

TIERS
IN FULL

CHILDREN'S MEDICINE SERVICES

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Children’s Medicine Services: Tiers in Full to Support Operational Planning

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HOW TO CITE THE CHILDREN'S MEDICINE SERVICES:

We encourage you to share these documents with others and we welcome their use as a reference. Please cite each document in the module in keeping with the citation on the table of contents of each of the three documents. If referencing the full module, please cite as:

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Children's Medicine Services: Tiers in Full to Support Operational Planning

1.0 Medical Tiers of Service

1.1 Module Development

The Children's Medicine module is made up of three components:

- Setting the Stage for Tiers Development: Summarizes the data and literature used to create the module.
- Tiers in Brief to Support System Planning: Provides a high-level overview of key aspects of the module.
- Tiers in Full to Support Operational Planning: Provides significant detail of key aspects of the module: (1) clinical service. (2) knowledge sharing/training; and (3) quality improvement/research (**this document**).

This document, **Children's Medicine: Tiers in Full to Support Operational Planning**, provides a detailed description of the responsibilities and requirements of services provided at each tier by *generalist* and *pediatric specialist and subspecialist* health care providers to healthy children and children with medical conditions. It builds on and is intended to be used in conjunction with the *Children's Medicine: Tiers in Brief to Support System Planning*.

The module was developed by an interdisciplinary working group comprised of a representative(s) from each of BC's HAs (various combinations of pediatricians, a pediatric subspecialist, nurses, allied health, directors/managers and planners), the BC Pediatric Society, a Child Development Centre, Child Health BC, family physicians and a meeting facilitator. In addition to the working group, representatives from all BC HAs (including the First Nations HA) and other constituent and topic-specific groups were invited to provide feedback on the draft document. The final version was submitted to and accepted by the Child Health BC Steering Committee.

The document was informed by work done in other jurisdictions, mostly notably Queensland,¹ New South Wales,²⁻⁵ Australia⁶ and the United Kingdom.^{7,8} B.C. data was used where it was available, as were relevant BC and Canadian standards and guidelines (e.g., Accreditation Canada standards,⁹ Provincial Privileging Pediatric Medicine document,¹⁰ Provincial Privileging Pediatric Subspecialty Medicine documentsⁱ and the Royal College of Physicians and Surgeons Objectives of Training documents for Pediatric Medicine and Medical Subspecialtiesⁱⁱ).

ⁱ Current versions of the provincial privileging documents are available at: <http://bcmqi.ca/home/privileging>.

ⁱⁱ Current versions of the Royal College Objectives of Training are available at: www.royalcollege.ca.

1.2 Module Scope

The Children's Medicine module focuses on care provided to children as follows:

1. Hospital-based and accessible as follows:ⁱⁱⁱ
 - a. New patients: Up to a child's 17th birthday (16 years + 364 days); and
 - b. Children receiving ongoing care: Up to a child's 19th birthday (18 years + 364 days).
2. Community-based: Delivered in a variety of community settings (e.g., Child Health Clinics, Child Development Centres, Public Health Units, Community Health Centres, Nursing Stations, schools and on-reserve).

2.0 Children's Medical Tiers in Full

The Children's Medicine module recognizes each of the 6 tiers in the Child Health Tiers of Service framework:

- Children's *General Medical Services*: T1, T2, T3 and T4.
- Children's *Enhanced & Subspecialty Medicine Services*: T5 and T6.

2.1 Differentiation of the Tiers

2.1.1 Definitions

"Acuity" and "medical complexity" are the terms used to differentiate the tiers from each other. Refer to Appendix 1 (Tiers in Brief document) for definitions of these terms and a description of the relationship between acuity, medical complexity, frequency and tier of service. Examples of children who would be expected to receive services at each tier are also included. Table 1 provides a "summary" version.

Table 1: Children Appropriate to Receive Services at Each Tier (Medical Complexity, Relative Frequency & Acuity)

		Prevention, Primary & Emergent Medical Service			General Medical Service			Child-Focused Medical Service			Children's Comprehensive Medical Service			Children's Regional Enhanced & Subspecialty Medical Service			Children's Provincial Subspecialty Medical Service		
		T1			T2			T3			T4			T5			T6		
Underlying Condition		Acuity of Presenting Complaint																	
Medical Complexity	Relative Frequency	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
Healthy																			
Low																			
Med	Common																		
	Uncommon																		
High	Common													*	*				
	Uncommon																		

*Applicable only if relevant medical subspecialty team is available.

ⁱⁱⁱ BC Children's Hospital. Administration manual: Admission age, BCCH and Sunny Hill Hospital for Children. 2010.

2.2 Responsibilities and Requirements at each Tier

This next section describes the **responsibilities** and **requirements** at each tier to provide a **safe, sustainable** and **appropriate** level of service.

Sections are divided as follows:

- 2.2.1 Clinical Service
 - 2.2.1.1 Hospital inpatient services
 - 2.2.1.2 Hospital-based outpatient services
 - 2.2.1.3 Community-based services
- 2.2.2 Knowledge sharing & transfer/training
- 2.2.3 Quality improvement & research

2.2.1 Clinical Service

2.2.1.1 Hospital Inpatient Services

T1 services are not included on the charts in this section because T1 refers to community-based services only.

A. Responsibilities

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
1	Service reach	Local community/local health area. ^{iv}	Multiple local health areas/health service delivery area.	Health service delivery area/health authority.	Health authority.	Province.
2	Service focus	Diagnoses & provides definitive treatment for children with low acuity/complexity medical conditions.	Diagnoses & provides definitive treatment for children with relatively common, medium acuity/complexity medical conditions.	Diagnoses & provides definitive treatment for children with a broad range of medium acuity/complexity medical conditions (including complex psychosocial issues).	Diagnoses & provides definitive treatment for children with high acuity &/or relatively common &/or high complexity conditions (including complex psychosocial issues). The range of conditions is dependent upon the types of subspecialists available.	Diagnoses & provides definitive treatment for children with a broad range of high acuity &/or high complexity medical conditions (including complex psychosocial issues), many of whom require care from multiple pediatric subspecialty teams.
3	Monitoring	Provides q4h monitoring (TPR, BP, O2 saturations, input & output & blood sugars). If required beyond 48 hrs, child is usually transferred to a centre with dedicated pediatric inpatient beds. Provides enhanced level of monitoring (e.g., 1:1 or 1:2 RN/pt ratio) for a time-limited period for children expected to improve quickly (e.g., post-procedure) &/or awaiting transfer to higher tier.	Same as T2 plus: Provides q2h monitoring.	Same as T3 plus: Provides q1h monitoring. Refer to Children's Critical Care Module for availability of critical care services.	Same as T4 plus: Provides intensive monitoring which may be more frequent than q1h for prolonged periods. Refer to Children's Critical Care Module for availability of critical care services.	Same as T5.

^{iv} See www.bcstats.gov.bc.ca/statisticsbysubject/geography/referencemaps/Health.aspx for a listing of LHAs in BC.

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
4	Deteriorating / emergency situations	<p>Uses BC Pediatric Early Warning System (PEWS) to identify, communicate, mitigate & escalate signs of clinical deterioration.</p> <p>Stabilizes critically ill children while arranging & awaiting transfer to higher tier. Determines most appropriate location within facility to maintain critically ill child while awaiting transfer (dependent on local resources).</p> <p>Performs CPR.</p>	Same as T2.	<p>Same as T3.</p> <p>Refer to Children's Critical Care Module for availability of critical care services.</p>	Same as T4.	Same as T5.
5	Mental health crises during medical admission	<p>Assesses, stabilizes & takes action to meet immediate safety needs, including risk of harm to self (suicide) & others.</p> <p>Clearly describable process in place to access mental health professionals, including consultation with a general psychiatrist <i>within the HA</i> by telephone, during mental health crises.</p> <p>Works with children/families to develop discharge safety plan. Links with appropriate community services.</p> <p>As required, arranges transfer to higher tier.</p> <p>If criteria for involuntary admission under the Mental Health Act are met, completes documentation & arranges transfer to designated facility. Provides safe environment until transfer is made.</p>	<p>Assesses, stabilizes & takes action to meet immediate safety needs, including risk of harm to self (suicide) & others.</p> <p>Clearly describable process includes access to a general psychiatrist who is on-call 24/7 & available to come on-site as required.</p>	Same as T3.	<p>Same as T4 plus:</p> <p>Clearly describable process includes access to on-site consultation from a child & youth psychiatrist (days, M-F) & general psychiatrist (outside these hours).</p>	<p>Same as T5 plus:</p> <p>Clearly describable process includes access to on-site consultation from a child & youth psychiatrist 24/7.</p>

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
6	Child & family teaching	Provides teaching for children/families with low acuity/complexity medical presentations.	Provides teaching for children/families with medium acuity/complexity medical presentations.	Same as T3.	Provides teaching for children/families with high acuity &/or relatively common high complexity medical presentations.	Provides teaching for children/families with high acuity/complexity medical presentations.
7	Discharge planning	Creates & implements discharge plans which involve referrals to local community-based services . (e.g., IDP, PT, OT, SLP, audiologist, PHN). Implements plans for children with complex discharge needs that were developed by/in collaboration with services at higher tiers.	Same as T2.	In collaboration with providers in the child's home community, creates & implements complex discharge plans which may involve referrals to pediatric specialists/ subspecialists (e.g., nursing support services, at-home program, specialty clinics). Often involves interdisciplinary case conferences with representatives from multiple agencies & documented discharge-specific plans. Implements plans for children with complex discharge needs that were developed by/in collaboration with services at higher tiers.	Same as T4.	Same as T5 plus: In collaboration with providers in the child's home community, creates & implements complex discharge plans which may involve multiple pediatric specialists/ subspecialists & resources/equipment (e.g., NG or CVC care at home, home vent, home TPN, etc).

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
8	Pain management	<p>Assesses pain using age & developmentally appropriate pain assessment tool(s).</p> <p>Provides age & developmental stage appropriate non-pharmacological pain relieving interventions.</p> <p>Administers weight-based doses of analgesics via topical, oral, enteral, intranasal & rectal routes.</p> <p>Manages complications of analgesia (e.g., manage airway, administer antidotes).</p>	<p>Same as T2 plus:</p> <p>Administers weight-based doses of analgesics via SQ & IM injection & intermittent IV routes.</p>	<p>Same as T3 plus:</p> <p>Administers analgesics via patient controlled IV route.</p> <p>Administers analgesics via continuous IV to children ages 2 years & over.</p>	<p>Same as T4 plus:</p> <p>Optional (not required): May provide epidural anesthesia/analgesia if: (a) pediatric anesthesiologist on-call 24/7, available on-site as needed & is comfortable with plan; & (b) nurses have received specific education & are comfortable with plan.</p>	<p>Same as T5 plus:</p> <p>Manages pain for children of any age that requires an extended & innovative range of options & routes. Includes regional analgesia/ anesthesia (e.g., epidurals, nerve blocks).</p>
9	<p>Procedural sedation/analgesia</p> <p><i>(in addition to services provided in the OR & ED)</i></p>		<p>Optional (not required): Administers oral sedation/analgesia. If administered, appropriate site/HA procedure(s) is in place & staffing^v, monitoring equipment & resuscitation equipment is available.</p>	<p>Administers oral, intranasal, IM & IV sedation/analgesia. Appropriate site/HA procedure(s) is in place & staffing^v, monitoring equipment & resuscitation equipment is available.</p>	Same as T4.	Same as T5.

