

Seniors Voices Comox Valley**Number of Beds:**North Island Hospital Comox Valley

- Opened October 1 2017, at a 129 bed operating and 153 bed 10-year design capacity
- Increased to a 146 bed operating capacity within 11 months on August 24 2018
- On September 5 2018, 21 transition care beds were opened at The Views (now counted as permanent long term care beds)
- As a result, a total of 38 beds were added to the system to alleviate hospital over capacity
- Capacity remains available for seven more beds to meet future requirements
- Conversion of CDU beds similar to the 10 permanently funded beds for Campbell River may be possible¹
- From 2017 to 2027, the Comox Valley requirement increases by an estimated four new hospital beds per year on average² for patients requiring hospital care (i.e., not including patients who are waiting in hospital for a long-term care bed)

Long-term Residential Care

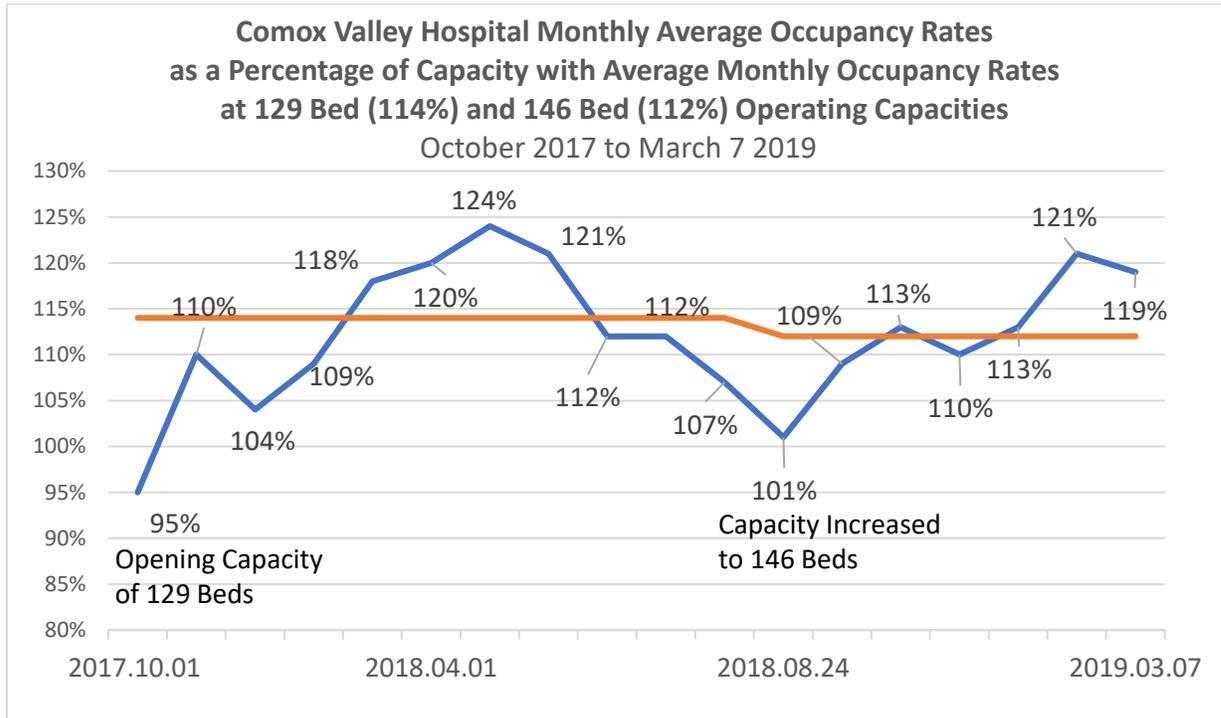
- A Request for Proposals (RFP) was issued and amended to 151 care beds in March 2018 and awarded mid January 2019
- The 151 care beds fall short of the estimated 2017 Comox Valley requirement³ by 31 care beds and the 120 new care beds will not be provided until 2021
- The 120 new care beds (awarded to Golden Life to build and operate a new facility) will add to the total current system capacity while permanent funding for the 21 transition beds at The Views and 10 temporarily funded beds are already included in current capacity
- From 2017 to 2027, the Comox Valley requirement increases by an estimated 32 new care beds per year on average⁴

