



Health Care Use at the End of Life in Saskatchewan



**Saskatchewan
Ministry of
Health**



**Hollander
Analytical
Services Ltd.**



**Canadian Institute
for Health Information**

**Institut canadien
d'information sur la santé**

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Canadian Institute for Health Information
495 Richmond Road
Suite 600
Ottawa, Ontario
K2A 4H6

Phone: 613-241-7860

Fax: 613-241-8120

www.cihi.ca

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Canadian Institute for Health Information and Saskatchewan Health

Health Care Use at the End of Life in Saskatchewan

**Final Report of the Saskatchewan
End-of-Life Care Project**

Prepared by:

Marcus J. Hollander, PhD
Angela Tessaro, BA

September 2008

Hollander Analytical Services Ltd.
300–895 Fort Street
Victoria, BC V8W 1H7
info@hollanderanalytical.com

Tel: 250-384-2776
Fax: 250-389-0105

Table of Contents

| | |
|---|-----|
| Executive Summary | iii |
| Acknowledgements | ix |
| 1. Introduction..... | 1 |
| 1.1 Introduction to the Canadian Institute for Health Information End-of-Life In Western Canada Study | 1 |
| 1.2 Introduction to This Report | 1 |
| 1.3 Previous Studies Focusing on the Costs of End-of-Life Care | 2 |
| 2. Methods..... | 4 |
| 3. Findings | 6 |
| 3.1 Introduction..... | 6 |
| 3.2 Socio-Demographic Information..... | 6 |
| 3.3 The Importance of the Costs of Residential Long Term Care in Any Analysis of End-of-Life Care Costs | 7 |
| 3.4 Total Costs and Costs to Government | 7 |
| 3.5 The Lunney/Fassbender Grouping System..... | 8 |
| 3.6 Overall Trend Analysis of the End-of-Life Care Costs | 9 |
| 3.7 Costs for the 30, 90, 180 and 365 Day Periods Prior to Death..... | 16 |
| 3.7.1 Introduction..... | 16 |
| 3.7.2 Costs Related to Socio-Demographic Variables | 16 |
| 3.7.3 Costs Related to the Care Context of the Client..... | 16 |
| 3.7.4 Costs Related to the Lunney/Fassbender Groupings | 21 |
| 3.7.5 Costs for The Five Most Common Causes of Death | 21 |
| 3.7.6 Costs for Persons Receiving Palliative Care..... | 21 |
| 3.7.7 Costs Related to Urban and Rural Settings..... | 25 |
| 3.7.8 Costs Related to the Location of Death | 25 |
| 3.7.9 Costs Related to Region | 25 |
| 3.8 In-Depth Analysis of the Impact of the Utilization of Residential Care on the Costs of End-of-Life Care..... | 29 |
| 4. Discussion | 32 |
| Appendix A: Overview of Methodology | 33 |
| Appendix B: Supplementary Data Tables | 41 |

Executive Summary

Introduction

As part of the Health Care Use at the End-of-Life in Western Canada Study, the Western Office of the Canadian Institute for Health Information (CIHI) collaborated with the ministries or departments of health from British Columbia, Alberta, Saskatchewan and Manitoba to characterize selected aspects of health care at the end-of-life. In-depth, supplementary reports were also produced for each of the four western provinces. Saskatchewan focused its analysis on health care costs in the two years before death. This report provides data on clients, service utilization and costs for persons who died in Saskatchewan in the 2003/04 fiscal year. Data were collected for the two years prior to death for each decedent.

Methods

Detailed utilization data were obtained, on an anonymized basis, for the two year period prior to death for Saskatchewan residents, who died in Saskatchewan, during the 2003/04 fiscal year. An extensive set of edit and logic checks were used to clean the data. Given the inter-relationships of the data elements used in the analysis, and the relatively few people with missing information, or other factors requiring an adjustment, it was decided to exclude such persons from the analysis. In this way all analyses would be conducted based on individuals with complete and appropriate data. People were excluded from the analysis for several reasons including the following: they had a missing cause of death (14 cases); they had an entry date within 30 days of death (6 cases); they were under 19 years of age (88 cases); they had an unknown marital status (6 cases); and, after the above exclusions, clients with no recorded services (62 cases) were also excluded from the analysis. This resulted in the exclusion of some 176 people from an initial cohort of 8,879 individuals, or less than 2 percent of the initial cohort, and did not result in any material difference in the overall findings. Thus, the final cohort for analysis was comprised of 8,703 individuals.

In regard to hospital costs, the Resource Intensity Weight (RIW) cost factor for the 2003/04 fiscal year, for Saskatchewan, was used. Hospital data contain the number of RIWs used for a hospital stay. This number was multiplied by a Saskatchewan derived funding per weighted case to obtain the estimated funded cost of the hospital stay. Costs for prescription drugs, and physician services, are reported directly on the Saskatchewan Health database, along with utilization data, and these costs were included in the analysis.

For long term care facilities, the average, regional cost of a long term care facility bed was used for each health region. These costs differed across regions. For home and community care, Saskatchewan uses a series of weights for different services to estimate costs. The base unit for these costing ratios is the average provincial cost of providing one meal which is deemed to be one unit of service. A nursing unit, for example, is defined as one hour of service and has been set at 9.7 times the cost of providing one meal, while homemaking and home maintenance units are 4.4 times the cost of providing a meal.

It should be noted that costs have been standardized to fiscal 2003/04 dollars. That is, the 2003/04 unit costs are applied to the utilization rates, irrespective of the year in which services were utilized (except for physician services and drugs where actual costs were used, resulting in a slight under-estimate for these services). Finally, it should also be noted that the administrative data did allow for a fairly complete accounting of total costs, including both the costs to government and the user fees paid by clients for such services. Income tested user fees were charged for long term care facilities, home care services, and drugs. User fees are actuals, or estimates, based on data provided by Saskatchewan Health.

The Impact of Residential Long Term Care Services on Overall Health Costs

A major, and significant, finding of this study was that long term care facility costs can have a profound impact on the average costs of care. For example, for people who were in long term care facilities at the start of the six month period prior to death, the average cost was \$28,125, while the average cost for people living independently in the community was \$16,068. Thus, the influence of long term care facility costs can be quite significant on any aggregate cost estimates, particularly if one looks at costs over a six month to one year period. In order to reflect the impact of residential long term care, a number of the data tables in this report show the impact on costs of differential amounts of time spent in long term care facilities.

The Lunney/Fassbender End-of-Life Grouping System

In any end-of-life care study it is important to be able to group individuals into clusters of relatively like individuals for purposes of analysis and comparison. For example, if one combines people who had a sudden death (for example, in an automobile accident), with someone who had a serious chronic illness, the resulting average will be a statistical artifact which represents neither of these groups, and can not readily be used for planning or costing purposes.

In the Health Care at the End-of-Life in Western Canada Study, it was decided to use a grouping approach developed by Lunney and her colleagues. This grouping is referred to as the Lunney/Fassbender Causes of Death Trajectory Groupings. This terminology is used as Fassbender has adapted the methodology for calculating group membership to the Canadian context. The five groups in this classification are: Sudden Death, Terminal Illness, Organ Failure, Frailty and Other.

Results

Costs Related to Socio-Demographic Variables

Overall, except for the costs for the 30 day period prior to death, the average total costs for females were higher than for males. Thus, while the average total cost for males and females were, \$7,581 and \$7,236, respectively, for the 30 days prior to death, the costs for the 365 days prior to death were \$28,649 for males and \$35,306 for females.

There was a clear progression in which costs were increasingly higher in accordance with age for the period 365 days prior to death. However, this was not the case for the other time periods. While costs increased across all time periods for persons aged 19–44, 45–64 and 65–74, they tended to be lower for the 75–84 and 85+ age groups than the 65–74 age group for the 30, 90 and 180 day time periods. There were also different patterns of costs across the four time periods by marital status, although the lowest costs across all four time periods were for people who were single, divorced or separated. For the 365 day period, the costs for persons who were widowed was significantly higher (\$37,030) than for those who were married or living in common law relationships (\$28,699).

Costs Related to the Care Context of the Client

The context of care has a great deal to do with the costs incurred at the end of life. For each of the time periods in our analysis, that is the 30, 90, 180 and 365 days prior to death, the highest cost was for people who started the time period in the hospital. For the 30 and 90 day periods the next highest cost group was people living in the community with home care. The majority of the costs for this group were related to hospital care. For the 180 and 365 day groups, the second highest cost was for people in a long term care facility. What is also interesting, and quite significant, is that the facility care group had consistently lower costs for other parts of the health care system. Thus, there is an interesting and noticeable difference in the distribution of costs across the health care system for people in long term care facilities and people in the community. The majority of costs for community living individuals is for hospital care. The major costs for people in facilities is the cost of facility care. The costs of acute care for these people are relatively modest. Thus, it appears that long term care facilities are able to provide most of the services used by clients, within the facility, while clients living at home make extensive use of acute care hospitals.

Costs Related to the Lunney/Fassbender Groupings

It is interesting to note that for the period 30 days prior to death, the highest cost factor for all groupings was hospital care, the next highest was residential long term care and the third highest was physician services. This pattern changes over time. For the period 365 days prior to death for Frailty, Organ Failure and Other, the highest cost factor was residential long term care. The clear exception to this pattern was terminal illness for which hospital care was, by far, the most significant cost factor across all time periods.

Costs for the Five Most Common Causes of Death

A wide range of causes of death were analyzed for this project. The five most common causes of death are analyzed in this report. For the 30 days prior to death, with one exception, the primary cost factor is hospital care. The exception is death due to diseases of the nervous system and sense organs, for which the highest cost was residential long term care. This could be related to people in long term care facilities suffering from dementia. For the period 365 days prior to death, the major cost factor for neoplasms was hospital care. For the deaths due to diseases of the circulatory system, the respiratory system, and the nervous system and sense organs, the major cost factor was residential long term care.

Costs for Persons Receiving Palliative Care

It is interesting to note that the average total cost per client was less for people who were identified as palliative care than for people who did not receive palliative care, except for the 365 days prior to death group. The difference between the two groups appears to diminish in proportion to the length of the period prior to death. This is understandable as most palliative care programs are designed for people near the end of life.

Costs Related to Urban and Rural Settings

The distribution of costs at the end of life across components of the health care system is quite similar in Saskatchewan for urban and rural settings.

Costs Related to the Location of Death

The data in Saskatchewan only allow for comparisons related to the location of death between people who died in hospital and people who died in other settings. Costs are significantly higher for people who die in the hospital as people come closer to death. This difference reduces over time, primarily in relation to the relative rise of costs related to residential long term care facilities, with non-hospital deaths accounting for higher costs than hospital deaths for the period 365 days prior to death.

Costs Related to Region

The average total cost per person who died in Saskatchewan in fiscal 2003/04 was fairly similar across regions. The only exception was the cluster of the three relatively sparsely populated regions in the northern part of Saskatchewan. Except for the period 30 days prior to death, the average total costs tended to be lower in the north. For the 30 days prior to death the average total costs for people in the three northern health authorities was \$7,267 compared to the overall average of \$7,411, and the average of the health authorities excluding Regina and Saskatoon of \$7,290. In contrast, for the period 365 days prior to death, the average total cost for the northern health authorities was \$21,364 compared to the provincial average of \$31,942, and \$33,524 for the health authorities excluding Regina and Saskatoon. These differences could be due to the sparse population and/or the significant First Nations population living in Northern Saskatchewan, as persons living on reserve come under the responsibility of Health Canada in regard to the delivery of health services and, thus, would have relatively lower provincial health care costs.

Discussion

It is believed that this study, conducted for CIHI and the province of Saskatchewan, represents one of a relatively few, major studies conducted in Canada on the costs of end-of-life care. It would certainly be of interest to compare the Saskatchewan experience to other parts of Canada. Future research in other jurisdictions could begin to paint a more complete picture on the costs of end-of-life care in Canada. This information would be useful for future planning and cost projections.

Finally, this study has pointed out a major new finding related to the relative influence of care in long term care facilities on the average costs of end of life care. As can be seen from this report, the influence on costs of persons receiving long term residential care is significant, and increases over time. Thus, the relative proportion of people in facilities can impact end-of-life costing for a given geographic entity such as a regional health authority. For example, if all other conditions are identical across two regional health authorities, but the proportion of people who are in long term care facilities prior to death differs, the overall costs would also tend to differ. Thus, when making cost comparisons, one needs to control for the impact of facility care across geographic entities such as, health authorities, provinces, or countries. It is recommended that, in future, researchers should clearly show costs separately for people living at home, and in long term care facilities, as part of their analyses.

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This study is based in part on de-identified data provided by the Saskatchewan Department of Health. The interpretation and conclusions contained herein do not necessarily represent those of the Government of Saskatchewan or the Saskatchewan Department of Health.

1. Introduction

1.1 Introduction to the Canadian Institute for Health Information End-of-Life in Western Canada Study

The Health Care Use at the End-of-Life in Western Canada Study examines some aspects of care provided in the last year of life to residents who died in Canada's western provinces: British Columbia, Alberta, Saskatchewan, and Manitoba, in the 2003–04 fiscal year. Each year, between 60,000 and 70,000 of the estimated 7 million residents of the four western provinces die, representing approximately 30% of Canadian deaths.