^v MD with PALS or equivalent + MD/RN/RT familiar with pediatric resuscitation procedures must be present during the procedure, as well as a 3rd MD/RN/RT readily available to assist in the event of an emergency.

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
10	Parenteral fluid & medication management	<p>Inserts & maintains continuous peripheral IV infusions with pre-mixed electrolytes.</p> <p>Administers common intermittent IV medications via syringe & mini-bag (e.g., antibiotics). Excludes analgesics.</p> <p>Smart IV pumps^{vi} used for all children on IVs.</p>	<p>Same as T2 plus:</p> <p>Administers a range of intermittent IV medications via syringe & mini-bag (e.g., antibiotics, opiates).</p> <p>Maintains PICC lines.</p>	<p>Same as T3 plus:</p> <p>Inserts PICC lines.</p> <p>Inserts ST CVCs.</p> <p>Maintains short & long-term CVCs.</p> <p>Accesses, maintains & deaccesses implanted venous access devices.</p> <p>Initiates & maintains high alert peripheral IV medication infusions (e.g., insulin).</p>	<p>Same as T4 plus:</p> <p>Inserts long-term CVCs & implanted venous access devices (in the OR).</p>	<p>Same as T5.</p>
11	Blood & blood component administration		<p>Initiates & maintains infusions of blood & blood components.</p>	<p>Same as T3.</p>	<p>Same as T4.</p>	<p>Same as T5.</p>
12	Nutrition management	<p>Provides health promoting nutrition advice & proactive surveillance for children with stable nutrition needs & low complexity medical conditions. e.g., normal nutritional requirements, management of food sensitivities, healthy eating & healthy weights, accurate weights & measures.</p>	<p>Same as T2 plus:</p> <p>Provides nutrition advice & growth & monitoring for children with stable nutrition needs & common medium complexity medical conditions. e.g., uncomplicated failure to thrive, fluid management, dehydration.</p>	<p>Same as T3 plus:</p> <p>Provides nutrition advice & growth monitoring for children with stable nutrition needs & a broad range of medium complexity medical conditions.</p>	<p>Same as T4 plus:</p> <p>Provides nutrition advice & growth monitoring for children with significant (but stable) nutrition vulnerabilities & medical complexities.</p> <p>NG tubes: As per T4.</p>	<p>Same as T5 plus:</p> <p>Provides nutrition advice & growth monitoring for children with changing & complex nutrition needs & all levels of medical complexity.</p> <p>NG, G, GJ tubes: As per T5.</p>

^{vi} A "smart pump" has customizable software with a library of medications that can be programmed for different patient groups and provide alerts such as clinical advisories, soft stops and hard stops.

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
12	Nutrition management cont'd	<p>NG tubes: Inserts, replaces & maintains NG tubes for short-term hydration. Verifies placement using acceptable practice standard (e.g., x-ray, pH).</p> <p>Maintains established G-tubes.</p> <p>Supports breastfeeding mothers & assists with breastfeeding-related challenges.</p>	<p>Determines selection & amounts of standard oral & enteral formulas for oral intake.</p> <p>NG tubes: As per T2.</p> <p>G-tubes: Maintains & replaces established G-tubes.</p> <p>GJ tubes: Maintains established GJ tubes.</p>	<p>Determines selection & amounts of & specialized oral & enteral formulas for oral or enteral intake.</p> <p>NG tubes: Inserts, replaces & maintains NG tubes required for nutritional management.</p> <p>G-tubes: As per T3.</p> <p>GJ tubes: As per T3.</p> <p>Initiates, administers & monitors TPN.</p> <p>Teaches children/families about home enteral nutrition.</p>	<p>G-tubes: Establishes G-tubes. Maintains & replaces established G-tubes.</p> <p>GJ tubes: Establishes GJ tubes. Maintains & replaces established GJ tubes (in radiology).</p> <p>Available as a resource <i>within the HA</i> on days, M-F.</p>	<p>Available as a resource <i>throughout the province</i> on days, M-F.</p>
13	Respiratory management	<p>Provides simple respiratory monitoring & interventions (e.g., O₂ saturations, peak flow & spirometry measures, nebulizer & metered-dose inhaler (MDI) treatments).</p> <p>Provides O₂ when stabilizing child for transfer.</p>	<p>Same as T2 plus:</p> <p>Provides supplemental O₂ up to 40% in children who are stable & showing signs of improvement. Resolution is expected within 2 - 3 days.</p>	<p>Same as T3 plus:</p> <p>Provides supplemental O₂ up to 40% in children who are stable & not deteriorating. Resolution is expected within 1 - 2 weeks.</p> <p>Refer to Children's Critical Care Module for provision of critical care services.</p>	<p>Same as T4.</p> <p>If O₂ requirements exceed those described for T4, consults with PICU MD.</p>	<p>Same as T5 plus:</p> <p>Provides care to children with a stable airway & stable ventilator requirements.</p> <p>Provides care to children that require CPAP & BIPAP if:</p> <ul style="list-style-type: none"> • Child can breathe on unassisted for ≥ 2 hrs; & • Appropriately trained staff available for constant monitoring (RN/patient ratio at least 1:2); & • Pediatric RT available to respond within 15 minutes.

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
13	Respiratory management cont'd					If above conditions not met, consults T6 PICU MD.
14	Rehabilitation	Provides general rehabilitation for children who have low acuity/complexity medical conditions procedures post-intervention or event (adult focused rehabilitation therapists).	Same as T2.	Same as T3.	<p>In keeping with the rehabilitation needs of children who have high acuity &/or relatively common high complexity medical conditions, provides rehabilitation activities post-intervention or event which include:</p> <ul style="list-style-type: none"> • Supporting activities of daily living • Encouraging mobilization • Providing splinting, casting & equipment • Assessing the environment for safety & accessibility <p>Documented plan in place to manage children requiring timely & time-bound rehabilitation post-discharge.</p>	<p>In keeping with the rehabilitation needs of children who have a broad range of higher acuity &/or high complexity medical conditions, provides rehabilitation activities post-intervention or event which include:</p> <ul style="list-style-type: none"> • Supporting activities of daily living • Encouraging mobility • Providing splinting, casting & equipment • Assessing the environment for safety & accessibility <p>Documented plan in place to manage children requiring timely & time-bound rehabilitation post-discharge.</p> <p>Works collaboratively with local community-based rehabilitation providers to lead the development & support the implementation of care plans for children post-discharge. May include virtual care consultation &/or outreach.</p>

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
15	Psychosocial & spiritual support	<p>Supports children/families with routine psychosocial/emotional needs (e.g., provides information about what to expect during hospital stay; tip sheets/picture books on helping children get through blood work/ procedures).</p> <p>Consults with T3-T6 providers &/or refers to psychiatrist in situations requiring specialized support, as required (e.g., unexpected death, complicated grieving, end of life).</p>	Same as T2.	<p>Provides specialized counselling for children/families with complicated psychosocial/emotional needs.</p> <p>Undertakes targeted interventions to reduce fear, pain &/or anxiety related to a child's diagnosis, hospitalization, treatment or procedure. May be group or 1:1.</p> <p>Upon request, provides consultation to providers within the HA on ways to support the psychosocial/emotional care of children/families.</p>	<p>Same as T4 plus:</p> <p>Assesses, formulates diagnoses & provides 1:1 psychological interventions for referred children/families with acute &/or complex med/surg conditions.</p>	<p>Same as T5 plus:</p> <p>Upon request, provides consultation to providers throughout the province on ways to support the psychosocial/emotional & psychological care of children/families with acute &/or complex med/surg conditions.</p>
16	Child maltreatment (neglect & physical, sexual & emotional abuse)	<p>Recognizes suspected cases of child maltreatment.</p> <p>Takes action to ensure immediate medical & safety needs are met, findings documented & appropriate cases reported to MCFD as per the Child, Family & Community Service Act. Refers cases to pediatrician or local/regional/ provincial child protection team, if required.</p>	<p>Same as T2 plus:</p> <p>Provides consultation & follow-up for children referred for suspected maltreatment.</p> <p>Refers complex cases to local/regional/ provincial child protection team, if required.</p>	<p>Same as T3 plus:</p> <p>Refers complex cases to local/regional/provincial child protection team, if required.</p>	Same as T4.	<p>Same as T5 plus:</p> <p>Provides advanced on-site diagnostic & treatment services for suspected cases of child maltreatment. Coordinates follow-up of cases referred from throughout the province. Services often provided in consultation with multiple medical, surgical & mental health subspecialists.</p>

B. Requirements (Hospital Inpatient Services)

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
1.0	Providers					
1.1	Description of team functioning	Physicians, nurses, psychosocial & allied health professionals (as available) come together over the <i>care of an individual child</i> .	Same as T2.	Physicians, nurses, psychosocial & allied health professionals work consistently together as a <i>pediatric interdisciplinary team</i> .	Same as T4 plus: Pediatric subspecialists are available for on-site consultation in higher volume subspecialties which includes but is not limited to neurology & cardiology. Availability is typically days, M-F.	Same as T5 plus: Full range of pediatric subspecialists available for consultation &/or patient management 24/7.
1.2	Physicians/ NPs					
	FP/NP	If child in hospital, FP/NP on-call 24/7 & available on-site as needed.				
	Pediatrician	Pediatrician from <i>within HA</i> (or BCCH if transportation corridors are such that the accepted referral pathway is direct to BCCH) available by phone or via virtual care to discuss cases 24/7.	Pediatrician on-call 24/7 & available for on-site consultation as needed (available by phone within 10 min & on site within 45 min max). ^{vii}	Same as T3.	Pediatrician or designate (e.g., pediatric resident) on-site 24/7. This excludes ED MD.	Same as T5.
	Other MDs	General psychiatrist <i>available within HA</i> to discuss urgent cases & provide advice by telephone 24/7.	General psychiatrist on-call & available for on-site consultation 24/7. Child & adolescent psychiatrist <i>available within HA</i> to discuss urgent cases & provide advice by telephone days M-F.	See Table 2 for specialist/ subspecialist physician interdependencies.	See Table 2 for specialist/ subspecialist physician interdependencies.	See Table 2 for specialist/ subspecialist physician interdependencies.

^{vii} Refer to the medical On-Call Availability Program (MOCAP) at www.health.gov.bc.ca/pcb/mocap.html. Actual response times depend on patient need & are determined on a case by case basis.

