



**June 2007**

## The “Younger” Generation in Ontario Complex Continuing Care

### Summary

In 2005–2006, just over one in six patients (17%) who received treatment in Ontario complex continuing care (CCC) hospital beds was between 19 and 64 years old. This population is described in this analysis as the “younger” generation of CCC. While many of these patients might be considered middle-aged rather than young, they represent a younger generation relative to the majority of patients in CCC. These younger patients showed some significant differences in their clinical and utilization profiles compared with older CCC patients:

- Younger patients were more likely to be assessed as clinically stable but were more likely to be totally dependent in their activities of daily living.
- Younger patients tended to stay longer in CCC and were more likely to receive care in freestanding CCC hospitals.

Further analysis of this younger group was conducted to shed light on their characteristics. Two of the largest groups of younger patients were those with a neurological disease or condition (such as multiple sclerosis or traumatic brain injury) and those with cancer:

- Patients with a neurological disease or condition stayed longer in hospital and, on average, were more resource intensive than those with cancer.
- Patients with cancer were more likely to be assessed as clinically unstable, to experience daily pain and to die in the facility, compared with patients with a neurological disease or condition.

As the Canadian population continues to age and grow in size, the number of people who will be diagnosed with and who will die from cancer is expected to grow. This may increase the need for the specialized services to patients with cancer provided by CCC.

The information contained in this analysis in brief may assist program managers and policy makers in planning for the future service needs of younger populations requiring continuing care, who have a different profile than more typical CCC patients.

## Introduction

Ontario complex continuing care (CCC) is a type of hospital-based continuing care delivering medically complex and specialized services, provided in either freestanding hospitals or in designated beds within acute care hospitals. Previous results published by CIHI showed that a significant proportion of patients in CCC were under 65 years old,<sup>1</sup> and this proportion was much higher than the one seen in residential care facilities.<sup>1, 2</sup> This was contrary to the commonly held perception that continuing care is for seniors.

In 2005–2006, there were nearly 24,000 patients who received care in Ontario CCC; just over 4,000 (17%) of these were aged 19 to 64. In contrast, nearly two-thirds of patients (65%) were aged 75 and older, with over a quarter of patients (28%) aged 85 and older. The proportion of younger patients in CCC has remained fairly stable over the last five years (2001–2002 to 2005–2006).

This analysis describes some key differences between the characteristics of the younger and older CCC patients. It then takes a closer look at the younger patients and compares the characteristics of two distinct groups—those with a neurological disease or condition and those with cancer.

## Methods

The analysis was based on data collected through the Continuing Care Reporting System (CCRS) for patients who received services in Ontario complex continuing care (CCC) between April 1, 2005, and March 31, 2006. The analysis data set included information on 23,627 patients, of which 4,065 were in the group of particular interest—aged 19 to 64.

The RAI-MDS 2.0©, an internationally validated clinical assessment instrument, is the foundation data standard for the CCRS. It captures a wide range of clinical information, including cognitive and physical functioning, behaviour, medication use, nutritional status, diagnoses, special treatments and procedures. The CCRS standard requires that a RAI-MDS 2.0 assessment be completed on all patients who stay in a facility for 14 days or longer. Patients are then assessed on a quarterly basis for the duration of their stay.

Analysis of patients' clinical characteristics is based on the RAI-MDS 2.0 assessment. Overall, 77% of CCC patients had an assessment in 2005–2006 and the proportions were very similar among the younger and older patients.

For further details on the methods used for this analysis, please refer to the Technical Notes.

## Results and Discussion

### 1. Younger and Older Patients

To compare the younger generation with the rest of the CCC population, patients were analyzed in three age groups: 19 to 64, 65 to 74 and 75 and older. Tables 1 to 3 highlight key characteristics.

#### a) Clinical Measures and Health Conditions

Table 1 summarizes key clinical measures using four MDS outcome scales:<sup>i</sup>

- The Changes in Health, End-Stage Disease, Signs and Symptoms (CHESS) is a scale designed to predict mortality associated with frailty and to measure instability in health.<sup>3</sup> This scale ranges from 0 (no instability) to 5, representing the highest level of clinical instability. Each upward increment in the scale represents an increased risk of mortality, more intense service use and increased health instability.
- The Cognitive Performance Scale (CPS) summarizes the patient's cognitive status based on MDS assessment items relating to short-term memory, ability to make daily decisions, expressive communication, late-loss ADL (eating) and whether the patient is comatose.<sup>4</sup> The CPS score ranges from 0 for intact (no impairment) to 6, which indicates a very severe level of impairment in cognitive performance.
- The Activities of Daily Living (ADL) Self-Performance Hierarchy Scale reflects the patient's self-performance in four key activities of daily living: personal hygiene, toileting, locomotion and eating.<sup>5</sup> The scale ranges from 0 to 6. Higher scores indicate a greater need for assistance in ADL.
- The pain scale combines the frequency and intensity of pain, which is unrelieved by treatment(s), as observed by facility staff through the MDS assessment process.<sup>4</sup> The score ranges from 0 to 3, a score of 0 indicating no pain and a score of 3 indicating severe daily pain.

The results in Table 1 below suggest that patients of different age groups have different clinical presentations. Compared with the older age groups, higher proportions of patients aged 19 to 64 were assessed as being clinically stable but were more likely to be totally dependent in their activities of daily living (ADL). The proportions of younger patients at both extremes of the CPS were higher than in the older groups. Older patients were more likely to be assessed as having mild or moderate cognitive impairment than younger patients. A large proportion in all age groups was assessed as having unrelieved pain, with nearly half of the younger patients experiencing daily pain.

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i. For further information, please refer to the interRAI website at [www.interrai.org](http://www.interrai.org).

