

SETTING  
THE STAGE

# CHILDREN'S EMERGENCY DEPARTMENT SERVICES

JULY 2020

## Children's Emergency Department Services: Setting the Stage for Tiers Development

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#### HOW TO CITE THE CHILDREN'S EMERGENCY DEPARTMENT 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 Emergency Department Services: Setting the Stage for Tiers Development

The Children's Emergency Department Tiers of Service module is made up three components:

1. Setting the Stage for Tiers Development (provides the context) **(this document)**
2. Tiers in Brief to Support System Planning (high-level description of the tiers, including responsibilities and requirements)
3. Tiers in Full to Support Operational Planning (detailed description of the responsibilities and requirements at each tier)

### 1.0 Providers of Children's ED Services

Children's ED services are provided by an interdisciplinary team which includes physicians/nurse practitioners, nurses, allied health and other health care team members.

In BC, physicians that work in EDs have one of three types of qualifications:

1. Royal College of Physicians and Surgeons of Canada (RCPSC)-certified.
  - a) Emergency Medicine specialists (FRCP(EM))
    - Physicians that have completed a 5 year post-graduate Emergency Medicine residency and RCPSC Emergency Medicine examination.
    - Pediatrics is a core component of all Emergency Medicine residency programs.
  - b) Pediatric Emergency Medicine specialists (FRCP(PEM))
    - FRCP-certified specialists in Pediatrics or Emergency Medicine that have completed an additional fellowship in Pediatric Emergency Medicine and the RCPS Pediatric Emergency Medicine examination.
2. Canadian College of Family Physician-certified (CCFP(EM))
  - Physicians that have completed a one-year post-graduate Emergency Medicine fellowship after a two-year Family Medicine residency. Must also have completed the CCFP(EM) examination.
3. Family physicians
  - Smaller rural and community hospitals may be staffed by family physicians who work in the ED on a part-time rotating basis.
  - Basic experience is a core component of family medicine training.

## 2.0 The Population

Over 800,000 children ages 0-16.9 years live in BC, making up 16% of the population. The highest number is in the FHA (340,622) and the highest percentage of children to total population is in the NHA (20%). See Table 1.

Table 1: Population, 0 – 16.9 Years & Total Population, by HA (2018 Estimates, PEOPLE 2020, bcstats.ca)

HA	Age					Total, all Ages	% 0 - 16.9 Yrs within HA	% 0 - 16.9 Yrs within BC
	<1	1-1.9	2-13.9	14-16.9	Total 0-16.9			
Interior	6,391	6,376	86,765	22,391	121,923	789,223	15%	15%
Fraser	17,892	18,707	241,259	62,764	340,622	1,860,798	18%	42%
Vancouver Coastal	9,960	9,949	114,365	31,576	165,850	1,210,891	14%	20%
Vancouver Island	6,475	6,683	88,237	23,035	124,430	835,871	15%	15%
Northern	3,466	3,594	42,533	10,125	59,718	294,904	20%	7%
<b>Total</b>	<b>44,184</b>	<b>45,309</b>	<b>573,159</b>	<b>149,891</b>	<b>812,543</b>	<b>4,991,687</b>	<b>16%</b>	<b>100%</b>
<b>% Total 0-16.9 Yrs</b>	<b>6%</b>	<b>6%</b>	<b>70%</b>	<b>18%</b>	<b>100%</b>			

## 3.0 Utilization of ED Services by BC Children

Two sources of provincial-level data were used to describe the utilization of ED services by children. Unfortunately both sources have limitations:

1. National Ambulatory Care Report System (NACRS): ED data collected via NACRS is available at 29 sites in BC (2018/19). These 29 sites represent 27% of the EDs in B.C. and 68% of the total ED visits (many of the NACRS sites are the higher volume EDs). The NACRS provides patient and aggregate level data (including a breakdown of several variables by age).
2. Health Authority Management Information System (HAMIS): HAMIS data has been collected for several years but only provides aggregate-level data on total visits.

Highlights of the data are provided in the next section. Detailed data and a visual representation (map) are available in Appendices 1 - 3.

### 3.1 Pediatric ED Visits & Visit Rates

In 2018/19, there were approximately 2.4 million visits to EDs in B.C. hospitals (HAMIS data). Percentages from the 2018/19 NACRS data were applied to the 2018/19 BC ED visit data to help understand the utilization of EDs by children ages 0 – 16.9.

The HAMIS/NACRS data suggests:

- There are an estimated 369,049 pediatric visits (children ages 0 - 16.9 years) to BC EDs each year (~1,000 visits per day). This represents 15% of total ED visits. See Table 2 for HA level data and Appendix 3 for hospital-level data on total ED and pediatric ED visits.
- The pediatric ED visit rate averages 454 visits per 1,000 children per year in BC. It ranges from 343 per 1,000 in the Fraser Health Authority (FHA) to 689 in the Northern Health Authority (NHA). See Table 2, including notes 3 and 4.

**Table 2: Total ED and Estimated Pediatric ED Visits (2018/19)**

HA	Total ED Visits (Adults & Children)	Pediatric ED Visits (Est.)	% Pediatric ED Visits/Tot ED Visits	% Provincial Pediatric ED Visits	Population 0-16.9 years	Pediatric ED Visits (Est.)/1,000 Population Aged 0 – 16.9 years (HA)	Pediatric ED Visits (Est.)/1,000 Population Ages 0 – 16.9 years (HSDA)
IHA	515,737	74,830	14.5%	20.3%	121,923	614	EK: 831 KB: 783 OK: 470 TCS: 702
FHA	735,086	116,788	15.9%	31.6%	340,622	343 <sup>Note 3</sup>	FE: 407 FS: 358 FN: 285
VCH	446,759	32,136	7.2%	8.7%	165,850	489 <sup>Note 3</sup>	NS-Coast G: 417 Richmond: 208 <sup>Note 3</sup> Van: 642 <sup>Note 3</sup>
BCCH	49,647	48,927	98.5%	13.3%			
VIHA	421,715	55,214	13.1%	15.0%	124,430	444	NVI: 507 CVI: 578 SVI: 322
NHA	275,891	41,153	14.9%	11.2%	59,718	689	NE: 599 NI: 565 NW: 1,031
<b>Total</b>	<b>2,444,835</b>	<b>369,049</b>	<b>15.1%</b>	<b>100.0%</b>	<b>812,543</b>	<b>454</b>	<b>454</b>

