


Quality indicators for end of life care:

A comparison of elderly nursing home residents and non-residents dying of cancer in Nova Scotia, 2000-2003



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NELS ICE Project 6 Update

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Purpose

- Apply our end of life quality indicators¹
- Compare results for nursing home residents and non-residents
 - 65+ years
 - Deceased between 1 Jan2000 and 31Dec2003

¹ Grunfeld E, Lethbridge L, Dewar R, Lawson B, Paszat LF, Johnston G, Burge F, McIntyre P, Earle CC. (2006). Towards using administrative databases to measure population-based indicators of quality end-of-life care: testing the methodology. *Palliative Medicine*, 20, 769-777.

Study Cohort

Full Cohort (N=10,136)
Individuals that died of cancer in Nova Scotia between 2000-2003



Exclude those missing place of death and place of usual residence at death where nursing home residency status could not be assessed (n=259)

Exclude those under age 65 (n=2578)



Total age 65+ (n=7299)
Nursing home: 981
Non-nursing home: 6,318



Exclude Death Certificate Only (DCO) cases where all diseases are a DCO for those with multiple diseases (n=169)



Final Study Cohort (n=7130)
Nursing home: 893
Non-nursing home: 6237

Description of Cohort

	Nursing home (n = 893)	Non nursing home (n = 6237)
Mean age (SD)	83.3 (7.9)	77.3 (7.3)
Sex n (%)	Male: 373 (42) Female: 520 (58)	Male: 3479 (56) Female: 2758 (44)
Place of death n (%)	Hospital: 177 (20) Nursing Home: 546 (61) Other: 170 (19)	Hospital: 3697 (59) Other: 2540 (41)
Rural residence n (%)	390 (44)	2575 (41)

Results: Indicators 1-3

(Overall Nursing Home N=893, Non Nursing Home N=6237)

Quality Indicator	Nursing Home		Non Nursing Home	
	n	Statistic	n	Statistic
1 Interval between last chemo and death				
a) Any chemo in the last 14 days; <i>No. (%)</i>	7	0 (0)	350	52 (15)
b) Average number of days between last chemo and death; <i>mean</i>	7	112 days	350	74 days
c) Proportion receiving chemo in the last 6 months; <i>No. (%)</i>	893	7 (0.8)	6237	350 (6)
d) Proportion receiving any chemo in the last 14 days; <i>No. (%)</i>	893	0 (0)	6237	52 (0.8)
2 Site of death				
Died in the hospital; <i>No. (%)</i>	893	177 (20)	6237	3697 (59)
3 Frequency of ER visits				
a) More than one ER visit in the last month; <i>No. (%)</i>	893	25 (3)	6237	399 (6)
b) Average number of ER visits in the last month; <i>mean</i>	893	0.2 visits	6237	0.4 visits
c) Average number of ER visits per available day in the last month; <i>mean</i>	893	0.01 visits	6237	0.02 visits

Results: Indicator 4

(Overall Nursing Home N=893, Non Nursing Home N=6237)

Quality Indicator	Nursing Home		Non Nursing Home	
	n	Statistic	n	Statistic
4.1 Hospital days near the end of life (includes any inpatient days)				
a) More than one hospital admission in the last month; <i>No. (%)</i>	893	46 (5)	6237	898 (14)
b) More than 14 days in the hospital in the last month; <i>No. (%)</i>	893	118 (3)	6237	2220 (36)
c) Average number of hospital days in the last month; <i>mean</i>	893	5 days	6237	12 days
d) Average number of hospital admissions in the last month; <i>mean</i>	893	0.3 admissions	6237	0.8 admissions
4.2 Hospital days near the end of life (includes ICU days only)				
Percentage with at least one ICU admission in the last month; <i>No. (%)</i>	893	25 (3)	6237	318 (5)

Results: Indicators 5-6

(Overall Nursing Home N=893, Non Nursing Home N=6237)

Quality Indicator	Nursing Home		Non Nursing Home	
	n	Statistic	n	Statistic
5 Continuity of care (excluding <3 visits)				
a) Modified Modified Continuity Index				
(i) GPs only	293	0.64	4867	0.71
(ii) Non-GPs only	261	0.51	4087	0.50
b) Average number of GP visits; <i>mean</i>	293	6.2	4867	8.0
c) Average number of GPs; <i>mean</i>	293	2.6	4867	3.0
d) Average number of non-GP visits; <i>mean</i>	261	6.2	4087	8.2
e) Average number of non GPs; <i>mean</i>	261	3.3	4087	4.1
6 Time and location of care				
Percentage of home and office visits which occurred in the last two weeks; <i>No. (%)</i>	870	139 (16)	6015	487 (8)

Results: Indicators 7-9

(Overall Nursing Home N=893, Non Nursing Home N=6237)

Quality Indicator	Nursing Home		Non Nursing Home	
	n	No. (%)	n	No. (%)
7 Adverse events Bedsore, infection, fall, or injury	893	72 (8)	6237	555 (9)
8 Access to palliative care Enrolled in palliative care program*	354	131 (37)	2965	2040 (69)
9 Enrollment in palliative care within three days prior to death Enrolled in palliative care program within three days prior to death (for those enrolled in palliative care*)	131	5 (4)	2040	143 (7)

* For only those residing in Halifax and Cape Breton counties (n = 3319).

