



Projected Demand for Long-Term Care Beds in the NWT

NWT Bureau of Statistics

MAY | 2025

Une version française de ce document est disponible.

Government of
Northwest Territories

K'áhshó got'íne xadā k'é hederi ɬedjhtl'é yerinwé nı dé dúle.
Dene Kádá

Ṗerihlt'is Dēne Sųłiné yatı t'a huts'elkēr xa beyáyatı theṗ ɔat'e, nuwe ts'ēn yóftı.
Dēne Sųłiné

Edi gondi dehgáh got'je zhatié k'éé edat'éh enahddhę nide naxets'é edahíí.
Dene Zhatié

Jii gwandak izhii ginjik vat'atr'ijahch'uu zhit yinothtan ji', diits'at ginohkhi.
Dinjii Zhu' Ginjik

Uvanittuaq ilitchurisukupku Inuvialuktun, ququaqłuta
Inuvialuktun

ᑕᑦᑭᑦ ᑎᑎᑦᑲᑦ ᐱᑦᐱᑦ ᐃᑦᑎᑦᑲᑦ ᐱᑦᑲᑦ, ᐃᑦᑎᑦᑲᑦ ᐃᑦᑲᑦᑲᑦᑲᑦ.

Inuktitut

Hapkua titiqqat pijumagupkit Inuinnaqtun, uvaptinnut hivajarlutit.
Inuinnaqtun

kīspin ki nitawihitīn ē nīhiyawihk ōma ācimōwin, tipwāsinān.
nēhiyawēwin

Tɬɪchɔ yati k'èè. Dɪ wegodi newɔ dè, gots'o goneɔde
Tɬɪchɔ

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Introduction

Long term care (LTC) is defined as a range of facility-based services that address the health, social and personal care needs of individuals who have reduced or no capacity for self-care. Long term care facilities in the NWT are designed for people with Levels 3, 4 and 5 care who require professional nursing services and continuing medical supervision 24 hours a day. Levels 3 and 4 involve people who may not be able to get around on their own, who need complex medical support, or might be at risk of harm because of their condition. Level 5 care is available to those clients with the highest and most complex care needs who are considered at high risk of injury to self or others. Level 5 care can be provided in LTC or at Łiwegòatì Extended Care Unit, depending on the complexity of care needs.

As of May 2025, there were 203 beds in the NWT long term care facilities of which 194 were filled. Each region, except for Yellowknife, has one long term care facility, while the Territorial Dementia Facility (TDF) and Łiwegòatì Extended Care Unit (ECU) service the entire NWT. A new facility in Yellowknife Region, Łiwegòatì LTC, has a current capacity of 16 residents. As of May 2025, residents were still be admitted to Łiwegòatì LTC.

The Department of Health and Social Services has requested to project demand for LTC beds in the Northwest Territories over the next 15 years for all ages (19+), focusing on levels of care 4 and 5. This report documents the methodology used for the projections followed by the results, limitations and ends with conclusions. Additional graphs and tables may be found in the Appendix.

Methodology

The Average Flow Model (AFM) was employed using the methodology proposed by Zhang Y et al. (2012)¹ to project long term care bed demand. This is the second iteration of LTC bed projections for the NWT using this methodology; the first one was released in 2020. The AFM is based on two client flow relationships in a facility:

$$\mathbf{Beds_{t+1} = Beds_t - Departures_t + Arrivals_t} \quad (1)$$

$$\mathbf{Departures_t = Beds_t / LOS} \quad (2)$$

Where:

- **Beds_{t+1}** is the number of beds needed next year,
- **Beds_t** is the number of beds needed this year,
- **Arrivals_t** is the number of clients who will arrive this year,
- **Departures_t** is the number of clients who will depart this year, and

¹ Zhang Y, Puterman ML, Atkins D. Residential long-term care capacity planning: the shortcomings of ratio-based forecasts. *Healthc Policy*. 2012;7(4):68-81. Accessed: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3359086/>

- **LOS** is the median length of stay.

Departures (equation 2) are derived by assuming that if residents remain in the system for the median LOS, then each year ($1/\text{median LOS}$) residents leave the system (departure rate). The median LOS was used rather than the mean because the mean LOS can be skewed by having a few residents with very long lengths of stay. Survival analysis was performed to calculate median LOS based on information on those who died/were discharged and those who are still occupying the facility.

In the AFM, the number of beds needed next year (Beds_{t+1}) depends on the number of beds needed this year (Beds_t). Average waitlist data was used to calculate the current demand for LTC beds (Beds_t) as the sum of the number of occupied beds plus the average number of people on the waitlist from 2014-2024. The median length of stay (LOS) and client arrivals were calculated by region and age category.