Notes re Table 2:

1. Total ED visits (adults and children) were based on 2018/19 HAMIS data.
2. Estimated pediatric ED visits were based on 2018/19 NACRS data for sites where NACRS data was available. Where NACRS data was not available, the provincial average of 15% (excludes “outlier sites” as listed in Appendix 3) of total ED visits was utilized.
3. VCH and BCCH visit data was combined to determine the VCH pediatric visit rate. Given the provincial role of BCCH and the fact that a significant number of children from FHA also present to BCCH, the VCH visit rate is likely overstated and the FHA rate understated. At an HSDA level, the BCCH visits were assumed to be from Vancouver. This likely overstates the Vancouver visit rate and understates the rates from Richmond, Coastal and FHA Health Service Delivery Areas (especially Fraser North as it is closest to BCCH).
4. Estimated pediatric ED visits/1,000 population is significantly higher in areas outside the Lower Mainland and Victoria. This may reflect limitations in alternative options for obtaining medical care.
5. Population estimates were based on B.C. statistics from BC Stats for 2018.

Considering future population growth, these figures are expected to increase by about 5% in the next 10 years. The predicted future rise in the number of ED visits may also be impacted by changes such as the availability of primary care services and the public's perception of the ability to obtain an assessment and diagnosis in the community within an appropriate time frame. These factors have historically increased the rate of ED visits faster than the rate of population growth.

### 3.2 Ages & Disposition of Children Utilizing ED Services

The highest proportion of pediatric ED visits was comprised of children ages 1 - 4 years of age (33% of the total child visits). See Table 3.

Of the pediatric visits, 91% were discharged home and 4.4% were admitted to hospital. A few were transferred to other hospitals for admission and/or left without being seen/treated.

**Table 3: Ages of Pediatric ED Visits (NACRS data, 2018/19)**

Age	% Provincial Pediatric Visits	Disposition after ED Visit						Total
		% Discharged Home	% Left Before End of Visit	% Admitted to Site of Receiving ED	% Transferred to Another Site	% Death On/After Arrival	% Intra Facility TF to Day Surg/Clinic	
<1	12%	87%	4%	7.8%	0.6%	0.0%	0.6%	100%
1 – 4	33%	91%	5%	3.4%	0.3%	0.0%	0.4%	100%
5 – 9	24%	92%	4%	3.2%	0.3%	0.0%	0.2%	100%
10 - 14	21%	91%	4%	4.6%	0.3%	0.0%	0.2%	100%
15 - 16	11%	88%	4%	6.8%	0.5%	0.0%	0.1%	100%
<b>Total</b>	<b>100%</b>	91%	4%	4.4%	0.2%	0.0%	0.3%	100%

Notes re Table 3:

1. Data is based on 2018/19 NACRS data for the sites that are collecting NACRS data.
2. Royal Inland data was excluded from the NACRS data due to data quality issues.

### 3.3 Acuity & Reasons for Children Utilizing ED Services

The acuity levels of children presenting to EDs (NACRS data) are lower than those of adults. Patients triaged at Canadian Triage Acuity Scale (CTAS) levels 4 or 5 comprised 40% of total pediatric ED visits compared to 33% of total adult visits.

Assuming the NACRS percentages are representative of all B.C. EDs, it is estimated that 57,500 children/year present to B.C. EDs with high acuity conditions (CTAS 1 or 2), 161,000 with moderate acuity conditions (CTAS 3) and 147,500 with low acuity conditions (CTAS 4 and 5). See Table 4.

Table 4: CTAS Mix of Pediatric and Adult Visits (NACRS data, 2018/19)

CTAS	Description	Children (0-17)	Adults (18+)	Estimated Pediatric Visits/Year
1	Resuscitation	0.4%	1%	1,500
2	Emergent	15%	17%	56,000
3	Urgent	43%	49%	161,000
4	Less Urgent	38%	29%	139,000
5	Non-Urgent	2%	4%	8,500
6	Unknown	1%	1%	3,000
<b>Total</b>		<b>100%</b>	<b>100%</b>	<b>369,000</b>

Note re Table 4: Data is based on 2018/19 NACRS data for the sites that are collecting NACRS data.

The NACRS data suggests:

- The reasons for pediatric ED visits are diverse, although the ten most frequent presenting complaints<sup>1</sup> make up 55% of total cases.
- Fever is the most frequent presenting complaint overall and for children ages 0 – 9 years, while upper extremity injuries are the most common for ages 10 and over.
- See Table 5.

Table 5: Most Frequent Presenting Complaints to ED, by Age Groups (NACRS data, 2015/16)

Rank	Top 10 Presenting Complaints								
	<1 Years Old			1-4 Years Old			5-9 Years Old		
	Presenting Complaint	Visits	%	Presenting Complaint	Visits	%	Presenting Complaint	Visits	%
1	Fever	6,122	21%	Fever	15,903	20%	Fever	6,644	11%
2	Cough/congestion	3,922	13%	Cough/congestion	8,452	10%	Abdominal pain	5,596	10%
3	Nausea and/or vomiting	2,360	8%	Nausea and/or vomiting	5,959	7%	Upper extremity injury	4,719	8%
4	Shortness of breath	2,135	7%	Laceration / Puncture	4,867	6%	Laceration/puncture	3,621	6%
5	Rash	1,788	6%	Shortness of breath	4,293	5%	Cough/congestion	3,404	6%
6	Head injury	1,582	5%	Head injury	3,810	5%	Nausea and/or vomiting	2,908	5%
7	Inconsolable crying	841	3%	Rash	3,537	4%	Head injury	2,478	4%
8	Diarrhea	677	2%	Upper extremity injury	3,203	4%	Earache	2,228	4%
9	Minor complaints NOS	622	2%	Abdominal pain	2,365	3%	Lower extremity injury	2,140	4%
10	Neonatal jaundice	563	2%	Earache	2,094	3%	Rash	2,069	4%
<b>Total, top 10</b>		<b>20,612</b>			<b>54,483</b>			<b>35,807</b>	
<b>% NACRS visits, top 10</b>			<b>71%</b>			<b>68%</b>			<b>61%</b>

<sup>1</sup> "Presenting complaint" refers to the symptom, complaint, problem or reason for seeking emergency medical care as identified by the patient. The Canadian Emergency Department Information System (CEDIS) Working Group developed the Presenting Complaint List (PCL). This information is captured in the NACRS data.

