.5	
		Inpatient Care Area	1		1 247.5	
		OP/IP Shared Support Area	1		314.5	
		Total, Onc/Hem/BMT Program			**2 273.5**	

3A.4.1 FUNCTIONAL DESCRIPTION

3A.4.1.1 Scope of Clinical Services

(1) This specification outlines the requirements of the 28-bed Pediatric Intensive Care Unit (PICU) that will be accommodated in support of 2025/26 projected demand, and is the only tertiary and quaternary intensive care unit in the province specializing in pediatric medicine treating more than 1,200 children annually. Using a family-centred approach, care is given to infants and children from newborn to 17 years old who have urgent needs due to life-threatening disease, injury, or following surgery, such as cardiac or brain surgery. Newborns and premature infants are generally treated in the Neonatal Intensive Care Unit (NICU), unless the child has a cardiac lesion.

(2) This unit provides "critical" care with specialized services for patients requiring intensive care and/or observation, electronic monitoring and/or mechanical life support in a family-centred environment.

(3) Model of Care

- **(a)** Is centred around medical, surgical and cardiac care pediatric patients.
- **(b)** Families are partners in care and are encouraged to be fully involved in the care plan developed for their child.
- **(c)** A cardiac and a non-cardiac multidisciplinary team each deliver care for patients and their families with 1:1 or 1:2 nursing provided for most patients. The team consists of attending physicians, clinical fellows, residents, RN's, CNC's, resource nurses, Respiratory Therapists (RT's), unit clerks, care aides, pharmacists, occupational therapy (OT), physical therapy (PT), dietitian, child life specialists, social workers, spiritual care and porter aides. Learners are present 24/7.

(4) The minimization of patient movement, in accordance with BC Children's mandate to continually improve quality of patient care, is a desirable objective. Achieving this means adjusting staff skill levels to suit the needs of the patient.

(5) Patients admitted for intensive care require specialized care/treatment for a multitude of conditions. Their PICU care may require many types of support including:

- **(a)** Close and constant observation in a high nurse/patient ratio environment;
- **(b)** Immediate availability of a highly specialized team (physicians, respiratory therapists, pharmacists, etc.);
- **(c)** Continuous hemodynamic monitoring and cardiac support including temporary pacemaker implants;
- **(d)** Continuous respiratory monitoring and respiratory support (artificial airway management, mechanical ventilation);
- **(e)** Extracorporeal Life Support (ECLS) and Ventricular Assist Device (VAD)/Berlin Heart support;
- **(f)** Renal replacement therapies; and
- **(g)** Multi-organ function monitoring including neurologic, gastrointestinal, endocrine; general support of organ system homeostatic function.

(6) Patients admitted for technology dependent care require at least one of the following examples of specialized care/treatment:

(a) Unstable conditions precluding them being cared for on an inpatient unit; and

(b) Stabilization to achieve discharge to home, inpatient unit or transport to another community hospital.

(7) All patients requiring acute care mechanical ventilation will be accommodated in this component and will be "hard-wired" to monitors, with full hemodynamic monitoring capability available. Intravenous medication and nutritional interventions will be regularly used in the PICU.

(8) Treatment and care services in the unit will include, among others:

(a) Collecting and documenting historical medical information;

(b) Assessing, coordinating, implementing and evaluating Plan of Care specific to individual needs of patient;

(c) Providing emergency medical & surgical examination and treatment;

(d) Planning and implementing routine care, including examinations and treatments;

(e) Facilitating private patient comfort and relaxation, recreation and mobilization;

(f) Ordering medical diagnostic and treatment procedures;

(g) Preparing patients for diagnostic and treatment services;

(h) Prescribing medications, consulting with pharmacists as appropriate;

(i) Administering medications;

(j) Educating patients, family, staff, students, and residents;

(k) Providing private family and/or visitor support, consultation and comfort;

(l) Documenting patients' progress on patient charts;

(m) Maintaining patient charts/records;

(n) Participating in interdisciplinary patient conferences;

(o) Maintenance of donor patients prior to organ retrieval;

(p) Liaising with community agencies and services;

(q) Conducting shift reports, participating in the handover process, and participating in interdisciplinary patient conferences; and

(r) Coordinating, implementing, communicating, administering, scheduling, and evaluating the overall operations of the unit.

(9) Medical services in the unit will include, among others:

(a) Collecting and documenting historical medical information;

(b) Ordering medical diagnostic and treatment procedures;

(c) Performing physical examinations and some medical procedures;

(d) Prescribing medications, consulting with nursing staff and pharmacists as appropriate;

(e) Providing emergency medical examination and treatment;

(f) Educating patients, family, staff, students, and residents;

(g) Documenting patients' medical progress on patient charts; and

(h) Participating in interdisciplinary patient conferences.

3A.4.1.2 Scope of Education Activity

(1) The PICU program provides leadership in education regarding critically ill children through its association with provincial, national and international universities and colleges including but not limited to:

(a) Medical fellowship programs;

(b) Nursing programs;

(c) Respiratory therapy programs;

(d) Pharmacy programs; and

(e) Allied health programs.

(2) The PICU will provide clinical resources in support of teaching programs for training future health care providers in PICU and Extracorporeal Membrane Oxygenation (ECMO).

(3) A wide range of individual and small group clinical teaching activity will be accommodated directly in the Patient Care areas including simulation at the beside. In-service education and patient teaching programs will also be conducted on a regular basis throughout the unit's patient/clinical care spaces as well as in staff conference/meeting room(s). Formal lectures or large continuing education programs will be accommodated in the Education & Clinical Research areas of the ACC as well as other buildings on campus.

3A.4.1.3 Scope of Research Activity

(1) A range of clinical research activities will be conducted within the component including the following examples:

(a) Patient/family interviews;

(b) Patient examinations; and

(c) Clinical trials utilizing inpatients.

3A.4.1.4 Specific Scope Exclusions

(1) This Pediatric Intensive Care Unit specification excludes critical care services/requirements provided elsewhere, including:

(a) BC Children's Oncology/Hematology/BMT Program (see 3A.3);

(b) BC Women's Neonatal Intensive Care Unit (see 3A.5);

(c) BC Women's Birthing Program (see 3A.6);

(d) BC Children's Emergency Department (see 3A.7); and

(e) BC Children's Procedures Suite (see 3A.8).

3A.4.2 OPERATIONAL DESCRIPTION

3A.4.2.1 Minimum Hours of Operation

(1) The PICU will be staffed 24/7.

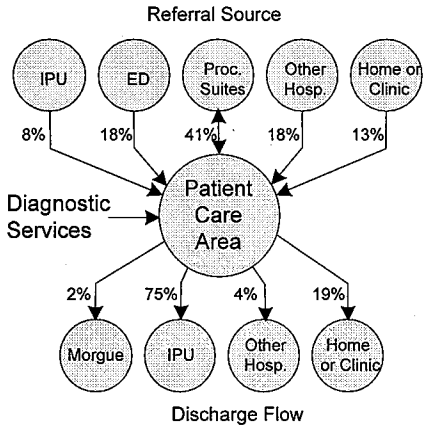
3A.4.2.2 Patient and Family Management Processes and Flows

(1) Referral Source

(a) Patients will be admitted to PICU from four primary sources. From the Procedures Suite (41% - OR of which 30% are cardiac, 17% are neuro and 14% are respiratory cases) and 18% are from the Emergency Department (of which 14% are trauma patients). Others may be transferred from other inpatient areas (8%) of the Hospital, other community hospitals (18%) and other health care facilities (13%). Following the initial acute episode, patients will be transferred to an inpatient unit (75%), discharged home (19%) or transferred back to another community hospital (4%).

(b) Patients will normally arrive on a stretcher and be assigned a room in a pod. Patients will be accompanied by a variety of care providers (three to seven people) during the admission process. When transferred from PICU to an inpatient unit, patients will be accompanied by a porter and a nurse.

(c) Family accompanying the patients will arrive through a public route, be received at a greeter station immediately visible from the public elevators and be guided directly to the patient's room without passing through other pod areas.



(2) Patient Care/Treatment

(a) Higher or lower levels of care may be required for selected patients. In some cases, two nurses may be assigned a particular patient with higher acuity.

(b) Patient movement will be minimal in both distance and frequency. The patient will only be moved for diagnostic services not available at the bedside and will remain in the same room until discharged to another level of care or home.

(3) Family/Visitor Flow

(a) To reduce traffic into the unit, relatives and friends of critically ill patients will wait in an adjacent area if necessary, until admitted to the unit. This area will have a patient status board and be large enough to accommodate extended families. Families will be provided with a communication device, monitored by staff at the communications centre. Patient areas shall not be visible from visitor areas.

(b) Parents are an integral part of the care team and are encouraged to participate in daily rounds to determine the care for their child.

(4) Deceased

(a) Deceased patients will be transported in a discreet and private manner from the PICU via a service elevator and service corridor through to the morgue on the 2nd floor of the 1982 building.

3A.4.2.3 Patient Information Management and Flows

(1) The unit will be administered at the six to eight bed pod level utilizing observation alcoves and provider/learner workstations for maintaining patient information. The 14-bed "Neighbourhood" level will be managed from a tactical centre containing interdisciplinary team space for up to 15 people and has PACs viewing. The unit level communication centre/care station will be the location of the unit clerk workstation and six to eight workstations for central monitoring, touchdown stations for professional staff, researchers and learners, with access to computers, printers, and an electronic patient status board.

(2) Care must be taken to preserve patient information confidentiality while providing availability at multiple points within the unit, including in the patient room.

(3) Patient rooms and observation alcoves must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

(4) Patient information will be available throughout the unit wirelessly or through computer monitor positions at the bedsides, observation alcoves, tactical centres, provider workstations and viewing stations at the unit level communications centre/care station.

(5) Teleconferencing will be available for referrals and ambulance communications will be available at the neighbourhood and unit support levels.

3A.4.2.4 Provider Work Processes and Flows

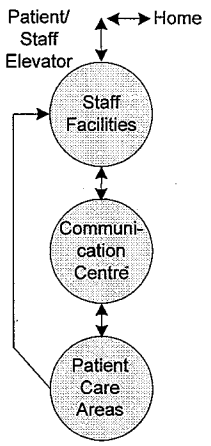
(1) Care Delivery

(a) Patient and family-centred care is based on bringing resources to the patient rather than moving the patient whenever possible.

(b) Staff will access the floor from the staff elevator, change and proceed to the communication centre for assignment. Conversely, at the end of a shift, after the handover/debriefing process in the respective pod area, staff will utilize the staff facilities before leaving the ACC.

(c) There are two care teams supporting PICU patients and their families – cardiac and non-cardiac. Ideally, each team will manage a maximum of 14 patients.

Provider Flow Diagram



(d) Nursing care is based upon a concept known as decentralized family-centred care. Generally, one registered nurse is assigned the total care of one or two patients in the PICU. As acuity decreases, a nurse may be assigned the care of as many as two to three patients.

(e) An observation alcove/charting area directly adjacent to each pair of bed cubicles with direct observation of each of the patients and the patient monitor screens is required. The observation alcoves will be visible to one another within a pod.

(f) The observation alcove will be used by one nurse if the nurse to patient ratio is 1:2 or by two nurses if the ratio is 1:1, however, each alcove will accommodate two computer stations to have space for additional providers as per patient needs.

(g) Clinical Resource Nurses (CRN) will assist the Clinical Nurse Coordinator (CNC) with clinical support and organization of the workflow of admissions, discharges and relief for the pod.

(h) Care providers will have areas where they can discuss a patient's condition/ information in private preserving confidentiality within the pod support area.

(i) Interdisciplinary rounds are carried out throughout the day for specific purposes with varying numbers of people as described below:

- **(i)** Morning rounds develop the clinical care plan for patients that day. The round will happen outside of the room where the observation alcove is located to see the patient information available on the monitors there. This group can number up to 20 people and will typically include the intensivist, fellow, resident(s), bedside RN, family, RT, pharmacists and be supported by social workers, dietitians, physiotherapists, spiritual care, occupational therapists, child life specialists, etc. as required for a specific patient treatment;
- **(ii)** Afternoon rounds are done at the bedside to check and/or set the care plan for the night and typically include an intensivist, fellow, resident, RT, bedside RN and the family for a total of six to eight people;
- **(iii)** Evening rounds are carried out at the bedside to review the patient status and adjust the care plan if necessary. This group of up to five to seven people will typically include the intensivist, fellow, resident, RT, bedside RN and family; and
- **(iv)** Teaching rounds will generally be held away from the bedside to ease anxiety for the patient. The group must have patient information available during these rounds at the pod and neighbourhood support levels. This group can number five to ten people. Teaching will also occur at the bedside.

(2) Staff Services

(a) To maximize time spent on patient care, staff support areas will be located at both the neighbourhood and unit support level.

(b) Facilities will be provided for on-call medical staff to stay overnight. A rest area will be provided for all staff to be able to lie down.

3A.4.2.5 Clinical and Logistical Support Services and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications.

(a) Biomedical Engineering (BE)

(i) Equipment storage space will be provided within PICU for frequent use items (e.g., stretcher, wheelchairs, IV pumps and poles). More bulky items and less frequent use items will be stored in the Hospital's satellite Medical Equipment Depot and delivered via "off-stage" circulation as required. Turn Around Time (TAT) is anticipated to be 15 minutes from request to delivery.

(b) Diagnostic Cardiology Services

(i) Electrocardiograms (ECG) and echocardiographic (ECHO) testing will occur within the PICU on a 24/7 basis. Diagnostic cardiology technicians will be called to the PICU and will bring the necessary diagnostic equipment with them. A dedicated link to a management system will be provided for the sending and retrieval of data and to enable viewing and reporting of ECGs and ECHOs on-line.

(ii) If invasive cardiac procedures are required the patient will be transported to the interventional rooms within the Procedures Suite (Special) component.

(c) Neuro-Diagnostic Services

(i) As needed, Neuro-Diagnostics staff will provide continuous monitoring 24/7 for various services in the PICU, including electroencephalography (EEG) and electromyogram (EMG) tests.

(d) Medical Imaging Services

(i) General radiographic and ultrasound imaging will occur within the PICU utilizing portable equipment. Computed Tomography (CT) imaging will be available in the adjacent Procedures Suite (Special). Children requiring other imaging procedures will need to be transported to Medical Imaging using a special transport care team.

(ii) Dedicated alcoves or rooms for parking and storage of mobile imaging equipment and re-charging batteries change will be required. These areas/rooms require adequate power and ventilation.

(e) Nutrition Services

(i) A full-time clinical dietitian will be an active member of the interdisciplinary PICU team seven days a week.

(ii) All formula will be in ready-to-administer format with additives premixed.

(f) Rehabilitation Services

(i) Rehabilitation staff (PT, OT, Speech Language Pathology [SLP] and Audiology) will provide assessments and therapy at the patients' bedsides.

(ii) In addition to standard therapeutic services, Rehabilitation Services will also provide some specific programs in the PICU:

(A) The feeding team will provide assessment, intervention, and education; and

(B) The neuro-developmental evaluation & treatment service will encompass assessment, intervention, and education.

(g) Laboratory Services

(i) Laboratory personnel will be responsible for routine collection and testing of blood specimens on a 24/7 basis. Nursing staff will collect other specimens, such as urine, swabs, and arterial blood. Samples (e.g., blood gas analysis, glucose analysis, etc.) will be collected and processed in a point of care testing workstation within PICU by laboratory staff.

(ii) Specimens that require testing in the main laboratory will be transported/sent by PICU personnel and pneumatic tube.

(iii) Blood products will be delivered from the transfusion medicine laboratory adjacent to the Birthing program (see 3A.6) to the PICU by porter within a TAT of 0–10 minutes.

(h) Pharmacy Services

(i) Most prescribed medications will be distributed through "off-stage" circulation routes to the clinical areas of the component using the unit dose distribution system. The unit dose supplies and limited ward stock of pharmaceuticals will be held in a secured medications room. Controlled drugs will be held in automated medicine cabinet (AMC) technology. Medications room shall be available within the support areas of each pod.

(ii) A Satellite Pharmacy (Critical Care) located adjacent to the NICU component Level B area and supported by a pharmacy dispensary space within PICU, will provide 24 hour support through face-to-face clinical consultations, provision, and review of initial medication doses, medication reconciliations with clinical pharmacists and immediate response to STAT medication needs.

(iii) Pharmacy is responsible for IV admixtures.

(i) Respiratory Therapy Services

(i) Respiratory therapy staff will be dedicated to the PICU 24 hours a day, seven days a week. Respiratory Therapy Services will have an adequate dedicated workroom and shared storage rooms with biomedical engineering for respiratory equipment required within 20 minutes.

(j) Social Work

(i) Social workers will conduct interviews at the bedside or in consult/interview rooms. Discharge and other necessary resource information will be discussed in an office or interview room setting, as will most interdisciplinary and community partner interactions.

(k) Security

(i) The unit requires a secured environment 24/7 with "lockdown" capability.

(l) Food Services

(i) Special needs of patients such as special diets/restrictions, meal support (e.g., with eating disorders patients), and nutritional supplements, etc. will be accommodated.

(ii) Formula/Milk: there will be ready access to standard nutrition products and support for breast feeding provided including breast pumps, supplies, etc.

(m) Supply Chain

(i) Linen will be provided utilizing an exchange cart system which will be held in linen alcoves within each care pod.

(n) Volunteer Services

(i) Volunteers will augment the clinical services provided in the PICU fulfilling a variety of roles including greeter, ambassador, child-minder, and resource person and will be available for set hours each day.

3A.4.3 ACTIVITY CAPACITY

3A.4.3.1 The following table summarizes the baseline activity and projected demand for BC Children's Pediatric Intensive Care. The projections are based on the assumption of 65% occupancy for physical beds/patient positions.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Inpatient Days*	4,669	5,312	5,619	n/a
Physical Beds	22	23	24	28

**Excludes Trach/Vent/BiPAP days moved to Medical/Surgical inpatient unit.*

3A.4.4 PEOPLE REQUIREMENTS

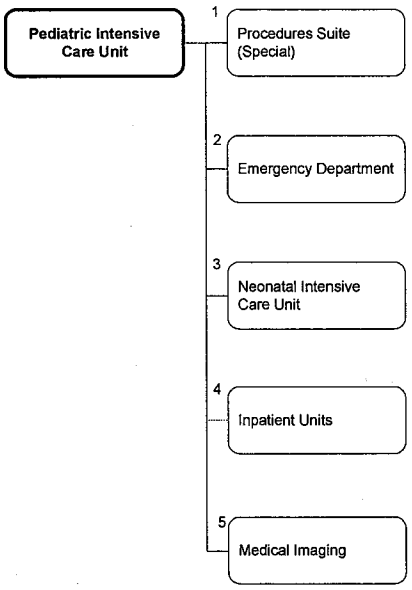
3A.4.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
8 bed Care Unit (Cardiac) (1)	24	11	5			**40**
8 bed Care Pod (1)	24	11	4			**39**
6 bed Care Pod (2)	40	15	3			**58**
14 bed Support Area (2)	6	10	8			**24**
28 bed Support Area (1)	8	16	3	3	8	**38**
Staff Facilities Area		2			2	**4**

3A.4.5 DESIGN CRITERIA

3A.4.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide <u>direct</u> access by <u>internal</u> horizontal circulation to/from the Procedures Suite (Special) for patient access to operating and interventional procedure rooms for 3-D body imaging.

2 Provide <u>direct</u> access by <u>non-public</u> circulation from the Emergency Department for the movement of critically ill children.

3 Provide <u>direct</u> access by <u>non-public</u> circulation to/from the Neonatal Intensive Care Unit for patient movement.

4 Provide <u>convenient</u> access by <u>general</u> circulation to/from the Inpatient Units for movement of patients and staff.

5 Provide <u>convenient</u> access by <u>non-public</u> circulation to Medical Imaging for patient transport and for staff and portable equipment movement.

3A.4.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as key criteria in planning the nature and configuration of space.

(a) <u>Zoning</u>

(i) The unit is organized into distinct areas from public to semi-restricted patient/ family space to restricted provider, supply and support areas.

(ii) The configuration will allow for "off-stage" flows of providers, supplies and equipment to be separate from patient and family flows.

(b) <u>Sub-Division and Configuration of Patient Care Areas</u>

(i) The PICU will be configured into pods, with each pod consisting of 6 beds, 8 beds, or 10 beds. Each pod will be able to group patients by specialty (i.e., cardiac, neuro, etc).This Clinical Specification is drafted on the assumption the PICU will be configured into four pods with two groupings or "neighbourhoods" with a pod of 6-beds and a pod of 8-beds.If the pods are configured into three pods, the provisions of this Clinical Specification will be deemed to be adjusted as necessary to reflect the three pods and the following requirements:

(ii) Each of the pods will be deemed to be its own neighbourhood, and the requirements for a neighbourhood (including requirements of a neighbourhood support area) will apply to each pod.

(iii) The PICU will have three designated Protective Isolation rooms (PIR) for immune compromised patients, one per neighbourhood.

(iv) Two non-cardiac neighbourhoods will be capable of lock down for isolation.

(v) Any numbers specified in this Clinical Specification with respect to any pod size will be adjusted pro-rata or other reasonable basis acceptable to the Authority;

(vi) The Schedule of Accommodation will be deemed to be adjusted to reflect the change in pods, including any additional Support Areas, on a reasonable basis acceptable to the Authority.

(vii) Each pod shall be configured with distinct entrances to allow patients to go directly to their assigned pod without travelling through adjacent pod areas.

(viii) The unit shall be arranged to ensure a minimum number of turns into and throughout the patient areas.

(ix) Each pair of patient rooms within a pod will share an observation alcove with high visibility views into each of the two rooms.

(x) For each of the care pods, a range of patient care support areas shall follow Lean principles and be readily accessible from all patient rooms in the pod.

(c) Emergency Operations Centre (EOC)

(i) The rooms within this component that have been designated as being part of the EOC (see Schedule of Accommodation), have the following requirements:

(A) Locate near a stairwell;

(B) Have space for 4 display/whiteboards and capability to support an electronic whiteboard; and

(C) Be co-located with 6 office spaces and one nourishment station.

(d) Patient Rooms

(i) The PICU will be designed utilizing 100% private patient rooms. The capability of doubling patient positions in each room is required to accommodate additional critically ill patients requiring ventilation, ECLS, hemodialysis and diagnostics in the event of a disaster. The specially designed ceiling mounted booms with an articulating arm will be configured so as to eliminate crossover of cords, cables, hoses, etc. as well as enable flexibility for bed position within the room. A patient sitting area is required in the patient room to encourage patients to get out of bed as soon as possible.

(ii) Easily accessible shelves for personal effects, etc. will be provided. Space will also be provided for a supply cart in each room.

(iii) All doors leading into or out of the unit shall be automatic, with appropriate levels of security.

(iv) It is essential the sliding door between the corridor and the patient room provides a wide opening to allow maximum accessibility during an emergency.

(v) Room finishes as well as furnishings shall be selected so as to create a bright, cheerful, positive environment for patients undergoing a high degree of stress.

(vi) The patient bedrooms will all be the same size to allow for maximum flexibility, accessibility and observation.

(vii) The unit will contain an increasing variety and complexity of technical equipment and can be quite noisy and active, especially in emergency situations. Patients are very sensitive to noise disturbance. The design and materials used shall contain/absorb noise for all patients and be as per acoustic and noise control requirements.

(viii) Each patient bed area is to be provided with visual and acoustical privacy from activities in adjacent spaces.

(ix) Developmental support for all patient ages shall be included in the design. Each room will include a television for patient viewing and a communications connection.

(x) All patient spaces will be designed with sophisticated lighting systems that can be readily altered according to need. Control of illumination will be accessible to staff and families and capable of adjustment across the recommended range of lighting levels. Nighttime lighting must facilitate patient sleeping while maintaining nurse-patient observation. An examination/special procedure light shall be provided in each patient room.

(e) Patients' Washroom Facilities

(i) Critical care patients are generally relatively immobile and unable to move any distance to use a washroom; however, two piece washrooms are to be provided in the patient rooms for family and patient use.

(f) Provisions Supporting Family-Centred Care

(i) Patient rooms will consist of three zones: patient zone, caregiver or provider zone and family zone. The caregiver zone is closest to the door and includes supplies, hand hygiene sink, and charting area. The patient zone is the area surrounding the bed or crib; and the family zone is located farthest from the door and includes a chair, desk, and sleeping accommodation for a family member.

(ii) Space design will focus on "humanizing" the environment including access to natural light to create a comfortable family-centred place.

(iii) Private areas away from the patients and other family members will be provided within the unit for emotionally distressed or grieving family members.

(iv) A Family/Visitor Support area shared with the Procedures Suite (Special) will be provided. This area consists of spaces for rest and relaxation, cooking, eating, entertainment, and self-education activities for family members who stay overnight or for longer periods of time.

(v) There will be rooms available for use as visitors' quiet rooms within the neighbourhood support area and there will be space available for a large family group in the shared Family Support area.

(g) Flexibility of Space and Future Expansion

(i) Flexibility must be considered in order to respond to the requirements of a constantly changing field. Versatile or convertible space will ensure that the space is fully utilized as critical care requirements change daily and over the life of the building.

(ii) The component shall be planned to allow for future adjacent soft space expansion in the longer-term future.

(h) Nurse/Patient Accessibility

(i) The physical environment, supplies and material resources will be planned and developed to maximize nurse time at the bedside. Distance from the patient beds to support areas shall be minimized to reduce travel time to/from the bedside.

(ii) All patient bed areas must be provided with sufficient space at the sides, head and foot of the bed to accommodate life support and monitoring equipment, up to 15 staff, and to allow access around the patient's head to manage critical airway, breathing, and circulation pathways by utilizing booms.

(iii) Space shall also be provided for bedside charting, including computer charting.

(i) Patient/Nurse Visibility

(i) Minimize nurse travel time and maximize nurse-patient visibility by applying Lean principles and locating frequently utilized staff work areas and support space close to the patient spaces.

(ii) All patients must be directly visible from adjacent care provider work areas. It is important that visual contact be maintained at all times between nursing staff and patients. Nursing staff must have direct views of a patient's head and face without being isolated from other activities in the unit.

(iii) An observation alcove/charting area will be provided directly adjacent to each pair of beds with observation, through a window, of each of the patients and the patient monitor screens.

(j) Isolation Capability/Infection Control

(i) Twenty-five patient bedrooms will be provided with negative pressure ventilation in order to accommodate patients requiring Airborne Infection isolation. Additionally, eight of those bedrooms will have attached ante rooms used by staff before entering the patient room to access personal protective

equipment prior to each contact with the patient. These designated Airborne Isolation rooms (AIR) with attached ante rooms require a separate entrance for patients directly from the corridor.

(ii) The PICU will have three designated Protective Isolation (PIR) rooms for immune compromised patients, one in the cardiac pod and two others evenly distributed.

(iii) One neighbourhood of 14-beds will be capable of lock down for isolation. A strategically placed room (used for other day-to-day purposes) will serve as a temporary ante room to the pod when it is in use as an isolation pod.

(iv) An alcove containing a hand hygiene sink, and a storage area for supplies will be provided near the door of each private room. A hand hygiene sink will also be provided within each room. Hand sanitizers will be placed in locations readily accessible to staff.

(k) Hemodialysis Capable

(i) A self-contained, portable hemodialysis unit will be utilized for patients requiring this service.

(l) Natural Light

(i) Patients should at least be aware of time and day (day/night orientation) and weather conditions. Natural light will help maintain circadian cycles and decrease problems of "PICU psychosis". The ability to see vegetation and activity is very desirable.

(m) Respiratory Therapy Accessibility

(i) Provide close access from the central respiratory therapy equipment workroom for the movement of equipment and supplies, and locate it as central as possible to all patients in order to minimize response time to equipment alarms.

(n) Patient Privacy

(i) Provide for visual privacy between each adjacent patient bed and the corridor.

(o) Family Privacy/Overnight Stay

(i) The standard single patient bedroom will allow families to maintain privacy during the duration of their child's stay. This will include the ability to sleep in the patient room in a comfortable way that does not interfere with patient care. In addition, support space beyond the patient care room will be available for purposes of rest, sleep and personal time.

(p) Staff Privacy

(i) Care providers will have areas where they can confidentially discuss a patient's condition/information. Although the provider work areas will not be accessible to patients, a private conference area will also be provided within each pod support area.

(q) Equipment Storage Requirement

(i) Items of equipment in frequent use will be stored on or close to the unit. Other equipment will be stored centrally in the Medical Equipment Depot and availability on the floor within 15-minutes from time of request is anticipated.

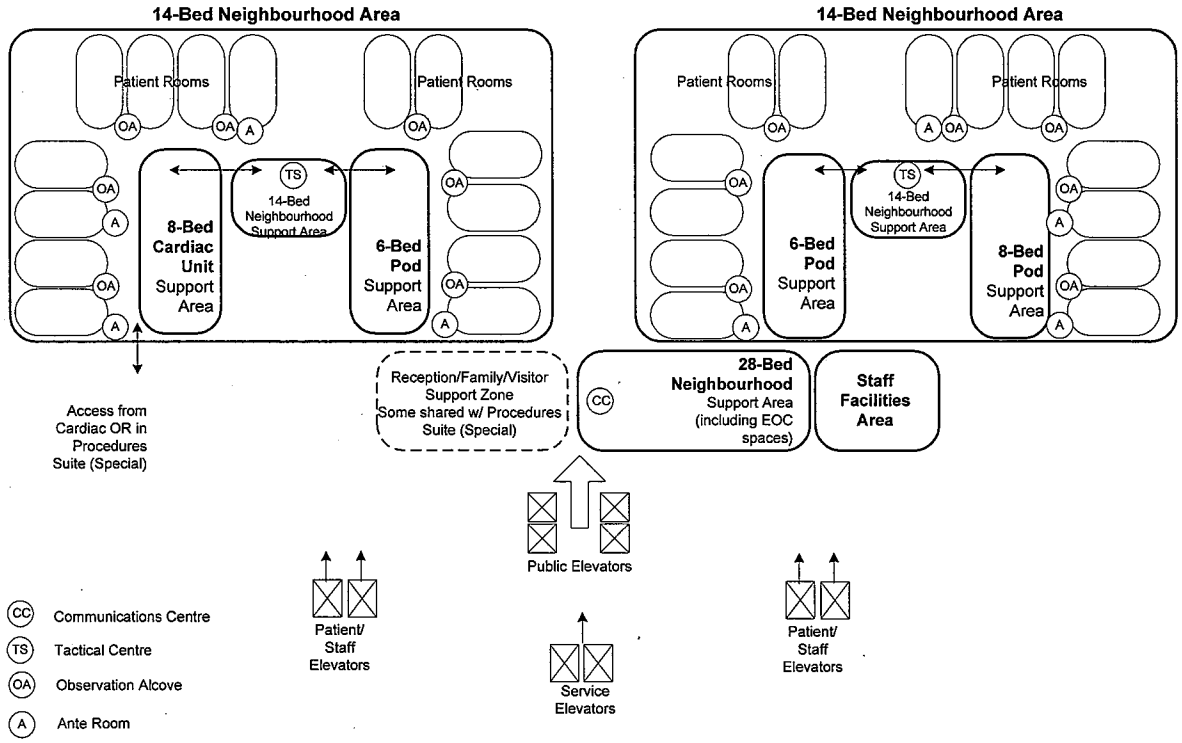
(r) Accessibility

(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(s) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



(ii) Key Design Features to be achieved:

(A) Line of sight to each patient bedroom to/from the six- and eight-bed Support area must be maintained;

(B) Immediate access to the six or eight bed Support area from all patient rooms in each pod to minimize travel distance;

(C) Access to each pod will be attained without travelling through an adjacent pod;

(D) Minimize travel distance from neighbourhood to neighbourhood;

(E) The cardiac care pod shall be closest to, and have a direct route from the cardiac OR in 3A.8 Procedures Suite (Special), separate from public areas/circulation;

(F) Horizontal access to 3-D body imaging;

(G) Must have the potential to cohort one neighbourhood (14-beds/two pods) for isolation;

(H) Must have the potential to overflow from the cardiac unit into the Anesthetic Care Unit (ACU) (and vice versa) for surge capacity, particularly the 24 hour ACU beds;

(I) Direct access from public elevators and family facilities to a greeter around the communications centre (unit clerks) for reception/directions;

(J) Communication between the two neighbourhoods will be maintained with electronic and mechanical devices;

(K) Separate "back-of-house" flows for providers, supplies and equipment from "front-of-house" patient and family flows;

(L) The shared Reception/Pause/Family area will have a patient information board visible from the public elevators to assist in the after-hours direction for families and patients; and

(M) Design must enable direct, dedicated patient transport from ED to PICU with a short travel distance from the arrival point on the floor to the furthest patient bedroom in the unit.

3A.4.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Reception/Family/Visitor Support Area				*Included in and shared with 3A.8 BC Children's Procedures Suite (Special)*
		28-Bed Neighbourhood Support Area				
10242	01	Communications Centre/ Care Station	1		24.0	
10243	02	Pneumatic Tube Station	1		0.5	
10997	03	Child Life Playroom	1		15.0	
10244	04	Storage, Equipment	1		15.0	
10245	05	Workroom, Respiratory	1		12.0	
		Laboratory, Transfusion Medicine			0.0	See 3A.6 Birthing Program
10247	06	Tub Room, Patient	1		16.0	Arjo pier tub, 1 wc, 1 lavatory sink
		Satellite Pharmacy Area				
		Sterile Prep Area				
11250	07	Change Room	1		5.0	1 lavatory sink, change area, to be located adjacent to SpaceID#11252
11252	09	Ante Room, IV, PIR	1		8.0	Pass-through counter
11253	10	IV Admixture Preparation Room, PIR	1		5.5	Pass through counter
10248	11	Receiving/break down	1		5.0	
10249	12	Active Storage (3 days)	1		6.5	
10250	13	Dispensing Area	1		9.5	Secure intra-pharmacy transport between floors
10251	14	Pneumatic Tube Station	1		0.5	
11005	15	Dumbwaiter	1		0.5	Direct connection to Satellite Pharmacy (Critical Care)
11256	16	Simulation Room	1		15.5	
11257	17	Laboratory, Wet	1		12.5	To support specimen processing
10969	18	Office, Day Physician	1		12.0	
11033	19	Office, Multipurpose	1		10.0	
11034	20	Office, Multipurpose	1		10.0	
10253	21	Office, Multipurpose	3	9.5	28.5	

3A.4 BC CHILDREN'S PEDIATRIC INTENSIVE CARE UNIT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Education & Clinical Research Area				Shared w/ 3A.8 Procedures Suite (Special). Space ID# 10832, 10833, 10834 to be co-located w/ 6 offices and a nourishment station. Designated EOC
10832	22	Classroom, Online Bookable	1		56.0	Designated as EOC and requires radio room to be adjacent, and collocation with SpaceID# 10833 and 10834
10834	23	Computer Lab	2	32.0	64.0	Collocate with SpaceID#10832, and 10833, room dividers to open to make on large room. Designated EOC
10833	24	Radio/Communication Room	1		12.0	To be co-located w/ SpaceID#10832, 10834 Designated EOC
11435	96	Washroom, Parent	5	5.0	25.0	1 wc, 1 lavatory sink, 1 shower
		Subtotal, 28-Bed Neighbourhood Support Area			368.5	
		14-Bed Neighbourhood Support Area				
10236	25	Tactical Centre	1		30.0	
10252	26	Office, Clinical Nurse Coordinator	1		9.5	
11023	27	Breakout Room	1		10.0	
10214	28	Provider/Learner Work Area	1		12.0	
10237	29	Nourishment Station	1		6.0	1 double kitchen sink
10481	30	Quiet/Nap Room	2	8.0	16.0	
10239	31	Storage Room, Equipment	1		15.0	
10240	32	Alcove, Equipment	1		3.0	
		Subtotal, One 14-Bed Neighbourhood Support Area			101.5	
		Subtotal, Two 14-Bed Neighbourhood Support Areas	2	101.5	203.0	

3A.4 BC CHILDREN'S PEDIATRIC INTENSIVE CARE UNIT

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Patient Care Area				
		8-Bed Cardiac Care Pod				*"Cardiac Unit" w/ sep. entrance, adjacent to Cardiac OR & ECLS, expandable, standard set-up. This unit to be adjacent to 24 hour ACU beds in Procedures Suite (Special) to accommodate cardiac overflow*
10206	34	Bedroom, Private	6	26.0	156.0	Camera focused at head of patient for remote monitoring at any observation alcove
10207	35	Washroom, Patient, Wheelchair	6	4.5	27.0	1 w/c, 1 lavatory sink, wheelchair access
10208	36	Bedroom, Private, AIR	2	26.0	52.0	Camera focused at head of patient for remote monitoring at any observation alcove
10209	37	Washroom, Patient, Wheelchair AIR	2	4.5	9.0	1 w/c, 1 lavatory sink, wheelchair access
10210	38	Ante Room, AIR	2	4.0	8.0	PPE supply storage
10211	39	Alcove, Patient Observation	4	3.5	14.0	Located between 2 patient rooms, views into patient rooms
11011	40	Alcove, Hand Hygiene Sink	4	0.5	2.0	Locate in corridor between 2 patient rooms
10965	41	Pneumatic Tube Station	1		0.5	Locate centrally
10238	42	POCT Laboratory Work Area	1		8.0	
10212	43	Medications Room	1		13.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10213	44	Clean Utility Room	1		12.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10212
10216	45	Alcove, Linen	1		1.0	
10217	46	Soiled Utility Room	1		12.0	1 utility/cleaning sink
10218	47	Alcove, Crash Cart	1		0.5	
10219	48	Storage Alcove, Equipment	1		0.5	
10999	49	Alcove, Stretcher	1		1.5	
10978	50	Workroom/Supplies, ECLS	1		20.0	1 utility/cleaning sink. Shared w/ 3A.8 Procedures Suite, adjacent to Cardiac pod, Cardiac OR
10970	51	On-Call Room	2	7.5	15.0	Located away from high traffic areas
11228	52	Washroom, On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower

3A.4 BC CHILDREN'S PEDIATRIC INTENSIVE CARE UNIT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10220	53	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, 8-Bed Cardiac Care Pod			360.5	
		8-Bed Care Pod				*Pod to be in Neighbourhood that is able to become isolation unit*
11013	54	Bedroom, Private	6	26.0	156.0	1 to be PIR, camera focused at head of patient for remote monitoring at any observation alcove
11014	55	Washroom, Patient, Wheelchair	6	4.5	27.0	1 w/c, 1 lavatory sink, wheelchair access
11015	56	Bedroom, Private, AIR	2	26.0	52.0	Camera focused at head of patient for remote monitoring at any observation alcove
11016	57	Washroom, Patient, Wheelchair AIR	2	4.5	9.0	1 w/c, 1 lavatory sink, wheelchair access
11017	58	Ante Room, AIR	2	4.0	8.0	
11018	59	Alcove, Patient Observation	4	3.5	14.0	Located between 2 patient rooms, views into patient rooms
11019	60	Alcove, Hand Hygiene Sink	4	0.5	2.0	Locate in corridor between 2 patient rooms
11020	61	Pneumatic Tube Station	1		0.5	Locate centrally
11248	62	POCT Laboratory Work Area	1		8.0	1 utility/cleaning sink
11021	63	Medications Room	1		13.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
11022	64	Clean Utility Room	1		12.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID#11021
11025	65	Alcove, Linen	1		1.0	
11026	66	Soiled Utility Room	1		12.0	1 utility/cleaning sink
11027	67	Alcove, Crash Cart	1		0.5	
11028	68	Storage Alcove, Equipment	1		0.5	
11029	69	Alcove, Stretcher	1		1.5	
11030	70	On-Call Room	1		7.5	2 on-call rooms for cardiac pod, 1 for each of the rest of the pods (6 & 8), located away from high traffic areas
11229	71	Washroom, On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
11031	72	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, One 8-Bed Care Pod			333.0	

3A.4 BC CHILDREN'S PEDIATRIC INTENSIVE CARE UNIT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		6-Bed Care Pod				*One 6-bed pod to be co-located w/ one 8-bed pod to be able to form "isolation" Neighbourhood*
10221	73	Bedroom, Private	4	26.0	104.0	Camera focused at head of patient for remote monitoring at any observation alcove, one room PIR
10222	74	Washroom, Patient, Wheelchair	4	4.5	18.0	1 w/c, 1 lavatory sink, wheelchair access
10223	75	Bedroom, Private, AIR	2	26.0	52.0	Camera focused at head of patient for remote monitoring at any observation alcove
10224	76	Washroom, Patient, Wheelchair AIR	2	4.5	9.0	1 w/c, 1 lavatory sink, wheelchair access
10225	77	Ante Room, AIR	2	4.0	8.0	
10226	78	Alcove, Patient Observation	3	3.5	10.5	Located between 2 patient rooms, views into patient rooms
11012	79	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate in corridor between 2 patient rooms
10967	80	Pneumatic Tube Station	1		0.5	Locate centrally
11249	81	POCT Laboratory Work Area	1		8.0	1 utility/cleaning sink
10227	82	Medications Room	1		13.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10228	83	Clean Utility Room	1		12.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10227
10231	84	Alcove, Linen	1		1.0	
10232	85	Soiled Utility Room	1		12.0	1 utility/cleaning sink
10233	86	Alcove, Crash Cart	1		0.5	
10234	87	Alcove, Equipment	1		0.5	
11006	88	Alcove, Stretcher	1		1.5	
11032	89	On-Call Room	1		7.5	Located away from high traffic areas
11230	90	Washroom, On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
10235	91	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, One 6-Bed Care Pod			268.0	
		Subtotal, Two 6-Bed Care Pods	2	268.0	536.0	
		Subtotal, Patient Care Area			1 229.5	

3A.4 BC CHILDREN'S PEDIATRIC INTENSIVE CARE UNIT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Staff Facilities				*See also 3A.8 BC Children's Procedures Suite (Special)*
10254	92	Lounge, Staff	1		30.0	15 seats, intercom to SpaceID#10242
10998	93	Kitchenette/Dining Area	1		13.0	1 double kitchen sink
10972	94	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10579	95	Staff Rest Area	1		25.0	
		Subtotal, Staff Facilities			71.5	
		Summary				
		Reception/Family Visitor Support Area	1		0.0	*Included in and shared with 3A.8 BC Children's Procedures Suite (Special)*
		28-Bed Neighbourhood Support Area	1		368.5	
		14-Bed Neighbourhood Support Area	2	101.5	203.0	
		Patient Care Area	1		1 229.5	
		Staff Facilities	1		71.5	*See also 3A.8 BC Children's Procedures Suite (Special)*
		Total PICU			**1 872.5**	

3A.5.1 FUNCTIONAL DESCRIPTION

3A.5.1.1 Scope of Clinical Services

(1) This specification outlines the requirements for the BC Women's Neonatal Intensive Care Unit (NICU) that will be accommodated in support of 2025/26 projected demand. This component will act as a provincial referral centre accommodating both Level II and Level III Newborn Care. As part of the Provincial Neonatal Care Network, the BC Women's NICU may receive admissions from any part of the province. The overall system of neonatal care in British Columbia involves the following levels:

(a) Level I: for normal care;

(b) Level II:

(i) IIA offering intensive observation/care for newborn infants, possibly having low-risk complications, and possibly in need of specialist consultation (on-call 24/7); and

(ii) IIB offering intensive care for newborn infants having moderate-risk complications, and possibly in need of specialist consultation (on-call 24/7);

(c) Level III:

(i) (> 23 weeks) and any weight, having moderate to high-risk neonatal complications, in need of in-house 24/7 medical coverage, possibly in need of specialist obstetrical and/or pediatric neonatal consultation (on-call 24/7), and daytime access to other subspecialists on a planned basis;

(ii) IIIB offering investigations and intensive care for infants with any gestation age and any weight, having high-risk fetal and/or neonatal complications, in need of in-house 24/7 medical coverage, access to a fetal medicine specialist and specific other subspecialists (on-call 24/7), and access to other subspecialists on a planned basis; and

(iii) IIIC offering investigations and intensive care for infants with any gestation age and any weight, having very high-risk fetal and/or neonatal complications, in need of in-house 24/7 medical coverage, access to a full range of subspecialists (on-call 24/7).

(2) Levels IIB through IIIC may incorporate the use of mechanical ventilation.

(3) Level I Neonatal Care will be provided within the BC Women's Birthing Program area in the 1982 building. All levels of neonatal care will be available at the BC Women's NICU.

(4) All 70 NICU infant bedrooms in the ACC will be able to accommodate Levels IIA and B, and Level IIIA, B and C neonates.

(5) Model of Care:

(a) The 70-room NICU will function as one unit, split between two floors, (Level A and B) or one unit across one floor, and will be supported by three care communities; one for each geographical area. A pair of co-leaders, a Neonatologist (MD), and a Clinical Nurse Leader (RN) will support each of the three communities. The patient Core Care Team (Bedside RN, first responder MD and Parent) will deliver the care. There will be two communities consisting of 24 Level III beds, one on Level A and one on

Level B. Each will be supported by a team as described above. A third team will support a community that will be subdivided into two neighbourhoods, a 10 bed complex care neighbourhood and a 12 bed short stay neighbourhood.

(b) Mothers and partners will receive instruction and support to provide as much hands-on care as possible. This model is currently being implemented in Sweden and Toronto where under the direction and support of the registered nurse and the Core Care Team (CCT) mothers provide as much hands-on care as possible. The RN is responsible for the dyad. This, coupled with the advantages of single family room has been shown to decrease length of stay, and promote successful lactation and breastfeeding and may have long-term positive effects for neuro-developmental outcomes. Room size and functionality will support all levels of neonatal care including Level III.

(c) There is a CCT comprised of the patient/family, bedside RN, Respiratory Therapist (RT) and "first call" neonatal nurse practitioner (NNP)/physician for the individual patient. At any point, these team members can be uniquely named/touched i.e., physically present.

(d) The CCT and the additional care providers share accountability and are jointly responsible for establishing the Plan of Care that guides activity for the entire length of the patient's stay. The CCT is supported by additional care professional service providers (e.g., pharmacist, Occupational Therapist (OT), Physiotherapist (PT), Social Worker (SW), lactation consultant, dietitian, discharge planning coordinators [RN/RT]) and are jointly involved in defining the Plan of Care and dedicated to achieving the patient's goals.

(e) The bedside RN is the coordinator of patient care within the CCT.

(f) In this way, the team is inter-professional in nature. Inter-professional teamwork adds value to the patient's defined goals and overall Plan of Care.

(g) The rationale for patient co-horting or grouping is to provide specialized care to common groupings where resources and attention can be uniquely and individually applied.

(h) The acute care teams will be responsible for the newborns in the Level III groupings located in the two 24-room communities. The 12-room neighbourhood for Level II Short Stay patients forms a community with the 10-room neighbourhood for Complex patients.

(i) Patient movement is discouraged but may occur as required by the Plan of Care and patient safety.

(j) Every effort will be made to keep multiples together. Escalation or de-escalation of care can be accommodated in any of the 70 rooms. Newborns would be moved to accommodate the need for Complex Care. The activity within any given 12-room Neighbourhood is managed by the neighborhood RN co-leader and the most responsible physician. Ultimate responsibility for patient care lies with the most responsible physician.

(k) There is a single Plan of Care (i.e., goals, single repository, accessible, integrated) that is monitored and executed by the CCT. The CCT proactively advances the Plan of Care by anticipating the trajectory of the plan.

(l) Inter-professional charting and documentation is performed by the CCT and others as care is provided. The patient/family own the information. The institution maintains the record/documentation.

(m) Any care provider or family member can anticipate variation and should take action. The hour-by-hour plan for the day is managed by adherence to Standard Work/ Clinical Pathways/Protocols/Reliable Methods and executing predictable contingency plans when variation is encountered.

(n) Changes to the Plan of Care must be discussed with and approved by the CCT. Any individual who changes the Plan of Care must communicate that change to the CCT as soon as possible. The CCT is responsible for ensuring that documentation and execution have occurred for all changes to the Plan of Care.

(o) There are adjusting routines defined for variances from the plan. The CCT will coordinate responses to these variations. An updated plan is then created. Multiple patient conflicts are identified and prioritized (acuity/demand/urgency/resource) by CCT discussion.

(p) The CCT, in response to the Standard Work and Plan of Care variance monitoring, eliminates dependency on the current state team rounding model. Patient care does not depend on team rounding. Care is not interrupted or batched to accommodate provider flows. Future models may include ward rounds.

(q) Inter-professional learning is integrated into all aspects of the Model of Care. Learners are part of the inter-professional teams as are their supervisors/preceptors/ instructors. This academic component occurs during Plan of Care development, execution and adjustments.

(r) The non-CCT members (e.g., porters, transport, volunteers, housekeeping, clerical, supply chain) are essential to operations but are not accountable members of the CCT.

(s) The Model of Care will uphold the principle of keeping mothers and newborns together whenever possible. Benefits of this model include decreased length of stay and improved breastfeeding outcomes.

(6) The NICU will be a "closed unit" with admission at the discretion of the neonatologist or his/ her designate.