The estimates of historical per capita arrival rates were obtained by dividing historical arrivals to the LTC facility by population estimates for 2010-2024 years. These calculations were performed by facility for each age group (19 to 69, 70 to 74, 75 to 79, 80 to 84, 85 to 89 and 90 and older) by gender. The 15-year average per capita arrival rate for all ages (19+) residents were multiplied by population projections for the corresponding age groups by gender to obtain arrivals for the projected period. These rates were applied by region in anticipation that these correspond to the catchment area population. See Appendix –Table 3 for information on regions with their corresponding communities. For Łiweghàtì ECU and Territorial Dementia Facility, the entire NWT population projections were used as these facilities are territorial-wide. Subsequently, the projected resident arrivals in each region are the sum of the projected arrivals for each of the age group/gender combinations within a region.

Population projections are produced by the NWT Bureau of Statistics using the Cohort Component Method which incorporates three components of population change – mortality, fertility, and migration. Historical trends are used to make future assumptions about the population.

For projected bed demand calculations, the following assumption is used:

- a) All the residents who are currently occupying the facilities, depart with the rate calculated for all ages (19+) and levels of care 3, 4 and 5.
- b) Arrivals to the facilities are calculated for all ages (19+) with levels of care 4 and 5 only, and
- c) the average waitlist information from 2014-2024 is added for all ages (19+) with levels of care 4 and 5.
- d) Residents who resided in a LTC facility prior to the establishment of TAC are considered outliers.

The establishment of the TAC provides a standardized screening tool which screens all residents with the same criteria. Omitting residents who did not use the established screening tool ensures the data set has residents who have been screened properly into the established levels of care.

The 2025 report excludes LTC residents admitted prior to the establishment of the Territorial Admissions Committee (TAC), as these individuals were not assessed with a standardized tool which results in longer lengths of stay and are considered outliers within the dataset. With ten fiscal years of TAC data now available (2014–2024), this report is able to exclude these outliers, providing a more accurate reflection of LTC bed utilization in the Northwest Territories. This is in contrast to the 2020 report which included pre-TAC data due to limited available TAC data (years used; 2014–2020).

The 2025 report also uses the average waitlist data from 2014-2024 instead of point in time data. This approach provides a more accurate representation of waitlist trends over a point in time approach. Because waitlists can fluctuate from month to month, relying on point-in-time data may result in overestimation or underestimation of waitlist numbers, particularly when the data are disaggregated by individual LTC facilities. Using these updated data sets does not change the methodology used in this approach.

Results

Table 1 shows projected demand for beds based on AFM for all ages (19+) with levels of care 4 and 5. In 15 years, the demand for LTC beds for all ages (19+) with levels of care 4 & 5 is estimated to be 224. Projected additional demand for LTC beds is calculated as the difference between the projected demand for LTC beds and the current number of LTC beds. In 15 years, Fort Smith, Sahtu, Tłı̄ch̄q and Yellowknife Regions will not require any additional LTC beds, while the highest additional bed demand is expected for the Yellowknife Territorial Dementia Facility (24) and Dehcho Region (10).

Table 1. Projected Demand for LTC Beds for All Ages with Levels of Care 4 & 5 (after removing all cases before TAC)