Ideally, a report on care at the end-of-life would detail whether pain and suffering were minimized, spiritual and psychosocial needs were met, and health care was coordinated with home, long-term care and community based services being delivered at the end-of-life. Unfortunately, the extent to which a dying person and their family's needs are being met is very difficult to determine at a population level of analysis. Provincial data are limited, but can be used to inform health planners and others interested in ensuring the best possible end-of-life care. Provincial Ministries of Health are interested in examining care at the end-of-life because it is a type of care that all residents will eventually need.

As part of the Health Care Use at the End-of-Life in Western Canada Study, the Western Office of the Canadian Institute for Health Information (CIHI) collaborated with the ministries or departments of health from British Columbia, Alberta, Saskatchewan and Manitoba to characterize selected aspects of health care at the end-of-life. Through this collaboration analysts linked death certificates to hospital and pharmacy administrative records for all decedents. Focusing on adult decedents (age 19 and older) the report of the overall projectⁱ examines the use of hospital and pharmacy services. The overall report of the project includes analyses across the four provinces for the following aspects of death:

- The location of death, whether in hospital or elsewhere;
- Hospital use within the last year of life; and
- Use of community prescribed drugs and supplies, including palliative drug use.

1.2 Introduction to This Report

As part of the Health Care Use at the End-of-Life in Western Canada Study, in-depth, supplementary reports were produced for each of the four western provinces. British Columbia conducted an analysis of service utilization, creating “baskets” of utilization based on a count of all service events in the two-year period before death. Alberta combined a description of palliative home care programs from three RHAs, and a study

i. Canadian Institute for Health Information. (2007). *Health Care Use at the End-of-Life in Western Canada*. Victoria, BC: Author.

to determine the efficacy of a palliative patient assessment tool. Manitoba examined patterns in transfers among hospitals, long-term care facilities and home care, as well as palliative patient registration methods and issues. Saskatchewan focused its analysis on health care costs in the two years before death.

This report provides data on clients, service utilization and costs for persons who died in Saskatchewan in the 2003/04 fiscal year. Data were collected for the two years prior to death for each decedent.

1.3 Previous Studies Focusing on the Costs of End-of-Life Care

It is important to note that this project focused on end-of-life care, regardless of the context in which a person died. Thus, while some decedents received palliative care, the majority did not. Furthermore, this project did not analyze specific palliative care contexts or services. There is a fairly modest literature on the costs and cost-effectiveness of palliative care. There is an even smaller literature on the costs of end-of-life care. Readers interested in the cost-effectiveness of palliative care are referred to Bosanquetⁱⁱ (2002); Chochinov and Kristjansonⁱⁱⁱ (1998); Coyle, et al. (1999)^{iv}; Davis, Walsh, LeGrand, Lagman, Harrison, and Rybicki^v (2005); Deans^{vi} (2004); Fassbender, Fainsinger, Brenneis, Brown, Braun, and Jacobs^{vii} (2005); Higginson, et al.^{viii} (2003); Lewin, Butten, Powell, Gibb, Rader, Mutch, and Herzog^{ix} (2005); Maltoni, Nanni, Naldoni, Serra and Amadori^x (1998); and Robinson and Pham^{xi} (1996);

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- ii Bosanquet, N. (2002). Models of palliative care service delivery: What is most cost effective? *Disease Management & Health Outcomes*, 10 (6), 349–353.
 - iii Chochinov, H.M. & Kristjanson, L. (1998). Dying to pay: the cost of end-of-life care. [Review]. *Journal of Palliative Care*, 14 (4), 5–15.
 - iv Coyle, D., Small, N., Ashworth, A., Hennessy, S., Jenkins-Clark, S. et al. (1999). Costs of palliative care in the community, in hospitals and in hospices in the UK. *Critical Reviews in Oncology-Hematology*, 32 (2), 71–85.
 - v Davis, M.P., Walsh, D., LeGrand, S.B., Lagman, R.L., Harrison, B., & Rybicki, L. (2005). The financial benefits of acute inpatient palliative medicine: an inter-institutional comparative analysis by all patient refined-diagnosis related group and case mix index. *The Journal of Supportive Oncology*, 3(4), 313–31.
 - vi Deans, C.T. (2004). The state of hospice in America: looking back, looking forward. *Caring*, 23 (2), 44–57.
 - vii Fassbender, K., Fainsinger, R., Brenneis, C., Brown, P., Braun, T., & Jacobs, P. (2005). Utilization and costs of the introduction of system-wide palliative care in Alberta, 1993-2000. *Palliative Medicine*, 19 (7), 513–520.
 - viii Higginson, I.J., Finlay, I.G., Goodwin, D.M., Hood, K., Edwards, A.G.K. et al. (2003). Is there evidence that palliative care teams alter end-of-life experiences of patients and their caregivers? *Journal of Pain & Symptom Management*, 25 (2), 150-168.
 - ix Lewin, S.N., Butten, B.M., Powell, M.A., Gibb, R.K., Rader, J.S., Mutch, D.G., & Herzog, T.J. (2005). Resource utilization for ovarian cancer patients at the end of life: How much is too much? *Gynecologic Oncology*, 99(2), 261–266.
 - x Maltoni, M., Nanni, O., Naldoni, M., Serra, P. & Amadori, D. (1998). Evaluation of cost of home therapy for patients with terminal diseases. [Review]. *Current Opinion in Oncology*, 10 (4), 302–309.
 - xi Robinson, B.E. & Pham, H. (1996). Cost-effectiveness of hospice care. *Clinics in Geriatric Medicine*, 12 (2), 417-428.

With regard to the costs of end-of-life care, there are several American studies on this topic. Most of the studies analyzed Medicare costs at the end-of-life. Scitovski (2005)^{xii} notes two cautions which need to be considered when assessing end-of-life cost estimates from Medicare data. The first is that the data are limited to persons 65 years of age or older. The second, and major, caution is that the Medicare data sets do not include the majority of costs associated with nursing home care. This omission would tend to result in under-estimates of the costs attributed to end-of-life care using Medicare data.

The American literature varied in the cost estimates produced based on the year the study was conducted, the period prior to death which was analyzed, the type of condition leading to death, and other factors. Thus, it is not possible to derive a clear consensus estimate of current costs in the United States. On the low end of the cost spectrum Liu, Wiener and Niefeld (2006)^{xiii} estimated a cost of \$40,000 for the year prior to death (in 1995) using both Medicare and Medicaid data. Similarly, Hoover, Crystal, Kumar, Sambamoorthi and Cantor (2002)^{xiv} estimated an overall cost of \$37,581 for 1996 using Medicare data. At the higher end of the range, Lewin, Butten, Powell, Gibb, Rader, Mutch and Herzog (2005)^{xv} studied patients who died from ovarian cancer. While their study compared hospice to non-hospice groups, the costs for non-hospice hospital care in the last 60 days of life was \$59, 316. Daviglus et al. (2005)^{xvi} related costs in the last year of life to cardiovascular risk profiles earlier in the patients lives. Depending on the risk profiles, annual Medicare costs (in 2002 dollars) ranged from \$86,908 for persons with low risk levels at baseline (1967–1973), compared to \$95,776 for people with four or more risk factors at baseline.

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- xii Scitovski, A.A. (2005). "The high cost of dying": What do the data show? *Milbank Quarterly*, 83 (4), 825-841.
- xiii Liu, K., J.M., Wiener & Niefeld, M.R. (2006). End of life Medicare and Medicaid expenditures for dually eligible beneficiaries. *Health Care Financing Review*, 24 (4), 95-110.
- xiv Hoover D.R., Crystal, S., Kumar, R., Sambamoorthi, U., & Cantor, J.C. (2002). Medical expenditures during the last year of life: Findings from the 1992-1996 Medicare current beneficiary survey. *Health Services Research*, 37 (6), 1625-1642.
- xv Lewin, S.N., Buttin, B.M., Powell, M.A., Gibb, R.K., Rader, J.S., Mutch, D.G, & Herzog, T.J. (2005). Resource utilization for ovarian cancer patients at the end of life: How much is too much? *Gynecologic Oncology*, 99, 261-266.
- xvi Daviglus, M.L., Liu, K., Pirzadam A., Yan, L.L., Garside, D.B., Greenland, P., Manheim, L.M., Dyer, A.R., Wang, R., Lubitz, J., Manning, W.G., Fries, J.F., & Stamler, J. (2006). Cardiovascular risk profile earlier in life and Medicare costs in the last year of life. *Archives of Internal Medicine*, 165, 1028–1034.

In an American study, which also relates to this paper, Lunney, Lynn and Hogan (2002)^{xvii} estimated costs for the groupings developed by Lunney and her colleagues. The costs for the last year of life for each of the Lunney groups for the mid-1990s were as follows:

| | |
|------------------|----------|
| Sudden Death | \$625 |
| Terminal Illness | \$31,052 |
| Organ Failure | \$36,834 |
| Frail Elderly | \$24,849 |
| Other | \$9,225 |

With regard to Canadian data, perhaps the best known study is that of McGrail, Green, Barer, Evans, Hertzman and Normand (2000)^{xviii}. Using BC linked data sets which cover all major aspects of health care delivery, including long term care facilities, the total costs of care in the last 6 months of life, for people who died in 1993 (in 1995 dollars), were as follows:

| Age Group | Cost(\$) |
|-----------|----------|
| 65 | 19,053 |
| 75-76 | 22,112 |
| 85-87 | 26,245 |
| 90-93 | 27,152 |

xvii Lunney, J.R., Lynn, J., & Hogan, C. (2002). Profiles of older Medicare Decedents. *Journal of the American Geriatrics Society*, 50, 1108-1112.

xviii McGrail, K., Green, B., Barer, M.L., Evans, R.G., Hertzman, C., & Normand, C. (2000). Age, costs of acute and long-term care and proximity to death: Evidence for 1987-88 and 1994-95 in British Columbia. *British Geriatrics Society*, 29, 249-253.

2. Methods

Detailed utilization data were obtained, on an anonymized basis, for the two year period prior to death for Saskatchewan residents, who died in Saskatchewan, during the 2003/04 fiscal year. An extensive set of edit and logic checks were used to clean the data. Given the inter-relationships of the data elements used in the analysis, and the relatively few people with missing information, or other factors requiring an adjustment, it was decided to exclude such persons from the analysis. In this way all analyses would be conducted based on individuals with complete and appropriate data. People were excluded from the analysis for several reasons including the following: they had a missing cause of death (14 cases); they had an entry date within 30 days of death (6 cases); they were under 19 years of age (88 cases); they had an unknown marital status (6 cases); and, after the above exclusions, clients with no recorded services (62 cases) were also excluded from the analysis. This resulted in the exclusion of some 176 people from an initial cohort of 8,879 individuals, or less than 2 percent of the initial cohort, and did not result in any material difference in the overall findings. Thus, the final cohort for analysis was comprised of 8,703 individuals.

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Finally, it should be noted that the data in this report does not include separate services which were completely paid for by the individual and/or his/her family (e.g., out of pocket expenses) and for which no portion of the cost was paid through public funds, or for services not recorded in the Saskatchewan Health database. For example, hospital costs are based on funded costs (estimated based on hospitalizations funded through the acute care funding pool). Services not funded through the acute care funding pool include cardiac catheterization, dialysis, radiation therapy, rehabilitation and mental health services. The drug data do not include most non-Formulary drug use, most over-the-counter drug use, use of professional samples, in-hospital drug use, or prescription drug use for registered Indians. Capture of physician services is also not complete: services delivered by physicians in salaried or contractual arrangements may or may not be captured (e.g., those on alternate payment contracts, some ER physicians, salaried Northern Medical Services physicians, etc.). As well, no claims are captured for ICU physicians in Regina, salaried Saskatchewan Cancer Agency physicians, or psychiatrists in contract with the Regional Health Authorities.

3. Findings

3.1 Introduction

This chapter constitutes a fairly detailed presentation of findings. In addition, five extensive, confidential data supplements were prepared in conjunction with this report for Saskatchewan Health. These supplements are confidential as some of the cells in the tables presented have five or fewer cases. This confidentiality requirement has been enacted to protect the privacy of, and ensure confidentiality for, the individuals in this study.

This chapter presents summary data on the number of clients in the study and their service utilization. The bulk of the chapter focuses on different aspects of costs for the twelve 30 day periods prior to death and for the 30, 90, 180 and 365 days prior to death.