**Table 1. Selected Clinical Measures by Age, Ontario Complex Continuing Care, 2005–2006**

Selected Clinical Measures	Age		
	19 to 64	65 to 74	75 and Older
No indication of health instability*	30%	21%	18%
Total dependence in activities of daily living†	28%	21%	19%
Cognitive status			
No cognitive impairment‡	31%	27%	20%
Very severe cognitive impairment§	18%	12%	12%
Daily pain**	49%	48%	43%

\* CHES = 0

† ADL hierarchy = 6

‡ CPS = 0

§ CPS = 6

\*\* Pain scale ≥ 2

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

The RAI-MDS 2.0 assessment captures disease diagnoses and other health conditions affecting the patient's care. The vast majority of patients have multiple health conditions and in many cases it is the combination of these conditions that requires the complex and specialized level of care provided in CCC.

The profile of diseases and conditions reported for the younger patients was compared with that of older patients to identify those that were more prevalent in the younger group.

Table 2 illustrates one notable difference across age groups. Neurological diseases or conditions, excluding Alzheimer's disease and other dementias, were reported for over half (56%) of younger patients, compared with just over a third (35%) of patients aged 75 and older. For most of these diseases or conditions, for example quadriplegia, multiple sclerosis and traumatic brain injury, the proportion of younger patients with the disease or condition was much higher than in the older age groups. The reverse was true for cerebrovascular accident (stroke) and Parkinson's disease, known to be correlated with aging, where the proportions were higher among older patients.

Many patients were assessed as having multiple neurological diseases or conditions. For example, aphasia, the most commonly reported neurological condition in the 19-to-64 age group, is an acquired disorder caused by an injury to the brain and affects a person's ability to communicate. It is most often the result of stroke or head injury.<sup>6</sup>

**Table 2. Neurological Diseases/Conditions by Age, Ontario Complex Continuing Care, 2005–2006**

Disease/Condition	Age		
	19 to 64	65 to 74	75 and Older
<b>Neurological disease/condition*</b>	<b>56%</b>	<b>43%</b>	<b>35%</b>
Aphasia	17%	12%	8%
Cerebrovascular accident (stroke)	16%	25%	24%
Seizure disorder	15%	7%	4%
Quadriplegia	13%	3%	1%
Hemiplegia/hemiparesis	12%	14%	10%
Multiple sclerosis	10%	2%	1%
Traumatic brain injury	8%	2%	1%
Paraplegia	6%	3%	1%
Cerebral palsy	3%	1%	0% <sup>†</sup>
Huntington's chorea	2%	0% <sup>†</sup>	0% <sup>†</sup>
Amyotrophic lateral sclerosis (ALS)	1%	1%	0% <sup>†</sup>
Parkinson's disease	1%	5%	5%

\* Excludes Alzheimer's disease and other dementias.

† The percentage was lower than 0.5%.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Another significant population of patients in CCC were those with a diagnosis of cancer. Nearly a quarter (24%) of the younger patients had cancer and it was reported in similar proportions among the older age groups (29% for the 65-to-74 age group and 23% for the 75-and-older group).

Other diseases commonly reported in younger patients were hypertension, diabetes and depression (each was reported for approximately a quarter of this group). These diseases were generally documented in conjunction with other health conditions.

## **b) Patient Pathways and Utilization**

In addition to their clinical characteristics, there were differences between the younger patients and the older population with respect to where they received care, how long they stayed in their facility and other system-related characteristics.

Complex continuing care is provided in freestanding hospitals and in designated beds or units within hospitals that also provide acute care. Freestanding hospitals account for approximately 40% of CCC beds. They tend to be relatively large facilities, located in urban centres and often include rehabilitation units. Designated CCC beds or nursing units in acute care hospitals vary greatly in size: from one or two beds to large specialized units. Most designated CCC beds are located in urban areas, with smaller units in rural areas.

As shown in Table 3, younger patients were more likely to receive care in a freestanding continuing care facility than patients in the older groups, who were more likely to be in smaller CCC units in acute care hospitals. While the majority of CCC patients were admitted from hospital, the younger patients were more likely than older patients to be admitted from home.

Case mix in continuing care is based on the Resource Utilization Groups, Version 3 (RUG-III) grouping system for RAI-MDS 2.0, which classifies patients according to their clinical characteristics and a sample of resources utilized during their assessment period. The majority of assessed CCC patients were classified into the four highest of the seven resource utilization groups. The younger patients were more likely to be in the Extensive Service and Special Care groups, compared with older patients. In contrast, the older patients were more likely than the younger patients to be in Special Rehabilitation and Clinically Complex groups.

On average, younger patients tended to stay longer than older patients. The average length of stay was 161 days for younger patients, compared with 88 days for those aged 75 and older. It should be noted that there were some patients, particularly in the younger age group, who had extremely long lengths of stay, which affected the calculation of this average. Among the younger age group, 11% stayed in the CCC facility more than 180 days (roughly six months), compared with 8% of those aged 75 and older.

In 2005–2006, the younger patients were less likely to be discharged, given their longer stay. Older patients were more likely to be discharged to a residential care facility than the younger patients.



**Table 3. Selected Statistics: Patient Pathways and Utilization by Age, Ontario Complex Continuing Care, 2005–2006**

Patient Pathways and Utilization	Age		
	19 to 64	65 to 74	75 and Older
<b>Type of CCC facility*</b>			
Freestanding CCC facilities	42%	34%	28%
Small CCC units within acute care hospitals	22%	25%	30%
<b>Admission Source†</b>			
Admitted from hospital	83%	86%	88%
Admitted from home	14%	12%	8%
<b>Case mix (RUG-III class)‡</b>			
Special rehabilitation	38%	44%	46%
Extensive service	21%	16%	13%
Special care	17%	12%	10%
Clinically complex	19%	24%	23%
Average length of stay (in days)§	161	94	88
<b>Patient flow*</b>			
All patients who left the facility	68%	79%	79%
Discharged home	22%	24%	20%
Discharged to residential care	7%	11%	20%
Discharged to hospital	9%	9%	7%
Died in facility	28%	34%	28%

\* Based on patients who received services in 2005–2006.