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
1.3	Nurses	RNs assigned to children have "pediatric skills" (see glossary). Practice predominantly involves adults .	RNs assigned to children have "pediatric skills" (see glossary) & are regularly exposed to hospitalized children. Practice is predominantly with adults but includes some children. RNs have completed RN Pediatric Foundational Competency E-learning course, ENPC &/or PALS. Formalized pediatric orientation & ongoing education available.	RNs have "pediatric skills" (see glossary) & are continuously exposed to hospitalized children. RN practice is exclusively or primarily with children. RNs have completed RN Pediatric Foundational Competency E-learning course, ENPC &/or PALS. Formalized pediatric orientation & ongoing education available. Clinical resource person with pediatric expertise assigned to pediatric unit to support the orientation & ongoing education of staff (i.e., educator or equivalent role).	Same as T4.	Pediatric RNs are continually exposed to hospitalized children. RN practice is exclusively or primarily children . Most have " enhanced skills " (see glossary) in relevant subspecialty area(s). RNs have completed RN Pediatric Foundational Competency e-learning course, ENPC, PALS &/or other appropriate pediatric education in relevant subspecialty area. Formalized pediatric orientation & ongoing education available. Clinical resource person with pediatric expertise assigned to each pediatric unit to support the orientation & ongoing education of staff (i.e., educator or equivalent role).

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
1.4	Psychosocial professionals	Generalist social worker & spiritual care practitioner available on request on days, M-F, for individual cases. Practice is predominantly with adults.	Social worker with general pediatric knowledge & skills available on request on days, M-F, for individual cases. Practice may be predominantly with adults but includes some children. Spiritual care practitioner available on request for individual cases.	Social worker(s) with general pediatric knowledge & skills available days, M-F. Practice may include both adults & children. Child life specialist available days, M-F. Spiritual care practitioner on-call 24/7 & available on-site as needed. Volunteer program available that provides services to children/families (and adults) available days, M-F & after-hours by pre-arrangement.	Same as T4 except practice is exclusively or primarily with children or, if not, team members have significant exposure to facilitate development of pediatric-specific expertise. Plus: Psychologist with pediatric expertise. ^{viii} Practice may include both adults & children.	Pediatric social worker(s), psychologist(s), child life specialist & music therapist available days, M-F. Practice is exclusively or primarily with children. Child life specialist(s) available extended hours, 7 days/wk. Most have " enhanced skills " (see glossary) in relevant subspecialty specialty area(s). Spiritual care practitioner(s) on-call 24/7. Volunteer program available that provides services to children/families.

^{viii} Psychologist with pediatric expertise: Psychologist that has completed a Psychology Residency Program and has a demonstrated special interest, knowledge and skills in pediatric psychology. Pediatric knowledge and skills are acquired & maintained through clinical experience and special pediatric-focused continuing psychology education.

		Prevention, Primary & Emergent Health Service	General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T1	T2	T3	T4	T5	T6
1.5	Allied health		<p>Generalist PT, OT & dietitian available on request on days, M-F, for individual cases. Practice is predominantly with adults.</p> <p>Pediatric dietitian available via HealthLink days, M-F.</p> <p>Generalist pharmacist available as per Accreditation Canada standards, including on-call service (standards not specific to pediatrics).</p>	<p>Staff with general pediatric knowledge & skills available on request for individual cases. Practice may be predominantly with adults but includes some children.</p> <ul style="list-style-type: none"> • RT available on-site days, M-F. On-call (& available to come to the site if required) outside these hours. • PT available days, M-F (may be on-site PT or PT arrangement via service agreement). • OT available days, M-F (may be on-site OT or OT arrangement via service agreement). • Dietitian available days, M-F. <p>Pharmacist as per T2.</p>	<p>Staff has general pediatric knowledge & skills. Practice may include both adults & children.</p> <ul style="list-style-type: none"> • RT available on-site 24/7. • PT available days, M-F. • OT available days, M-F. • Dietitian available days, M-F. • OT or SLP available to perform swallowing assessment days, M-F. <p>Pharmacist with pediatric expertise^{ix} available on-site days, M-F. Outside these hours, general pharmacist is available on-call for telephone consultation.</p>	<p>Same as T4 except practice on days, M-F, is exclusively or primarily with children or, if not, team members have significant exposure to facilitate development of pediatric-specific expertise. After-hours coverage (if available) is usually provided by generalists.</p> <p>Clinical pharmacy specialist(s) in pediatrics^x available on-site days, M-F. Outside these hours, general pharmacist is available on-call for telephone consultation.</p>	<p>Pediatric specialists with “enhanced skills” (see glossary) in relevant subspecialty area(s):</p> <ul style="list-style-type: none"> • RT available 24/7. • PT available days, M-F. • OT available days, M-F. • SLP available days, M-F. • Dietitian available days, M-F. • OT or SLP available to perform swallowing assessment days, M-F. <p>Clinical pharmacy specialist(s) in pediatrics available on-site days, M-F. Outside these hours, general pharmacist with pediatric expertise available on-call for telephone consultation.</p>

^{ix} Pharmacist with pediatric expertise: Pharmacist that has completed a Pharmacy Practice Residency Program and has a demonstrated special interest, knowledge and skills in pediatric pharmacy. Pediatric knowledge and skills are acquired & maintained through clinical experience and special pediatric-focused continuing pharmacy education.

^x Clinical pharmacy specialist: Same as pharmacist with pediatric expertise except practice is exclusively or almost exclusively with children.

		Prevention, Primary & Emergent Health Service	General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T1	T2	T3	T4	T5	T6
1.6	Other: <ul style="list-style-type: none"> • IV starts • Wound/ostomy • Pain management • Lactation consultant • Feeding & swallowing team • Complex feeding & nutrition service 		<p>Clearly describable process in place to manage difficult pediatric IV starts.</p> <p>Clearly describable process in place to manage breastfeeding related challenges.</p>	<p>Same as T2 plus:</p> <p>Clearly describable process in place to access wound/ostomy RN.</p> <p>Clearly describable process in place to access lactation consultant.</p>	<p>Same as T3 plus:</p> <p>Wound/ostomy RN on-site days, M-F (for adults & children).</p> <p>Pain management team on-site days, M-F (for adults & children).</p>	<p>Same as T4 plus:</p> <p>Pediatric feeding & swallowing team available locally to provide oral motor & dietary assessment/consultation days, M-F.</p> <p>Capacity available locally to perform videofluoroscopy feeding studies.</p>	<p>Clearly describable process in place to manage difficult pediatric IV starts.</p> <p>Pediatric wound/ostomy RN on-site days, M-F.</p> <p>Pediatric pain mgt team available on-site days, M-F.</p> <p>Lactation consultant on-site days, M-F.</p> <p>Pediatric feeding & swallowing team available on-site to provide oral motor & dietary assessment/consultation days, M-F.</p> <p>Capacity available on-site to perform videofluoroscopy feeding studies.</p> <p>Pediatric complex feeding & nutrition service available on-site.</p>

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
2.0	Facilities					
2.1	Pediatric beds	"Safe pediatric bed(s)" (see glossary) available for short-term inpatient stays (in the ED or general inpatient bed). No <u>dedicated</u> pediatric inpatient resources/beds.	Dedicated pediatric inpatient resources/beds . Beds meet criteria for "safe pediatric bed(s)" (see glossary). Physical separation of children & adults recommended.	Dedicated pediatric inpatient resources/unit . Unit meets criteria for "safe pediatric unit" (see glossary).	Same as T4.	Dedicated pediatric inpatient resources/units, grouped by specialties/subspecialties . Units meet criteria for "safe pediatric unit" (see glossary).
2.2	Intensive care beds				T5 PICU.	T6 PICU.
2.3	Mental health beds			Secure room exists in ED &/or on an inpatient unit. Youth mental health inpatient beds (ages 12 & over) available within the HA.	Same as T4.	Same as T5 plus: Child & youth mental health inpatient beds available on-site.
3.0	Volumes					
4.1	Minimum volumes/year		Based on a 3 year average: Med/surg visits, ages 0 - 16.9 yrs: >500/yr. Includes inpatient visits & day care visits which involve a general anesthetic or anesthetic standby (excl NICU). OR Med/surg inpatient days, 0 - 16.9 yrs: >500/yr (excl NICU)	Based on a 3 year average: Med/surg visits, ages 0 - 16.9 yrs: >1,000/yr. Includes inpatient visits & day care visits which involve a general anesthetic or anesthetic standby (excl NICU). OR Med/surg inpatient days, 0 - 16.9 yrs: >1,500/yr (excl NICU)	Based on a 3 year average: Med/surg visits, ages 0 - 16.9 yrs: >2,000/yr. Includes inpatient visits & day care visits which involve a general anesthetic or anesthetic standby (excl NICU). OR Med/surg inpatient days, 0 - 16.9 yrs: >4,500/yr (excl NICU)	Based on a 3 year average: Med/surg visits, ages 0 - 16.9 yrs: >8,000/yr. (excl NICU); OR Med/surg inpatient days, 0 - 16.9 yrs: >20,000/yr (excl NICU)

		General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T2	T3	T4	T5	T6
5.0	Other requirements					
5.1	Medications	Processes in place for safe medication storage, dosage calculations & administration. Pre-calculated weight-based dosing guidelines available. Dosages calculated manually first & double-checked against references. System measures allow for easy differentiation between pediatric & adult medications & dosages, especially in emergency situations. Smart IV pumps ^{xi} available for all children on IVs.	Same as T2.	Same as T3.	Same as T4.	Same as T5.
5.2	Equipment & supplies	See Appendix 1.	See Appendix 1.	See Appendix 1.	See Appendix 1.	See Appendix 1.

^{xi} A "smart pump" has customizable software with a library of medications that can be programmed for different patient groups and provide alerts such as clinical advisories, soft stops and hard stops.

Table 2: Specialist/Subspecialist Physician Interdependencies

The table below refers to physician interdependencies within T4, T5 & T6 centres. Interdependencies in T1, T2 & T3 centres are identified under “responsibilities” in the main table.

✓24/7 = Available for on-site consultation as needed.

✓ M-F days = Available for on-site consultation days M-F (T5: minimum of 46 weeks/year).

Service	Availability		
	T4	T5	T6
Pediatrician	✓24/7	✓ Pediatrician or designate on-site 24/7; excludes ED MD	✓ Pediatrician or designate on-site 24/7; excludes ED MD
Pediatric allergy			✓ M-F days
Anesthesiologist that provides care to children & adults	✓24/7 (for urgent consultations re challenging airways)	✓24/7 (for urgent consultations re challenging airways)	
Pediatric anesthesiologist			✓24/7 (for urgent consultations re challenging airways)
Pediatric biochemical/metabolic diseases			✓24/7
Pediatric cardiology		✓ M-F days	✓24/7
Pediatric critical care medicine		T5 PICU	T6 PICU
Pediatric dermatology			✓ M-F days
Developmental pediatrics/child development & rehab			✓ 24/7
Pediatric emergency medicine			✓24/7
Pediatric endocrinology			✓24/7
Pediatric gastroenterology			✓24/7
Pediatric hematology/oncology			✓24/7
Pediatric immunology			✓24/7
Infectious diseases physician or infection control practitioner that provides consultation regarding children & adults	✓Telephone consultation available within HA 24/7	✓Telephone consultation available within HA 24/7	
Pediatric infectious diseases			✓24/7
Medical genetics			✓ M-F days
Neonatology		T3 NICU	T4 NICU
Pediatric nephrology			✓24/7
Pediatric neurology		✓ M-F days	✓24/7
Pediatric radiation therapy			✓ M-F days (off-site access)
Child & adolescent psychiatrist		✓ M-F days	✓24/7
General psychiatrist	✓24/7	✓ Supplements child & adolescent psychiatrist availability to complete 24/7 coverage	
Pediatric radiologist		Diagnostics: ✓ M-F days	Diagnostics: ✓24/7 Interventional: M-F days

Service	Availability		
	T4	T5	T6
Radiologist that provides care to children & adults	✓ Diagnostics: 24/7 Interventional (older children): M-F days	✓ Diagnostics: Supplements pediatric radiologist availability to complete 24/7 coverage Interventional (older children): M-F days	
Pediatric radiologist + pediatric interventional radiologist			✓ 24/7
Pediatric respiratory medicine			✓ 24/7
Pediatric rheumatology			✓ 24/7
Pediatric urology			✓ 24/7
Pediatric child protection medical specialist	✓ M-F days (e.g., Pediatrician with enhanced training/ experience - see note 1)	✓ M-F days (e.g., Pediatrician with enhanced training/ experience - see note 1)	✓ 24/7

Note 1: Alternatively may have a clearly describable referral process to a nearby child protection medical specialist at T4, T5, or T6 site (within 1 hour driving distance)

Pediatric subspecialty trained physicians are:

- Specialists that complete a pediatric subspecialty residency program and the relevant RCPSC examination (RCPSC-recognized subspecialists). Includes pediatric surgeons, adolescent medicine physicians, child & youth psychiatrists, developmental pediatricians, pediatric emergency medicine physicians, pediatric hematologists/oncologists and pediatric radiologists.
- Specialists that complete a pediatric fellowship in the relevant specialty which may range from one to four years in length. No subspecialty RCPSC examination is required.