3.2 Socio-Demographic Information

As noted above, the number of total individuals included in the analyses for the 30, 90, 180 and 365 day cohorts vary as not all people had medical coverage from Saskatchewan Health for the full two year period prior to death. The total samples for each of the major cohorts in this project were as follows:

| | |
|----------------|-------|
| 30 Day Cohort | 8,703 |
| 90 Day Cohort | 8,693 |
| 180 Day Cohort | 8,681 |
| 365 Day Cohort | 8,643 |

Using the full sample represented in the 30 days prior to death cohort, it was found that, overall, there were 4,292 females and 4,411 males. The age distribution for males, females, and overall, for the 30 day cohort are presented in Table 1.

| | | Age Groups | | | | | Total |
|---------|---|------------|-------|-------|-------|-------|-------|
| | | 19–44 | 45–64 | 65–74 | 75–84 | 85+ | |
| Males | N | 232 | 660 | 821 | 1,434 | 1,264 | 4,411 |
| | % | 5.3 | 15.0 | 18.6 | 32.5 | 28.7 | 100 |
| Females | N | 147 | 386 | 583 | 1,190 | 1,986 | 4,292 |
| | % | 3.4 | 9.0 | 13.6 | 27.7 | 46.3 | 100 |
| Total | N | 379 | 1,046 | 1,404 | 2,624 | 3,250 | 8,703 |
| | % | 4.4 | 12.0 | 16.1 | 30.2 | 37.3 | 100 |

Table 2 presents data, by gender on the marital status for clients in the sample.

| | | Marital Status | | | |
|----------------|---|-------------------------------|--------------------------|---------|-------|
| | | Single/Divorced/ Separated | Married or Common Law | Widowed | Total |
| Males | N | 1,052 | 2,535 | 824 | 4,411 |
| | % | 23.8 | 57.5 | 18.7 | 100 |
| Females | N | 591 | 1,102 | 2,599 | 4,292 |
| | % | 13.8 | 25.7 | 60.6 | 100 |
| Total | N | 1,643 | 3,637. | 3,423 | 8,703 |
| | % | 18.9 | 41.8 | 39.3 | 100 |

As can be seen in Table 1, females tended to die at a more advanced age. Table 2 indicates that while the majority of men who died were married or living in common law relationships, most of the women who died were widows.

3.3 The Importance of the Costs of Residential Long Term Care in Any Analysis of End-of-Life Care Costs

A major, and significant, finding of this study was that long term care facility costs can have a profound impact on the average costs of care. For example, for people who were in long term care facilities at the start of the six month period prior to death, the average cost was \$28,125, while the average cost for people living independently in the community was \$16,068. Thus, the influence of long term care facility costs can be quite significant on any aggregate cost estimates, particularly if one looks at costs over a six month to one year period. The average cost of care will also vary in relation to the proportion of people in a study who are in long term care facilities.

In order to reflect the impact of residential long term care, a number of the data tables in this report show the impact on costs of differential amounts of time spent in long term care facilities.

3.4 Total Costs and Costs to Government

It appears, from a review of the literature, that this report is relatively unique in that it partitions costs into costs to government and total costs. Costs to government reflect payments made for services directly by the state, or through intermediaries such as Regional Health Authorities. Hospital costs, and physician costs, are paid for by government. Residential long term care facilities generally have co-payments made by clients. There is a base co-payment which is linked to the minimum income an individual or family can receive based on a combination of Old Age Security and Guaranteed Income Supplement (OAS/GIS) payments. Additional payments may be made, up to a specified amount, based on one's ability to pay. In most jurisdictions the co-payments are seen as client contributions to the costs of room and board. In this report, the

average costs to government, and average user fees, for each Regional Health Authority, were used to calculate the cost to government and total cost, per client, for residential long term care services.

With regard to home care, Saskatchewan charges a modest user fee for non-professional home care services. Government data incorporate total costs but the contributions of individuals are also noted. Thus, it was possible, on an average basis per region, to calculate costs to government and costs paid by individuals for home care services. Overall, the user fees amount to approximately ten percent of total costs. With regard to pharmaceuticals, data are collected by total cost, cost to government and cost to individuals.

Thus, total costs in this report represents the costs to government plus any user fees. Completely private pay costs, or costs covered by various insurance plans, or private supplementary benefits providers, are not incorporated into the costs used in this report.

3.5 The Lunney/Fassbender Grouping System

In any end-of-life care study it is important to be able to group individuals into clusters of relatively like individuals for purposes of analysis and comparison. For example, if one combines people who had a sudden death (for example, in an automobile accident), with someone who had a serious chronic illness, the resulting average will be a statistical artifact which represents neither of these groups, and can not readily be used for planning or costing purposes.

In the Health Care at the End-of-Life in Western Canada Study, it was decided to use a grouping approach developed by Lunney and her colleagues. This grouping is used in this report as well. Table 3 presents the names, and descriptions of, what are referred to as the Lunney/Fassbender Causes of Death Trajectory Groupings. This terminology is used as Fassbender has adapted the methodology for calculating group membership to the Canadian context.

Table 3 Cause of Death Trajectory Groupings*

| Name of Grouping | Description |
|--|--|
| Sudden Death (e.g., accidental death, falls, trauma) | Decedents in this group are likely to be in good health or to display normal functional ability before the incident that causes death. While it is possible that a condition associated with one of the groups below is present, the underlying cause of death is one of trauma, accident, or other unintended causes. Typically, these decedents display low health care costs relative to the other groups. |
| Terminal Illness (e.g., cancer, chronic renal failure, HIV related diseases) | Typically, decedents in this group, diagnosed with some form of cancer, in the last year of life show substantial physician billing for cancer related treatment. Functional status information demonstrates a terminal phase for this group. Typically, these decedents demonstrate a short period of evident decline. |
| Organ Failure (e.g., congestive heart failure and chronic obstructive pulmonary disease) | Organ failure decedents are typically diagnosed with either congestive heart failure or constructive obstructive pulmonary disease. Decedents in this group are likely to experience long-term limitations, exacerbated by acute episodes (with high costs or long hospitalizations) followed by recovery. Episode severity may gradually increase, while post-episode recoveries lessen, eventually leading to death. |
| Frailty (e.g., neurological decline and other frequent causes of death among the elderly) | Typically, due to their advanced age, decedents in this category may display lower functional status relative to other decedents in the year before death. The pattern of decline over time is typically more gradual, characterized as prolonged dwindling. |
| Other (e.g., those not elsewhere categorized) | These are the remaining decedents whose conditions are not classified into any of the other four categories, and may not exhibit specific patterns in functional decline or service utilization. |

* Fassbender, K., Smythe, J.G., Carson, M., Finegan, B.A., & Boothe, P.M. (2006). *Costs and Utilization of Health Care Services at End-of-life. Report of the Institute for Public Economics Health Research Group to Alberta Health and Wellness*. Alberta: Author; Lunney, J., Lynn, J., Foley, D., Lipson, S., & Guralnik, J. (2003). Patterns of Functional Decline at the End of Life. *Journal of the American Medical Association*, 289 (18), 2387–2392; Lunney, J., Lynn, J., & Hogan, C. (2002). Profiles of Older Medicare Decedents. *Journal of the American Geriatric Society*, 50, 1108–1112.

3.6 Overall Trend Analysis of the End-of-Life Care Costs

One of the important aspects of this project was that data were collected for the two year period prior to death for the clients in the study. Most published reports only present data on one time period such as 30 days, six months, or one year, prior to death. This study covered, and this paper reports on, four commonly referenced time periods prior to death: 30 days, 90 days, 180 days and 365 days. While there was a slight overall increase in utilization and costs in the one to two year period prior to death, there was relatively little overall variability in costs. Thus, this section presents data on the twelve 30 day periods prior to death. Data are presented for total costs, that is costs to government plus user fees. There were potential client contributions in three areas: residential long term care, home care and pharmaceuticals.

Table 4 presents data on the costs to government, and total costs, for the twelve 30 day periods prior to death. It presents overall costs, costs for individuals with no residential care, and costs for people who were primarily in long term care facilities. The grouping to which an individual is assigned is based on their status at the beginning of the first 30 day period. As can be seen in Table 4, there is a significant difference in costs between individuals with, and without, residential long term care. Overall, the average total cost per person, per 30 day period, was \$2,639, ranging from \$1,641 for the first of the 12 periods to \$7,420 for the final 30 day period prior to death. The average cost, per 30 day period for people with no residential care was \$1,655 ranging from \$613 to \$8,087. The average cost for people who were primarily in residential care was \$4,570 ranging from \$4,543 to \$5,260. Figure 1 presents costs for all clients, clients without residential care, and clients who primarily used residential care. As can be seen from Table 4 and Figure 1, while average total costs per person increased significantly for all clients, and for clients without residential care for the better part of the 12 month period, the costs for clients in long term care facilities were relatively consistent, reflecting the lower level of use of other health services, such as hospitals, at the end of life. It should also be noted that there is a large discrepancy in the total cost figure, and the cost to government figure for people in long term care facilities compared to the other two groups. This difference is due to user fees charged for facility care.

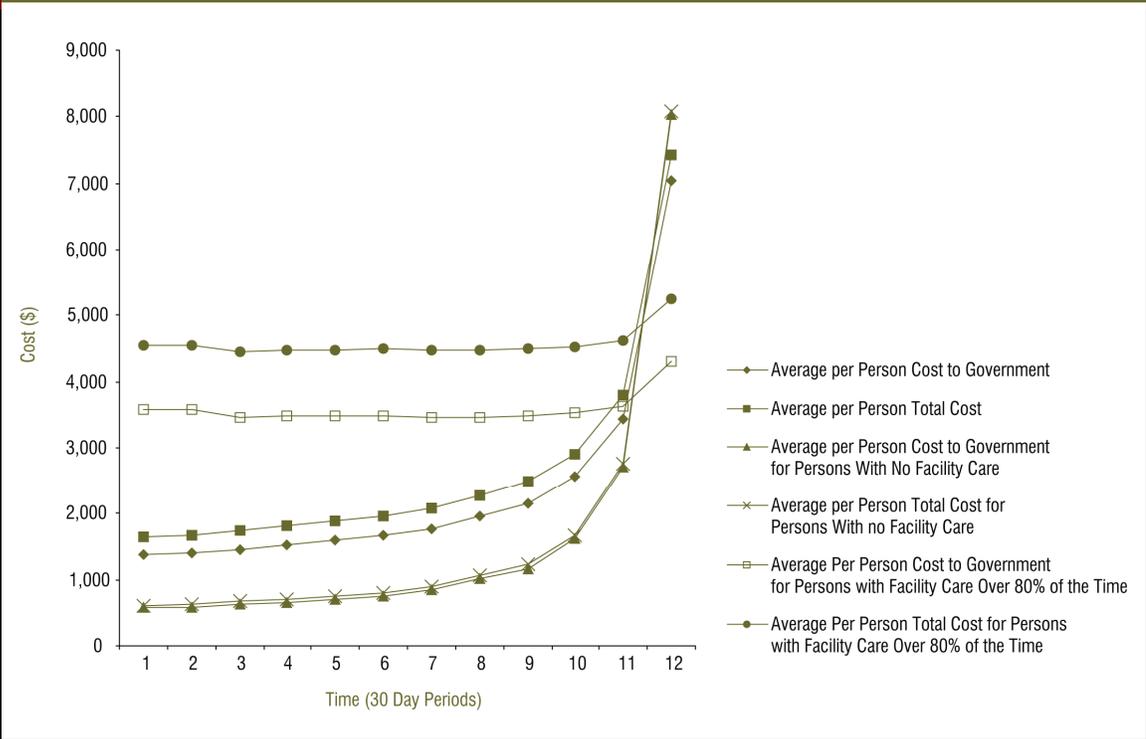
Table 5 presents data on costs for the twelve 30 day periods prior to death for the Lunney/Fassbender groupings of decedents, in the same format as Table 4. As can be seen in Table 5, overall, the grouping with the highest average total cost per 30 day period was the "Other" group at \$3,006. The next highest cost group was Organ Failure at \$2,813, while the lowest cost group was Sudden death at \$1,144. For individuals with no facility care the highest total cost group was Terminal Illness at an average of \$2,145 per 30 day period. The lowest cost group was Sudden Death at an average cost of \$482 per 30 day period. It is interesting to note that overall, for all clients, the Other group had the highest average total cost while the highest cost in the 30 days prior to death was for the Terminal Illness group. For clients who had no facility care, Terminal Illness had the highest average cost but the Other category had the highest cost in the 30 day period prior to death (\$11,040).

It is also interesting to note that, for clients who were primarily in long term care facilities, the average cost per 30 day period was again substantially higher than for the other two groups and there was a very consistent average total cost for Frailty, Organ Failure, and Other. The Sudden Death category had the highest average total costs but there were only 40 clients in that group. Interestingly, the Terminal Illness group had the lowest average total cost per 30 day period.