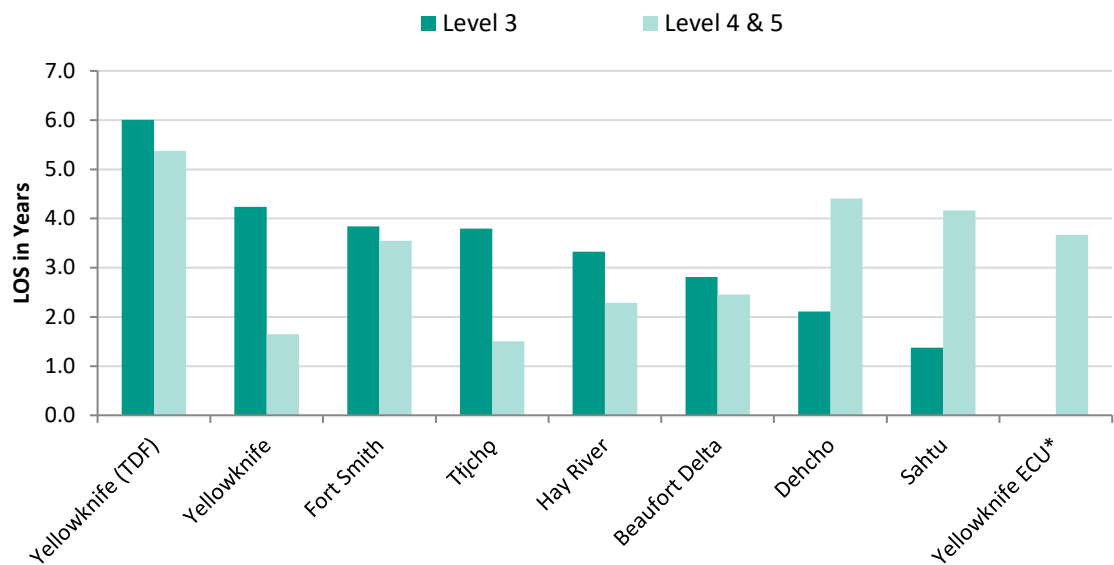
Region	Current Number of LTC Beds	Projected Demand for LTC Beds for All Ages with Levels 4 & 5			Projected Additional Demand for LTC Beds for All Ages with Levels 4 & 5 (Difference from Current No. of LTC Beds)		
	2023-2024	2028-2029	2033-2034	2038-2039	2028-2029	2033-2034	2038-2039
Beaufort Delta	22	19	20	25	-3	-2	3
Dehcho	17	20	24	27	3	7	10
Fort Smith	26	26	25	25	0	-1	-1
Hay River	23	23	25	27	0	2	4
Sahtu	16	7	8	8	-9	-8	-8
Tłı̄ch̄q	16	7	7	7	-9	-9	-9
Yellowknife (LTC)	43	25	30	36	-18	-13	-7
Yellowknife (ECU)	14	15	15	19	1	1	5
Yellowknife (TDF)	26	35	42	50	9	16	24
Total:	203	177	196	224	-26	-7	21

Median length of stay varies depending on the facility. Figure 1 shows that residents with Level 4 & 5 care have longer lengths of stay than those with Level 3 care in Dehcho and Sahtu Regions, while lengths of stay of residents in other regions are longer for Level 3 care residents.

As mentioned in the assumptions above, the projections factor level 3 residents' length of stay as they were residing in NWT LTC facilities during the 10 FYs TAC data timeframe and bed availability depends on their departure from LTC. Dehcho region's length of stay is significantly higher than other regions for level 3 residents, that along with the aging population projections created the higher bed demand for the region.

Figure 1. Median Length of Stay by Level of Care

*Yellowknife ECU only has residents with Level 5 care



Conclusion

As with any model, the accuracy of the projected demand for LTC beds depends on the accuracy of the input data. The accuracy of projections depends on the accurate assessment of the residents' levels of care. Variations in population projections can also affect model results. Population projections (see Figure 2 and Table 2) show the population is aging and it will continue to grow. Based on population aging trends alone, the overall demand for LTC beds in the Northwest Territories is expected to increase.

APPENDIX

Figure 2. NWT Population Estimates (1996 – 2024) and Population Projections (2025 – 2040) for those 70 Years Old and Older

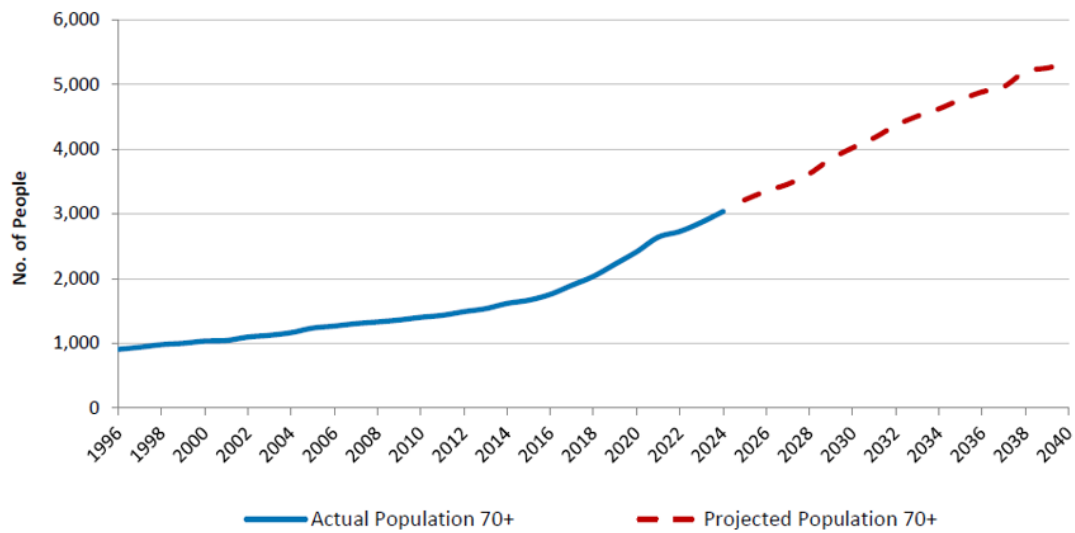


Table 2. Population Projections for 70 Years Old and Older and for 75 Years Old and Older, 2024 – 2040