(7) Treatment and care activities typically provided in the NICU will include, among others:

(a) Supporting infant growth and development including assessing nutritional capability and providing developmentally appropriate care;

(b) Providing assessments and conducting appropriate interventions;

(c) Delivering treatments;

(d) Communicating with and providing emotional support to families;

(e) Providing parental and family education; and

(f) Liaising with the community and discharge planning.

(8) Invasive and sterile procedures along with diagnostic tests, performed in infants' rooms will include, but are not limited to:

- **(a)** IV line insertions;
- **(b)** Central line insertion;
- **(c)** Catheter insertions;
- **(d)** Lumbar punctures;
- **(e)** Exchange transfusions;
- **(f)** High frequency ventilation;
- **(g)** Chest tube insertions;
- **(h)** Head ultrasound;
- **(i)** Chest x-rays;
- **(j)** Echocardiograms;
- **(k)** Hearing tests;
- **(l)** Eye examinations;
- **(m)** EEGs;
- **(n)** Nitric;
- **(o)** Intubation;
- **(p)** Laser eye surgery; and
- **(q)** Selected operative procedures/surgeries.

(9) Five basic principles have been adopted that will impact the operational and physical characteristics of the NICU:

- **(a)** Commitment to the model of family-centred care at BC Women's, which includes a single family room design, a Level II Short Stay Neighbourhood and a Long Stay/Complex Care Neighbourhood;
- **(b)** A focus on developmental care;
- **(c)** Utilization of an interdisciplinary clinical care team;
- **(d)** Maximizing the use of staff resources in the most appropriate fashion; and
- **(e)** Maximizing the use of technological advances.

(10) Two basic principles have been adopted that will impact the family-centred care focus of the unit.

- **(a)** The NICU will be designed and operated based upon the model of family-centred care. This means:
  - **(i)** Involving the family in clinical decision-making;
  - **(ii)** Involving the family in quality improvement initiatives;
  - **(iii)** Readily providing the family with access to information;

(iv) Providing a physical environment that is inviting for families and supportive to their involvement; and

(v) Supporting a model at BC Women's where parents are also care providers.

(b) Parents will be integral members of the interdisciplinary care team and will feel free to approach staff and physicians to discuss the care of their infant. Parent involvement is considered essential to the health and well-being of the newborn. Parents will be invited to participate in decision-making for their infant to the level that they choose and are encouraged to ask questions if there is anything they want to know or do not understand.

(11) The focus on developmental care will consist of:

(a) Integrating the developmental needs of the infant within the framework of medical care. Key concepts for delivery of developmental care include promoting organized infant neuro-behavioral and physiological function and tailoring the physical environment, such as light and sound, to protect vulnerable developing sensory systems, all within a context of family-centred care; and

(b) Developmental care for infants which recognizes each infant is unique, can display a wide variety of behaviours, and that the physiological condition of infants differs widely. Therefore, the assessment of infant cues remains central in the provision of developmental care.

(12) The NICU will operate using an interdisciplinary clinical team Model of Care including, but not limited to the following types of individuals (alphabetical order):

(a) Breast milk technician;

(b) Child life specialist;

(c) Clinical associates;

(d) Clinical dietitians;

(e) Clinical nurse leaders;

(f) Clinical pharmacists;

(g) Clinical resource nurses;

(h) Discharge planning and family education coordinator;

(i) Family liaison;

(j) Laboratory staff;

(k) Lactation consultants;

(l) Neonatologists;

(m) Nurse practitioners;

(n) Parents;

(o) Pediatricians;

(p) Perinatal clinical (nurse) educators;

(q) Pharmacists;

(r) Pharmacy technicians;

(s) Rehabilitation services staff (OT, PT);

(t) Registered nurses;

(u) Respiratory discharge and family education coordinator;

(v) Respiratory therapists (RT);

(w) Senior practice leader;

(x) Spiritual care workers;

(y) Social workers; and

(z) Volunteers (Comfort Care and Red Cross).

(13) Staff resource utilization will be maximized in that the most appropriate staff will perform tasks. For example, nurses will not spend time in non-nursing duties, thereby allowing them to focus on care of the infants in their charge.

(14) The NICU will maximize the use of technological advances at BC Women's which include:

(a) An integrated wireless communication system. In addition to the functional linkages to on-site BC Women's and BC Children's clinical and clinical support services, the NICU will have significant program linkages to many inter-provincial, provincial, regional, and local programs and services off-site; and

(b) A specialized provincial maternal, neonatal and pediatric infant transport team which will be based on-site at C&W.

3A.5.1.2 Scope of Education Activity

(1) The NICU will generally provide clinical resources in support of teaching programs for the following types and anticipated numbers of students at any given time:

(a) 4 medical/surgical residents;

(b) 8 undergraduate medical students;

(c) 6-8 nursing (RN) undergraduate and graduate students;

(d) 1 social work student;

(e) 1 pharmacy undergraduate/resident;

(f) 1 physiotherapy student;

(g) 1 rehabilitation student (PT/OT);

(h) 8 respiratory therapy students;

(i) 1 dietetic intern;

(j) 1 laboratory assistant or technologist student; and

(k) 1 nursing unit clerk student.

(2) The NICU recognizes the mandate to support and provide interdisciplinary education and support knowledge translation and opportunities for innovation in Neonatal Care. This mandate will be accommodated within the NICU component as well as elsewhere within the ACC and on the campus.

(3) Parent teaching and education is an integral part of the family experience. Teaching will occur in all patient rooms and classroom settings. Education and information will be accessible via television and internet in patient rooms.

3A.5.1.3 Scope of Research Activity

(1) Clinical Innovation, Knowledge Translation NICU team members will actively participate in clinical research activities within the BC Women's NICU, as a partner in the Canadian Neonatal Network and working with others as opportunities arise. Research activities in the NICU will be in the nature of data collection/focus groups and analysis at a desk area.

(2) There will be increasing development for stem cell therapy in newborns. The use of autologous stem cells will require processing of cord blood and extraction of stem cells on-site.

(3) Hospital bio-storage in direct link with patient care will be carried out in addition to standard cord blood collection.

3A.5.1.4 Specific Scope Exclusions

(1) Not Applicable.

3A.5.2 OPERATIONAL DESCRIPTION

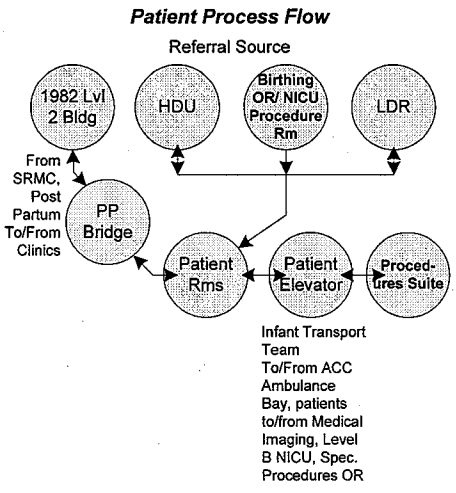
3A.5.2.1 Hours of Operation

(1) The NICU will operate 24 hours a day, seven days a week.

3A.5.2.2 Patient and Family Management Processes and Flows

(1) *If the infant is to be delivered at BC Women's* and the birth is known or suspected to be high-risk with the newborn likely requiring the services provided in the NICU, the neonatologist or designate will be conferred with prior to delivery and will attend the birth.

(2) *If the infant has been delivered at BC Women's* and appears to meet the NICU admission criteria, the family physician, obstetrician, pediatrician, or midwife will consult the neonatologist or designate to determine admission.

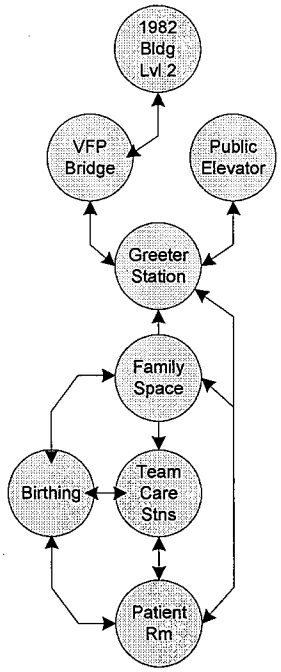


(3) In both situations identified above, initial resuscitation and stabilization immediately following birth will continue to occur in the Birthing Program areas and can include lines insertion, airway insertion, and initiation of mechanical ventilation. Once stabilized, the newborn will be transported to the NICU by the neonatal resuscitation team (comprised of the neonatologist or designate, RN, nurse practitioner, and respiratory therapist).

(4) Travel distance from the resuscitation room in the Birthing Program to the entrance of the NICU will be as direct and short as possible with minimal turns and will be through a non-public corridor.

(5) *If the infant has been born outside BC Women's*, the referring facility will contact BC Bedline to determine admission to the BC Women's NICU. The infant transport team will be dispatched to bring the infant to the ambulance drop-off area on Level I of the ACC adjacent to the Emergency Department and bring the infant directly to the NICU using non-public corridors and an appropriately-sized patient elevator.

Family / Visitor Process Flow



3A.5.2.3 Patient Information Management and Flows

(1) Patient rooms and patient team care stations must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

(2) Clinical documentation may occur in the patient room, at the observation alcove outside of room, at the team care station, provider learner work area care, point of care testing (POCT) areas, and shared offices.

(3) The patient/family own the electronic record, and the Hospital maintains the record.

(4) Care must be taken to preserve patient information confidentiality while providing availability at multiple points within the unit.

(5) Public areas and washrooms within NICU will be equipped with a centrally monitored emergency alarm/alert system.

(6) Most bedside forms will be generated electronically and when hard copies are needed they will be printed at the team care station.

(7) Patient information will be available throughout the unit wirelessly with hand-held devices or through computer terminal positions at the bedsides, care stations and observation stations.

(8) An emergency call system will be available in all patient rooms.

(9) A provider tracking system is required.

(10) Staff will communicate utilizing a hands-free communication system.

3A.5.2.4 Provider Work Processes and Flows

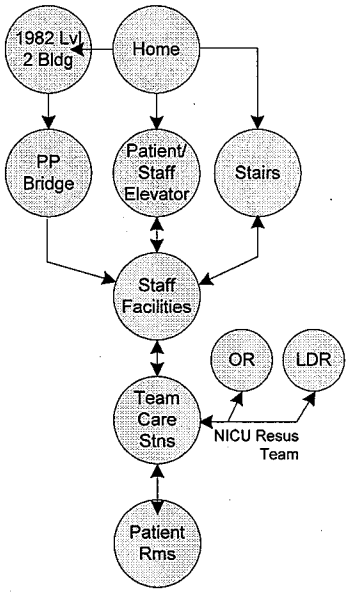
(1) The unit will be administered at the 10 to 12-bedroom level utilizing observation alcoves; team care stations and provider/learner workstations for maintaining patient information. The 70-bedroom support level will be managed from a communications "tactical" centre on Level A with adjacent shared office space and an interdisciplinary team conference space that has seating for up to 20 people. The unit level communications tactical centre will be the location of the unit clerk workstation and six to nine workstations for central monitoring,

touchdown stations for professional staff and learners with access to computers, printers, for charting and an electronic patient status board.

(2) Care Delivery

(a) Patient and family-centred care is based on bringing resources to the patient rather than moving the patient whenever possible.

(b) Staff will access the floor from the staff elevator, change and proceed to the team care stations for assignment. Conversely, at the end of a shift, after the handover/debriefing process in the respective neighbourhood area, staff will utilize the staff facilities before leaving the ACC.



(c) There are three care teams supporting NICU patients and their families – Complex Care, Level II Short Stay Care and Level III Care.

(d) Generally nurses will be assigned to infants at ratios of one nurse per two to three patients for Level II infants and one nurse per one to two patients for the Level III care infants. There will be some infants who may require 2 RN's to 1 patient.

(e) Nurses will have ready access to support services located within close proximity to infant rooms with an observation alcove/charting area directly adjacent to each pair of infant bedrooms with direct observation of each of the patients and the patient monitor screens. The observation alcoves will be visible to one another within a pod.

(f) Care providers will have areas where they can discuss a patient's condition/ information in private preserving confidentiality within the pod support area.

(3) Staff Services

(a) To maximize time spent on patient care, staff support areas will be located at the community and unit support level.

(b) Facilities will be provided for on-call medical staff to stay overnight. There will be a total of eleven on-call rooms. Seven on-call rooms should be collocated adjacent to Birthing and adjacent to the provider/patient (PP) bridge to the 1982 building in order to respond to emergency situations in the Birthing areas of the ACC as well as Birthing Assessment Area and SRMC's in the 1982 building. The balance of the on-call rooms will also be located close to the stair/elevator to facilitate the flow of providers and staff for emergency situations.

3A.5.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications. Most services will be delivered to point of care.

(a) Biomedical Engineering Services (BE)

(i) Primary equipment storage will be held off unit in the Medical Equipment Depot with items requisitioned when needed. Expected Turn Around Time (TAT) from initial request is 15 minutes.

(ii) BE will conduct a maximum amount of maintenance and repair work within the NICU to avoid excessive equipment movement.

(b) Diagnostic Cardiology Services

(i) Electrocardiogram (ECG) and echocardiographic (ECHO) testing will occur within the NICU. Diagnostic cardiology technicians will be called to the NICU and will bring the necessary diagnostic equipment with them. A dedicated link to an electronic management system will be provided for the sending and retrieval of data and to enable viewing and reporting of ECG's on-line.

(ii) If invasive cardiac procedures are required the infant will be transported to the interventional rooms within the Procedures Suite (Special) component.

(c) Neuro-Diagnostic Services

(i) As needed, neuro-diagnostics staff will provide various services in the NICU including Electroencephalography (EEG) and Electromyogram (EMG) tests.

(d) Ophthalmology Services

(i) Ophthalmologists will be an important clinical resource to the NICU. Infants weighing 1,250 grams or less will be examined for Retinopathy of Pre-Maturity (ROP) every week or two.

(ii) Infants will undergo laser treatments in the NICU procedure room or in one of the BC Children's operating rooms.

(e) Medical Imaging Services

(i) General radiographic, ECHO and ultrasound imaging will occur within the NICU utilizing portable equipment 24/7, while neonates requiring other imaging procedures will need to be transported to either the Procedures Suite (Special) or Medical imaging (MI) using a special transport care team.

(ii) Dedicated alcoves or rooms for parking and storage of mobile imaging equipment and re-charging of batteries are required. These areas require adequate power and ventilation.

(iii) Expected TAT for STAT results is 10 minutes.

(iv) Access to magnetic resonance imaging (MRI) imaging services will be provided on a 24/7 basis within a developmentally supportive environment (e.g., temperature control), or MRI transport incubator (or similar technology).

(f) Nutrition Services

(i) A full-time clinical dietitian will be an active member of the interdisciplinary NICU team to provide support for NICU staff and physicians as well as parent teaching.

(ii) Nutrition services will provide consultations for complex feeding patients and manage the nutrition delivery system.

(iii) The bedside fridge will contain mother's milk, with a separate compartment for formula, specialty products and additives as required for the patient.

(iv) Safety measures including a bar coding system for labeling of all expressed breast milk (EBM)/formula/specialty formula with additives and the transport/ storage of EBM will be implemented.

(v) Human milk preparation including additives and formula preparation will take place in the Satellite Milk and Formula Preparation Room (SMFPR). Donor milk will be prepared in the SMFPR to eliminate the need for donor milk storage in the NICU to prevent waste and loss. A bar-coding and tracking system will be used. Resources to allow for point of care pick-up and delivery will be made possible through a shared resource model with pharmacy.

(vi) A 24 hour supply of infant feeds will be prepared and delivered to the patient room by the SFMPR technician.

(vii) Specialty formula preparations for the neonates will be made in an aseptic area of the main kitchen of food services and delivered to the SMFPR, collocated with the Satellite Pharmacy (Critical Care) in the ACC, by food services staff.

(viii) A limited after-hours supply of ready-to-use nursettes of infant formula will be stored within the NICU in the clean utility rooms.

(g) Rehabilitation Services

(i) Rehabilitation staff (PT, OT and Audiology) will provide assessments and therapy at the patients' bedside and participate in the discharge planning process.

(ii) In addition to standard therapeutic services, Rehabilitation Services will also provide some specific programs in the NICU:

(A) The feeding team will provide assessment, intervention, and education at the bedside;

(B) The neuro-developmental evaluation and treatment service will encompass assessment, intervention, and education at the bedside; and

(C) Newborn hearing screening will involve the screening of all infants in the NICU for potential congenital and early onset hearing loss.

(h) Laboratory Services

(i) Laboratory personnel will be responsible for routine collection and testing of blood specimens at the bedside on a 24/7 basis. Nursing staff will collect other specimens, such as urine, swabs, and arterial blood. Both will utilize an electronic tracking system to reduce errors in labeling. Near patient testing (point of care testing (POCT) – e.g., blood gas analysis, glucose analysis, etc.) will be accommodated in the POCT workstation at the 12-bed level where laboratory staff will perform the analysis.

(ii) Specimens that require testing in the main laboratory in the 1982 building will be transported by porter or pneumatic tube.

(iii) Expected turn-around-time (TAT) for routine testing is two hours, for STAT it is five minutes.

(iv) Blood products will arrive at the unit pre-filtered and in syringes ready for administration.

(v) Blood collection and product preparation require a 30 minute TAT for STAT.

(i) Pharmacy Services

(i) Pharmacy support will continue to be provided by a Satellite Pharmacy in the ACC and medication will be delivered to point of care.

(ii) An automated medication cabinet (AMC) technology distribution system will be used to distribute narcotics and ward stock to the clinical areas of the component.

(iii) Access to a clinical pharmacist is required on a 24/7 basis to provide expanded consultation and support to the Health Care Team, participate in parent teaching, mix and deliver medications.

(j) Respiratory Therapy Services

(i) NICU Respiratory Therapist staff will provide dedicated service to the NICU 24 hours a day, seven days a week. There will be dedicated space within the clean and soiled utility rooms for the set up and cleaning of certain respiratory equipment.

(ii) Respiratory therapy staff will be accommodated in the provider/learner workstations in the patient care areas.

(iii) Respiratory therapy provides discharge planning and family education support for NICU patients and families which includes airways management, management of the home oxygen program and liaison with BC Children's Home Trach and Vent Team to follow-up with clinic support on an as-needed basis.

(k) Social Work

(i) Social workers will conduct interviews at the bedside or in consult/interview rooms. Discharge and other necessary resource information will be discussed

in an office or interview room setting, as will most interdisciplinary and community partner interactions.

(l) Food Services

(i) Food delivery is anticipated to be an on demand, room service type model, available at point of care.

(m) Security

(i) Immediate response from security will be provided 24/7.

(ii) There will be electronic surveillance and the ability to control all entrances and exits from NICU.

(iii) A staff, patient, parent and visitor electronic ID system will be utilized to restrict access to designated areas only. This system will be integrated with the ACC overall security system.

(iv) Security access will be provided at the unit level i.e., Birthing or if out-born at NICU reception/entrance. An electronic security identification system is required to allow access to designated areas. This system will integrate with the ACC security access system. Two bridges [provider/patient (PP), visitor/family/off-site provider (VFP)] from the 1982 building will provide two access points for the mothers who are inpatients at BC Women's and their families. Mothers and their families who are not inpatients will enter the NICU through the main elevators on Level A.

(n) Supply Chain

(i) Clean linen is transported to the component daily using an exchange cart system and held in linen alcoves at the "neighbourhood" level.

(ii) Designated clean utility rooms utilizing fixed shelving will hold inventories of medical/surgical supplies. MDR will provide sterile specialty trays. NICU supply attendants will maintain inventories and restock infant positions and specialty areas.

(o) Volunteer Services

(i) Volunteers will augment the clinical services provided in the NICU and provide a variety of services. Certain volunteers will support the developmental needs of the infant when the parent is not able to be in the NICU. This includes consoling, socializing and holding of certain groups of infants.

(ii) The role of unit support volunteer will fulfill a variety of roles including greeter, ambassador, child-minder, sibling and family support and resource person.

(p) Codes Support

(i) The NICU will be responsible for management of emergency codes called on neonates anywhere in the hospital.

3A.5.3 ACTIVITY CAPACITY

3A.5.3.1 The table below summarizes the baseline activity and projected demand for BC Women's Neonatal Intensive Care. The projections are based on the assumption of 65% occupancy for physical beds/patient positions.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Neonatal Intensive Care Unit				
Inpatient Days	16,769	18,155	18,721	n/a
Inpatient Visits (inborn + outborn)	1,121	1,218	1,262	n/a
Physical Beds	60	66	68	70

3A.5.4 PEOPLE REQUIREMENTS

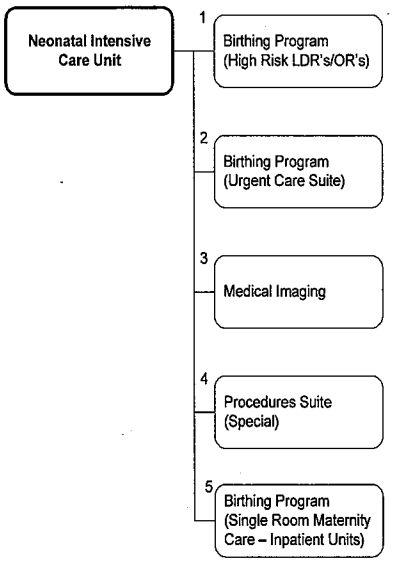
3A.5.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
Reception Zone (1)	6	2	2	1	1	**12**
Patient Care Zone						
12 Room Care Neighbourhoods (5) (1 – Level II Short Stay Neighbourhood, 4 – Level III Care Neighbourhoods)	127	40	25			**192**
10 Room Complex Care Neighbourhood (1)	26	12	10		2	**50**
22 - 24 Room Support Area (3)		10	4			**14**
70 Room Support Area (1)	16	10	14	2	6	**48**
Staff Support Area (1)		6		5	3	**14**

3A.5.5 DESIGN CRITERIA

3A.5.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by non-public internal circulation from the Birthing Program (LDR's/OR's) for the movement of infants at high risk.

2 Provide direct access by non-public general circulation from the Birthing Program (Urgent Care Suite) in the 1982 building for the movement of infants and mothers at high risk.

3 Provide direct access by non-public general circulation to the Medical Imaging component for the movement of critically ill infants, as well as imaging staff and equipment.

4 Provide direct access by non-public general circulation to the operating & interventional procedures rooms, including imaging services, in the Procedures Suite (Special) for the movement of critically ill infants.

5 Provide direct access by general circulation to the Birthing Program (Single Room Maternity Care) in the 1982 building.

3A.5.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Overview & Configuration

(i) Ideally the NICU will be configured on one level. It has been considered unachievable within the available site area while still maintaining the critical adjacency to the Birthing Program. This specification is written to represent two levels, each with a public "front of house" and separate "back of house" service/staff circulation routes.

(ii) The NICU will be a secured environment with no unauthorized use as a route to or from other areas of the ACC.

(iii) The NICU will be zoned into five basic areas:

(A) Reception Area;

(B) 70-Room Support Area;

(C) 22-24-Room Support Areas;

(D) Patient Care Areas; and a

(E) Staff Facilities Area.

(b) Direct Connection between NICU and Birthing Program

(i) A dedicated, direct, and non-public route with minimum turns, between the Birthing Program's surgical suite and NICU for transport of neonates is required. Corridors must be wide enough to accommodate the neonate in an incubator and the neonatal resuscitation team. This access point may also serve as a staff entry point to NICU.

(c) Sub-Division & Configuration of Patient Care Areas

(i) Visitor and staff flow will be separated as much as possible to support the concept of "front of house" and "back of house". The 70-room NICU will provide care for up to 76 newborns and their families made up of three "communities" of 22 (Level A), 24 (Level A) and 24 (Level B) rooms.

(ii) Each of these communities will be further subdivided into a "two neighbourhood" configuration. The 22-room community closest to the delivery suite/PP bridge to the1982 building will house a 12-room "Level II Short Stay" Neighbourhood and a 10-room "Complex Care" Neighbourhood.

(iii) Each of the other two communities (Acute Care Level III) will be further subdivided into two neighbourhoods of 12 rooms on Level A and two neighbourhoods of 12 rooms on Level B.

(iv) Each neighbourhood shall be configured such that two patient rooms share an observation work alcove with views into each of the two rooms.

(v) Neighborhoods will be easily identified through design to distinguish location for ease of way finding for staff and families. This may be achieved through themes and design.

(vi) Recycling and waste collection receptacles will be accessible yet discreet and promote a clean and clutter free environment.

(d) Access to the NICU

(i) The overall entrance design will achieve a sense of arrival and easy identification of BC Women's NICU for staff, families, visitors and the public. For example when anyone steps off the public elevator the entrance to the NICU will be obvious and inviting.

(ii) Wayfinding will be intuitive. The entrance to the NICU will be as close as possible to the main public elevators on Level A and B for easy access for families.

(iii) Visitors will have line of sight through glass to see and be seen by the receptionist inside the NICU reception area. A small pause area for visitors will be located immediately outside the NICU and be within the sight line of the nursing unit clerk at the reception desk.

(iv) The use of natural light and opportunities for BC Women's sponsor recognition will be incorporated into the Reception area. The use of themed colour schemes and other design features will aid in linking the BC Women's experience for families moving between Birthing, Procedures Suite and the NICU.

(v) All NICU access/egress points shall be strictly electronically access controlled by the integrated facility card access control system.

(vi) There may be times when it is necessary to prevent exit from the NICU. Video cameras will be strategically located for surveillance and evidence collection purposes.

(vii) Immediately upon entry into the unit via the controlled front door, family members will be greeted by a clerk at the reception desk where the family member or visitor have identification checked, and set-up the means for future identification (for example, Radio Frequency Identification (RFID) bracelet and photograph). A volunteer may assist. Provision for hand-sanitizing will be made and a pause area will be located adjacent to the reception area.

(viii) There will be secondary NICU access/egress points for use as a staff entry which will be located in proximity to the communications tactical centre and strictly electronically controlled by the integrated facility access control system.

(e) Access between Level A and Level B

(i) The NICU may function as one unit split between two floors, or as one unit across one floor.

(ii) The main entrance to the NICU will be on Level A.

(iii) Level A entrance will be directly adjacent to, and flow immediately to the NICU reception. The communications tactical centre will be adjacent to the reception/ unit clerk workstation and beside the convenience staircase to Level B. This staircase provides access between Levels A and B and is for NICU use only.

(iv) The reception area will provide all families and visitors with wayfinding, security and infection control screening. This will be staffed 24/7. The unit is accessed by an electronic, secured entrance door.

(v) The receptionist will provide parents with a security pass access card for access to patient care, family support and drop off areas. This will be a daily security pass.

(vi) All visitors must check-in with the receptionist on Level A prior to accessing patient areas on either level.

(vii) Level B entrance will have video surveillance cameras with viewers at the main reception area. The receptionist will have the ability to provide visitors with access remotely to the Level B entrance once they have checked in on Level A using video confirmation.

(viii) Families and visitors of patients on Level B will also arrive at this entrance. Parents with a baby on Level B will access the NICU using their access card and will enter on Level B via the public elevators.

(ix) There will be a small pause area located outside of the NICU entrance that is visible to the receptionist. Visitors will have line of sight to the receptionist.

(x) A hand hygiene sink will be located inside the entrance of both Level A and B.

(xi) There will be a dedicated convenience staircase inside the unit to provide easy and rapid access between Level A and Level B patient areas. This staircase will be open in design and accessible for staff, family and visitors.

(xii) The location of the convenience staircase will enhance the feeling that Level A and Level B are one unit, linking the two levels with the communications tactical centre, reception, entrance and family support areas.

(xiii) There will be no horizontal public access from the NICU on Level B to the Procedures Suite (General). Families will accompany their baby to the Procedures Suite with the team or staff escort.

(xiv) All entrance and exit doors to the public areas on Level B will require card access and will alarm without the use of the security access card.

(f) Infant Rooms

(i) The NICU will be designed utilizing 100% private infant rooms. The wall of each room into the corridor will be fully glazed with large sliding panels for unencumbered access. There will be double sets of medical gases and power in order to accommodate two neonates, if required.

(ii) The rooms will be designed to provide the capacity to hide technology not required for treatment to create a more home-like environment as the patient transitions down from higher acuity.

(iii) The rooms will have the flexibility to allow minor surgical procedures within.

(iv) Twin Rooms: Two twin rooms will be located in the Level II Short Stay Neighbourhood, none in the Complex Care Neighbourhood and two in each of Level III Care Neighborhoods for a total of six twin rooms. The twin rooms in the Level III Care Neighbourhoods will be vertically adjacent.

(v) Doors to the rooms will be "break-away" and "break" outwards to allow for urgent care.

(vi) Infant monitoring alarms will be provided inside the room, outside the room and centrally at the team care station and the health care provider's personal communication device.

(g) Provisions Supporting Family-Centred Care

(i) Infant rooms will consist of three zones: infant zone, provider zone and family zone. The infant zone is the area surrounding the isolette; the provider zone is closest to the door, includes supplies, outside charting area in the observation

alcove, and the family zone is located farthest from the door, and includes a kangaroo style chair, sleeping accommodation for two adults and a storage locker for a family member.

(ii) Space design will focus on "humanizing" the environment in the NICU. The use of relaxing colours is one way of creating a comfortable family-centred place.

(iii) Opportunity will be provided for emotionally distressed or grieving family members to find private areas away from the patient and other family members. This will include a specialized quiet room within the NICU which will be seen as an area of refuge.

(iv) In addition, a family/visitor support zone will be provided. This area consists of spaces accommodating rest and relaxation, cooking, eating, entertainment, self-education, and washrooms for family members in the NICU who wish to stay overnight or for longer periods of time.

(h) Flexibility

(i) All infant bed spaces in the NICU will be as physically identical as possible in order to maximize flexibility of use and to reduce risks by promoting staff familiarity with the placement of supplies and equipment.

(i) Lighting

(i) Lighting shall not shine directly on the infant. All patient spaces will be designed with sophisticated lighting systems that can be readily altered according to need. Accommodating diurnal cycling of lighting automatically will be of great importance to those working in the unit. Overhead lighting shall be limited to adjustable "spot lights" designed for procedures with all general lighting to be indirect and adjustable.

(ii) Control of illumination must be accessible to staff and families, and capable of adjustment across the recommended range of lighting levels in multiple locations including the entrance to the room and at the bedhead/patient zone. Use of multiple light switches to allow different levels of light is one method but a master switch must also be provided so rapid darkening of the room is possible when required.

(j) Daylight

(i) Provision of natural light is desired in staff and family areas, meeting rooms, and common areas.

(k) Acoustic Privacy & Noise Control

(i) Infant development can be seriously hampered by a noisy environment. Consequently, all patient spaces will be designed and fit out as per acoustic and noise control requirements to ensure quiet environments for neonatal care.

(ii) All the offices will provide for acoustic privacy during normal-level conversation.

(iii) All on-call rooms and parent bedroom will be located away from main traffic circulation.

(l) Caregiver Environment

(i) The ability to see vegetation and activity is very desirable as a relief from a very technical environment.

(ii) The NICU and Birthing Program will share change rooms and locker space. These areas need to be located close to both programs.

(iii) Washrooms will be located with discreet entrances and be distributed throughout the NICU.

(iv) The team care stations will be designed to include areas for storage of portable scales, tubs and procedure carts below the worksurfaces.

(v) Meeting areas will be utilized according to the size of the group and nature of the meeting as follows:

(A) Team care stations (12-room level) for ad hoc huddle, small group four to six people standing meetings;

(B) Learner provider area (24-room level) x-ray viewer, electronic status board, consultation discussions will occur here;

(C) Shared office (24-room level) sit down, confidential, four to six people;

(D) Interview Room (24-room level) quiet, sit down, confidential;

(E) One of the three interview rooms will be designated as a quiet/healing room; and natural light is desired;

(F) Communication centre is adjacent/connected to the shared office area at the 70-room level for larger group meetings, and has status board, x-ray viewing capabilities; and

(G) NICU team conference rooms (70-room level) will accommodate large group meetings (20 seats), with at least one located on Level A. Both will have access to x-ray viewing and projector/computer network capability.

(m) Room Isolation Capability/Infection Control

(i) Hand hygiene sinks need to be located near the entrances to each neighbourhood.

(ii) There will be one Airborne isolation (AIR) room with an ante room located in each of the two Level III Acute Care Neighborhoods. One on Level A and one on Level B. These AIR rooms will be vertically adjacent, mirroring the layout on both Level A and Level B for ease of wayfinding. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(iii) At least one of the Level III Acute Care Neighbourhoods will be capable of enclosure and negative air pressurization to be able to be sectioned off for cohort and outbreak controls. A suitable room within the adjacent 24 Bed Support Area will serve as a temporary ante room to the isolated Neighbourhood.

(n) Special Ophthalmology Requirement

(i) Ophthalmological laser treatments will be performed in the procedure room. This will require "black-out" capable glazing to block the laser light from leaving the procedure room.

(o) Respiratory Therapy Storage/Equipment Assembly

(i) The RT staff dedicated to the NICU will be provided with an area for storage/ checking of equipment. Fixed shelving will be provided for storage. The equipment work area will be designed with medical gases and numerous electrical outlets. There will also be a hand hygiene sink here.

(ii) Touchdown stations for RT personnel are provided in the provider/learner work area in the 22-24-Bedroom Support areas.

(p) Management of Mother's Milk

(i) A small multi-user pump room within the family support zone on the floor will provide mothers with a critically ill baby a place to pump in addition to the infant bedroom.

(ii) Mothers will drop off expressed breast milk (EBM) to a pass through fridge or freezer at, or adjacent to the SMFPR on the same level as NICU Level B. All human milk freezers will be located within the SMFPR.

(iii) Bar coding will be in place.

(iv) Noise abatement measures must be employed to mitigate any noise from freezers and fridges within the NICU.

(v) When additives are required for donor milk, the milk will be prepared in the Satellite Milk and Formula Preparation Room (SMFPR) and delivered to the bedside.

(q) NICU Procedure Room (listed in 3A.6 Birthing Program Schedule of Accommodation)

(i) The procedure room must accommodate a C-arm and ultrasound.

(ii) This room needs to be fit out for future use as a multimodality OR room (i.e., airflow, mechanical, sterility).

(iii) This room needs to be black-out capable for laser eye surgery (i.e., blackout, safety warning light outside room).

(iv) This room must be adjacent to the Birthing OR suite for complex deliveries such as "exit procedures" that cannot be accommodated in a Birthing OR and for access to the clean core area within the Birthing Program.

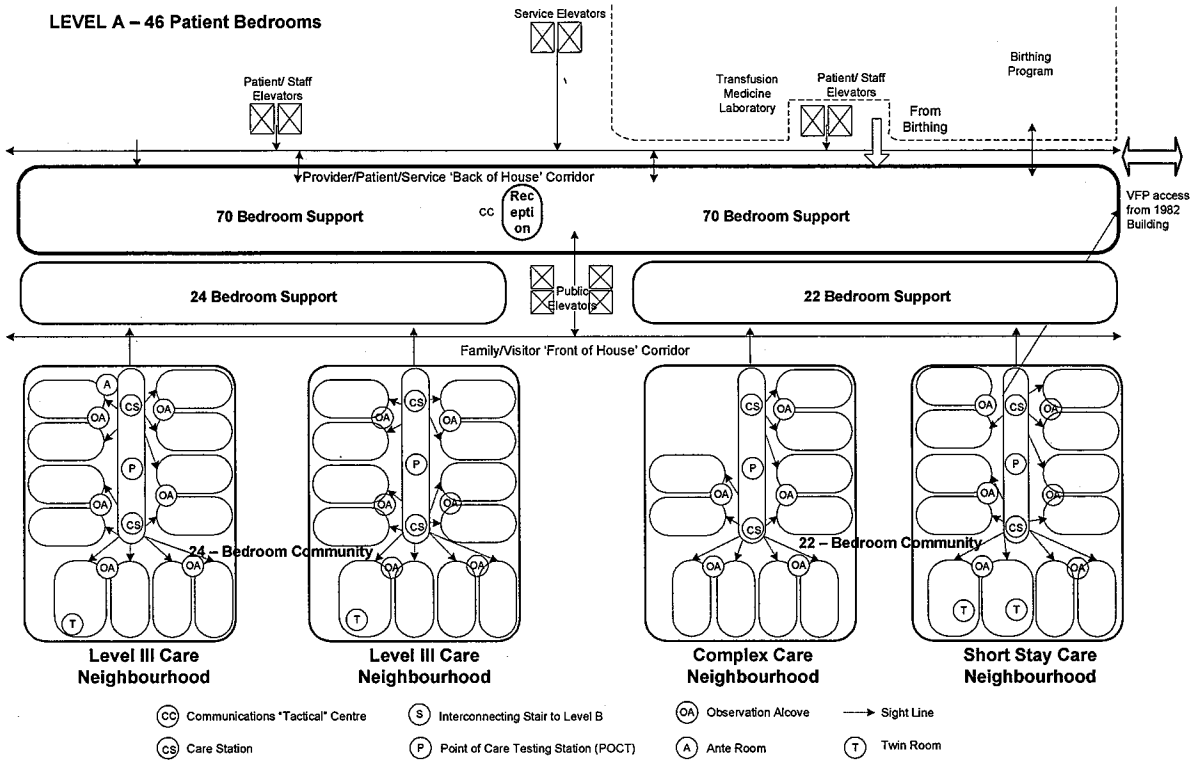
(r) Accessibility

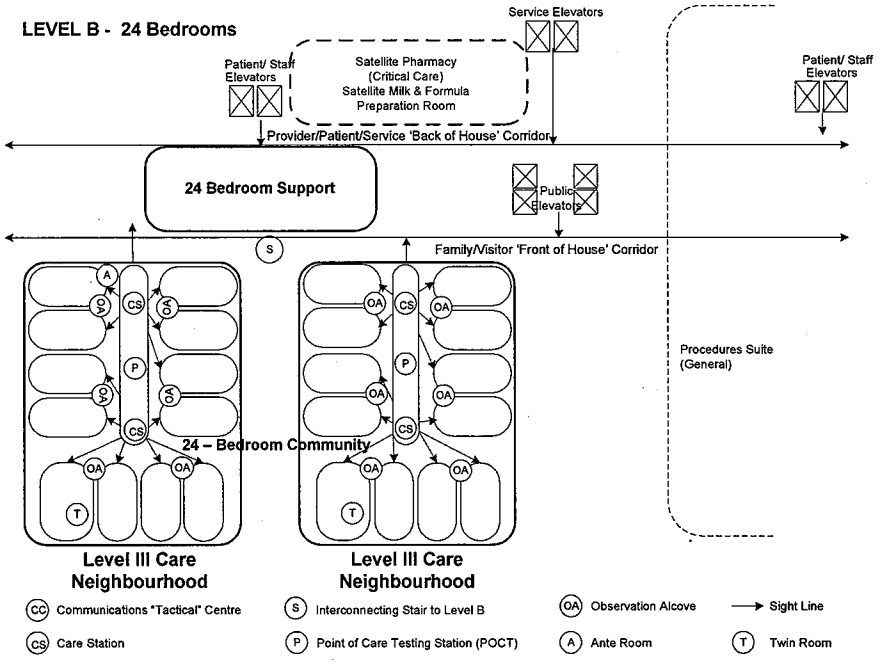
(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(s) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagrams illustrate conceptual relationships, and shall not be treated as a floor plan.





(ii) Key Design Features to be achieved:

(A) A direct route with minimum travel time and turns for the NICU resuscitation team to reach the infant procedure/resuscitation room located between two LDR rooms in Birthing, as well as the OR rooms in the Birthing Program is mandatory;

(B) All doors within and to the patient areas in NICU component shall have hands-free operation for the safe transfer of critical patients between Birthing, the Procedures Suite, and the patient elevator from Emergency Department and the NICU;

(C) Doors to patient bedrooms shall be break-away glazing and open outward to the hallway. The door width will accommodate mobile equipment and not obstruct the corridor in the open position;

(D) The team care station at the neighbourhood level will have sight lines to the door of each patient bedroom, and a view to the open and enclosed meeting areas within the 24-Bedroom Support area;

(E) Where staff open and enclosed work areas utilize modular, adjustable furniture to meet flexibility and ergonomic requirements; configuration will reflect Model of Care and incorporate work and meeting space for all care providers and learners;

(F) Cross corridors are encouraged for staff through the 12-Bedroom Neighbourhood Support areas to achieve minimum travel distance for care providers;

(G) The point-of-care-testing station will be glazed above 1100 mm to maintain acoustic privacy to ensure no interruptions for safety and to provide security;

(H) All clean, soiled, and equipment storage rooms accessed by staff and care providers will have secure, hands-free opening and automatic closure systems;

(I) The access to the soiled utility room(s) will be positioned away from public spaces;

(J) One interview/quiet room in a low traffic area shall be a "healing room" and provision of natural light is desired;

(K) Interview rooms will be located away from high traffic areas such as family lounges or nourishment centres;

(L) Staff facilities should be centrally located for access for providers on both levels;

(M) The NICU procedure room will be co-located with the Birthing OR's to facilitate access to the clean core;

(N) Medications room should be directly adjacent to the clean utility/RT clean equipment room;

(O) RT clean equipment room must be directly adjacent to soiled utility/RT equipment room to facilitate the one way flow of soiled RT equipment to the RT clean equipment room;

(P) The two bridges (PP/VFP) from the 1982 building will provide secured access points for mothers who are inpatients at BC Women's. Mothers who are not inpatients will access the NICU from the public elevators on Level A;

(Q) The communication tactical centre will be directly adjacent to/adjoined with the shared office area at the 70-Bedroom Support level to facilitate larger group meetings with access to a patient status board, patient records, x-ray and PACS viewing;

(R) All of the on-call rooms on Level B will be co-located with convenient access to both levels of the NICU to facilitate provider response in emergency situations;

(S) An open convenience stair between the two NICU levels will be provided for ease of access for providers, staff, and security-cleared family members. Convenient access to this stair will be provided from the staff and/or public elevator, and the VFP bridge from the 1982 building through the NICU reception/communications/tactical centre on Level A before proceeding to Level B;

(T) All 70 patient rooms must have seamless ceilings to accommodate open procedures including emergency laparotomies; and

(U) One medications room on Level A shall be directly vertically adjacent to the SMFPR (see 3A.13 Satellite Pharmacy (Critical Care) & SMFPR) adjacent to NICU on Level B to access the dumbwaiter.