Figures 2 and 3 present data for the Lunney/Fassbender groups, for all clients combined, with regard to costs to government and total costs.

| Table 4 Costs (\$) to Government and Total Costs (\$) for the Twelve 30 Day Periods Prior to Death | | | | | | | | | | | | | |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Average of All Periods |
| Overall Costs | | | | | | | | | | | | | |
| Average per Person Cost to Government | 1,373 | 1,394 | 1,463 | 1,524 | 1,587 | 1,662 | 1,776 | 1,951 | 2,151 | 2,562 | 3,429 | 7,030 | 2,325 |
| Average per Person Total Cost | 1,641 | 1,668 | 1,742 | 1,809 | 1,880 | 1,964 | 2,086 | 2,270 | 2,482 | 2,911 | 3,798 | 7,420 | 2,639 |
| No Facility Care | | | | | | | | | | | | | |
| Average per Person Cost to Government for Persons With No Facility Care | 569 | 590 | 639 | 649 | 694 | 761 | 857 | 1,013 | 1,172 | 1,611 | 2,699 | 8,039 | 1,608 |
| Average per Person Total Cost for Persons With no Facility Care | 613 | 634 | 686 | 694 | 740 | 808 | 905 | 1,062 | 1,222 | 1,662 | 2,751 | 8,087 | 1,655 |
| Facility Care | | | | | | | | | | | | | |
| Average Per Person Cost to Government for Persons with Facility Care Over 80% of the Time | 3,582 | 3,571 | 3,463 | 3,487 | 3,472 | 3,494 | 3,466 | 3,467 | 3,489 | 3,534 | 3,629 | 4,295 | 3,579 |
| Average per Person Total Cost for Persons with Facility Care Over 80% of the Time | 4,543 | 4,553 | 4,460 | 4,486 | 4,471 | 4,493 | 4,465 | 4,464 | 4,488 | 4,533 | 4,628 | 5,260 | 4,570 |

Figure 1 Costs to Government and Total Costs for the Twelve 30 Day Periods Prior to Death



| Table 5 Cost (\$) to Government and Total Costs (\$) for the Twelve 30 Day Periods Prior to Death by the Lunney/Fassbender Classification | | | | | | | | | | | | | | |
|---|----------------------------|---------------------------------------|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|------------------------|
| Overall Costs | Lunney/FassBender Grouping | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | Average of All Periods |
| | | Average Per Person Cost to Government | Frailty | 1,725 | 1,767 | 1,794 | 1,762 | 1,834 | 1,907 | 1,990 | 2,079 | 2,237 | 2,428 | 2,959 |
| | Organ Failure | 1,594 | 1,555 | 1,615 | 1,694 | 1,730 | 1,819 | 1,946 | 2,076 | 2,252 | 2,681 | 3,372 | 7,137 | 2,456 |
| | Other | 1,462 | 1,456 | 1,609 | 1,875 | 1,918 | 1,806 | 1,984 | 2,404 | 2,477 | 2,560 | 3,205 | 8,705 | 2,622 |
| | Sudden Death | 530 | 556 | 554 | 612 | 717 | 896 | 977 | 975 | 737 | 902 | 1,430 | 3,216 | 1,008 |
| | Terminal Illness | 871 | 951 | 1,077 | 1,190 | 1,272 | 1,333 | 1,463 | 1,791 | 2,164 | 2,865 | 4,398 | 8,988 | 2,364 |
| Average Per Person Total Cost | Frailty | 2,131 | 2,179 | 2,216 | 2,186 | 2,270 | 2,348 | 2,440 | 2,536 | 2,705 | 2,916 | 3,463 | 6,047 | 2,786 |
| | Organ Failure | 1,900 | 1,867 | 1,931 | 2,019 | 2,064 | 2,165 | 2,301 | 2,443 | 2,631 | 3,078 | 3,789 | 7,570 | 2,813 |
| | Other | 1,788 | 1,794 | 1,957 | 2,229 | 2,278 | 2,178 | 2,366 | 2,788 | 2,883 | 2,986 | 3,656 | 9,164 | 3,006 |
| | Sudden Death | 636 | 666 | 669 | 734 | 849 | 1,028 | 1,118 | 1,119 | 891 | 1,057 | 1,590 | 3,376 | 1,144 |
| | Terminal Illness | 972 | 1,055 | 1,186 | 1,302 | 1,388 | 1,458 | 1,594 | 1,930 | 2,315 | 3,033 | 4,594 | 9,237 | 2,505 |
| No Facility Care | Lunney/FassBender Grouping | | | | | | | | | | | | | |
| | Frailty | 501 | 539 | 584 | 474 | 565 | 572 | 632 | 744 | 879 | 1,028 | 1,721 | 6,358 | 1,216 |
| | Organ Failure | 680 | 632 | 667 | 652 | 660 | 792 | 904 | 977 | 1,032 | 1,558 | 2,502 | 8,447 | 1,625 |
| | Other | 537 | 332 | 537 | 632 | 837 | 877 | 1,086 | 1,379 | 1,507 | 1,474 | 2,369 | 10,995 | 1,880 |
| | Sudden Death | 203 | 239 | 203 | 198 | 225 | 254 | 337 | 337 | 257 | 243 | 657 | 2,321 | 456 |
| | Terminal Illness | 595 | 687 | 759 | 870 | 911 | 968 | 1,067 | 1,358 | 1,692 | 2,388 | 4,059 | 9,875 | 2,102 |
| Average Per Person Total Cost for Persons With No Facility Care | Frailty | 554 | 591 | 639 | 528 | 621 | 627 | 688 | 801 | 936 | 1,089 | 1,779 | 6,408 | 1,272 |
| | Organ Failure | 729 | 681 | 717 | 704 | 712 | 844 | 958 | 1,031 | 1,086 | 1,614 | 2,557 | 8,494 | 1,677 |
| | Other | 586 | 376 | 586 | 683 | 884 | 925 | 1,138 | 1,428 | 1,561 | 1,529 | 2,421 | 11,040 | 1,930 |
| | Sudden Death | 227 | 263 | 227 | 223 | 253 | 278 | 364 | 364 | 285 | 270 | 686 | 2,341 | 482 |
| | Terminal Illness | 631 | 725 | 800 | 909 | 950 | 1,010 | 1,110 | 1,401 | 1,737 | 2,435 | 4,108 | 9,927 | 2,145 |

| Facility Care | | Cost (\$ to Government and Total Costs (\$) for the Twelve 30 Day Periods Prior to Death by the Lunney/Fassbender Classification (cont'd) | | | | | | | | | | | | Average of All Periods | | | |
|---|------------------|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------|--|--|--|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | | | | |
| Lunney/FassBender Grouping | | | | | | | | | | | | | | | | | |
| Average Per Person Cost to Government for Persons with Facility Care Over 80% of the Time | Frailty | 2,782 | 2,830 | 2,842 | 2,875 | 2,931 | 3,062 | 3,165 | 3,234 | 3,413 | 3,639 | 4,029 | 4,832 | 3,303 | | | |
| | Organ Failure | 2,600 | 2,570 | 2,658 | 2,840 | 2,908 | 2,950 | 3,092 | 3,286 | 3,593 | 3,917 | 4,330 | 5,695 | 3,370 | | | |
| | Other | 2,431 | 2,632 | 2,731 | 3,176 | 3,049 | 2,778 | 2,925 | 3,477 | 3,491 | 3,695 | 4,081 | 6,308 | 3,398 | | | |
| | Sudden Death | 2,256 | 2,233 | 2,407 | 2,794 | 3,316 | 4,283 | 4,352 | 4,346 | 3,268 | 4,381 | 5,511 | 7,936 | 3,924 | | | |
| | Terminal Illness | 1,512 | 1,565 | 1,817 | 1,936 | 2,114 | 2,184 | 2,386 | 2,799 | 3,265 | 3,978 | 5,188 | 6,922 | 2,972 | | | |
| Average Per Person Total Cost for Persons with Facility Care Over 80% of the Time | Frailty | 3,494 | 3,554 | 3,580 | 3,621 | 3,697 | 3,838 | 3,955 | 4,037 | 4,236 | 4,496 | 4,919 | 5,734 | 4,097 | | | |
| | Organ Failure | 3,188 | 3,172 | 3,266 | 3,465 | 3,552 | 3,619 | 3,779 | 3,997 | 4,331 | 4,690 | 5,145 | 6,553 | 4,063 | | | |
| | Other | 3,047 | 3,278 | 3,391 | 3,848 | 3,737 | 3,490 | 3,651 | 4,212 | 4,267 | 4,511 | 4,949 | 7,201 | 4,132 | | | |
| | Sudden Death | 2,793 | 2,791 | 3,002 | 3,432 | 3,992 | 4,982 | 5,093 | 5,103 | 4,090 | 5,209 | 6,363 | 8,838 | 4,641 | | | |
| | Terminal Illness | 1,768 | 1,824 | 2,085 | 2,216 | 2,411 | 2,501 | 2,722 | 3,161 | 3,661 | 4,428 | 5,727 | 7,629 | 3,344 | | | |

Figure 2 Average per Person Government Costs in the Twelve 30 Day Periods Prior to Death by the Lunney/Fassbender Categories

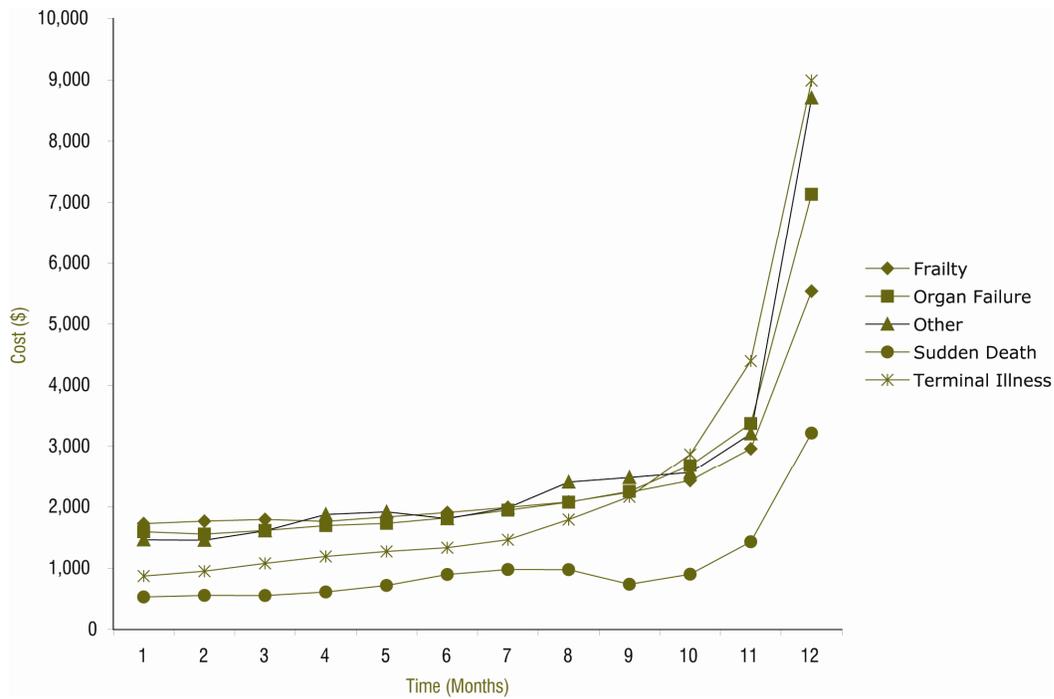
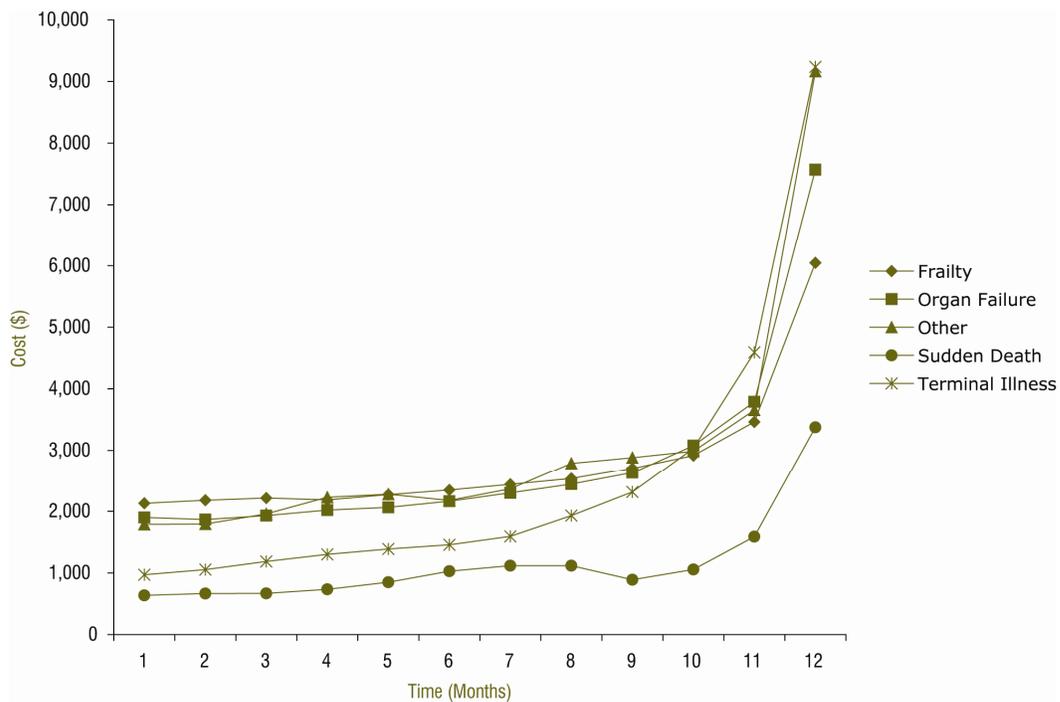


Figure 3 Average per Person Total Costs In the Twelve 30 Day Periods Prior to Death By the Lunney/Fassbender Categories



3.7 Costs for the 30, 90, 180 and 365 Day Periods Prior to Death

3.7.1 Introduction

This section presents data on average total costs, per person, for the four major time periods prior to death used in our analysis. Appendix B presents the same tables in regard to average costs to government. Due to the significant impact residential long term care has on average costs, the tables presented in this section provide data on the average total costs, per person, and the average total costs, per person, excluding facility care. The tables all have the same basic format and show the cost for each component of the health care system.