2.2.1.2 Hospital-Based Outpatient Services

Hospital-based outpatient services are divided into 2 sections: (1) Outpatient Clinic(s); and (2) Outpatient Treatments and Procedures.

The organization of outpatient services at a given site will depend upon the volume of children and the resources available. In some sites, the same space and providers will be utilized for the pediatric outpatient clinic(s) and all pediatric procedures & treatments (e.g., an area off the pediatric inpatient area). In others, the location and providers of one or more may differ (e.g., separate locations and providers for the pediatric outpatient clinic(s), respiratory disease/asthma clinic, child maltreatment clinic and/or outpatient procedures & treatments).

T1 and T2 services are not included on the charts in this section.

- T1 refers to community-based services only.
- Pediatric outpatient services are not expected at T2.

2.2.1.2.1 Outpatient Clinic(s)

A. Responsibilities (Outpatient Clinics)

		Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T3	T4	T5	T6
1.0	Service reach	Multiple local health areas/health service delivery area.	Health service delivery area/health authority.	Health authority.	Province.
2.0	Service overview	Clearly describable process(es) in place to manage children discharged from hospital or ED requiring short-term follow-up by a pediatrician.	Interdisciplinary Pediatric Outpatient Clinic is located on-site as part of the continuum of child & youth hospital services.	Same as T4 plus: Regularly occurring interdisciplinary Pediatric Subspecialty Clinic(s) are available on-site as part of the continuum of child & youth hospital services.	Pediatric outpatient clinic & multiple specialty/subspecialty clinics are located on-site as part of the continuum of child & youth hospital services.

		Child-Focused Medical Service T3	Children's Comprehensive Medical Service T4	Children's Regional Enhanced & Subspecialty Medical Service T5	Children's Provincial Subspecialty Medical Service T6
3.0	Pediatric Outpatient Clinic(s)	High volume sites <u>may</u> offer (not required) pediatric-focused respiratory disease/asthma &/or diabetes outpatient services. Services are linked to T4/T5 services within the HA through administrative & quality structures.	<p>Pediatric outpatient clinic(s) serves children with a broad range of medium complexity medical conditions including but not limited to:</p> <ul style="list-style-type: none"> • Children discharged from hospital or ED requiring short-term follow-up. • Children with complex chronic diseases who require an urgent assessment for a specific issue (e.g., feeding tube malfunction, medication titration). • Children with common pediatric conditions (e.g., asthma, croup, feeding issues, constipation, food allergies, developmental delays/issues & behavioural challenges). • Children with vulnerabilities related to the social determinants (e.g., low income, new immigrants & refugees). • Children requiring lifestyle assistance (e.g., healthy weights). • Children undergoing surgeries that require pre- or post-op evaluation/testing. <p>Refer to Children's Diabetes Tiers of Service module for responsibilities related to diabetes.</p>	Same as T4.	Same as T4.

		Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T3	T4	T5	T6
4.0	Pediatric Specialty/ Subspecialty Medicine Outpatient Clinic(s)		<p>In collaboration with T5/T6 subspecialty teams, provides ongoing management/monitoring in the Pediatric Outpatient Clinic for children with high complexity medical conditions that live within the HA.</p> <p>Hosts clinics for T5/T6 visiting pediatric subspecialty teams (on-site or via virtual care).</p>	<p>Regularly occurring interdisciplinary Pediatric Subspecialty Clinic(s) provide care to children with common, high complexity medical conditions. Clinics are available for higher volume subspecialties which include but are not limited to:</p> <ul style="list-style-type: none"> • Cardiology • Diabetes • GI medicine • Neurology <p>Clinics may be staffed by local pediatric subspecialty providers or by T6 providers via on-site outreach.</p>	<p>Interdisciplinary Pediatric Specialty/Subspecialty Clinic(s) provide care to children with a broad range of high complexity medical conditions.</p> <p><i>Specialty</i> medicine clinics focus on children experiencing:</p> <ul style="list-style-type: none"> • Unexplained symptoms that are anticipated to require subspecialty assessment/follow-up [General Pediatric Clinic]. • Multiple medical +/- psychosocial complexities [Complex Care Clinic]. • Complex feeding & nutrition [Complex Feeding & Nutrition Clinic] • Complex pain & somatization disorders [General Pediatric & Complex Pain Clinics] • Suspected or actual maltreatment [Child & Family Clinic]. <p><i>Subspecialty</i> medicine clinics focus on children with common & uncommon, high complexity medical conditions. Examples:</p> <ul style="list-style-type: none"> • Allergy clinic • Biochemical diseases • Cystic fibrosis • Cardiology • Dermatology • Diabetes (refer to Diabetes Tiers of Service module) • Endocrine • Gastroenterology • Hemophilia • Home tracheostomy/ventilation • Oncology/hematology, BMT • Immunology • Infectious diseases • Renal • Neurology/neuromuscular/spinal cord • Respiratory • Rheumatology

		Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T3	T4	T5	T6
5.0	Child mal-treatment Team		Team/clinic available within the HA for consultation & follow-up of children in whom maltreatment is suspected (non-acute response). [Suspected Child Abuse & Neglect (SCAN) team]. Team may be hospital or community-based.	Same as T4.	Team/clinic provides advanced on-site diagnostic & treatment services for suspected cases of child maltreatment. Coordinates follow-up of cases referred from throughout the province . Services often provided in consultation with multiple medical, surgical & mental health subspecialists.
6.0	Teaching & research focus		Teaching is an integral component of pediatric outpatient clinics and the focus is on general pediatrics.	Teaching is an integral component of Pediatric Outpatient Clinics. Focus is on: (1) general pediatrics; & (2) pediatric subspecialties available on-site (e.g., neurology, cardiology).	Teaching & research are integral components of each clinic. Focus is on: (1) general pediatrics; & (2) pediatric specialties/subspecialties.

B. Requirements (Outpatient Clinics)

		Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service																																																																																																															
		T3	T4	T5	T6																																																																																																															
1.0	Providers																																																																																																																			
1.1	<p>Clinic staffing</p> <p><i>Refer to Appendix 2 for examples of roles typically performed by team members.</i></p>	<p>If pediatric-focused respiratory disease/ asthma &/or diabetes outpatient services are offered (not required), see T4.</p>	<p>Clinic staffing (T4 & T5):</p> <table border="1"> <thead> <tr> <th rowspan="2">Staffing</th> <th colspan="2">T4/T5</th> <th>T5</th> </tr> <tr> <th>Pediatric Outpatient Clinic</th> <th>Child Maltx [SCAN] Clinic^{xiii}</th> <th>Subspecialty Clinics</th> </tr> </thead> <tbody> <tr> <td>MD/NP</td> <td>Ped'n +/- GP/NP</td> <td>Ped'n +/- GP/NP</td> <td>Subspecialist</td> </tr> <tr> <td>RN</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Cert asthma educator</td> <td>✓ See note 1</td> <td></td> <td rowspan="10">Others as relevant to the type of subspecialty service provided</td> </tr> <tr> <td>SW</td> <td>On request/referral</td> <td>✓ or psychologist</td> </tr> <tr> <td>Dietitian</td> <td>On request/referral</td> <td></td> </tr> <tr> <td>Child life</td> <td>On request/referral</td> <td></td> </tr> <tr> <td>OT</td> <td>On request/referral</td> <td></td> </tr> <tr> <td>PT</td> <td>On request/referral</td> <td></td> </tr> <tr> <td>RT</td> <td>On request/referral</td> <td></td> </tr> <tr> <td>Psychologist</td> <td>T4: None T5: On request/referral</td> <td>✓ or SW</td> </tr> <tr> <td>Pharmacist</td> <td>On request/referral (by phone)</td> <td>On request/referral (by phone)</td> </tr> </tbody> </table>		Staffing	T4/T5		T5	Pediatric Outpatient Clinic	Child Maltx [SCAN] Clinic ^{xiii}	Subspecialty Clinics	MD/NP	Ped'n +/- GP/NP	Ped'n +/- GP/NP	Subspecialist	RN	✓	✓	✓	Cert asthma educator	✓ See note 1		Others as relevant to the type of subspecialty service provided	SW	On request/referral	✓ or psychologist	Dietitian	On request/referral		Child life	On request/referral		OT	On request/referral		PT	On request/referral		RT	On request/referral		Psychologist	T4: None T5: On request/referral	✓ or SW	Pharmacist	On request/referral (by phone)	On request/referral (by phone)	<p>Clinic staffing:</p> <ul style="list-style-type: none"> General Pediatric Outpatient Clinic(s): as per T5. 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Legend for staffing table:

✓ = Consistent person(s) assigned & available on-site to participate in scheduled clinics. Consistency allows for development of "enhanced skills" (see glossary) in specialty/subspecialty area.
On request/referral = Person(s) with general pediatric knowledge & skills is available on a limited, consultation basis to come to the clinic to assess & treat specific children. May not be a consistent person.

^{xiii} May be hospital or community-based.

Notes for staffing table:

1. MD requirement applies only to clinics with pre-scheduled MD visits.
2. Protocols exist in all clinics to respond to urgent requests, provide telephone follow-up, etc outside clinic hours.
3. Services to children with asthma may be provided in the Pediatric Outpatient Clinic or in a Respiratory Diseases/Asthma Clinic, often in conjunction with adult services (T4/T5).
4. Refer to Children's Diabetes Tiers of Service module for requirements related to diabetes.

		Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T3	T4	T5	T6
2.0	Facilities				
2.1	Clinic space & infrastructure		Child-friendly clinic space & infrastructure. May be shared with adults. Space accommodates T5/T6 outreach services (on-site or via virtual care) for selected pediatric <i>subspecialty</i> services.	Same as T4 except space & infrastructure used only by children.	Pediatric-specific clinic space & infrastructure available for specialty & subspecialty clinics.
2.2	Other				On-site availability of: <ul style="list-style-type: none"> • Pediatric feeding & swallowing team to provide oral motor & dietary assessment/consultation days, M-F. • Videofluoroscopy feeding studies.