New Hospital Continuously Operating at Over Capacity:

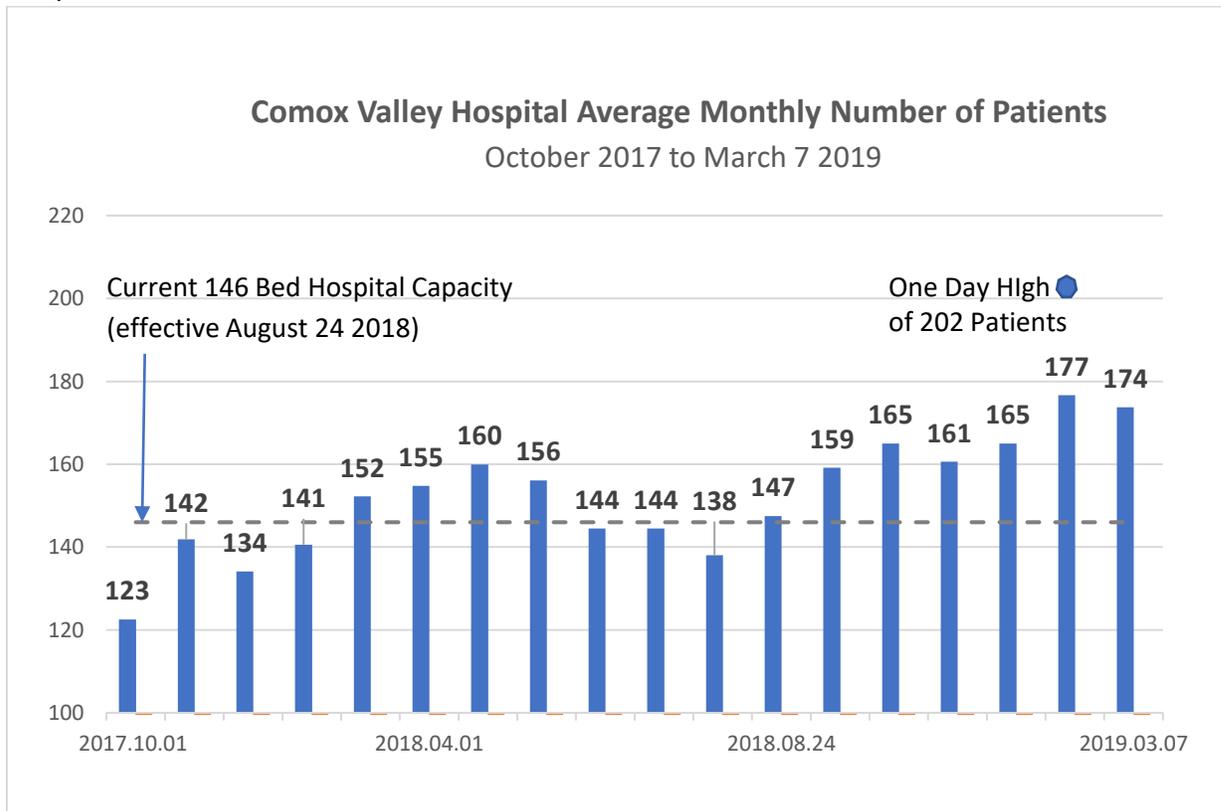
- The new hospital has continuously operated at over capacity since opening
- Within less than a month, at its 129 bed opening capacity, the average monthly occupancy rate was 110% and on May 10 2018, its daily occupancy rate was 140% (181 patients)
- During the hospital's first 11 months of operations at a 129 bed capacity, the average monthly occupancy rate was 114% (147 patients)
- After the hospital operating capacity was increased to 146 beds and the 21 new transition beds opened at The Views, the average monthly occupancy rate decreased by 6% for one month but then began to climb again reaching previous over-capacity occupancy levels within two months despite the increase in system capacity
- For the first seven months that the hospital operated at its current 146 bed capacity, the average monthly occupancy rate was 112% (164 patients)
- A new one day high was reached on January 11 2019 with 202 patients and a 138% occupancy rate
- Graph 1 through 3 represent the hospital's occupancy experience