† Based on patients admitted in 2005–2006.

‡ Based on patients assessed in 2005–2006.

§ Based on patients discharged in 2005–2006.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.



## 2. A Closer Look at the Younger Patients

The previous analysis highlighted that more than half of the younger patients (19 to 64 years old) in Ontario CCC had a neurological problem and almost a quarter had cancer.

Given the size and importance of these two groups, further analysis was conducted to shed light on their characteristics. For this purpose, they were grouped based on the presence of neurological problems or cancer, documented in the MDS assessment as follows:

- Neurological: patients with a neurological disease or condition, excluding Alzheimer's disease and other dementias, and no diagnosis of cancer;
- Cancer: patients with cancer and no neurological disease or condition;
- Neurological and cancer: patients with a neurological disease or condition and cancer;
- Other: patients with no documented cancer or neurological disease or condition.

**Table 4. Categories of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**

Category of Disease/Condition	Percentage of Younger Patients
Neurological	49%
Neurological and cancer	7%
Cancer	17%
Other	27%

**Note:** Excludes Alzheimer's disease and other dementias.

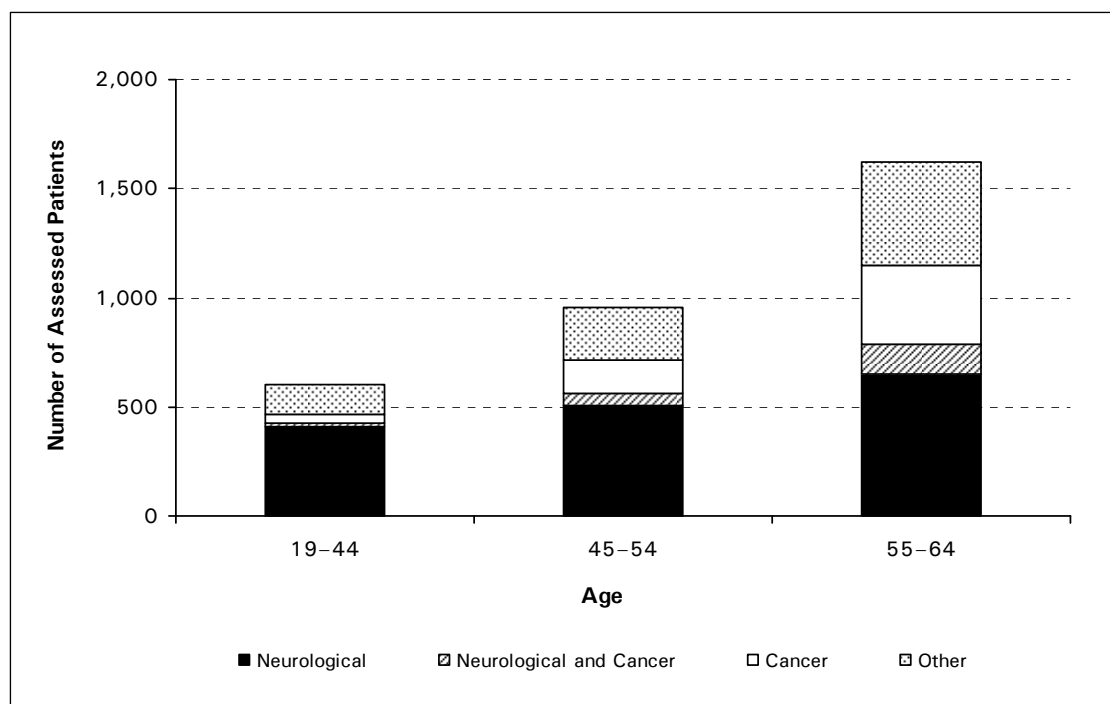
**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Table 4 illustrates the percentage of young patients for each category of disease or condition. Subsequent analyses focus on these patients and exclude those belonging to the Other category. While 27% of CCC patients were classified in this category, no large and distinct diagnostic groups emerged from the numerous combinations of diseases and conditions reported.

## a) Clinical Measures and Health Conditions

The distribution of the categories of disease or condition by age sub-group for the younger patients is shown in Figure 1. Among the youngest patients (19 to 44), two-thirds were classified in the Neurological category, with relatively small numbers of patients classified in the Cancer category or the Neurological and cancer category. While the number of patients in the Neurological category increased slightly with age, there were substantial increases in the number of patients in the Cancer category in the older age groups. In the 55-to-64 age group, 31% of patients were in the Cancer or Neurological and cancer category.