Rank	Top 10 Presenting Complaints					
	10 -14 Years Old			15 – 16 Years Old		
	Presenting Complaint	Visits	%	Presenting Complaint	Visits	%
1	Upper extremity injury	7,028	13%	Upper extremity injury	2,490	9%
2	Lower extremity injury	4,980	10%	Lower extremity injury	2,336	9%
3	Abdominal pain	4,439	8%	Abdominal pain	2,224	8%
4	Lower extremity pain	2352	4%	Depression/suicidal/deliberate self-harm	1853	7%
5	Head injury	2,181	4%	Head injury	1,059	4%
6	Upper extremity pain	2,103	4%	Lower extremity pain	1031	4%
7	Laceration/puncture	2058	4%	Laceration/puncture	1,001	4%
8	Fever	1,877	4%	Upper extremity pain	755	3%
9	Depression/suicidal/deliberate self-harm	1,591	3%	Headache	635	2%
10	Nausea and/or vomiting	1,185	2%	Sore throat	564	2%
Total, top 10		29,794			13,948	
% Visits, top 10			57%			52%

Of the patients *admitted* as inpatients, the ten most common presenting complaints were:

- |   |                                      |
|---|--------------------------------------|
| 1. Fever                                    | 6. Nausea and/or vomiting            |
| 2. Shortness of breath                      | 7. Seizure                           |
| 3. Abdominal pain                           | 8. Overdose ingestion                |
| 4. Depression/suicidal/deliberate self-harm | 9. Upper extremity injury            |
| 5. Cough/congestion                         | 10. Direct referral for consultation |

Note: These ten complaints accounted for 64% of pediatric admissions from ED.

### 3.4 ED Service Locations

In 2018/19, ED care was provided in 109 hospitals in B.C. (Health Authorities Management Information System (HAMIS) reporting tool).

- An estimated 1,000 physicians and a small number of nurse practitioners provided care, in collaboration with multidisciplinary teams.
- An estimated two-thirds of physicians providing care in EDs in B.C. did so on a part-time basis, in addition to their primary jobs as family physicians.
- Most physicians working in EDs in B.C. graduated from family medicine residency programs and most have no formal emergency medicine training or certification. While statistics are not available in B.C., an Ontario survey reported that 70% of physicians working in EDs in southwestern Ontario had no formal emergency training or certification (Bhimani et al, 2007).

Because children may present to any ED at any time, all EDs in B.C. must be able to provide a high standard of emergent care to children. This includes ensuring appropriate levels of pediatric training for physicians, nurses and other health care providers and the availability of age-appropriate equipment and space that supports child and family-centered care. Processes and protocols must also be in place to support the timely transfer of children to other tiers of service when required.



While ED care is provided in 109 hospitals, relatively few have the capacity to admit children for inpatient care:

- 26/109 (24%) hospitals have designated pediatric beds (including mental health and substance use beds): 173 beds at B.C. Children's Hospital (BCCH) and 270 in other B.C. hospitals, for a total of 443.
- 31/109 (28%) hospitals do not have any capacity to admit inpatients (adults or children) to their facility.
- Of the 78 hospitals that have capacity to admit inpatients to their facility, 60 admitted children in 2018/19 (>5 inpatient days). 26 of those hospitals have designated pediatric beds, while 34 do not. See Appendix 4 for a list of hospitals with designated inpatient pediatric beds.

## 4.0 References

Bhimani, Munsif et al. (2007). Emergency Medicine Training Demographics of Physicians Working in Rural & Regional Southwestern Ontario Emergency Departments. *CJEM*, 9(6), pp. 449-452.

[www.ncbi.nlm.nih.gov/pubmed/18072991](http://www.ncbi.nlm.nih.gov/pubmed/18072991). (accessed July 1, 2020)

## Appendix 1: ED and Med/Surg Visits and Days by Facility

- Includes children ages 0 - 16.9 years.
- Surgical procedures: Procedures performed on children by a surgeon regardless of most responsible physician (MRP). Includes children in NICUs, PICUs, med/surg units and in day care settings.
- Med/surg visits and days: Visits and days sorted by MRP. Includes children in PICUs, med/surg units and in day care settings (excludes children in NICUs).
- Day care visits = Surgical or medical day care visits in which an anesthetic was provided.
- Medical and surgical data is for fiscal year 2018/2019. Source is the BC MoH Discharge Abstract Database.
- Emergency Department (ED) visits: Based on 2018/19 National Ambulatory Care Reporting System (NACRS) data for children ages 0-16.9 for sites that submit to NACRS. Where NACRS data was not available, visits were calculated as 15% x total ED visits. 2018/19 MIS data was used for total ED visits.

HA/HSDA	Treating Hosp	ED Visits	Surgery							Medical				Med/Surg		Gen Ped Beds
			Day Care Procs	Inpt Procs	Total Procs	Day Care Visits	Inpt Visits	Total Visits	Total Days	Day Care Visits	Inpt Visits	Total Visits	Total Days	Total Visits	Total Days	
Interior HA																
East Kootenay	Creston Valley Hosp	2,351	56	1	57	56		56			33	33	52	89	52	
	East Kootenay Reg Hosp	3,347	242	49	291	242	56	298	89		108	108	232	406	321	2
	Elk Valley Hosp	1,845	30	0	30	30		30		3	28	31	46	61	46	
	Elkford Health Centre	224														
	Golden and District Hosp	1,301	15	0	15	15		15			15	15	29	30	29	
	Invermere and District Hosp	1,623									4	4	10	4	10	
	Sparwood H Ctre	711														
Kootenay Boundary	Arrow Lakes Hosp	770									3	3	3	3	3	
	Boundary Hosp	1,860														
	Castlegar and District Community H Ctre	1,634														
	Edgewood H Ctre	397														
	Kootenay Boundary Regional Hosp	2,399	126	30	156	126	28	154	70	1	143	144	299	298	369	4
	Kootenay Lake Hosp	2,048	154	0	154	154		154			32	32	69	186	69	
	Slocan Community H Ctre	318														
	Victorian Community H Ctre of Kaslo	235														
Okanagan	Kelowna General Hosp	9,941	457	125	582	455	120	575	234	3	522	525	1,314	1,100	1,548	10
	Penticton Regional Hosp	5,715	72	39	111	71	37	108	58	1	179	180	342	288	400	
	Princeton General Hosp	1,163														
	South Okanagan General Hosp	2,669														
	South Similkameen H Ctre	413														
	Summerland Memorial H Ctre		568		568	567		567						567		
	Vernon Jubilee Hosp	7,524	134	129	263	134	140	274	221	5	198	203	449	477	670	5
Thompson Cariboo Shuswap	100 Mile District General Hosp	1,882								10	7	17	7	17	7	
	Alexis Creek H Ctre	229														
	Ashcroft Hosp and Community H Ctre	326														
	Barriere H Ctre	176														
	Blue River H Ctre	33														
	Cariboo Memorial Hosp	2,929	67	8	75	67	6	73	17	2	95	97	224	170	241	
	Chase and District H Ctre	641														
	Dr. Helmcken Memorial Hosp	546														
	Kamloops Urgent Family Care Centre	971														
	Lillooet Hosp And H Ctre	912	21	0	21	21		21		1	7	8	10	29	10	