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Graph 1

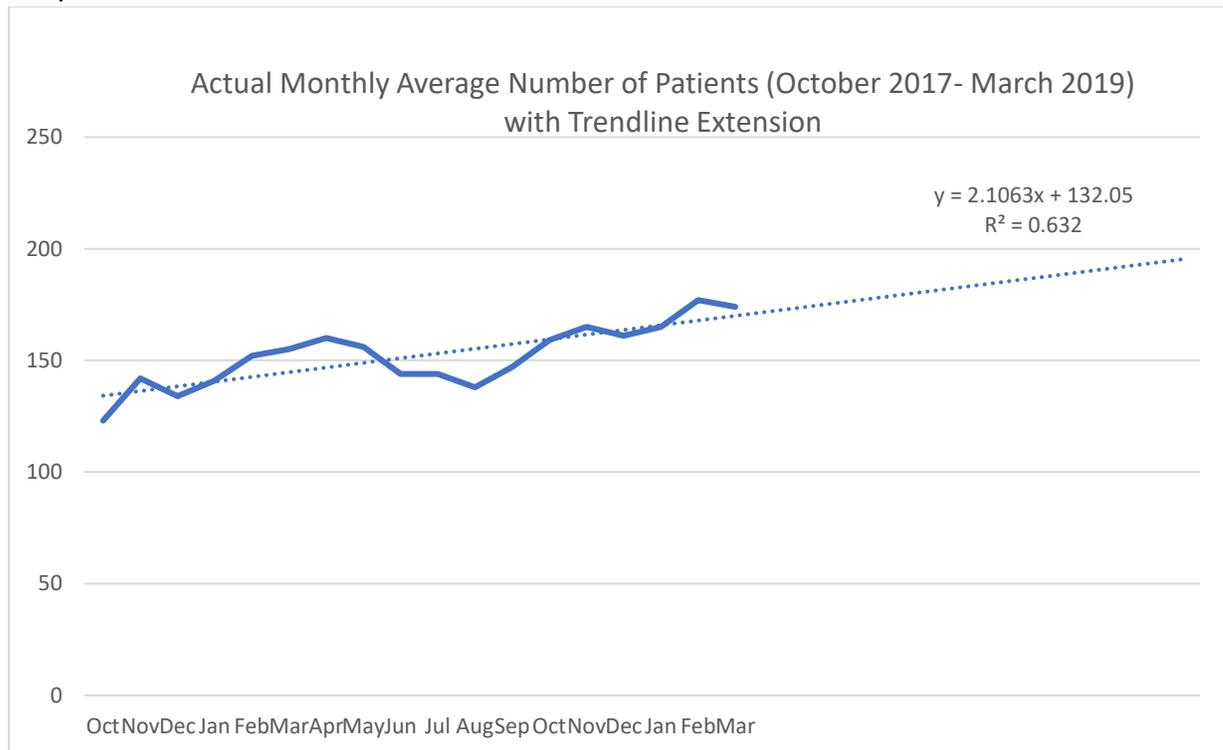


Graph 2



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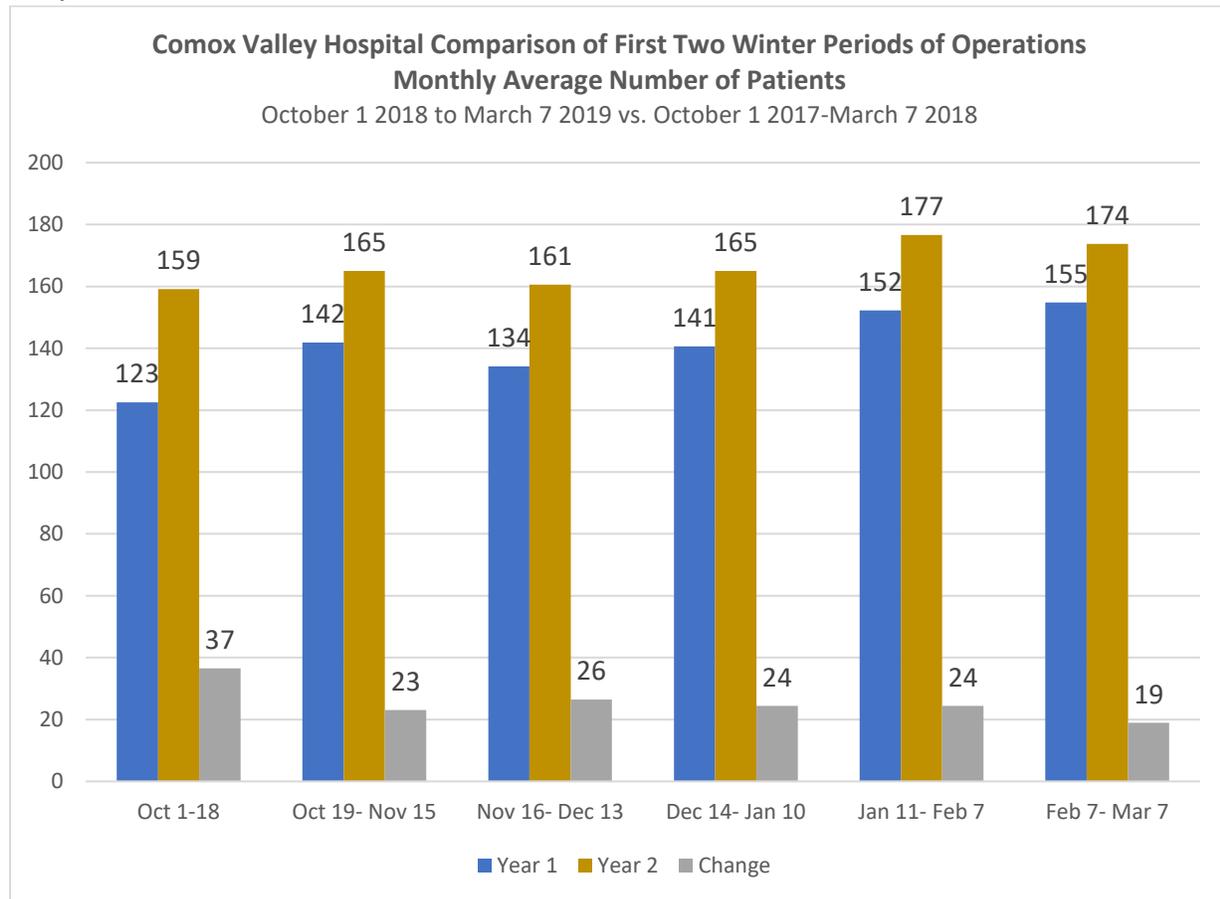
Graph 3



- Since the new hospital opened, its number of patients has grown continuously including for patients needing hospital care (i.e., not waiting for a care bed) and at above expected, over-capacity levels
- The 17 hospital bed increase combined with the opening of the new 21 transition beds at The Views could be expected to result in an average monthly occupancy rate of about 92%⁵ compared to the much higher over-capacity occupancy rates experienced
- At 115%, the average monthly occupancy rates for the winter months (October 1 2018 to March 7, 2019⁶) increased by 5% compared to the same period for the previous first year of operations despite the addition of a total of 38 beds to the system
- Based on a comparison of winter monthly average patient numbers, there was an annual increase of a monthly average of 28 patients, however it would have been 49 patients if the new transition beds had not been opened
- The fact that the average monthly occupancy rate of 114% for the first 11 months of operations at 129 beds was higher than 112% for the winter season (the first five months of this time period) suggests that the typical drop in number of patients after the influenza season was more than offset by an unexpected and continued growth in number of patients
- Graph 4 provides a comparison of the hospital's first two winter periods of operations based on monthly average number of patients