2.2.1.2.2 Outpatient Procedures & Treatments

A. Responsibilities (Outpatient Procedures & Treatments)

Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
T3	T4	T5	T6
<p>Performs outpatient procedures & treatments that have a low risk of allergic reactions/complications which may include:</p> <ul style="list-style-type: none"> • Monitoring (e.g., vital signs, weights, O2 saturations, spirometry) • Diagnostic tests/procedures (e.g., lumbar puncture, bladder catheterization) • IV therapy (e.g., IV fluids, IV starts, blood products, antibiotics, CVC/ICC/CADD care) • Teaching (e.g., home NG, rectal valium, home IV) • Wound management/dressing changes • Selected chemotherapy medications as per provincial guideline & direction provided by T6. • Other (e.g., insertion NG tube, IM/SQ injections). <p>Provides oral sedation to children undergoing diagnostic or therapeutic procedures & treatments.</p>	<p>Performs T3 outpatient procedures & treatments plus procedures & treatments with a medium risk of allergic reactions/complications which may include:</p> <ul style="list-style-type: none"> • Infusions of steroids & antibodies (e.g., infliximab) & bisphosphonates • Administration of cytotoxic &/or chemotherapy medications (as per provincial guidelines & directions provided by T6 cancer & rheumatology services). 	<p>Same as T4 plus:</p> <p>Outpatient procedures & treatments relevant to subspecialty services available on-site.</p>	<p>Same as T5 plus:</p> <p>Outpatient procedures & treatments relevant to T6 subspecialty services.</p>

B. Requirements (Outpatient Procedures & Treatment)

Child-Focused Medical Service T3	Children's Comprehensive Medical Service T4	Children's Regional Enhanced & Subspecialty Medical Service T5	Children's Provincial Subspecialty Medical Service T6
<p>Pediatrician available on-site for procedures & treatments which require ongoing monitoring.</p> <p>Pediatrician available on-call 24/7 & available for on-site consultation as needed.</p> <p>RNs assigned to children have pediatric skills (see glossary). Practice may be predominantly with adults but includes some children.</p> <p>Child-friendly space & infrastructure to perform procedures & treatments. May be shared (in ED, procedure room in inpatient or outpatient area, medical day unit, etc).</p> <p>Capacity within the operating room to provide sedation &/or anesthesia to healthy children ages 2 & over undergoing treatments/procedures (as per Surgical Tiers document).</p>	<p>Same as T3 plus:</p> <p>RN practice is exclusively or primarily with children.</p> <p>Child life specialist available for individual patient consultations, upon request.</p> <p>Capacity within the operating room to provide sedation &/or anesthesia to healthy children ages 6 months & over undergoing treatments/procedures (as per Surgical Tiers document).</p>	<p>Pediatrician or designate (e.g., resident) available <u>on-site</u>.</p> <p>RNs Practice is exclusively or primarily with children.</p> <p>Child life specialist &/or psychologist with pediatric expertise available for individual patient consultations, upon request.</p> <p>Pediatric-specific space(s) & infrastructure to perform procedures & treatments. Used exclusively used by children.</p> <p>Capacity within the operating room to perform procedures & treatments requiring sedation and/or anesthesia in children of any age with modest medical complexities as per the Children's Surgical Tiers module.</p>	<p>Pediatrician or designate (e.g., resident) <u>on-site</u>.</p> <p>RNs have pediatric skills (see glossary). Practice is exclusively with children, many of whom have highly complex medical conditions.</p> <p>Child life specialist & psychologist with pediatric expertise available for individual patient consultations, upon request.</p> <p>Pediatric-specific space(s) & infrastructure to perform procedures & treatments. Used exclusively used by children.</p> <p>Capacity within the operating room to perform procedures & treatments requiring sedation and/or anesthesia in children of any age with all levels of medical complexities as per the Children's Surgical Tiers module.</p>

For clinical diagnostic & support services & subspecialty physician interdependencies, refer to inpatient section.

2.2.1.3 Community-Based Services

Notes:

1. "Children" refers to infant, child & youth throughout this section unless otherwise specified.
2. Tiers are referred to as "health services" rather than "medical services" for this section to more appropriately align with the type of services provided.
3. T2 is not shown in the table of responsibilities & requirements (below) because T2 services refer to hospital-based services only.
4. T5 & T6 are not shown in the table of responsibilities & requirements (below) because T5 & T6 do not apply to community-based services. Access to subspecialty services is via hospital-based outpatient services (see Hospital-Based Outpatient Services section of this module). Hospital-based outpatient staff and physicians are available to provide advice/consultation to community-based service providers.

A. Responsibilities (Community-based Services)

	Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
	T1	T3	T4
Service reach	Local community.	Multiple LHAs/HSDA.	HSDA/HA.
Service focus	<p>Promotes healthy infant, child & youth development, injury prevention & parenting.</p> <p>Provides immunizations.</p> <p>Screens, supports & refers children at risk for or experiencing: (a) developmental, communication/language or cognitive delays; or (b) vision, hearing, nutrition or dental issues.</p> <p>Delivered in a variety of community settings (e.g., Child Health Clinics, Child Development Centres, Public Health Units, Community Health Centres, Nursing Stations, family physician offices, schools & on-reserve).</p>	<p>Assessment & community-based follow-up of children referred for vulnerabilities,^{xiii} delays & other health issues identified through screening.</p> <p>Youth-specific drop-in health care services.</p>	<p>Advanced assessment, intervention & follow-up of referred children <i>living within the HA</i>.</p>

^{xiii} Children & families who may be at risk for poor outcomes associated with lifestyle/ behavioural, psychosocial or environmental risk factors.

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
1	Promotes healthy child development, injury prevention & parenting.	<p>Provides information to parents/families/community about healthy child development, healthy eating, physical activity, social, emotional, spiritual & mental health & prevention of injuries.</p> <p>Provides general parenting education & support. Connects children & families with local resources as appropriate</p>	<p>Provides enhanced services & follow-up to parents/families with vulnerabilities (e.g., home visiting, care coordination, parenting support).</p>	
2	Immunizations	<p>Provides information on immunizations to parents/families & health care providers.</p> <p>Offers publicly funded immunizations to infants & school-aged children according to the BC Immunization Schedule.^{xiv}</p> <p>Refers high risk infants & children to appropriate resource(s) for immunizations (e.g., RSV clinic, hospital outpatient department).</p>		
3	Supports children at risk for or experiencing developmental delays	<p>Screens children who are at-risk for developmental delays.</p> <p>Refers children/families to appropriate resource(s) for assessment.</p>	<p>Conducts assessments on children at risk or experiencing developmental delays up to the age of school entry (ages 4 - 6).^{xv} Works with parents/children to establish goals & develop & implement plans.</p> <p>Provides intervention services to children at risk or experiencing developmental delays (e.g., PT, OT, speech/language).</p> <p>Refers children at risk or experiencing developmental delays for specialized</p>	

^{xiv} www.healthlinkbc.ca/tools-videos/bc-immunization-schedules.

^{xv} Delay may be due to a medical disorder, biological risk such as prematurity and/or psychosocial risk such as parent with mental health problem.

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
			<p>assessment & intervention services, as required.</p> <p>Provides case management support & service coordination for parents & families of children experiencing developmental delays.</p> <p>Assists families to connect with other families, as appropriate.</p> <p>For specific responsibilities related to children with primary neuromotor impairment, refer to the outpatient/community-based section of the relevant Child Development, Habilitation & Rehabilitation Tiers of Service module.</p>	
4	Promotes positive communication skills & supports children at risk for or experiencing communication/ language, motor &/or cognitive delays.	<p>Provides information to parents/children on ways to promote positive communication skills.</p> <p>Screens children at-risk or showing signs of communication/language, motor or cognitive delays.</p> <p>Refers children to appropriate resource(s) for assessment of communication/language, motor or cognitive delay.</p>	<p>Conducts communication/language, motor & cognitive assessments on referred children.</p> <p>Plans & provides speech/language, physiotherapy & occupational therapy services to children with low & medium complexity medical conditions. Consults hospital &/or specialty rehab-based therapists as required.</p> <p>Implements speech/language, physiotherapy & occupational therapy plans for children with high complexity medical conditions that were developed by hospital &/or specialty rehab-based therapists.</p> <p>Educates children/families & relevant service providers re communication/language, motor & cognitive delays & adaptations.</p> <p>Services may be provided to children directly &/or as a consultative service to parents/service providers.</p>	

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
4	Promotes positive communication skills & supports children at risk for or experiencing communication/ language, motor &/or cognitive delays cont'd		For specific responsibilities related to children with primary neuromotor impairment, refer to the outpatient/community-based section of the relevant Child Development, Habilitation & Rehabilitation Tiers of Service module.	
5	Supports children at risk for or experiencing vision problems	Screens children that are at-risk for or are experiencing vision problems. Refers children to appropriate resource(s) for vision assessment.	Conducts vision assessments on referred children. Works with parents to arrange for services to address vision issue(s).	
6	Supports children at risk for or experiencing hearing problems	Screens children that are at-risk for or are experiencing hearing problems. Refers children to appropriate resource(s) for hearing assessment.	Conducts audiometric assessments on referred children. Includes tone, speech, otoacoustic emission & tympanometry testing. Performs auditory brainstem response (ABR) testing on babies (up to 1 yr) if designated by the Early Hearing Program. Refers children/families requiring advanced diagnostic services to appropriate resource(s). Evaluates & fits babies/children for hearing aids & FM equipment. Troubleshoots problems with hearing aids & FM equipment. Refers to manufacturer as required. Educates children/families & relevant service providers (e.g., teachers) about hearing & hearing services.	Same as T3 plus: Performs advanced diagnostic services, including ABR testing, to evaluate the cause & extent of hearing loss in children of any age. Sedation may not be available at T4 & may require referral to T5/T6. Consults with pediatric audiologists as required.

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
7	Promotes healthy eating & supports children at risk for or experiencing nutrition-related issues	<p>Provides information to parents/children/youth to promote healthy eating, including community-based programs & resources.</p> <p>Screens children that are at-risk or show signs of nutrition-related issues.</p> <p>Refers children to appropriate resource(s) for nutritional assessment.</p>	<p>Conducts nutritional assessments on referred children.</p> <p>Develops, implements, monitors & adjusts nutritional plans for children with low & medium complexity medical conditions. Consults hospital-based dietitians as required.</p> <p>Educates children/families & relevant service providers about nutrition & diet modifications.</p>	
8	Promotes dental health & supports children at risk for or experiencing dental issues	<p>Provides information to parents/children to promote dental health.</p> <p>Screens children that are at-risk for or are experiencing dental health issues.</p> <p>Refers children to appropriate resource(s) for dental assessment &/or fluoride varnish &/or dental sealants.</p>	<p>Conducts dental assessments on referred children.</p> <p>Works with parents to arrange for dental services.</p> <p>Provides fluoride varnish &/or dental sealants to children at high risk for tooth decay.</p>	

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
9	Recognizes & takes action in situations of child maltreatment (neglect & physical, sexual & emotional abuse)	<p>Recognizes suspected cases of child maltreatment.</p> <p>Takes action to ensure immediate medical & safety needs are met, findings are documented & appropriate cases reported to MCFD as per the Child, Family & Community Service Act.</p>	Same as T1.	
10	Provides youth-specific health services	<p>Provides information to youth & their families about healthy development, healthy eating, physical activity, promoting mental health & preventing injuries.</p> <p>Connects youth with community-based youth resources (e.g., family physicians, peer support programs).</p>	<p>Provides accessible, confidential health care services to youth on a regular drop-in basis.</p> <p>Services include:</p> <ul style="list-style-type: none"> • Health education • Contraception & emergency contraception • Pregnancy diagnosis, options counselling & referral to appropriate services. • Testing & treatment for sexually transmitted infections • Immunizations • Mental health & substance use counselling • Referrals to other services. 	