3A.5.5.3 Schedule of Accommodation

Level A – 46 Patient Bedrooms

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		70-Bedroom Support Area				
11329	01	Greeter/Wayfinding Station	2	2.0	4.0	Directional information kiosk. One to service VFP Bridge
10255	02	Reception Desk	1		8.0	
10256	03	Pause Area	1		8.5	
10257	04	Scrub Station	1		1.0	Trough style, 4 wash stations
10295	05	Communications 'Tactical' Centre	1		24.0	Adjacent to 1 of the shared offices, 12 purse lockers
10296	06	Pneumatic Tube Station	1		0.5	
10310	07	Workroom, Office Equipment	1		9.5	
10288	08	Provider/Learner Work Area	1		12.5	10 purse lockers
		Family/Hospitality Centre				
10298	09	Lounge, Patient/Family/ Visitor	1		25.0	20 purse type lockers
10299	10	Nourishment/Dining Area	1		14.0	1 double kitchen sink
10924	11	Child Play Area	1		9.5	Glass enclosed room w/ visibility and acoustic privacy
10300	12	Resource Area	1		6.0	
11390	13	Mother's Pump Room	1		6.0	1 single kitchen sink
10925	14	Bedroom, Family/Parent	1		10.0	For short-term use
10301	15	Washroom, Family/ Visitor	1		5.0	1 wc, 1 lavatory sink, 1 shower
11415	16	Washroom, Family/ Visitor, Wheelchair	1		4.5	1 wc, 1 lavatory sink
		Procedure Room			0.0	In Birthing OR Area to share clean core
		Alcove, Scrub Sink			0.0	Incl. in Birthing OR Area
10306	17	Storage, Rehab. Services	1		10.0	
10307	18	Storage Alcove, Equipment	2	5.0	10.0	
10287	20	Office, Shared	5	12.0	60.0	

Level A – 46 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10308	21	Office, Shared/Flexible Use Space	1		24.0	
10309	22	Workstation, Data Staff	1		18.0	
10876	23	Conference/Group Meeting Room	1		72.0	Subdivisable
11294	24	Laboratory, Wet	1		12.5	Adjacent to and shared with 3A.6 Birthing Program OR. 1 utility/ cleaning sink
11330	25	Lockers, Student	1		4.0	12 half lockers
10281	26	Medications Room	1		9.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
11436	130	Alcove, Disaster Response Cabinet	1		1.5	
11416	27	Medications Room	1		12.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access. This med room to be vertically adjacent to the Satellite Pharmacy (Critical Care) to access the dumbwaiter
		Subtotal, 70-Bedroom Support Area			381.0	
		22-24-Bedroom Community Support Area				
11377	28	Pneumatic Tube Station	1		0.5	
10289	29	Interview/Quiet Room	1		10.0	1 room as spiritual care/quiet room close to entrance of unit away from main traffic corridors
11292	30	Office, Shared	1		12.0	
11331	31	Provider/Learner Work Area	1		12.5	10 purse lockers
11385	32	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10297	33	Interdisciplinary Team Conference	1		36.0	
10291	34	Soiled Utility/RT Equipment Room	1		18.0	Temporary storage for soiled equipment, 2 utility/cleaning sinks, w/ hands-free sliding door staff only access. SpaceID# 10291 (Level A) and SpaceID# 11308 (Level B) are to be laid out identically and be adjacent to the RT clean storage/equipment assembly room on each respective level

Level A – 46 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10981	35	RT. Clean Storage/ Equipment Assembly Room	1		18.0	Must be adjacent to SpaceID# 10291, 1 hand hygiene sink, w/ hands-free sliding door staff only access. Space ID# 10981 (Level A) and SpaceID# 10266 (Level B) are to be laid out identically and be adjacent to the soiled utility/RT equipment room on each respective level
10280	36	Clean Utility Room	1		16.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, w/ hands-free sliding door staff only access
10293	37	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10294	38	Washroom, Family, Wheelchair	1		6.0	1 wc, 1 lavatory sink, 1 shower. One to be located close to the Level III Care Neighbourhood, one to be located close to Complex Care Neighbourhood
		Subtotal, One 22-24-Bedroom Community Support Area			137.0	
		Subtotal, Two 22-24-Bedroom Community Support Areas	2	137.0	274.0	
		Patient Care Area				
		12-Bedroom Level III Care Neighbourhood Area				
10271	40	Infant Care Room, Single	10	23.0	230.0	Positive pressure
10272	41	Infant Care Room, Twin	1		29.0	Positive pressure
10273	42	Infant Care Room, Single, AIR	1		23.0	
10274	43	Ante Room, AIR	1	4.0	4.0	PPE supply storage
10275	44	Alcove, Infant Observation	6	3.0	18.0	Located between 2 infant care bedrooms
10276	45	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate between 4 infant care bedrooms
10277	46	Alcove, Linen	1		1.0	
10278	47	Storage Alcove, Equipment	2	2.0	4.0	
10279	48	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10290	49	POCT Laboratory Work Area	1		3.0	
10979	50	Team Care Station	1		9.0	4 purse lockers

Level A – 46 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10980	51	Pneumatic Tube Station	1		0.5	
		Subtotal, 12-Bedroom Level III Care Neighbourhood Area	1		327.5	
		12-Bedroom Level III Care Neighbourhood Area				
10258	52	Infant Care Room, Single	11	23.0	253.0	Positive pressure
10259	53	Infant Care Room, Twin	1		29.0	Positive pressure
10262	54	Alcove, Infant Observation	6	3.0	18.0	Located between 2 infant care bedrooms
10263	55	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate between 4 infant care bedrooms
11378	56	Alcove, Linen	1		1.0	
10265	57	Storage Alcove, Equipment	2	2.0	4.0	
11039	58	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11334	59	POCT Laboratory Work Area	1		3.0	
10285	60	Team Care Station	1		9.0	4 purse lockers
11370	61	Pneumatic Tube Station	1		0.5	
		Subtotal, 12-Bedroom Level III Care Neighbourhood Area	1		323.5	
		12-Bedroom Level II Short Stay Care Neighbourhood Area				
11345	62	Infant Care Room, Single	10	23.0	230.0	Positive pressure
11418	63	Washroom, Patient	8	3.5	28.0	1 wc, 1 lavatory sink, ensuite w/ 8 of infant care room, single (SpaceID# 11345)
11347	64	Infant Care Room, Twin	2	29.0	58.0	Positive pressure
11349	65	Alcove, Infant Observation	6	3.0	18.0	Located between 2 infant care bedrooms
11350	66	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate between 4 infant care bedrooms
11351	67	Alcove, Linen	1		1.0	
11352	68	Storage Alcove, Equipment	2	2.0	4.0	

Level A – 46 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
11353	69	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11417	70	Washroom, Family/Visitor, Wheelchair	1		6.0	1 wc, 1 lavatory sink, 1 shower, collocate w/ ID# 10294 for Short Stay Neighbourhood
11355	71	POCT Laboratory Work Area	1		3.0	
11356	72	Team Care Station	1		9.0	4 purse lockers
11371	73	Pneumatic Tube Station	1		0.5	
		Subtotal, 12-Bedroom Short Level II Stay Care Neighbourhood Area	1		363.5	
		10-Bedroom Complex Care Neighbourhood Area				
11357	74	Infant Care Room, Single	10	23.0	230.0	Positive pressure
11359	75	Alcove, Infant Observation	5	3.0	15.0	Located between 2 infant care bedrooms
11360	76	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate between 4 infant care bedrooms
11361	77	Alcove, Linen	1		1.0	
11362	78	Storage Alcove, Equipment	2	2.0	4.0	
11363	79	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11365	80	POCT Laboratory Work Area	1		3.0	
11366	81	Team Care Station	1		9.0	4 purse lockers
11372	82	Pneumatic Tube Station	1		0.5	
		Subtotal, 10-Bedroom Complex Care Neighbourhood Area	1		268.5	
		Subtotal, Patient Care Area			1283.0	
		Staff Facilities Area				*Shared with 3A.6 Birthing Program*
		Offices, Division of Neonatology			0.0	
10311	83	Lounge, Staff	1		65.0	1 double kitchen sink
10313	84	Staff Rest Area	1		30.0	Quiet/rest area
10314	85	Staff Change Room, Male	1		11.0	13 'z type' lockers

Level A – 46 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10315	86	Washroom, Male	1		10.5	1 wc, 1 urinal, 2 lavatory sinks, 1 shower, vestibule
10316	87	Staff Change Room, Female	1		45.0	148 'z type' lockers
10317	88	Washroom, Female	1		14.0	3 wc's, 3 lavatory sinks, 3 showers, vestibule
10318	89	On-Call/Sleep Room	7	7.5	52.5	Shared w/ Birthing Program, located away from high traffic areas
11419	90	Washroom, On-Call, Female	1		5.0	1 wc, 1 lavatory sink, 1 shower
10319	91	Washroom, On-Call, Male	1		5.0	1 wc, 1 lavatory sink, 1 shower
		Subtotal, Staff Facilities Area			238.0	
		Summary, Level A - 46 Patient Bedrooms				
		70-Bedroom Support Area	1		381.0	
		22-24-Bedroom Community Support Area	2	137.0	274.0	
		Patient Care Area	1		1283.0	
		Staff Facilities Area	1		238.0	
		Total NICU Level A			**2 176.0**	

Level B - 24 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Reception Area			0.0	*Included on Level A*
		24-Bedroom Community Support Area				
10286	92	Pneumatic Tube Station	1		0.5	
11304	93	Medications Room	1		9.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
11392	94	Family Lounge Area	1		10.5	Incl. 1 double kitchen sink in nourishment station
11307	95	Interview/Quiet Room	1		10.0	Spiritual care/ quiet room close to entrance of unit away from main traffic corridors
11332	96	Provider/Learner Work Area	1		12.5	10 purse lockers

Level B - 24 Patient Bedrooms

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
11308	97	Soiled Utility/RT Equipment Room	1		18.0	2 utility/cleaning sinks, w/ hands-free sliding door staff only access. SpaceID# 10291 (Level A) and SpaceID# 11308 (Level B) are to be laid out identically and be adjacent to the RT clean storage/ equipment assembly room on each respective level
10266	98	RT. Clean Storage/ Equipment Assembly Room	1		18.0	Must be adjacent to SpaceID# 11308, 1 hand hygiene sink, w/ hands-free sliding door staff only access. This space must be laid out identically to SpaceID# 10981 on Level A and be adjacent to the RT soiled utility/equipment room on each respective level
11309	99	Clean Utility Room	1		16.0	1 utility/cleaning sink line hooks, 1 hand hygiene sink, w/ hands-free sliding door staff only access
11393	100	Office, CNL/Neonatologist	1		9.5	
		Satellite Milk & Formula Preparation Room, PIR	1		0.0	Incl. in 3A.13 Satellite Pharmacy
		Ante Room, PIR	1		0.0	Incl. in 3A.13 Satellite Pharmacy
11312	101	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11313	102	Washroom, Family, Wheelchair	1		6.0	1 wc, 1 lavatory sink, 1 shower
		Subtotal, 24-Bedroom Community Support Area			114.5	
		Patient Care Area				
		12-Bedroom Level III Care Neighbourhood Area				
11403	104	Infant Care Room, Single	11	23.0	253.0	Positive pressure
11404	105	Infant Care Room, Twin	1		29.0	Positive pressure
11405	106	Alcove, Infant Observation	6	3.0	18.0	Located between 2 infant care bedrooms
11406	107	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate between 4 infant care bedrooms
11407	108	Alcove, Linen	1		1.0	
11408	109	Storage Alcove, Equipment	2	2.0	4.0	
11409	110	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11411	111	POCT Laboratory Work Area	1		3.0	
11412	112	Team Care Station	1		9.0	4 purse lockers

Level B - 24 Patient Bedrooms

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
11413	113	Pneumatic Tube Station	1		0.5	
		Subtotal, 12-Bedroom Level III Care Neighbourhood Area	1		323.5	
		12-Bedroom Level III Care Neighbourhood Area				
11295	114	Infant Care Room, Single	10	23.0	230.0	Positive pressure
11296	115	Infant Care Room, Twin	1		29.0	Positive pressure
10260	116	Infant Care Room, Single, AIR	1		23.0	
10261	117	Ante Room, AIR	1		4.0	PPE supply storage
11297	118	Alcove, Infant Observation	6	3.0	18.0	Located between 2 infant care bedrooms
11298	119	Alcove, Hand Hygiene Sink	3	0.5	1.5	Locate between 4 infant care bedrooms
10264	120	Alcove, Linen	1		1.0	
11299	121	Storage Alcove, Equipment	2	2.0	4.0	
11302	122	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11305	123	POCT Laboratory Work Area	1		3.0	
11303	124	Team Care Station	1		9.0	4 purse lockers
11373	125	Pneumatic Tube Station	1		0.5	
		Subtotal, 12-Bedroom Level III Care Neighbourhood Area	1		327.5	
		Subtotal, Patient Care Area			651.0	
		Staff Facilities Area				*See also 3A.5 BCW NICU, Level A*
11316	126	Washroom, Staff	2	3.5	7.0	1 wc, 1 lavatory sink
11318	127	On-Call/Sleep Room	4	7.5	30.0	Located away from high traffic areas
11319	128	Washroom, On-Call, Female	1		5.0	1 wc, 1 lavatory sink, 1 shower
11420	129	Washroom, On-Call, Male	1		5.0	1 wc, 1 lavatory sink, 1 shower
		Subtotal, Staff Facilities Area			47.00	

Level B - 24 Patient Bedrooms

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Summary - Level B - 24 Patient Bedrooms				
		Reception Area	1		0.0	*Included on Level A*
		24-Bedroom Community Support Area	1		114.5	
		Patient Care Area	1		651.0	
		Staff Facilities Area	1		47.0	*See also 3A.5 BCW Neonatal ICU, Level A*
		Total NICU Level B			**812.5**	
		GRAND TOTAL LEVEL A & LEVEL B			**2 988.5**	

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3A.6.1 FUNCTIONAL DESCRIPTION

3A.6.1.1 Scope of Clinical Services

(1) This specification outlines the requirements for the Birthing Operating Rooms (OR's) and the Labour Delivery/Recovery (LDR) rooms that will be accommodated in support of 2025/26 projected demand. A total of 3 OR's, along with 4 High Dependency Unit beds (HDU's), and 10 Labour Delivery Recovery room beds (LDR's) and the Transfusion medicine laboratory, are provided in this component. An additional 10 Single Room Maternity Care (SRMC) rooms are excluded from this specification but will be accommodated through renovations to the second floor of the 1982 building in Phase 3 of the Redevelopment Project. The Urgent Care Suite is also excluded from this specification, but will be accommodated through renovations to the second floor of the 1982 building in Phase 2 of the Redevelopment Project.

(2) The Birthing Program provides comprehensive care to women in labour and birth. Women may have their delivery care provided by a Family Practitioner (FP), Obstetrician (OB), or Midwife (MW). Women may have family, doulas or other support people with them during their labour and delivery. Anesthesiologists will be available 24 hours a day to support women who are having a cesarean birth, assisted vaginal birth and other procedures related to obstetrical care or to support women during labour and delivery. The Birthing Program consists of four components:

- **(a)** Urgent Care Suite – in the 1982 building;
- **(b)** Single Room Maternity Care rooms (SRMC) – in the 1982 building;
- **(c)** Labour Delivery Recovery rooms (LDR) – in the ACC building; and
- **(d)** Birthing Operating Rooms, including HDU, and Post Anesthetic Care Unit (PACU) in the ACC building.

(3) Model of Care

- **(a)** The Model of Care will operate with a Care Team that consists of an RN, Principle Care Provider (PCP), MW, FP, OB, anesthesiologist, pediatrician, residents, fellows, learners, patient and partner.
- **(b)** The Model of Care covers 24 hours per day, seven days per week.
- **(c)** The team is multidisciplinary and collaborative and each member has a clearly defined role which is integral to patient care. The patient is an active participant on this team and is central to decision making. The team relationships are based on respectful, transparent communication, clear understanding, and valuing of one another's roles and recognition of primary responsibilities.
- **(d)** The care team coordinator (RN or MW) is in direct contact with the patient and coordinates evaluation of the patient, manages the care plan, and communicates with the team members when there is progress, or when there is a variance from the care plan. They are the primary contact with the patient and advocate.
- **(e)** The patient and care team develop the Plan of Care. The patient establishes the goals in consultation with the PCP and care team coordinator.

(f) The single Plan of Care indicates the plan or goal (to deliver or not to deliver) for each patient and must have significant flexibility to accommodate the variance associated with each obstetrical patient.

(g) The patient owns the Plan of Care and the care team coordinator proactively advances the plan.

(h) The Plan of Care is communicated verbally as well as through Electronic Medical Records (EMR). All care providers, the patient and patient support person, do electronic charting. The patient owns the information; the institution maintains the record.

(i) Variation from the plan can occur at any time with the care team coordinator responsible for assessing the patient and communicating to the rest of the team. At times, the patient is the team leader and guides care that is outside standard protocols. This does, at times, require the Care Provider Team to proceed with a plan that is in direct conflict with the team's values and best care models. Actions are decided by the team and executed by the appropriate care team member. The care team coordinator facilitates the execution of the plan and escalates concerns when needed.

(j) The charge nurse and on-call physician manage the hour-by-hour variation to ensure proper staffing and resources. Program managers and program coordinators, together with Senior Medical Director (SMD) and department heads review weekly or period variations.

(k) No individual can change the Plan of Care without consultation or communication with the remainder of the team members. When required, the plan is readjusted by the patient, PCP and care team coordinator and the team engaged as needed. This is done on a continuous basis throughout a 24 hour period.

(l) Interdisciplinary rounds including anesthesiologist, Maternal Fetal Medicine (MFM), OB, learners, and RN's will be conducted twice per day in conjunction with a shift change to review acuity, utilization, and communication between teams. This is in place of the face-to-face verbal hand-offs.

(m) The patient and the Most Responsible Provider (MRP) have decision authority.

(4) Women will arrive at the Urgent Care Suite area in the 1982 building via the main BC Women's entrance and will be triaged to the appropriate areas of the Birthing Program. Women may also be admitted to the Birthing Program component from the antepartum inpatient unit, SRMC beds, chemical dependent inpatient unit and the postpartum inpatient units.

(5) Treatment and care services typically provided in the Birthing OR's and LDR's will include, among others:

(a) Providing routine and emergency care to both mothers and infants, including examinations, treatments, and administering anesthesia;

(b) Receiving, assessing and monitoring patients' holistic needs;

(c) Providing routine and emergency C-section deliveries;

(d) Facilitating high risk vaginal deliveries;

(e) Providing assisted vaginal deliveries;

(f) Facilitating post anesthetic recovery for a subset of patients who need closer observation;

(g) Providing close observation, monitoring and interventions to high acuity patients pre-, peri- and post-delivery;

(h) Documenting patients' progress and maintaining patient paper and electronic charts/records;

(i) Facilitating family-centred care;

(j) Providing family/visitor support, consultation and counselling;

(k) Providing education to interdisciplinary teams, including students and patients/ families; and

(l) Providing ongoing postpartum care to some patients.

(6) In addition to nursing staff, selected clinical professional service team members (e.g., lactation consultant, child life workers, social worker, dietitian, physiotherapist, occupational therapist, respiratory technologist, pharmacist, etc.) will provide support services to patient and staff in the Birthing Program zones.

3A.6.1.2 Scope of Education Activity

(1) The Birthing Program will provide clinical resources in support of teaching programs as follows:

(a) Individualized patient education at the bedside;

(b) Precepting and mentoring learners of all disciplines as per agreements with educational facilities;

(c) Ongoing staff education on the units and in conference rooms;

(d) Simulation and mock emergency drills within the unit;

(e) Orientation of new staff;

(f) Advanced Cardiac Life Support (ACLS)/Neonatal Resuscitation Program (NRP) training; and

(g) Managing Obstetrical Risk Effectively (MORE) OB training.

3A.6.1.3 Scope of Research Activity

(1) Clinical Innovation, Knowledge Translation On a daily basis, this academic unit will support and advance the Model of Care and best practice with multiple researchers, usually at least four at a time. Specifically, there will be research facilitators for multiple studies (25-35) to collect and store specimens such as placental tissue and cord blood, take swabs/specimens, as well as recruit and obtain consent from patients who wish to participate in studies.

3A.6.1.4 Specific Scope Exclusions

(1) This Birthing Program and Transfusion Medicine Laboratory specification excludes Women's inpatient and outpatient services/requirements provided elsewhere, including:

(a) Urgent Care Suite which will be relocated from the first to the second floor of the 1982 building;

(b) SRMC, postpartum, and antepartum inpatient units to remain in the 1982 building;

(c) Gynecology procedures suite (Gyne SDC) to remain in the 1982 building;

(d) Perinatal ambulatory care clinics to remain in the 1982 and Shaughnessy buildings; and

(e) All other laboratory functions which will remain in the main Pathology and Laboratory Medicine department in the 1982 building.

3A.6.2 OPERATIONAL DESCRIPTION

3A.6.2.1 Minimum Hours of Operation

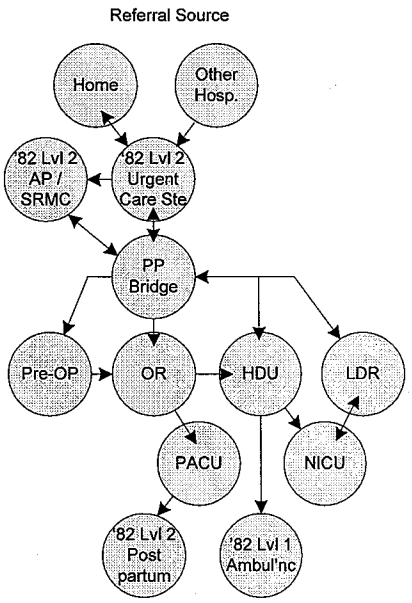
(1) Birthing Program routine hours 24/7.

(2) Transfusion Medicine Laboratory routine hours 24/7.

3A.6.2.2 Patient and Family Management Processes and Flows

(1) Patients will flow between the 1982 building and the ACC utilizing the patient/provider dedicated (PP) bridge many times during their stay at BC Women's Birthing Program in the ACC.

Patient / Support Person Process Flow



(2) Patients and family will also flow between the Birthing Program, the NICU and the 1982 building utilizing a second visitor/family/off-site provider access (VFP) bridge as required to minimize the public/family flow through the Birthing Program in the ACC.

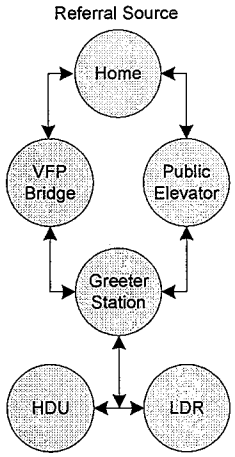
(3) Pre-Registration and Assessment

(a) Pre-registration will occur in the Urgent Care Suite in the 1982 building, by telephone, or by electronic means. By connecting with the resources at BC Women's for orientation, anxiety is decreased and comfort of familiarity is gained. The objective is to achieve a 100% rate for pre-registration.

(b) As well, women will be instructed to return to the Urgent Care Suite and present to triage if they are (or feel they are) in labour or if they have any other concerns related to their pregnancy. Patients will be assigned and assessed in a bed in the Urgent Care Suite. The completion of the registration will occur with the partner or at the bedside as soon as otherwise possible.

(c) Following assessment and upon the clinical decision to admit, the team leader (often a nurse) will assign the woman to an HDU, LDR, SRMC or Birthing OR. Following assessment in triage, the decision might also be made to discharge the woman. If an emergency C-section is to be performed, the woman will be transferred to the pre-op room in the ACC via the PP bridge until the time of the C-section.

Family / Visitor Process Flow



(d) When a woman arrives for a booked C-section, she will go directly to the pre-op area of the Birthing OR's. All pre-operative activities will be performed in the pre-op area. When the OR is ready, an RN will take the woman and her support person to the assigned OR.

(e) Transfers occur from an LDR, HDU or OR to another hospital for increased level of care. This will occur using the patient dedicated elevator to the ambulance bay adjacent to the BC Children's ED on the ground level of the ACC.

(4) Labour/Delivery Recovery Rooms (LDR)

(a) Women who are diagnosed with high risk factors for delivery or low risk women when there are no SRMC spaces available will be cared for in LDR's. Patients will be monitored through their labour by nursing staff, physicians and/or midwife within the individual rooms.

(b) The staff of the Birthing Program will attend to the birthing mothers' needs in order to provide comprehensive and individualized labour care. This will be accomplished by offering patient and family choice, flexibility in room environment, and supportive labour care throughout the birth experience.

(c) Most high risk deliveries will occur in the LDR's, although some vaginal deliveries may also occur in the OR's.

(d) Low risk inductions will occur in the Urgent Care Suite and the patient may be discharged home or transferred to an SRMC when in labour.

(e) High risk inductions will occur in the LDR's or HDU's within the ACC.

(f) The family will remain together in the LDR room after delivery until the patient's medical condition is stable and she can be safely transferred to the postpartum unit in the 1982 building.

(g) Women requiring longer observation (expected to be 12-24 hours) due to unexpected complications will be transferred to a HDU room.

(h) The LDR area will include a neonatal resuscitation room that will support the preterm or at risk infants at delivery.

(i) Babies who are premature or who have other health concerns will be transferred to the NICU. Patients will be encouraged to spend time with their newborn and participate in his/her care.

(5) High Dependency Unit Rooms (HDU)

(a) Women who experience complex pregnancies or complex medical conditions (such as paraplegia, severe pre-eclampsia, maternal cardiac conditions, threatened preterm labour or atypical fetal heart tracing) requiring prolonged observation or close monitoring in the peripartum period will be assigned an HDU room.

(b) The women described in (5)(a) will be monitored and may labour and deliver (including some assisted deliveries) in the HDU room, as well as stay for their early postpartum care until stable enough to be transferred to a postpartum unit in the 1982 building.

(c) Women requiring cesarean section (C-section) or some requiring assisted deliveries will be transferred to the Birthing OR for the procedure. They will return to HDU after the procedure or after their stay in the PACU should they still require HDU level care. They will be transferred to a postpartum unit from the PACU when their condition permits.

(d) Newborns of HDU patients will be transferred to NICU if required. Healthy newborns will remain within the HDU room with their family.

(e) Women experiencing unexpected peripartum complications requiring prolonged intensive postpartum observation and treatment (such as massive hemorrhage and short-term ventilation) will be transferred to a HDU room and cared for until stable enough for transfer to a postpartum unit. Their healthy newborn will be transferred with them to this room.

(f) Versions, intra-uterine transfusions, amnio-decompression and other prenatal procedures potentially requiring urgent access to a Birthing OR will occur in HDU. The patient will be discharged home or admitted to the appropriate area as clinically indicated after the procedure.

(g) The family will remain together in this room during their HDU stay. Extended family members will have access to a dedicated lounge area.

(6) Birthing Operating Rooms (ORs)

(a) Booked and emergent C-sections, as well as some assisted vaginal births will occur in the Birthing OR's. One family member may attend the delivery. Anesthesiologists will be attending as required by the care plan.

(b) Planned surgeries (such as C-section, bipolar cord coagulation) will be admitted to the pre-op room under the Day of Obstetrical Surgery Program, allowing the mother to come in on the date of the procedure. When the patient arrives at the hospital via the BC Women's entrance, she will proceed directly to the pre-op area in the ACC for admission. Following admission, she will be provided a reclining chair in the pre-op area where a nurse will complete a final assessment. This will include verification of information, further teaching relative to the procedure and discharge planning. Her support person(s) will be allowed at her side.

(c) The support person(s) will be asked to change clothing in a designated area to be ready to accompany the patient to the OR.

(d) The patient will be escorted to the OR when called for. One person designated by the mother may be present during the C-section procedure. The infant will remain with the mother during the remaining operative time and recovery unless admission to the NICU is required.

(e) Patients who require urgent or emergent surgery (such as C-section, complex vaginal repair, dilation and curettage, manual removal of placenta, massive postpartum hemorrhage, emergency cerclage) or elective surgeries on admitted patients, will have their pre-operative preparations provided in the Urgent Care Suite area of the antepartum unit, LDR or SRMC rooms in the 1982 building or the pre-op area in the ACC. Patients will be taken directly to an available Birthing OR with as little delay as possible.

(f) Post-operative recovery will occur in the Post Anesthetic Care Unit (PACU) or HDU for patients following C-section deliveries, operative delivery, or surgery under spinal or general anesthesia, if unstable.

(g) Patients requiring HDU care will be transferred directly from the OR, depending on their status and monitoring needs.

3A.6.2.3 Patient Information Management and Flows

(1) LDR's, HDU rooms and care team stations must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

(2) Patient information systems will be automated with access to information wirelessly or by means of computer terminals located at all staff work areas distributed throughout the component. Computer charting will occur at the patient bedside, likely through the use of hand-held wireless devices. Ordering and scheduling of tests, procedures, and medications will be managed through the same terminals in the staff work areas or through the hand-held devices.

(3) Electronic patient status board and patient (fetal and maternal) monitoring will be available at each team care station.

(4) Staff will be able to communicate utilizing a hands-free communication system.

(5) Electronic tracking devices are required for mothers and babies for security.

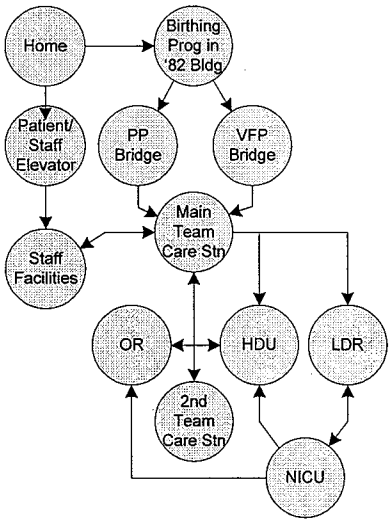
3A.6.2.4 Provider Work Processes and Flow

(1) Care Delivery

(a) A patient in labour or presenting with a concern at the Urgent Care Suite in the 1982 building will be triaged by a nursing staff member in an appropriate space and either admitted to an SRMC, LDR and Birthing OR within the Birthing Program. Some patients will be discharged home after clinician assessment. The primary care provider of the expectant mother will be called or paged to attend the patient in the Urgent Care Suite.

(b) For planning purposes, it is understood that there can be a surge of patients at any time, reflecting the complete unpredictability associated with obstetrics. Staff and physical resources must be able to respond accordingly.

Provider/Staff Process Flow



(c) The whole Birthing Program will be administered from a centralized communications centre, which will also act as a reception/control point for access to the component. This communication centre will include the patient care unit clerk's workstation, and be within close proximity to an interdisciplinary team work area, and a conference/report room.

(d) An interdisciplinary and multi-team approach to care will be carried out in the zones. Workstations at the communications centre, at the team care stations, rooms for visiting professionals and for interviewing/counselling shall achieve an ordered use of space.

(e) Minimize nurse transit time and maximize nurse-patient visibility by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the LDR or OR spaces.

(f) Care providers will require an area where they can discuss or document a patient's condition/information in private. Since the team care station area will likely be highly accessible to patients and their family/visitors, a staff conference/charting room will also be provided. This area shall maintain visibility to patient areas while in use. This room must facilitate frequent access and observation to the team care station.

(g) Interdisciplinary conversations occur several times per day on the unit and shall be private and not overheard by patients, family members or providers not involved in the care plan. Activities in the team care stations shall not disturb patients; therefore, the stations shall be designed with appropriate sound control measures as per acoustical and noise control requirments.

(h) The medications room shall be discreetly located. Access to it shall be visually supervised from the team care station, and shall be securable with a separate lockable narcotics cupboard.

(i) Medical imaging examinations (specifically mobile ultrasound – either low resolution for rapid clinical care or high resolution for complex procedures) will be carried out at the bedside in the LDR zone or HDU beds. A dedicated alcove or room for parking and storage of mobile equipment and re-charging batteries shall be provided.

(j) Neonatal ICU resuscitation teams require immediate access to the Birthing Program resuscitation room for STAT calls.

(2) Partners and/or support person will attend the LDR's, Birthing OR's and HDU beds with the expectant mothers. Family and friends will be expected mainly in the LDR and HDU.

3A.6.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications.

(a) Biomedical Engineering (BE)

(i) Only essential and high use equipment will be stored within the component. All other equipment will be brought to the unit as required with an expected turn round time of 15 minutes from the time the request is received.

(ii) Access to cell saver and technician is required both for scheduled and emergent situations.

(b) Medical Imaging Services

(i) Portable ultrasound will be used in the LDR or OR's for fetal positioning and assessment, and anesthesia technical procedures, as required.

(ii) Access to magnetic resonance imaging (MRI), interventional radiology (IR), computed tomography (CT) scans and x-rays will be available 24/7.

(iii) Access to spiral CT, Doppler US will be provided seven days a week during day hours.

(iv) Electronic image viewing will be available at each team care station.

(c) Laboratory Services

(i) Transfusion Medicine Laboratory (TML) functions have been included with the Birthing Program while all other laboratory functions will remain in the main Pathology and Laboratory Medicine department in the 1982 building.

(ii) TML provides blood components and blood products to both BC Children's and BC Women's patients. TML provides service to all acute care inpatient pediatric, neonatal, and obstetrical programs, as well as to designated pediatric and women's clinics. TML also provides specific blood components or blood products to pediatric and obstetric outpatients.

(iii) Quick and easy access to the TML is required to provide blood products on a STAT (turn-around-time [TAT] 20 minutes) or urgent (TAT 60 minutes) basis as required.

(iv) Laboratory personnel will be responsible to take blood while nursing staff will continue to collect other specimens, as required 24/7.

(v) With the potential for new positive identification technology, identification of both patient and specimen will be electronically matched.

(vi) Porters and pneumatic tubes will be used to transport specimens to the Main Laboratory in the 1982 building.

(vii) Expected TAT for lab tests as follows: Complete Blood Count (CBC) – 20 minutes, coags – 30 minutes.

(viii) Requests for blood products from TML will be received by phone or by computer or hand delivered. Products will be picked up from a staff access only TML pass through counter.

(ix) Requests for blood products from outpatients (prescription pick-up) will be received by phone or computer or hand delivered. Products will be picked up from TML from a public access pass through counter.

(x) Product storage must be secure and is kept in monitored/alarmed refrigerators, freezers and room temperature environments. Monitors and alarms are located in TML.

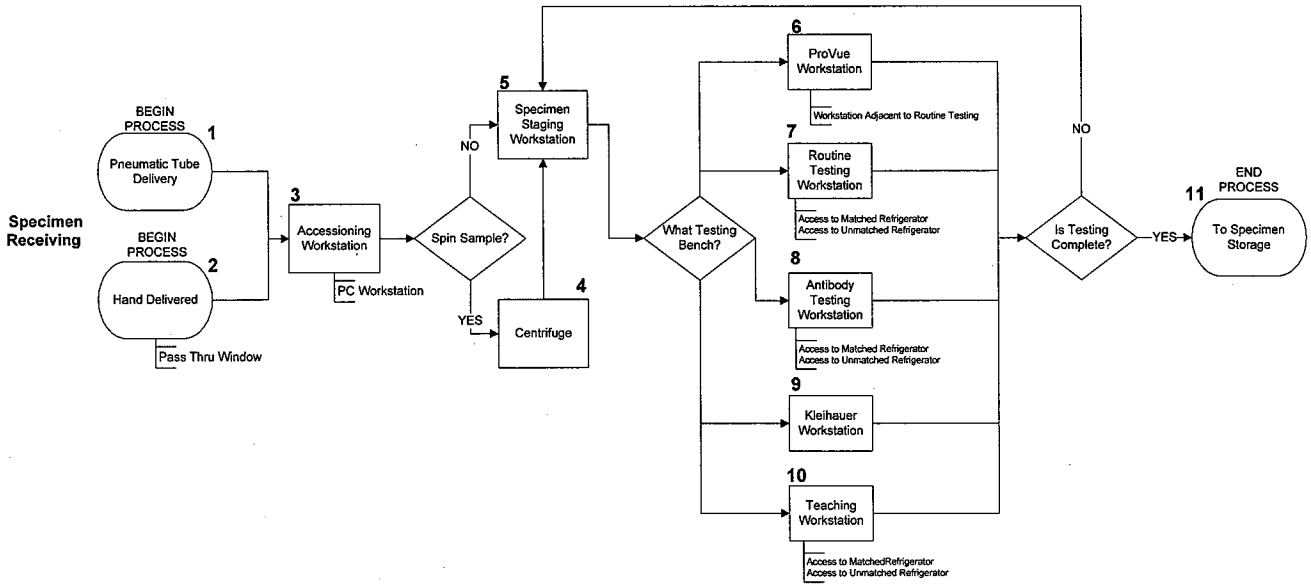
(xi) Provide controlled access on all perimeter doors to the TML. Persons entering the TML will be directly observed.

(xii) Traffic into the TML is restricted and doors must always be closed. Therefore a communication system from the outside to the inside of the TML will be provided.

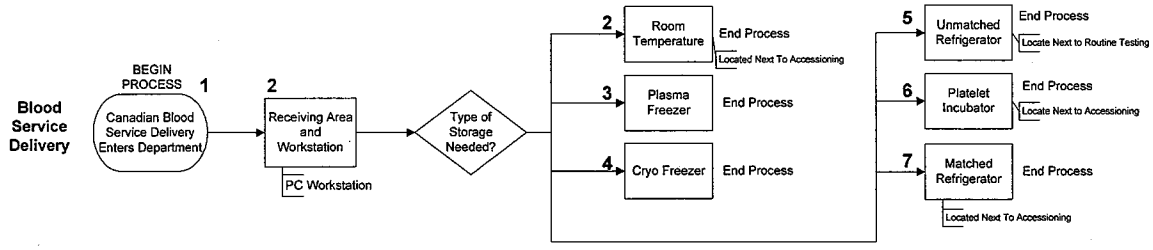
(xiii) Alarm systems and/or duress alarm system will be provided for staff safety and security.

(xiv) A separate secured room for the irradiator is required within the TML.

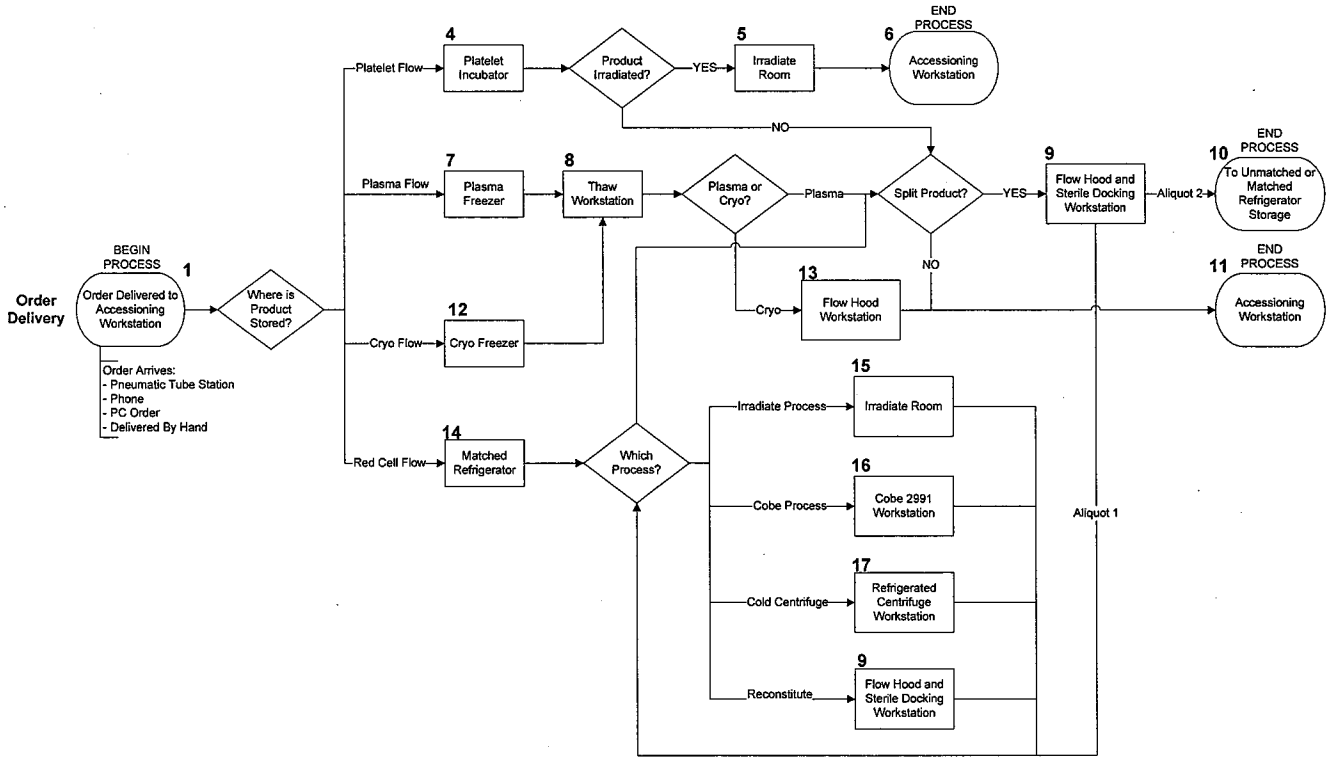
Transfusion Medicine: Process Map #1



Transfusion Medicine: Process Map #2



Transfusion Medicine: Process Map #3



(d) Pharmacy Services

(i) Pharmaceutical services will be provided on a 24/7 basis from the main pharmacy that will be located remotely from the Birthing Program. Medications will be delivered to the team care station on a 20 minute TAT.

(ii) A controlled access cabinet system will be utilized for ward stock for the patients in the LDR's. Anesthesia medications will be obtained from a controlled access cabinet within the medications room located in the Birthing OR zone.

(iii) Pharmacy to mix all high-risk medications.

(e) Respiratory Therapy (RT)

(i) RT's are called when a newborn is having trouble breathing or requires ventilation. RT staff will also attend high-risk deliveries, if required.

(ii) RT's will be members of transport team taking newborns to the NICU. As well, RT's will attend if called, "Code Pink" calls, participate in the Neonatal Resuscitation Program (NRP), and support adult patients having ongoing respiratory issues.

(iii) RT's will be members of the BC Women's Code blue team and will be ACLS trained.

(f) Language Services

(i) Interpreters will be provided, as needed within 10 minutes of request.

(g) Social Work

(i) Social workers will be a resource, as needed.

(h) Security Services

(i) The Birthing Program shall have the physical capability of immediate electronic lockdown from the rest of the building in a Code Amber situation. Panic buttons will be provided at reception/registration in the 1982 building and the team care station in the LDR in the ACC.

(ii) Access to the Birthing Program will be secured with card access for providers, patients and family members approved by the patient.

(i) Food Services

(i) A fridge for the storage of donor milk will be provided in the Birthing zone.

(ii) Food delivery is anticipated to be an on demand, room service type model, available at point of care.

(j) Supply Chain

(i) Linen staff will deliver clean linens to the component on a daily basis to meet the specific needs of the program; linen will be delivered to the designated clean utility room as well as designated linen alcoves located within the component.

(ii) Sterile packs for C-sections will be delivered directly to the Birthing OR's by an outside vendor and used packs will be picked up on a scheduled basis. An inventory of sterile packs will be maintained by the outside vendor.

(k) Staff Services

(i) Outer clothing will be stored in staff locker rooms and clinical staff working in the Birthing Program will be provided with scrubs to wear.

(ii) Students and volunteers will have space for coat storage in the staff coat room.

(iii) Staff education spaces will also be provided within the Birthing Program.

(l) Codes Support

(i) The BC Women's Birthing Program staff will be responsible for all adult codes with the exception of RT support which will come from NICU. The resuscitation team from NICU will assist in the case of code on a newborn.

3A.6.3 ACTIVITY CAPACITY

3A.6.3.1 The table below summarizes the baseline activity and projected demand for BC Women's Birthing Program. The table below includes Urgent Care Suite projection volumes which will be accommodated within the 1982 building.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Urgent Care/Labour/Delivery Suite				
Urgent Care Suite Visits	12,521	13,517	13,805	n/a
Urgent Care Suite Patient Positions	6	11	12	10
LDR Visits	2,916	3,148	3,215	n/a
LDR Patient Positions	10	8	9	10
Maternity Surgical Suite Visits	2,717	2,960	3,038	n/a
Maternity Surgical Suite Patient Positions	4*	3	3	3
Total Births in Urgent/Labour/ Delivery Suite	**3,664**	**3,955**	**4,039**	**n/a**
Transfusion Medicine Laboratory				
CH Transfused Blood Components	5,088	6,106	6,716	
WH Transfused Blood Components	902	1,082	1,191	
CH/WH Fractionated Products	5,987	7,184	7,903	

**Baseline patient positions include non-maternity surgical cases.*

3A.6.4 PEOPLE REQUIREMENTS

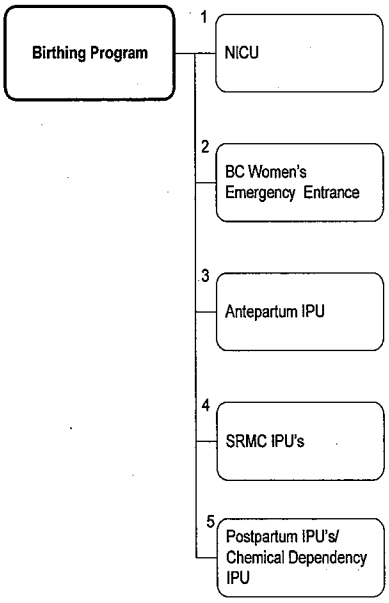
3A.6.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
LDR Zone	18	20	4	2	7	**51**
Birthing OR Zone	11	14	2		4	**31**
Transfusion Medicine Laboratory	n/a	15	1			**16**

3A.6.5 DESIGN CRITERIA

3A.6.5.1 Key External Relationships

(1) The following key relationships for the Birthing Program will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by internal circulation to NICU for the movement of fragile neonates, families and the NICU resuscitation team (Mandatory).

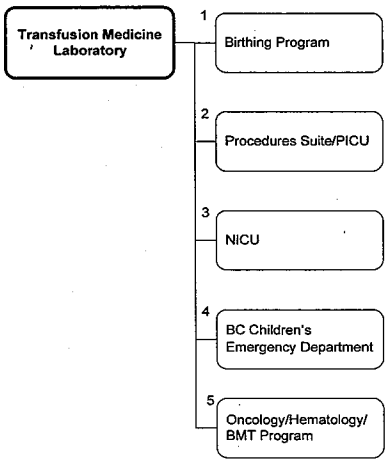
2 Provide direct horizontal access by internal circulation from a BC Women's Main Entrance and the Birthing Urgent Care Suite in the 1982 building for the transport of patients to the Birthing Program in the ACC.

3 Provide direct access by internal circulation to Antepartum Inpatient Unit in the 1982 building for the movement of patients and convenience for families.

4 Provide direct access by internal circulation to SRMC IPU's in the 1982 building for the movement of patients in emergency conditions.

5 Provide convenient access by general circulation to Postpartum IPU's/Chemical Dependency IPU in the 1982 building for movement of patients and families.

(2) The following key relationships for the TML will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by general circulation to/ from the Birthing Program for high acuity patients requiring STAT blood products.

2 Provide direct access by general circulation to/from the Procedures Suite/PICU for blood product transfer.

3 Provide direct access by general circulation to/ from the NICU for blood product transfer.

4 Provide direct access by general circulation to/ from BC Children's Emergency Department for blood product transfer.

5 Provide convenient access by general circulation to/from Oncology/Hematology/BMT Program for blood product transfer.

3A.6.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Zoning

(i) Birthing Program

(A) The component will be generally organized into three zones of patient care and staff activity, including an LDR zone, an OR zone and a staff support zone.

(B) Patient and provider access to the OR's will be from a restricted clean corridor. Sterile supplies coming from the MDR, or outside vendors will be stored in the clean core. Scrub stations will be located immediately outside the entrance to each of the OR's in the restricted corridor. The restricted area includes the clean core area and constitutes "sterile" core.

(C) The PACU will be located in the immediate vicinity of (virtually adjacent to) the OR's such that transporting the patient from an OR to the PACU will occur in the restricted clean corridor.

(D) The route from the infant resuscitation room to the NICU shall be as direct as possible with minimal turns and will not pass through the public entrance zone.

(ii) Transfusion Medicine Laboratory

(A) The TML will generally organize into five zones including: Receiving/ Storage, Accessioning, Staff Support, Testing and Product Processing.

(A1) Receiving/Storage – receiving shipments of blood products and supplies.

(A2) Accessioning – receiving specimens, receiving requests for products, issuing of products.

(A3) Staff Support – meeting space, supervisor office, teaching space, staff washroom, staff clean area.

(A4) Testing – testing patient specimens and blood products.

(A5) Product Processing – processing and dividing products. Processing may occur under laminar flow hood.

(b) Direct Connection between NICU and Birthing Program

(i) A dedicated, direct, and non-public route between the Birthing Program's surgical suite, LDR's and resuscitation room to NICU for transport of neonates is required. Corridors must be wide enough to accommodate the neonate in an incubator and the neonatal resuscitation team.

(c) Visibility

(i) The unit layout shall follow Lean design principles to reduce travel time to/from the bedside and enable visual supervision of and direct access to LDR's and HDU's from the staff work areas.

(ii) Visibility of staff work areas from the individual patient beds is required for both the LDR's and HDU's in order to reassure patients and families that nursing care is close at hand.

(iii) Minimize nurse travel time and maximize nurse-patient visibility by applying Lean principles and locating frequently utilized staff work areas and support spaces close to patient spaces.

(d) Patient Environment

(i) Both the LDR rooms and the HDU rooms require universality and flexibility.

(ii) Wall, floor and ceiling surfaces, as well as furnishings, shall be carefully designed and selected to create a calm, and safe environment for patients in labour.

(iii) All rooms shall have sound mitigation using design elements and materials to reduce sound transmission from and between the rooms as per acoustical and noise control requirements.

(iv) Physical layouts and design features will minimize the typical institutional aspects of labour and delivery accommodations and maximize non-institutional hotel/residential aspects in order to provide a more therapeutic healing environment.

(e) Patient Washrooms

(i) Each patient room shall have its own washroom. LDR rooms will have a toilet, lavatory sink and tub; HDU rooms will have a toilet, lavatory sink and shower.

(f) Infection Control

(i) One OR, one HDU and one LDR shall be Airborne Isolation rooms (AIR's), complete with ante room to accommodate patients requiring airborne infection isolation. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(ii) Hand hygiene sinks and hand sanitizers readily accessible to staff shall be provided.

(g) Staff Privacy

(i) Interdisciplinary conversations shall be private and not overheard by patients. Activities in the team care stations shall not disturb patients; therefore, the care stations will be designed with as many sound control measures as possible as per acoustical and noise control requirements.

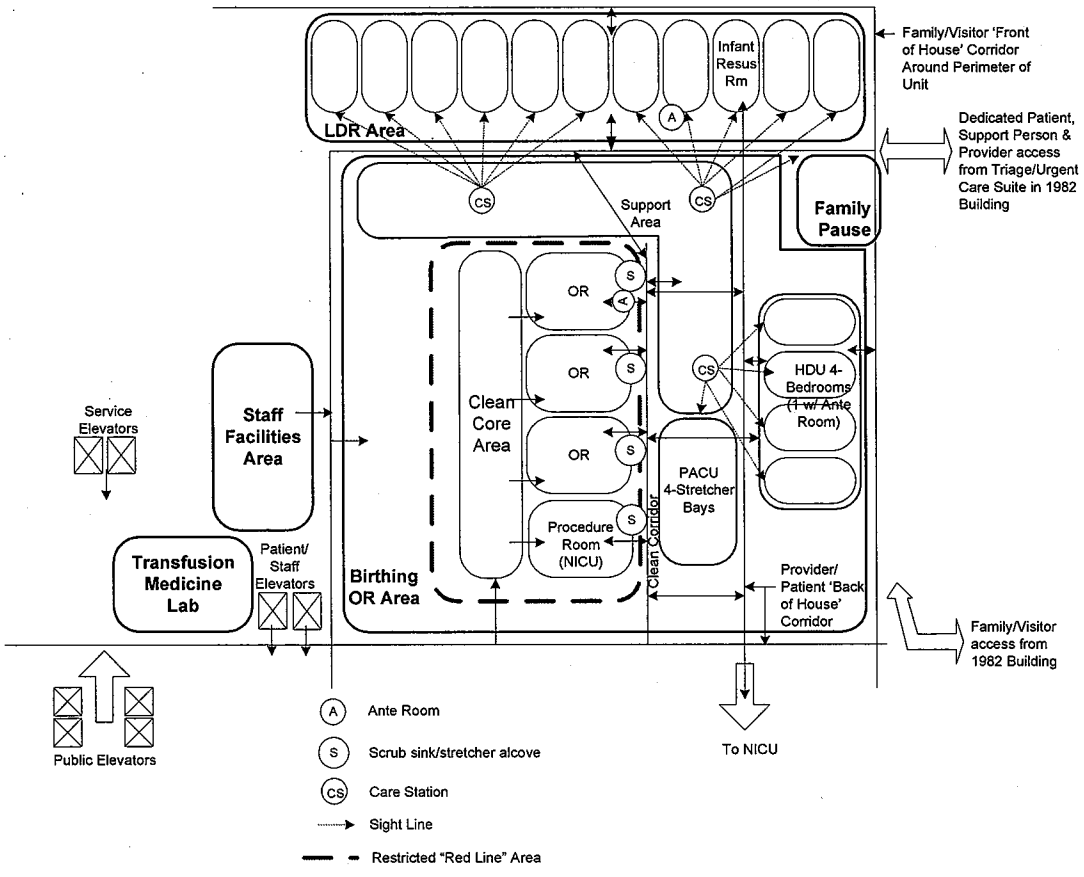
(h) Accessibility

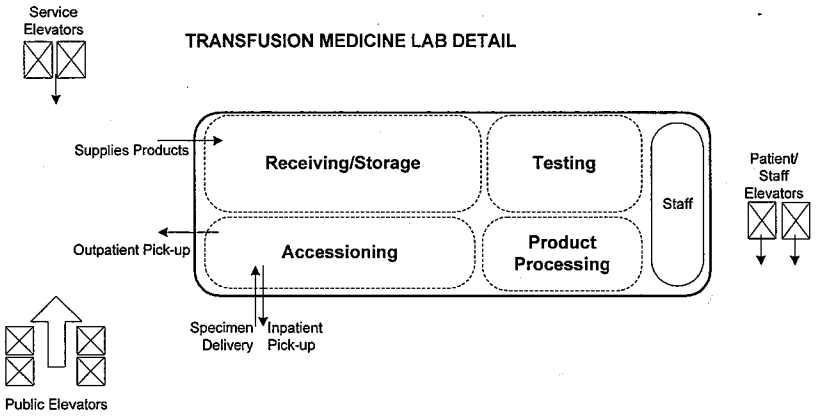
(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(i) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagrams below. The diagrams illustrate conceptual relationships, and shall not be treated as a floor plan.