HA/HSDA	Treating Hosp	ED Visits	Surgery							Medical				Med/Surg		Gen Ped Beds
			Day Care Procs	Inpt Procs	Total Procs	Day Care Visits	Inpt Visits	Total Visits	Total Days	Day Care Visits	Inpt Visits	Total Visits	Total Days	Total Visits	Total Days	
	Nicola Valley H Ctre	2,102														

HA/HSDA	Treating Hosp	ED Visits	Surgery							Medical				Med/Surg		Gen Ped Beds
			Day Care Procs	Inpt Procs	Total Procs	Day Care Visits	Inpt Visits	Total Visits	Total Days	Day Care Visits	Inpt Visits	Total Visits	Total Days	Total Visits	Total Days	
	Queen Victoria Hosp	1,311	7	0	7	7	1	8	1	4	12	16	15	24	16	
	Royal Inland Hosp	10,782	447	186	633	445	187	632	275		361	361	810	993	1,085	9
	Shuswap Lake General Hosp	3,211	24	11	35	24	12	36	20		32	32	48	68	68	
	St. Bartholomew's H Ctre	294														
<b>Interior HA Total</b>		<b>74,830</b>	<b>2,420</b>	<b>578</b>	<b>2,998</b>	<b>2,414</b>	<b>587</b>	<b>3,001</b>	<b>985</b>	<b>30</b>	<b>1,779</b>	<b>1,809</b>	<b>3,959</b>	<b>4,810</b>	<b>4,944</b>	<b>30</b>

<b>Fraser HA</b>																
Fraser East	Abbotsford Regional Hosp and Cancer Centre	12,355	364	174	538	364	174	538	289		895	895	2,199	1,433	2,488	12
	Chilliwack General Hosp	8,848	98	7	105	98	7	105	12		9	9	13	114	25	4
	Fraser Canyon Hosp	1,674														
	Mission Memorial Hosp	3,053								2		2		2		
Fraser North	Burnaby Hosp	8,115	0	1	1		1	1	1		53	53	98	54	99	
	Eagle Ridge Hosp	7,744	203	2	205	203	3	206	3		112	112	112	318	115	
	Ridge Meadows Hosp And Health Care Centre	6,860	178	49	227	178	54	232	82	3	12	15	12	247	94	4
	Royal Columbian Hosp	9,984	132	145	277	132	147	279	304		613	613	1,367	892	1,671	12
Fraser South	Delta Hosp	3,131	33	0	33	32	2	34	2		25	25	25	59	27	
	Jim Pattison Outpatient Care and Surgery Centre		2	0	2	2		2						2		
	Langley Memorial Hosp	5,762	107	59	166	105	61	166	83		294	294	719	460	802	9
	Peace Arch District Hosp	5,721	1	0	1	1		1			2	2	2	3	2	
	Surrey Memorial Hosp	43,541	706	426	1,132	706	434	1,140	634	4	1,288	1,292	3,630	2,432	4,264	16
<b>Fraser HA Total</b>		<b>116,788</b>	<b>1,824</b>	<b>863</b>	<b>2,687</b>	<b>1,821</b>	<b>883</b>	<b>2,704</b>	<b>1,410</b>	<b>9</b>	<b>3,303</b>	<b>3,312</b>	<b>8,177</b>	<b>6,016</b>	<b>9,587</b>	<b>57</b>

<b>Vancouver Coastal HA</b>																
North Shore/Coast Garibaldi	Bella Coola General Hosp	507									19	19	25	19	25	
	Lions Gate Hosp	8,782	171	156	327	170	172	342	271	26	433	459	981	801	1,252	10
	Pemberton H Ctre	833														
	Powell River General Hosp	2,685	21	2	23	21	2	23	4		17	17	35	40	39	
	R.W. Large Memorial Hosp	500									4	4	4	4	4	
	Sechelt Hosp	2,559	27	6	33	27	5	32	11	1	18	19	31	51	42	
	Squamish General Hosp	2,126	94	4	98	48		48		49	25	74	35	122	35	
	Whistler H Ctre	2,926														
Richmond	Richmond Hosp	6,806	127	21	148	127	26	153	34	1	182	183	347	336	381	4
Vancouver	Mount Saint Joseph Hosp	1,197	14	0	14	14		14						14		
	St. Paul's Hosp	1,405	28	5	33	26	4	30	16	2	70	72	101	102	117	
	UBC Health Sciences Centre	1,680	40	23	63	40	24	64	39	2		2		66	39	
	Vancouver General Hosp	130	43	20	63	43	19	62	95	76	1	77	37	139	132	
<b>Vancouver Coastal HA Total</b>		<b>32,136</b>	<b>565</b>	<b>237</b>	<b>802</b>	<b>516</b>	<b>252</b>	<b>768</b>	<b>470</b>	<b>157</b>	<b>769</b>	<b>926</b>	<b>1,596</b>	<b>1,694</b>	<b>2,066</b>	<b>14</b>