Results: Indicators 10-12

(Overall Nursing Home N=893, Non Nursing Home N=6237)

Quality Indicator	Nursing Home		Non Nursing Home	
	n	No. (%)	n	No. (%)
10 Radiotherapy for uncontrolled bone pain Received palliative radiation to the bones	893	21 (2)	6237	462 (7)
11 Multidisciplinary care Percentage of physician visits by GPs	24,573 (Total visits)	18,700 (76)	234,702 (Total visits)	146,923 (63)
12 Access to care¹ Rural residence	884	390 (44)	6225	2575 (41)

¹ Excluding 21 (0.3%) with no valid postal code of residence.

Comparison with Breast Cancer Study: Indicators 1-3

Quality Indicator	Nursing Home (n=893)	Non Nursing Home (n=6237)	Breast Cancer Study (n=864)
1 Interval between last chemo and death			
a) Any chemo in the last 14 days	0%	15%	9%
b) Average number of days between last chemo and death	112	74	71
c) Proportion receiving chemo in the last 6 months	0.8%	6%	26%
d) Proportion receiving any chemo in the last 14 days	0%	0.8%	2%
2 Site of death			
Died in the hospital	20%	59%	63%
3 Frequency of ER visits			
a) More than one ER visit in the last month	3%	6%	6%
b) Average number of ER visits in the last month	0.2	0.4	0.4
c) Average number of ER visits per available day in the last month	0.01	0.02	0.02

Comparison with Breast Cancer Study: Indicator 4

Quality Indicator	Nursing Home (n=893)	Non Nursing Home (n=6237)	Breast Cancer Study (n=864)
<p>4.1 Hospital days near the end of life (includes any inpatient days)</p> <p>a) More than one hospital admission in the last month</p> <p>b) More than 14 days in the hospital in the last month</p> <p>c) Average number of hospital days in the last month</p> <p>d) Average number of hospital admissions in the last month</p>	<p>5%</p> <p>13%</p> <p>5</p> <p>0.3</p>	<p>14%</p> <p>36%</p> <p>12</p> <p>0.8</p>	<p>12%</p> <p>29%</p> <p>10</p> <p>0.7</p>
<p>4.2 Hospital days near the end of life (includes ICU days only)</p> <p>Percentage with at least one ICU admission in the last month</p>	<p>3%</p>	<p>5%</p>	<p>2%</p>

Comparison with Breast Cancer Study: Indicators 5-6

Quality Indicator	Nursing Home (n=893)	Non Nursing Home (n=6237)	Breast Cancer Study (n=864)
5 Continuity of care (excluding <3 visits) a) Modified Modified Continuity Index (i) GPs only (ii) Non-GPs only b) Average number of GP visits c) Average number of GPs d) Average number of non-GP visits e) Average number of non GPs	 0.64 0.51 6.2 2.6 6.2 3.3	 0.71 0.50 8.0 3.0 8.2 4.1	 0.79 0.59 7.1 2.2 10.3 4.4
6 Time and location of care Percentage of home and office visits which occurred in the last two weeks	16%	8%	11%

Comparison with Breast Cancer Study: Indicators 7-9

Quality Indicator	Nursing Home (n=893)	Non Nursing Home (n=6237)	Breast Cancer Study (n=864)
7 Adverse events Bedsore, infection, fall, or injury	8%	9%	9%
8 Access to palliative care Enrolled in palliative care program*	37%	69%	78%
9 Enrollment in palliative care within three days prior to death Enrolled in palliative care program within three days prior to death (for those enrolled in palliative care)*	4%	7%	4%

* For only those residing in Halifax and Cape Breton counties.

Comparison with Breast Cancer Study: Indicators 10-12

Quality Indicator	Nursing Home (n=893)	Non Nursing Home (n=6237)	Breast Cancer Study (n=864)
10 Radiotherapy for uncontrolled bone pain Received palliative radiation to the bones	2%	7%	22%
11 Multidisciplinary care Percentage of physician visits by GPs	76%	63%	61%
12 Access to care Rural residence	44%	41%	40%

Cohort Differences

	Breast Cancer Study	NELS ICE Project 6
Number of Observations	864	7130 Nursing home: 893 Non nursing home: 6237
Age	All ages Min: 31 years Max: 102 years 61% \geq 65 years	Aged 65 and older only
Gender	Females only	Both males and females
Cancer type	Died of breast cancer only	Died of any cancer
Year of death	1998-2002	2000-2003

Data Differences

Indicator	Breast Cancer Study	NELS ICE Project 6
Interval between last chemo and death	Physician billings data used to calculate indicator	OPIS data only
Site of death	CIHI data used	Information from Vital Statistics available on OPIS
Frequency of ER visits	CIHI and physician billings data were used	Physician billings data only
Continuity of care	CIHI and physician billings data were used	Physician billings data only
Access to care	Postal Code Conversion File (PCCF) used to define rural residence	Used second digit in postal code (rural = '0')