(ii) Key Design Features to be achieved:

(A) A "BC Women's" presence must be clear to all entrants to the Birthing Program;

(B) The "front of house/back of house" concept will be supported with staff work space, education/academic space and rest space all located away from public areas, with the "front of house" access supporting patient/ family/provider community of care from primary or public corridors;

(C) The OR's shall have two separate entrances. One for provider/patient entry from a "clean corridor", a second entrance from the clean core for supplies, case carts;

(D) The PACU shall have flow through access from OR's via the "clean corridor" to the provider/patient corridor to the HDU rooms to facilitate one way patient flow;

(E) Ability to control access of family/public/visitor flow to the Birthing Program is required;

(F) Maintenance of sufficient interior circulation space to accommodate both VFP and PP flow within the Birthing Program, and optimal flow and access for high acuity PP traffic between the 1982 building and the Birthing Program is required;

(G) The family pause area will be located in close proximity to the PP bridge from the 1982 building, and provide a meeting location at the junction of the family/public corridors to minimize internal traffic within the component. The provision of natural light is desired;

(H) Family and visitors approaching from the 1982 building will be directed across a second VFP bridge to the ACC that enters at the primary public corridor between the Birthing Program and the NICU;

(I) Clear wayfinding will be utilized to augment verbal or electronic instructions to the families, visitors and consulting care providers travelling from the 1982 building;

(J) Family members and visitors approaching the floor from the public elevators will be directed from a greeter/wayfinding station located adjacent to and within sight of the elevator lobby;

(K) Public arriving for the TML will enter from a public elevator and/or through a public corridor;

(L) The layout of the floor will minimize travel time to staff facilities to allow staff to be recalled quickly in emergency situations;

(M) On-call rooms will be easily accessible for staff and located away from main traffic corridors;

(N) Team care stations will be decentralized to ensure direct observation into the HDU rooms as well as monitoring the OR's and LDR rooms;

(O) Designated parking spaces for off-site providers will continue to be provided at the two entrances to BC Women's as well as in the parkade at Level 0 in the ACC;

(P) A direct route with minimum travel time and turns for the NICU resuscitation team to reach the infant procedure/resuscitation room located between two LDR rooms in Birthing, as well as the OR rooms in the Birthing Program is mandatory;

(Q) Providers must have rapid access both from and to the 1982 building via the dedicated PP bridge to the ACC;

(R) Clean and soiled utility rooms must be located to minimize the need to bring large supply carts into the centre of the component;

(S) All clean, soiled, and equipment storage rooms accessed by staff and care providers will have secure automatic closure systems;

(T) The access to the soiled utility room will be positioned away from public spaces;

(U) All alcoves will be sufficiently recessed to prevent obstructions in corridors while someone is accessing the alcove;

(V) The scrub sink/stretcher alcoves shall be positioned to facilitate quick access for each OR/procedure room;

(W) Emergency access cart alcoves shall be positioned to be easily accessible to all rooms;

(X) All rooms will have an exterior status notification system with access to an emergency response request system within the room;

(Y) All patient rooms will be designed to mitigate sound transfer from the room as per acoustical and noise control requirements;

(Z) All patient rooms, infant resuscitation room and OR's will have adjustable and dimmable lighting sufficient for procedures/examination;

(AA) All patient rooms will have hands-free access with opaque sliding doors. Doors must be sized to accommodate stretchers with pumps;

(BB) The NICU procedure room will be co-located with the Birthing OR's to facilitate access to the clean core;

(CC) The pre-op area and associated washroom will be easily accessible from the dedicated PP bridge from the 1982 building;

(DD) The anesthesia workroom must be located close to the PACU and OR's;

(EE) The Birthing Program OR's must be centrally located within the component with easy access from the dedicated PP bridge from the 1982 building;

(FF) The TML is to be in close proximity to the Birthing OR's;

(GG) The TML will be a secured environment and it will not be possible for unauthorized persons to use it as a route to or from other areas of the Hospital. Daylight for staff work area is required;

(HH) TML: requires appropriate ventilation due to the excess heat generated from multiple compressors from required product fridges and freezers. Room temperature must not exceed 25 Celsius due to manufacturer's requirements for some blood products and reagents;

(II) TML: requires flexible storage for supplies at workstations as well as a central storage area for larger quantities plus shelving for reference and file storage;

(JJ) TML: within the Receiving/Accessioning area; the accessioning of patient specimens is to be provided a separate zone from the receiving of blood products; and

(KK) TML: Testing and Product Processing must have separate zones within the same open area of the lab (as per latest applicable CSA Standards for blood, blood components).

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3A.6.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Reception Area				
10321	01	Family Pause Area	1		30.0	20 seats
11437	79	Reception/Volunteer Space from 1982 Link	1		2.0	To service VFP Bridge
10984	02	Washroom, Public, Wheelchair Access	1		4.5	1 wc, 1 lavatory sink
		Subtotal, Reception Area			36.5	
		LDR Area				
10341	03	Team Care Station	1		12.0	8 purse type lockers
10342	04	Pneumatic Tube Station	1		0.5	
10343	05	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ sliding doors and hands-free staff only access
10344	06	Clean Utility Room	1		15.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10343
10987	07	Provider/Learner Work Area	1		12.0	8 purse type lockers
10338	08	LDR Patient Room	9	24.0	216.0	
10339	09	Washroom, Patient, Wheelchair	9	6.0	54.0	3 fixtures (incl. tub), wheelchair access
11042	10	LDR Patient Room, AIR	1		24.0	
11043	11	Washroom, Patient, Wheelchair AIR	1		6.0	3 fixtures (incl. tub), wheelchair access
11044	12	Ante Room, AIR	1		4.0	PPE supply storage
11337	13	Alcove, Hand Hygiene Sink	3	0.5	1.5	
10340	14	Infant Procedure/ Resuscitation Room	1		25.0	Locate between 2 LDR's, close to NICU entrance
10345	15	Nourishment Station	1		6.0	1 double kitchen sink
10351	16	Storage, Equipment	1		15.0	
10353	17	Alcove, Linen	2	1.0	2.0	
10346	18	Office, Shared	2	12.0	24.0	
10347	19	Conference/Meeting Room	1		35.0	
10349	20	Soiled Utility Room	1		10.0	1 utility/cleaning sink
10352	21	Storage Alcove, Equipment	1		2.0	

3A.6 BC WOMEN'S BIRTHING PROGRAM AND TML

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10354	22	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, LDR Area			477.5	
		Birthing OR Area				
10329	24	Pre-OP Area	1		20.0	
10330	25	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11328	26	Change Room, Partners	1		3.0	3 half lockers
10356	27	Operating Room, C-sections	2	53.0	106.0	1 OR to incl. laser
10357	28	Alcove, Scrub Sink/Stretcher	2	3.0	6.0	2 scrub sinks
10913	29	Operating Room, C-sections, AIR	1		53.0	
10915	30	Ante Room, AIR	1		4.0	
10914	31	Alcove, Scrub Sink/Stretcher	1		3.0	2 scrub sinks
10303	32	Procedure Room, NICU	1		60.0	Black out capability. Interconnectivity to one birthing OR required for quick access
10983	33	Alcove, Scrub Sink/Stretcher	1		3.0	2 scrub sinks, 1 stretcher
10358	34	Clean Core Area	1		90.0	Include sterile holding area
10359	35	Soiled Holding Room	1		20.0	
10360	36	Anesthesia Workroom	1		15.0	Located close to the OR's and PACU
10365	37	Team Care Station	1		12.0	6 purse type lockers
10366	38	Pneumatic Tube Station	1		0.5	
10367	39	Medications Room	1		10.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10368	40	Clean Utility Room	1		18.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10367
10361	41	PACU Area	1		40.0	4 stretcher bays
10363	42	High Dependency Patient Room	2	24.0	48.0	
10364	43	Washroom, Patient, Wheelchair	2	6.0	12.0	3 fixtures (incl. tub/shower), wheelchair access
11335	44	High Dependency Patient Room, Bariatric	1		29.0	

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
11336	45	Washroom, Patient, Bariatric, Wheelchair	1		7.0	3 fixtures (incl. shower), wheelchair access
10916	46	High Dependency Patient Room, AIR	1		24.0	
10917	47	Washroom, Patient, Wheelchair AIR	1		6.0	3 fixtures (incl. tub/shower), wheelchair access
10918	48	Ante Room, AIR	1		4.0	PPE supply storage
11338	49	Alcove, Hand Hygiene Sink	1		0.5	
10373	50	Storage Alcove, Emergency Access Cart/Equipment	1		15.0	
10369	51	Nourishment Station	1		6.0	
10371	52	Soiled Utility Room	1		16.0	1 utility/cleaning sink
10374	53	Alcove, Linen	2	1.0	2.0	
		Subtotal, Birthing OR Area			637.5	
		Staff Facilities Area				*Also shared with and included in 3A.5 NICU*
11320	55	Lounge, Staff	1		40.0	1 double kitchen sink
11323	56	Washroom, Staff	2	3.5	7.0	1 wc, 1 lavatory sink
11326		On-Call/Sleep Room			0.0	Incl. in 3A.5 NICU
		Subtotal, Staff Facilities Area			47.0	
		Transfusion Medicine Laboratory Area				
10544	57	Receiving/Accessioning Area	1		13.0	Second secure entrance for drop-off area of CBS boxes
10560	58	Storage, Platelet	1		3.5	
10561	59	Pneumatic Tube Station	1		0.5	
10545	60	Storage, Fridge	4	3.0	12.0	Ensure proper handling of heat/ noise generated from equipment
10546	61	Storage, Freezer	2	3.0	6.0	Located next to work channel to facilitate thawing of product. Ensure proper handling of heat/ noise generated from equipment
10547	62	Storage, Room Temperature Supplies	1		12.0	
10548	63	Storage, Room Temperature Products	1		18.0	
10549	64	Office, Shared	1		9.5	
10550	65	Office, Supervisor	1		9.5	

3A.6 BC WOMEN'S BIRTHING PROGRAM AND TML

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
11000	66	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10551	67	Workbench, Routine Cross Match & QA	2	5.5	11.0	2 decant process sinks
10552	68	Receiving Product Workbench	1		14.0	
10553	69	Blood Product Manipulation Room	1		18.0	
10554	70	Storage, Record/ Procedure	1		17.0	
10555	71	Storage, Clean Area/Coats	1		5.5	At entrance to unit, 1 hand hygiene sink
10556	72	Antibody Investigation Workbench	1		5.5	Needs to be in quiet area. Decant process sink
10557	73	Teaching Bench Area	1		5.5	Needs to be in quiet area. Decant process sink
10558	74	Kleihauer Workbench	1		5.5	
10559	75	Provue	1		7.5	
11374	76	Pneumatic Tube Station	1		1.0	
10562	77	Irradiator Room	1		3.5	Locked room, floor load and noise abatement considerations required (2285 kg/m^2)
		Subtotal, Transfusion Medicine Laboratory Area			181.5	
		Summary				
		Reception Area	1		36.5	
		LDR Area	1		477.5	
		Birthing OR Area	1		637.5	
		Staff Facilities Area	1		47.0	
		Transfusion Medicine Laboratory Area	1		181.5	
		Total Birthing Program and Transfusion Med Lab			**1 380.0**	

3A.7.1 FUNCTIONAL DESCRIPTION

3A.7.1.1 Scope of Clinical Services

(1) This specification outlines the requirements of BC Children's Emergency Department (ED) for the 33 patient treatment rooms, 2 critical care rooms, 2 mental health seclusion rooms, 2 mental health interview rooms, and 6 Clinical Decision Unit (CDU) rooms that will be accommodated in support of the 2025/26 Projected Demand. The ED is utilized for diagnosis and treatment of unscheduled patients with known or suspected illnesses or conditions; no scheduled outpatient care is to be provided.

(2) Five categories of emergency services (based on the Canadian Triage Acuity Scale [CTAS]) will be provided, including:

- **(a)** CTAS 1 – Resuscitation: Conditions that are threats to life or limb, or imminent risk of deterioration requiring immediate aggressive intervention;
- **(b)** CTAS 2 – Emergent: Conditions that are a potential threat to life, limb or function, requiring rapid medical intervention or delegated acts;
- **(c)** CTAS 3 – Urgent: Conditions that could potentially progress to a serious problem requiring emergency intervention. May be associated with significant discomfort or affecting ability to function for activities of daily living;
- **(d)** CTAS 4 – Semi-Urgent: Conditions that relate to patient age, distress, or potential for deterioration or complications would benefit from intervention or reassurance within one to two hours; and
- **(e)** CTAS 5 – Non-Urgent: Conditions that may be acute but non-urgent as well as conditions, which may be part of a chronic problem with or without evidence of deterioration. The investigation or interventions for some of these illnesses or injuries could be delayed or even referred to other areas of the hospital or health care system.

(3) All arrivals will be triaged and assessed by a health professional, streamed, discharged or immediately directed to the appropriate area for treatment. The ED includes the following key areas:

- **(a)** Triage/Assessment Area;
- **(b)** Main Treatment Area (including Mental Health Area, Critical Care Resuscitation rooms);
- **(c)** Specialized Care Area (including cast room, procedure room); and
- **(d)** Clinical Decision Unit (CDU).

(4) A brief description of each of these areas follows:

- **(a)** Triage/Assessment Area An area easily accessible and visible from all ED entrances, all arrivals will be triaged at one of the triage/registration stations, assessed, diagnosed and discharged or, if required, directed to the appropriate treatment area according to CTAS level;
- **(b)** Main Treatment Area This area includes a critical care area, patient treatment rooms, "safe" treatment rooms, and a Mental Health area including assessment, interview and seclusion rooms radiating from team care area(s);

(i) This area of the ED will serve all acuity levels according to patient numbers and needs. For cases requiring direct and immediate attention, the staff-to-patient ratio will be high,

(ii) Patients will be directed to rooms based on a principle of "expanding and contracting" from the central core (according to demand),

(iii) The Mental Health area within the Main Treatment area is used for those patients who, due to a substance misuse or psychiatric illness with co-morbid medical conditions, require specialized treatment including observation, separation from other patients, or medication before psychiatric treatment can proceed. Unstable psychiatric patients may be triaged directly to a "safe" or "seclusion" room for assessment and treatment as appropriate. Patients requiring admission will be transferred to one of the inpatient units in the Mental Health building on campus, and

(iv) Provider resource alcoves will be between two patient treatment rooms for staff to observe patients and maintain necessary documentation, etc.;

(c) Specialized Care Area This area includes a cast room to be located adjacent to the Medical Imaging (MI) component and a procedure room for specialized procedures such as suturing, gynecology exams, ENT, ophthalmology exams, etc. This area will also accommodate an internal pause/holding area for those patients and family waiting for the results of diagnostic exams or requiring education before being discharged; and

(d) Clinical Decision Unit Area This area is to be located adjacent to, but separate from, the ED. This longer-term assessment and treatment area will provide services for patients who require an extended observation up to a maximum of 23 hours 59 minutes. Patients leaving this area will be discharged home or admitted to an inpatient bed within 24 hours of arrival.

3A.7.1.2 Scope of Education Activity

(1) Resources to support ongoing clinical education within the ED will be provided. In addition to ongoing education for regular ED medical and nursing staff, education will be provided for the following:

(a) Emergency medicine residents;

(b) Medical/surgical residents;

(c) Medical undergraduates;

(d) Nursing (RN, RPN) undergraduate and graduate students;

(e) Nurse practitioner students;

(f) Social work students;

(g) Pharmacy undergraduate/residents;

(h) Pastoral care students;

(i) Respiratory therapy students;

(j) Unit clerk students;

(k) Child life students;

(l) Lab-tech students;

(m) Radiology students;

(n) Paramedic students;

(o) Infant Transport Team/emergency medical services students; and

(p) Regional, provincial and international learners.

(2) A maximum capacity for students will be determined based on future staffing ratios. For example, based on 2012 staffing ratios, approximately five to ten trainees could be based in the ED at any given time.

(3) In-service education and team meetings for up to 30 people will also occur within the component (i.e. conference room).

3A.7.1.3 Scope of Research Activity

(1) Emergency staff participates in research on an intermittent basis. Secure/locked storage space for data will be provided for this purpose.

3A.7.1.4 Specific Scope Exclusions

(1) Not Applicable.

3A.7.2 OPERATIONAL DESCRIPTION

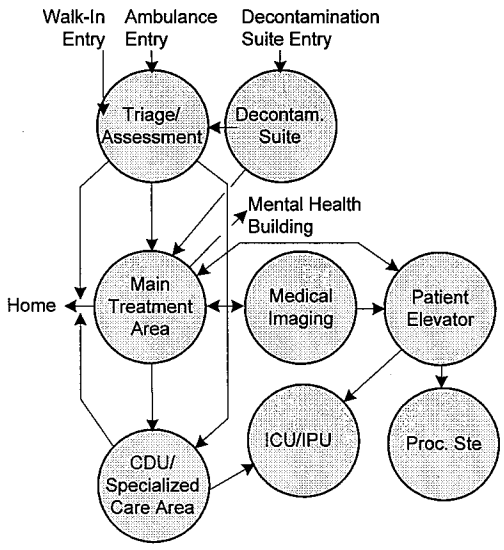
3A.7.2.1 Minimum Hours of Operation

(1) ED services will be available 24/7.

3A.7.2.2 Patient & Family Management Processes and Flows

(1) Reception/Triage/Assessment

(a) Three primary entrances from the exterior will be provided, one for ambulance/stretcher patients, one for patients requiring assessment in the decontamination suite, and one for walk-in patients. All are to be adequate in size for stretcher access. Unloading of ambulance vehicles will occur under a separate covered ambulance shelter. This separation will ensure that critically ill patients can be transferred, without hindrance, directly from an ambulance to a critical care room. Also it provides a visual barrier between the distressing aspects of certain ambulance arrivals and the non-critical patients' walk-in entry. Traffic flow from these two entries shall not cross one another. There will be one way patient flow through the



department. There will be an emergency medical services (EMS) holding area designated for ambulances waiting for their patients to be processed. However, while providing the above degree of separation, both entrances shall be visible/easily accessible from/to the triage desk.

(b) A security/volunteer station shall be located between these entrances with visibility to both.

(c) Patients will arrive at Emergency by three principal means: by ambulance, by self-direction or by referral.

(d) Those that arrive by ambulance will be escorted into the facility via the ambulance shelter, whereas those arriving by means other than ambulance will access the department through the separate walk-in entry. Both ambulance and walk-in entries must arrive in the arrival area (walk-in door or ambulance door) for initial triage. All arrivals will either, self-receive at an automated kiosk or be received and triaged by a health professional, assessed, streamed, discharged or immediately directed to the appropriate area for treatment, with the exception of those who require direct access to critical care rooms.

(e) Critically injured or ill patients arriving by ambulance will be taken directly to a critical care room. The ED team and the trauma activation team are available 24 hours for resuscitation, assessment and treatment of critically ill/severe trauma victims. Patients treated in a critical care room may be transferred to Medical Imaging, an OR, an ICU room, an IPU room, a treatment room in the ED or be discharged home.

(f) Walk-in patients will be greeted, triaged and registered at the Triage/Registration area by a health professional. A CTAS score will be assigned according to CTAS guidelines. From the triage area, patients will flow to a critical care room, or may go directly to a patient treatment room, critical room or internal holding/pause room.

(g) For patients requiring decontamination, Emergency staff will put on protective gear in the decontamination ante room to assist the patient through the Decontamination Suite. Following decontamination, patients will flow to a patient treatment room or the critical care room as necessary.

(h) Registration procedures of emergent care patients will be completed after patient care is initiated, with the admitting clerk going to the patient, or obtaining information from others present. If immediate care is not required, the patient, or other persons accompanying the patient, will carry out documentation while patient care services are provided.

(i) Visibility of the patient Triage/Registration area directly from the team care station(s) is required to facilitate the control of patient flow and support the Triage Team. The team approach will be supported by hands free technology to optimize communication.

(j) Following assessment, patients will be escorted to an appropriate treatment room. Toilet facilities for patients will be available within each treatment area.

(k) A quiet room will be provided for family members of critically ill or deceased patients, and must be acoustically and visually private. The function of this room is to provide a temporary refuge for distressed family/friends and is not intended for prolonged use. This room will also be used for ad hoc meeting space. This room will have a

monitored and alarmed exit only door directly to the exterior of the building and natural light is desired.

(2) Internal Diagnostic/Teaching Holding/Checkout

(a) Following arrival in the department and Triage/Registration, patients will follow the flow options below:

(i) Ambulant patients, together with their escorts and carers, will be directed to a critical care room, treatment room or the internal holding/checkout area. Provision for up to five wheelchairs is required in this area. Most patients attend with at least one relative however, large family groups do arrive together;

(ii) The internal holding/checkout area will be adjacent to the main treatment area for visual observation by nursing staff in case assistance or clinical intervention is required; and

(iii) Patients, their escorts and carers in this area may be awaiting results of diagnostic tests, access to Specialized Care rooms or the provision of education before being discharged home.

(3) Investigations

(a) After initial assessment and/or treatment, patients may be accompanied to other areas of the ACC (e.g., MI) for examination before returning to Emergency.

(b) Many patients require various diagnostic investigations. Imaging will be the most common, but many also need blood drawn and other body fluid tests, or require electrodiagnostic studies. Other than imaging, many investigations will be carried out by ED staff. Point-of-care testing (POCT) will also be provided.

(c) Imaging requiring high quality images will be done in the main MI component (see 3A.9) with the exception of those unstable enough to require portable imaging.

(d) All team members will collaborate to plan, deliver, and evaluate the care for patients with mental health needs. A mental health team member will perform screening, address issues of psychiatric illness and social challenges, sudden death, family violence (e.g., child abuse, etc.), and arrange community and/or outpatient follow-up.

(4) Diagnosis

(a) Diagnoses are made based on assessments and investigations to determine care required. The fluidity and "forward flow" of patient movement is essential in the department. Treatment may be delivered in the ED, CDU or inpatient units.

(5) Treatment

(a) Workloads vary greatly at different times of the day and months of year with evening and winter months historically being the highest volume periods. Organization of patient care areas shall allow the concentration of patient care activity in the main treatment area at times of low workload, and allow the area of activity to expand as workload increases.

(b) All patient treatment positions will be private single occupancy rooms and will provide an appropriate degree of visual and acoustic privacy for the patient/family. The

capability of doubling of patient positions in each room is required for mass casualty/pandemic events.

(c) Treatments and procedures will be carried out in the rooms in which the patient is examined.

(d) The application of plasters will be done in the cast room specifically designed for this purpose and specialized procedures will be performed in the procedure room or in any patient treatment room. Overhead procedure lighting that can be manoeuvred to suit difficult angles will be provided in all treatment rooms as standard.

(e) Some storage space for general supplies, stores and equipment is required in addition to lockable mobile carts stored in all patient treatment areas to avoid obstructing corridors and treatment areas.

(f) Alcoves to accommodate just-in-time supply of personal protection equipment (PPE) such as gowns, mask, etc. will be available.

(6) Admission

(a) If there has been a decision to admit, patients will be transferred to the appropriate inpatient unit. This will be done on a stretcher, wheelchair, hospital bed or some patients may choose to walk.

(7) Deceased

(a) Deceased patients will be transported through discreet circulation from the ED via a service elevator through to the morgue on the 2nd floor of the 1982 building.

(8) CDU

(a) Patients expected to be discharged but require observation and care for more than six hours and up to 23 hours and 59 minutes will be transferred to the CDU.

(b) Should a decision to admit be made, the patient will be transported to the appropriate inpatient unit via the patient elevator.

(9) Discharge

(a) Patients who no longer need to be in an acute patient treatment area of the department will be taken to the internal holding/checkout area which shall be within easy access of the team care station(s) and an exit. Patients not requiring admission will be treated and provided education as necessary, then discharged.

3A.7.2.3 Patient Information Management and Flows

(1) Patient rooms and patient team care stations must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

(2) A key resource of the Emergency facility will be an Emergency/Agency Information System providing passive electronic patient/provider tracking system (bed/treatment status/wait numbers etc.). Electronic tracking will be readily available for visualization from multiple stations and/or hand-held devices in ED.

(3) Direct communication links utilizing hands-free communications devices will be provided between Emergency and all relevant clinical services on the campus.

(4) Facilities will be provided to access the "telehealth" service (i.e., a teleconference room for remote conferencing) and selected examination areas for tele-consultation with emergency medicine physicians or others on-call.

(5) Dedicated, secure access to PharmaNet must be provided.

(6) Digital patient information/status screens will be strategically located. Information will be available to the larger community via on-line access.

3A.7.2.4 Provider Work Processes and Flows

(1) Reception/Triage/Assessment

(a) The reception desk, registration kiosk, triage desks and critical care rooms are to be integrated to facilitate patient handling and one way flow. Staff will be based here 24/7 and be responsible for initial patient management.

(2) Registration

(a) Registration personnel process all Emergency admissions either in the Triage/ Assessment area of the department or in the patient rooms.

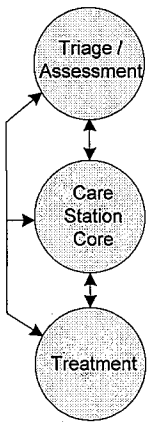
(b) Workspace for protection services personnel assigned to the ACC will also be accommodated in this area.

(c) The capacity to "lockdown" the entire department shall be available from this location.

(3) Team Care Station(s)

(a) A team care station(s) located central to all patient treatment areas are required to facilitate nursing, physician and clerical interaction. This station will have visualization of patients. Easy access and communication will exist between the care station(s) and arrival/triage area.

(b) Team care station(s) will be equipped with central cardiac/physiological monitoring equipment and a computerized order access system for Clinical Information System (CIS). Room for students, the expanded multidisciplinary team, charting, and dictation areas must be provided. Provider resource alcoves are situated between two patient treatment rooms with views into both rooms.



(c) Minimize nurse travel time and maximize nurse-patient visibility by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the patient spaces.

(4) Treatment

(a) The component will be organized with patient treatment room pods radiating from the team care station(s). A general concept of openness and "flexibility" shall be achieved in the overall layout, which maximizes flexibility in use, and nurse/patient visibility of all patient care areas. A plan that emphasizes the importance of a single patient care space (with some physical segregation) shall be achieved.

(5) Offices/Staff Facilities

(a) Limited open and enclosed office spaces will be available for ED staff.

(b) Outer clothing will be stored in a secure team locker area. Students and volunteers will also have space for coat storage in the coat closets. Half lockers will be provided in the staff change areas for personal valuables and will be shared on shifts. The ED staff facilities area will include staff change rooms, staff washrooms, a staff lounge and rest area, and conference/education rooms.

3A.7.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications.

(a) Biomedical Engineering (BE)

(i) Equipment storage space will be provided within ED for frequent use items (e.g., stretcher, wheelchairs, IV carts and poles). More bulky items (e.g., Balkan frames) and less frequently used items will be stored in the Medical Equipment Depot (see 3A.14).

(b) Medical Imaging

(i) Medical Imaging will provide general radiology/fluoroscopy procedures, and computed tomography (CT) procedures for the ED on a 24/7 basis. Imaging will continue to accommodate Emergency's cases on a priority basis. Fixed imaging equipment will not be available in ED, however, a mobile C-arm will be located in space between the critical care rooms within the main treatment area. Expected turn-around time (TAT) for CT: 15 minutes, MR: 60 minutes, routine (EEG/ EMG): 15 to 60 minutes, EKG: 15 minutes.

(c) Laboratory Services

(i) POCT will be used in this component to address some laboratory needs. Immediate (STAT) laboratory services are required on a 24 hour basis with an expected turn around time (TAT) of 15 to 60 minutes for most diagnostic tests. STAT TAT for gas and blood products: 5 minutes, for chemistry: 10 minutes and for hematology: 15 minutes. This service will be provided by the main laboratory in the 1982 building necessitating travel time inclusion in TAT requirements.

(ii) Porters and pneumatic tubes will be used to transport specimens to the Main Laboratory in the 1982 building.

(d) Pharmacy Services

(i) Most prescribed medications will be distributed to the medications room within the component using a computerized unit dose distribution system. Dispensing of medications is generally conducted using automated medication cabinet (AMC) technology. Where required pharmacy information access includes paperless/on-line charting and prescribing, and access to PharmaNet at key locations.

(ii) The main Pharmacy, located in the 1982 building, will provide support through clinical consultations, provision of initial medication doses, and response to STAT medication needs during business hours including infusion preparation. After-hours doses will come from the Satellite Pharmacy (Critical Care) in the ACC.

(iii) Touchdown workstations within the team care station(s) will provide space for the clinical pharmacists to work while participating in a range of care, the timely preparation of prescribed parenteral solutions/infusions for administration; as well as participation in clinical research protocols.

(e) Security

(i) 24 hour protection service will be present in this component. Main support will be from central services on campus and the call centre. Police will occasionally accompany patients.

(f) Supply Chain Services

(i) Clean/soiled linen is transported to/from the component using an exchange cart system, to designated linen alcoves in treatment areas. Each patient room will have point-of-use hampers.

3A.7.3 ACTIVITY CAPACITY

3A.7.3.1 The table below summarizes the baseline activity and projected demand for BC Children's Emergency Department.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26
Emergency Department			
CTAS 1 Resuscitation	228	240	264
CTAS 2 Emergent	4,507	4,791	5,247
CTAS 3 Urgent	13,420	14,388	15,751
CTAS 4 Semi-Urgent	19,439	20,601	22,792
CTAS 5 Non-Urgent	2,309	2,435	2,698
Unassigned	1,947	2,123	2,338
Total Emergency Department Visits	**41,850**	**44,578**	**49,090**

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Emergency Department				
ED Acute Visits	18,727	20,390	22,325	n/a
ED Intermediate Visits	10,158	11,458	12,678	n/a
ED Alternative Care Visits	11,288	12,730	14,086	n/a
Unassigned Visits	1,677	-	-	n/a
Total Emergency Department Visits	**41,850**	**44,578**	**49,090**	**n/a**
Emergency Department Patient Positions*	**24**	**32**	**34**	**33**
Clinical Decision Unit				
ED > 6 hrs Visits	832	904	982	n/a
Medical/Surgical < 24 hrs (No ACU) Visits	572	621	676	n/a
Total Clinical Decision Unit Visits	**1,404**	**1,524**	**1,658**	**n/a**
Clinical Decision Unit Patient Positions	**n/a**	**4**	**5**	**6**

** Includes general assessment positions, specialized positions excluded.*

3A.7.4 PEOPLE REQUIREMENTS

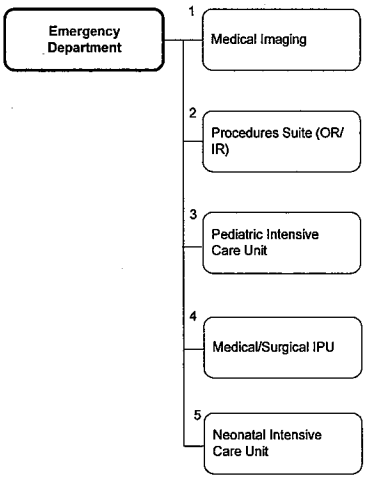
3A.7.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
EMS/Decontamination Suite	4	4	-	-	4	**12**
Triage/Assessment Area	47	6	4	-	-	**57**
Main Treatment Area	110	8	4	-	6	**128**
Specialized Care Area	72	2	2	-	2	**78**
Clinical Decision Unit	15	2	-	-	3	**20**
Staff Facilities Area	-	2	-	-	2	**4**
Administrative Area	4	2	1	2	2	**11**

3A.7.5 DESIGN CRITERIA

3A.7.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by internal circulation to Medical Imaging for patient movement (specifically to the Gen. Rad. and CT Rooms).

2 Provide direct access by general circulation to the Procedures Suite for patient movement.

3 Provide direct access by general circulation to the Pediatric Intensive Care Unit for patient movement.

4 Provide convenient access by general circulation to Medical/Surgical IPU component for patient movement.

5 Provide direct access by general circulation to the Neonatal Intensive Care Unit for patient movement.

3A.7.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Emergency Department Entry

(i) Three entrances will be provided: one for ambulance/stretcher patients, one for patients requiring assessment in the decontamination area, and one for private vehicle/walk-in patients. These entrances need to be large enough to accommodate bed/stretcher movement, including adequate access for critically ill patients that arrive by car. Unloading of ambulance vehicles will occur within a separate covered ambulance shelter. This separation will ensure that critically ill patients can be transferred, without hindrance, directly from an ambulance to the critical care/resuscitation room. In addition, it provides a visual barrier between the ambulance arrivals and the non-critical patients' walk-in entry. Traffic flow from these two entries shall not cross one another.

(ii) While providing the above degree of separation, all entrances shall be visible/ easily accessible to triage desk.

(iii) The security station shall be located between these entrances with visibility to both.

(b) After-Hours Hospital Entry

(i) After-hours (2100h to 0630h), the main entry to the ACC will remain securely but accessibly open and serve as the primary access to the Hospital. Access to

other parts of the Hospital will not be through the ED. A protection services officer will monitor access and screen traffic.

(ii) The layout of circulation corridors will allow for separate ambulance deliveries to the ACC, other than those destined for ED. Alternate after-hours access will allow the ED component and in particular the ED triage area to be bypassed.

(c) Triage Assessment/Registration Integration

(i) Patient registration facilities are contiguous with the triage area, treatment rooms and staff work area to facilitate one way patient flows. The Triage and Assessment (patient arrival) area serves as the primary receiving area for all patients and will be organized to contain those with potentially infectious disease until they can be directed to the containment area.

(ii) The layout and fit out of the triage workstations shall achieve maximum flexibility to allow various changes in arrangement to respond to surge and/or seasonal situations as required.

(iii) The successful exclusion of a pause area is contingent on actualizing the proposed ED model of care. This encompasses all arrivals being triaged and assessed by a health professional, streamed, discharged, or immediately directed to the appropriate area for treatment. In order to maximize flexibility, and the potential requirement to revert back to a model encompassing a wait room, the design and layout must allow for ready conversion of space if required.

(d) Identification and Segregation of Cases

(i) The patient triage function will be located adjacent to the Emergency walk-in entry with access to the ambulance entry, with visual access to both.

(ii) Ambulance arrivals must have direct access to the critical care/resuscitation area and patient treatment rooms immediately upon entry without crossing the route taken by walk-in patients.

(iii) Line of sight into the patient triage area directly from the staff work area/team care station(s) is required.

(iv) The ability to physically isolate areas within the ED to accommodate pandemic situations is required.

(e) Direct Access to CT Scan, General Radiology Room(s), Procedures Suite (Special) and the PICU

(i) It is essential to provide direct, quick and easy access to and from the ED entrance and critical care rooms to the CT Scan and General Radiology room(s) in Medical Imaging.

(ii) For those patients requiring quick transfer to an OR or PICU room, the route must be as direct as possible with minimum horizontal distance and turns utilizing properly sized, dedicated patient elevator(s).

(f) Planning for Disaster Management

(i) In addition to being planned for normal day-to-day provision of Emergency services, the examination/treatment areas must allow for increased numbers of casualties generated by a major disaster. This includes:

(A) Highly flexible space to accommodate increased numbers of stretchers, and single patient rooms able to accommodate two patients;

(B) Protected and alternative access routes from the exterior to the exam/ treatment areas to enhance and guarantee accessibility during a disaster;

(C) Adjacency to, and ease of use of other open spaces (e.g., hospital corridors, pause areas, "soft" examination/treatment areas in adjacent buildings; the atrium areas and the main lobby spaces) that could be also used for accommodating additional stretchers; and

(D) Utilizing the canopied ambulance shelter area.

(g) Decontamination Suite

(i) The Decontamination Suite will be located peripheral to the component, connected to it for direct access but able to be sealed off when contaminated. The degree of connection and the risks associated with contamination of adjacent Hospital areas must be avoided. A one-way patient flow is required, in which a contaminated patient is undressed, lead to a decontamination room/stretcher-shower area, redressed and finally out to an exit vestibule.

(ii) All parts of the suite will be designed to be lined with a disposable polyethene liner. Exit from the suite will be possible either directly to the main treatment area or to the outside. A separate, isolated exhaust air system will be provided.

(iii) It is assumed that radiation containment is not required. However, a catchment sump under the shower drainage and ambulance bay wash down area is required to the sanitary sewer on the site.

(iv) Although the Decontamination Suite has a primary purpose, it will be located and equipped for general exam/treatment use, since it will be used infrequently for its primary purpose. The stretcher shower will be easily accessible for frequent general patient use.

(h) Room Isolation/Infection Control Capability

(i) Treatment rooms require negative pressure ventilation to accommodate patients requiring airborne infection isolation.

(ii) Two designated Airborne Isolation rooms (AIR) (with ante room and attached patient washroom) will meet the latest applicable CSA standards. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(iii) To facilitate infection control, hand hygiene sinks and hand sanitizers in patient Triage, Assessment and Main Treatment areas shall be provided in locations readily accessible to staff, patients and families.

(i) Privacy

(i) Provide complete visual and acoustic privacy for patients in examination, treatment and procedure areas. Privacy is of utmost importance and control of sound transmission between rooms as per acoustical and noise control requirements is a critical design element.

(j) Containment of Ambulance Exhaust Fumes

(i) Ensure exhaust fumes from ambulances parked in the covered drop-off area are not transferred into the building.

(k) Prevention of Drafts Adjacent to Emergency Department Entrance

(i) Ensure functional spaces adjacent to external entrances are draft free.

(l) Access and Parking

(i) Suitable, immediately adjacent patient and ambulance drop-off and parking as well as convenient access in general must be available for both walk-in patients and ambulances. Parking space for police vehicles will be provided in addition to ambulance vehicle space.

(m) Security

(i) Security features will be provided to maximize patient/family/staff safety and to minimize theft. Security services staff will monitor access to the component by patients and visitors. There will be no public routes to other hospital areas through the ED. Closed circuit television monitoring is required. Protection services staff will be assigned to an area near the entry/triage and the Mental Health area within the Main Treatment area.

(n) Lighting

(i) Multi-level lighting will be available throughout the component and will be of sufficient intensity to facilitate patient examination and reading.

(o) Retail/Coffee Shop

(i) The entry facility retail area must be readily accessible from the ED and by multiple public entries in the ACC.

(p) Access to Patient Areas

(i) Patient areas must be located and designed to minimize traffic flow through areas. Access from Triage area and ambulance area shall be as direct as possible to the main acute area.

(ii) Access to patient overflow space is required for mass casualty scenarios. (i.e., anesthetic care unit (ACU) area in Medical Imaging)

(q) Patient/Provider/Staff Safety.

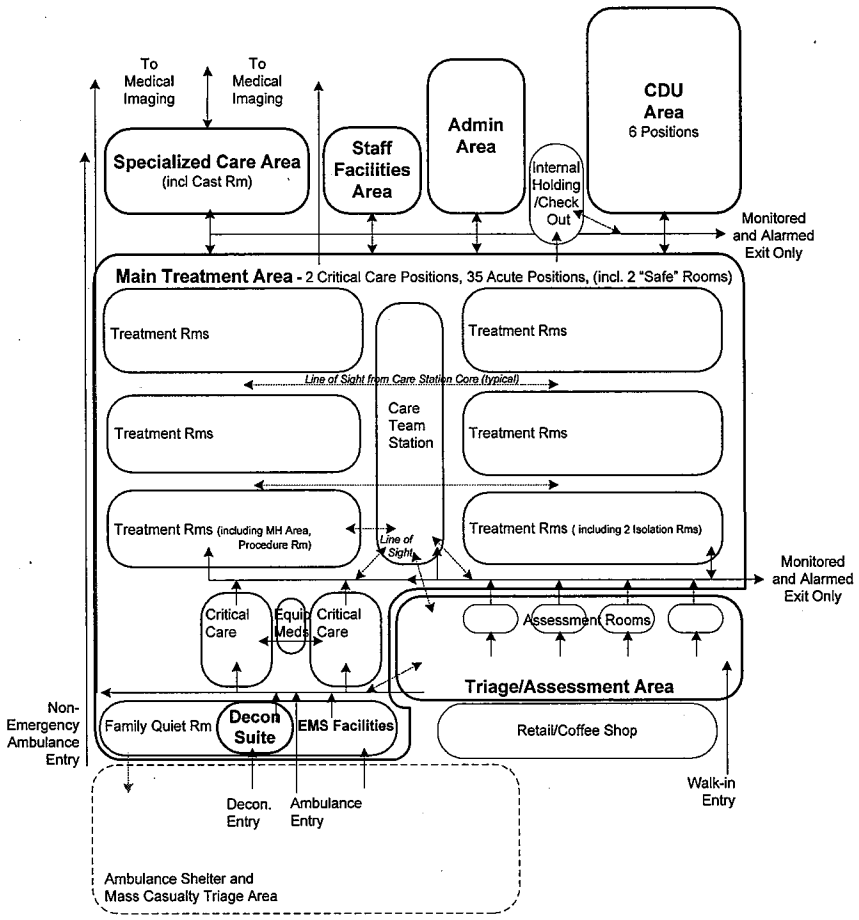
(r) Accessibility

(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(s) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



(ii) Key Design Features to be achieved:

(A) Access to the Procedures Suite (Special) and the PICU shall be direct minimizing horizontal distance and turns utilizing properly sized patient elevator(s);

(B) One way flow of patients should be achieved from point-of-entry to the exiting of the department;

(C) The entry facility retail area must be readily accessible from the ED and by multiple public entries in the ACC;

(D) Direct adjacency of the ED cast room to one general radiography/ fluoroscopy room in MI is required;

(E) Direct access to a shared pause/holding area (located in 3A.9 Medical Imaging) for patients waiting for access to an MI procedure room is required;

(F) A clear line of sight must be maintained from team care station(s) to all patient care areas, including triage and critical care area;

(G) The doors to/from the critical care rooms and the equipment room located between them, will open in a manner that does not impede the staff or equipment flow of those rooms. Doors will be glazed and privacy capable;

(H) Layout of the space must maintain sight lines between the critical care rooms;

(I) At least one of the isolation room entrances will face the team care station(s);

(J) A monitored and alarmed patient "exit only door" out of building between critical care rooms and treatment rooms is required;

(K) Corridors around perimeter of component to facilitate movement of supplies, staff into unit and allow movement of patients to/from adjacent components (e.g., Medical Imaging) without disrupting flow of providers and patients within the main treatment area;

(L) A monitored and alarmed patient "exit only door" out of the building in close proximity to internal holding/check-out area; and

(M) Design "soft space" such as offices or staff facilities areas adjacent to the CDU area to allow expansion capacity to eight rooms (additional 36 NSM).

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3A.7.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		EMS Facilities Area				*Areas in parentheses ( ) outside the building envelope*
10377	01	Ambulance Shelter	1		(250.0)	To accommodate 4 ambulances, diagonal parking, rear loading, drive-thru, hose bib, electrical outlets, 1 hand hygiene sink, 1 eyewash station, 2 exterior decontamination showers
10378	02	Storage, Ambulance Supplies	1		(5.0)	Located in ambulance shelter
10379	03	Storage, Emergency/ Disaster Supplies/Carts	1		(12.0)	Closed and secured, located in ambulance shelter
		Disaster Response Area:				*3 lines w/ 3 zones each, within Ambulance Shelter overhead canopy area. Sep. entrance*
10380	04	Zone One (Cold):	3	8.0	(24.0)	Closest to building, accommodate stretcher, staff, equipment. No air vents in this area, access to heat, light
10381	05	Zone Two (Warm):	3	10.0	(30.0)	Access to warm overhead shower, ambient heat/light. Drop down curtains to separate shower/redressing area. Shower section to accommodate stretcher/porter/family
10382	06	Zone Three (Hot):	3	8.0	(24.0)	To accommodate large #'s of people, allowing disrobing by gender, accommodate stretchers. Access to heat, light
10383	07	Alcove, Equipment	1		8.0	
10384	08	EMS Holding Area	1		22.5	3 ambulance stretchers, med gases, view from triage desk
		Subtotal, EMS Facilities Area			30.5	
		Decontamination Suite Area				*Lockdown capable*
10387	09	Decontamination Room, AIR	1		14.5	Stretcher/wheelchair shower, decon shower, eye wash station
10388	10	Ante Room, Decontamination, AIR	1		6.5	Entry from Emergency
10389	11	Storage & Staging Room	1		16.0	Accessible from within ante room
10390	12	Shower/Change Room, Staff	1		9.5	1 wc, 1 lavatory sink, 1 shower, lockers
		Subtotal, Decontamination Suite Area			46.5	

3A.7 BC CHILDREN'S EMERGENCY DEPARTMENT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Triage/Assessment Area				
10391	13	Entry Vestibule	1		4.0	Hands-free double set of doors
10392	14	Retail/Coffee Shop	1		72.0	Adjacent to ED entry area as well as public circulation to/from ACC lobby
10395	15	Washroom, Public, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
10396	16	Triage/Registration Station	1		28.0	
10397	17	Registration	1		2.0	
10398	18	Workroom, Registration	1		5.0	
10399	19	Assessment Room	4	11.0	44.0	2 doors each, 1 hand hygiene sink
10400	20	Security and Volunteer Station	1		7.0	
10401	21	Family Quiet/Multipurpose Room	1		11.0	6 seats, needs to be located anterior to SpaceID# 10402 w/ exit door direct to exterior of building
		Subtotal, Triage/ Assessment Area			182.0	
		Main Treatment Area (Inc. Mental Health Area)				*Essential to have direct access to CT and other diagnostic modalities, direct stairwell between PICU and ED for anesthesia staff, clear line of site from care station(s)*
10402	22	Critical Care Room	2	48.0	96.0	1 stretcher position (expandable to 2), 1 enclosable, 2 scrub sinks (1 per room), negative pressure, sliding glass doors to equipment storage room between the two rooms
10403	23	Storage, Equipment	1		13.0	Power and data line, pharmacy cabinet technology, between the two critical care rooms, etc.
11260	24	Storage, Equipment	1		5.0	
10421	25	Respiratory Therapy Work Area/ Supplies Storage	1		8.0	
10404	26	Patient Treatment Room	31	12.5	387.5	Divider walls & glass partition doors, ENT equipment garage locker
10405	27	Washroom, Patient, Wheelchair	5	4.5	22.5	1 wc, 1 lavatory sink
10406	28	Patient Treatment Room, AIR	2	12.5	25.0	These rooms need to be near triage but away from high traffic areas, divider walls & glass partition doors, locker

3A.7 BC CHILDREN'S EMERGENCY DEPARTMENT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10407	29	Washroom, Patient, Wheelchair AIR	2	4.5	9.0	1 wc, 1 lavatory sink
10408	30	Ante Room, AIR	2	4.0	8.0	PPE supply storage
10432	31	Alcove, Provider Resource	16	2.0	32.0	Located between 2 patient rooms, views into patient rooms
11227	32	Alcove, PPE Supplies	4	0.5	2.0	
10409	33	Patient Treatment Safe Room	2	12.5	25.0	Divider walls & glass partition doors, locker
10410	34	Alcove, Provider Resource	1		2.0	Located between 2 patient rooms, views into patient rooms
10413	35	Nourishment Station	2	5.0	10.0	1 double kitchen sink
10414	36	Medications Room	3	13.0	39.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10956	37	Clean Utility Room	3	23.0	69.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to and accessible from SpaceID# 10414 as well as the corridor
10417	38	Alcove, Linen	3	2.0	6.0	
10418	39	Soiled Utility Room	3	12.0	36.0	1 utility/cleaning sink
10412	40	Team Care Station	1		48.0	40 purse type lockers
11375	41	Pneumatic Tube Station	1		0.5	
11259	42	Provider/Learner Work Area	1		10.0	
10955	43	Unit Clerk Area	1		8.0	
10422	44	POCT Laboratory Work Area	1		6.0	
10420	45	Washroom, Staff	3	3.5	10.5	1 wc, 1 lavatory sink
10423	46	Storage, Equipment	1		15.0	
10424	47	Alcove, Equipment	4	3.0	12.0	
		Mental Health Care Area				*Separate area within Main Treatment Area*
10430	49	Office, Crisis Services	1		9.5	Located in close proximity to SpaceID# 10427
10427	50	Assessment/Interview Room	2	11.0	22.0	2 means of exit on opposite walls
10428	51	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10429	52	Seclusion Room	2	14.0	28.0	Floor bed, observable from team care station(s) with CC TV, 1 stainless steel sink/ toilet fixture

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
10912	53	Alcove, Provider Resource	2	5.5	11.0	"Buffer Zone" - could be combined to become a corridor, views into seclusion rooms (could be electronic)
		Subtotal, Main Treatment Area			980.0	
		Specialized Care Area				
10445	54	Internal Holding/Check Out Area	1		42.5	Up to 5 wheelchairs, for Main Treatment Area patients, access to exterior via "exit only" door, small play area. Consideration to use this area for mass casualties
10446	55	Washroom, Patient, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
10447	56	Office, Clinical Nurse Coordinator	1		9.5	
10451	57	Interview Room	1		8.0	
10452	58	Cast Room	1		20.0	2 positions, 1 utility/cleaning sink, plaster drain, shared between Main Treatment Area and SpaceID# 10454
10454	59	Procedure/Sedation Room	1		24.0	
		Subtotal, Specialized Care Area			113.0	
		Clinical Decision Unit Area				
10456	60	Patient Room	6	18.0	108.0	Wardrobe with lockable storage
10457	61	Washroom, Patient, Wheelchair	6	4.5	27.0	1 wc, 1 lavatory sink
10458	62	Care Team Station	1		12.0	
11376	63	Pneumatic Tube Station	1		0.5	
10459	64	Nourishment Station	1		5.0	1 double kitchen sink
10903	65	Medications Room	1		13.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10904	66	Clean Utility Room	1		18.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10903
10461	67	Alcove, Linen	1		2.0	
10462	68	Soiled Utility Room	1		18.0	1 utility/cleaning sink
11236	69	Alcove, Disaster Response Cabinet	1		1.5	

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
10464	70	Storage Alcove, Equipment	1		5.0	
		Subtotal, Clinical Decision Unit Area			210.0	
		Staff Facilities Area				*See also 3A.9 Medical Imaging for shared area*
11213	72	Lounge, Staff	1		25.0	
11381	73	Locker Area, Staff	1		10.0	50 'z type' lockers
11214	74	Servery Area	1		4.0	1 double kitchen sink
		Subtotal, Staff Facilities Area			39.0	
		Administration Area				*Partially located adjacent to CDU Area to allow future expansion capacity of CDU up to 8 patient rooms*
10465	75	Office, Shared	3	12.0	36.0	
10466	76	Office, Private	2	9.5	19.0	
10467	77	Office, Shared/Flexible Use Space	1		8.0	
11258	78	Office, Shared/Flexible Use Space	1		12.0	
10468	79	Office Support Room	1		8.0	
10469	80	Office, Clerk	1		24.0	
10470	81	Washroom, Staff	2	3.5	7.0	1 wc, 1 lavatory sink
10471	82	Conference/Meeting Room	1		40.0	
		Subtotal, Administration Area			154.0	
		Summary				
		EMS Facilities Area	1		30.5	
		Decontamination Suite Area	1		46.5	
		Triage/Assessment Area	1		182.0	
		Main Treatment Area (Incl. Mental Health Area)	1		980.0	
		Specialized Care Area	1		113.0	
		Clinical Decision Unit Area	1		210.0	
		Staff Facilities Area	1		39.0	*See also 3A.9 Medical Imaging for shared area*

3A.7 BC CHILDREN'S EMERGENCY DEPARTMENT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Administration Area	1		154.0	
		Total Emergency Department (Excluding Ambulance Shelter & Storage)			**1 755.0**	

3A.8.1 FUNCTIONAL DESCRIPTION

3A.8.1.1 Scope of Clinical Services

(1) This specification outlines the requirements for the 3 Specialty Operating Rooms (OR's), 3 Interventional Rooms (IR's), 4 General OR's, 3 Minor OR's and 37 Anesthetic Care Unit (ACU) beds, comprising the Procedures Suite that will be accommodated in support of the 2025/26 projected demands. Currently, procedural and interventional areas such as surgery, cardiac catheterization, angiography, endoscopies, etc., are organized as discrete departments each with its own dedicated procedure rooms, pre-operative prep and post-operative recovery areas, reception/care stations, clinical support and staff support areas. Co-locating surgical and interventional open and closed procedures and other diagnostic and treatment activities provides opportunities for increased staff efficiency through cross-training, flexibility across treatment modalities through universal room design, reductions to both infection control and medical errors and reduction to patient movement, thereby reducing costs and improving patient safety.