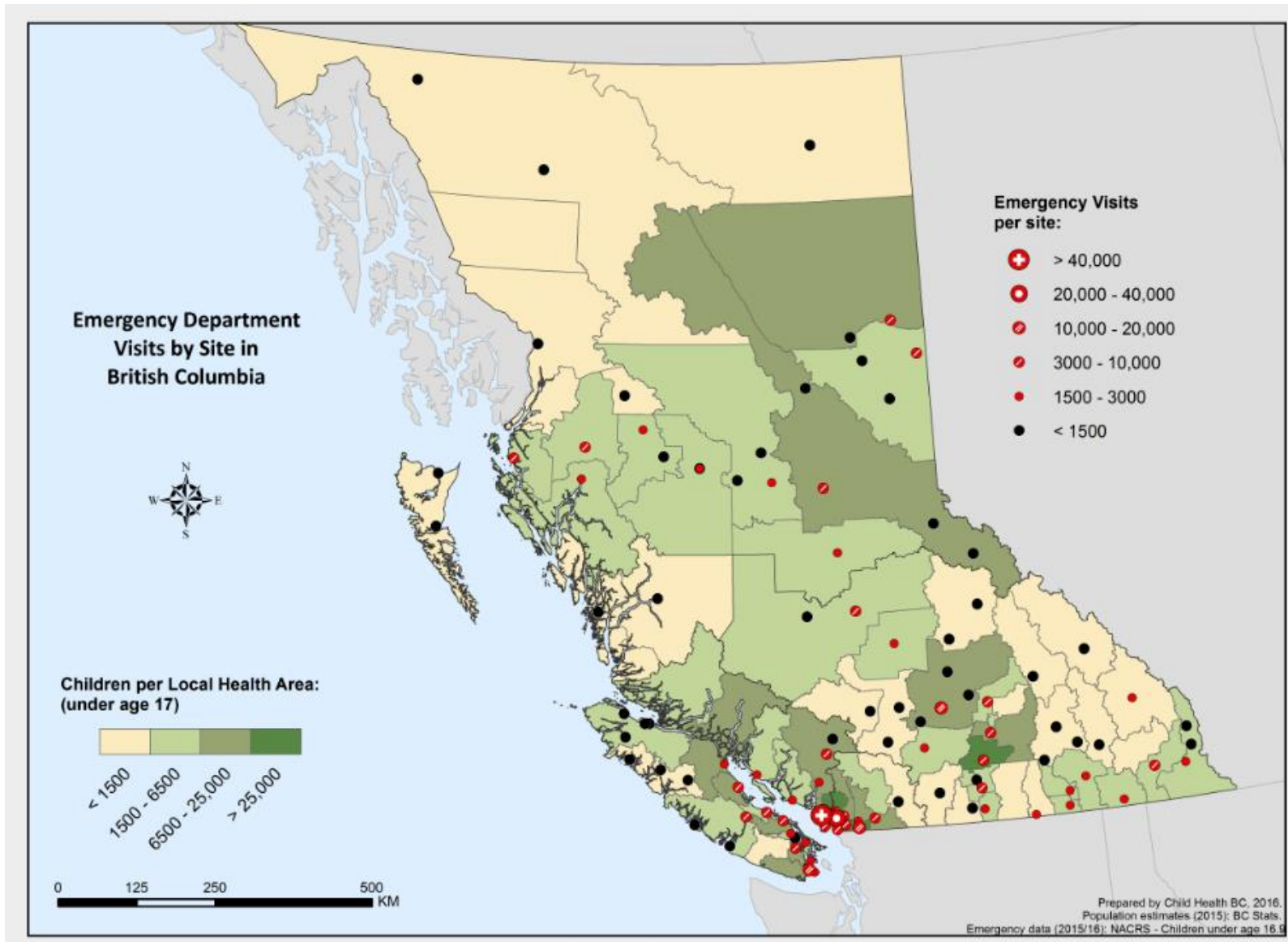
<b>Island HA</b>																
Central Vancouver Island	Bamfield H Ctre	260														
	Chemainus Health Care Centre	1,136														
	Cowichan District Hosp	4,623	296	47	343	296	44	340	70		181	181	358	521	428	4
	Ladysmith Community H Ctre	2,261														
	Nanaimo Regional General Hosp	7,900	742	162	904	742	159	901	240		399	399	944	1,300	1,184	8
	Oceanside H Ctre	4,333														
	Tofino General Hosp	1,002									24	24	40	24	40	
	West Coast General Hosp	4,112	66	5	71	66	7	73	20	3	50	53	78	126	98	

HA/HSDA	Treating Hosp	ED Visits	Surgery							Medical				Med/Surg		Gen Ped Beds
			Day Care Procs	Inpt Procs	Total Procs	Day Care Visits	Inpt Visits	Total Visits	Total Days	Day Care Visits	Inpt Visits	Total Visits	Total Days	Total Visits	Total Days	
North Vancouver Island	Cormorant Island Community H Ctre	275										1	1	3	1	3
	Gold River H Ctre	508														
	Kyuquot H Ctre	225														