Region	2024*	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
70 Years Old and Older																	
Northwest Territories	3,036	3,215	3,352	3,459	3,621	3,851	4,021	4,176	4,367	4,511	4,624	4,767	4,886	4,967	5,200	5,255	5,327
Beaufort Delta	405	422	448	487	512	542	532	558	579	564	583	606	611	613	641	643	632
Dehcho	306	320	356	364	388	403	437	468	497	520	520	541	558	588	642	653	671
Fort Smith	248	254	250	256	249	244	244	258	261	267	259	276	273	287	303	315	313
Hay River	427	450	452	453	447	460	474	486	480	470	476	468	476	465	479	473	478
Sahtu	187	192	224	237	252	274	294	250	268	298	313	326	352	358	417	408	437
Tłı̨chǫ	215	223	222	213	210	218	217	242	241	242	268	266	282	276	282	304	302
Yellowknife	1,248	1,354	1,400	1,449	1,563	1,710	1,823	1,914	2,041	2,150	2,205	2,284	2,334	2,380	2,436	2,459	2,494
75 Years Old and Older																	
Northwest Territories	1,721	1,788	1,892	1,923	2,051	2,208	2,398	2,416	2,538	2,612	2,722	2,809	2,987	3,081	3,310	3,346	3,463
Beaufort Delta	238	227	220	215	212	223	227	255	269	301	308	308	320	317	319	340	341
Dehcho	189	196	208	201	232	256	290	312	350	354	346	346	361	380	434	424	457
Fort Smith	145	154	164	166	161	162	154	152	159	151	147	158	169	161	175	183	191
Hay River	255	260	272	277	279	284	300	295	306	290	290	295	311	296	308	302	309
Sahtu	113	100	169	159	174	191	227	176	199	186	199	181	202	215	312	298	343
Tłı̨chǫ	126	125	116	113	130	144	145	156	149	146	156	160	168	162	142	164	162
Yellowknife	655	726	743	792	863	948	1,055	1,070	1,106	1,184	1,276	1,361	1,456	1,550	1,620	1,635	1,660

* Population Estimates as of July 1, 2024

Figure 3. Proportions of Residents by Age Group and Region (all Levels of Care)