(2) Model of Care

(a) Patient and family-centred care will be provided by proceduralists (surgeons/ interventional radiologists), nursing, medical radiation technologists, anesthesiologists (and their health care learners), anesthesia assistants, technologists (perfusion, respiratory, electro-physiologists), porters and many others. The goal is to deliver diagnostic and therapeutic procedures in an environment that is supportive and calming for patients, families, and staff. Collaborative teams will minimize the handover of patient care by utilizing workflow process improvements including performing multiple procedures under one anesthetic.

(b) The Anesthetic Care Unit (ACU) utilizes a care team of nurses (RN, Licensed Practical Nurse [LPN]/care aides) to provide multi-acuity patient ratios, physicians (anesthesiologists, proceduralists), professional support (electrophysiology and laboratory technicians, anesthesia assistants, porters, clerk, radiology technologists, physio and respiratory therapists and volunteers).

(c) The OR and procedure rooms utilize a care team of anesthesiologists, proceduralists and RN's per patient depending on the complexity of the case. Professional support includes electrophysiology, echocardiography and laboratory technicians, anesthesia assistants, porters, clerk, radiology technologists, and equipment specialists.

(d) The IR/procedure rooms will utilize a care team of radiologists, nurses, radiology technologists, anesthesiologists, anesthesia assistants, child life therapists and learners.

(3) Those programs and services provided include:

(a) Perioperative Services (incl. preoperative, inter-operative, and postoperative procedural care);

(b) Pediatric Anesthesia Services;

(c) Pediatric Specialist Surgery ;

(d) Interventional Procedures (and selected imaging services);

(e) Perfusion Services; and

(f) Procedural Sedation (incl. dentistry and endoscopy).

(4) A brief description of each follows:

(a) Perioperative Services Pre-operative and pre-anesthetic care is provided in the ACU, where pre-operative assessment is done for children with complex surgical and anesthesia needs; as well as the preparation and post-operative care for children and their families. The procedure rooms support the medical needs of children undergoing primary, secondary, and tertiary surgical interventions. All pediatric surgical specialties and procedures are provided, except major organ transplants (other than kidney). The ACU also provides Level 1 and 2 recovery from anesthesia for most children immediately after their surgery or procedure;

(b) Patients range in age from newborns to youth scheduled to undergo surgical and/or interventional procedures in the OR, IR, or endoscopy suites. Although the majority of patients cared for are treated on a daycare basis, the unit also provides care for children being admitted after their procedure;

(c) Pediatric Anesthesia Services The Anesthesia Department cares for children of all ages with many different medical conditions by offering sedation and anesthesia for a range of surgical and diagnostic procedures and providing expertise in pain management and life support;

(d) Pediatric Specialist Surgery The range of general and specialty surgical services includes but is not limited to: cardiovascular, dental/oral, general pediatric, gynecology, neurosurgery, ophthalmology, orthopedics, otolaryngology, plastic surgery, urology and dermatology. The (Special) Procedures Team will provide care for patients having procedures ranging from all-day multidisciplinary procedures (e.g., craniotomy, open heart surgery, spinal instrumentation), to more brief procedures and diagnostic procedures (e.g., Commuted Tomography (CT), Magnetic Resonance Imaging [MRI]). These procedural rooms will also be the primary location for emergency operations of all types at BC Children's at any time of day or night;

(e) Interventional Procedures The Interventional Program provides a complete range of diagnostic and therapeutic procedures for children and adolescents. The Children's Heart Centre is equipped with a cardiac diagnostic service while interventional cardiac catheterization and electrophysiology service will be provided in the Procedures Suite (Special). Procedure rooms will be where almost all imaging-guided diagnostic and therapeutic procedures will be performed on both sedated and non-sedated inpatients and outpatients. Anesthesia is used to immobilize children for a number of imaging modalities including MRI and CT;

(f) Perfusion Services The Perfusion service provides specialized care and support for the cardiac surgery program, as well as the extracorporeal life support (ECLS) program. The Perfusion Department provides the support for the cell saver when required in either the BC Children's or the BC Women's OR's; and

(g) Procedural Sedation Anesthesia Many of the BC Children's ambulatory services rely on specialized procedures for diagnoses and interventions. Procedures accommodated in this component include:

(i) Dentistry;

(ii) Endoscopy; and

(iii) Dermatology.

3A.8.1.2 Scope of Education Activity

(1) Rapid and ongoing changes in clinical care, techniques, equipment and supplies will create the need for easy access to educational space for learning and hands-on practice. This is very important as new technologies are introduced and retraining occurs.

(2) The Procedures Suite will provide clinical resources in support of teaching programs for five to ten students at any given time.

(3) Most teaching will occur within available service space (i.e., procedure rooms) with each room having up to 5 learners at a time. However medical and nursing education programs also require convenient access to group teaching facilities for small (six to eight persons at a time) and large (20 people) groups within the component. Space for educational functions occurring infrequently or involving larger groups, will utilize available facilities elsewhere in the ACC and other buildings on the campus.

3A.8.1.3 Scope of Research Activity

(1) Clinical research activities will occur within this component, and some will require dedicated facilities or staff resources beyond those already provided for patient care services.

3A.8.1.4 Specific Scope Exclusions

(1) This Procedures Suite specification excludes selected procedural or interventional activities occurring elsewhere, including:

- (a) BC Children's Oncology/Hematology/BMT Program (see 3A.3);
- (b) BC Children's Medical/Surgical Inpatient Units (Burn Care) (see 3A.2);
- (c) BC Women's Birthing Program (see 3A.6);
- (d) BC Children's Emergency Department (see 3A.7); and
- (e) C&W Medical Imaging (see 3A.9).

3A.8.2 OPERATIONAL DESCRIPTION

3A.8.2.1 Minimum Hours of Operation

(1) This component will be operational between 0730 and 1530 hours on weekdays at minimum.

(2) Routine hours of operation for sections of this component will be as follows:

- (a) Level A – Procedures Suite (Special):
  - (i) 0730h-1530h Monday to Friday for elective surgery,
  - (ii) Weekday evenings and weekends, for urgent/emergent procedures,
  - (iii) Staff, including anesthesiologists, RN's, radiology technologists, radiologists and additional staff, will be on-call for emergency procedures 24/7;

(b) Level A – Procedures Suite (Special) ACU:

(i) The four larger patient rooms in the ACU have the ability to provide service up to 24 hours as required;

(c) Level B –Procedures Suite (General):

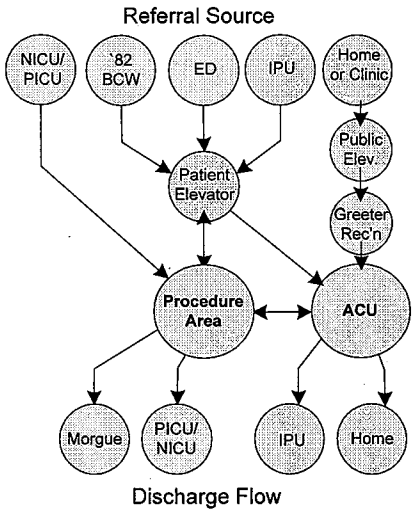
(i) 0730h-1530h Monday to Friday for elective surgery; and

(d) Level B –Procedures Suite (General) – ACU:

(i) 0730h-1530h Monday to Friday for elective surgery.

3A.8.2.2 Patient and Family Management Processes and Flows

(1) Patient Management Patient booking/scheduling will be centralized for all surgical/ procedural and interventional services through the centralized booking system office located in this component.



(2) Pre-Procedural Preparation All patients will have undergone a pre-screening assessment by a health professional. This prescreening assessment will be by telephone for the majority of patients undergoing procedures, with access to anesthesiologists or other appropriate health professionals (RN or Nurse Practitioner [NP]) in an ACU patient room. Some patients will be seen pre-procedure, in the Pre-Anesthesia Assessment Clinic (PAC), for a more in-depth review. This clinic will be located in the Ambulatory Care building (ACB).

(3) Procedures Suite Patients and families will arrive at a greeter reception desk on the respective levels, where they will be directed to a bed within the ACU for pre-procedural preparation, receive final instructions, medications and preparation for the procedure. The one-way flow will have patients return via a separate route following the procedure to be cared for in an ACU patient room. For patients who will be discharged on the day of arrival, they will be sent home from the ACU. For patients who will be admitted to the hospital (Admit Day of Procedure [ADP]) or coming from an inpatient or critical care unit, they will be transferred back to the appropriate location (e.g., inpatient or critical care unit).

(4) 24 hour Stay Patients identified as requiring a 24 hour stay and who meet the specific requirements will be cared for overnight in the ACU patient rooms designated for that purpose.

(5) Families will follow the same flows with their children. A communications device will be provided to family members waiting outside of the ACU and Procedure areas.

(6) Patient families will be informed of their child's progress by the electronic patient information boards located in the pause area, reception area, and the team care station within the ACU and in some cases, face-to-face with a provider in patient-provider consultation rooms when needed.

3A.8.2.3 Patient Information Management and Flows

(1) Reception/Control Functions will be centralized to facilitate control and monitoring of all patient movement into, within, and out of, the component. Remote monitoring systems may be utilized to assist in this function, and to help maintain security.

(2) Patient information will be available to providers throughout the unit wirelessly or through computer monitor positions at the bedsides, team care stations and observation alcoves. Dictation alcoves will be available throughout the component outside of the individual procedure rooms.

(3) Radiology workstations will have access to the Picture Archiving and Communication System (PACS).

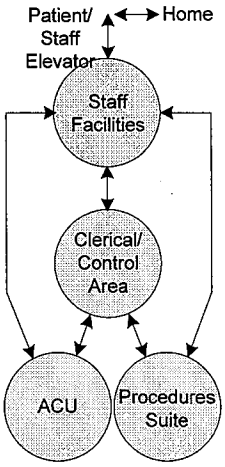
(4) Electronic patient status board and patient monitoring will be available at the reception, pause and ACU areas as well as staff lounge, consult rooms and provider/learner work areas.

(5) Staff will be able to communicate utilizing a hands-free communication system.

(6) Patient rooms and patient team care stations must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

3A.8.2.4 Provider Work Processes and Flows

(1) All staff will work on both levels of Procedures Suite and will have access to an internal convenience stair that will allow staff to flow between suites as required to meet patient needs throughout the day. This internal connection is very important for a rapid response to a Code Blue from anesthesiology and team members.



All staff, including students, will enter the staff facilities to change out of street clothing and proceed to the appropriate level for assignment at the clerical/control area. When the shift is completed, staff will return to the locker room and change into street clothing, dispensing with surgical garb before leaving the facility.

(2) The completion of the pre-procedure process will be provided in the ACU patient room to allow privacy for interviews and exams. The staffing model for the ACU will flex according to patient care needs and acuity.

(3) Medications will be administered in the ACU according to patient needs.

(4) Proceduralists who need to speak with family during or after a procedure will do so in the ACU or will speak with families just outside of the ACU in the patient-provider conference rooms.

(5) The team care station will act as the central control point within the ACU areas.

(6) Staff on both/between both levels will be able to communicate with hands-free communication devices for emergency response situations.

3A.8.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these are described in more detail in other referenced sections of these clinical specifications. Most services will be delivered to point of care.

(a) Pharmacy Services

(i) Pharmaceutical supplies will be delivered by pharmacy on a top-up ward stock system basis. Pre-mixed antibiotics will be available through the Centralized Intravenous Additives (CIVA) program. Controlled drugs will be accommodated within the medications room in automated medication cabinets (AMC), located in the Procedures and ACU Support areas.

(ii) Access to clinical pharmacy expertise is required 24/7.

(b) Laboratory

(i) Laboratory functions will remain in central pathology and laboratory medicine in the 1982 building. Scheduled and unscheduled collections of specimens by anesthesiologists or nursing staff will use porters or pneumatic tube to transport these specimens to the main laboratory, including frozen sections.

(ii) Point-of-Care Testing (POCT) stations will be provided in the procedure support area.

(c) Medical Imaging

(i) In addition to the fixed interventional magnetic resonance imaging (MR) and computed tomography (CT) equipment, imaging services in the Procedures Suite will be provided by means of mobile radiographic and fluoroscopic units.

(ii) Access to an imaging technologist(s) to meet demands is required 24/7.

(d) Anesthesia

(i) Coverage for overnight stay cases, pre and post procedure pain management will be provided on a 24/7 basis.

(ii) Anesthesia management in the procedure rooms will include medical complications of high risk patients.

(e) Neuro-Diagnostic Services, Diagnostic Cardiology Services, Ophthalmology

(i) All services provided with diagnostic equipment in specific procedure rooms as appropriate.

(ii) Mobile service will be provided for rooms without fixed equipment.

(f) Social Work, Language Services

(i) Both services are provided on an "as needed" basis at the bedside or within consult/interview rooms.

(g) Supply Chain

(i) Sterile supplies will be processed in the Medical Device Reprocessing (MDR). Sterile supplies are to be delivered in closed case carts directly to the clean core area of the Procedures Suite via a dedicated clean elevator. Each surgical procedure is assigned a cart, which is prepared especially for that procedure and contains all the necessary instruments and supplies except pharmaceutical supplies.

(ii) At time of use in a procedure, case carts are transferred to the respective procedure rooms and packs are opened and prepared. The cart remains in the room during the course of the procedure. Any back-up supplies needed during the performance of the procedure are delivered via the clean core area staff to the procedure room circulating nurse.

(iii) All equipment, which cannot or need not be sterilized, is maintained in a designated area adjacent to the patient/staff corridor. Examples are anesthesia machines, monitoring equipment and portable x-ray machines.

(iv) Following the procedure, all instruments, equipment and soiled or contaminated materials are removed from the procedure room in appropriate bags or placed in the case carts in which they were delivered. Equipment to be reprocessed in the MDR is placed on covered carts and transferred directly to the dedicated soiled elevator within the Procedures Support areas prior to return to the decontamination area of MDR. Inclusion of a vestibule for the soiled elevator, for infection control purposes, is required. All supplies brought into the procedure room and opened are considered contaminated, whether used or not, and must be removed from the room as described before re-use.

(v) Soiled case carts are moved to the decontamination area of the MDR for sorting and washing. Instruments and material are sterilized and packed in MDR, arranged on case carts, brought up to the Procedures Suite and the process begins again.

(vi) Fast-turnover general medical/surgical supplies, including some sterile supplies, will be transported by supply chain staff to the component using a scheduled system.

(vii) Endoscopic equipment will be transferred to MDR for reprocessing, and returned to the Procedures Suite as required. Items will not be soaked in the Procedures Suite components.

(viii) Mail and other small materials and STAT medication, will be circulated using personnel or pneumatic tube as required.

(ix) Clean linen will be transported to the component using a scheduled exchange cart system.

(x) Medical/surgical supplies and clean linen will be held in a clean utility room or linen alcoves within designated areas of the component.

(xi) Recycling bins and a confidential paper-recycling bin will be located in soiled utility rooms in each functional area.

(h) Biomedical Engineering (BE)

(i) An instrument tracking system will be implemented to improve assembly and replacement efficiency.

(ii) Extensive equipment storage will be provided in the Procedures Suite Support areas for those items used frequently. The need for equipment storage space in the component is critical.

(iii) Daily cleaning and maintenance of anesthesia machines and equipment will take place within the component. Accessories will be sent to MDR for cleaning and sterilization and returned to the Procedures Suite Support areas for reassembly.

(iv) Equipment that is not easily moved, or for fragile or sensitive equipment that will require re-calibration if moved, must be maintained in situ.

(i) Food Services

(i) Some patients within the ACU, will be provided with a beverage and light snack service provided from a nourishment centre within the component and, on an occasional basis, full meal services as required (e.g., 24 hour stay patients) will also be provided.

(ii) Ensure food is not seen or smelled within the fasting patient pause areas.

(j) Code Support

(i) Access to an emergency call/notification system will be available in every procedure and ACU room with Code Blue overhead call outs in all areas except pause area.

(ii) A dedicated code cart will be stored in the unit (one per level).

(iii) A resuscitation team from PICU will assist in the case of a code on a procedure room patient after-hours.

(k) Security

(i) Procedure and Procedure Support areas on both levels will have restricted access. This includes access to each level from stairwells.

3A.8.3 ACTIVITY CAPACITY

3A.8.3.1 The table below summarizes the baseline activity and projected demand for the Procedures Suite.

Planning Area	Baseline 2010/11	Projected 2017/18	Projected 2025/26	Build
Procedures Suite (Special) Procedures				
Regular Hours	630	771	832	n/a
Off-Regular Hours	104	111	121	n/a
Subtotal Procedures Suite (Special) Procedures	734	882	953	n/a
# of Specialized OR's (Patient Positions)	*2*	*2*	*3*	*3*
Procedures Suite (General) Procedures				
Regular Hours	6,419	7,177	7,878	n/a
Off-Regular Hours	916	979	1,069	n/a
Subtotal Procedures Suite (General) Procedures	7,335	8,156	8,947	n/a
# of General OR's (Patient Positions)	*6*	*6*	*7*	*7*
Total OR Procedures – Regular Hours	**7,049**	**7,948**	**8,710**	**n/a**
Total OR Procedures – Off-Regular Hours	**1,020**	**1,090**	**1,190**	**n/a**
Total Procedures	**8,069**	**9,038**	**9,900**	**n/a**
Interventional Radiology Procedures (within Procedures Suite (Special))	1,184	1,787	2,888	n/a
# of Interventional Radiology Procedure Rooms	*2*	*3*	*4*	*3*

3A.8.4 PEOPLE REQUIREMENTS

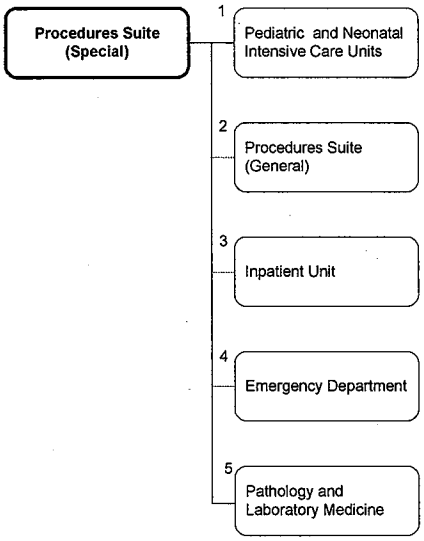
3A.8.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people:

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
Procedures Suite (Special)						
Reception/Pause Area	16	3	2	2		**23**
ACU Area						
Patient Change/Pause Area	8	3				**11**
ACU Area	26	10	4			**40**
ACU Support Area	14	6	2			**22**
Procedures Area						
Procedures Area	12	64	21			**97**
Procedures Support Area		30	10			**40**
Staff Support Area						
Office Area		8	2			**10**
Staff Facilities Area		8				**8**
Procedures Suite (General)						
Reception/Pause	8	3		2		**13**
ACU Area						
Patient Change Area	13	2				**15**
ACU Area	20	28	2			**50**
ACU Support Area		22	4			**26**
Procedures Area	7	34	20			**61**
Procedures Support Area		18	5			**23**
Office Area		8	1			**9**
Staff Facilities Area		17				**17**

3A.8.5 DESIGN CRITERIA

3A.8.5.1 Key External Relationships

(1) The following key relationships for the **Procedures Suite (Special)** will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by internal circulation to Pediatric and Neonatal Intensive Care Units for the movement of critically ill patients, all of which will bypass the ACU.

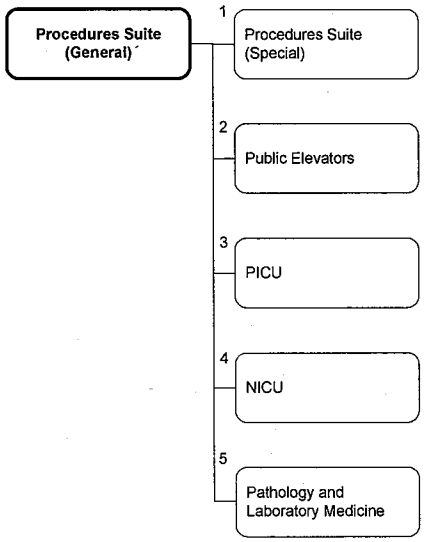
2 Provide direct access by internal circulation to/from the Procedures Suite (General), for the movement of staff and equipment in the event of a Code Blue/crisis situation.

3 Provide direct access by general circulation to the Inpatient Units for patient transport following recovery.

4 Provide direct access by general circulation from Emergency Department for the transport of patients requiring emergency surgery.

5 Provide convenient access by general circulation to the Pathology and Laboratory Medicine for the transport of specimens.

(2) The following key relationships for **Procedures Suite (General)** will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by internal circulation to the Procedures Suite (Special), for movement of staff and equipment in the event of a Code Blue/crisis situation.

2 Provide direct access by general circulation from the public elevators for patient and family access.

3 Provide direct access by internal circulation to the PICU, in the event of a Code Blue/crisis situation.

4 Provide direct access by general circulation to the NICU.

5 Provide convenient access by general circulation to the Pathology and Laboratory Medicine for the transport of specimens.

3A.8.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as key criteria in planning the nature and configuration of space.

(a) Zoning

(i) Provide four functionally distinct areas of activity within each Procedures Suite as follows:

(A) Reception/Pause Area;

(B) Anesthesia Care Unit Area (ACU);

(C) Procedures Area; and

(D) Staff Facilities Area.

(b) Unrestricted, Semi-Restricted and Restricted Areas

(i) The unrestricted area includes a reception/greeter/pause point established to monitor the entrance of patients and family.

(ii) The semi-restricted area which is also defined as the "red-line" zone includes the peripheral support areas such as storage areas for clean and sterile supplies, work areas for storage of instruments and equipment and the corridors leading to the restricted areas of the suites. Traffic in this area is limited to authorized staff, patients and family. Staff are required to wear surgical attire and cover all head and facial hair and family will be required to wear a surgical gown, head and foot covers.

(iii) The restricted area includes all procedure rooms and the clean core area and constitutes "sterile" core.

(c) Reception/Greeter/Pause Areas

(i) A reception/greeter centre shall be developed to handle information and patient and family entry. This control centre should have audio (intercom) communication links to patient holding area(s), each procedure room, clean core area, ACU areas, and the critical care units.

(ii) Family support will be available in this area including a resource area, public telephone, nourishment/dining, consultation rooms and family/visitor pause rooms.

(iii) Visually separate pause and child play areas have been designated for fasting patients in the ACU to assist in maintaining their fast before procedures. No nourishment points shall be visible or smelled from these areas.

(iv) Visual and acoustic privacy for patients and family members in the patient-provider consultation rooms shall be provided.

(v) Natural light and provision of views is desired in pause.

(d) ACU Area

(i) The team care station will act as the central control point within the ACU areas. All patient locations within these areas shall be visible from a team care station.

(ii) The ACU will require sound reduction measures as per acoustic and noise control requirements, between patients who are going in for a procedure and those returning following a procedure for recovery from anesthetic/sedation, to reduce anxiety related to noise levels in both pre- and post-procedure areas.

(iii) The entry doors to each patient room must be sliding glass and privacy capable.

(iv) Controlled access to the patient room shall be provided to keep it free of unnecessary traffic. Patient visitation by family will be permitted but controlled. Relatives and friends shall be able to pause in an adjacent area until being admitted to the patient room by nursing staff.

(v) Layout of patient room areas, changing area, and circulation routes shall provide for a unidirectional flow of patients through the component on each respective level.

(vi) The short stay (24 hour) rooms in the ACU associated with the Procedures Suite (Special) shall be provided with at least some exterior view to offer the patient and family some distraction during a long day's stay.

(vii) The team care station area will be highly accessible to patients and their family/ visitors so there is a need for a private staff conference/ meeting room as per acoustic and noise control requirements.

(viii) Activities in the team care stations shall not disturb sleeping patients. Therefore, the team care stations shall be designed as per acoustic and noise control requirements, while maintaining patient visibility.

(ix) The Procedures Suite (Special) will be staffed 24 hours per day to provide emergent procedure services and observe patients in the short stay area of the ACU.

(x) The provider/learner touchdown spaces will include access to imaging, discussion of teaching/learning issues and facilitate dictation/phone access.

(xi) Offices for the OR buyer and equipment coordinator need to be outside the restricted areas and in close proximity to the service elevators for receiving inventory and supplies.

(e) Procedure Area

(i) There will be a restricted access "red line" around each procedures area. All procedure rooms require direct secured access to clean core. The clean core must have secure access to the dedicated clean elevator without traversing a procedure room to allow the movement of sterile supplies from the MDR.

(ii) The "red-line" corridor around the Procedures area on each level will have radius corners for ease of moving stretchers rapidly.

(iii) Alcoves (scrub sink, stretcher) will be inset adjacent to the entrance of all procedure rooms to keep corridors clear. All alcoves will provide access to power at appropriate heights. Power outlets must be able to accommodate various types of equipment including C-arm and portable x-ray machines.

(iv) Mobile equipment carts will allow equipment to be moved to the room it is required in, and out of the way when not required for a particular procedure.

(v) The provision of natural light into the operating rooms by way of 'borrowed' light from the peripheral corridor is highly desired.

(vi) The placement of CT, MR, cardiac catheterization and interventional radiology suites on the same level as the PICU is critical to meeting a key requirement to minimize transportation times for the most seriously ill patients.

(vii) Rooms used for laser procedures shall be equipped with safety screens and in-use signs at doorways and windows as well as special electrical power and plumbing provisions. Access will be restricted while in use.

(viii) Access route from the building exterior is required for the installation and future exchange of MR/CT equipment from the floor.

(ix) The IR procedure rooms require an immediate adjacency to the interventional supplies as a selection of type/size is often not made until the procedure is underway.

(x) Lead protective apparel must be available to all staff as part of the personal protection equipment (PPE).

(xi) The clerical/control area in each Procedures area should have line of sight to the ACU, to all patient entrances into the suite and patient elevator lobby on each respective level.

(xii) The clean core on each level will store essential consumable supplies and case carts for emergency cases as well as scheduled cases. There will be traffic flow of restricted personnel, equipment and supplies within the core.

(xiii) All procedure and ORs require the capability of video links to the pathology laboratory in the 1982 building for intra-operative consults. All rooms need the technology infrastructure to view live and recorded images video feed in a real-time viewing.

(f) Exterior Views

(i) Maximum natural light and exterior views in the components shall be provided wherever possible.

(g) Room Isolation Capability/Infection Control

(i) All airborne isolation rooms (AIR's) shall be provided with negative pressure ventilation for patients with infectious disease. An ante room containing a hand hygiene sink, and a storage area for PPE supplies shall be provided. Designated AIR rooms with attached ante rooms require a separate entrance

for patients. A provider entrance through the adjoining ante room is also required.

(ii) All operating/procedure rooms shall be positive pressure. Each level will have one negative pressure room, complete with ante room.

(iii) Appropriate scrub sink alcoves will be directly adjacent to all procedure room entrances.

(h) Staff Facilities Area

(i) Staff respite, lounge/servery and change areas will be within easy access from the ACU's and procedure areas on each respective level.

(ii) The staff lounge shall be suitably subdivided by means of seating arrangements, and other furnishings, to permit a high degree of privacy for a number of separate conversation groups as well as ability to lie down for rest breaks.

(iii) The staff lounge shall provide for the access by staff arriving from outside the component. This will require dual access from the clean area of the component and from general circulation outside the component.

(i) Lighting

(i) A minimum of three distinctive lighting types should be provided in each procedure room:

(A) General ambient lighting appropriate to procedures undertaken;

(B) Focused and precise procedural surgical lighting to illuminate areas of incision (whether minimal or open) and the sterile field; and

(C) High levels of room illumination for patient induction and for cleaning activities between procedures.

(ii) All procedure rooms are to be black-out capable.

(j) Accessibility

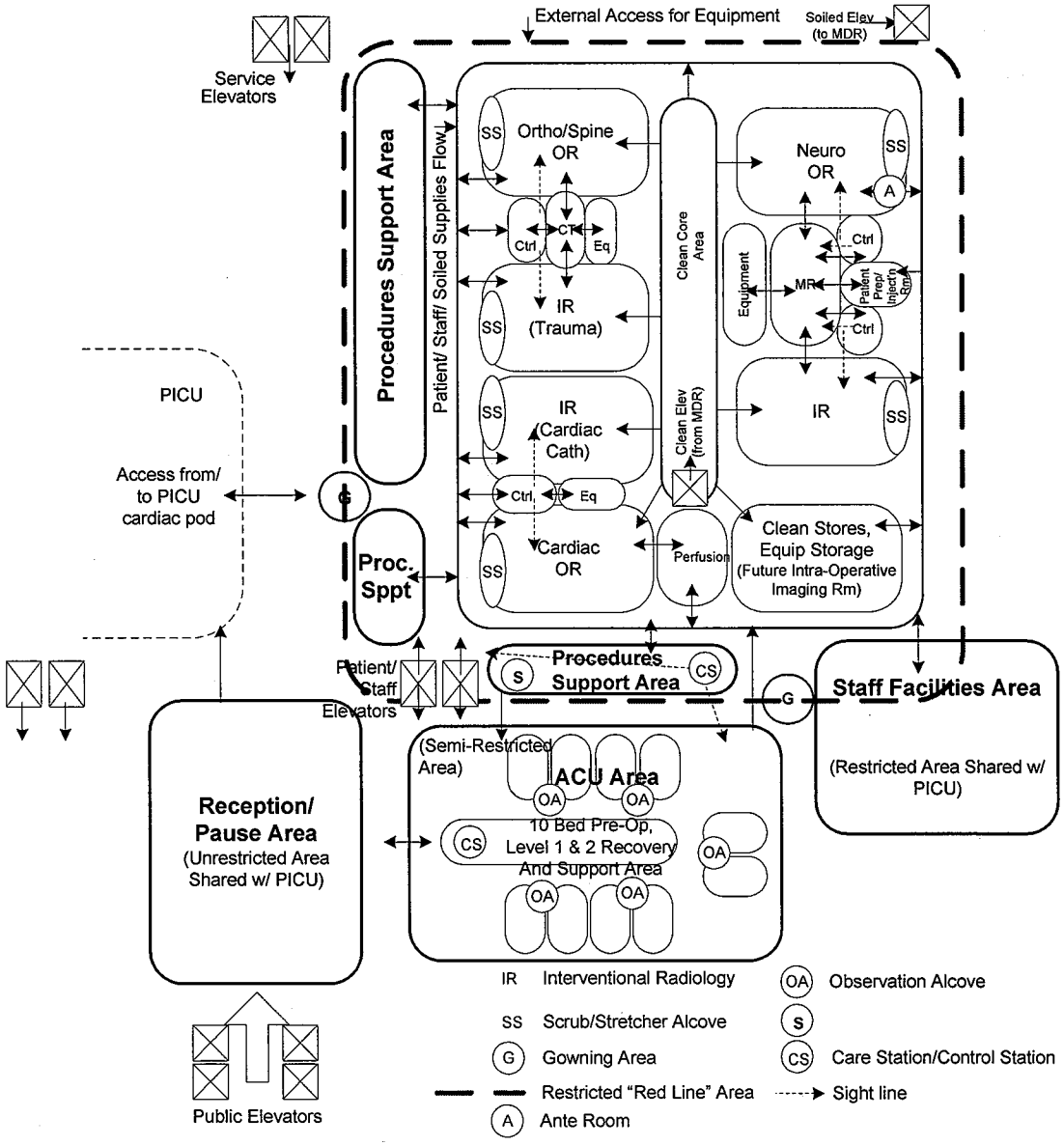
(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(k) Component Functional Diagrams

(i) The spatial organization of this component will be generally as shown in the diagrams below. The diagrams illustrate conceptual relationships, and shall not be treated as floor plans.

Level A - Procedures Suite (Special)



(ii) Key Design Features to be achieved for the Procedures Suite (Special):

(A) The cardiac OR shall be closest to, and have a direct route from the cardiac care unit in 3A.4 PICU, separate from public areas/circulation;

(B) The cardiac OR must be in close proximity to the perfusion room and the cardiac cath IR procedure room;

(C) Design must enable direct, dedicated patient transport from ED to Procedures Suite (Special) with minimal distance and turns;

(D) The room designated as a future Intra-Operative Imaging room in the Procedures Suite (Special) will have direct adjacency to both an IR room and neuro OR to allow transfer and use of the magnet in all three rooms. All three rooms will be fit out for use of the magnet with associated intra-operative zoning and radiation protection, warnings, and floor load capacities. The control rooms for the future intra-operative imaging room will have visibility and access into both the IR and Neuro OR. A patient preparation room will be situated between the clean corridor and the future intra-operative imaging room to allow patients to be moved outside of the magnetic field in case of an emergency;

(E) The CT "garage" in the Procedures Suite (Special) will be located between the ortho/spine OR and the IR/"trauma" room to allow the transfer of the CT between either room. Both procedure rooms will be fit out for use of the CT with associated radiation protection, warnings, and floor load capacities. The control rooms for the CT will have visibility and access into both the OR/IR and ortho/spine OR;

(F) Visual indication of the arc outline on the floor for the fields of the intra-operative imaging equipment is required, as well as visual warnings indicating lasers in use within individual rooms;

(G) Direct access route from the exterior of the building is required for the installation and future exchange of intra-operative imaging equipment from the floor;

(H) All procedure rooms will be designed to be hybrid room capable including:

- **(H1)** Designed to accommodate both open and closed surgical and interventional procedures,
- **(H2)** Configured for surgical sterile control precautions including being within the "surgical red-line" in the suite,
- **(H3)** Designed for use of anesthesia, and
- **(H4)** Equipped for various image guidance modalities that are integral components of the procedure;

(I) Easy access to staff respite areas is required from all areas of the suites;

(J) All patient routes/corridors shall have a limited number of turns to facilitate the easy flow of patients, providers, equipment and supplies;

(K) All equipment will be stored in alcoves and rooms designated for this purpose. All alcoves shall be sufficiently recessed to prevent obstructions in corridors when someone is accessing the alcove. All alcoves and rooms will include adequate electrical outlets at the appropriate heights above finished floor level for recharging of various equipment;

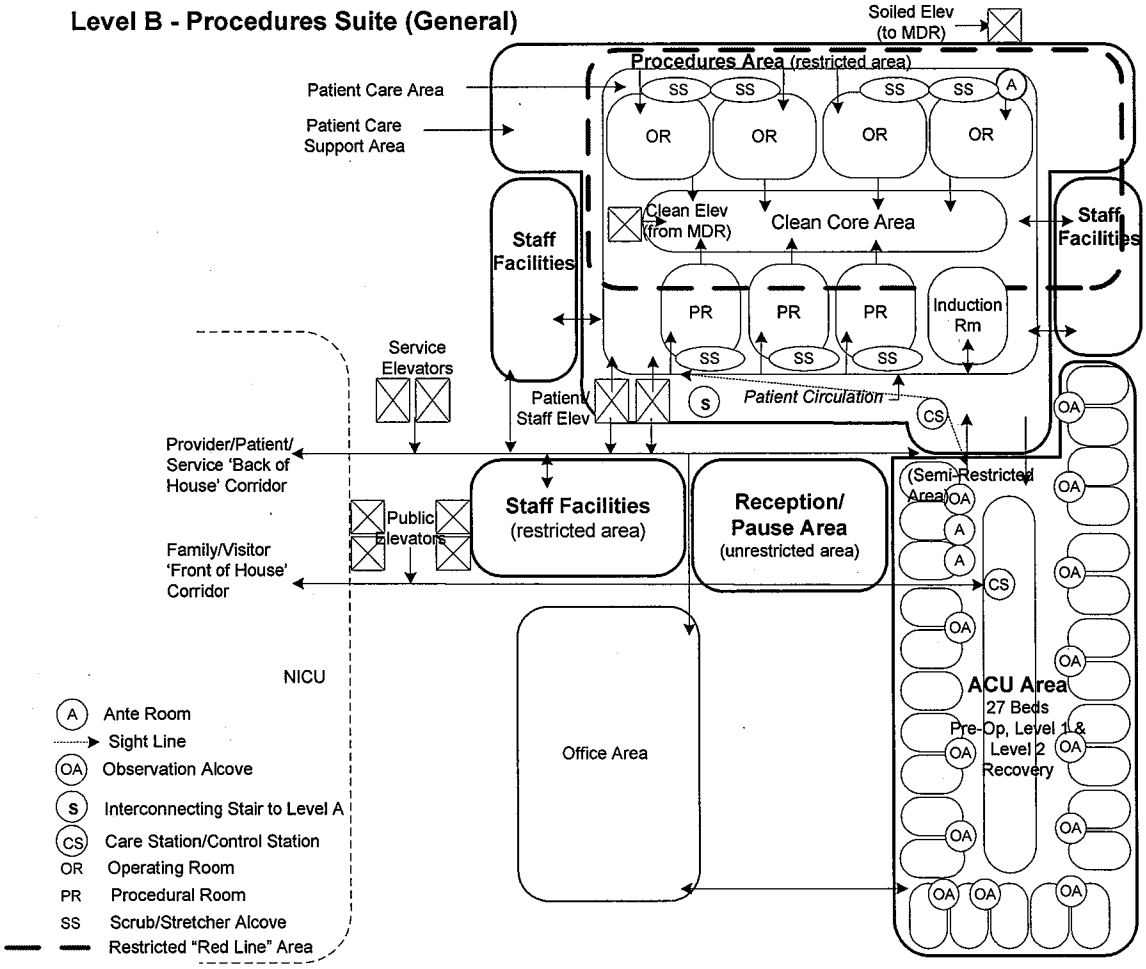
(L) Each procedure room will have secured access to both the clean core and a clean periphery corridor with sightlines to both that can be made opaque for privacy or safety;

(M) The shape of the procedure and OR rooms shall be equal in length and width (1:1);

(N) Direct access by internal circulation is required between both levels of Procedures Suite by convenience stair, for movement of staff in emergency situations, to allow maximum staffing flexibility and to support the concept of one intra-connected single procedures operation on two building levels; and

(O) Each procedure room should be configured with three distinct zones: a circulating zone, an anesthesia zone (at the head of a patient), and a sterile zone (closest to the clean core), with both the clean and anesthesia zones to be free of unrelated through traffic.

Level B - Procedures Suite (General)



(iii) Key Design Features to be achieved for the Procedures Suite (General):

(A) The procedure rooms will have patient access from outside the "red-line" zone to allow patients to enter the Procedures area from the ACU in street clothing for procedures requiring sedation. The second access to these rooms will be from the clean core area to allow both sterile and non-sterile procedures;

(B) The shape of the procedure and OR rooms shall be equal in length and width (1:1);

(C) All procedure and OR require the capability of video links to the pathology laboratory in the 1982 building for intra-operative consults. All rooms need the technology infrastructure to view live and recorded images video feed in a real-time viewing;

(D) A restricted-access patient elevator should be adjacent to, and open into the restricted zone in the Procedures area. A "neutral zone" should be immediately accessible from the elevator for patient holding;

(E) Line of sight should be maintained from the Clerical/Control Area within the restricted Procedures area and the ACU as well as the patient elevator lobby area; and

(F) Spaces that have limited designated specific function shall have the flexibility to be used alternately when not required for the originally intended purpose.