HA/HSDA	Treating Hosp	ED Visits	Surgery							Medical				Med/Surg		Gen Ped Beds
			Day Care Procs	Inpt Procs	Total Procs	Day Care Visits	Inpt Visits	Total Visits	Total Days	Day Care Visits	Inpt Visits	Total Visits	Total Days	Total Visits	Total Days	
	The North Island Hosp/ Campbell R & District	3,154	173	39	212	173	31	204	54	2	102	104	274	308	328	1
	The North Island Hosp Comox Valley	3,755	175	35	210	175	43	218	74	1	119	120	246	338	320	4
	Port Alice H Ctre	97														
	Port Hardy Hosp	1,468									8	8	32	8	32	
	Port McNeill And District Hosp	611									6	6	14	6	14	
	St. Joseph's General Hosp	0														
	Tahsis H Ctre	399														
South Vancouver Island	Lady Minto / Gulf Islands Hosp	1,638								2	3	5	3	5	3	
	Royal Jubilee Hosp	2,394	121	6	127	121	20	141	27	2	30	32	51	173	78	
	Saanich Peninsula Hosp	2,426	223	0	223	223		223						223		
	Victoria General Hosp	12,638	1,236	585	1,821	1,232	469	1,701	932	3	1,237	1,240	4,852	2,941	5,784	16
<b>Island HA Total</b>		<b>55,214</b>	<b>3,032</b>	<b>879</b>	<b>3,911</b>	<b>3,028</b>	<b>773</b>	<b>3,801</b>	<b>1,417</b>	<b>13</b>	<b>2,160</b>	<b>2,173</b>	<b>6,895</b>	<b>5,974</b>	<b>8,312</b>	<b>33</b>
<b>Northern HA</b>																
Northeast	Chetwynd General Hosp	1,132									2	2	3	2	3	
	Dawson Creek and District Hosp	2,894	106	4	110	106	3	109	8	48	44	92	57	201	65	
	Fort Nelson General Hosp	986	4	0	4	3		3		1	16	17	25	20	25	
	Fort St. John General Hosp	4,123	118	6	124	118	5	123	17	34	118	152	281	275	298	
	Hudson's Hope H Ctre	79														
	Tumbler Ridge H Ctre	445														
Northern Interior	Fraser Lake H Ctre	899														
	G.R. Baker Memorial Hosp	2,546	225	22	247	225	22	247	23	5	6	11	12	258	35	
	Lakes District Hosp and H Ctre	1,777									12	12	18	12	18	
	Mackenzie And District Hosp	920									4	4	6	4	6	
	McBride and District Hosp	259														
	St. John Hosp	1,502	97	11	108	97	9	106	9	18	32	50	49	156	58	
	Stuart Lake Hosp	888														
	The University Hosp of Northern BC	6,961	360	99	459	357	98	455	195	15	510	525	1,415	980	1,610	12
Northwest	Valemount H Ctre	548														
	Atlin H Ctre	413														
	Bulkley Valley District Hosp	2,179	38	2	40	38	1	39	1	14	26	40	41	79	42	
	Haida Gwaii Hosp and H Ctre	428									6	6	12	6	12	
	Houston H Ctre	823														
	Kitimat General Hosp	1,788	84	5	89	84	4	88	4	2	46	48	88	136	92	
	Mills Memorial Hosp	4,029	302	23	325	301	21	322	35	3	98	101	250	423	285	
	Northern Haida Gwaii Hosp and H Ctre	526									11	11	12	11	12	
	Prince Rupert Regional Hosp	3,385	162	8	170	162	9	171	9		38	38	63	209	72	
	Stewart General Hosp	231														
	Stikine H Ctre	207														
	Wrinch Memorial Hosp	1,184	106	0	106	106		106		5	12	17	18	123	18	
<b>Northern HA Total</b>		<b>41,153</b>	<b>1,602</b>	<b>180</b>	<b>1,782</b>	<b>1,597</b>	<b>172</b>	<b>1,769</b>	<b>301</b>	<b>145</b>	<b>981</b>	<b>1,126</b>	<b>2,350</b>	<b>2,895</b>	<b>2,651</b>	<b>12</b>

HA/HSDA	Treating Hosp	ED Visits	Surgery							Medical				Med/Surg		Gen Ped Beds
			Day Care Procs	Inpt Procs	Total Procs	Day Care Visits	Inpt Visits	Total Visits	Total Days	Day Care Visits	Inpt Visits	Total Visits	Total Days	Total Visits	Total Days	
PHSA																
PHSA	B.C. Cancer Agency															
	B.C. Children's Hosp	48,927	6,174	3,345	9,519	6,172	2,346	8,518	8,838	1,006	3,775	4,781	22,497	13,299	31,335	97
	B.C. Women's Hospital		10	322	332	10		10			224	224	442	234	442	
PHSA Total		48,927	6,184	3,667	9,851	6,182	2,346	8,528	8,838	1,006	3,999	5,005	22,939	13,533	31,777	97
Grand Total		369,049	15,627	6,404	22,031	15,558	5,013	20,571	13,421	1,360	12,991	14,351	45,916	34,922	59,337	243

## Appendix 2: Map of Pediatric ED Visits in BC



## Appendix 3: Total ED & Estimated Pediatric ED Visits by Hospital

1. Total ED visits (pediatrics and adult) were based on 2018/19 HAMIS data.
2. Sites that submitted NACRS data in 2018/19 are highlighted in yellow.
3. Sites that do not have inpatient beds are highlighted in grey.
4. Pediatric ED visits were based on 2018/19 National Ambulatory Care Report System (NACRS) data for children ages 0 to 16.9 years [1] in sites where NACRS data was available. NACRS data was available for 29/109 EDs in B.C., representing 27% of sites and 68% of the total ED visits.
5. Where NACRS data was not available, 15% of total ED visits was utilized to estimate the number of pediatric visits.

HSDA	Hosp Name	2018/2019 ED Visits (Pediatrics & Adult)	% of Prov ED Visits	Est % Pediatric Visits	Est Pediatric Visits/Yr	% of Prov Pediatric ED Visits
<b>Interior Health Authority</b>						
East Kootenay	Creston Valley Hospital	15,675	0.6%	15%	2,351	0.6%
	East Kootenay Regional Hospital	22,311	0.9%	15%	3,347	0.9%
	Elk Valley Hospital	12,299	0.5%	15%	1,845	0.5%
	Elkford Health Centre	1,494	0.1%	15%	224	0.1%
	Golden and District Hospital	8,672	0.4%	15%	1,301	0.4%
	Invermere and District Hospital	10,823	0.4%	15%	1,623	0.4%
	Sparwood Health Centre	4,737	0.2%	15%	711	0.2%
Kootenay Boundary	Arrow Lakes Hospital	5,132	0.2%	15%	770	0.2%
	Boundary Hospital	12,400	0.5%	15%	1,860	0.5%
	Castlegar and District Community Health Centre	10,890	0.4%	15%	1,634	0.4%
	Edgewood Health Centre	2,645	0.1%	15%	397	0.1%
	Kootenay Boundary Regional Hospital	15,990	0.7%	15%	2,399	0.6%
	Kootenay Lake Hospital	13,652	0.6%	15%	2,048	0.6%
	Slocan Community Health Centre	2,121	0.1%	15%	318	0.1%
	Victorian Community Health Centre of Kaslo	1,567	0.1%	15%	235	0.1%
Okanagan	Kelowna General Hospital	81,694	3.3%	12%	9,941	2.7%
	Penticton Regional Hospital	38,099	1.6%	15%	5,715	1.5%
	Princeton General Hospital	7,752	0.3%	15%	1,163	0.3%
	South Okanagan General Hospital	17,790	0.7%	15%	2,669	0.7%
	South Similkameen Health Centre	2,755	0.1%	15%	413	0.1%
	Vernon Jubilee Hospital	50,158	2.1%	15%	7,524	2.0%
Thompson Cariboo Shuswap	100 Mile District General Hospital	12,548	0.5%	15%	1,882	0.5%
	Alexis Creek Health Centre	1,526	0.1%	15%	229	0.1%
	Ashcroft and District General Hospital	2,170	0.1%	15%	326	0.1%
	Barriere Health Centre	1,176	0.0%	15%	176	0.0%
	Blue River Health Centre	223	0.0%	15%	33	0.0%
	Cariboo Memorial Hospital	19,528	0.8%	15%	2,929	0.8%
	Chase and District Health Centre	4,272	0.2%	15%	641	0.2%
	Dr. Helmcken Memorial Hospital	3,640	0.1%	15%	546	0.1%