B. Requirements (Community-based Services)

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
1.0	Providers			
1	Promotes healthy child development, injury prevention & parenting.	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. Non-health professional community-based staff with appropriate education & training (e.g., health unit aides, maternal child health home visitors/workers). Elders. HealthLink BC. 	<ul style="list-style-type: none"> Public health nurses. Providers of parent education programs. 	
2	Immunizations	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. 		
3	Supports children at risk for or experiencing developmental delays	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. 	<ul style="list-style-type: none"> Infant development specialists. Aboriginal infant development specialists. <p>For specific requirements related to children with primary neuromotor impairment, refer to the outpatient/community-based section of the relevant Child Development, Habilitation & Rehabilitation Tiers of Service module.</p>	
4	Supports children at risk for or experiencing communication/language, motor &/or cognitive delays.	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. 	<ul style="list-style-type: none"> Physiotherapists. Occupational therapists. Speech/language therapists. <p>For specific requirements related to children with primary neuromotor impairment, refer to the outpatient/community-based section of the relevant Child Development, Habilitation & Rehabilitation Tiers of Service module.</p>	
5	Supports children at risk for or experiencing vision problems	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. Health Unit Aides (basic vision testing). 	<ul style="list-style-type: none"> Optometrists. Ophthalmologists. 	

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
6	Supports children at risk for or experiencing hearing problems	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. Community-based SLPs/Health Unit Aides (basic hearing testing). 	<ul style="list-style-type: none"> Audiologists Audiometric technicians. 	<ul style="list-style-type: none"> Audiologists with training in advanced diagnostic testing (e.g., ABR). Audiometric technicians.
7	Promotes healthy eating & supports children at risk for or experiencing nutrition-related issues	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. Community nutritionists. HealthLink BC (by phone). 	<ul style="list-style-type: none"> HealthLink pediatric dietitian (by phone & e-mail). 	<ul style="list-style-type: none"> Dietitians with pediatric expertise (hospital-based).
8	Promotes dental health & supports children at risk for or experiencing dental issues	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. Dental hygienists & oral health aides. 	<ul style="list-style-type: none"> Dental hygienists & oral health aides. Dentists. 	
9	Recognizes & takes action in situations of child maltreatment	<ul style="list-style-type: none"> All T1 providers. 	<ul style="list-style-type: none"> All T3 providers. 	<ul style="list-style-type: none"> All T3 providers.
10	Provides youth-specific health services	<ul style="list-style-type: none"> FPs, NPs &/or RNs with relevant certified practice designation. Public health nurses & RNs. HealthLink BC. 	<ul style="list-style-type: none"> FPs &/or NPs with specific knowledge about youth health. PHNs with enhanced knowledge about youth health. RNs. Social worker(s). 	<ul style="list-style-type: none"> Same as T3.
2.0 Facilities & clinical diagnostic & support services				
1	Promotes healthy child development, injury prevention & parenting		Space & supplies to provide enhanced services.	
2	Immunizations	Space & supplies to administer immunizations.		
3	Supports children at risk for or experiencing developmental delays.	Space & supplies to complete developmental screening.	Space & supplies to complete developmental assessments & provide follow-up. For specific requirements related to children with primary neuromotor impairment, refer to the outpatient/community-based section of the relevant Child Development, Habilitation & Rehabilitation Tiers of Service module.	

		Prevention, Primary & Emergent Health Service	Child-Focused Health Service	Children's Comprehensive Health Service
		T1	T3	T4
4	Supports children at risk for or experiencing communication/language, motor &/or cognitive delays.	Space & equipment to complete communication & cognitive screening.	Space, equipment & supplies for OTs, PTs, SLPs to assess & treat children/families (e.g., Child Development Centre, Public Health Unit). For specific requirements related to children with primary neuromotor impairment, refer to the outpatient/community-based section of the relevant Child Development, Habilitation & Rehabilitation Tiers of Service module.	
5	Supports children at risk for or experiencing vision problems	Space & equipment to complete vision screening.		
6	Supports children at risk for or experiencing hearing problems	Space & equipment to complete hearing screening.	Audiology clinic with soundproof booth & specialized equipment & supplies for pediatric testing & repairing hearing aids.	Same as T3a plus: Supplies for ABR testing.
7	Promotes healthy eating & supports children at risk for or experiencing nutrition-related issues	Space & equipment to complete nutritional screening.	Telephone/computer for pediatric HealthLink dietitian.	
8	Promotes dental health & supports children at risk for or experiencing dental issues	Space & equipment to complete dental screening.	Space & supplies for dental hygienists.	
9	Recognizes & takes action in situations of child maltreatment			
10	Provides youth-specific health services		Youth friendly space (may be shared space).	Same as T3.
3.0	Other			
1	Clearly describable processes	Clearly describable processes to access early intervention services, child protection services & pediatric specialty services. Well-defined linkages between hospital & community-based services.	Same as T1.	Same as T1.
2	Transition guidelines	Guidelines to support transition from children's to adult services.	Same as T1.	Same as T1.

2.2.2 Knowledge Sharing & Transfer/Training

		Prevention, Primary & Emergent Health Service	General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T1	T2	T3	T4	T5	T6
1.0	Student learning						
1.1	Medical students, residents & fellows			If designated by UBC as a training site, provides pediatric medicine inpatient &/or community/outpatient learning experiences for: <ul style="list-style-type: none"> Undergraduate medical students. Family medicine residents. 	Designated by UBC as a training site for: <ul style="list-style-type: none"> Undergraduate medical students. Family medicine residents. Pediatric residents. Range of potential pediatric medicine experiences is broader than T3.	Same as T4 except range of potential pediatric medicine experiences is broader, including rotations in NICU & areas of subspecialty medicine available on-site.	Designated by UBC as a pediatric training site for: <ul style="list-style-type: none"> Undergraduate medical students. Family medicine residents. Pediatric residents. Range of pediatric medicine experiences is broad, including rotations in general pediatrics, pediatric ED, NICU, PICU & sub-specialty areas. In conjunction with UBC, develops model for training pediatric & subspecialty medicine residents in BC.
1.2	Nursing, allied health & other undergraduate, graduate & post-graduate students			Specific child health experiences/placements may be available & are negotiated between the site & applicable learning institution.	Provides child health experiences/placements for a broad range of undergraduate, graduate & post-graduate students. Specific experiences are negotiated between the site & applicable learning institution.	Same as T4.	Same as T5.

		Prevention, Primary & Emergent Health Service	General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T1	T2	T3	T4	T5	T6
2.0	Continuing education						
2.1	Physicians	Facilitates access to learning activities that support the maintenance of physician competencies in child health. e.g., on-line access to guidelines/reference materials/ continuing education courses (e.g., PALS) & participation in HA & provincial learning activities relevant to child health (e.g., pediatric rounds and conferences).	Same as T1.	Same as T2 plus: Mechanisms in place to regularly review physician education needs related to maintenance of pediatric competencies. Facilitates physician access to learning activities based on identified practice gaps, including the practice of critical clinical skills where limited opportunity exists in practice (e.g., simulation, clinical experience with T5/T6 service).	Same as T3 plus: In collaboration with T5, organizes regional activities that support the maintenance of physician competencies in pediatric care. Provides pediatric clinical experiences for T1-T3 physicians (on-site &/or via simulation).	In collaboration with T4, organizes regional activities that support the maintenance of physician competencies in pediatric care. Provides pediatric clinical experiences for T1-T4 physicians (on-site &/or via simulation).	Same as T5 plus: Organizes provincial learning activities that support the maintenance of physician competencies in pediatric care. Provides pediatric clinical experiences for T1-T5 physicians (on-site &/or via simulation).
2.2	Nurses, allied health & other care providers	Facilitates access to learning activities that support the maintenance of staff competencies in child health. e.g., on-line access to guidelines/reference materials/ continuing education courses (e.g., PALS) & participation in HA & provincial learning activities relevant to child health (e.g., pediatric rounds and conferences).	Same as T1.	Mechanisms in place to regularly review staff education needs related to maintenance of child health competencies. Facilitates staff access to learning activities based on identified practice gaps, including the examples in T1 & T2 plus: practice of critical clinical skills where limited opportunity exists in practice (e.g., simulation, off-site clinical experiences).	Same as T3 plus: In collaboration with T5, organizes regional activities that support the maintenance of staff competencies in child health (e.g., pediatric rounds, conferences). Provides child health clinical experiences for T1-T3 staff (on-site &/or via simulation).	In collaboration with T4, organizes regional activities that support the maintenance of staff competencies in child health (e.g., pediatric rounds, conferences). Provides child health clinical experiences for T1-T4 staff (on-site &/or via simulation).	Same as T5 plus: Organizes provincial activities that support the maintenance of staff competencies in child health (e.g., pediatric rounds, conferences). Provides child health clinical experiences for T1-T5 staff (on-site &/or via simulation).

2.2.3 Quality Improvement/Research

		Prevention, Primary & Emergent Health Service	General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T1	T2	T3	T4	T5	T6
1.0	Quality improvement (QI)	HA QI structures & processes in place, including case reviews. If child involved, physicians & staff with child health expertise participate in the review, as appropriate. Implements recommendations & evaluates the outcomes.	Same as T1.	Same as T1 plus: Provides child health expertise for T1 case reviews, if requested.	HA QI structures & processes are in place to specifically review & improve the quality & safety of <i>children's medical care</i> , including case reviews. In collaboration with T5/T6, establishes structures & processes to track pediatric-specific medical quality indicators at a regional & provincial level.	Same as T4.	Same as T5. Provides subspecialty child health expertise for T1-T5 case reviews, if requested. Consults with child health experts within or outside BC for T6 case reviews, as appropriate.
		Concepts of child & family-centered care (see glossary) are incorporated into child health programming.	Same as T1.	Same as T1.	Same as T1.	Same as T1.	Same as T1.
		Organizational mechanisms in place to obtain child/family feedback on the services provided. Incorporates feedback, as appropriate.	Same as T1.	Same as T1.	Same as T1.	Same as T1.	Same as T1.
		Reviews trends at a local level of hazards, adverse events & near misses (including child health cases) as per reports generated from the BC Patient Safety Learning System. Takes local action to reduce future occurrences.	Same as T1.	Same as T1.	Same as T1 plus: In collaboration with T5, reviews trends at a regional level as per reports generated from the BC Patient Safety Learning System. Takes regional action to reduce future occurrences.	Same as T4.	Same as T5 plus: In collaboration with T1-T5, reviews trends at a provincial level as per reports generated from the BC Patient Safety Learning System. Takes provincial action to reduce future occurrences.