3.7.2 Costs Related to Socio-Demographic Variables

Overall, except for the costs for the 30 day period prior to death, the average total costs for females were higher than for males. Thus, while the average total cost for males and females were, \$7,581 and \$7,236, respectively, for the 30 days prior to death, the costs for the 365 days prior to death were \$28,649 for males and \$35,306 for females (see Table 6).

As can be seen in Table 7, there was a clear progression in which costs were increasingly higher in accordance with age for the period 365 days prior to death. However, this was not the case for the other time periods. While costs increased across all time periods for persons aged 19–44, 45–64 and 65–74, they tended to be lower for the 75–84 and 85+ age groups than the 65–74 age group for the 30, 90 and 180 day time periods. Table 8 indicates that there were also different patterns of costs across the four time periods by marital status, although the lowest costs across all four time periods were for people who were single, divorced or separated. For the 365 day period, the costs for persons who were widowed was significantly higher (\$37,030) than for those who were married or living in common law relationships (\$28,699).

3.7.3 Costs Related to the Care Context of the Client

As noted above, the context of care has a great deal to do with the costs incurred at the end of life. Table 9 presents data for each of the time periods in our analysis, that is the 30, 90, 180 and 365 days prior to death. For each time period, the table notes the distribution of costs depending on the context of the client at the start of the period, that is, in facility, in hospital, in community with home care and in the community without home care. For each time period, the highest cost was for people who started the time period in the hospital. For the 30 and 90 day periods the next highest cost group was people living in the community with home care. Most of the costs for this group was related to hospital care.

For the 180 and 365 day groups, the second highest cost was for people in a long term care facility. What is also interesting, and quite significant, is that the facility care group had consistently lower costs for other parts of the health care system. Thus, there is an interesting and noticeable difference in the distribution of costs across the health care system for people in long term care facilities and people in the community. The majority of costs for community living individuals is for hospital care. The major costs for people in facilities is the cost of facility care.

| Table 6 Per Person Total Cost (\$) by Gender and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|--------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|--|
| Time Period Prior to Death | Gender | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Male | 1,168 | 169 | 5,507 | 166 | 570 | 7,581 | 6,413 | |
| | Female | 1,818 | 210 | 4,564 | 180 | 465 | 7,236 | 5,419 | |
| | Total | 1,488 | 189 | 5,042 | 173 | 518 | 7,411 | 5,923 | |
| 90 Days Prior to Death | Male | 3,162 | 437 | 8,815 | 473 | 997 | 13,884 | 10,722 | |
| | Female | 5,175 | 533 | 7,296 | 523 | 830 | 14,357 | 9,182 | |
| | Total | 4,155 | 484 | 8,065 | 498 | 915 | 14,117 | 9,962 | |
| 180 Days Prior to Death | Male | 5,679 | 763 | 11,073 | 875 | 1,401 | 19,790 | 14,112 | |
| | Female | 9,715 | 951 | 9,309 | 985 | 1,188 | 22,149 | 12,434 | |
| | Total | 7,672 | 856 | 10,202 | 929 | 1,296 | 20,955 | 13,283 | |
| 365 Days Prior to Death | Male | 10,057 | 1,300 | 13,706 | 1,575 | 2,011 | 28,649 | 18,592 | |
| | Female | 17,983 | 1,773 | 11,962 | 1,828 | 1,761 | 35,306 | 17,323 | |
| | Total | 13,978 | 1,534 | 12,843 | 1,700 | 1,887 | 31,942 | 17,964 | |

| Table 7 Per Person Total Cost (\$) by Age Group and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | | |
|--|-----------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|--|---------------------------------|
| Time Period Prior to Death | Age group | Type of Service | | | | | | | | Average Excluding Facility Care |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care | | |
| 30 Days Prior to Death | 19-44 | 149 | 130 | 3,963 | 121 | 648 | 5,012 | 4,863 | | |
| | 45-64 | 356 | 279 | 6,255 | 230 | 679 | 7,800 | 7,444 | | |
| | 65-74 | 731 | 294 | 7,124 | 230 | 761 | 9,141 | 8,410 | | |
| | 75-84 | 1,375 | 182 | 5,680 | 165 | 555 | 7,956 | 6,581 | | |
| | 85+ | 2,428 | 129 | 3,362 | 142 | 317 | 6,378 | 3,950 | | |
| 90 Days Prior to Death | 19-44 | 407 | 255 | 6,214 | 345 | 1,008 | 8,229 | 7,822 | | |
| | 45-64 | 957 | 562 | 9,885 | 613 | 1,178 | 13,195 | 12,238 | | |
| | 65-74 | 1,781 | 659 | 11,655 | 620 | 1,328 | 16,042 | 14,261 | | |
| | 75-84 | 3,753 | 491 | 9,154 | 495 | 979 | 14,872 | 11,119 | | |
| | 85+ | 6,972 | 405 | 5,266 | 428 | 589 | 13,660 | 6,688 | | |
| 180 Days Prior to Death | 19-44 | 674 | 374 | 8,578 | 623 | 1,421 | 11,670 | 10,996 | | |
| | 45-64 | 1,713 | 784 | 12,377 | 1,061 | 1,639 | 17,573 | 15,860 | | |
| | 65-74 | 3,045 | 1,020 | 14,767 | 1,138 | 1,869 | 21,839 | 18,794 | | |
| | 75-84 | 6,762 | 891 | 11,571 | 938 | 1,385 | 21,547 | 14,785 | | |
| | 85+ | 13,129 | 837 | 6,616 | 825 | 852 | 22,258 | 9,129 | | |
| 365 Days Prior to Death | 19-44 | 1,167 | 468 | 11,474 | 1,013 | 1,978 | 16,100 | 14,933 | | |
| | 45-64 | 3,137 | 1,074 | 15,416 | 1,780 | 2,312 | 23,719 | 20,582 | | |
| | 65-74 | 5,139 | 1,569 | 18,172 | 2,034 | 2,655 | 29,569 | 24,430 | | |
| | 75-84 | 11,950 | 1,581 | 14,439 | 1,744 | 2,021 | 31,735 | 19,786 | | |
| | 85+ | 24,351 | 1,748 | 8,587 | 1,573 | 1,301 | 37,560 | 13,209 | | |

| Table 8 Per Person Total Cost (\$) by Marital Status and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|------------------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|--|
| Time Period Prior to Death | Marital Status | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Single Divorced or Separated | 1,254 | 149 | 4,478 | 155 | 512 | 6,549 | 5,295 | |
| | Married or Common Law | 995 | 228 | 6,282 | 186 | 643 | 8,334 | 7,338 | |
| | Widowed | 2,124 | 168 | 3,995 | 168 | 389 | 6,844 | 4,719 | |
| 90 Days Prior to Death | Single Divorced or Separated | 3,528 | 392 | 7,338 | 429 | 871 | 12,559 | 9,030 | |
| | Married or Common Law | 2,613 | 530 | 9,928 | 529 | 1,121 | 14,721 | 12,108 | |
| | Widowed | 6,094 | 480 | 6,436 | 498 | 716 | 14,224 | 8,130 | |
| 180 Days Prior to Death | Single Divorced or Separated | 6,543 | 736 | 9,415 | 803 | 1,229 | 18,725 | 12,183 | |
| | Married or Common Law | 4,620 | 851 | 12,402 | 970 | 1,560 | 20,403 | 15,784 | |
| | Widowed | 11,453 | 919 | 8,242 | 946 | 1,047 | 22,607 | 11,154 | |
| 365 Days Prior to Death | Single Divorced or Separated | 12,167 | 1,380 | 11,696 | 1,481 | 1,758 | 28,481 | 16,314 | |
| | Married or Common Law | 8,028 | 1,326 | 15,370 | 1,733 | 2,242 | 28,699 | 20,671 | |
| | Widowed | 21,160 | 1,827 | 10,701 | 1,769 | 1,572 | 37,030 | 15,870 | |

| Table 9 Per Person Total Cost (\$) by Type of Service at Start of Period and Type of Service for 30, 90, 180 and 365 Day Time Periods | | Type of Service | | | | | | |
|---|------------------------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|
| Time Period Prior to Death | Type of Service At Start of Period | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care |
| 30 Days Prior to Death | In Facility | 3,999 | 5 | 1,023 | 197 | 188 | 5,412 | 1,414 |
| | In Hospital | 892 | 173 | 15,084 | 176 | 845 | 17,171 | 16,279 |
| | In the Community With Home Care | 185 | 878 | 5,130 | 240 | 501 | 6,932 | 6,748 |
| | In the Community Without Home Care | 48 | 48 | 4,831 | 119 | 700 | 5,746 | 5,699 |
| 90 Days Prior to Death | In Facility | 12,179 | 32 | 1,576 | 545 | 373 | 14,704 | 2,525 |
| | In Hospital | 3,768 | 650 | 23,739 | 660 | 1,537 | 30,354 | 26,586 |
| | In the Community With Home Care | 1,063 | 1,957 | 10,655 | 660 | 981 | 15,315 | 14,252 |
| | In the Community Without Home Care | 354 | 227 | 9,387 | 394 | 1,154 | 11,517 | 11,163 |
| 180 Days Prior to Death | In Facility | 24,598 | 24 | 1,931 | 1,002 | 569 | 28,125 | 3,527 |
| | In Hospital | 7,797 | 1,371 | 29,379 | 1,602 | 2,292 | 42,441 | 34,644 |
| | In the Community With Home Care | 2,774 | 3,605 | 13,132 | 1,287 | 1,367 | 22,164 | 19,391 |
| | In the Community Without Home Care | 919 | 422 | 12,395 | 755 | 1,577 | 16,068 | 15,149 |
| 365 Days Prior to Death | In Facility | 50,001 | 42 | 2,231 | 1,872 | 939 | 55,086 | 5,085 |
| | In Hospital | 17,229 | 2,731 | 32,495 | 3,148 | 3,367 | 58,970 | 41,742 |
| | In the Community With Home Care | 7,325 | 6,792 | 15,711 | 2,307 | 1,916 | 34,052 | 26,727 |
| | In the Community Without Home Care | 2,157 | 745 | 15,463 | 1,441 | 2,186 | 21,992 | 19,835 |

The costs of acute care for these people are relatively modest. Thus, it appears that long term care facilities are able to provide most of the services used by clients, within the facility, while clients living at home make extensive use of acute care hospitals.

3.7.4 Costs Related to the Lunney/Fassbender Groupings

Table 10 presents data for the five Lunney/Fassbender groupings. It is interesting to note that for the period 30 days prior to death, the highest cost factor for all groupings was hospital care, the next highest was residential long term care and the third highest was physician services. This pattern changes over time. For the period 365 days prior to death for Frailty, Organ Failure and Other, the highest cost factor was residential long term care. The clear exception to this pattern was terminal illness for which hospital care was, by far, the most significant cost factor across all time periods.

3.7.5 Costs for The Five Most Common Causes of Death

A wide range of causes of death were analyzed for this project. Table 11 presents the relative cost distributions, across types of health care services, and time before death for the five most common causes of death (in rank order). There are also interesting patterns of costs for the five main causes of death. For the 30 days prior to death, with one exception, the primary cost factor is hospital care. The exception is death due to diseases of the nervous system and sense organs, for which the highest cost was residential long term care. This could be related to people in long term care facilities suffering from dementia.

For the period 365 days prior to death, the major cost factor for neoplasms was hospital care. For the deaths due to diseases of the circulatory system, the respiratory system, and the nervous system and sense organs, the major cost factor was residential long term care.