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Graph 4:



- Table 1 provides a summary of the hospital’s 146 bed capacity over-capacity experience

Table 1:

Comox Valley Hospital Over-Capacity Experience While Operating at Current 146 Bed Capacity

August 24 2018 to March 7 2019		Average Monthly Number of Patients	Average Monthly Number of Patients Exceeding the 146 Bed Capacity
Average monthly occupancy rate:	112%	164	18
Highest average monthly occupancy rate for a 70% of the time duration:	114%	168	22
Highest average monthly occupancy rate for a 30% of the time duration:	120%	175	29
Highest one day occupancy rate (January 11 2019)	138%	Number of Patients 202	Number of Patients Exceeding the 146 Bed Capacity 56

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Impact of Long-term Care Bed Shortage on Hospital Occupancy

- The shortage of long-term care beds is a significant contributing factor to hospital over-capacity due to the number of Assessed Awaiting Placement (AAP) patients
- For perspective, Table 2 provides a summary for a sample of five days on which the number of admitted patients was high and for which we have corresponding AAP patient numbers

Table 2:

Comox Valley Hospital: Daily Occupancy Summaries including AAP Patient Numbers

Date:	Capacity as Number of Beds	Occupancy Rate	Number of Admitted Patients	Number of AAP Patients	% AAP Patients of Total Number of Admitted Patients
April 18 2019	146	126%	184	34	18.5%
April 5 2019	146	117%	171	31	18.1%
January 11 2019	146	138%	202	21	10.4%
January 9 2019	146	128%	187	21	11.2%
March 15 2018	129	133%	171	31	18.1%

- The apparent decrease from 31 to 21 AAP patients is likely attributable to the addition of 21 transition beds at The Views
- With a transfer of 21 AAP patients to The Views transition beds on September 5 2018, by January at 21 AAP patients the number was only reduced by 10, which means an increase of 11 AAP patients in five months compared to our estimated average increase of eight AAP patients per year⁷ based on the care bed shortage
- There were 31 AAP patients on April 5 and 34 AAP patients on April 18 2019
- By April, the number of AAP patients reached previous levels that on a daily basis well exceed the previous year if sustained will indicate an annual average increase of 20-24 AAP patients compared to the estimated eight AAP patient per year increase referenced above
- If the number of care beds required increases annually by 32 beds and this results in an increase in eight AAP patients as estimated, then a corresponding annual increase of 24 patients waiting in community (at home) for a care bed is estimated