		Prevention, Primary & Emergent Health Service	General Medical Service	Child-Focused Medical Service	Children's Comprehensive Medical Service	Children's Regional Enhanced & Subspecialty Medical Service	Children's Provincial Subspecialty Medical Service
		T1	T2	T3	T4	T5	T6
	Quality improvement (QI) cont'd				In collaboration with T5/T6, establishes structures & processes to track pediatric-specific medical quality indicators at a regional & provincial level.	Same as T4.	In collaboration with T4/T5, establishes structures & processes to track pediatric-specific medical quality indicators at a provincial level.
		Participates in regional & provincial child health quality improvement initiatives.	Same as T1.	Same as T1.	In collaboration with T5, leads pediatric medicine improvement initiatives at a regional level to address quality/risk issues in hospitals within HA. Participates in provincial pediatric medicine improvement initiatives.	Same as T4.	In collaboration with T4/T5, leads pediatric medicine improvement initiatives at a provincial level to address quality/risk issues in hospitals within the province. Participates in provincial pediatric medicine improvement initiatives.
		In keeping with the services provided, finds & utilizes current guidelines on relevant child health care topics.	Same as T1.	Same as T1.	Same as T1.	Same as T1.	Same as T1 plus: In collaboration with CHBC & HAs, develops & disseminates guidelines on relevant child health topics.
2.0	Research					Participates in child health-related research.	Conducts & supports others to conduct child health-related research.

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Appendix 1: Guidelines for Equipment & Supplies for Sites Admitting Pediatric Patients

This **non-exhaustive** list of equipment & supplies is provided as a reference for sites that admit children as inpatients. Local variation may be appropriate.

Accessible = accessible on-site.

Equipment	Details	Med Tiers	ED Tiers
Oxygen/ Airway	Simple oxygen masks (standard & non- rebreathing) sizes: infant, child, adult	All	All
	Nasal cannulas: sizes: infant, child, adult	All	All
	Nebulizer mask/tubing: sizes: child, adult	All	All
	MDI spacer (aerochamber) (infant, child, adult)	All	All
	Oropharyngeal airways: sizes 0-5 (50mm-100mm)	All	All
	Nasopharyngeal airways (infant, child & adult)	All	All
	Supraglottic airway device: all sizes	Accessible, all Tiers	All
	Self-inflating bag-mask device with reservoir, PEEP valve, pressure gauge & maximum pressure valve (infant, pediatric & adult sizes).	Accessible, all Tiers	All
Masks to fit bag-mask device adaptor (infant, child & adult sizes)	Accessible, all Tiers	All	
Airway/ Respiratory	Laryngoscope: 1x small handle 1x large handle	Accessible, T3 & up	T2 & up
	Blades: 1 each x Miller (straight) blades: sizes 0, 1 1 each x Mac (curved) blades: sizes 1,2,3,4	Accessible, T3 & up	T2 & up
	1 each x Magill forceps (large & small)	Accessible, T3 & up	T2 & up
	1 x Lidocaine spray & nozzle	Accessible, T3 & up	T2 & up
	Extra bulbs & batteries for laryngoscope	Accessible, T3 & up	T2 & up
	Endotracheal tubes <ul style="list-style-type: none"> 1 x uncuffed: sizes 2.5 -3.0 2 x microcuffed: sizes 3.0-4.5 2 x cuffed: sizes 5-8.5 	Accessible, T3 & up	T2 & up
	Stylets for endotracheal tubes (6f, 10f & 14f)	Accessible, T3 & up	T2 & up
	2 x ET CO2 (adult & pediatric in-line) 1 x ET CO2 detector (pediatric & adult –quick cap)	Accessible, T3 & up	T2 & up
	1 x bottle Med Adhesive Glue / Mastisol / Detachol	Accessible, T3 & up	T2 & up
	Scissors	Accessible, all Tiers	T2 & up
	Tape or securing device for endotracheal tube 2 x twill ties (wide & narrow)	Accessible, T3 & up	T2 & up
	2 x 15mm connectors 2 x 22mm connectors	Not needed	T2 & up

Equipment	Details	Med Tiers	ED Tiers
Airway/ Respiratory cont'd	Needle decompression of chest: 21g , 23g butterfly needle or 18g, 20g or 22 g cannula over needle	Not needed	T2 & up
	Chest Tubes: (Trocar) Sizes: 8fr-40fr, 1% Lidocaine Without Epinephrine, Heimlich valve, 3-way stopcock, chest tube clamps, dry suction water seal chest drainage system	Not needed	T2 & up
	Tube thoracostomy tray (scalpel, sutures, clamps, sterile towels, etc)	Accessible	T2 & up
	Cricothyrotomy tray (dilator & scalpel)	Accessible	T2 & up
	Emergency tracheostomy tray	Accessible	
	Tracheostomy tubes (sizes 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5 mm)	Accessible	
Suction	Mechanical suction & tubing	All	All
	Suction catheters: sizes 5/6.5F-12F	All	All
	Yankauer suction: small, large	All	All
GI Equipment	NG tubes (sump tubes): sizes 10,12,14,16 Infant feeding tubes: sizes 5fr,8fr,10fr	All	All
	PH strips for checking NG placement	All	All
	Enteral collection receptacles	All	T2 & up
	Duoderm, tegaderm, scissors, waterproof tape	All	T2 & up
	Cardiac monitor/defibrillator with pediatric & adult capabilities including pediatrics-sized pads/paddles	Accessible, all Tiers	T2 & up
Monitoring	ECG leads (infant & adult)	Accessible, all Tiers	All
	Automated External Defibrillator (AED), preferably that can detect pediatric rhythms & has a dose attenuator & pediatric pads for children <8 yrs old. While manual defibrillation is preferred for children <1 yrs old, an AED without a dose attenuator is better than not doing anything.	Not needed	T1
	Pulse oximeter with neonate, pediatric & adult-sized probes	All	All
	Stethoscopes: sizes: pediatric, adult	All	All
	Thermometer with separate oral & rectal probes	All	All
	Blood pressure cuffs: sizes: neonatal, infant, child, small adult, adult – arm & thigh	All	All
	Doppler ultrasonography devices	Accessible, all Tiers	All
	Intravenous safety catheters: sizes 14g – 24 g	All	All
Vascular Access	Infusion control device (i.e., infusion pump)	All	All
	Rapid infuser/tubing	Not needed	T2 & up
	IV fluid administration sets (including blood administration sets & secondary lines)	All	All
	IV caps, Y-connectors, stop cocks, tourniquets, alcohol swabs, Tegaderm, tape, t-pieces, arm boards	All	All
	IV solutions: Normal Saline (NS), Dextrose 5% in NS, Dextrose 5% in NS with 20 mmol KCL/L & Dextrose 10% in NS	All	All
	Intraosseous needles & insertion device (pediatrics & adult sizes)	Accessible, all Tiers	All
	Arm boards (infant, child & adult sizes)	All	All
	1% lidocaine without epinephrine	Accessible, all Tiers	All

Equipment	Details	Med Tiers	ED Tiers
Thermo-regulation	Patient warming device (e.g., overbed warmer, Bair Hugger)	Accessible, all Tiers	All
	Intravenous blood/fluid warmer/tubing	Not needed	T2 & up
Fracture Management	Extremity splints, including femur splints (pediatrics & adult sizes)	Accessible	All
	Spinal stabilization: backboard & hard collars: sizes infant – adult X-Tall (9 sizes)	Not needed	All
Specialized Trays	LP tray including infant (22 g), pediatrics (22 g) & adult (18 – 21 g) LP needles	Accessible, all Tiers	T2 & up
Urinary Equipment	Urinary catheterization kit	All	T2 & up
	Urinary (indwelling) catheters: sizes (5,8,10,12,14)	All	T2 & up
	Urinary drainage set	All	T2 & up
	Sterile specimen containers	All	All
	Multi-stix dipsticks to test for wbc/nitrates, etc.	All	All
Integumentary	Dressing supplies	All	All
	Burn care dressings (as per provincial burn care guideline)	All	All
Ophthalmology	Eye irrigation equipment	Not needed	All
Miscellaneous	Syringes, gloves, blood collection tubes	All	All
	Age-appropriate non-medication pain management/distraction supplies (e.g., pacifiers dipped in sweet liquid, toys, rewards, etc.)	All	All
	Casting materials	Not needed	All
	Tool or chart that incorporates both weight (in kg) & length to assist in determining equipment size & correct drug dosing (by weight & total volume). (An example of a tool is the length-based resuscitation tape (e.g. Broslow tape)	All	All
	Weigh scale: kg only (not pounds) for infants, children & adults	All	All
	Height measuring device for infants, children & adults	All	All
	CDC or WHO Growth Charts	All	All
	Reflex hammer, tongue depressors	All	All
	Oral or enteral syringes (for administration of enteral medications)	All	All
	Pain scale assessment tools appropriate for age	All	All
	Calculator (metric converter preferred)	All	All
	Clock/timer (resuscitation room)	All	All

Appendix 2: Roles of Team Members in Pediatric Outpatient Clinic(s)

	Function	T4, T5 & T6										T5 & T6 Only	T6 Onl y
		Core Staff				On Request/Referral							
		MD/ NP	RN	Cert Asthma Educ ^{xvi}	Clerk	RD	Reg SW	Ch Life	OT	PT	Pharm	Reg Psych	SLP
1	Prioritizes intake of new referrals, with consideration to urgency provided by the referring physician.	y	y	y									
2	Collaborates with patients/families in developing treatment & self-management plans.	y	y	y		y	y	y	y	y	y	y	Y
3	Educates patients/families re medical condition, treatments & preparation for procedures. Supports patients/families in decision-making.	y	y	y		y	y	y	y	y	y	y	Y
4	Communicates patient-specific information to appropriate subspecialty team upon transition(s).	y	y	y	y	y	y	y	y	y	y	y	Y
5	Refers patients to other health care professionals/services as needed.	y	y	y		y	y	y	y	y	y	y	Y
6	Acts as a resource to other health professionals in area of expertise.	y	y	y		y	y	y	y	y	y	y	Y
7	Participates in program planning & quality improvement activities.	y	y	y	y	y	y	y	y	y	y	y	Y
8	Educates peers, students & other learners in area of expertise.	y	y	y	Y	y	y	y	y	y	y	y	Y
9	Documents patient/family communication in patient record.	y	y	y	Y	y	y	y	y	y	y	y	Y
10	Performs initial medical assessment & completes diagnostic work-up.	y											
11	Assesses changes in medical condition of patients at each MD/NP visit.	y		y									
12	Orders diagnostic tests (blood work, diagnostic imaging tests, etc).	y											
13	Follows-up abnormal diagnostic tests as per clinic protocol(s).	y	y	y									
14	Prior to visit, reviews health record to ensure appropriate information/test results are available.		y										
15	Assesses/clarifies/updates medical history, current symptoms, treatments & medications at each visit.		y										
16	Obtains weight, height, vital signs & information about other condition-specific measurements at each visit.		y			y							
17	Performs appropriate nursing care as indicated.		y										
18	Follows up with patient/family following changes to treatment plan, as appropriate.		y										
19	Reviews patient chart after each clinic visit to ensure orders have been processed completely & accurately.		y										
20	Serves as contact person for family. Accesses other health care professionals as required.		y										
21	Performs diagnostic testing (e.g., spirometry, blood gases, & oximetry).			y									
22	Treats, educates & creates action plans for children with respiratory conditions such as asthma & croup.			y									