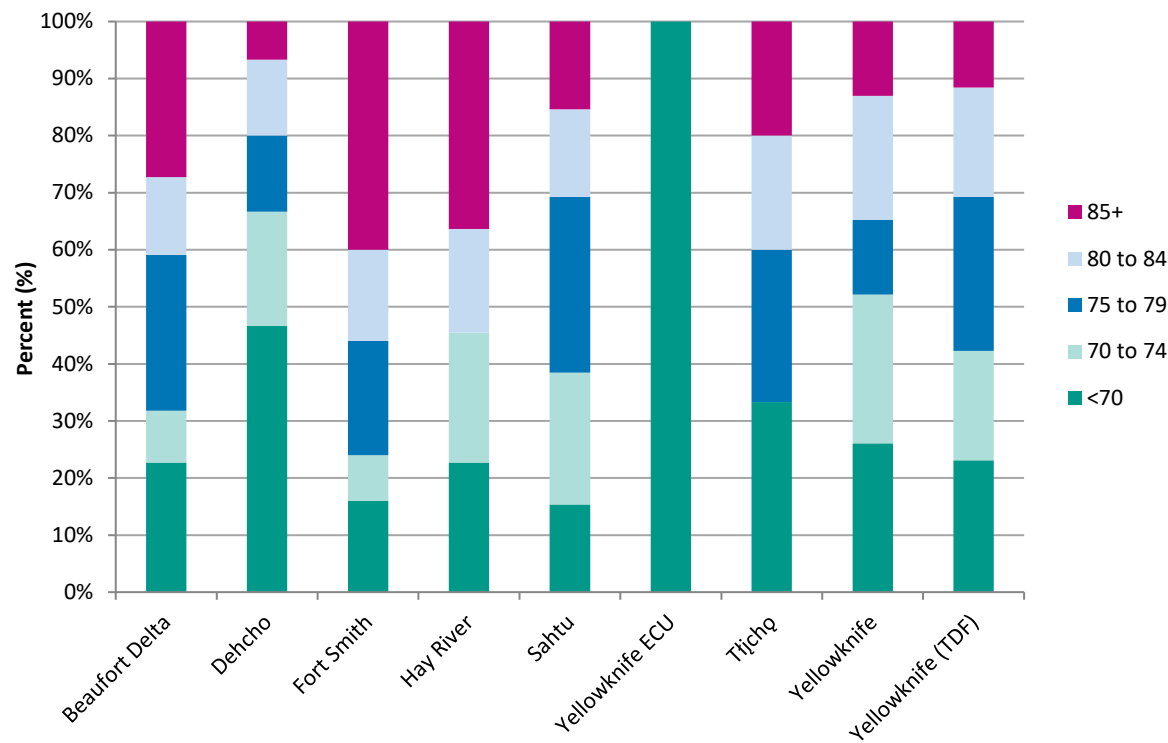


Figure 4. Proportions of Residents by Age Group and Region (Levels of Care 4 and 5)

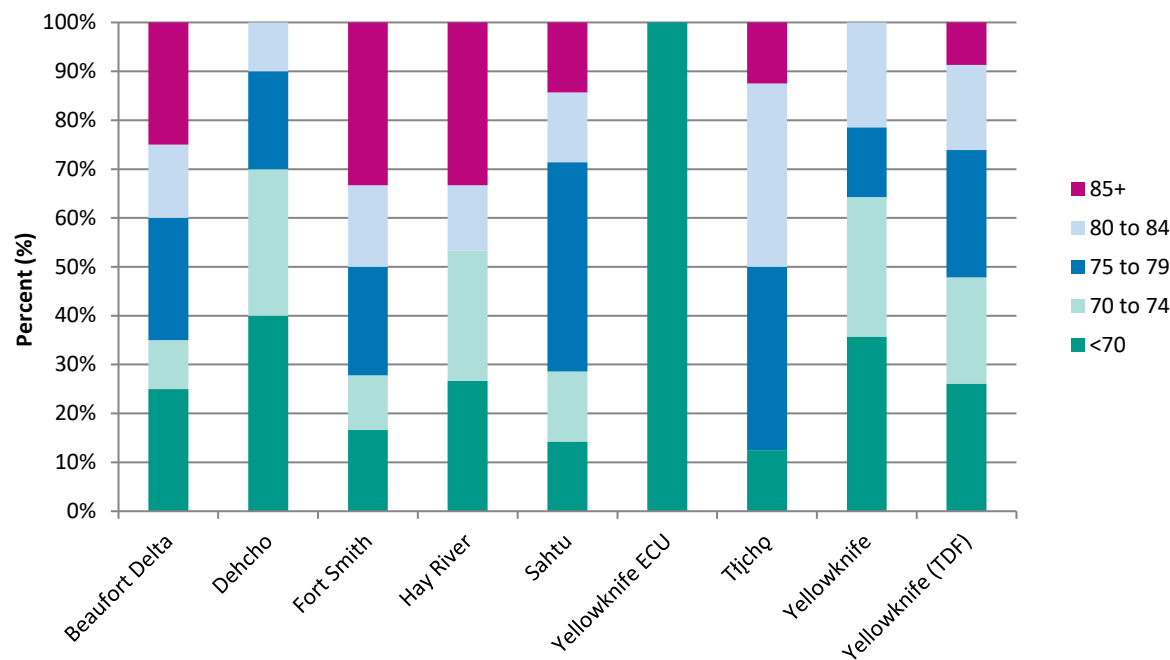


Table D. Regions with Detailed Communities

Regions / Communities	
Beaufort Delta:	Aklavik, Fort McPherson, Inuvik, Paulatuk, Sachs Harbour, Tuktoyaktuk, Tsiigehtchic & Ulukhaktok
Dehcho Region:	Fort Liard, Fort Providence, Fort Simpson, Jean Marie River, Kakisa, Nahanni Butte, Sambaa K'e, Wrigley & Region 4 Unorganized
Fort Smith Region:	Fort Smith
Hay River Region:	Enterprise , Hay River, Hay River Reserve, & Region 5 Unorganized
Sahtu Region:	Colville Lake, Délne, Fort Good Hope, Norman Wells & Tulita
Tłıchǫ Region:	Behchokǫ, Gamètì , Wekweètì & Whatì
Yellowknife Region:	Dettah, Fort Resolution, Łutselk'e, Yellowknife (includes Ndilo) & Region 6 Unorganized