**Figure 1. Category of Disease/Condition by Age, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

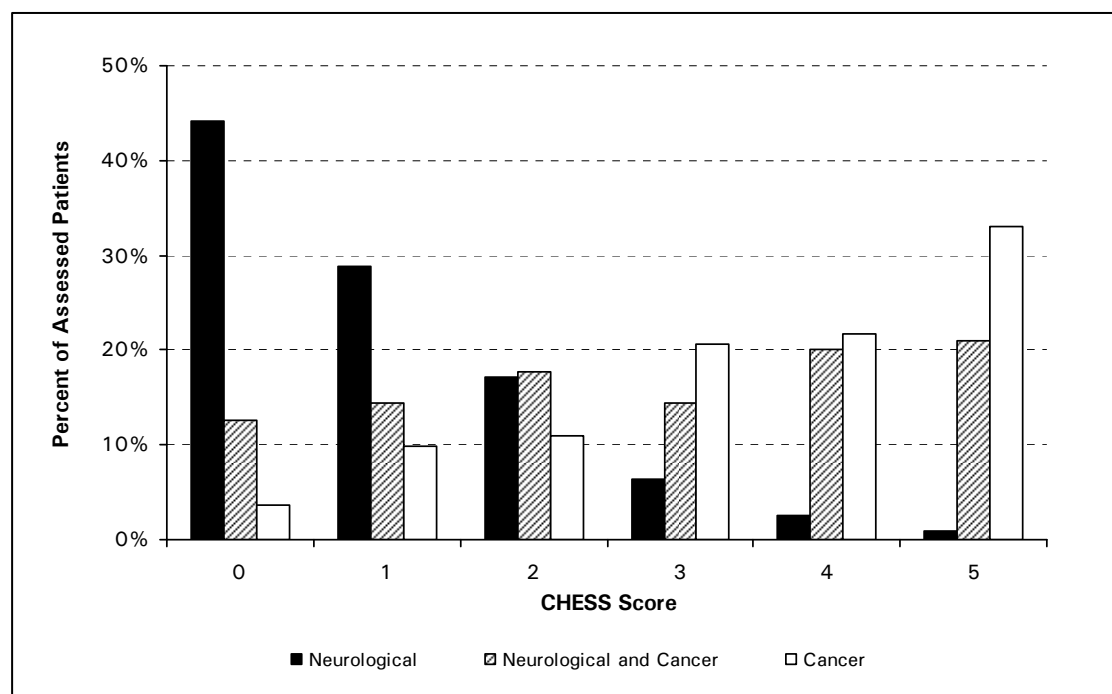
**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Figures 2 to 5 illustrate the clinical measures for the younger patients in each disease category.

## *Changes in Health, End-Stage Disease, Signs and Symptoms (CHESS)*

This scale ranges from 0 (no instability) to 5, which represents the highest level of clinical instability.

**Figure 2. CHESS Score Distribution by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

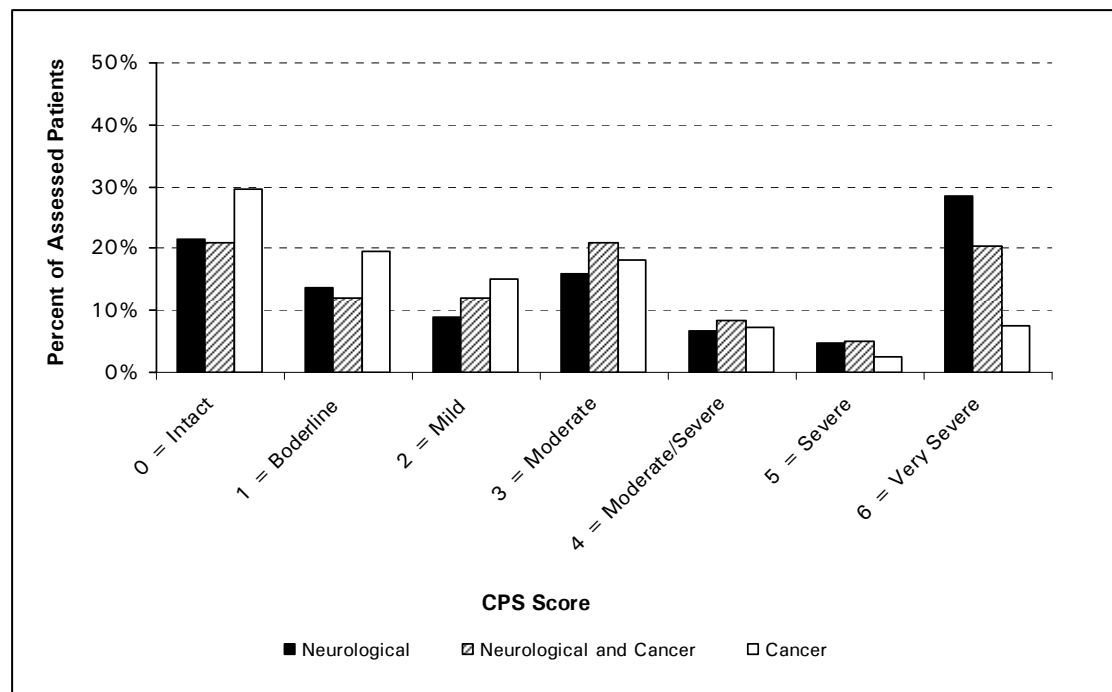
**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

As shown in Figure 2, almost half of the patients in the Neurological category had no key indicators of health instability. The proportions of neurological patients decreased as the CHESS score increased. For the patients with cancer, the trend was the opposite: a very small percentage of patients with cancer had no key indicators of instability and a high percentage of patients had the highest level of instability. The patients in the Neurological and cancer category were more evenly distributed.

## Cognitive Performance Scale (CPS)

The CPS score ranges from 0 for intact (no impairment) to 6, which indicates a very severe level of impairment in cognitive performance. Figure 3 shows the percentage of younger patients in each category of disease or condition by CPS score.