HSDA	Hosp Name	2018/2019 ED Visits (Pediatrics & Adult)	% of Prov ED Visits	Est % Pediatric Visits	Est Pediatric Visits/Yr	% of Prov Pediatric ED Visits
	Kamloops Urgent Family Care Centre	6,470	0.3%	15%	971	0.3%
	Lillooet Hospital and Health Centre	6,078	0.2%	15%	912	0.2%
	Nicola Valley Hospital and Health Centre	14,014	0.6%	15%	2,102	0.6%
	Queen Victoria Hospital	8,743	0.4%	15%	1,311	0.4%
	Royal Inland Hospital	73,327	3.0%	15%	10,782	2.9%
	Shuswap Lake General Hospital	21,406	0.9%	15%	3,211	0.9%
	St. Bartholomew's Health Centre	1,960	0.1%	15%	294	0.1%
<b>Total, IHA</b>		<b>515,737</b>	<b>21.1%</b>	<b>15%</b>	<b>74,830</b>	<b>21.1%</b>
<b>Fraser Health Authority</b>						
Fraser East	Abbotsford Regional Hospital and Cancer Centre	75,975	3.1%	16%	12,355	3.3%
	Chilliwack General Hospital	61,188	2.5%	14%	8,848	2.4%
	Fraser Canyon Hospital	11,216	0.5%	15%	1,674	0.5%
	Mission Memorial Hospital	21,060	0.9%	14%	3,053	0.8%
Fraser North	Burnaby Hospital	83,834	3.4%	10%	8,115	2.2%
	Eagle Ridge Hospital and Health Care Centre	53,052	2.2%	15%	7,744	2.1%
	Ridge Meadows Hospital and Health Care Centre	43,673	1.8%	16%	6,860	1.9%
	Royal Columbian Hospital	78,278	3.2%	13%	9,984	2.7%
Fraser South	Delta Hospital	34,103	1.4%	9%	3,131	0.8%
	Langley Memorial Hospital	47,951	2.0%	12%	5,762	1.6%
	Peace Arch District Hospital	53,194	2.2%	11%	5,721	1.6%
	Surrey Memorial Hospital	171,562	7.0%	25%	43,541	11.8%
<b>Total, FHA</b>		<b>735,086</b>	<b>30.1%</b>	<b>15%</b>	<b>116,788</b>	<b>31.6%</b>
<b>Vancouver Coastal Health Authority</b>						
North	Bella Coola General Hospital	3,377	0.1%	15%	507	0.1%
	Lions Gate Hospital	65,764	2.7%	13%	8,782	2.4%
	Pemberton Health Centre	5,552	0.2%	15%	833	0.2%
	Powell River General Hospital	17,902	0.7%	15%	2,685	0.7%
	R.W. Large Memorial Hospital	3,333	0.1%	15%	500	0.1%
	Sechelt Hospital	17,060	0.7%	15%	2,559	0.7%
	Squamish General Hospital	14,173	0.6%	15%	2,126	0.6%
	Whistler Health Centre	19,509	0.8%	15%	2,926	0.8%
Richmond	Richmond Hospital	58,916	2.4%	12%	6,806	1.8%
Vancouver	Mount St. Joseph Hospital	33,832	1.4%	4%	1,197	0.3%
	St. Paul's Hospital	88,427	3.6%	2%	1,405	0.4%
	U.B.C. Health Sciences Centre	23,091	0.9%	7%	1,680	0.5%
	Vancouver General Hospital	95,823	3.9%	0%	130	0.0%
<b>Total, VCHA</b>		<b>446,759</b>	<b>18.3%</b>	<b>15%</b>	<b>32,136</b>	<b>8.7%</b>
<b>Island Health Authority</b>						
Central Vancouver Island	Bamfield Health Centre	1,735	0.1%	15%	260	0.1%
	Chemainus Health Care Centre	7,574	0.3%	15%	1,136	0.3%
	Cowichan District Hospital	33,569	1.4%	14%	4,623	1.3%