3.7.6 Costs for Persons Receiving Palliative Care

Table 12 presents a comparison of people identified as palliative care clients. All clients identified as part of Saskatchewan's palliative drug care program, and all clients with a palliative care indicator for a hospital stay were characterized as palliative care clients. There were a total of 2,250 such clients. It is interesting to note that, the average total cost per client was less for people who were identified as palliative care than for people who did not receive palliative care except for the 365 days prior to death group. The difference between the two groups appears to diminish in proportion to the length of the period prior to death. This is understandable as most palliative care programs are designed for people near the end of life. This finding warrants further research to better understand why the costs were lower for palliative clients. One clear factor from the data presented in Table 12 is the relatively lower cost for hospital care, for palliative clients, across all time periods.

| Table 10 Per Person Total Cost (\$) by Lunney/Fassbender Classification and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|--|----------------------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|--|
| Time Period Prior to Death | Lunney/Fassbender Classification | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Frailty | 1,982 | 81 | 3,431 | 151 | 406 | 6,051 | 4,069 | |
| | Organ Failure | 1,672 | 115 | 5,046 | 157 | 578 | 7,568 | 5,896 | |
| | Other | 1,807 | 110 | 6,234 | 145 | 834 | 9,130 | 7,323 | |
| | Sudden Death | 570 | 22 | 2,245 | 75 | 423 | 3,335 | 2,765 | |
| | Terminal Illness | 878 | 440 | 7,121 | 238 | 543 | 9,219 | 8,341 | |
| 90 Days Prior to Death | Frailty | 5,801 | 279 | 5,230 | 460 | 686 | 12,455 | 6,655 | |
| | Organ Failure | 4,740 | 362 | 7,884 | 489 | 958 | 14,431 | 9,691 | |
| | Other | 5,150 | 353 | 8,577 | 470 | 1,198 | 15,748 | 10,597 | |
| | Sudden Death | 1,659 | 76 | 3,406 | 220 | 610 | 5,971 | 4,312 | |
| | Terminal Illness | 2,053 | 949 | 12,102 | 606 | 1,126 | 16,836 | 14,783 | |
| 180 Days Prior to Death | Frailty | 11,048 | 614 | 6,597 | 898 | 975 | 20,131 | 9,083 | |
| | Organ Failure | 8,833 | 761 | 9,943 | 958 | 1,317 | 21,812 | 12,979 | |
| | Other | 9,607 | 669 | 10,994 | 943 | 1,630 | 23,844 | 14,236 | |
| | Sudden Death | 3,138 | 175 | 4,531 | 428 | 807 | 9,079 | 5,941 | |
| | Terminal Illness | 3,304 | 1,382 | 15,305 | 1,019 | 1,661 | 22,671 | 19,367 | |
| 365 Days Prior to Death | Frailty | 20,981 | 1,302 | 8,367 | 1,707 | 1,434 | 33,791 | 12,810 | |
| | Organ Failure | 16,050 | 1,570 | 12,708 | 1,837 | 1,907 | 34,072 | 18,021 | |
| | Other | 17,605 | 1,407 | 13,404 | 1,773 | 2,188 | 36,376 | 18,771 | |
| | Sudden Death | 5,607 | 386 | 5,815 | 824 | 1,195 | 13,827 | 8,220 | |
| | Terminal Illness | 5,186 | 1,961 | 18,960 | 1,675 | 2,433 | 30,214 | 25,028 | |

| Table 11 Per Person Total Cost (\$) by Five Most Common Causes of Death and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | |
|--|---|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|
| Time Period Prior to Death | Five Most Common Causes of Death | Type of Service | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care |
| 30 Days Prior to Death | Diseases of the circulatory system | 1,519 | 100 | 4,032 | 145 | 496 | 6,294 | 4,775 |
| | Neoplasms | 859 | 434 | 7,084 | 237 | 538 | 9,152 | 8,293 |
| | Diseases of the respiratory system | 1,914 | 108 | 5,655 | 146 | 501 | 8,324 | 6,410 |
| | External causes of morbidity and mortality | 756 | 44 | 2,854 | 84 | 494 | 4,233 | 3,476 |
| | Diseases of the nervous system and sense organs | 3,122 | 99 | 1,950 | 156 | 214 | 5,541 | 2,419 |
| 90 Days Prior to Death | Diseases of the circulatory system | 4,339 | 332 | 6,124 | 445 | 812 | 12,052 | 7,713 |
| | Neoplasms | 1,982 | 932 | 12,094 | 599 | 1,128 | 16,735 | 14,753 |
| | Diseases of the respiratory system | 5,443 | 366 | 8,912 | 473 | 858 | 16,051 | 10,608 |
| | External causes of morbidity and mortality | 2,133 | 161 | 4,184 | 242 | 706 | 7,426 | 5,292 |
| | Diseases of the nervous system and sense organs | 9,257 | 280 | 3,228 | 459 | 433 | 13,656 | 4,399 |
| 180 Days Prior to Death | Diseases of the circulatory system | 8,141 | 683 | 7,742 | 864 | 1,131 | 18,561 | 10,421 |
| | Neoplasms | 3,158 | 1,349 | 15,323 | 1,003 | 1,664 | 22,497 | 19,339 |
| | Diseases of the respiratory system | 10,142 | 842 | 11,145 | 959 | 1,185 | 24,274 | 14,132 |
| | External causes of morbidity and mortality | 3,930 | 332 | 5,405 | 478 | 939 | 11,084 | 7,154 |
| | Diseases of the nervous system and sense organs | 17,821 | 568 | 4,276 | 888 | 661 | 24,214 | 6,393 |
| 365 Days Prior to Death | Diseases of the circulatory system | 15,015 | 1,387 | 9,831 | 1,657 | 1,641 | 29,532 | 14,517 |
| | Neoplasms | 4,898 | 1,903 | 18,952 | 1,637 | 2,433 | 29,823 | 24,925 |
| | Diseases of the respiratory system | 18,536 | 1,800 | 13,369 | 1,866 | 1,693 | 37,264 | 18,728 |
| | External causes of morbidity and mortality | 6,988 | 689 | 6,841 | 934 | 1,354 | 16,806 | 9,818 |
| | Diseases of the nervous system and sense organs | 34,177 | 1,211 | 5,952 | 1,678 | 1,052 | 44,070 | 9,893 |

Table 12 Per Person Total Cost (\$) by Receipt or Non-Receipt of Palliative Care and Type of Service for 30, 90, 180 and 365 Day Time Periods

| Time Period Prior to Death | Receipt or Non Receipt of Palliative Care | Type of Service | | | | | | | Average Total Costs | Average Excluding Facility Care |
|----------------------------|---|-------------------------|-----------|------------------|----------|--------------------|--------------------|--------------------|---------------------|---------------------------------|
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Physician Services | Physician Services | | |
| 30 Days Prior to Death | Received Palliative Care | 1,676 | 91 | 4,338 | 139 | 514 | 6,757 | 5,082 | | |
| | Did Not Receive Palliative Care | 951 | 473 | 7,062 | 270 | 531 | 9,286 | 8,336 | | |
| 90 Days Prior to Death | Received Palliative Care | 4,832 | 293 | 6,549 | 429 | 832 | 12,935 | 8,103 | | |
| | Did Not Receive Palliative Care | 2,217 | 1,032 | 12,410 | 695 | 1,150 | 17,505 | 15,288 | | |
| 180 Days Prior to Death | Received Palliative Care | 9,115 | 615 | 8,237 | 844 | 1,151 | 19,963 | 10,847 | | |
| | Did Not Receive Palliative Care | 3,544 | 1,547 | 15,821 | 1,172 | 1,710 | 23,793 | 20,250 | | |
| 365 Days Prior to Death | Received Palliative Care | 16,966 | 1,284 | 10,421 | 1,624 | 1,667 | 31,962 | 14,996 | | |
| | Did Not Receive Palliative Care | 5,482 | 2,245 | 19,729 | 1,917 | 2,512 | 31,886 | 26,404 | | |

3.7.7 Costs Related to Urban and Rural Settings

Table 13 presents the comparative cost breakdowns for individuals living in urban versus rural settings. Table 13 seems to indicate the distribution of costs at the end of life across components of the health care system is quite similar in Saskatchewan for urban and rural settings. However, rural residents did have higher average total costs for facility care, and lower costs for other services, compared to urban residents.

3.7.8 Costs Related to the Location of Death

The data in Saskatchewan only allows for comparisons related to the location of death between people who died in hospital and people who died in other settings. Table 14 indicates that costs are significantly higher for people who die in the hospital for the 30 and 90 day time periods. This difference reduces over time, primarily in relation to the relative rise of costs related to residential long term care facilities, with non-hospital deaths accounting for higher cost than hospital deaths for the period 365 days prior to death.

3.7.9 Costs Related to Region

As can be seen in Table 15, the average total cost per person who died in Saskatchewan in fiscal 2003/04 was fairly similar across regions. The only exception was the cluster of the three relatively sparsely populated regions in the northern part of Saskatchewan. Except for the period 30 days prior to death, the average total costs tended to be lower in the north. For the 30 days prior to death the average total costs for people in the three northern health authorities was \$7,267 compared to the overall average of \$7,411, and the average of the health authorities excluding Regina and Saskatoon of \$7,290. In contrast, for the period 365 days prior to death, the average total cost for the northern health authorities was \$21,364 compared to the provincial average of \$31,942, and \$33,524 for the health authorities excluding Regina and Saskatoon. These differences could be due to the sparse population and/or the significant First Nations population living in Northern Saskatchewan, as persons living on reserve come under the responsibility of Health Canada in regard to the delivery of health services and, thus, would have relatively lower provincial health care costs.

Table 13 Per Person Total Cost (\$) by Living Environment and Type of Service for 30, 90, 180 and 365 Day Time Periods

| Time Period Prior to Death | Living Environment | Type of Service | | | | | | | | Average Total Costs | Average Excluding Facility Care |
|----------------------------|--------------------|-------------------------|-----------|------------------|----------|--------------------|----------|--------------------|---------------------------------|---------------------|---------------------------------|
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Pharmacy | Physician Services | Average Excluding Facility Care | | |
| 30 Days Prior to Death | Rural | 1,604 | 150 | 4,892 | 172 | 501 | 7,319 | 5,715 | | | |
| | Urban | 1,391 | 223 | 5,168 | 174 | 533 | 7,488 | 6,097 | | | |
| 90 Days Prior to Death | Rural | 4,470 | 409 | 8,059 | 480 | 897 | 14,315 | 9,845 | | | |
| | Urban | 3,890 | 548 | 8,071 | 513 | 930 | 13,950 | 10,061 | | | |
| 180 Days Prior to Death | Rural | 8,241 | 763 | 10,202 | 881 | 1,268 | 21,355 | 13,114 | | | |
| | Urban | 7,191 | 934 | 10,202 | 970 | 1,319 | 20,617 | 13,425 | | | |
| 365 Days Prior to Death | Rural | 15,017 | 1,474 | 12,829 | 1,602 | 1,819 | 32,741 | 17,724 | | | |
| | Urban | 13,097 | 1,584 | 12,855 | 1,783 | 1,945 | 31,265 | 18,168 | | | |

| Table 14 Per Person Total Cost (\$) by Location of Death and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|-------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|--|
| Time Period Prior to Death | Location of Death | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Hospital | 631 | 188 | 8,486 | 153 | 828 | 10,286 | 9,655 | |
| | Non-Hospital | 2,412 | 191 | 1,332 | 194 | 185 | 4,314 | 1,902 | |
| 90 Days Prior to Death | Hospital | 1,661 | 546 | 12,441 | 489 | 1,325 | 16,462 | 14,801 | |
| | Non-Hospital | 6,840 | 418 | 3,357 | 507 | 473 | 11,594 | 4,754 | |
| 180 Days Prior to Death | Hospital | 2,924 | 970 | 14,967 | 937 | 1,763 | 21,562 | 18,638 | |
| | Non-Hospital | 12,784 | 733 | 5,071 | 920 | 792 | 20,301 | 7,517 | |
| 365 Days Prior to Death | Hospital | 5,055 | 1,675 | 17,896 | 1,735 | 2,421 | 28,782 | 23,727 | |
| | Non-Hospital | 23,598 | 1,382 | 7,395 | 1,663 | 1,312 | 35,350 | 11,752 | |

| Table 15 Per Person Total Cost (\$) by Region and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|--|---|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------|--|
| Time Period Prior to Death | Region | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 1,325 | 256 | 5,603 | 184 | 599 | 7,967 | 6,641 | |
| | Saskatoon Regional Health Authority | 1,243 | 184 | 5,035 | 174 | 508 | 7,144 | 5,902 | |
| | Northern Regional Health Authorities | 550 | 49 | 5,915 | 134 | 619 | 7,267 | 6,716 | |
| | All Other Regional Health Authorities | 1,702 | 165 | 4,770 | 168 | 484 | 7,290 | 5,588 | |
| 90 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 3,708 | 590 | 8,670 | 542 | 1,029 | 14,538 | 10,831 | |
| | Saskatoon Regional Health Authority | 3,481 | 476 | 7,760 | 495 | 876 | 13,087 | 9,607 | |
| | Northern Regional Health Authorities | 1,679 | 104 | 8,766 | 236 | 901 | 11,687 | 10,008 | |
| | All Other Regional Health Authorities | 4,740 | 450 | 7,920 | 486 | 881 | 14,477 | 9,737 | |
| 180 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 6,903 | 985 | 11,135 | 1,021 | 1,453 | 21,497 | 14,594 | |
| | Saskatoon Regional Health Authority | 6,438 | 865 | 9,726 | 919 | 1,263 | 19,211 | 12,773 | |
| | Northern Regional Health Authorities | 3,110 | 144 | 11,185 | 373 | 1,267 | 16,079 | 12,968 | |
| | All Other Regional Health Authorities | 8,718 | 812 | 9,982 | 907 | 1,241 | 21,660 | 12,942 | |
| 365 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 12,637 | 1,685 | 13,962 | 1,875 | 2,106 | 32,265 | 19,628 | |
| | Saskatoon Regional Health Authority | 11,779 | 1,508 | 12,029 | 1,660 | 1,881 | 28,857 | 17,078 | |
| | Northern Regional Health Authorities | 5,334 | 224 | 13,587 | 586 | 1,633 | 21,364 | 16,030 | |
| | All Other Regional Health Authorities | 15,837 | 1,511 | 12,709 | 1,669 | 1,798 | 33,524 | 17,686 | |

3.8 In-Depth Analysis of the Impact of the Utilization of Residential Care on the Costs of End-of-Life Care

As noted above, residential long term care utilization can have a significant impact on overall cost of care estimates for end-of-life care. This section provides a more detailed analysis of this issue. Data on the number of individuals, service units and costs to government are presented in Appendix B for the interested reader. Table 16 presents cost data over various time periods, while Table 17 presents the relative percentages of these costs, across types of services.

Tables 16 and 17 present cost and percentage data for all individuals, for persons who died but had no long term facility care during the period in question (that is, primarily community living individuals) and for people who had at least some facility care. For people who had at least some facility care data are also further broken down into those people who spent over 80% of the days during the time period in long term care facilities (a proxy for a full time long term care facility individual) and those who spent 80% or less of their days in long term care facilities during the time period.