^{xvi} Meets requirements for a Certified Asthma Educator as per the Canadian Network for Respiratory Care. [http://cnrhome.net/certifiedasthmaeducators\(cae\).html](http://cnrhome.net/certifiedasthmaeducators(cae).html)

	Function	T4, T5 & T6										T5 & T6 Only	T6 Only
		Core Staff				On Request/Referral							
		MD/ NP	RN	Cert Asthma Educ ^{xvi}	Clerk	RD	Reg SW	Ch Life	OT	PT	Pharm	Reg Psych	SLP
23	Teaches children/families how to use their respiratory medicine devices.			y									
24	Establishes & maintains patient records (e.g., files consults, lab work, etc).				y								
25	Admits & discharges patients in hospital system.				y								
26	Books patients for appointments.				y								
27	Assists team in preparing for clinic visits (e.g., obtains requested consults, books interpreters).				y								
28	Obtains & sorts blood work results.				y								
29	As requested, books & coordinators appointments with other clinics, consultants, diagnostics & community resources.				y								
30	Assesses nutritional status, including analysis of medical & diet history, lab values & anthropometric measurements.					y							
31	Recommends appropriate therapeutic diet(s) & establishes a diet/feeding plan to optimize nutrition to support growth, development & well-being. Includes support for children receiving enteral or parenteral nutrition.					y							
32	Evaluates diet/feeding plan through clinic follow up & telephone.					y		y					y
33	Responds to abnormal diet-sensitive lab test results (as per clinic protocol(s)).					y							
34	Refers patients/families to appropriate resources to assist in coping with diet/related concerns.					y							
35	Responds to patient, family & caregivers' potential or expressed food security.					y	y						
36	Gathers social & psycho-emotional data on child/family & "support" systems. Analyses the impact on the child's medical condition & the beliefs & attitudes towards treatment.		Y				y						
37	Provides therapeutic interventions for children/families related to their emotional response to diagnosis, adjustment, traumatic stress, crisis & grief & loss. e.g., provides one-on-one counselling, facilitates family support groups, organizes family meetings/care conferences.						y						
38	Works with the team to assist the child/family in understanding their condition. Provides support in managing feelings of anxiety regarding treatments, including surgery.		Y				y						
39	Addresses patient & family needs related to resources, funding & advocacy.		Y				y						
40	Resource to the interdisciplinary team in responding to challenging child/family situations.		Y				y						
41	Refers to community-based support services, as required.						y		y	y			
42	Assists with the transition from pediatric to adult care.						y						
43	Helps children understand their experiences & feelings through play.							y					
44	Assesses & provides therapeutic interventions to reduce anxiety & pain related to a diagnosis.							y					
45	Assesses & treats children with feeding and/or swallowing difficulties.								y		Y		
46	Assesses & treats speech & language in children with speech impediments or										y		

	Function	T4, T5 & T6										T5 & T6 Only	T6 Only
		Core Staff				On Request/Referral							
		MD/ NP	RN	Cert Asthma Educ ^{xvi}	Clerk	RD	Reg SW	Ch Life	OT	PT	Pharm	Reg Psych	SLP
	other communication-based issues.												
47	Assesses developmental level & functional performance of children & makes recommendations for treatment.								y	Y			
48	Assesses for & provides specialized aids, environmental adaptations & equipment such as: wheelchairs, walking aids, seats, splints, bathroom & other environmental adaptive aids & feeding equipment.								y	y			
49	Provides consultation to the interdisciplinary team re medication therapies.										y		
50	Assesses & treats/consults on children with acute or newly acquired musculoskeletal, neurological & cardiorespiratory conditions.								y	y			
51	Common conditions include intoeing/out toeing flat feet, torticollis, gross motor skill delay & scoliosis.									y			
52	Provide diagnostic services, consultations, & short- & longer-term psychotherapy for children & their families dealing with acute & chronic medical conditions.											y	
53	Designs behaviorally-based programs consistent with the needs of children/families (individual or group-based).											y	

Appendix 3: Glossary

Registered Nurse with "pediatric skills"

- Demonstrates a broad understanding of growth & development. Distinguishes between normal & abnormal growth & development of infants, toddlers, children & youth.
- Understands the psychological impacts of care provision (including hospitalization) at different developmental stages (infant, toddler, preschooler, school aged & youth).
- Understands how to provide a physically & psychologically safe environment appropriate to the age & condition of the child.
- Demonstrates understanding of the physiological differences between infants, children & adults & implications for assessment & care.
- Assesses a child's normal parameters, recognizes the deviations from the normal & acts appropriately on the findings.
- Demonstrates knowledge of common pediatric conditions & their management.
- Demonstrates understanding of fluid management in an infant & child.
- Calculates & administers medications & other preparations based on weight based dosages.
- Assesses child & family's knowledge & provides teaching specific to the plan of care & condition or procedure.
- Communicates effectively & works in partnership with children & families (children & family-centered care).
- Aware of & accesses pediatric-specific clinical guidelines & protocols.
- Responds to patient deterioration/acute urgent situations in an appropriate & timely manner.
- Commences & maintains effective basic pediatric life support, including 1 & 2-rescuer infant & child CPR, AED use & management of airway obstructions.
- Provides referrals to public health nursing, nutrition & utilizes contact with the child & family to promote child health. e.g., immunization, child safety.
- Assesses pain & intervenes as appropriate.
- Initiates & manages peripheral IV infusions on children. Consults expert clinicians as necessary. Identifies & manages complications of IV therapy.

References:

- NSW's Guidelines for Care in Acute Care Settings³
- BC Children's Pediatric Foundational Competencies on-line course¹²
- BC Children's CAPE tools (2008-2010)¹³

"Enhanced pediatric skills" (refers to RNs & others on the interdisciplinary team)

- Demonstrates in-depth knowledge in a specific area of clinical care (e.g., respiratory diseases, sexual assault, diabetes, wound management, etc).
- Performs comprehensive assessments & plans, provides & evaluates care in children with suspected or known issues in specific areas of clinical care.

Reference: BC Children's CAPE tools.¹³

"Safe pediatric bed"

All hospitals that admit children must take steps to ensure the environment is as safe as possible for children & youth (<16.9yrs). For a T2 service, this includes:

- Physical safety:
 - Area is physically safe for children & youth with any potentially dangerous equipment or sharps, ligature risks, medications, chemicals or fluids out of reach or in locked cupboards. Windows if present must have safe guards to allow for minimal opening.
 - Ability to position bed near the nursing station for appropriate level of observation, as required (e.g., children/youth with mental health conditions).
 - Physical separation of children & youth from adult patients is recommended. If physical separation is not possible, children & youth are not in the same area/unit as adults who are under the influence of, or withdrawing from alcohol or chemical substances, known sex offenders, a danger to themselves or others and/or are confused and/or wandering.
 - Furniture meets appropriate safety standards for children & youth, with appropriate size of beds for smaller children.
- Psychological comfort:
 - Parents/primary caregivers are able to stay with their children & youth 24/7 during hospitalization.
 - Self-served food and drink is in close proximity.
- Knowledgeable staff:
 - Sufficient "RNs with pediatric skills" are allocated each shift to ensure adequate supervision and care (includes adhering to a daily routine) relevant to the age and nursing needs of child.
 - Criminal record checks are required as part of the credentialing and/or hiring process for all staff and physicians (as per legislation).
- Equipment and supplies:
 - Pediatric emergency equipment and supplies are in close proximity (refer to Appendix 1 in the Medical Tiers in Full document for a non-exhaustive list of equipment and supplies).

Additional requirements for a T3/T4 service:

- Psychological comfort:
 - Access to child-friendly bathrooms.
 - Space for changing diapers (if appropriate to the clinical specialty).
 - Facilities for breastfeeding and breast milk storage (if appropriate to the clinical specialty).
 - Safe space(s) and age-appropriate facilities/equipment for children and youth to play/be entertained/have exercise. e.g., age appropriate media, arts/crafts books and board games, supervised use of courtyard, if available.

"Safe pediatric unit"

In addition to the requirements for a safe bed, a "safe pediatric unit" includes:

- Physical safety:
 - Children & youth are cared for on a dedicated pediatric inpatient unit(s).
 - Pediatric unit is functionally separate from adult patients, preferably with a door that can be closed (but not locked) and not opened by young children.
 - Regulated hot water temperature and secure electrical outlets are present on the unit.

- Psychological comfort:
 - Bedside sleeping facilities and ideally a kitchenette with fridge and microwave are available for parents/primary care givers.
 - Youth-friendly facilities/activities are available.

Child & family-centred care

Child & family-centred is one of the tenets of pediatric care. For all tiers, this means:

- Services are delivered in line with the principles of the UN Convention on the Rights of the Child (version in child friendly language is at: <http://www.unicef.org/rightsite/files/uncrcchildfriendlylanguage.pdf>).
- Children and their families are actively involved in health care planning and transitions.
- Children and their families are provided information about care options available to them in a way they can understand. This allows them to make informed choices.
- The chronological and developmental age of the child is considered in the provision of information and care.
- Families are actively encouraged to participate in the care of their child.
- Education is provided to children and their families who wish to be involved in providing elements of their own/their child's care.
- When families stay in hospital to help care for a child:
 - The environment supports family presence and participation (e.g., overnight accommodation, sitting room, quiet room/area for private conversation and facilities for making refreshments).
 - Consideration is given to their practical needs, including regular breaks for personal needs, to obtain food/drink, make telephone calls, etc.
- Information and support is given to families on how to access funds for travel to and from specialist centres.
- Information is available for children and their families in several formats including leaflets and videos. Information is culturally and age-appropriate and is provided in a variety of commonly used languages.
- Child and their families have access to professional interpreter services.
- Children and their families are provided with contact details for available support groups, as appropriate.
- Transition pathways are in place to allow for seamless transition to adult services.
- Children and families are actively encouraged to assist in identifying safety risks (e.g., ask questions about medications, question providers re hand washing etc).
- Opportunities are available for children and their families to provide input on the quality and safety of care provided (e.g., surveys, committees, rounds, parent advisory council, etc).

Adapted from:

- Institute for Healthcare Improvement, the National Initiative of Children's Healthcare Quality and the Institute for Patient- and Family-Centered Care, Patient- and Family-Centered Organizational Self-Assessment Tool, 2013.¹⁴
- Welsh Assembly Government, All Wales Universal Standards for Children and Young People's Specialised Healthcare Services, 2008.¹⁵
- Maurer, M et al, Guide to Patient and Family Engagement: Environmental Scan Report (Agency for Healthcare Research and Quality), 2012.¹⁶