**Figure 3. CPS Score Distribution by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

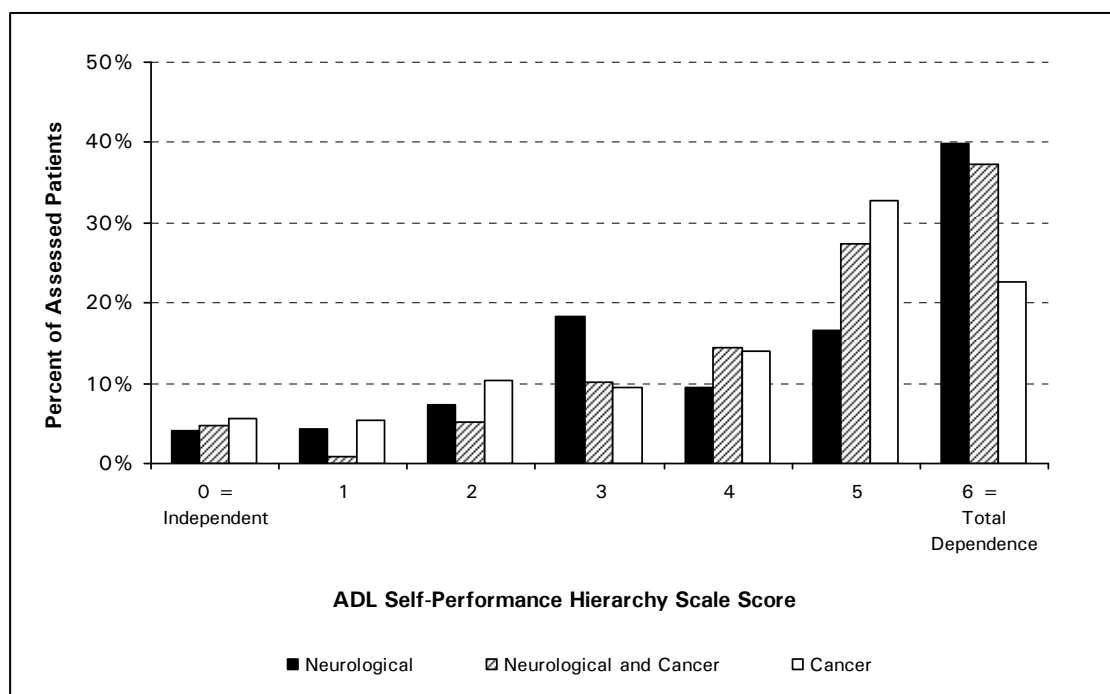
**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Almost 30% of the patients in the Neurological category had very severely impaired cognitive performance, while the Cancer category had less than 10% of the patients with that level of impairment. The patients in the Cancer category were more likely to have no cognitive impairment, compared with the other two categories.

## *Activities of Daily Living (ADL)—Self-Performance Hierarchy Scale*

The score of the scale ranges from 0 to 6. Higher scores indicate a greater need for assistance in ADL.

**Figure 4. ADL Hierarchy Scale Score Distribution by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

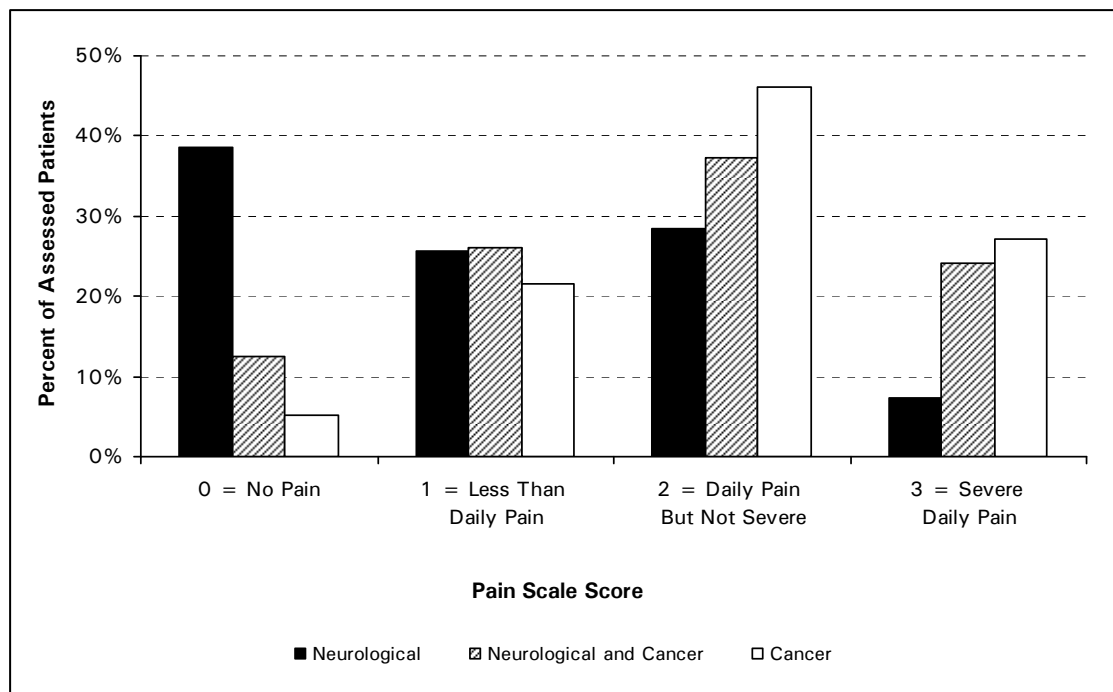
**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

As illustrated in Figure 4, more than half the patients in all three categories were dependent or completely dependent (scores of 5 or 6) for self-performance of the assessed activities of daily living. Of the three categories, the Neurological category had the largest proportion of patients who were completely dependent for activities of daily living.

## Pain Scale

The pain scale score ranges from 0 to 3, a score of 0 indicating no pain and a score of 3 indicating severe daily pain. Figure 5 illustrates the percentage of younger patients in each category of disease or condition by pain scale score.