HSDA	Hosp Name	2018/2019 ED Visits (Pediatrics & Adult)	% of Prov ED Visits	Est % Pediatric Visits	Est Pediatric Visits/Yr	% of Prov Pediatric ED Visits
	Ladysmith Community Health Centre	15,075	0.6%	15%	2,261	0.6%
	Nanaimo Regional General Hospital	67,408	2.8%	12%	7,900	2.1%
	Oceanside Health Centre	28,885	1.2%	15%	4,333	1.2%
	Tofino General Hospital	6,677	0.3%	15%	1,002	0.3%
	West Coast General Hospital	27,416	1.1%	15%	4,112	1.1%
North Vancouver Island	Cormorant Island Health Centre	1,836	0.1%	15%	275	0.1%
	Gold River Health Centre	3,386	0.1%	15%	508	0.1%
	Kyuquot Health Centre	1,497	0.1%	15%	225	0.1%
	North Island Hospital, Campbell River & District	26,062	1.1%	12%	3,154	0.9%
	North Island Hospital, Comox Valley	29,076	1.2%	13%	3,755	1.0%
	Port Alice Health Centre	644	0.0%	15%	97	0.0%
	Port Hardy Hospital	9,788	0.4%	15%	1,468	0.4%
	Port McNeill and District Hospital	4,073	0.2%	15%	611	0.2%
	St. Joseph's General Hospital		0.0%	15%	0	0.0%
	Tahsis Health Centre	2,660	0.1%	15%	399	0.1%
South Vancouver Island	Lady Minto/Gulf Islands Hospital	10,917	0.4%	15%	1,638	0.4%
	Royal Jubilee Hospital	59,286	2.4%	4%	2,394	0.6%
	Saanich Peninsula Hospital	23,553	1.0%	10%	2,426	0.7%
	Victoria General Hospital	60,598	2.5%	21%	12,638	3.4%
<b>Total, IslandHA</b>		<b>421,715</b>	<b>17.2%</b>	<b>15%</b>	<b>55,214</b>	<b>15.0%</b>
<b>Northern Health Authority</b>						
Northeast	Chetwynd General Hospital	7,548	0.3%	15%	1,132	0.3%
	Dawson Creek And District Hospital	19,291	0.8%	15%	2,894	0.8%
	Fort Nelson General Hospital	6,573	0.3%	15%	986	0.3%
	Fort St. John General Hospital	27,489	1.1%	15%	4,123	1.1%
	Hudson's Hope Health Centre	529	0.0%	15%	79	0.0%
	Tumbler Ridge Health Centre	2,966	0.1%	15%	445	0.1%
Northern Interior	Fraser Lake Health Centre	5,993	0.2%	15%	899	0.2%
	GR Baker Memorial Hospital	16,971	0.7%	15%	2,546	0.7%
	Lakes District Hospital and Health Centre	11,847	0.5%	15%	1,777	0.5%
	Mackenzie and District Hospital	6,133	0.3%	15%	920	0.2%
	McBride and District Hospital	1,729	0.1%	15%	259	0.1%
	St. John Hospital	10,016	0.4%	15%	1,502	0.4%
	Stuart Lake Hospital	5,920	0.2%	15%	888	0.2%
	The University Hospital of Northern British Columbia	47,946	2.0%	15%	6,961	1.9%
	Valemount Health Centre	3,656	0.1%	15%	548	0.1%
Northwest	Atlin Health Centre	2,754	0.1%	15%	413	0.1%
	Bulkley Valley District Hospital	14,526	0.6%	15%	2,179	0.6%
	Haida Gwaii Hospital and Health Centre	2,850	0.1%	15%	428	0.1%
	Houston Health Centre	5,485	0.2%	15%	823	0.2%

HSDA	Hosp Name	2018/2019 ED Visits (Pediatrics & Adult)	% of Prov ED Visits	Est % Pediatric Visits	Est Pediatric Visits/Yr	% of Prov Pediatric ED Visits
	Kitimat General Hospital	11,920	0.5%	15%	1,788	0.5%
	Mills Memorial Hospital	26,859	1.1%	15%	4,029	1.1%
	Northern Haida Gwaii Hospital and Health Centre	3,508	0.1%	15%	526	0.1%
	Prince Rupert Regional Hospital	22,564	0.9%	15%	3,385	0.9%
	Stewart General Hospital	1,543	0.1%	15%	231	0.1%
	Stikine Health Centre	1,379	0.1%	15%	207	0.1%
	Wrinch Memorial Hospital	7,896	0.3%	15%	1,184	0.3%
<b>Total, NHA</b>		275,891	11.3%	15%	41,153	11.2%
<b>PHSA</b>	BC Children's Hospital	49,647	2.0%	99%	48,927	13.3%
<b>Total, PHSA</b>		49,647	2.0%	99%	48,927	13.3%
<b>GRAND TOTAL</b>		2,444,835	100.0%	15%	369,049	100.0%

## Appendix 4: Pediatric Inpatient Beds in B.C.

HA	Hospital	General Pediatric Beds	Pediatric Observation Beds	Ped ICU Beds <sup>2</sup>	Child & Youth MH Beds	Youth SU Beds <sup>3</sup>	Total Ped Beds	NICU Beds
IHA	Kelowna General	10			8		18	12
	Kootenay Boundary (Trail)	4					4	
	East Kootenay (Cranbrook)	2					2	
	Vernon	5					5	
	Royal Inland	9			2		11	8
FHA	Abbotsford Regional	12					12	10
	Langley Memorial	9					9	
	Chilliwack General		4				4	
	Royal Columbian	12					12	24
	Ridge Meadows		4				4	
	Surrey Memorial	16			20		36	28 <sup>4</sup>
	Burnaby							8
	Creekside Withdrawal Management Centre					6	6	
	Last Door Recovery Centre					10 <sup>5</sup>	10	
VCHA	Lions Gate & Carlile Centre	10			10		20	9
	Richmond		4				4	6
	St Paul's							9
	Peak House					8	8	
	Young Bears Lodge					5	5	
Island HA	Nanaimo Regional	8					8	9
	St Joseph's General	4					4	
	Victoria General/Ledger House	16		5	14 <sup>6</sup>		35	22
	Cowichan District (Duncan)	4					4	
	Campbell River	1					1	
NHA	University Hospital of Northern B.C.	12 <sup>7</sup>			6 <sup>8</sup>		18	9
	Nechako Centre					8 <sup>9</sup>	8	
PHSA	B.C. Children's Hospital	97		22	54 <sup>10</sup>		173	
	BC Women's							60
	Ashnola (Keremeos)					22 <sup>11</sup>	22	
<b>TOTAL</b>		<b>231</b>	<b>12</b>	<b>27</b>	<b>114</b>	<b>59</b>	<b>443</b>	<b>214</b>

Source: Survey of health planners & ED working group in each HA.

**Note: Several hospitals in BC do not have designated pediatric beds but admit children and youth to beds on an adult inpatient unit(s). These hospitals are not included on the list above.**

<sup>2</sup> Beds have the capacity for invasive monitoring, inotropic drugs and mechanical ventilation.

<sup>3</sup> Excludes beds in home-based settings.

<sup>4</sup> Plan to increase to 48 beds in the future.

<sup>5</sup> Contracted beds and number of beds fluctuates.

<sup>6</sup> 14 beds: 5 child, 6 youth & 3 special care (assessment/stabilization) beds.

<sup>7</sup> 4 beds have the capacity for more intensive monitoring, up to and including continuous cardiorespiratory monitoring.

<sup>8</sup> 2 beds for planned admissions and 4 for crisis stabilization.

<sup>9</sup> Includes 1 detox bed.

<sup>10</sup> Includes 14 beds at Looking Glass (up to age 24), a residential eating disorders program operated by PHSA (BC Mental Health & Substance Use Services and BCCH) in collaboration with the Looking Glass Foundation.

<sup>11</sup> Includes beds for ages 17 - 24.