3A.8.5.3 Schedule of Accommodation

Level A - Procedures Suite (Special) (3 Special ORs, 3 IR's, 10 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Reception/Pause Area				*Shared w/ 3A.4 BCC Pediatric Intensive Care Unit*
11167	01	Reception/Greeter Desk	1		12.0	
11169	02	Workroom, Office Equipment	1		15.0	
10506	03	Family Interview/ Consultation Room	2	9.5	19.0	Access from "off-stage" corridor and "on-stage" corridor
10475	04	Patient/Family Support Area, Non-Fasting	1		70.0	Separate zones for PICU and Procedures Suite: 1 hand hygiene sink, play area at 15.0 nsm (4-5 toddlers & parents)
10476	05	Volunteer Desk Area	1		4.0	
10477	06	Resource Area	2	4.0	8.0	
10974	07	Mother's Pump Room	1		4.0	1 hand hygiene sink
11171	08	Wheelchair Holding Area	2	4.0	8.0	
11172	09	Consult Room	2	9.0	18.0	
11174	10	Washroom, Public, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
10975	11	Quiet Room, Spiritual Care, Bereavement, Pause Area	1		15.0	For both Procedures and PICU patients, moveable/ flexible wall between quiet/spiritual & bereavement/pause areas
11170	12	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, Reception/ Control Area			185.5	
		Anesthesia Care Unit Area				
		Patient Change/Pause Area				
10977	13	Play Area, Fasting Toddlers	1		12.0	3-4 patients and family
10949	14	Play Area, Fasting Pre-Teen, Isolation	1		12.0	4-5 toddlers & parents
10482	15	Patient Locker Area	1		4.5	8 lockers
10483	16	Storage Closet, Patient	1		6.0	To be secured
		Subtotal, Patient Change/ Pause Area			34.5	

Level A - Procedures Suite (Special) (3 Special ORs, 3 IR's, 10 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Patient Care Area				
10484	17	Patient Room, Private	6	13.0	78.0	Wardrobe with lockable storage
10485	18	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10486	19	Patient Room, Private, AIR	1		18.0	Wardrobe with lockable storage
10487	20	Washroom, Patient, Wheelchair AIR	1		4.5	1 wc, 1 lavatory sink
10946	21	Ante Room, AIR	1		4.0	PPE supply storage
11231	22	Patient Room, Private	3	18.0	54.0	Wardrobe with lockable storage
11232	23	Washroom, Patient, Wheelchair	3	4.5	13.5	1 wc, 1 lavatory sink
10488	24	Alcove, Hand Hygiene Sink	10	0.5	5.0	In corridor adjacent to entrance of patient rooms
10489	25	Alcove, Patient Observation	5	2.0	10.0	Locate between 2 patient rooms
		Subtotal, Patient Care Area, One Care Pod			191.5	
		Patient Care Support Area				
10478	26	Child Play Area	1		12.0	4-5 toddlers & parents
10496	27	Team Care Station	1		12.0	Purse type lockers
10497	28	Pneumatic Tube Station	1		0.5	
10498	29	Medications Room	1		9.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10948	30	Clean Utility Room	1		15.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10498
10500	31	Alcove, Linen	1		2.0	
10501	32	Storage Room, Equipment	1		20.0	
10502	33	Nourishment Station	1		12.0	1 double kitchen sink
10504	34	Soiled Utility Room	1		15.0	1 utility/cleaning sink
11237	36	Alcove, Disaster Response Cabinet	1		1.5	
10508	37	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, Patient Care Support Area			102.5	
		Subtotal, Anesthesia Care Unit Area			328.5	

Level A - Procedures Suite (Special) (3 Special ORs, 3 IR's, 10 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Procedures Area (Special)				
		Patient Care Area				
10950	38	Operating Room, Cardiac	1		85.0	Rapid access to PICU
10514	39	Perfusion Workroom	1		36.0	Adjacent to SpaceID# 10950
11233	40	Interventional Radiology Procedure Room (Cardiac Cath)	1		85.0	Located immediately adjacent to SpaceID# 10950
11234	41	Control Room	1		14.0	
11235	42	Equipment Room	1		10.0	Electrical equipment room
10510	43	Operating Room, Neuro, AIR	1		85.0	Rapid access to PICU
11438	163	Ante Room, AIR	1		4.0	PPE supply storage
11239	44	Future Intra-Operative Imaging Room	1		55.0	Exterior access for equipment replacement
11240	45	Equipment Room	1		10.0	Electrical equipment room shared between OR/IR imaging room
10951	46	Control Room	2	10.0	20.0	2 smaller rooms required to allow visibility into both neuro OR and IR room. Both rooms must have visibility into Intra-operative imaging room
11241	47	Patient Prep/Injection Room	1		12.0	To be located between the 2 control rooms. Stretcher access, 1 process sink
11242	48	Interventional Radiology Procedure Room	1		85.0	To be located immediately adjacent to Intra-operative imaging room
		Future Operating/ Interventional Procedure Room			0.0	Space for a future IR/OR Room should be created to accommodate a minimum of 85 nsm by temporarily infilling with SpaceID# 11212 and SpaceID# 11211
11439	164	Control Room	1		10.0	Control Room for Future Operating/Interventional Procedure Room
11212	49	Clean Stores	1		43.0	To be immediately adjacent to SpaceID# 11211 to form space for future expansion
11211	50	Storage, Equipment	1		45.0	To be immediately adjacent to SpaceID# 11212 to form space for future expansion
10996	51	Operating Room, Ortho/Spine	1		85.0	To be located adjacent to SpaceID# 11243 to allow movement of CT between this OR and SpaceID# 10952

Level A - Procedures Suite (Special) (3 Special ORs, 3 IR's, 10 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10952	52	Interventional/Trauma Room	1		85.0	
11243	53	CT "Garage"	1		20.0	To be located between SpaceID# 10996 and SpaceID# 10952 to allow CT to travel between both rooms
10516	54	Control Room	1		14.0	To be located between the SpaceID# 10996 and SpaceID# 10952 with clear visibility into both
10517	55	Equipment Room	1		10.0	Electrical equipment room shared between SpaceID# 10996 and SpaceID# 10952
10518	56	Alcove, Scrub Sink	6	2.0	12.0	2 scrub sinks per procedure room
10519	57	Storage Alcove, Stretcher	6	1.0	6.0	Immediately adjacent to entrance of SpaceID# 10996 and SpaceID# 10952. Stretcher must not protrude into clean corridor
10526	58	Clean Core Area	1		100.0	Include sterile holding area
10522	59	Medications Room	1		13.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
		Subtotal, Patient Care Area			944.0	
		Patient Care Support Area				
10520	60	Clerical/Control Area	1		12.0	Locate at Procedures Area entry from ACU
10521	61	Pneumatic Tube Station	1		0.5	
10525	62	Workstation Area, Provider/Learner	1		10.0	
11244	63	Gowning Area	2	4.0	8.0	PPE supply storage, 1 hand hygiene sink, associated w/ access to "Red-Line corridor"
10527	64	Storage, Equipment	3	28.0	84.0	
10528	65	Clean-Up/Holding Area, Soiled Returns	1		12.0	1 utility/cleaning sink, access to decontamination area in MDR
10529	66	Computer Room	1		12.0	For IMIT servers
10530	67	Storage, X-Ray Equipment, Mobile	1		8.0	
10531	68	Specimen Collection Room/POCT Lab	1		12.0	Access from outside from "Red-Line corridor"
10954	69	Pneumatic Tube Station	1		1.0	

Level A - Procedures Suite (Special) (3 Special ORs, 3 IR's, 10 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10532	70	Storage, Anesthetic/ Respiratory Therapy Supplies & Equipment	1		30.0	
10533	71	Workroom, Anesthetic, and RT Equipment	1		35.0	1 utility/cleaning sink
10535	72	Dictation/Telephone Cubicles	4	1.0	4.0	
10524	73	Physician Reporting/ Viewing	1		12.0	
10537	74	Workroom, Radiology Technicians	1		9.0	
		Subtotal, Patient Care Support Area			249.5	
		Subtotal, Procedures Area (Special)			1 193.5	
		Staff Support Area				
		Office Area				
11394	76	Office, CRN	1		16.0	
11395	77	Office, Clinical Nurse Coordinator	1		9.5	
		Subtotal, Office Area			25.5	
		Staff Facilities Area				*Shared with 3A.4 BCC Pediatric Intensive Care Unit. Procedures Suite (Special) staff must have access to the "Red-Line corridor" directly from the staff lounge*
10577	78	Lounge, Staff	1		45.0	
10578	79	Kitchenette/Dining Area	1		8.0	1 double kitchen sink
10580	80	Change Room, Male	1		18.0	50 'z type' lockers
10581	81	Washroom, Male	1		13.0	1 wc, 2 urinals, 3 lavatory sinks, 2 showers, vestibule
10582	82	Change Room, Female	1		42.0	116 'z type' lockers
10583	83	Washroom, Female	1		20.0	4 wcs, 4 lavatory sinks, 3 showers, vestibule
11401	84	On-Call Room	3	7.5	22.5	Located away from high traffic areas
11184	85	Sitting/Work Area	1		7.5	
11402	86	Washroom, On-Call	2	5.0	10.0	1 wc, 1 lavatory sink, 1 shower

3A.8 BC CHILDREN'S PROCEDURES SUITE

Level A - Procedures Suite (Special) (3 Special ORs, 3 IR's, 10 ACU Beds)

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
10584	87	Storage, Scrub Dispensers	1		2.0	
		Subtotal, Staff Facilities Area			188.0	
		Subtotal, Staff Support Area			213.5	
		Summary Level A - Procedures Suite (Special) (3 Special OR's, 3 IR's, 10 ACU Beds)				
		Reception/Pause Area	1		185.5	*Shared w/3A.4 BCC Pediatric Intensive Care Unit*
		Anesthesia Care Unit Area	1		328.5	
		Procedures Area (Special)	1		1 198.5	
		Staff Support Area	1		213.5	*Shared w/3A.4 BCC Pediatric Intensive Care Unit*
		Total - Level A - Procedures Suite (Special)			**1 921.0**	

Level B - Procedures Suite (General) (4 General OR's, 3 Minor OR's, 27 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Reception/Pause Area				
		Inpatient Holding Area			0.0	Area adjacent to patient elevators
10637	88	Office, Booking Clerk	1		16.0	
10473	89	Storage Alcove, Equipment	1		7.5	
10474	90	Family Interview/ Consultation Room	2	9.5	19.0	
11162	91	Patient/Family Support Area, Non-Fasting	1		60.5	Separate zones: 2 wheelchair spaces, 1 hand hygiene sink, play area at 13.0 nsm (4-5 toddlers & parents)
11163	92	Volunteer Desk Area	1		4.0	
11164	93	Resource Area	2	4.0	8.0	
10480	94	Washroom, Public, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink, change table
10945	95	Consultation - Specialized/Room	1		9.0	2 doors, one from public/waiting area for families, one from patient care area for providers, locate on periphery of redline area
		Subtotal, Reception/Pause Area			133.0	
		Anesthesia Care Unit Area				
		Patient Change/Pause Area				
10588	96	Patient Locker Area	1		12.0	24 lockers
11396	97	Play Area, Fasting Toddlers	1		15.0	6-8 patients
11397	98	Play Area, Fasting Pre-teen	1		15.0	6-8 patients
10589	99	Storage Closet, Patient	1		6.0	
		Subtotal, Patient Change/Pause Area			48.0	
		Patient Care Area				
10590	100	Patient Room, Private	25	13.0	325.0	
10591	101	Washroom, Patient, Wheelchair	5	4.5	22.5	1 wc, 1 lavatory sink
10592	102	Patient Room, Private, AIR	2	13.0	26.0	
10593	103	Ante Room, AIR	2	4.0	8.0	PPE supply storage
10594	104	Washroom, Patient, AIR	2	4.5	9.0	1 wc, 1 lavatory sink

Level B - Procedures Suite (General) (4 General OR's, 3 Minor OR's, 27 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10595	105	Alcove, Hand Hygiene Sink	5	0.5	2.5	
10596	106	Alcove, Patient Observation	14	2.0	28.0	Locate between 2 patient rooms
		Subtotal, Patient Care Area			421.0	
		Patient Care Support Area				
10597	107	Team Care Station	1		9.0	Purse lockers
10598	108	Pneumatic Tube Station	1		0.5	
10599	109	Medications Room	1		9.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10993	110	Clean Utility Room	1		15.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10599
10601	111	Alcove, Linen	1		2.0	
10602	112	Storage, Equipment	1		15.0	
10603	113	Nourishment Station	1		6.0	1 double kitchen sink
10605	114	Soiled Utility Room	1		15.0	1 utility/cleaning sink
10609	116	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
		Subtotal, Patient Care Support Area			75.0	
		Subtotal, Two Support Areas	2	75.0	150.0	
		Subtotal, Anesthesia Care Unit Area			619.0	
		Procedures Area (General)				
		Patient Care Area				
10509	117	Operating Room, General	3	60.0	180.0	
11188	118	Operating Room, General, AIR	1		60.0	Close to 1 of the AIR patient bedrooms
11189	119	Ante Room, AIR	1		4.0	PPE supply storage
10953	120	Patient Induction Room	1		40.0	
10610	121	Operating Room, Minor	3	40.0	120.0	
10611	122	Scrub Area	7	2.0	14.0	2 scrub sinks per OR
10612	123	Storage Alcove, Wheelchair/Stretcher	7	1.0	7.0	
10624	124	Clean Core Area	1		100.0	Include sterile holding area

Level B - Procedures Suite (General) (4 General OR's, 3 Minor OR's, 27 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10625	125	Medications Room	1		9.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access
10626	126	Clean Utility Room	1		15.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10625
10620	127	Utility Room	2	15.0	30.0	Specimen area
		Subtotal, Patient Care Area			579.0	
		Patient Care Support Area				
10621	128	Clerical/Control Area	1		11.0	Locate at procedure area (general) entry from ACU
10622	129	Pneumatic Tube Station	1		0.5	
11398	130	Gowning Area	2	4.0	8.0	PPE supply storage, 1 hand hygiene sink, associated with access to "Red-Line zone"
11289	131	Workstation Area, Provider/Learner	1		20.0	
10566	132	Workroom, Anesthesia/RT	1		20.0	1 utility/cleaning sink
10627	133	Viewing/Reporting Room	1		32.0	
11399	134	Storage, Equipment	2	28.0	56.0	
10628	135	Storage, Scopes	1		8.0	
11400	136	Clean-Up/Holding Area, Soiled Returns	1		12.0	w/ access from sterile prep/ stores in MDR
10629	137	Soiled Utility Room	2	15.0	30.0	2 utility/cleaning sinks
		Subtotal, Patient Care Support Area			197.5	
		Subtotal, Procedures Area (General)			776.5	
		Staff Support Area				
		Office Area				
10570	139	Office, CRN's	1		16.0	Unassigned touchdown space for manager's office
10571	140	Office, Clinical Nurse Coordinator	2	9.5	19.0	
10572	141	Office, OR Nurse Educator	1		12.0	
10573	142	Workstation Area, Clerk	1		12.0	Could be located in another area
10994	143	Office, OR Buyer	1		12.0	
10575	144	Office, OR Equipment Coordinator	1		12.0	
10576	145	Biomedical Support Room	1		10.0	

Level B - Procedures Suite (General) (4 General OR's, 3 Minor OR's, 27 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10631	146	Office, Shared	1		10.0	
10634	147	Office, Clerk	1		24.0	
		Subtotal, Office Area			127.0	
		Department of Anesthesia Clinical Office Area				
10563	148	Office, Physician	4	9.5	38.0	
10564	149	Office, Physician	4	16.0	64.0	
10565	150	Office, Secretary/Clerk	1		12.0	
10567	151	Conference Room	1		36.0	24 seats
10568	152	Washroom, Staff	2	3.5	7.0	1 wc, 1 lavatory sink
		Subtotal, Department of Anesthesia Clinical Office Area			157.0	
		Staff Facilities Area				
11175	153	Lounge, Staff	1		45.0	66 purse lockers
11176	154	Servery Area	1		4.0	1 double kitchen sink
11177	155	Staff Rest Area	1		16.0	
11178	156	Change Room, Male	1		20.0	40 'z type' lockers
11179	157	Washroom, Male	1		13.0	1 wc, 2 urinals, 3 lavatory sinks, 2 showers, vestibule
11180	158	Change Room, Female	1		45.0	120 'z type' lockers
11181	159	Washroom, Female	1		15.0	3 wc's, 3 lavatory sinks, 2 showers, vestibule
11182	160	Storage, Scrub Dispensers	2	2.0	4.0	
		On-Call Suite				
11183	161	On-Call Room	2	7.5	15.0	Located away from high traffic areas
11185	162	Washroom, On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
		Subtotal, Staff Facilities Area			182.0	
		Subtotal, Staff Support Area			466.0	
		Summary Level B - Procedures Suite (General) (4 General OR's, 3 Minor OR's, 27 ACU Beds)				
		Reception/Pause Area	1		133.0	
		Anesthesia Care Unit Area	1		619.0	

Level B - Procedures Suite (General) (4 General OR's, 3 Minor OR's, 27 ACU Beds)

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Procedures Area (General)	1		776.5	
		Staff Support Area	1		466.0	
		Total - Level B - Procedures Suite (General)			**1 994.5**	
		GRAND TOTAL LEVEL A & LEVEL B			**3 915.5**	

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3A.9.1 FUNCTIONAL DESCRIPTION

3A.9.1.1 Scope of Clinical Services

(1) This specification outlines requirements for the full range of Imaging Services that will be accommodated in support of 2025/26 projected demand. Medical Imaging (MI) is an academic tertiary/quaternary care imaging facility providing a complete range of primary and tertiary medical imaging, and image-guided diagnostic and therapeutic services. This includes the radiological management of unusual, complex or therapeutically demanding problems in infants, children, adolescents, and women. Provincially, the team is involved in diagnosing and treating a diverse patient population. Families are a very important part of the care provided and are to be accommodated in all imaging rooms and areas.

(2) The component will be outfitted with the latest innovations in image acquisition, advanced imaging visualization tools, advanced communication systems, workstations, Picture Archive Communication System (PACS), Integrated Radiology Information System (RIS), computer-aided detection (CAD), all adhering to integrating the Health Care Enterprise (IHE) profiles. The range of imaging services to be provided includes:

(a) Radiography procedures include general radiology, emergency radiology, and fluoroscopy including innovative fluoroscopic procedures conducted in a multipurpose room;

(b) Ultrasonography (US) procedures include general ultrasound, vascular studies, and interventional procedures. Echocardiography (ECHO) is excluded, as it will continue to be performed in the cardiology diagnostics area within the cardiac area in the 1982 building on Level 1 North;

(c) Computed Tomography (CT) procedures which include enhanced, non-enhanced and interventional procedures. Anesthesia sedation will continue to be required for some CT studies;

(d) Nuclear Medicine (NM) procedures include diagnostic and single photon emission computed tomography (SPECT) and SPECT/CT imaging services to BC Children's and BC Women's and therapeutic services to BC Children's. All radiopharmaceuticals used by this service are acquired from off-site sources, but some shielded on-site storage will be required within the hot lab facility. Sedation will be required for some patients;

(e) Magnetic Resonance (MR) procedures will continue to grow exponentially for both sedated and non-sedated patients, including fetal studies. This will require more patient support and a post processing and data analysis area. Innovative child life support and simulation will also be used to reduce the age at which sedation is required; and

(f) Mobile imaging will be provided on the site where clinically necessary for ultrasound, general radiography, and fluoroscopy.

(3) A digital/electronic closed loop MI system utilizing PACS with an RIS, speech recognition and sophisticated communication and teaching capabilities will be provided.

(4) New imaging clinical programs anticipated include:

(a) Functional and hybrid imaging requiring highly skilled staff and a data processing area;

(b) Clinical outcomes analysis; and

(c) Technology evaluation.

(5) In addition, the expanded neurosciences program will require increased neurodiagnostic capability/capacity, including access to magnetoencephalography equipment, intraoperative MR, and the latest in neurophysioperative equipment.

(6) The implementation of an enhanced gynecological and breast health service will require extensive use of existing and new equipment. The BC Women's program will be expanding its Breast Health Program by adding two digital mammography units and two ultrasound units for the other programs in women's health. In addition, an MR unit will be required as the ambulatory gynecological program is expanded. The gynecological program, including breast MR, will also require interventional services for minimally invasive gynecology surgery and vascular surgery programs. These have not been included in the scope of this document.

(7) Use of telehealth technology is expected to increase as C&W staff provides pediatric and obstetrical consultations to other centres in the province through the Child Health Network and the Telehealth Network.

3A.9.1.2 Scope of Education Activity

(1) MI will continue to provide training for radiologists, fellows, residents, radiology technologists and sonographers within procedure, procedure support and administrative areas.

(2) The volumes of trainees are expected to double during the next decade, in part, reflecting the Medical School expansion.

3A.9.1.3 Scope of Research Activity

(1) Clinical research currently occurs in all inpatient and clinical unit environments at the C&W site. Key functions in this component will include:

(a) Increase in functional and hybrid imaging of acute and critically ill patients.

(b) As part of this, there is predicted to be a great increase in capacity in neurosciences research, so the tools for brain imaging and the ability to manage a diverse patient population including critically ill prematures on ventilators, toddlers with developmental disability, and adolescents with severe epilepsy are required.

3A.9.1.4 Specific Scope Exclusions

(1) This Medical Imaging specification excludes BC Children's and BC Women's MI services/ requirements provided elsewhere, including:

(a) C&W interventional and angiography services (included in Part 3A.8 Procedures Suite [Special]);

(b) BC Children's radiography associated with the orthopedics clinic located in the 1982 building;

(c) BC Women's mammography services and C&W bone densitometry services Level 2, E Wing of the Shaughnessy building;

(d) Women's ultrasonography (diagnostic ambulatory program in Women's specialty clinics) Level 1 South of the 1982 building; and

(e) Cardiac Echo services associated with the Cardiology Clinics in the 1982 building.

3A.9.2 OPERATIONAL DESCRIPTION

3A.9.2.1 Minimum Hours of Operation

(1)	Radiology/Fluoroscopy	24/7
(2)	Ultrasonography	0700h to 1700h/five days/week and as required after-hours
(3)	Computed Tomography	0700h to 1700h/five days/week and as required after-hours
(4)	Nuclear Medicine	0700h to 1700h/five days/week and as required after-hours
(5)	Magnetic Resonance Imaging	0700h to 2100h/five days/week and as required after-hours

3A.9.2.2 Patient & Family Management Processes and Flows

(1) Reception/Registration/Pause

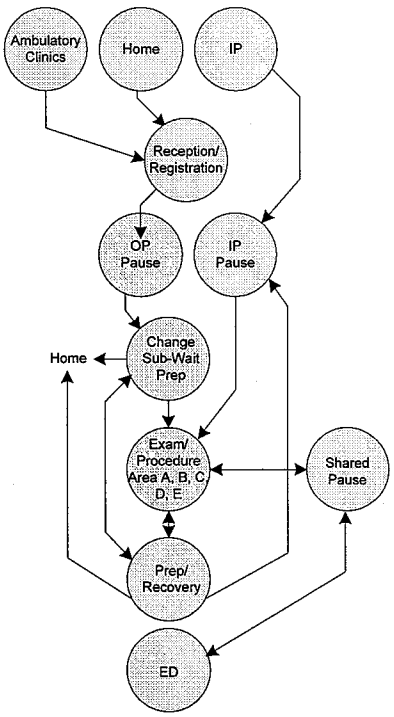
(a) All scheduled and unscheduled patients and family members (and/or accompanying porters and escort staff), clinicians, and visitors are received at a central reception desk. All outpatients will register with the MI clerk. Porters will escort inpatients to the component. Patient information is checked against existing computer and manual records, and examination details are entered on the computer system. A variety of other tasks, including telephone call handling, appointment scheduling, patient preparation, receipt and dispatch of x-ray images and notes, answering patient queries etc. are also undertaken here. All imaging procedures will be scheduled through the MI booking clerk using an on-line centralized scheduling system.

(b) Most patients will be pre-booked by referring physicians and given instructions to prepare for the examination. In some cases, it will be necessary to take a patient history and/or ask questions for which a greater degree of privacy is required and auditory privacy is important.

(c) Information regarding radiology examinations is displayed in poster and leaflet form. It is envisaged that touch-screen, computer-based information, and self-registration system will be available for patients in the reception pause area.

(d) A small consultation room will be close to reception for patient counselling and confidential discussions.

(e) The specific modality technologists will be notified of the patient's arrival and when appropriate, reception staff will direct patients/families to their destination, where a technologist will receive them.



Procedure Areas
A Gen Rad/Fluro, MP
B US D NM
C CT E MR

(2) Central Pause/Modality Staging

Separate modality holding areas are required for both outpatients and inpatients for patient preparation and procedure staging. Other visitors will be directed to an outpatient pause area, close to reception. Adequate, separate space is required for isolation patients.

(a) Inpatients, together with their escorts and caregivers, will be taken or directed to an inpatient holding area suitable for wheelchairs, stretchers/beds, and ambulant patients. This area will be observed by nursing and radiography staff in case assistance or clinical intervention is required.

(b) Outpatients will be directed to the central pause area until redirected by reception or technical staff, to the appropriate modality. A child friendly environment and play area will be provided.

(c) Patients will be called from the modality staging area by the technologist, nurse or radiologist. Changing and washroom facilities will be provided to serve each modality area, and following changing/and or preparation, immediately following examination; patients will remain in the staging area closest to their designated procedure room. Porters will assist patients to and from MI.

(3) Change

(a) Most outpatients and daycare patients will be required to remove their street clothing and wear a hospital gown prior to examination. Some patients will require assistance from a caregiver, particularly those who are disabled. Additionally, some daycare patients arriving from other hospitals will arrive on stretchers or wheelchairs and need assistance to change.

(b) Changing cubicles will be grouped close to the modality staging areas and examination rooms, and provision made for assisted/wheelchair access cubicles.

(c) Patient's clothing and belongings are placed in a basket or carrier bag by the patient, and are retained by the patient. In the case of patients undergoing daycare procedures, belongings will be handed to the nurse in charge and secured until the patient is ready to go home.

(4) Preparation

(a) Some patients will require preparation and a pre-exam consult prior to their imaging procedure. This may involve being asked to drink water or other fluids, or undergo a minor clinical procedure, for example:

(i) US patients will often be required to drink large amounts of water in the modality staging area; and

(ii) CT/MR/NM patients will, in a high percentage of cases, have a cannula inserted into a vein prior to examination. This will take place in a patient prep/ recovery area anesthetic care unit (ACU) close to CT/MR with the patient seated or supine.

(b) Some patients undergoing CT, MR, NM or angiography/interventional procedures may require conscious sedation, which will take place in the ACU. Patients from critical care areas of the ACC awaiting examination may also use this space.

(5) Procedure

(a) Patients will be directed or escorted to a procedure room within one or more of the modality areas where patient identity will be confirmed and imaging will take place. Security or an appropriate care provider will accompany a mental health or especially vulnerable patient directly to a procedure room.

(b) For specific guidance on MR safety issues, the advice of a qualified MR safety consultant will be required.

(6) Post Procedure

(a) Images are reviewed by the MI team and the patient/family remains in the area until adequacy of images is confirmed.

(b) Following the procedure, the majority of patients will change back into street clothes and leave the component. Inpatients, transport patients and patients from other hospitals will need to wait until porters or transport is available in the inpatient pause area.

(c) Some patients who have undergone interventional procedures or who have been sedated or administered certain drugs are required to wait in the ACU under observation until they leave for home or return to the inpatient unit.

3A.9.2.3 Patient Information Management and Flows

(1) All imaging equipment will be acquiring digital images from all modalities and images will be reported from high resolution monitors, stored on a fast access digital system and made available for viewing throughout all clinical departments on all hospital sites, together with radiological reports.

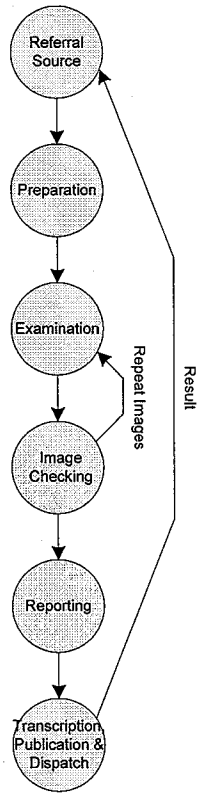
(2) The functioning of one-stop outpatient clinics will rely on real-time access to radiological investigations. Many patients will attend for imaging investigations on the same day as clinic attendance because they come from a large geographic catchment area. These investigations will be provided in the MI component, and the ability to meet this need is critically dependent upon a versatile scheduling system. Appropriate space is required to provide for scheduling staff and computer equipment both within MI and outpatient areas.

(3) Patient rooms and observation alcoves must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

3A.9.2.4 Provider Work Processes and Flows

(1) Pre-Image Preparation

(a) Prior to an imaging investigation being scheduled, a consultation between clinical staff and radiology staff will often take place. This is usually face to face, though may be by telephone or videoconferencing.



(2) Preparation

(a) MI staff prepare oral contrast and other preparations which are administered to patients prior to their examination. Some patients will require a degree of pre-imaging preparation, contrast injection or sedation, and this is undertaken in the modality staging, injection room or ACU.

(b) For some US, CT, MR, fluoroscopy procedures, MDR will prepare sterile trolleys and instruments in a clinically clean environment and deliver to MI.

(c) MI interventional sterile supplies and equipment are maintained in a designated area within each modality.

(d) Prior to undertaking an imaging examination or procedure, the technologist or radiologists will review the request and clinical information supplied by the referring clinician, together with any images (digital or film) and the patient's records. They may also consult with the clinician or other colleagues via telephone or in person, adjacent to the examination room. An explanation of the procedure is provided to the patient and, in some cases, it may be necessary to obtain further details from the patient.

(e) These areas will require space and an appropriate environment for image viewing equipment.

(3) Post Examination

(a) Following examination, technologists examine and collate the final images and patient records prior to submitting for reporting. This process will take place in a technologist work area immediately adjacent to the modality away from patient areas.

(b) Following some examinations, staff are required to clear away sterile trolleys and clinical waste associated with the examination. Soiled utility rooms need to be accessible from all MI modalities.

(4) Reporting

(a) All examinations are reviewed and reported upon by a radiologist. This process takes place either in a review/reading area associated with each modality, or in the central PACS reading area adjacent to General Radiology. Reporting areas will require subdued ambient lighting.

(5) Post Report Consultation

(a) Following completion and reporting of an imaging investigation, a review between clinical staff and radiology staff will often take place. This is usually face to face, though may be by telephone, or videoconferencing.

3A.9.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications.

(a) Biomedical Engineering (BE)

(i) Shielded equipment storage space shall be provided within this component area to accommodate required medical imaging equipment testing.

(ii) More bulky items and less frequent use items will be stored in the Medical Equipment Depot with anticipated delivery within 15 minutes of notification.

(b) Pharmacy Services

(i) Most prescribed medications will be distributed to the various medication stations of the component using a computerized unit dose distribution system. Dispensing of medications is generally conducted using automated medications cabinet (AMC) technology including controlled drugs where required. Pharmacy information access including paperless/on-line charting and prescribing, and access to PharmaNet at key locations is also provided.

(c) Supply Chain Services

(i) Clean/soiled linen is transported to/from the component using an exchange cart system.

(ii) Inventories of consumable recyclable sterile supplies are generally maintained on carts in clean supply holding rooms close to points-of-use according to a "parlevel/two bin" system.

3A.9.3 ACTIVITY CAPACITY

3A.9.3.1 The table below summarizes the baseline activity and projected demand for C&W Medical Imaging.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Medical Imaging				
X-Ray in MI Exams	20,897	22,640	24,579	n/a
X-Ray Satellite Exams*	9,591	9,885	11,019	n/a
Ultrasound Exams	8,464	10,887	15,032	n/a
Bone Density Exams	6,962	8,303	9,950	n/a
Nuclear Medicine Exams	3,063	3,287	3,580	n/a
Computed Tomography Exams	3,090	3,238	3,580	n/a
Magnetic Resonance Imaging Exams	5,294	11,777	14,749	n/a
Single Plane Fluoroscopy Exams	5,412	8,673	12,938	n/a
Total Medical Imaging Exams**	**62,773**	**78,690**	**95,427**	n/a
Estimated Outpatient Volumes	35,328	46,700	62,000	n/a
Sedated MI Patients				
Main MI Component Visits	1,783	5,028	5,224	n/a
Interventional Radiology (within Procedures Suite [Special])	1,007	1,519	2,455	n/a
Total Sedated MI Patient Visits	**2,790**	**6,547**	**7,679**	n/a

** Note: these exams are provided in other locations on the C&W campus but are read and reported centrally.*
*** All exam numbers exclude portables.*

3A.9.4 PEOPLE REQUIREMENTS

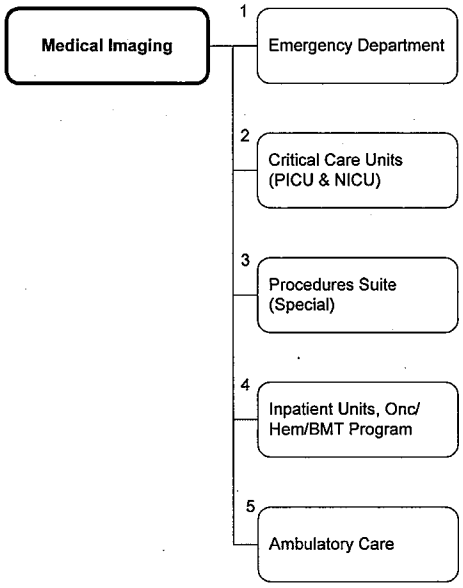
3A.9.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Learners	Visitors	Others	Total
Reception/Pause Area	15	7				**22**
General Radiography/Multipurpose Fluoroscopy	20	16	3			**39**
Ultrasound	24	11	2			**37**
CT	8	2				**10**
Nuclear Medicine	14	6	1			**21**
MR	16	11				**27**
Shared Support Area	18	19			4	**41**
Staff Support Area		6				**6**
Medical Imaging Clinical Office Area	4	10		3		**17**

3A.9.5 DESIGN CRITERIA

3A.9.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct horizontal access by internal circulation to the Emergency Department for patient transport.

2 Provide direct access by general circulation to the Critical Care Units (Pediatric ICU & Neonatal ICU procedure room) for portable imaging and for patient, staff and equipment movement.

3 Provide direct access by general circulation to the IR Rooms within the Procedures Suite (Special) for movement staff, and occasionally patients.

4 Provide direct access by general circulation to the Inpatient Units, including Onc/Hem/BMT Program for patient, staff and equipment movement and clinical consultations.

5 Provide convenient access by general circulation to ambulatory care (both BC Children's and BC Women's) for patient, staff and equipment movement.

3A.9.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Zoning

(i) Six functionally distinct zones of activity within the component shall be provided as follows:

(A) A Reception/Pause area separated for non-sedation patients;

(B) Procedures areas including: general radiology/fluoroscopy/multipurpose, US, CT, NM, and MR. Each has modality staging/change areas, control and equipment rooms, storage space, technologist work areas, radiologist review/reporting rooms. CT and MR have patient examination/ interview rooms. Hot/cold pause areas are required for NM. Immediate adjacency to the anesthesia care unit (ACU) is mandatory for MR. Close adjacency to ACU is required for CT and NM;

(C) Pre- and post-procedure recovery area (ACU);

(D) Support areas (central viewing, data processing, reporting, consultation/conferencing);

(E) Shared staff facilities, shared between MI and ED (lounge, servery and rest area, change rooms and wc's, on-call suite); and

(F) Clinical office area (offices, meeting and conference rooms, wc's).

(b) Procedure Area Clusters

(i) Five clusters of procedure rooms by modality shall be provided as follows:

(A) General Radiology/Fluoroscopy/Multipurpose;

(B) US;

(C) CT;

(D) NM; and

(E) MR.

(c) Patient Entry Points

(i) There will be three major patient entry points to the component: one from Emergency, one for inpatients via patient elevators, and one for outpatients. The co-location of entry points (such as those for ED patients and in-patients) will facilitate control of entry and patient management.

(ii) Patient elevators/stairs should be situated to the periphery of the component to ensure security of staff and patients and keep patient flows out of working areas.

(d) Traffic Control

(i) High volume outpatient procedure areas (US and General Radiology) are to be located close to entry and reception to reduce travel for patients and reduce traffic 'deeper' within the component.

(ii) Direct access for Emergency patients for CT and General Radiology must be accommodated by immediate adjacency across the broad front of MI and the ED.

(iii) One General Radiology room, one Fluoroscopy Procedure room, CT scan room, one ultrasound room, and current images will be available 24/7. The remainder of the modalities and other facilities will be available on an as-needed basis, with restricted access to public and non-MI staff.

(e) Access and Circulation

(i) Provide adequate and direct circulation systems in all patient areas to allow for the efficient movement of both ambulatory and wheelchair/stretcher/bed transported patients. The requirement for bed access throughout must be carefully addressed.

(ii) Some access routes and circulation systems must allow delivery paths for large pieces of equipment. Height, width, and floor loads must be considered in the design of these access routes. MR and CT equipment in particular require a defined access route for initial installation and future replacement.

(iii) The whole component will be planned to reflect the need for "front-of-house/back-of-house" access for patients/staff/equipment and supplies. All procedure rooms shall have access for patients from a patient/public corridor associated with patient changing/washrooms, etc., and a separate access for staff from a restricted corridor associated with staff work/reporting areas.

(f) Flexibility/Adaptability/Expandability

(i) Provide a configuration and type of construction for procedure rooms to accommodate future expansion and changes in imaging technology. Provide a special, modular structural ceiling system (such as unistrut/universal grid) in procedure rooms to allow future changes in ceiling mounted equipment. In particular, make provision for modality rooms close to ED to be converted to an MRI room.

(ii) Each modality area shall be planned with modularity that will allow the general use of the area to be changed as technologies and clinical needs change.

(iii) Place staff services and administrative/education/ conferencing facilities in areas most likely to be required for future expansion.

(g) Supervision of Patients

(i) Ensure close visual supervision of all patients requiring observation pre and post procedure is available. The use of close circuit television (CCTV) observation connected to procedure rooms to support observation during high volume periods shall be provided. The location of the CCTV monitors must respect the need for patient privacy.

(h) Patient Privacy

(i) Provide visual and acoustic privacy for patients in all changing, consultation, examination and treatment spaces. Change/pause areas will be screened from the adjacent circulation spaces. The function of patient changing/ undressing in a public area and the invasion of privacy associated with this activity needs to be addressed at every level of design. Changed patients will not cross public circulation space in order to access procedure rooms from change/pause areas.

(i) Safety/Security

(i) Patient communications with staff, staff-to-staff communications, and patient and staff surveillance are considered critical in this area.

(ii) The perimeter must be secured to prevent access to non-MI staff during off-hours.

(iii) Secured access to MR procedure rooms shall be restricted to specific personnel during restricted hours.

(iv) A communication system to manage codes (example: Code White, Code Blue, Anesthesia Code, etc.) and facilitate urgent security concerns is required.

(j) Visitor Pause

(i) Patient escorts will be encouraged to wait for fast turn-around patients in order to be available to take them home following a procedure.

(ii) Family members are encouraged to be in MI for supporting patients during procedures.

(k) Accessibility

(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(l) Protection/Shielding Measures

(i) Provide x-ray radiation protection as required. Ensure no radio frequency problems throughout, but particularly in US and MR examination rooms.

(ii) Provide "in-use" lights in corridors for radiation-use procedures and signs on all doors indicating radiation hazard as required by current codes and standards.

(iii) Provide required safety zones for MR. Provide conduits within MR rooms and between the control room and procedure room to facilitate use of ferrous patient support equipment.

(iv) Provide gamma radiation protection equipment for Nuclear Medicine as required by current codes and standards.

(v) Design facility to meet Diagnostic Imaging Standards 2010, and any and all revisions provided by the Diagnostic Accreditation Program of the College of Physicians and Surgeons of British Columbia.

(vi) Ensure wireless communication and data transfer networks operate in all areas of the component.

(m) Special Technical Requirements

(i) The following requirements shall be provided:

(A) Fully dimmable lighting in all areas to optimize the ability to use computers and view images;

(B) Ambient environment for patients;

(C) Emergency power for all MI modalities;

(D) Restricted access to MR at all times to ensure patient/staff/equipment safety following all standards and zoning requirements;

(E) Each MR is to be shielded to the highest requirements. The five gauss line in the MR procedure room shall not extend into a general public area

as per required standards. An appropriate environment for emergency (venting/quench) management is required;

(F) Follow radiation protection requirements for all x-ray/CT procedure suites including a lead lined booth for parents inside the General Radiography rooms with a large, lead lined, window so parents are visible to their child;

(G) Follow gamma radiation requirements for Nuclear Medicine procedure suites. Include radio-pharmacy for receiving, preparing, and dispensing and long-term storage of radiopharmaceuticals. This must include a fume hood and be vented to the outside. The design must comply with the Canadian Nuclear Safety Commission regulations. Storage for radioactive quality control sources is required. A direct and secure route for the safe and timely delivery of radiopharmaceuticals is required;

(H) Multipurpose procedure room must be designed to support anesthesia and the management of unstable patients;

(I) The floor must have the structural capacity and flexibility to support the high loads;

(J) The component must have sufficient power capacity and air conditioning capacity, including provision for future expansion of the various types of clinical and administrative services required;

(K) Temperature and air flow requirements for the procedure rooms must maintain optimal temperatures as per equipment manufacturer's specifications;

(L) All modality rooms are to be wireless, networked and with sufficient electrical capacity for displays, computers etc. Wireless capabilities within the facility will support mobile imaging equipment;

(M) Provide after-hours patient access through a single, secured entrance; and

(N) Provide medical gases and suction as well as patient vital sign monitoring capabilities in fluoroscopy room and ACU areas.

(n) Ergonomics Considerations

(i) Floor construction/finishes shall compensate for the long periods of standing, typical in Medical Imaging workplaces.

(ii) Reading room environments are to meet ergonomic, noise and visual requirements.

(iii) Location and design of work spaces are to be ergonomically friendly.

(o) Interior Design Considerations

(i) Create an environment in all patient-accessed areas that is user-friendly, pediatric/family friendly, comfortable, non-technical appearing, and as therapeutic as possible through the use of graphics, piped music, simple circulation systems, etc.

(ii) Design to meet Diagnostic Imaging Standards 2010, and any and all revisions provided by the Diagnostic Accreditation Program of the College of Physicians and Surgeons of British Columbia.

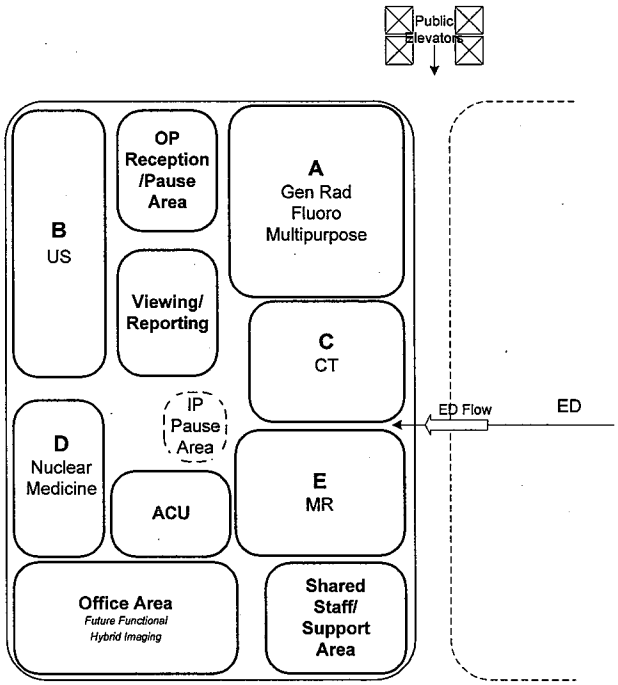
(iii) Designed to meet infection control standards.

(p) Computer Room

(i) A cooled, ventilated PACS/RIS/service room shall be provided.

(q) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



(ii) Key Design Features to be achieved:

(A) US, a non-ionizing radiation modality with high outpatient volumes, shall be located closest to the main reception/pause area;

(B) The modalities most frequently accessed by ED patients shall be closest to ED, including General Radiology and CT. There must be a significant physical contiguity at the interface with ED and MI to promote rapid movement of multiple patients simultaneously;

(C) Provide direct access from the CT scanner to the patient elevator minimizing distance and turns;

(D) MR will eventually replace plain film imaging for basic ED diagnoses such as trauma and pneumonia. Provision must be made for ED patients

to have similar access to MR that they initially will have for CT and plain film imaging;

(E) The MI multipurpose procedure room and ED Internal Holding/Check Out Area should be located close to together along the interface between the two components;

(F) Position the MR suite directly adjacent to the ACU to minimize travel distance to/from the scanning units for sedated patients;

(G) Make provision for future expansion of MI through appropriate location of component and proximity to the 1982 building;

(H) Provide access on exterior wall of MI for replacement of equipment. Plan access route for initial install and future replacement of large imaging equipment;

(I) Position the Data Analysis Centre within the MR suite to have convenient access from the Viewing/Reporting room within the same suite;

(J) Position the PACS Reading/Imaging Rounds room centrally within MI so it has convenient access from all modality clusters and from the major access point into the component to facilitate access for consultation with clinical staff;

(K) The "front of house/back of house" concept will be supported with procedure areas, staff work space and rest space all located away from public areas, with the "front of house" access supporting patient/ family/provider care from primary (within modalities) or public corridors (on the perimeter of the component);

(L) Shared staff support area must be positioned to accommodate ease of access by both MI and ED staff, without impacting patient access;

(M) Provide direct service access to NM for receipt of radioisotopes/ radiopharmaceuticals from off-site providers;

(N) Provide taxi access for urgent supply delivery to MR/IR procedure areas from Vancouver General Hospital;

(O) In the CT scanner procedure room, the head of the patient must be away from the entrance door so the patient can be wheeled into the room head first and transferred sideways; and

(P) Control Rooms: CT technicians seated in the control room must have visibility down the gantry of the scanner from the foot or the side. MR technicians seated in the control room must have visibility to the bore of the magnet.

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3A.9.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Reception/Pause Area				
10635	01	Reception/Registration	1		6.0	
10636	02	Pneumatic Tube Station	1		0.5	
11215	03	Self-Registration Kiosks	3	1.0	3.0	
10638	04	Workroom, Office Equipment	1		10.0	Adjacent to SpaceID# 10635
10639	05	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10640	06	Wheelchair Holding Area	1		4.0	
10641	07	Consult Room	1		9.0	
10642	08	Pause Area, Outpatient	1		60.0	Playroom area
11216	09	Pause Area, Outpatient, Isolation	1		12.0	Negative pressure, hand hygiene sink, PPE supply storage
11217	10	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10645	11	Washroom, Public, Wheelchair Access	1		4.5	1 wc, 1 lavatory sink
		Subtotal, Reception/ Pause Area			117.0	
		Procedure Area A, General Radiology/ Fluoroscopy				
10715	12	Patient Staging Area	1		40.0	Playroom area
10716	13	Washroom, Patient, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
10717	14	Dressing Cubicle, Patient	4	1.5	6.0	
10718	15	Dressing Cubicle, Patient Assisted	1		2.5	
10719	16	Procedure Room, General	2	40.0	80.0	Staff control, family control
10720	17	Procedure Room, Fluoroscopy	1		40.0	Staff control, family control, 1 dirty & 1 clean process sinks
10721	18	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10722	19	Control Room	1		4.0	
10613	20	Multipurpose Room (MPR)	1		60.0	Located on interface w/ ED, close to Space ID#10445

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
10614	21	Control Room	1		12.0	
10615	22	Equipment Room	1		8.0	
10616	23	Scrub Area	1		2.0	2 scrub sinks
10617	24	Alcove, Stretcher/Bed	2	1.5	3.0	
10724	25	Soiled Utility Room	1		8.0	2 utility/cleaning sinks
10725	26	Clean Supply Holding Room	1		8.0	
10726	27	Alcove, Linen	1		2.0	
10727	28	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10728	29	Workroom, Technologist/ CR Readers	1		30.0	(2 CR stns @ 5 nsm each)
11220	30	Office, Supervisor/QA	1		9.5	
		Subtotal, Procedure Area A			332.0	
		<u>Procedures Area B, Ultrasonography</u>				
10689	31	Patient Staging Area	1		15.5	
10692	32	Washroom, Public, Wheelchair	1		4.5	1 lavatory sink, 1 wc
10693	33	Procedure Room	6	20.0	120.0	
10690	34	Dressing Cubicle, Patient	6	1.5	9.0	
10694	35	Washroom, Patient, Wheelchair	6	4.5	27.0	1 wc, 1 lavatory sink
10695	36	Workroom, Technologist	1		12.0	
11440	137	Ante Room	1		4.0	For ultra sound reprocessing and probe cleaning
10696	37	Viewing/Reporting Room, Radiologists	1		12.0	
11222	38	Office, Supervisor/QA	1		9.5	
10698	39	Alcove, Mobile Units Storage	1		6.0	
11223	40	Alcove, Stretcher/Bed	3	1.5	4.5	
		Subtotal, Procedure Area B			224.0	
		<u>Procedure Area C, Computer Tomography</u>				*See also 3A.8 Procedures Suite (Special)*
10700	41	Patient Staging Area	1		11.5	

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10701	42	Dressing Cubicle, Patient Assisted	2	2.5	5.0	
10702	43	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10703	44	Patient Interview/Consent Prep/Injection Room	1		11.0	Stretcher access, 1 process sink
10704	45	CT Scanner Room	1		45.0	
10705	46	Computer Room	1		15.0	
10706	47	Control Room	1		14.0	
10707	48	Alcove, Stretcher/Bed	1		1.5	
10708	49	Workroom, Technologist	1		12.0	
10709	50	Viewing/Reporting Room, Radiologists	1		12.0	
11221	51	Office, Supervisor/QA	1		9.5	
10710	52	Pneumatic Tube Station	1		0.5	
10711	53	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10712	54	Storage, Supply Cupboard	1		4.0	
		Subtotal, Procedure Area C			149.0	
		Procedure Area D, Nuclear Medicine				*NM and MR must be adjacent for isotope management*
10646	55	Patient Staging Area, Cold	1		11.5	
10651	56	Washroom, Patient, Wheelchair, Cold	1		4.5	1 wc, 1 lavatory sink
10647	57	Patient Staging Area, Hot	1		11.5	
10650	58	Washroom, Patient, Wheelchair, Hot	1		4.5	1 wc, 1 lavatory sink
10648	59	Dressing Cubicle, Patient	1		1.5	
10649	60	Dressing Cubicle, Patient Assisted	1		2.5	
10652	61	Patient Prep/Injection Room	1		11.0	Stretcher access, 1 process sink, 1 hot process sink to dilution system
10653	62	Storage, Radioactive Isotopes	1		4.0	
10654	63	Isotope Lab, Medium Level	1		17.0	1 process sink, 1 'hot' process sink
10655	64	Patient Testing Room	1		10.0	

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10656	65	Gamma Camera Room	1		35.0	Small field of view (SFOV)
10657	66	Control Room	1		10.0	
10658	67	Spect/CT Procedure Room	1		43.5	
10659	68	Workroom, Technologist	1		12.0	
10660	69	Viewing/Reporting Room, Radiologists	1		12.0	
11224	70	Office, Supervisor/QA	1		9.5	
10661	71	Storage, Isotope Disposal	1		4.0	
10662	72	Clean Utility Room	1		8.0	1 utility/cleaning sink, line hooks, 1 hand hygiene sink, adjacent to Med. Room
10663	73	Alcove, Linen	1		2.0	
10664	74	Soiled Utility Room	1		8.0	2 utility/cleaning sinks
10665	75	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10666	76	Nourishment Station	1		2.0	
10667	77	Cubicle, Isolation	1		8.0	
		Subtotal, Procedure Area D			235.5	
		<u>Procedure Area E, Magnetic Resonance Imaging</u>				*To be provided with 4 distinct safety zones. MR and NM must be adjacent for isotope management*
10668	78	Patient Staging Area	1		11.5	
10673	79	Dressing Cubicle, Patient	3	1.5	4.5	
10674	80	Dressing Cubicle, Patient Assisted	3	2.5	7.5	
10675	81	Washroom, Patient, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink
10669	82	MRI Incubator	2	4.0	8.0	
10670	83	MRI Simulator Room	1		20.0	1 single kitchen sink
10671	84	Patient Interview/Consent	2	9.0	18.0	
10672	85	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
10677	86	MR Imaging Room	2	45.0	90.0	
10678	87	Equipment Room	2	15.0	30.0	Corridor access required for service personnel
10679	88	Tech Control Room	2	16.0	32.0	
10676	89	Patient Prep/Injection Room	2	15.0	30.0	1 process sink

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Future MR Imaging Suite			0.0	Space to accommodate a minimum of 91 nsm for a future MR Imaging Suite is to be created by temporarily infilling with areas shown in the Medical Imaging Clinical Office Area section
10680	90	Cryogen Storage	1		10.0	
10681	91	Alcove, Stretcher	3	1.0	3.0	
10682	92	Data Analysis Centre	1		30.0	
10683	93	Viewing/Reporting Room, Radiologists	1		20.0	
11225	94	Office, Supervisor/QA	1		9.5	
10684	95	Pneumatic Tube Station	1		0.5	
10685	96	Storage, Supply Cupboard	1		6.0	
10686	97	Alcove, Linen	1		2.0	
10905	98	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10688	99	Soiled Utility Room	1		8.0	2 utility/cleaning sinks
		Subtotal, Procedure Area E			357.5	
		Anesthesia Care Unit Area				
		Patient Care Area				
11045	100	Patient Room, Private	6	13.0	78.0	
11046	101	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
11048	102	Alcove, Patient Observation	3	3.0	9.0	
11047	103	Alcove, Hand Hygiene Sink	1		0.5	
11050	104	Alcove, Linen	1		2.0	
10751	105	Medications Room	1		8.0	1 utility/cleaning sink, galley style w/ sliding doors
10910	106	Soiled Utility Room	1		8.0	2 utility/cleaning sinks
		Subtotal, Anesthesia Care Unit Area			110.0	

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Receiving/ED IP Pause Area				
10644	107	Pause Area, Inpatient	1		22.5	Locate adjacent to ACU for nurse oversight
11218	108	Pause Area, Inpatient, Isolation	1		9.0	Negative pressure hand hygiene sink, PPE supply storage
11219	109	Washroom, Patient, Wheelchair	1		4.5	1 wc, 1 lavatory sink
		Subtotal, Receiving/IP Pause Area			36.0	
		Subtotal, Anesthesia Care Unit			146.0	
		Support Area				
11049	110	Clean Utility Room	1		5.0	1 utility/cleaning, line hooks, 1 hand hygiene sink, adjacent to SpaceID# 10751
10745	111	PACS Reading/Imaging Rounds	1		85.0	
10746	112	PACS/RIS Service Room	1		15.0	
10747	113	Workshop, Biomedical Engineering	1		20.0	
10749	114	Storage, Supply Cupboard	1		4.0	
10750	115	Storage, Mobile X-Ray Units	1		15.0	4-6 units
		Subtotal, Support Area			144.0	
		Shared Staff Facilities Area				*Shared w/3A.7 Emergency Department*
10753	117	Lounge, Staff	1		49.5	
10754	118	Servery Area	1		5.0	1 double kitchen sink
10755	119	Staff Rest Area	1		24.0	
10756	120	Change Room, Male	1		18.5	50 'z type' lockers
10757	121	Washroom, Male	1		15.0	2 wc's, 2 urinals, 3 lavatory sinks, 2 showers, vestibule
10758	122	Change Room, Female	1		37.0	100 'z type' lockers
10759	123	Washroom, Female	1		17.0	3 wc's, 3 lavatory sinks, 3 showers, vestibule
10760	124	Storage, Scrub Dispensers	1		2.0	

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		On-Call Suite				*On-call suite could be located off of Level 1*
10761	125	On-Call Room	2	7.5	15.0	Located away from high traffic areas
10762	126	Sitting/Work Area	1		7.5	
10763	127	Washroom, On-Call	1		5.0	1 wc, 1 lavatory sink, 1 shower
		Subtotal, Shared Staff Facilities Area			195.5	
		Medical Imaging Clinical Office Area				
10732	128	Office, Shared	1		24.0	
11226	129	Office, Shared	1		24.0	
11290	130	Office, Booking Clerk	1		24.0	
10765	131	Meeting Room	1		23.0	
10767	132	Conference/Library	1		40.0	
10908	133	Washroom, Staff, Female	1		6.0	2 wc's, 2 lavatory sinks
10734	134	Washroom, Staff, Male	1		6.0	1 wc, 1 urinal, 2 lavatory sinks
10735	135	Workroom, Office Equipment	1		16.0	
10738	136	Office, Shared/Flexible Use Space	1		16.0	
		Subtotal, Medical Imaging Clinical Office Area			179.0	
		Summary				
		Reception/Pause Area	1		117.0	
		Procedure Area A, General Radiology/ Fluoroscopy	1		332.0	
		Procedures Area B, Ultrasonography	1		224.0	
		Procedure Area C, Computer Tomography	1		149.0	
		Procedure Area D, Nuclear Medicine	1		235.5	
		Procedure Area E, Magnetic Resonance Imaging	1		357.5	
		Anesthetic Care Unit Area	1		146.0	
		Support Area	1		144.0	

3A.9 C&W MEDICAL IMAGING

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
		Shared Staff Facilities Area	1		195.5	*Shared w/3A.7 Emergency Department*
		Medical Imaging Clinical Office Area	1		179.0	
		Total Medical Imaging			**2 079.5**	

3A.10.1 FUNCTIONAL DESCRIPTION

3A.10.1.1 Scope of Clinical Support Services

(1) Medical Device Reprocessing (MDR) is one of the support services provided by C&W. This includes reprocessing of all instruments, supplies and equipment requiring on-site preparation, the controlled sterilization of all goods and equipment, surgical case cart system, cleaning and control of certain equipment required by inpatient units, and preparation and control of special trays for Medical Imaging (MI), outpatient clinics, Emergency Department (ED), and respiratory therapy (RT). This unit will clean incubators for Neonatal Intensive Care Unit (NICU), Pediatric Intensive Care Unit (PICU) and the Infant Transport Team (ITT). MDR will provide special trays for several services provided off-site, including the Midwife Home Birthing Program, BC Centre for Disease Control, and Forensic Dental Department.