There are several key points to note. As shown earlier, community living individuals had much higher costs for hospital care. For people who had no facility care, hospital costs ranged from 85.8% of all costs for the 30 days prior to death to 73.5% of all costs for the year prior to death. The comparative percentages for people who were in long term care facilities on an ongoing basis (“Over 80% Facility Care”) were 23.8% and 4.6% for the same time periods. This is reflective of the high percentage of costs attributable to facility care, particularly for the six months to one year prior to death. For people in long term care facilities on an ongoing basis, the cost of facility care was 69.3% of all health care costs during the last 30 days of life, and increased to 90.2% for the last year of life.

It should also be noted that for people who are in long term care facilities on an ongoing basis, the percentage of expenditures on drugs remained relatively constant, varying from 3.6% to 3.4% for the 30 day and 365 day time periods. The relative costs of physician services also decreased over time, and were consistently less for people in long term care facilities than for people living in the community. It is not clear to what extent this finding is related to the use of contracted and/or salaried physicians who do not bill on a fee-for-service basis.

Based on this analysis, it is clear that the proportion of people who are in long term care facilities, in any given end-of-life cohort, will have an impact on the average cost of end-of-life care. Cohorts with low proportions of such individuals, or where this cost factor is not fully accounted for, will tend to have lower average costs than cohorts with higher proportions of facility clients.

| Average Cost | | Type of Care Service | | | | | | |
|--------------|---------------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------|---------------------------------------|
| Time Period | Average Cost | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Total Costs | Average Excluding Facility Care Costs |
| 30 Days | All | 1,488 | 189 | 5,042 | 173 | 7,411 | 7,411 | 5,923 |
| | Excluding Facility Care | 0 | 291 | 6,923 | 149 | 8,074 | 8,074 | 8,074 |
| | Some Facility Care | 3,664 | 41 | 2,292 | 208 | 6,442 | 6,442 | 2,778 |
| | Over 80% Facility Care | 4,026 | 5 | 1,381 | 210 | 5,813 | 5,813 | 1,787 |
| | 80% or Less Facility Care | 1,620 | 244 | 7,446 | 197 | 10,000 | 10,000 | 8,380 |
| 90 Days | All | 4,155 | 484 | 8,065 | 498 | 14,117 | 14,117 | 9,962 |
| | Excluding Facility Care | 0 | 665 | 10,216 | 452 | 12,488 | 12,488 | 12,488 |
| | Some Facility Care | 10,007 | 229 | 5,038 | 563 | 16,412 | 16,412 | 6,405 |
| | Over 80% Facility Care | 12,305 | 9 | 1,952 | 552 | 15,201 | 15,201 | 2,896 |
| | 80% or Less Facility Care | 3,768 | 826 | 13,412 | 591 | 19,699 | 19,699 | 15,931 |
| 180 Days | All | 7,672 | 856 | 10,202 | 929 | 20,955 | 20,955 | 13,283 |
| | Excluding Facility Care | 0 | 1,041 | 12,237 | 857 | 15,685 | 15,685 | 15,685 |
| | Some Facility Care | 18,207 | 602 | 7,408 | 1,028 | 28,191 | 28,191 | 9,984 |
| | Over 80% Facility Care | 24,693 | 21 | 2,182 | 1,023 | 28,498 | 28,498 | 3,805 |
| | 80% or Less Facility Care | 6,329 | 1,665 | 16,978 | 1,035 | 27,630 | 27,630 | 21,300 |
| 360 Days | All | 13,978 | 1,534 | 12,843 | 1,700 | 1,887 | 31,942 | 17,964 |
| | Excluding Facility Care | 0 | 1,591 | 14,670 | 1,558 | 2,152 | 19,971 | 19,971 |
| | Some Facility Care | 32,599 | 1,458 | 10,409 | 1,890 | 1,535 | 47,890 | 15,291 |
| | Over 80% Facility Care | 50,125 | 54 | 2,580 | 1,873 | 959 | 55,591 | 5,466 |
| | 80% or Less Facility Care | 10,879 | 3,197 | 20,112 | 1,910 | 2,248 | 38,347 | 27,467 |

* The category "Some Facility Care" represents the total of people who had "Over 80% Facility Care" plus the people in the category "80% or Less Facility Care". That is, it includes all people who had any facility care.

| Table 17 Percent of Average Per Person Total Costs for Different Time Periods* , † | | Type of Care Service | | | | | | |
|--|---------------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------------------------|--|
| Time Period | % of Cost | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Excluding Facility Care Costs | |
| 30 Days | All | 20.08 | 2.56 | 68.03 | 2.33 | 7.00 | 79.92 | |
| | Excluding Facility Care | 0.00 | 3.61 | 85.75 | 1.85 | 8.80 | 100.00 | |
| | Some Facility Care | 56.88 | 0.63 | 35.57 | 3.22 | 3.69 | 43.12 | |
| | Over 80% Facility Care | 69.25 | 0.08 | 23.75 | 3.61 | 3.31 | 30.75 | |
| 90 Days | 80% or Less Facility Care | 16.20 | 2.44 | 74.46 | 1.97 | 4.93 | 83.80 | |
| | All | 29.44 | 3.43 | 57.13 | 3.53 | 6.48 | 70.56 | |
| | Excluding Facility Care | 0.00 | 5.33 | 81.80 | 3.62 | 9.25 | 100.00 | |
| | Some Facility Care | 60.97 | 1.40 | 30.70 | 3.43 | 3.51 | 39.03 | |
| 180 Days | Over 80% Facility Care | 80.95 | 0.06 | 12.84 | 3.63 | 2.52 | 19.05 | |
| | 80% or Less Facility Care | 19.13 | 4.20 | 68.08 | 3.00 | 5.59 | 80.87 | |
| | All | 36.61 | 4.09 | 48.69 | 4.43 | 6.18 | 63.39 | |
| | Excluding Facility Care | 0.00 | 6.64 | 78.01 | 5.47 | 9.88 | 100.00 | |
| 360 Days | Some Facility Care | 64.58 | 2.13 | 26.28 | 3.64 | 3.36 | 35.42 | |
| | Over 80% Facility Care | 86.65 | 0.07 | 7.66 | 3.59 | 2.03 | 13.35 | |
| | 80% or Less Facility Care | 22.91 | 6.03 | 61.45 | 3.75 | 5.87 | 77.09 | |
| | All | 43.76 | 4.80 | 40.21 | 5.32 | 5.91 | 56.24 | |
| 360 Days | Excluding Facility Care | 0.00 | 7.97 | 73.46 | 7.80 | 10.77 | 100.00 | |
| | Some Facility Care | 68.07 | 3.04 | 21.74 | 3.95 | 3.20 | 31.93 | |
| | Over 80% Facility Care | 90.17 | 0.10 | 4.64 | 3.37 | 1.73 | 9.83 | |
| | 80% or Less Facility Care | 28.37 | 8.34 | 52.45 | 4.98 | 5.86 | 71.63 | |

* The category "Some Facility Care" represents the total of people who had "Over 80% Facility Care" plus the people in the category "80% of Less Facility Care". That is, it includes all people who had any facility care.

† The column "Average Total Costs" is not shown in this table as, for each row, the average total cost was 100% of all health service costs in that row.

4. Discussion

It is believed that this study, conducted for CIHI and the province of Saskatchewan, represents one of a relatively few, major studies conducted in Canada on the costs of end-of-life care. It would certainly be of interest to compare the Saskatchewan experience to other parts of Canada. Future research in other jurisdictions could begin to paint a more complete picture on the costs of end-of-life care in Canada. This information would be useful for future planning and cost projections.

Finally, this study has pointed out a major new finding related to the relative influence of care in long term care facilities on the average costs of end of life care. As can be seen from this report, the influence on costs of persons receiving long term residential care is significant, and increases over time. Thus, the relative proportion of people in facilities can impact end-of-life costing for a given geographic entity such as a regional health authority. For example, if all other conditions are identical across two regional health authorities, but the proportion of people who are in long term care facilities prior to death differs, the overall costs would also tend to differ. Thus, when making cost comparisons, one needs to control for the impact of facility care across geographic entities such as, health authorities, provinces, or countries. It is recommended that, in future, researchers should clearly show costs separately for people living at home, and in long term care facilities, as part of their analyses.

Appendix A

Overview of Methodology

Overview of Methods

The Sample

Detailed utilization data were obtained, on an anonymized basis, for the two year period prior to death for Saskatchewan residents, one year of age or older, who died in Saskatchewan, during the 2003/04 fiscal year. An extensive set of edit and logic checks were used to clean the data. People were excluded from the analysis for several reasons including the following: they had a missing cause of death (14 cases); they had an entry date within 30 days of death (6 cases); they were under 19 years of age (88 cases); they had an unknown marital status (6 cases); and, after the above exclusions, clients with no recorded services (62 cases) were also excluded from the analysis. This resulted in the exclusion of some 176 people from an initial cohort of 8,879 individuals, or less than 2 percent of the initial cohort. Thus, the final cohort for analysis was comprised of 8,703 individuals. However, it should also be noted that not all clients had medical coverage from Saskatchewan Health for the full two year period. Such individuals were included in a given time period if they had coverage for the full period. Thus, there is a slight decrease in total numbers between the cohorts. The total samples for each of the major cohorts in this project were as follows:

| | |
|----------------|-------|
| 30 Day Cohort | 8,703 |
| 90 Day Cohort | 8,693 |
| 180 Day Cohort | 8,681 |
| 365 Day Cohort | 8,643 |

Palliative Care Description

All clients with a date indicating they were part of the provincial palliative care drug program (1691) and all clients with a palliative care indicator on a hospital stay (1449) were considered to be palliative care clients. There were 2250 clients identified as having palliative care.

Hospital Data

The Saskatchewan Health standard Resource Intensity Weight (RIW) cost per RIW for fiscal 2003/04 of \$3,808.87 was used in calculating hospital costs. There were no user fees for hospital costs. Some 25543 observations were provided. Entries for clients no longer in the cohort and 16 entries with a discharge date on or prior to the start of the two year period were dropped leaving 25321 observations. The admission date was changed on 15 entries and 12 entries were deleted because the dates were within another hospital stay. A total of 25309 entries were used.

Physician Data

The 652305 observations in the sample were matched to the clients in the cohort and checked against the study start date and the date of death. As a result, there were 647386 entries in the physician services file used.

Pharmacy Data

There are different client costs for prescription drugs by the type of client. The Saskatchewan data set contains fields for total costs and costs to government. Thus, it was possible to calculate the total cost, the cost to government, and the cost to individuals directly based on data provided by Saskatchewan Health. The 736881 observations in the sample were matched to the clients in the cohort and checked against the study start date and the date of death. As a result, the pharmacy data used had 733541 observations.

Facility Care

Costs based on the total budget and the total number of beds funded were used to calculate the average cost per bed per region. An analysis was also conducted of bed days transformed into full time equivalent beds. It was found that actual utilization rates of funded beds was very high. It was also determined that the most reliable data elements were total cost and total funded beds. Thus, the cost per funded bed was used in the cost analysis for this project. This cost was broken down into total costs, costs to government, and user fees, by region. The following presents the costs used in this analysis.

| Per Diem Rates for Facility Care | | | |
|----------------------------------|------------|--------------------|-----------|
| | Total Cost | Cost to Government | User Fees |
| Province | 137.44 | 105.90 | 31.54 |
| Sun Country | 143.34 | 110.45 | 32.89 |
| Five Hills | 140.78 | 108.47 | 32.31 |
| Cypress | 137.61 | 106.03 | 31.58 |
| Regina Qu Appelle | 129.25 | 99.59 | 29.66 |
| Sunrise | 143.07 | 110.24 | 32.83 |
| Saskatoon | 119.82 | 92.32 | 27.50 |
| Heartland | 144.45 | 111.30 | 33.15 |
| Kelsey Trail | 156.76 | 120.78 | 35.98 |
| Prince Albert Parkland | 139.15 | 107.22 | 31.93 |
| Prairie North | 189.96 | 146.37 | 43.59 |
| Northern Regions | 243.94 | 187.96 | 55.98 |

The facility cost data were calculated based on all facility clients. Thus, the data assumes a similar pattern of user fees for end-of-life clients as for clients in general. Some 10776 observations were provided. Some 33 of these were for clients no longer in the cohort. Some of the observations had multiple dates associated with care level within a single observation. These were therefore split into multiple records bringing the total entries to 11041. Some 637 were for Adult day care and 7 had the same case date. These were not used. The remaining 10404 records were checked further. Two entries with duplicate

keys were deleted. Overlapping service dates were eliminated. When the start of one service preceded the discharge date of the previous service the start date was changed. In total 71 changes were made. If a service was completely covered by another facility service it was dropped. Some 38 entries were eliminated as a result. The resultant file had 10364 observations.