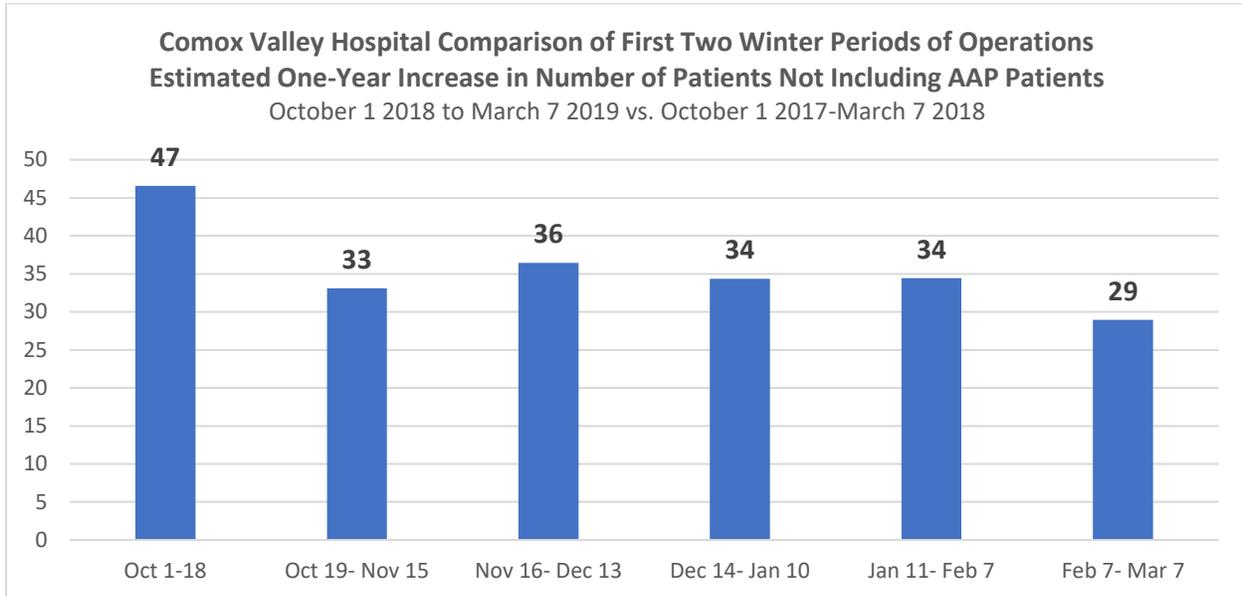
Increase in Number of Hospital Patients Not Related to Care Bed Shortage

- The estimated decrease of 10 AAP patients (shown on Table 2) combined with the annual increase of a monthly average of 28 patients suggests an actual annual increase of a monthly average of 38 patients that needed hospital care⁸ (i.e., not waiting in hospital for a care bed) compared to the four hospital bed estimated annual increase based on population growth estimates
- Graph 4 summarizes the estimated increase in the monthly average number of patients that needed hospital care (i.e., all those not waiting in hospital for a care bed and not affected by

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the shortage of care beds) during the winter months from October 1 2018 to March 7 2019 compared to the same period for the prior year

Graph 4:



Hospital Capacity Planning Comparative Data, Targets and References:

- From April 1 2018 to March 7 2019, compared to all other Island Health hospitals, Campbell River had the highest average monthly occupancy rate of 120% and Comox Valley had the second highest at 114%
- If Comox Valley had operated at 146 beds for the entire period, its comparable occupancy rate would have been 108%
- The total average monthly occupancy rate for all Island Health hospitals was 105%, however if the results for Comox Valley and Campbell River are removed, the rate for all Island Health hospitals excluding North Island Hospital was 103%; Based on a current average monthly occupancy rate of 112%, this translates to 159 or 156 hospital beds for Comox Valley⁹, respectively
- Now that Campbell River has 105 permanently funded beds, its occupancy rate is expected to be closer to that for Comox Valley¹⁰
- The hospital operating capacity target according to Island Health management is 95% as confirmed June 2018; Based on a current average monthly occupancy rate of 112%, this translates to 173 hospital beds for Comox Valley
- In 2017, Canada had 2.55 hospital beds per 1000 population whereas in 2018¹¹, Comox Valley had 2.37 beds per 1000 (based on 146 beds), this translates to 170 beds for Comox Valley
- At 2.55 beds per 1000, Comox Valley would have 170 beds

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- The comparable range for the Comox Valley based on the above metrics is currently 156 to 173 hospital beds
- In 2017, 10.7% of Canadian hospital beds were occupied by patients waiting for a long-term care bed (i.e., AAP patients), this percentage is currently estimated at 12.8% for Comox Valley
- In Canada, 40% of hospital services are utilized by seniors¹²; to the extent that Comox Valley has a higher concentration of seniors, this needs to be considered in estimating the community's future healthcare requirements

Methodology

This analysis pertains to the hospital's capacity for inpatients and does not provide an analysis for emergency room capacity. While it attempts to quantify the impact of the shortage of long-term care beds on hospital demand by Assessed Awaiting Placement (AAP) patients, it does not assess the impact on patients waiting in community (at home) and their caregivers.