(2) MDR will be a centralized service, governing the sterilization of items across C&W and beyond the site.

(3) MDR will play a vital role in the decision making process in purchasing instruments, supplies and equipment requiring reprocessing. This unit will ensure standardization and ease of reprocessing of purchased items; or in some cases, determining if single-use/disposable items are a more cost-effective choice.

(4) MDR will be an essential service that assists prevention of transmission of infections from reusable medical devices used at C&W.

(5) Core services provided include:

- **(a)** Receiving contaminated devices;
- **(b)** Decontamination;
- **(c)** Disinfection of medical devices;
- **(d)** Preparing and packaging of decontaminated reusable medical devices;
- **(e)** Sterilization (by steam, and low temperature);
- **(f)** Storage of clean and sterilized reusable medical devices;
- **(g)** Provision of a case cart system for BC Children's OR's;
- **(h)** Provision of a case cart system for BC Women's Birthing Program LDR's and OR's;
- **(i)** Provision of bulk sterile product to the BC Women's Surgical Daycare OR's;
- **(j)** Reprocessing of respiratory devices;
- **(k)** Reprocessing of flexible scopes;
- **(l)** Sterilization of surgical drapes and surgical gowns;
- **(m)** Equipment cleaning (e.g., incubators);
- **(n)** Storage and distribution of single use/disposable medical devices;
- **(o)** Receiving devices from vendors to reprocess and return;
- **(p)** Receiving contaminated devices from other health care facilities to reprocess and return; and
- **(q)** MDR administration.

(6) A small number of items requiring Ethylene Oxide (ETO) sterilization will be sent to Vancouver General Hospital for reprocessing. C&W will not employ this sterilization method.

(7) Items such as regular beds from inpatient units, stretchers, and wheelchairs will not be handled in this area. These items will be washed on the inpatient units and sent to plant services for repair when necessary. Stretchers and wheelchairs will be cleaned by housekeeping staff.

3A.10.1.2 Scope of Education Activity

(1) MDR will generally provide clinical resources in support of teaching programs for the following types and anticipated maximum number of students at any given time:

(a) Two MDR technician students.

(2) Inservice teaching will be conducted on a regular basis throughout MDR's spaces. Nursing new hires for the OR's are provided the opportunity to tour MDR as part of their orientation to Hospital operations.

3A.10.1.3 Scope of Research Activity

(1) Clinical research activities will not be conducted within the component.

3A.10.1.4 Specific Scope Exclusions

(1) This Medical Device Reprocessing specification excludes sterile packs for C-sections and other procedures provided through a contracted service provider for BC Women's Birthing Program and SDC OR's.

3A.10.2 OPERATIONAL DESCRIPTION

3A.10.2.1 Minimum Hours of Operation

(1) Routine hours of operation will be 24/7, including statutory holidays.

3A.10.2.2 Patient & Family Management Processes and Flows

(1) Not Applicable.

3A.10.2.3 Patient Information Management and Flows

(1) MDR will be connected to the OR booking management system, receive slates and the pick lists for all OR cases.

(2) The MDR must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

3A.10.2.4 Staff Work Processes and Flows

(1) Devices Workflows

(a) MDR shall only take place in dedicated reprocessing areas that comply with the design, construction, and environmental requirements set in the latest edition of applicable CSA standards.

(b) Clean and soiled rooms used for reprocessing of devices shall comply with the latest applicable CSA standards to ensure safe mechanical provisions with increased air exchanges and relative pressurization.

(c) Contaminated devices will flow one way from the dirty to the clean areas of the MDR. Materials will not move in the opposite direction at any point.

(d) There will be dedicated clean and soiled elevators in respective areas of decontamination and reprocessing of MDR for OR materials management. The clean elevator will access the clean core of the Procedures Suite and Birthing OR's from the sterile storage or holding area. The soiled elevator will leave from the contaminated area of the OR's and access the MDR's soiled receiving area.

(e) Patient equipment such as suction devices, respiratory equipment, and incubators etc. will be routed through this area, with patient contact surfaces and components changed, washed, or sterilized as required. Respiratory equipment (tubes and other paraphernalia) excluding ventilators, will be processed. Flexible scopes will be decontaminated and highly disinfected in the MDR. Serviced equipment will then be transferred to a clean equipment storage area for holding.

(f) All soiled carts used to transfer soiled devices, except bins used for waste collection, will be collected following unloading, and routed through an automated cart wash facility to a reloading or holding area.

(g) Sorted items will be moved by hand or in instrument rack dollies to the appropriate decontamination and or washer/sanitizer equipment where they will be processed either manually or automatically. Respiratory equipment will be processed through thermal disinfection (pasteurmatic) machines and dryers. Ultrasonic washers will be used for semi-critical and critical devices that have joints, crevices, lumens, or other areas that are difficult to clean.

(h) Following the cleaning process, selected devices will be routed for appropriate testing and storage (Biomedical Engineering [BE] services and respiratory therapy).

(i) Soiled linen and trash from case carts will be collected in appropriate containers and later transferred to their respective collection destinations.

(j) Following the decontamination and cleaning operations, all items will pass through into a packaging and assembly area for subsequent reprocessing. Clean racks and other containers will be returned to the decontamination area for re-use following the removal of the clean materials. Case carts will be washed in the cart washer and placed in the clean supply holding area.

(k) Items will be sorted and transferred to the setup/packaging tables for processing with instruments placed in the instrument library. The primary function of the packaging and assembly areas will be to prepare various instruments, utensils and supplies into trays and packages for issue. Packaging and assembly staff will select items needed,

inspect for quality and assemble them into standard and special order trays or packages.

(l) Linens (wrappers, towels, etc.) will be packed and transferred by MDR staff to prevent contamination of the sterilized area. Linen packs/bundles will be sterilized for the Procedures Suite and Birthing Program OR's. All items requiring sterilization will be loaded onto sterilizer carts, with any items not requiring sterilization either transferred directly to clean storage, or hand processed before being transferred to clean storage.

(m) Equipment will be heat and/or air dried before being reprocessed by hydrogen peroxide (low temperature autoclave) sterilizer units.

(n) Autoclave carts will be held in a holding area near the sterilizers before being put into the sterilizers. When steam-sterilizer cycles are complete, goods are removed and held in a cooling area, while gas-sterilized goods are unloaded following aeration. After goods have been cooled or aerated, they will be placed on mobile shelving in a sterile storage area.

(o) Items which have been sterilized for off-site use will be placed in clean transport carts and transferred through the main loading dock.

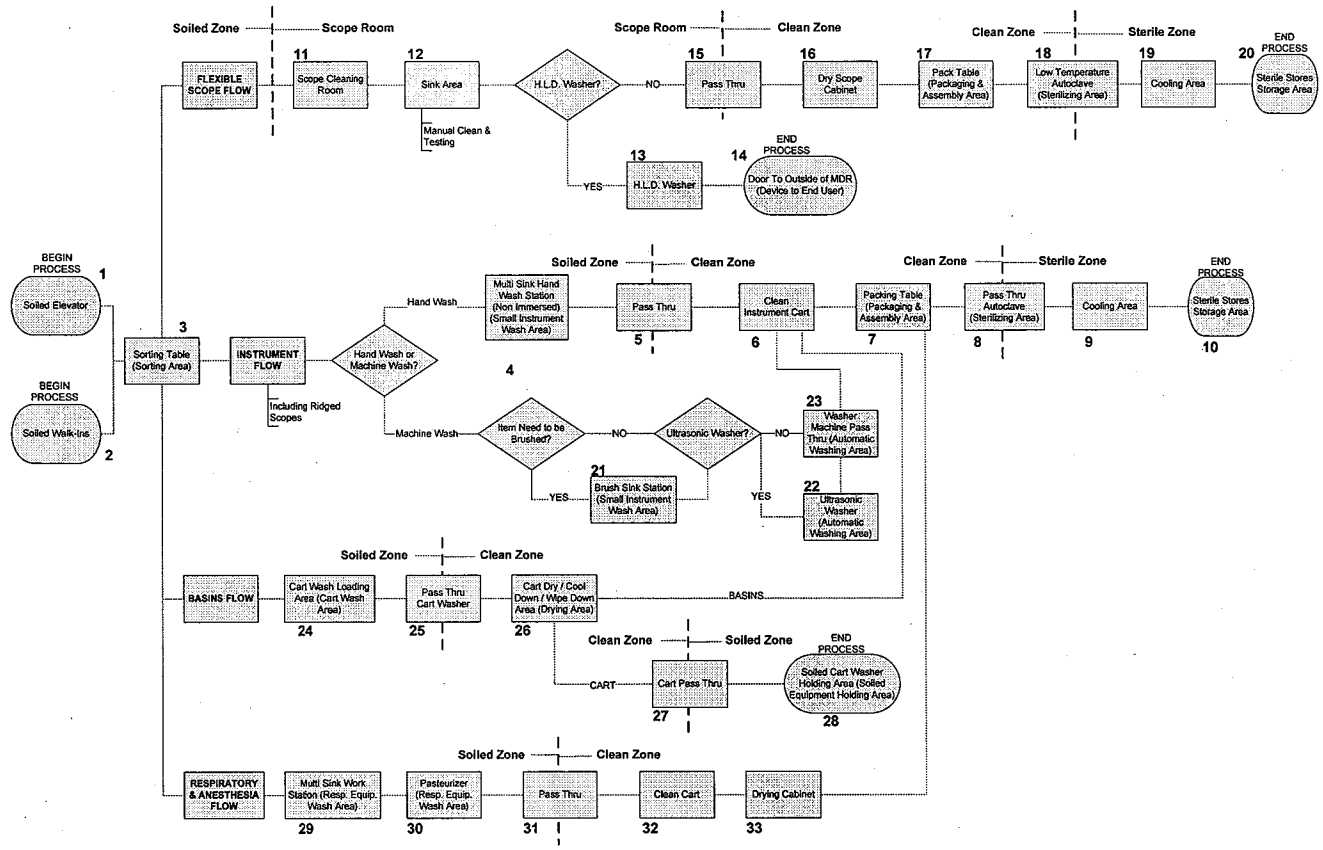
(2) Case Cart Assembly

(a) Case carts will be assembled close to, but physically separate from, general supply cart picking/marshalling functions. Case cart goods will be stored together in one area of sterile storage on carousels. Placement of the carousels in the sterile storage area will allow case carts to be wheeled through the area for cart stocking. After case carts are assembled, they will be held in a marshalling area for dispatch to the Procedures Suite and Birthing Program OR areas.

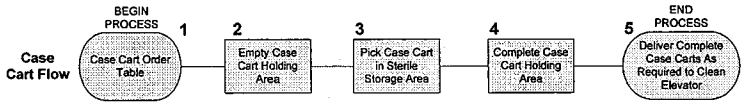
(b) Medical/surgical supply items will be stored on carousels, along with a supply of reprocessed items from the Decontamination/Sterile Processing area. Supplies will be taken from this stock in order to replenish the medical/surgical supply top-up carts serving each use area (mainly the inpatient units). Depleted carts will be replenished to predetermined levels on a top-up system every evening by staff of supply chain.

(c) Medical/surgical supply carts will be periodically sent to the cart wash facility.

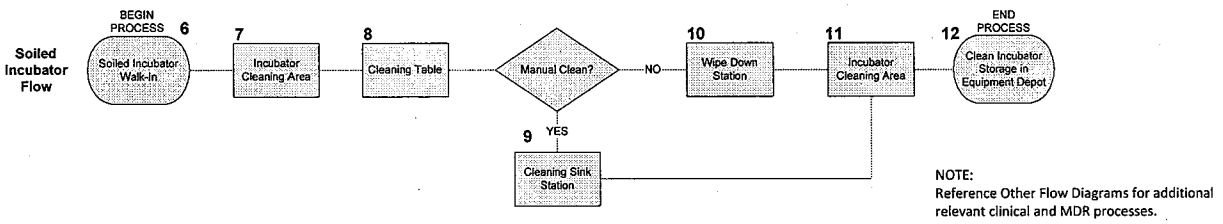
MDR: Process Map #1



MDR: Process Map #2



MDR: Process Map #3



3A.10.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these Clinical Specifications.

(a) Instrument Inventory Management System

(i) Instrument Inventory Management System (IMS) allows users to track the location of all devices in the system. It links those devices to specific patients as an important element in patient safety and quality assurance requirements.

(ii) IMS provides access to standard operating procedures to reprocessing staff and provides a permanent record that verifies critical reprocessing parameters were achieved. Managers using the data and reports from the IMS will make better informed decisions.

(iii) IMS track the consumption of single-use/disposable items and generate replacement orders as required.

(b) Information Systems and Technology

(i) Communication methods can take the form of mobile phones, wireless technology, intercoms, or annunciator-type video screens. Required space, services/infrastructure will depend on the technology selected.

(ii) Webcams will be mounted at identified transportation corridors and other areas, for example in clean and dirty case cart holding area in the Procedures Suite to alert MDR staff to the need for pickup or delivery without direct voice communication from the user area.

(c) Supply Chain Services

(i) Linen supplied by the Authority will be used in sterile packaging and delivered to MDR using a cart exchange system.

3A.10.3 ACTIVITY CAPACITY

3A.10.3.1 The table below summarizes the baseline activity and projected demand for the C&W MDR.

Planning Area	Baseline 2010/11	Projected 2017/18	Projected 2025/26
# Beds (Historical – BC Children's & BC Women's, Future ACC)	274	300	319
# Surgical Cases (CH)	8,069	9,038	9,900
Sedated MI Patients (Procedures Suite - Special)	2,790	6,547	7,679
# Maternity Surgical Cases (BC Women's)	2,717	2,960	3,038
# Non-maternity Surgical Cases (BC Women's)	852	941	1,045
# Emergency Visits	41,850	44,578	49,090
# Urgent Care Suite Visits	12,521	13,517	13,805

3A.10.4 PEOPLE REQUIREMENTS

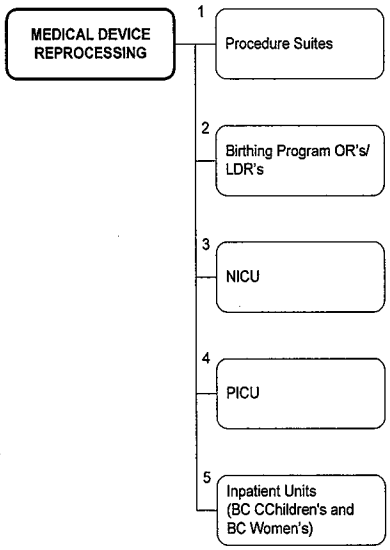
3A.10.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Visitors	Others	Total
Administration Area	Not Applicable	2	1		3
Decontamination Area	Not Applicable	3			3
Clean Assembly	Not Applicable	3			3
Sterilization Area	Not Applicable	2			2
Sterile Storage/Clean Supplies/Assembly Area	Not Applicable	3			3
Staff Facilities Area	Not Applicable	1			1

3A.10.5 DESIGN CRITERIA

3A.10.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by internal service circulation to the Procedures Suite for the direct delivery of sterile case carts and return of soiled case carts.

2 Provide direct access by internal service circulation to the Birthing Program OR's and LDR's for the delivery/return of sterile/soiled case carts.

3 Provide convenient access by general service circulation to NICU for the delivery of sterile supplies and equipment.

4 Provide convenient access by general service circulation to PICU for the delivery of sterile supplies and equipment.

5 Provide convenient access by general service circulation to all Inpatient Units (BC Children's and BC Women's) and Gyne Surgical Daycare Unit in BC Women's for the delivery of reprocessed supplies and equipment.

3A.10.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Zoning

(i) Physical zones are to be established to achieve separation of flows for clean and soiled materials.

(ii) The staff working within the assembly and sterile supplies areas of the MDR service should be segregated from stores and transport staff as well as from other staff working with soiled areas of the MDR.

(iii) Staff will enter/exit the decontamination zone via a personal protection equipment (PPE) ante room. A staff washroom will be included adjacent to the PPE ante room.

(iv) Main door(s) to the Decontamination Area will be hands-free to allow the unrestricted movement of large wheeled carts, etc. in or out of zones in component.

(b) Access and Security

(i) Provide controlled access at all perimeter doors to the component. Persons entering the component shall be directly observed.

(ii) Because traffic into the MDR is restricted and doors will always be closed, a communication system from the outside to the inside of the services will be provided.

(iii) Alarm systems and/or duress alarm system will be provided for staff safety and security.

(c) Material and Finishes

(i) An assessment of the cleaning methods, equipment, and frequency required throughout the component must be made before choosing finishes.

(ii) Finishes shall be suitable for frequent cleaning and tolerant to surface cleaning agents. Joints will be avoided as they can hold moisture, encouraging the growth of microorganisms. Ledges will also be avoided.

(iii) Height adjustable work tables will be constructed of non-porous materials. Laminated materials will not be used unless they are specified by the manufacturer as providing chemical-resistant surface suitable for laboratory use. Stainless steel is recommended.

(iv) Where there is likely to be direct contact with blood or body fluids; floors and walls shall be surfaced with smooth impermeable seamless materials.

(v) Ceilings will be resistant to humidity in spaces where steam and moisture are encountered. Ceilings will be constructed without fissures, open joints, or crevices that can retain or permit passage of dirt particles, using non-porous, non-shedding materials.

(vi) Hollow wall construction must be avoided. Solid walls shall be rendered to a hard smooth finish to facilitate cleaning and repair. Walls shall be protected against damage from wheeled traffic by integral buffer rails and corner guards.

(vii) Pipes and other fixtures in work areas will be enclosed in walls or ceilings so as to create flush surfaces, facilitating frequent cleaning. Appropriate access shall be provided for maintenance and inspection.

(viii) All functional areas will have a uniform floor level. Thresholds between rooms will be smooth. Doorways between adjoining rooms are points of stress and particular attention needs to be paid to the selection and installation of the flooring product.

(ix) The floor finish and sub-floor will be non-skid and suitable for heavy cart traffic. The flooring should be turned up at walls using integral skirting. This should be continuous with the floor and finished flush with the wall, so that the junction between the skirting and the wall does not provide a ledge for collection of dust.

(x) Where ante rooms are provided, the door must open towards the higher pressure side to overcome problems with weakening door closers, which may lead to lock outs.

(xi) Doors will be fail safe to allow emergency exit in the event of fire, or power failure.

(xii) Vision panels (windows) will be provided in doors that are frequently used.

(xiii) Selection of window glazing must facilitate cleaning.

(d) Sterile Supplies Flow

(i) Sterile supplies shall not cross paths with soiled materials or the public, and those destined for the Procedures Suite and Birthing Program OR's shall leave the component via a dedicated internal elevator.

(e) Temperature/Humidity/Ventilation Controls

(i) Temperature and humidity levels will be controlled to ensure work areas are comfortable for properly attired MDR personnel.

(ii) Humidity loads in reprocessing areas can be extremely high. Ceiling, walls, and work services in this area will be impervious to moisture.

(iii) Ventilation for this area must meet all latest applicable CSA standards for Health Care Facilities.

(iv) Steam services will be available for local humidity control.

(f) Noise Control

(i) Special sound attenuation measures as per acoustical and noise control requirements, will be provided to contain the noise generated by equipment. This may include a sound absorbent floor, wall and ceiling finishes to avoid noise pollution in all other areas of the component.

(g) Lighting Controls

(i) Lighting shall be appropriate to the age of the workforce and adaptable for the range of activities performed. Provide glare-free full-spectrum artificial or preferably natural light and special task types for technical work areas.

(ii) In the decontamination, preparation and packaging areas, magnification inspection with lights will be installed at each workstation.

(iii) Light fitting controls in processing and storage areas will be fully recessed and carefully selected to avoid ledges or crevices where dust can collect.

(iv) Décor shall ensure simple unobtrusive colour schemes that minimize interference with the concentration of the MDR staff working on fine detail.

(v) Provision of borrowed or natural light in offices, and staff amenity areas is desired.

(h) Disaster Planning

(i) Emergency power will be supplied to processes, sterilizers and other equipment as required to ensure operations are not interrupted in the case of a disaster.

(i) Occupational Health and Safety

(i) Provide appropriate heights for workbenches, shelving, computer terminals and keyboards to minimize physical stress or accidents and maximize the comfort of laboratory users. Adjustability of bench heights is required.

(ii) Floor construction/finishes should compensate for long periods of standing, typical in the MDR workplace.

(iii) Functional and storage space will be provided for chemicals. Space shall be provided where direct read chemical monitoring equipment is required.

(iv) Functional space will be provided to allow for the movement of carts between tasks. Counters, carts, and loading devices will be at the same height for easy horizontal movement of materials.

(v) Sufficient and accessible space for storing movable equipment and supplies will be provided.

(vi) Sharps containers and eyewash stations will be provided in the appropriate quantities and locations and will be easily accessible by staff.

(j) Infection Prevention and Control

(i) All areas used for decontamination, preparation and packaging, sterilization and storage of medical devices will be designed and built to minimize bioburden and particulate contamination.

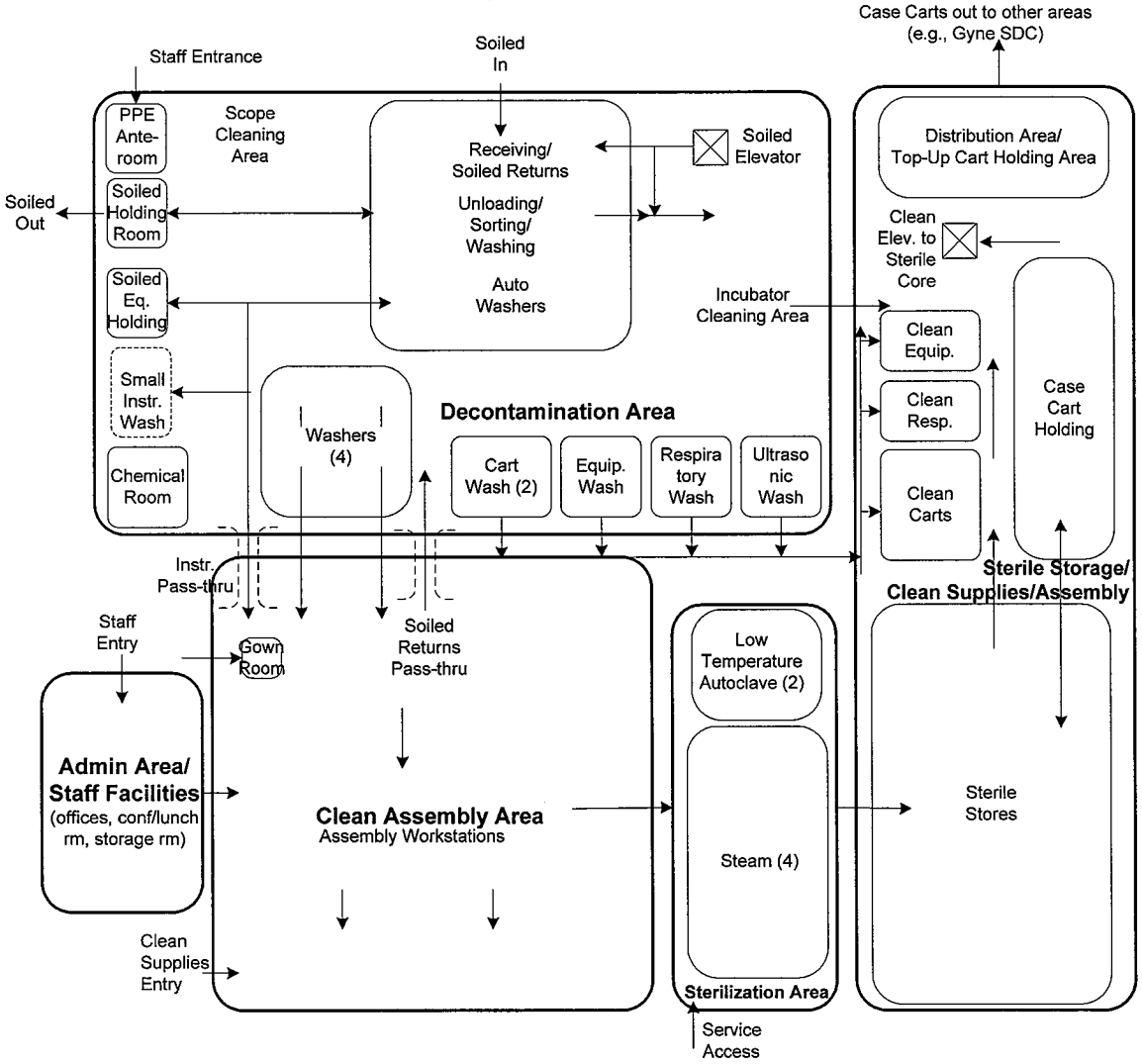
(ii) Adequate space will be provided to carry out sterilization activities. Walls or partitions to control traffic flow and contain contaminants generated during processing will separate functional work areas.

(iii) Multi-person contact, high-touch work surfaces will be minimized through the use of automated equipment and related design features, such as hands-free water faucets, and motion activated door openers.

(iv) Building and engineering maintenance and testing will not be undertaken in the assembly and packaging area at times when devices are being produced or processed to prevent contamination of the area or devices. Design considerations must allow easy access to equipment to minimize the effects of maintenance activities. Use of interstitial spaces or external corridors shall be employed for access for maintenance services.

(k) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



3A.10.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Administration Area				
10771	01	Office, Manager	1		9.5	
10772	02	Office, Shared	1		12.0	Arrival notification system required. Area to have 2nd entrance for internal clients to bring in and pick-up materials. Located close to elevators, supply chain circulation route
11041	03	Pneumatic Tube Station	1		0.5	
10773	04	Conference/Lunch Room	1		36.0	1 double kitchen sink
10804	05	Loaner Item Storage Room	1		10.0	Should be located close to entrance door
		Subtotal, Administration Area			68.0	
		Decontamination Area				*Area requires negative air pressure*
11245	06	Ante Room, Decontamination	1		4.0	PPE supply storage
10775	07	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink, collocated with SpaceID #11245
10776	08	Receiving/Soiled Returns Holding Area	1		30.0	
10777	09	Uploading/Sorting/Washing Area	1		78.0	Triple utility/cleaning sink, 1 hand hygiene sink, glass standing, pass thru from clean assembly for returns (for re-cleaning), vented
10778	10	Soiled Holding Room	1		15.0	Wide door
10779	11	Soiled Equipment Holding Area	1		10.0	
10780	12	Automatic Washing, Sanitizing Area	1		45.0	
10781	13	Scope Cleaning Room	1		15.0	1 triple utility/cleaning sink, 1 utility/cleaning sink
10789	14	Incubator Cleaning Area	1		10.0	Triple utility/cleaning sink
10782	15	Respiratory Equipment Wash Area	1		10.0	Workcounter (3.5 m) w/ 1 utility/ cleaning sink
10783	16	Cart Wash Area	2	11.5	23.0	Service space, loading & unloading module
10784	17	Equipment Wash Room	1		15.0	Triple utility/cleaning sink
10785	18	Small Instrument Wash Area	1		5.0	Triple utility/cleaning sink

3A.10 C&W MEDICAL DEVICE REPROCESSING

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
11383	19	Chemical Storage Room	1		9.0	
		Subtotal, Decontamination Area			272.5	
		Clean/Assembly Area				*Area requires positive air pressure*
10787	21	Ante Room, Staff	1		4.0	PPE supplies
10788	22	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink, collocated with SpaceID #10787
10790	23	Cart Wipe-Down/Drying Area	1		15.0	1 utility/cleaning sink, equipment hooks
10791	24	Dryers	2	2.5	5.0	
10793	25	Packaging & Assembly Area	1		135.0	
10794	26	Non-Sterile (Clean) Storage	1		30.0	
10795	27	Linen Storage Room	1		10.0	
		Subtotal, Clean/Assembly Area			202.5	
		Sterilization Area				*Area requires positive air pressure*
10796	28	Sterilizing Area, Steam	1		20.0	Loading/ unloading area
10797	29	Hydrogen Peroxide Sterilizer Area	1		12.0	
10798	30	Holding Area, Transfer Carts/ Cooling Area	1		24.0	
		Subtotal, Sterilization Area			56.0	
		Sterile Storage/Clean Supplies/Assembly Area				*Area requires positive air pressure*
10799	31	Sterile Stores	1		147.0	Movable shelving (for inventory items), shelving (for instrument trays & sterile linen). Circulation route needs to be identified from outside location
10800	32	Clean Cart Holding Area	1		12.0	
10911	33	Clean Respiratory	1		12.0	
10801	34	Case Cart Holding Area	1		70.0	
10964		Storage, Incubator			0.0	See Medical Equipment Depot
10802	35	Clean Elevator Vestibule	1		5.0	
10803	36	Distribution Area/Top-Up Cart Holding Area	1		20.0	
10805	37	De-boxing Room	1		12.0	

3A.10 C&W MEDICAL DEVICE REPROCESSING

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
10806	38	Clean Equipment Area	1		12.0	
		Subtotal, Sterile Storage/ Clean Supplies/Assembly Area			290.0	
		Staff Facilities				
10807	40	Locker/Change Room, Staff, Male	1		4.0	8 'z type' lockers
10808	41	Washroom, Staff, Male	1		7.0	1 wc, 1 lavatory sink, 1 shower, vestibule
10810	43	Locker/Change Room, Staff, Female	1		10.0	20 'z type' lockers
10811	44	Washroom, Staff, Female	1		7.0	1 wc, 1 lavatory sink, 1 shower, vestibule
		Subtotal, Staff Facilities			28.0	
		Summary				
		Administration Area	1		68.0	
		Decontamination Area	1		272.5	
		Clean/Assembly Area	1		202.5	
		Sterilization Area	1		56.0	
		Sterile Storage/Clean Supplies/Assembly Area	1		290.0	
		Staff Facilities	1		28.0	
		Total Centralized MDR			**917.0**	

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3A.11.1 FUNCTIONAL DESCRIPTION

3A.11.1.1 Scope of Clinical Support Services

(1) The Entry Facilities in the ACC will be an extension to those in the 1982 building and reflect the values of PHSA of respect, caring and trust. Patients, visitors and staff must be provided with a calming, welcoming environment as they enter the main lobby of the ACC. The lobby will be the first impression of BC Children's that many patients will have and must provide a reassuring environment, to them and their families.

(2) The Entry Facilities shall provide interactive activities and a welcoming atmosphere for children while providing a desirable space for adults.

(3) The Entry Facilities need to ease wayfinding for patients and visitors utilizing consistent, intuitive methods through the ACC and to other destinations on the campus.

(4) This component includes selected functions to be accommodated in the ACC. These include:

- **(a)** ACC Lobby Area; and
- **(b)** Secondary Entry Facilites.

(5) **ACC Lobby Area**

- **(a)** The ACC Lobby will be comprised of the following public/visitor oriented elements:
  - **(i)** Wheelchair corral;
  - **(ii)** Visitor Information Centre;
  - **(iii)** Public washrooms;
  - **(iv)** Information and wayfinding consoles; and
  - **(v)** Display Area (including donor recognition).

(6) **Secondary Entry Facilities**

- **(a)** Due to potential extended distances between building entries, secondary facilities are provided in conjunction with the patient drop off area. This area will be comprised of the following public/visitor oriented elements:
  - **(i)** Information kiosk;
  - **(ii)** Public telephone;
  - **(iii)** Public washrooms;
  - **(iv)** Public pause area; and
  - **(v)** Wheelchair alcove.

3A.11.1.2 Scope of Education Activity

(1) Not Applicable.

3A.11.1.3 Scope of Research Activity

(1) Not Applicable.

3A.11.1.4 Specific Scope Exclusions

(1) This ACC Entry Facilities specification excludes:

(a) Patient registration.

3A.11.2 OPERATIONAL DESCRIPTION

3A.11.2.1 Minimum Hours of Operation

(1) The various functions in the ACC Entry Facilities are expected to be open/active as tabulated below:

(a) Entry Doors and Lobby	0700h – 2000h, seven days 2000h – 0700h, seven days under security on-call (SOC) control

3A.11.2.2 Patient & Family Management Processes and Flows

(1) Some elective patients who have been pre-admitted will know how to access the appropriate clinical areas of the ACC.

(2) Patients and visitors will flow from the parkade below the ACC, or below the 1982 building and from parking lots to the east. Patient drop off areas must be reasonably adjacent and suitable for all wheeled traffic (strollers, wheelchairs, etc.).

3A.11.2.3 Patient Information Management and Flows

(1) Not Applicable.

3A.11.2.4 Provider Work Processes and Flows

(1) Staffing in this area will be volunteer greeters utilizing workspaces within the Visitor Information station in the ACC Lobby area.

(2) Access to on-line patient information is required in this area, as well as phones for volunteers and the public.

3A.11.2.5 Clinical and Logistical Support Processes and Flows

(1) Housekeeping Services

(a) A housekeeping closet in proximity to the ACC Lobby doors will be provided. Seasonal floor mats will be stored elsewhere in the building and brought to the ACC lobby, as required.

(b) Recycle and waste bins will be strategically located in the entrance area and emptied by housekeeping staff on a regular basis.

3A.11.3 ACTIVITY CAPACITY

3A.11.3.1 Not Applicable.

3A.11.4 PEOPLE REQUIREMENTS

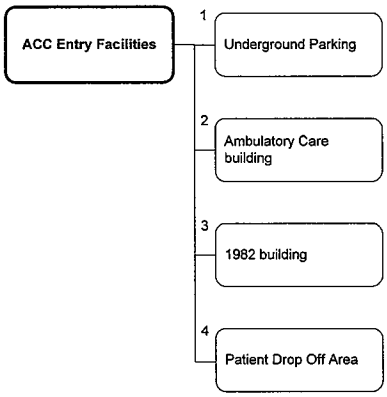
3A.11.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Visitors	Others	Total
ACC Lobby Area (10:00 to 20:00)	40		18	2	**60**
ACC Secondary Entry Facilities	6		4		**10**

3A.11.5 DESIGN CRITERIA

3A.11.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by general circulation from/to the Underground Parking for movement of patients and families and visitors into the ACC.

2 Provide direct access by general circulation from/to the Ambulatory Care building for the movement of patients and families.

3 Provide direct access by general circulation from/to the 1982 building for the movement of patients and families.

4 Provide direct access by general circulation from/to the patient drop off area, for access to the ACC.

3A.11.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Character & Configuration

(i) The ACC entry facilities and its associated elements shall reflect a commitment to family-centred care and a focus on patient calming and well-being. The area shall be spacious and its configuration shall smoothly integrate with the existing and planned future major general circulation pathways of the hospital. The intention is the themed design will facilitate the flow of people through the ACC entry facilities area and onward into other areas of the building complex without difficulty.

(ii) The identity of BC Children's must be easily recognizable upon entry with special provisions for the pediatric population. The lobby must create an environment and atmosphere where the personality of the pediatric focused BC Children's is captured. Donor recognition is an important element.

(iii) Wayfinding monuments and signage will be consistent across the site and provide the infrastructure to support electronic signage and advanced wayfinding. Theming for wayfinding is desirable and would start in this area of the ACC.

(b) Pause Areas

(i) Within the pause area(s) special provisions shall be made to ensure:

(A) Barrier free design; and for

(B) Young children.

(c) Accessibility

(i) Physical design attributes shall make accommodation for the blind, deaf, frail, and cognitively challenged; as well as those using wheelchairs, strollers and walkers.

(ii) Toilets and corridors must be provided with handrails.

(iii) Within the pause area, there shall be a special zone for handicapped persons going to or coming from vehicular transport. This area shall be strategically located for easy visibility between the vehicle and person waiting.

(d) Acoustic Privacy

(i) All spaces shall provide for acoustic privacy during normal-level conversations as per acoustical and noise control requirements.

(e) Infection Control

(i) The design of the ACC entry facilities shall have appropriately configured and esthetically integrated hand-sanitizing stations strategically positioned to encourage use as one walks into the building. The design shall set the tone for the public to expect and use hand-sanitizing stations throughout the hospital.

(ii) Space between those seated in pause areas shall be generous in order to mitigate against transmission of airborne infections. Any soft seating must also adhere to cleaning guidelines.

(f) Staff/Public Security Needs

(i) Video cameras shall be strategically located to collect evidence images and shall be evident to the public to discourage aggressive behaviour.

(ii) Panic alarms shall be provided at all spaces where staff and volunteers are working.

(iii) All unoccupied spaces will be locked from the rest of the building.

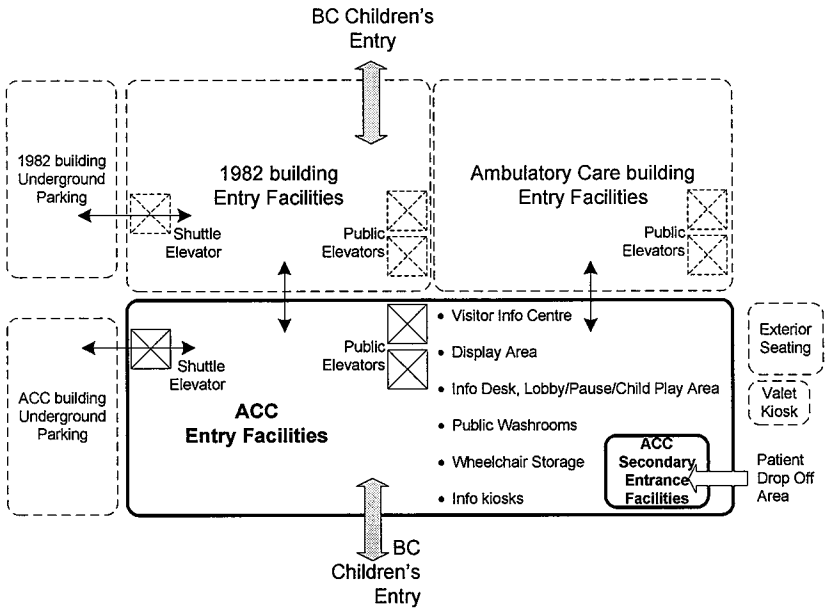
(iv) Elevators from the parkade must have good access to wayfinding monuments in the lobby and after-hours flow must be easy and secure.

(g) Communication Systems

(i) The lobby must have information/wayfinding consoles.

(h) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



3A.11.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Exterior Area				
		Patient Drop Off Area			0	12 vehicles, incl. Handi Dart vans, taxis, passenger vehicles; partially covered
		Exterior Seating			0	Standing space, out of way of doors; covered area
		Valet Kiosk			0	Booth, lockable cupboard for keys
		Subtotal, Exterior Area			0.0	
		ACC Lobby Area				
10813	01	Information Desk	1		10.0	
10814	02	Lobby/Pause Area	1		80.0	Visual access to drop off zone
10815	03	Child Play Area	1		10.0	
10816	04	Display Area	1		45.0	Secured display cabinets and shelving for donor recognition, topical display
10817	05	Information Kiosk	4	2.0	8.0	Electronic information
10818	06	Visitor Information Centre	1		20.0	Public and taxi telephones, wayfinding devices
10820	07	Washroom, Public, Male, Wheelchair	1		12.0	2 wc's, 2 urinals, 3 lavatory sinks, vestibule
10821	08	Washroom, Public, Female, Wheelchair	1		12.0	4 wc's, 3 lavatory sinks, vestibule
10823	09	Storage Alcove, Wheelchair	1		4.0	
		Subtotal, ACC Lobby Area			201.0	
		ACC Secondary Entry Facilities				
10825	11	Information Kiosk	1		2.0	
10826	12	Telephone, Public	1		1.0	
10827	13	Washroom, Public, Wheelchair	2	4.5	9.0	1 wc, 1 lavatory sink, one with adolescent change table and lift
10828	14	Pause Area, Public	1		30.0	
10829	15	Storage Alcove, Wheelchair	1		3.0	
		Subtotal, ACC Secondary Entry Facilities			45.0	

3A.11 C&W ACC ENTRY FACILITIES

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Summary				
		Exterior Area	1		0.0	
		ACC Lobby Area	1		201.0	
		ACC Secondary Entry Facilities	1		45.0	
		Total ACC Entry Facilities			**246.0**	

3A.12.1 FUNCTIONAL DESCRIPTION

3A.12.1.1 Scope of Clinical Services

(1) BC Children's Renal Dialysis Unit (hereinafter referred to as 'Unit') provides a safe, effective, and family-centred environment for children and youth in BC requiring hemodialysis or plasmapheresis.

(2) The area is used for both inpatient and outpatient hemodialysis services.

(3) The Unit serves both acute and chronic patients. Acutely ill patients will be dialyzed in the Pediatric Intensive Care Unit (PICU). The hospital will adhere to centre for disease control (CDC) guidelines requiring patients with hepatitis B to be dialyzed under their protocol.

(4) A Family-Centred Care approach is followed encompassing families as partners in care and encouraging them, as much as possible, to be fully involved.

(5) Interdisciplinary Clinical Team.

(a) The Unit will operate using an interdisciplinary clinical team Model of Care including, but not limited to the following types of individuals:

(i) Child Life Specialists;

(ii) Dietitians;

(iii) Pharmacists;

(iv) Physicians (MD)

(v) Registered Nurses (RN); and

(vi) Social Workers (SW);

3A.12.1.2 Scope of Education Activity

(1) This component mainly conducts educational programs in the community.

3A.12.1.3 Scope of Research Activity

(1) Clinical research and evidence-based treatment will include retrospective and concurrent analysis of patient records.

(2) All research will occur within the service space provided and will not require special facilities, equipment or personnel.

3A.12.1.4 Specific Scope Exclusions

(1) This Renal Dialysis Unit specification excludes renal services/requirements provided elsewhere, including:

(a) Medical/surgical/treatment/educational outpatient services provided in various Ambulatory Care areas; and

(b) Dialysis provided in PICU/critical care units.

3A.12.2 OPERATIONAL DESCRIPTION

3A.12.2.1 Minimum Hours of Operation

(1) Routine hours of operation will be as follows:

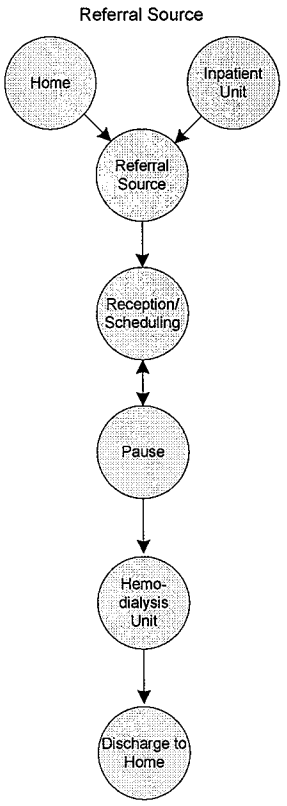
(a)	Monday/Wednesday/Friday	0600 to 1800 hours
(b)	Saturday	0700 to 1700 hours
(c)	Staff are on-call at other times for acute situations.	

3A.12.2.2 Patient & Family Management Processes and Flows

(1) Reception/Scheduling: All scheduled and unscheduled patients (and/or accompanying porters and escort staff), clinicians and visitors to the Unit are received at a centralized team care station, which will also act as a reception/control point for access to the Unit.

(2) Hemodialysis: Patients requiring hemodialysis will have received pre-dialysis instruction in the Unit prior to attending for dialysis. Treatment sessions, prescribed by the nephrologist according to individual needs, will typically include connection to a hemodialysis machine three times per week, for three to five hours. Patients will be seated in a recliner chair or laying in a bed throughout a session. Each hemodialysis station will be equipped with medical gases and the ability to monitor the patient's blood pressure. A bed and chair scale will be provided for the Unit. A total of six hemodialysis stations will be provided. The Unit will also have the ability to provide apheresis procedures.

(3) Care delivery will be based on a patient-centred, family-involved service supported by an Interdisciplinary Team.



Discharge Flow

3A.12.2.3 Patient Information Management and Flows

(1) Patient rooms and patient team care station must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

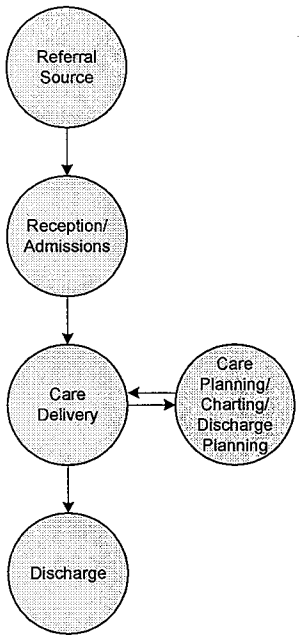
(2) All staff will have personal communications devices to avoid use of the central paging system.

(3) Most bedside forms will be generated electronically and when hard copies are needed they will be printed at the team care station.

(4) Patient information systems will be automated with access to information by means of computer terminals located at all staff work areas distributed throughout the Unit. Computer charting will occur at the patient chair-side, likely through the use of hand-held wireless

devices. Ordering and scheduling of tests, procedures, and medications will be managed through the same terminals in the staff work areas or through the hand-held devices.

3A.12.2.4 Provider Work Processes and Flows



(1) A minimum of two nurses are present during hours of operation.

(2) A multidisciplinary approach to care will be carried out in the Unit. Workstations at the team care station, a room for visiting professionals and for interviewing/counselling shall achieve an ordered use of space.

(3) Nurse travel time will be minimized and nurse-patient visibility will be maximized by applying Lean principles and locating frequently utilized staff work areas and support spaces close to the patient positions. In order to achieve the above criteria; the team care station will be a central communication centre within the patient position area. This team care station will provide workstations for (computer) charting and monitoring purposes.

(4) Care providers will require an area where they can discuss or document a patient's condition/information in private. Since the team care station area will likely be highly accessible to patients and their family/visitors, a private staff conference/charting room will also be provided. These two areas shall allow staff observation of patients from within, and facilitate frequent access and visualization between them.

(5) Interdisciplinary conversations shall be private and not overheard by patients. Activities in the team care station shall not disturb patients; therefore, the team care station shall be designed as per acoustic and noise control requirements, while maintaining sightlines to patients.

(6) The medications room shall be discretely located. Access shall be visually supervised from the team care station and shall be securable with a separate lockable narcotics cupboard.

(7) All patient positions shall be visible to the team care station, while allowing a degree of patient privacy to be maintained. The team care station shall accommodate telephones, nurse call, patient charts and computer terminals.

(8) Multidisciplinary clinical staff will enter information to clinical records by electronic or manual means, discuss clinical issues, make confidential telephone calls, review diagnostic results in a discrete area.

(9) Staff outer clothing shall be stored in lockable coat closets. Students and volunteers will also have space for coat storage in the coat closets. A staff lounge shall be available for beverage making and staff debriefing.