**Figure 5. Pain Scale Score Distribution by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

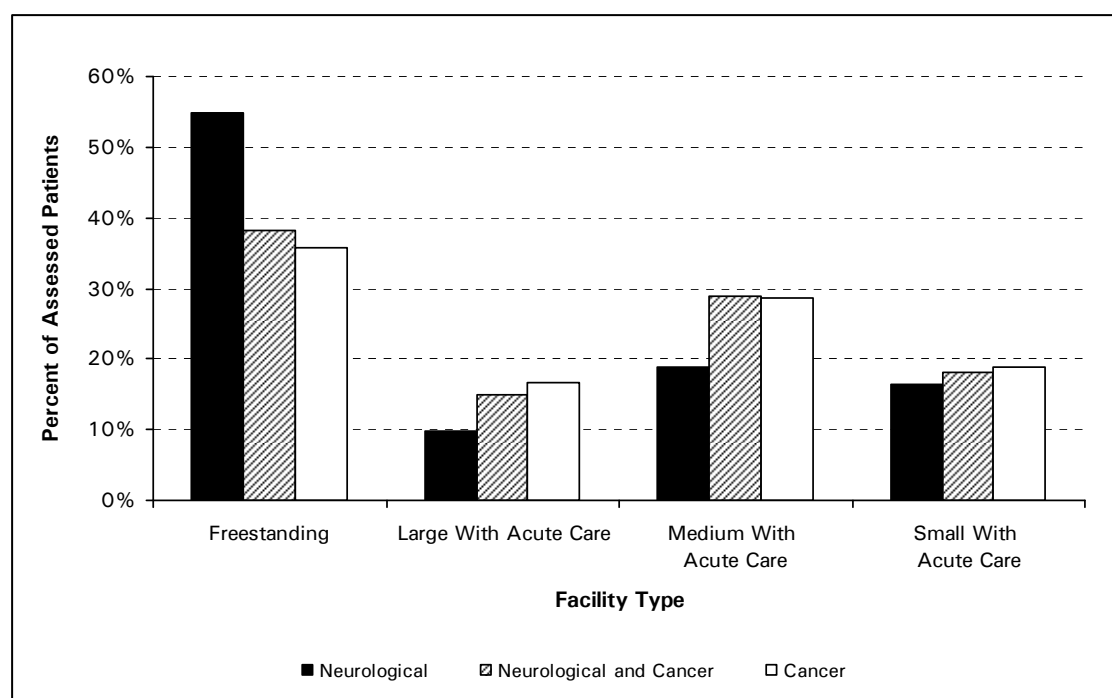
**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Almost 75% of the patients with cancer were assessed as experiencing daily unrelieved pain (scores of 2 or 3), compared with 36% for the patients in the Neurological category and 61% for patients in the Neurological and cancer category.

## b) Patient Pathways and Utilization

There appeared to be an association between the type of facility where the younger patients received their care and their disease or condition. In the earlier comparison, the younger patients were more likely to receive care in freestanding facilities than older patients. Figure 6 shows that this proportion was the highest for patients in the Neurological category (55%), suggesting that freestanding facilities offer specialized services for this population.

**Figure 6. Category of Disease/Condition by Facility Type, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



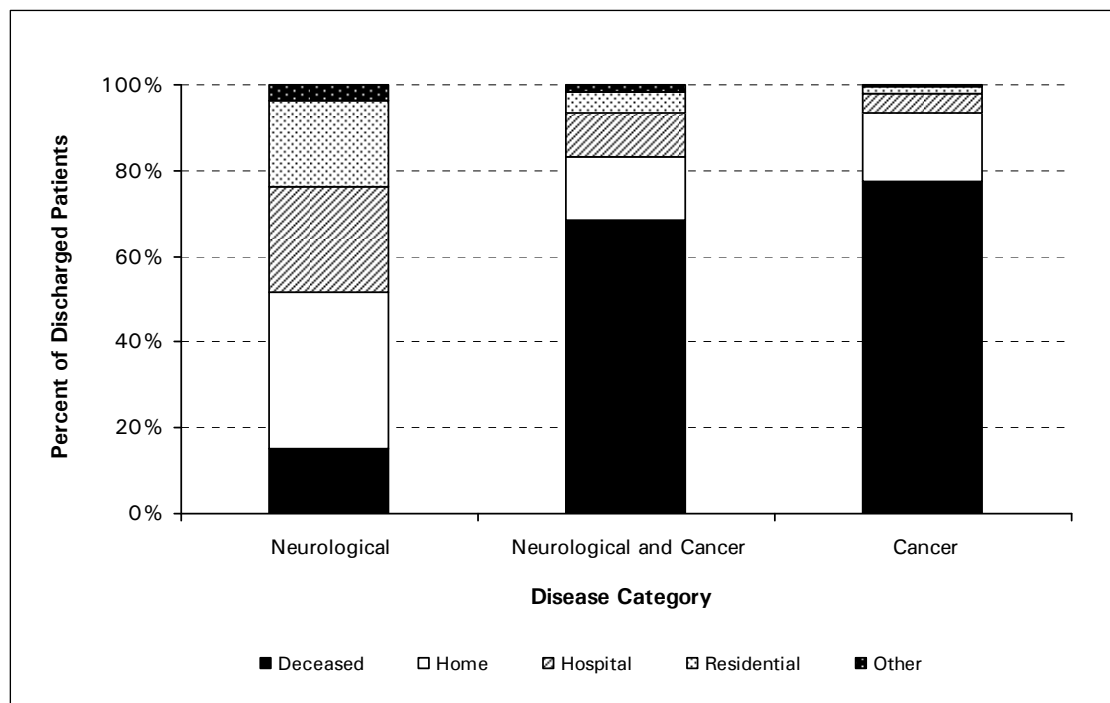
**Note:** Excludes Alzheimer's disease and other dementias.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Of all the younger patients who received services in 2005–2006, 68% were discharged or died in 2005–2006. Patients in the Neurological category were more likely to have more than one discharge in 2005–2006 than the two other categories. Discharge information for these younger patients by disease or condition category is presented in Figure 7 below. For patients in the Neurological category, the most common discharge destination was home, followed by hospital. In contrast, in the cancer population, the majority of patients died in the CCC facility, suggesting that they were admitted to CCC for end-of-life care.