All information is based on Island Health provided data and estimates unless otherwise noted. This data includes publicly available information and data already provided under FOI request to persons associated with Seniors Voices allowing us to perform a reasonably accurate indicative analysis suggesting the need for further study. We therefore did not burden Island Health with additional FOI requests.

The Island Health hospital occupancy data used is a composition of daily occupancy rates (October 1 2017 to August 23 2018) and average occupancy rates based on 12 of 13 periods for the past fiscal year (April 1 2018 to March 7 2019). For ease of reference, we have used the term "average monthly occupancy rate" for averages calculated based on calendar months or periods. Weighted averages have been used to adjust for differences.

Population numbers are based on BC Statistics data available on April 19 2019 and the population growth rate estimates for projecting future population growth is calculated at the 95% confidence level based on estimated growth rates for 2011-2018. This calculation validated the Island Health estimated 10 year growth rate (2017 LHA Profile) and average annual growth rate for 75 and older population which has therefore been used in this analysis.

Endnotes:

¹ In Q1 2019, North Island Hospital Campbell River increased its total design and opening capacity of 95 beds to 105 beds by a conversion of 10 CDU beds that are now permanently funded beds; we are currently working to understand how this conversion of beds already in use adds real hospital capacity and if it does, if it is feasible for the Comox Valley hospital

² Estimated average annual increase in required hospital beds calculated based on 146 hospital beds utilized 40% by seniors as per the national average and the estimated average annual growth rate for the Comox Valley total population and age 75 and older population for 2017-2027 as used in this analysis

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³ Calculated as the estimated average annual growth in requirement for long-term care beds based using the same that determined the 2017 requirement of planning convention: “number of care beds required = 75 beds per 1000 residents age 75 and older” that determined the 2017 requirement for number of care beds; we have since updated our analysis to reflect more recent BC Statistics population estimates and calculate the 2017 requirement based on this convention as 554 care beds compared to the total number of 523 care beds that will be provided by 2021 with the opening of the beds awarded under the 2018 RFP

⁴ See Note 3

⁵ Calculated to project the expected 146 bed occupancy rate based on the number of patients at the average monthly occupancy rate of 112% experienced at a 129 bed capacity for the first 11 months of operations adjusted by a 21 AAP patient transfer to The Views transition beds and by the annual estimated growth in demand

⁶ This period from October 1 through March 7 was determined based on the hospital opening date of October 1, 2017 and the 2018-19 fiscal year data provided was for periods 1 through 12 i.e., April 1 2018 through March 7 2019. This allows for a year over year comparison for the period of October 1 to March 7 (referred to as “winter period” for ease of reference) for 2018-19 compared to 2017-18. The data has been adjusted to reflect a weighted average given the need to state period 7 which runs from September 21 through October 18 as starting on October 1

⁷ The annual increase in AAP patients due to a shortage of care beds is estimated based on 31 AAP patients on March 15 2018 relative to the Island Health estimated requirement for 120 new care beds and an estimated requirement for 32 new care beds per year and the confirmation that the allocation of care beds, when the become available, is 1 from hospital: 3 from community

⁸ This calculation is intended to reflect the actual annual growth experienced for patients who needed hospital care (i.e., not waiting in hospital for a care bed to become available) and as such are not affected by the shortage and/or increased supply of long-term care beds

⁹ This analysis does not address the effects of patient migration such as the number of out of town patients from places like Qualicum and Parksville who use the Comox Valley hospital or the number of Comox Valley patients who must go to larger hospitals in Victoria and elsewhere for specialist care not provided in the Comox Valley

¹⁰ Whereas the average monthly capacity rates for Campbell River was higher at 120%, it would have been 109% if it had 105 beds for the entire period as compared to 108% for Comox Valley if it had 146 beds for the entire period

¹¹ Source: <https://www.statista.com/statistics/831668/density-of-hospital-beds-canada/>

¹² Source: <https://evidencenetwork.ca/better-information-is-the-key-to-making-hospitals-more-senior-friendly/>