3A.12.2.5 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications. Most services will be delivered to point of care.

(a) Laboratory Services

(i) Laboratory personnel will be responsible for routine collection and testing of blood specimens.

(b) Volunteer Services

(i) Volunteers will augment the clinical services provided in the Unit.

(c) Equipment Asset Management

(i) Dialysis machines will normally be stored at each dialysis station and removed only for maintenance/repair work.

(ii) Storage of backup and portable hemodialysis machines, dialysate, and disposable supplies (up to a two week inventory) is required.

(iii) A dedicated water treatment system room and loop (with appropriate disaster response back up) will be required in close proximity to the Hemodialysis Unit. The layout and position of the water treatment plant shall be chosen in part to minimize the length of the Reverse Osmosis (RO) water loop to the Renal Dialysis Unit. In addition, a method shall be provided to contain floods within the RO water treatment room.

(d) Food Services

(i) Food supply within the component will be in tray form delivered to each patient position.

(e) Linen/Housekeeping Services

(i) Due to the significant use of supplies in this Unit, special provisions are required for the disposal of a high volume of wastes.

(f) Supply Chain Services

(i) Due to the significant inventories of consumable supplies and recyclable sterile supplies, storage areas must be close to points-of use.

(ii) Some pharmaceutical supplies are purchased directly from off-site retail suppliers and delivered directly to the Unit by courier.

(g) Pharmacy Services

(i) The main pharmacy component, located outside the ACC, will provide support through clinical consultations, provision of initial medication doses, and response to STAT medication needs.

3A.12.3 ACTIVITY CAPACITY

3A.12.3.1 The table below summarizes the baseline activity and projected demand for the BC Children's Renal Dialysis Unit.

Planning Area	Baseline 2010/11	Projected Demand 2017/18	Projected Demand 2025/26	Build
Hemodialysis				n/a
# Patients	14			n/a
# Runs	1,197			n/a
# Stations	6	6	6	6

3A.12.4 PEOPLE REQUIREMENTS

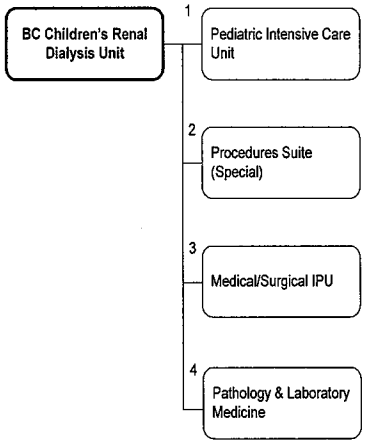
3A.12.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Visitors	Others	Total
Reception/Pause/Examination/Assessment Area	3	1			**4**
Patient Care Area	5	1			**6**
Patient Care Support Area		1	1	1	**3**

3A.12.5 DESIGN CRITERIA

3A.12.5.1 Key External Relationships

(1) The following key relationships will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by general circulation to the Pediatric Intensive Care Unit for staff and equipment.

2 Provide direct access by general circulation to Procedures Suite (Special) for the direct movement of patients requiring procedures.

3 Provide convenient access by general circulation to Medical/Surgical IPU for convenient movement of inpatients for dialysis.

4 Provide convenient access by general circulation to Pathology and Laboratory Medicine for the movement of staff and specimens.

3A.12.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) General Physical Organization

(i) The Unit will be organized in a care pod consisting of four chairs/stretchers in an open area plus two patient rooms that are isolation capable.

(ii) Each Airborne Isolation Room (AIR) will have its own washroom, ante room with hand hygiene sink and storage for personal protective equipment (PPE). The corridor wall of each room will be fully glazed but allow either observation or privacy as required.

(iii) The four open patient stations will have a recliner chair or stretcher with one hand hygiene sink shared between two stations. The configuration will allow sufficient space to accommodate a bed if required, and/or allow an arrest/code team to work around the chair in addition to the standard dialysis equipment.

(iv) One weigh station will be accessed by all positions. An infant weigh scale will be stored within the unit for easy access.

(b) Overview & Configuration

(i) The Unit will be a secured environment without unauthorized access routes to or from other areas of the Hospital.

(ii) The Unit will be configured with a "public" front door and a separate staff/ service entrance.

(iii) The Unit will be zoned into three basic areas:

(A) Assessment/Intake;

(B) Patient Care Area; and

(C) Staff Support/Tech Work Area.

(c) Privacy

(i) Some visual privacy will be provided for patients in examination and treatment spaces in the Unit. Visual privacy can be achieved through the use of stub walls and sliding glass partitions in the chair area of the hemodialysis stations.

(d) Provisions Supporting Family-Centred Care

(i) Space design will focus on "humanizing" the environment. Access to natural light and the use of relaxing colours are two means of creating a comfortable, family-centred place.

(e) Flexibility

(i) All patient chair spaces will be as physically identical as possible in order to maximize flexibility of use and reduce risk by promoting staff familiarity with the placement of supplies and equipment.

(f) Visibility

(i) Patient position layout will enable visual supervision of, and direct access to, patient positions from the staff work area.

(ii) Locate frequently utilized staff work areas and support spaces close to the patient positions.

(g) Patient Environment/Activities

(i) All patients will be provided access to exterior views from their positions.

(ii) Physical layouts and design features will minimize the typical institutional aspects and maximize non-institutional hotel/residential aspects in order to provide a more therapeutic healing environment.

(h) Room Isolation Capability/Infection Control

(i) Two AIR rooms will be provided. These designated AIR rooms with attached ante rooms require a separate entrance for patients directly from the corridor. A provider entrance through the adjoining ante room is also required.

(ii) Hand hygiene sinks and hand sanitizers will be provided in patient rooms and in central locations readily accessible to staff to facilitate infection control.

(i) Safety in the Workplace

(i) Design of staff workstations, must ensure the maximum safety of staff for safety and visibility including staff emergency call system access. Code Blue buttons should be available at all six positions.

(j) Disposal of Infectious Material

(i) Means of disposal of infectious material needs to be readily accessible for the removal of biohazard waste.

(k) Accessibility

(i) Patient, staff, and visitor use areas must be accessible for the disabled, persons using wheelchairs, walkers, crutches, etc. Patient wheelchair access must include additional room for assisted maneuvering.

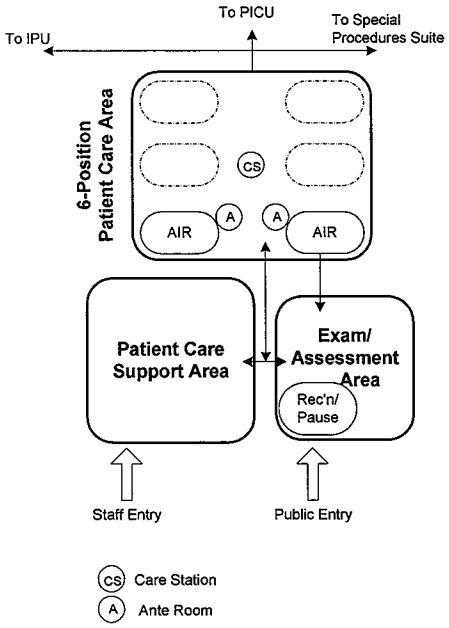
(ii) Barrier free washrooms must have the toilet positioned to allow for assistance from either side of the toilet. Toilets and corridors must be provided with handrails.

(l) Security

(i) The security of both patients and staff must be assured. Staff may use personal alarm devices or carry wireless communications devices which will be operational throughout the ACC, including stairwells.

(m) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



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3A.12.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Reception/Pause/ Exam/Assessment Area				
10837	01	Reception/Pause	1		15.0	Play area. Entrance to unit to be lockable with direct access from transport for both patients and supply, as well as code team (from PICU)
10838	02	Nourishment Station	1		6.0	Adjacent to/combined with SpaceID# 10837, 1 double kitchen sink
10839	03	Interview/Conference/ Teaching Room	1		12.0	
10840	04	Examination/Intake Room	1		13.0	
10846	05	In-Floor Weigh Scale Area	1		1.0	Weight results to be visible at nursing station (via electronics)
10841	06	Washroom, Public, Wheelchair	1		4.5	1 wc, 1 lavatory sink
		Subtotal, Reception/ Pause/ Exam/ Assessment Area			51.5	
		Patient Care Area				
10842	07	Patient Room, AIR	2	13.0	26.0	
10843	08	Washroom, Patient, Wheelchair AIR	2	4.5	9.0	1 wc, 1 lavatory sink
10844	09	Ante Room, AIR	2	4.0	8.0	PPE supply storage
10845	10	Dialysis Area	1		78.0	4 dialysis cubicles w/ stub wall & sliding glass partitions between, RO water
10988	11	Alcove, Crash Cart	1		0.5	
		Subtotal, Patient Care Area			121.5	
		Patient Care Support Area				
10847	12	Team Care Station	1		16.0	
11010	13	Pneumatic Tube Station	1		0.5	
10848	14	Medications Room	1		8.0	1 utility/cleaning sink, galley style w/ hands-free sliding door staff only access, to be combined w/ SpaceID# 10849

3A.12 BC CHILDREN'S RENAL DIALYSIS UNIT

SpaceID	Ref	Space Name	Area			Remarks
			units	nsm/unit	nsm	
10849	15	Clean Prep Room	1		8.0	1 utility/cleaning sink, 1 hand hygiene sink, to be combined w/ SpaceID# 10848
10850	16	Clean Supply Holding Room	1		12.0	
10851	17	Office, Clinical Nurse Coordinator	1		9.5	
10919	18	Lounge, Staff	1		8.0	
10852	19	Alcove, Linen	1		2.0	
10853	20	Soiled Utility Room	1		8.0	1 utility/cleaning sink
10854	21	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10855	22	Storage Room, Equipment	1		8.0	
10856	23	Biomedical Workroom	1		14.0	Equipment holding, 3 R/O drains, 1 utility/cleaning sink. Ensure 1020 mm clearance between the front edge of the counter and the equipment in for repair
10857	24	Water Treatment Room	1		17.5	May be located remote, direct below or direct above
		Subtotal, Patient Care Support Area			115.0	
		Summary				
		Reception/Pause/ Exam/Assessment Area	1		51.5	
		Patient Care Area	1		121.5	
		Patient Care Support	1		115.0	
		Total Renal Dialysis			**288.0**	

3A.13.1 FUNCTIONAL DESCRIPTION

3A.13.1.1 Scope of Clinical Services

(1) The Department of Pharmacy is a clinical department with major teaching, medication distribution and research functions, serving both BC Children's and BC Women's patients. The department provides a full range of inpatient services to all acute care inpatient pediatric, neonatal, rehabilitation pediatric, obstetrical programs, and to designated pediatric and women's clinics. Services will be provided to the campus from three locations, the current 1982 building (main pharmacy), an oncology satellite embedded with 3A.3 Oncology/Hematology/BMT Program in the Acute Care Centre (ACC) and a 24 hour Satellite Pharmacy (Critical Care), supporting critical care services co-located horizontally and vertically with the pediatric intensive care unit (PICU) and neonatal intensive care unit (NICU) locations in the ACC.

(2) The Pharmacy's primary goal is to continue to promote patient risk reduction through the safe, effective, and economical use of drugs. Patient safety initiatives rely heavily on a stable, integrated, wireless information services structure. Key components include computerised prescriber order entry (CPOE), pharmacy information system and integrated automation, bedside medication verification (BMV) and electronic charts. Standard distribution models using unit-dose ready-to-administer oral and intravenous medications will support an improved safety profile. Components of this system include but are not limited to:

- **(a)** Direct patient care which includes clinical pharmacist activities integrated with the multi-disciplinary team providing consultation and problem solving, therapeutic drug monitoring, drug dosing and drug information. Additional support is provided through patient and family medication teaching.
- **(b)** Distribution and compounding services, which includes prescription order entry, sterile compounding (IV admixture and others), sterile compounding (chemotherapy and parenteral nutrition), oral/solid distribution, ward stock and automated medications cabinet (AMC) top-up, non-sterile compounding, and pre-packaging services for the ACC;
- **(c)** Automation and information system support, which includes drug distribution, pharmacy information system (IS), robotic technology for packaging and compounding, bedside dose verification methods and informatics for the ACC; and
- **(d)** Academic teaching and research support.

(3) Core services provided by the Satellite Pharmacy (Critical Care) include:

- **(a)** Receiving and inventory management for three to seven days stock;
- **(b)** Room temperature and refrigerated storage for three to seven days stock;
- **(c)** Patient specific oral doses for critical care areas;
- **(d)** Emergency AMC top-up (associated with AMC workstation);
- **(e)** Provision of intravenous doses for critical care areas;
- **(f)** Total parenteral nutrition preparation for critical care areas (associated with robotic technology);
- **(g)** Order and review processing for critical care;

(h) Clinical and teaching by critical care pharmacists;

(i) 24 hour support (distribution and clinical) for campus; and

(j) In collaboration with nutrition services, preparation and delivery of formulas to the NICU through the Satellite Milk & Formula Preparation Room (SMFPR).

(4) The Satellite Pharmacy (Critical Care) will also serve as a contingency location for pharmacy activities in the event of a disaster causing significant impact on the main pharmacy operations.

(5) In collaboration with the Satellite Pharmacy (Critical Care), the SMFPR is a clinical support service associated with the NICU. The SMFPR provides satellite services and works in collaboration with the C&W main formula room and the C&W donor milk bank located in the Shaughnessy building. The SMFPR is responsible for the safe preparation and distribution of powder and liquid additives, and the addition of these powders and additives to expressed breast milk (EBM) (mother's own or donor) and/or formula as nutritional supplements. The SMFPR is also responsible for mother's milk management (frozen EBM storage) and short-term storage/distribution of donor milk.

(6) The goal of the SMFPR is to promote risk reduction through the safe and effective management of donor and mother's milk, and best practice handling of powders and additives to EBM and/or formula preparation. This is achieved through a variety of activities including:

(a) Preparation and distribution services, which includes order entry for all donor milk, mother's milk, powder, additives and formulas, and aseptic preparation;

(b) Receiving, transcribing and validating orders, all milk/formula preparation, preparing patient specific labels;

(c) Storage of short-term stock (three days), room temperature supplies including powders, bottles and syringes\collection of EBM at the bedside and/or from NICU freezers;

(d) Patient specific preparation of powders and liquid additives;

(e) Mixing of, and redistribution of powders, and liquid additives with EBM and/or formula;

(f) Storage, thawing and distribution of donor milk to the bedside;

(g) Supply of select urgent, non-urgent, non-ward stock, specialized fortifiers and additives;

(h) Liaison with the main C&W formula room in the Shaughnessy building for the preparation and distribution of select non-ward stock pre-term and therapeutic infant formulas;

(i) Mother's Milk Management: receiving, labeling, storing/managing mother's milk (overflow) in mother's milk freezers; and

(j) Donor Milk Management: receiving, storing, distributing donor milk (fortified) from C&W Milk Bank. Donor milk will be received daily through the C&W Donor Milk Bank.

(7) Purchasing and bulk storage will occur through the main C&W formula room. A top-up system will be maintained to the SMFPR which will hold three days stock on hand.

(8) Milk and formula delivery and stocking will occur via a refrigerated transfer cart. Urgent needs can be delivered via Pharmacy or NICU porter service. Stocking will occur once daily at the start of shift to maintain par-levels. Products will be picked up and delivered from C&W main formula room and receiving. A separate secure access to the SMFPR is required. This access will not be through the pharmacy.

(9) The NICU registered dietitian will play a pivotal role in clinical liaison between the NICU SMFPR and NICU staff and patients, and can provide clinical guidance in the development and maintenance of guidelines/policy-procedures with respect to ongoing changes in nutritional practices or fortification strategies, training, and quality assurance projects.

3A.13.2 OPERATIONAL DESCRIPTION

3A.13.2.1 Minimum Hours of Operation

(1) Satellite Pharmacy, Critical Care

(a)	Full clinical and distribution services to NICU	24 hours
(b)	Clinical and distribution services to PICU	24 hours
(c)	On-call support to Campus	24 hours

(2) Satellite Milk & Formula Preparation Room

(a)	Preparation and distribution to NICU	0800 to 2000/seven days/week
(b)	On-call support via nutrition services clinical coordinator	24 hours

3A.13.2.2 Patient & Family Information Management Processes and Flows

(1) Patient information will be accessed through computer terminals located within the Satellite Pharmacy (Critical Care) and pharmacy staff will also have access to terminals throughout the patient care areas and/or utilizing wireless hand-held devices.

(2) Electronically transferred orders will be reviewed by technicians and prepared using stock items or on-demand product. The Satellite Pharmacy (Critical Care) and SMFPR must accommodate documentation capabilities for maintaining both paper and electronic charts/records.

3A.13.2.3 Provider Work Processes and Flows

(1) Pharmacists will be fully integrated with the multidisciplinary team spending the majority of their time within the various patient care areas serviced by the Satellite Pharmacy (Critical Care).

(2) Pharmacists will interact with members of the multidisciplinary team during formal rounding and as required on an individual basis. The intent is for clinical pharmacists to be available for each team.

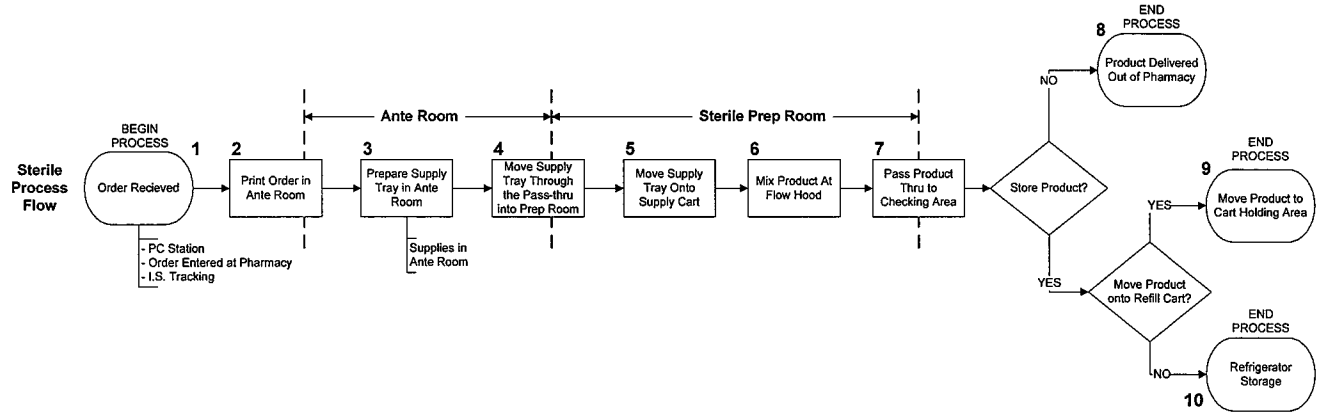
(3) Medication preparation activities will be performed by Pharmacy Technicians located with the satellite, in conjunction with staff located in the main pharmacy.

(4) Refill activities, i.e. AMC top up, will be performed by Pharmacy Technicians and/or Assistants from the main pharmacy supplemented by urgent top up activities performed by satellite based staff.

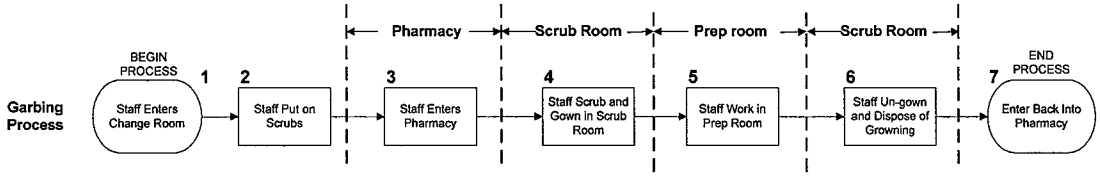
(5) Pharmacy Technicians/Assistants will transfer medication stock from the main pharmacy.

(6) Communications between pharmacy staff will be accomplished by voice activated wireless devices within the satellite and within the ACC.

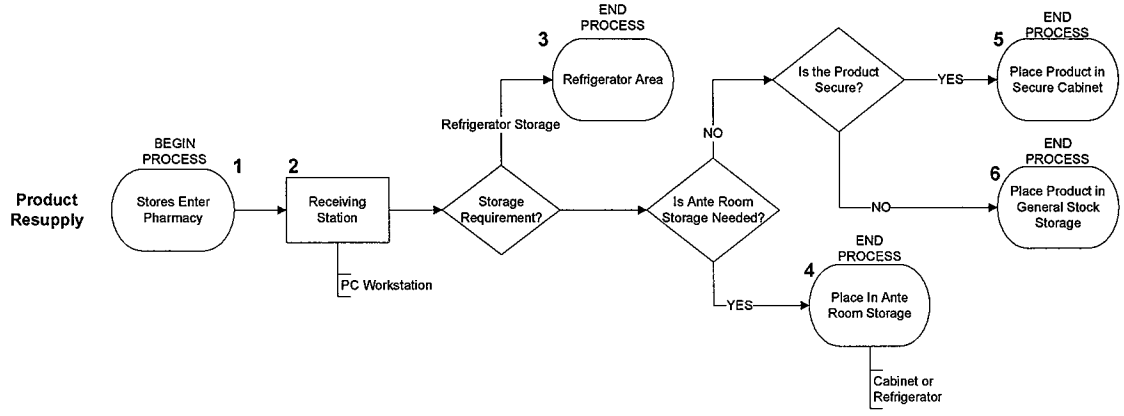
Pharmacy: Process Map #1



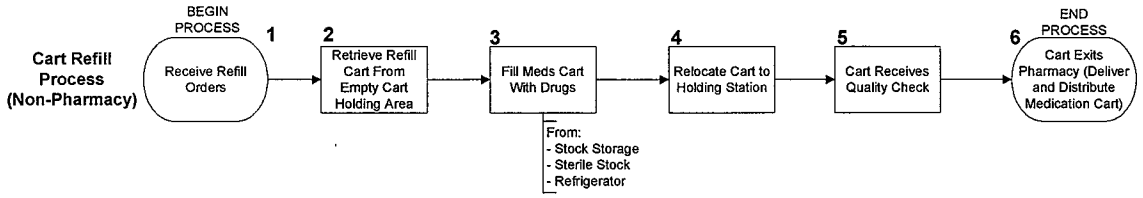
Pharmacy: Process Map #2



Pharmacy: Process Map #3



Pharmacy: Process Map #4



3A.13.2.4 Clinical and Logistical Support Processes and Flows

(1) The following subjects have been identified as critical to the effective operations of this component. A number of these subjects are described in more detail in other referenced sections of these clinical specifications.

(a) Medication Flow

(i) Deliveries of medication stock will be received from the main pharmacy on a regular (minimum daily) basis. An exchange cart/bin system will be utilized as much as possible to reduce the generation of waste in the satellite pharmacy.

(ii) Within the Satellite, stocks will be located appropriately, dependent on the location and nature of additional preparation. e.g. intravenous or oral.

(iii) Patient specific intravenous and oral medications will be delivered via the dumbwaiter, pneumatic tube or pharmacy staff, depending on location, nature and urgency of the request.

(iv) Once the medications have been delivered by dumbwaiter or pneumatic tube, they may be transferred to a medications room or patient room by pharmacy or nursing staff, dependent on the nature and urgency of the need.

(b) Supplies Flow

(i) Deliveries of stock solutions from Central Stores will be required on a regular basis. (Preference would be for an exchange cart system provided bulk solutions moved from shipping boxes in bins.)

(c) Waste Flow

(i) Regular garbage (non-confidential paper products): cardboard and paper will be kept to a minimum and will require regular disposal/recycling.

(ii) Confidential paper: electronic records will limit amount of paper, however, Pharmacy generated refill lists and labels will require confidential shredding/ disposal on a regular basis.

(iii) Biohazard waste: waste generated from the sterile and oral preparation areas will be placed by Pharmacy staff in designated bins for pickup on a regular basis.

(d) Laundry Flow

(i) Scrubs and non-disposable gowns for use in sterile preparation area: delivery of clean, and pickup of used garments is required.

3A.13.3 ACTIVITY CAPACITY

3A.13.3.1 The table below summarizes the baseline activity and projected demand for Satellite Pharmacy (Critical Care).

Planning Area		Med Dose Activity			Solution Dose Activity		
		Baseline 10/11	Projection 17/18	Projection 25/26	Baseline 10/11	Projection 17/18	Projection 25/26
BC Children's	ED(Acute Visits & CDU)	14,874	16,837	17,447	709	5,496	8,927
	Procedures Suites	28,732	34,709	39,921	126	48,300	55,755
	PICU	36,781	41,847	44,265	11,798	13,422	14,198
	Med/Surg Inpatient & Renal Dialysis	255,125	277,053	300,769	63,811	69,295	75,227
BC Women's	NICU	16,267	17,612	18,161	27,759	31,669	32,814
	LDR/OR	28,682	32,008	32,976	15	17,405	18,250
Total		**380,461**	**420,066**	**453,539**	**104,218**	**185,587**	**205,171**

(1) *Assumptions:*

(a) *Med Dose and Solution Dose Activity – represents total doses including new work activity estimates for ED, Procedures Suite and LDR/OR. This is not a direct reflection of workload as preparations vary significantly depending on patient population and type of solution.*

(b) *Planning Areas identified are those which are anticipated to be serviced through the Satellite Pharmacy (Critical Care)*

3A.13.3.2 The table below summarizes the baseline activity and projected demand for SMFPR.

Planning Area		Baseline 10/11	Projection 17/18 through 25/26
BC Women's	Mother Milk Management	21,900	25,550
	Donor Milk Management	46,720	55,480
	Standard Fortification	76,650	87,600
	Patient Specific Fortification	24,004	28,085
Total		**169,274** (28,514 done by pharmacy, Balance by nursing, other staff, family)	**196,715**

(1) *Notes:*

(a) *Baseline activity done by pharmacy/milk and formula preparation room staff included in patient specific fortification and a small portion of orders related to standard fortification.*

(b) *New model of care addresses safety risks of multiple people handling various activities by consolidating work into the SMFPR. This includes management of mother's and donor's milk, all standard fortification and continuing with patient specific fortification.*

3A.13.4 PEOPLE REQUIREMENTS

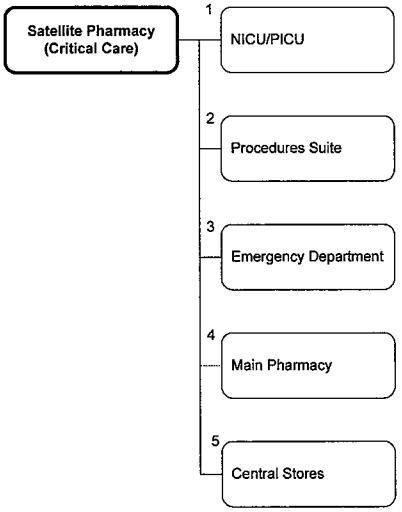
3A.13.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Visitors	Others	Total
Satellite Pharmacy (Critical Care)					
Dispensary/Production Area	Not Applicable	24			**24**
Sterile Preparation Area	Not Applicable	6			**6**
Storage Areas	Not Applicable				
SMFPR					
Preparation Room	Not Applicable	3			**3**

3A.13.5 DESIGN CRITERIA

3A.13.5.1 Key External Relationships

(1) The following key relationships for the Satellite Pharmacy (Critical Care) will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by general circulation to/ from the Neonatal and Pediatric Intensive Care Units for formula/milk transfer.

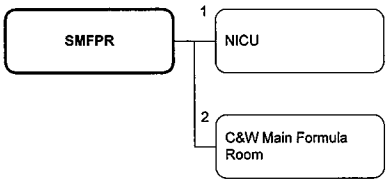
2 Provide convenient access by general circulation to/from the Procedures Suite for medication transfer.

3 Provide convenient access by general circulation to/from Emergency Department for medication transfer.

4 Provide direct access by general circulation to/from Main Pharmacy Department for medication transfer.

5 Provide direct access by general circulation to/from Central Stores (Supply Chain) for supply transfer.

(2) The following key relationships for the Satellite Milk & Formula Preparation Room will be achieved in the priority order as numbered for the purposes stated:



1 Provide direct access by general circulation to/ from the Neonatal Intensive Care Unit for milk/ formula transfer.

2 Provide direct access by general circulation to/from the C&W Main Formula Room, the C&W Donor Milk Bank and Special Products Distribution Centre in the Shaughnessy building and Central Stores.

3A.13.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) General Physical Organization

(i) The unit will be a secured environment with designated access and visual monitoring. Security will comply with the College of Pharmacists of BC standards for hospital pharmacies.

(ii) The Satellite Pharmacy will consist of five zones including:

(A) Dispensary/Production Area;

(B) Sterile Preparation Area;

(C) Order review/entry;

(D) Satellite Milk & Formula Preparation Room (SMFPR); and

(E) Staff Support Area.

(b) Connectivity

(i) to NICU and PICU, Procedures Suite, Emergency Department, Birthing Program: Requests for medications will be received electronically. Medications will be distributed via dumbwaiter, pneumatic tube and/or on foot depending on the medication, urgency of need, location of receiving clinical unit. In some cases, the medications will be picked up from the Satellite Pharmacy pass-through counters. A dumbwaiter within the Satellite Pharmacy (Critical Care) that services PICU and both levels of the NICU is essential for ensuring urgent medications can be delivered in a timely way. Access to the dumbwaiter will be restricted.

(ii) to Main Pharmacy: The Satellite Pharmacy (Critical Care) will remain open 24 hours to supply after-hours requests and will require access to the main pharmacy for highly specialized medications. Top-up of medications will routinely (minimum daily) be delivered to the Satellite from the main pharmacy in the 1982 building utilizing a motor assisted cart system.

(iii) to Central Stores: Delivery of supplies and solutions will be required on a regular basis.

(iv) to SMFPR: Pharmacy and nutrition services will work cooperatively to create an integrated model for the preparation of formula in a clean area adjacent to the sterile preparation area.

(c) Storage

(i) Secure storage for narcotic and controlled access medications including refrigerated space is required, as well as additional refrigerated storage for non-narcotic medications. Flexible/ various types of shelving are required to accommodate bulk solutions, boxed medications and unit-dose packaged product. Shelving for reference and file storage is required for the workstations.

(d) Access and Security

(i) Provide controlled access to all perimeter doors to the component. Persons entering the component will be directly observed.

(ii) Co-adjacency with the SMFPR requires internal security to control the flow of nutrition and pharmacy staff appropriately.

(iii) Traffic into the Satellite Pharmacy and SMFPR is restricted and doors will always be closed. A communication system from the outside to the inside of the area will be provided.

(iv) In addition, pass-through access (wickets) are required. A wide door adjacent to the main storage area will be required to accommodate movement of supplies and equipment in and out of the satellite pharmacy.

(v) Alarm systems and/or duress alarm system will be provided for staff safety and security.

(e) Sterile Preparation Suite and SMFPR

(i) This stand-alone suite comprising of an IV ante room, an IV preparation room, a scrub room and a housekeeping closet, shall be configured utilizing a modular room design to allow maximum flexibility. In addition, the design will allow for maximum visibility into the component spaces from each other and from the remainder of the pharmacy space.

(ii) Internal security controls are required to ensure access from the SMFPR components are appropriately restricted. Non pharmacy staff will not be able to access the pharmacy area from the SMFPR.

(iii) This area must accommodate the appropriate equipment, medications, and supplies. Standards for this area exist in Canada and the design and air quality controls must meet these latest applicable standards.

(iv) Both the Sterile Preparation Suite and SMFPR are to be positive pressure areas.

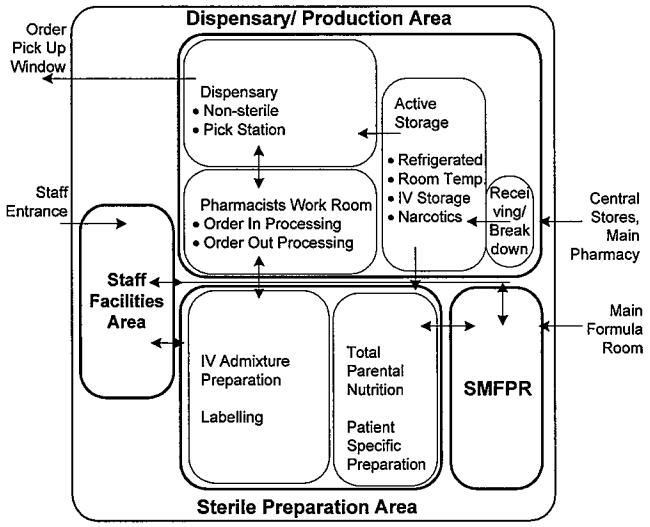
(f) Dispensary/Production Area

(i) In general, this will be an open plan environment with zones designated by activity. Minimal "built-in" millwork, and maximum use of modular furniture per schedule 3, shelving, pick stations and worktables will allow flexibility. Access to computer terminals and AMC workstation is required.

(ii) Privacy from the exterior of the suite is essential for security of the unit.

(g) Component Functional Diagram

(i) The spatial organization of this component will be generally as shown in the diagram below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.



(ii) Key design features to be achieved:

(A) SMFPR staff should have access to a washroom close to the entrance of the unit;

(B) The Staff Support Area will be located within the secure perimeter of the Satellite Pharmacy (Critical Care);

(C) Milk freezers are located inside the SMFPR unit; and

(D) Corridor access directly to the SMFPR ante room must be available and secure.

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3A.13.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Dispensary / Production Area				
10892	01	Receiving, Break Down	1		5.0	
10893	02	Active Storage (3 days)	1		21.0	
10894	03	Preparation, Oral	1		21.0	1 utility/cleaning sink station
10895	04	Dispensing	1		36.0	Secure intra-pharmacy transport between Satellite Pharmacy locations within the ACC
10896	05	Pneumatic Tube Station	1		0.5	
11007	06	Dumbwaiter	1		1.0	To be directly connected to PICU pharmacy area and to 1 designated NICU medications room on Level A
10897	07	Pharmacist Work Room	1		22.0	Teaching area
		Subtotal, Dispensary/ Production Area			106.5	
		Sterile Preparation Area				
10887	08	IV Ante Room, PIR	1		20.0	Order assembly/verification, pass through
10888	09	Scrub Area	1		2.5	1 scrub sink
10889	11	IV Admixture Preparation Room, PIR	1		35.0	Pass through counter
		Subtotal, Sterile Preparation Area			57.5	
		Satellite Milk & Formula Preparation Room				*Area to be positive pressure*
11310	12	Satellite Milk & Formula Preparation Room, PIR	1		30.0	1 entrance
11311	13	Ante Room, PIR	1		4.0	Separate and secure access to 11311 from 11310, 11414 and 10888 is required. Needs to be adjacent to SpaceID# 10888 to share change room space
11414	14	Breast Milk Freezer Room	1		9.5	
		Subtotal, Satellite Milk & Formula Preparation Room			43.5	

3A.13 C&W SATELLITE PHARMACY (CRITICAL CARE) AND SMFPR

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Staff Facilities Area				
10898	15	Meeting Room	1		10.0	
10899	16	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10900	17	Change Room	1		7.0	6 lockers
		Subtotal, Staff Facilities Area			20.5	
		Summary				
		Dispensary/Production Area	1		106.5	
		Sterile Preparation Area	1		57.5	
		Satellite Milk & Formula Preparation Room	1		43.5	
		Staff Facilities Area	1		20.5	
		Total Satellite Pharmacy (Critical Care) & SMFPR			**228.0**	

3A.14.1 FUNCTIONAL DESCRIPTION

3A.14.1.1 Scope of Clinical Support Services

(1) Medical Equipment Depot

(a) The Medical Equipment Depot (MED) is a new service supporting the ACC building and will function as a medical equipment storage and minor repair depot for large and some smaller wireless tracking system rolling stock. There will be some cleaning services performed here which do not require the intensive sterile cleaning methods used in Medical Device Reprocessing (MDR). Equipment will arrive from units cleaned, inspected by staff in the receiving area, remedially cleaned if required, tagged, stored, plugged in for battery management and wireless program updating, and audited or redirected for repair. Items in this area include but are not limited to: beds, isolettes, pumps, wheelchairs, and some small shelved items, a large majority of which will need battery management while in storage.

(b) The service will be centralized and accommodate equipment used frequently by all clinical areas within the ACC thereby minimizing on-unit storage and eliminate equipment being held in corridors.

(c) This depot will initially support only the ACC, however the potential to service other acute areas of this campus should not be prohibited.

(d) Clinical areas will request items with the expectation of a maximum 15 minute delivery time.

(e) Incubators cleaned in MDR will be stored in the MED to facilitate faster supply.

(f) Clinical staff will request equipment using a hands free communicator or a phone which links to a commercial band radio carried by the porters. Porters will pick-up cleaned equipment from the component clean areas and return to the depot receiving area to inspect and store. This assumes the first cleaning is done in either the patient room or soiled utility rooms by housekeeping staff.

(g) Staff in this area will spend much of their time moving about the building, leaving one person in the area for most of the time.

(2) Logistics Hub

(a) The Logistics Hub operates as a "service entrance" and a support stream egress. The Service Entrance will provide a direct receiving and removal zone for the ACC. A small weather protected area will allow a maximum of two cube vans. Vehicles arriving may also be couriers and cabs. The egress nature of this space will serve as one of the possible hand-off locations for removal of waste, etc. This will support a staging area for biohazardous/chemical waste.

3A.14.1.2 Scope of Education Activity

(1) Medical Equipment Depot

(a) Not Applicable.

(2) Logistics Hub

(a) Not Applicable.

3A.14.1.3 Scope of Research Activity

(1) Medical Equipment Depot

(a) Not Applicable.

(2) Logistics Hub

(a) Not Applicable.

3A.14.1.4 Specific Scope Exclusions

(1) This Medical Equipment Depot and Logistics Hub specification excludes:

(a) Sterile supplies, medical supplies storage.

3A.14.2 OPERATIONAL DESCRIPTION

3A.14.2.1 Minimum Hours of Operation

(1) The Medical Equipment Depot will provide service 24/7.

(2) The Logistics Hub will be operational 7 days per week.

3A.14.2.2 Patient & Family Management Processes and Flows

(1) Medical Equipment Depot

(a) Not Applicable.

(2) Logistics Hub

(a) Not Applicable.

3A.14.2.3 Patient Information Management and Flows

(1) Medical Equipment Depot

(a) Not Applicable.

(2) Logistics Hub

(a) Not Applicable.

3A.14.2.4 Provider/Staff Work Processes and Flows

(1) Medical Equipment Depot

(a) Porter staff will be cross-trained in portering and equipment cleaning. Staff will surface clean, stock in the receiving area, monitor for cleanliness and functionality, respond to dispatches and return cleaned, unneeded equipment to the larger storage area and repeat this cycle.

(b) Staff will conduct monthly audits to ensure battery operations and tracking tags are operational and wireless IV pumps receive programming updates.

(c) Staff office and workstations located in the equipment storage area will facilitate receiving requests for equipment retrieval, provide space for staff to log requests, provide access to commercial band radio equipment including a base station and battery storage. Staff require access to staff washrooms.

(2) Logistics Hub

(a) This location does not have designated Children's and Women's (C&W) staffing. Access systems will facilitate the admission of selected authorized individuals into this area. Project Co staff will use this location to facilitate supplies and waste relocation. Some supplies that arrive to the ACC by train may be staged here.

3A.14.2.5 Clinical and Logistical Support Processes and Flows

(1) Medical Equipment Depot

(a) This location is the origin of the flow of many pieces of equipment into the ACC and equipment from this area may need to flow into the 1982 building either to provide service or to be repaired in the Biomedical Department. Once cleaned, unused inventory will return to this location for storage.

(2) Logistics Hub

(a) This Hub is one of two supply chain flows. This location permits direct exit/entrance into the ACC for a restricted number of supplies and facilitates a service hand-off between Project Co and the PHSA services. The second flow of supplies will be an interior flow from the main Logistics department. These will travel in various modes. Carts may or may not be assembled in trains.

3A.14.3 ACTIVITY CAPACITY

3A.14.3.1 Not Applicable for Medical Equipment Depot or Logistics Hub.

3A.14.4 PEOPLE REQUIREMENTS

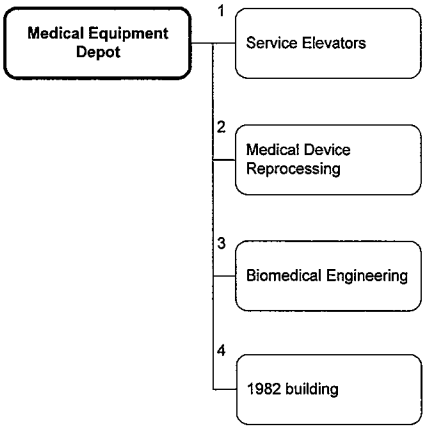
3A.14.4.1 It is anticipated the key functional areas in the component will need to accommodate the following maximum number of people.

Functional Areas	Patients & Family	Staff	Visitors	Others	Total
Medical Equipment Depot					
Receiving/Holding Area	Not Applicable	2	1		**3**
Storage Areas	Not Applicable	3			**3**
Logistics Hub					
Receiving	Not Applicable	1	4	N/A	**5**
Holding	Not Applicable	N/A	N/A	N/A	**N/A**

3A.14.5 DESIGN CRITERIA

3A.14.5.1 Key External Relationships

(1) The following key relationships will be achieved for the Medical Equipment Depot in the priority order as numbered for the purposes stated:



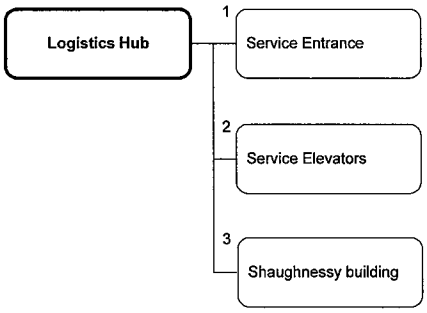
1 Provide direct access by general "back-of-house" circulation to the service elevators for the pick-up/delivery of medical equipment.

2 Provide convenient access by general "back-of-house" circulation to the Medical Device Reprocessing for the pick-up/delivery of medical equipment.

3 Provide convenient access by general "back-of-house" circulation to Biomedical Engineering for the pick-up/ delivery of medical equipment.

4 Provide convenient access by general "back-of-house" circulation to the 1982 building for the pick-up/delivery of acute care medical equipment.

(2) The following key relationships will be achieved for the Logistics Hub in the priority order as numbered for the purposes stated:



1 Provide direct access by internal circulation to the ACC Service Entrance for receiving of selected supplies and equipment for the building.

2 Provide direct access by general "back of house" circulation to the service elevators for the delivery and removal of supplies and equipment throughout the ACC.

3 Provide convenient access by general "back of house" circulation to the Shaughnessy building to assist in the break down of trains from arriving from Shaughnessy.

3A.14.5.2 Key Internal Relationships and Environmental Considerations

(1) The following subjects have been identified as criteria in planning the nature and configuration of space.

(a) Zoning

(i) Medical Equipment Depot

(A) Physical zones with appropriate infection control measures will be established to achieve a one way flow.

(B) Staff will enter/exit the storage areas via a restricted "staff only" entrance. The receiving/cleaning area will be the "front door" to the component for equipment moving either to a small repair hold area, or into the main storage area. Clean equipment will exit from the storage areas directly to the service elevator. Workstations will be provided for staff to sort equipment for repair and/or cleaning, and retag.

(C) The cleaning area will provide a final inspection for returning items or serve to re-clean stocked items, according to infection control practices. Some minor repair will be possible. This will not overlap with any service provided by housekeeping, MDR or Biomedical Engineering.

(D) The large storage area will have separate access for holding of clean/processed, repaired equipment, storage for isolettes coming from MDR that do not require processing in the clean area, as well as incubators processed in MDR, to facilitate quick access to clinical components.

(E) The equipment receiving and equipment exiting door(s) will be hands-free to allow the unrestricted movement of large wheeled carts, etc. in or out of the component.

(F) If located below grade, this area must be accessible from the service elevator corridor and adjacent to an entrance to the parkade on Level 0, in the event of elevator failure.

(ii) Logistics Hub

(A) The Logistics Hub will be located at grade, adjacent to the service entrance, service corridor and service elevators. Unique deliveries destined for the ACC that may not be able to use the site-wide campus receiving area; will be received at this location.

(A1) Service access will be through two roll-up doors from the exterior service entrance area. Staff access will be from the internal service corridor.

(A2) The receiving area will also accommodate staff facilities.

(A3) The Logistics Hub must have direct access, without turns, from the service elevators to the service entrance to accommodate supply trains.

(b) Access and Security

(i) Medical Equipment Depot

(A) Provide controlled access at all perimeter doors to the Medical Equipment Depot.

(ii) Logistics Hub

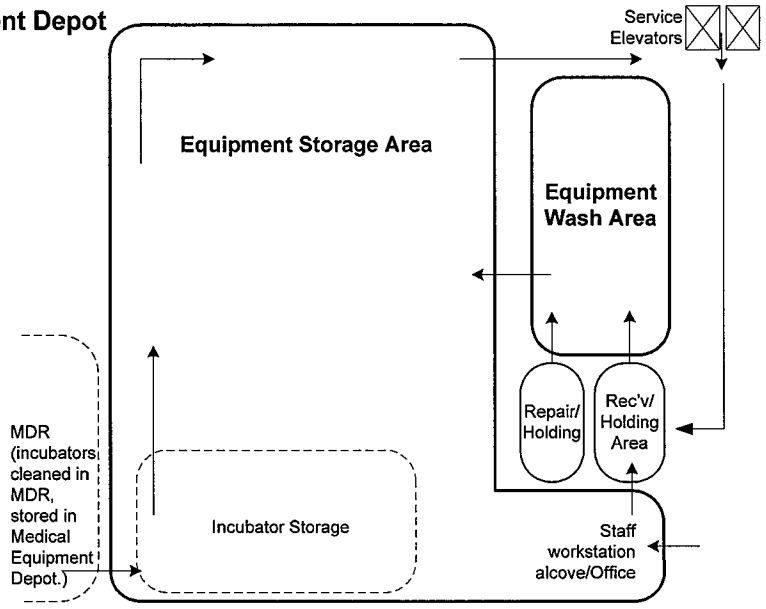
(A) Provide controlled access at all perimeter doors to the Logistics Hub. Persons entering these components must be directly observed.

(B) Alarm systems and/or duress alarm system will be provided for staff safety and security in the Logistics Hub.

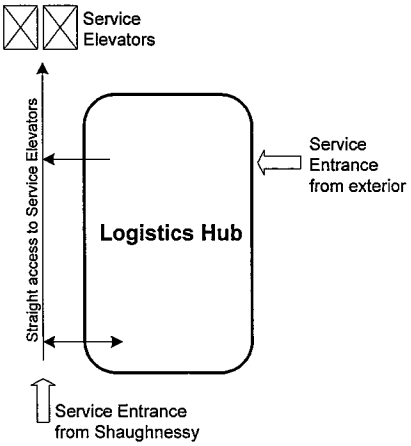
(c) Component Functional Diagrams

(i) The spatial organization of this component will be generally as shown in the diagrams below. The diagram illustrates conceptual relationships, and shall not be treated as a floor plan.

Medical Equipment Depot



Logistics Hub



3A.14 BC CHILDREN'S MEDICAL EQUIPMENT DEPOT AND LOGISTICS HUB

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3A.14.5.3 Schedule of Accommodation

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Medical Equipment Depot				
		Equipment Storage Area				
10989	01	Receiving/Holding Area	1		25.0	
11382	02	Washroom, Staff	1		3.5	1 wc, 1 lavatory sink
10990	03	Repair/Holding Area	1		15.0	
10992	04	Storage Room, Equipment	1		787.0	General equipment storage, "tactical centre": enclosed supervisor office @ 9.5 nsm, a work alcove with 2 joined workstations @ 2.5 nsm each, (1 workstation to accommodate commercial band radio equipment including radio charging base), 46 'z type' lockers
10991	05	Storage, Incubators	1		60.0	
		Subtotal, Equipment Storage Area			890.5	
		Equipment Wash Area				
11053	06	Receiving/Inspection/ Cleaning	1		36.5	2 utility/cleaning sinks with hose options, 1 hand hygiene sink, 1 double SS kitchen sink, in-floor drain
		Subtotal, Equipment Wash Area			36.5	
		Summary				
		Equipment Storage Area	1		890.5	
		Equipment Wash Area	1		36.5	
		Total Medical Equipment Depot			**927.0**	

3A.14 BC CHILDREN'S MEDICAL EQUIPMENT DEPOT AND LOGISTICS HUB

SpaceID	Ref	Space Name	Area units	Area nsm/unit	Area nsm	Remarks
		Logistics Hub				
11379	08	Holding	1		20.0	
11380	09	Receiving	1		132.0	Properly vented biohazard storage area, cabinet for flammable waste, waste removal staging area with direct access to at-grade, roll-up receiving doors
		Subtotal, Logistics Hub			152.0	
		Summary				
		Logistics Hub	1		152.0	
		Total Logistics Hub			**152.0**	