**Figure 7. Discharge Distribution by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

It should be noted that these results are based on patients who were assessed using the RAI-MDS 2.0. Just over one fifth (22%) of the younger population was not assessed with the RAI-MDS 2.0, generally due to a very short stay (less than 14 days). Previous analysis has shown that patients without a RAI-MDS 2.0 assessment were much more likely to die in the facility than the assessed patients.<sup>1</sup> This suggests that the results presented in this analysis may underestimate the number of patients who were receiving end-of-life care.

Length of stay was calculated for patients who were discharged during 2005–2006. It was computed as the number of days between the entry date and the discharge date of their last stay. As shown in Table 5, patients in the Neurological category had the longest median length of stay (69 days) in a CCC facility, while patients with cancer had the shortest (24 days). The difference between the neurological patients and the patients with cancer was more pronounced when looking at the average length of stay, as some patients in the Neurological category had extremely long stays in CCC (up to 32 years).

**Table 5. Length of Stay by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**

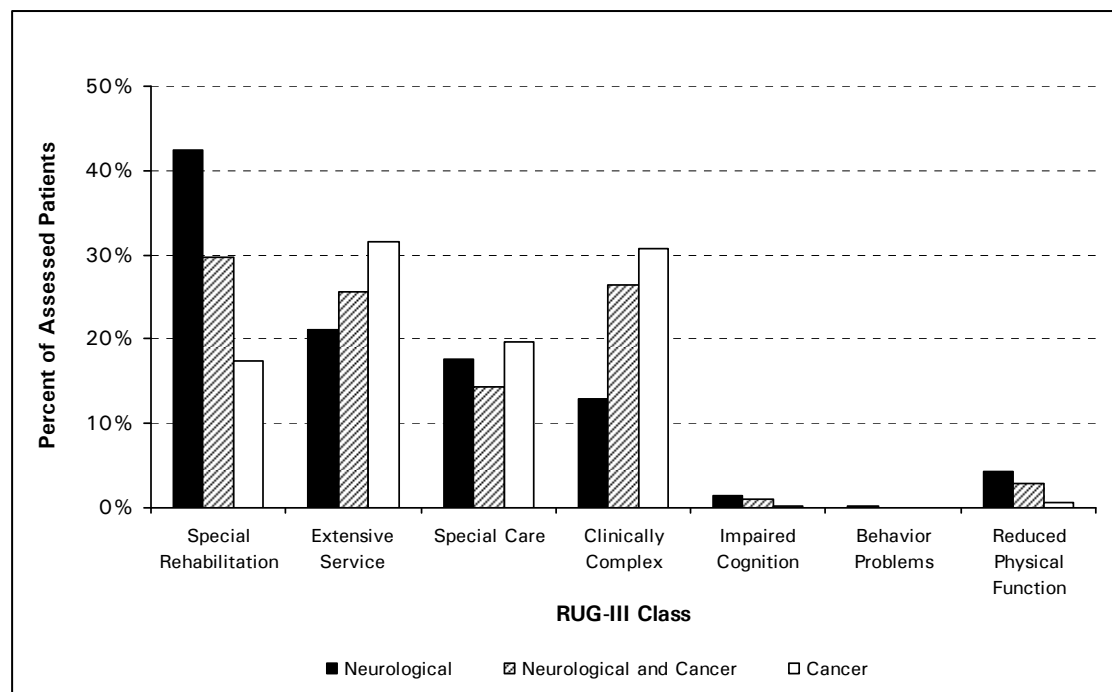
Category of Disease/Condition	Median Length of Stay (in Days)	Average Length of Stay (in Days)
Neurological	69	463
Neurological and cancer	36	105
Cancer	24	41

**Note:** Excludes Alzheimer's disease and other dementias.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

Figure 8 shows the case mix distribution of patients by disease and condition category. The RUG-III classes are shown from left to right in descending order of the RUG hierarchy, from the highest to the lowest relative resource use.

**Figure 8. RUG-III Distribution by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**



**Note:** Excludes Alzheimer's disease and other dementias.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

# Analysis in Brief

Taking health information further

More than 90% of patients in each of the three categories were represented in the top four RUG-III classes. The largest proportion of patients in the Neurological category was classified as Special Rehabilitation. In contrast, most of patients in the Cancer category were in the Extensive Service and Clinically Complex RUG-III classes.

The RUG-III Case Mix Index (CMI) is a measure of relative resource allocation. The CMI value represents the relative cost of caring for an average continuing care patient within a RUG-III class compared to the average patient in the population. A CMI value of 1.0 indicates that the cost of caring for a patient or group of patients is equal to the average cost in the continuing care population. A CMI greater than 1.0 indicates higher expected resource utilization for a patient. As shown in Table 6, patients in the Neurological category had, on average, a slightly higher CMI than those in the other two categories and were therefore more resource intensive.

**Table 6. Average Case Mix Index by Category of Disease/Condition, 19 to 64 Years Old, Ontario Complex Continuing Care, 2005–2006**

Category of Disease/Condition	Average Case Mix Index
Neurological	1.10
Neurological and cancer	1.08
Cancer	1.03

**Note:** Excludes Alzheimer's disease and other dementias.

**Source:** Continuing Care Reporting System, CIHI, 2005–2006.

## Conclusion

This analysis sheds light on some of the important characteristics of younger patients in Ontario CCC facilities that may inform program, facility or system planning. In particular, the analysis focuses on two groups of younger patients—those with a neurological disease or condition and those with cancer.

For younger patients with a neurological disease or condition, often accompanied by significant physical and/or cognitive impairment, CCC provides relatively longer-stay rehabilitation services. A significant proportion of these patients is ultimately discharged to the community, either to their homes or to residential care. However, there is a small population of individuals who clearly lives in the facility for a considerable number of years.

Ontario CCC also serves the needs of younger patients with cancer who require relatively short-term, specialized end-of-life care. Few of these patients return to the community.

Both rehabilitation and end-of-life care are provided in various settings in the health care system. Understanding the role of CCC within the context of the health care continuum will assist in planning for future services.

The number of people who will be diagnosed with and who will die from cancer is expected to increase in the future as the Canadian population continues to age and grow in size.<sup>7</sup> As CCC currently provides services to a significant number of patients (both younger and older) that have cancer, the CCC sector (and the health system in general) will need to plan for an increased need for services to treat these future patients.

While this analysis was limited to the complex continuing care sector in Ontario, implementation of the CCRS continues for the long-term care sector across Canada. The reporting system will soon be a richer and more comprehensive data source to support further analysis across the continuum and across the country.

For additional information on the Continuing Care Reporting System (CCRS) and additional CCRS publications, please write to [ccrs@cihi.ca](mailto:ccrs@cihi.ca) or visit the CCRS website at [www.cihi.ca/ccrs](http://www.cihi.ca/ccrs).

## Technical Notes

### 1. Inclusion Criteria for Analysis

Table 7 illustrates which patients were included in the analysis.

**Table 7. Inclusion Criteria for Analysis**

Ontario Complex Continuing Care Patients 2005–2006	Number	Percentage
Unique patients (based on unique health card number)*	24,295	100.0
Patients excluded	668	2.7
Aged 18 and younger†	51	0.2
Data quality issues‡	617	2.5
Patients included in analysis	23,627	97.3

\* A small proportion of patients did not have a unique health card number submitted to CCRS. While the facilities submitted a health record (chart) number for these patients, this number is unique only within a facility and there is no way to identify whether these patients received care in other facilities. Therefore, to avoid double-counting patients, records without a unique health card were excluded from the analysis (0.5% of service episodes).

† Patients aged between 0 to 18 years were also excluded. These paediatric patients received care from Bloorview Kids Rehab (Toronto), a specialized paediatric facility providing rehabilitation and continuing care services, and represent a very small but specialized population.

‡ Patients admitted before December 31, 2004, but for whom CIHI had not received any subsequent records (either an assessment or a discharge) since then were not considered to have received care in 2005–2006. While there was no indication of being discharged in the CIHI database, they were more likely to have left the facility, since no assessment information had been submitted for over a year. Patients were also excluded for other reasons:

1. Invalid birth date (e.g. birth date equals to entry date or patients aged under 19 and not from Bloorview);
2. Patients with multiple episodes that had inconsistent values for their birth date and/or sex across episodes.

For the purpose of this analysis, each patient was counted once. In cases in which a patient had more than one service episode in the year, the data relating to the most recent admission was used. The analysis of clinical characteristics was based on assessed patients only. If a patient had more than one assessment during the fiscal year, the most recent one was used for the analysis. Table 8 shows the percentage of assessed patients by age group.

**Table 8. Percentage of Assessed Patients by Age Group, Ontario CCC, 2005–2006**

Age Group	Number	Percentage of Assessed Patients
19 to 64	4,065	78.2
65 to 74	4,144	75.4
75 and older	15,418	77.4
Total of patients included in analysis	23,627	77.2

## 2. Calculation of Age

For the majority of the analysis, the age of the patients was calculated at the middle of the last fiscal quarter in 2005–2006 that the patients were in the CCC facility. This would also be the quarter in which the assessed patients had their most recent assessment. The exception to this was the information relating to admission, when the patient's age at admission was used. Also, patients that were admitted in 2004–2005 and readmitted in 2005–2006 were excluded when calculating statistics based on patients admitted in 2005–2006 (see Table 3).

## 3. Facility Type and Size

CCC facilities were categorized based on their size and whether they were freestanding or designated beds or units within hospitals that also provide acute care. Hospitals were designated as freestanding as categorized for the Ontario Hospital Reports.<sup>8, 9</sup> Facility size was based on the number of patients days, also used in the Ontario Hospital Reports.<sup>10</sup> The number of patient days for 2005–2006 was calculated for each hospital and then the facilities were categorized into one of three groups:

- Small: less than or equal to 10,000 patient days
- Medium: between 10,001 and 30,000 patient days
- Large: over 30,000 patient days

Within acute care hospitals, the “small” facilities only have a small number (that is, less than 30) of designated beds within the hospital, while the medium and large facilities are more likely to have special CCC units.

## 4. Diseases and Health Conditions

In the RAI-MDS 2.0 full assessment, the neurological disease category in Section I (Disease Diagnoses) includes Alzheimer's disease, dementia other than Alzheimer's disease and transient ischemic attack. The first two diseases were excluded since they are associated with aging.<sup>11</sup> The other one was not considered for the analysis due to its short duration and lack of lasting damage it could cause.<sup>12</sup>

Although the analysis focused on neurological diseases or conditions as well as cancer, there were other diseases—such as schizophrenia, HIV infection, viral hepatitis and manic depression—that were more likely to be reported among younger patients than older, but that did not occur very frequently. On the other hand, the diseases and conditions that were less likely to be reported among younger patients included Alzheimer's disease and other types of dementia, hypothyroidism, heart and circulation problems, musculoskeletal problems (arthritis, hip fracture and osteoporosis), emphysema and sensory problems.

## Analysis in Brief

*Taking health information further*

It should be noted that the RAI-MDS 2.0 assessment does not capture the most responsible diagnosis. The vast majority of patients in CCC have multiple health conditions and in many cases it is the combination of these conditions that requires the complex and specialized level of care provided in CCC.<sup>13</sup> This makes reporting conclusively on the single-most responsible disease or condition for patients' stay in CCC difficult.



## References

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