Home Care

In Saskatchewan, in fiscal 2003/04, home care clients paid a user fee of \$6.36 per unit of service for the first 10 units of service per month. In the three northern Regional Health Authorities clients paid a fee of \$2.50 per unit up to a maximum of \$75 per month. Thus, there are costs to government and costs to clients for home care. The percentage of the total cost paid by clients was converted into percentages paid by government and by clients. The percentage paid by government was used to calculate the cost to government in the cost analysis. The data used were based on an earlier study on home care for fiscal 2003/04. These costs differ somewhat from the final costs noted in the Saskatchewan Health annual report but were related to a number of other factors such as service units which were used in the previous analysis. It is not clear to what extent other data would need to be adjusted if the final cost figures in the 2003/04 Annual Report were to be used. Thus, the data from the previous study were used. An analysis comparing data from the previous report and the Annual Report indicate a close similarity in costs for home care per region. The data on client contributions was obtained from standard, annual reports prepared for Saskatchewan Health.

| Data on User Fees for Home Care | | | | |
|--|-----------------|----------------|------------------------------|---|
| | All Fees | | | |
| | Clients | Amount | Total Regional Budget | User Fees as a percentage of Total |
| Sun Country | 1086 | \$456,345.51 | \$6,549,784 | 6.97 |
| Five Hills | 784 | \$387,391.21 | \$5,783,285 | 6.70 |
| Cypress | 837 | \$368,996.58 | \$5,160,720 | 7.15 |
| Regina Qu'Appelle | 2,217 | \$945,191.21 | \$19,450,639 | 4.86 |
| Sunrise | 1,330 | \$575,349.28 | \$8,325,012 | 6.91 |
| Saskatoon | 3,695 | \$1,464,866.19 | \$25,205,802 | 6.31 |
| Heartland | 1,151 | \$523,301.43 | \$5,562,038 | 9.41 |
| Kelsey Trail | 882 | \$459,034.40 | \$4,581,179 | 10.02 |
| Prince Albert Parkland | 678 | \$264,606.40 | \$6,964,014 | 3.80 |
| Prairie North | 1,057 | \$406,928.68 | \$5,865,762 | 6.94 |
| Northern Regions | 230 | \$30,384.66 | \$426,000 | 7.13 |

The home care service file had 37110 observations. A check was made to ensure the selected clients were in the cohort, reducing the observations to 36961. Some 7703 observations were in the original data set. One observation with duplicate key values was deleted. Some 208 entries were eliminated because the discharge date was prior to the start of the two year period before death. Thirty entries were for clients no longer in the cohort. No duplicate keys were found in the remaining 7464 observations.

The home care admission discharge file was matched to the service file. Dates were adjusted on the admission discharge file to reflect periods when the client had recorded services. For example, if the admission date was Feb 12, 2002 and the first month for which service was recorded was March 2002 then the case date was changed to March 1 2002. Discharge dates were also modified. The modifications were based on the first and last month of recorded service each fiscal year. No adjustment was made for missing months of service within the admission/discharge period within a fiscal year. There were 194 observations for which no service was found. Thirteen entries were changed to eliminate overlapping dates. Some 54 entries were dropped because the dates were contained within another entry and 38 were deleted because the case date was after the date of death. The admission/discharge file used had 7214 entries.

The home care services and costs were distributed equally over the adjusted admission/discharge period. If a client was in the program for the entire month then each day of the month was given charges. If the client started or ended the program during the month then the services were divided equally for all the days of actual service.

Additional Information on Costs

It should be noted that costs have been standardized to fiscal 2003/04 dollars. That is, the 2003/04 unit costs are applied to the utilization rates, irrespective of the year in which services were utilized (except for physician services and drugs where actual costs were used, resulting in a slight under-estimate for these services). It should also be noted that the administrative data did allow for a fairly complete accounting of total costs, including both the costs to government and the user fees paid by clients for such services. Income tested user fees were charged for long term care facilities, home care services, and drugs. User fees are actuals, or estimates, based on data provided by Saskatchewan Health.

Finally, it should be noted that the data in this report does not include separate services which were completely paid for by the individual and/or his/her family (e.g., out of pocket expenses) and for which no portion of the cost was paid through public funds, or for services not recorded in the Saskatchewan Health database. For example, hospital costs are based on funded costs (estimated based on hospitalizations funded through the acute care funding pool). Services not funded through the acute care funding pool include cardiac catheterization, dialysis, radiation therapy, rehabilitation and mental health services. The drug data do not include most non-Formulary drug use, most over-the-counter drug use, use of professional samples, in-hospital drug use, or prescription drug use for registered Indians. Capture of physician services is also not complete:

services delivered by physicians in salaried or contractual arrangements may or may not be captured (e.g., those on alternate payment contracts, some ER physicians, salaried Northern Medical Services physicians, etc.). As well, no claims are captured for ICU physicians in Regina, salaried Saskatchewan Cancer Agency physicians, or psychiatrists in contract with the Regional Health Authorities.

Appendix B

Supplementary Data Tables

| Saskatchewan End of Life Study Description by Gender and Marital Status by Age Group | | | | | | | | | | | | | |
|--|------------------------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
| Gender | Marital Status | 19-44 | | 45-64 | | 65-74 | | 75-84 | | 85+ | | Total | |
| | | No. | Percent |
| Male | Single Divorced or Separated | 165 | 71.1 | 243 | 36.8 | 210 | 25.6 | 268 | 18.7 | 166 | 13.1 | 1,052 | 23.8 |
| | Married or Common Law | 67 | 28.9 | 400 | 60.6 | 525 | 63.9 | 877 | 61.2 | 666 | 52.7 | 2,535 | 57.5 |
| | Widowed | . | . | 17 | 2.6 | 86 | 10.5 | 289 | 20.2 | 432 | 34.2 | 824 | 18.7 |
| | # in Cohort | 232 | 100.0 | 660 | 100.0 | 821 | 100.0 | 1,434 | 100.0 | 1,264 | 100.0 | 4,411 | 100.0 |
| Female | Single Divorced or Separated | 86 | 58.5 | 103 | 26.7 | 92 | 15.8 | 140 | 11.8 | 170 | 8.6 | 591 | 13.8 |
| | Married or Common Law | 59 | 40.1 | 237 | 61.4 | 295 | 50.6 | 338 | 28.4 | 173 | 8.7 | 1,102 | 25.7 |
| | Widowed | 2 | 1.4 | 46 | 11.9 | 196 | 33.6 | 712 | 59.8 | 1,643 | 82.7 | 2,599 | 60.6 |
| | # in Cohort | 147 | 100.0 | 386 | 100.0 | 583 | 100.0 | 1,190 | 100.0 | 1,986 | 100.0 | 4,292 | 100.0 |
| Total | Single Divorced or Separated | 251 | 66.2 | 346 | 33.1 | 302 | 21.5 | 408 | 15.5 | 336 | 10.3 | 1,643 | 18.9 |
| | Married or Common Law | 126 | 33.2 | 637 | 60.9 | 820 | 58.4 | 1,215 | 46.3 | 839 | 25.8 | 3,637 | 41.8 |
| | Widowed | 2 | 0.5 | 63 | 6.0 | 282 | 20.1 | 1,001 | 38.1 | 2,075 | 63.8 | 3,423 | 39.3 |
| | # in Cohort | 379 | 100.0 | 1,046 | 100.0 | 1,404 | 100.0 | 2,624 | 100.0 | 3,250 | 100.0 | 8,703 | 100.0 |

| Saskatchewan End of Life Study Description by Age Group and Marital Status by Gender | | | | | | | | | |
|--|------------------------------|-------|---------|-------|---------|-------|---------|-------|---------|
| Age Group and Marital Status | | Male | | | Female | | | Total | |
| Age Group | Marital Status | No. | Percent | No. | Percent | No. | Percent | No. | Percent |
| 19-44 | Single Divorced or Separated | 165 | 15.7 | 86 | 14.6 | 251 | 15.3 | | |
| | Married or Common Law | 67 | 2.6 | 59 | 5.4 | 126 | 3.5 | | |
| | Widowed | | | 2 | 0.1 | 2 | 0.1 | | |
| | # in Cohort | 232 | 5.3 | 147 | 3.4 | 379 | 4.4 | | |
| 45-64 | Single Divorced or Separated | 243 | 23.1 | 103 | 17.4 | 346 | 21.1 | | |
| | Married or Common Law | 400 | 15.8 | 237 | 21.5 | 637 | 17.5 | | |
| | Widowed | 17 | 2.1 | 46 | 1.8 | 63 | 1.8 | | |
| | # in Cohort | 660 | 15.0 | 386 | 9.0 | 1,046 | 12.0 | | |
| 65-74 | Single Divorced or Separated | 210 | 20.0 | 92 | 15.6 | 302 | 18.4 | | |
| | Married or Common Law | 525 | 20.7 | 295 | 26.8 | 820 | 22.5 | | |
| | Widowed | 86 | 10.4 | 196 | 7.5 | 282 | 8.2 | | |
| | # in Cohort | 821 | 18.6 | 583 | 13.6 | 1,404 | 16.1 | | |
| 75-84 | Single Divorced or Separated | 268 | 25.5 | 140 | 23.7 | 408 | 24.8 | | |
| | Married or Common Law | 877 | 34.6 | 338 | 30.7 | 1,215 | 33.4 | | |
| | Widowed | 289 | 35.1 | 712 | 27.4 | 1,001 | 29.2 | | |
| | # in Cohort | 1,434 | 32.5 | 1,190 | 27.7 | 2,624 | 30.2 | | |
| 85+ | Single Divorced or Separated | 166 | 15.8 | 170 | 28.8 | 336 | 20.5 | | |
| | Married or Common Law | 666 | 26.3 | 173 | 15.7 | 839 | 23.1 | | |
| | Widowed | 432 | 52.4 | 1,643 | 63.2 | 2,075 | 60.6 | | |
| | # in Cohort | 1,264 | 28.7 | 1,986 | 46.3 | 3,250 | 37.3 | | |
| Total | Single Divorced or Separated | 1,052 | 100.0 | 591 | 100.0 | 1,643 | 100.0 | | |
| | Married or Common Law | 2,535 | 100.0 | 1,102 | 100.0 | 3,637 | 100.0 | | |
| | Widowed | 824 | 100.0 | 2,599 | 100.0 | 3,423 | 100.0 | | |
| | # in Cohort | 4,411 | 100.0 | 4,292 | 100.0 | 8,703 | 100.0 | | |

| Number of Clients With Services In the Twelve 30 Days Periods Prior to Death by Gender, Age and Marital Status | | | | | | | | | | | | | | |
|--|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | |
| Male | Age group | | | | | | | | | | | | | |
| | 19-44 | 104 | 101 | 112 | 100 | 108 | 102 | 109 | 109 | 122 | 118 | 124 | 171 | |
| | 45-64 | 372 | 379 | 378 | 397 | 412 | 423 | 429 | 430 | 454 | 472 | 482 | 569 | |
| | 65-74 | 599 | 604 | 614 | 603 | 619 | 616 | 643 | 657 | 667 | 698 | 719 | 779 | |
| | 75-84 | 1,129 | 1,157 | 1,163 | 1,169 | 1,162 | 1,178 | 1,211 | 1,225 | 1,244 | 1,273 | 1,304 | 1,393 | |
| | 85+ | 1,089 | 1,081 | 1,079 | 1,111 | 1,105 | 1,104 | 1,129 | 1,117 | 1,143 | 1,157 | 1,188 | 1,244 | |
| | Marital Status | | | | | | | | | | | | | |
| | Single Divorced or Separated | 722 | 720 | 720 | 733 | 750 | 745 | 752 | 760 | 775 | 791 | 812 | 929 | |
| | Married or Common Law | 1,908 | 1,935 | 1,957 | 1,968 | 1,973 | 1,979 | 2,065 | 2,074 | 2,138 | 2,187 | 2,246 | 2,427 | |
| | Widowed | 663 | 667 | 669 | 679 | 683 | 699 | 704 | 704 | 717 | 740 | 759 | 800 | |
| All | 3,293 | 3,322 | 3,346 | 3,380 | 3,406 | 3,423 | 3,521 | 3,538 | 3,630 | 3,718 | 3,817 | 4,156 | | |
| Female | Age group | | | | | | | | | | | | | |
| | 19-44 | 98 | 101 | 92 | 101 | 99 | 102 | 106 | 101 | 99 | 109 | 116 | 131 | |
| | 45-64 | 275 | 271 | 282 | 282 | 299 | 292 | 307 | 310 | 304 | 317 | 337 | 362 | |
| | 65-74 | 456 | 458 | 472 | 479 | 470 | 484 | 494 | 499 | 509 | 517 | 532 | 568 | |
| | 75-84 | 1,024 | 1,024 | 1,032 | 1,042 | 1,048 | 1,053 | 1,050 | 1,065 | 1,084 | 1,096 | 1,119 | 1,172 | |
| | 85+ | 1,836 | 1,830 | 1,824 | 1,836 | 1,868 | 1,856 | 1,862 | 1,870 | 1,890 | 1,906 | 1,917 | 1,963 | |
| | Marital Status | | | | | | | | | | | | | |
| | Single Divorced or Separated | 477 | 472 | 471 | 490 | 497 | 488 | 495 | 501 | 501 | 504 | 531 | 556 | |
| | Married or Common Law | 877 | 880 | 887 | 883 | 895 | 922 | 927 | 937 | 951 | 980 | 1,005 | 1,081 | |
| | Widowed | 2,335 | 2,332 | 2,344 | 2,367 | 2,392 | 2,377 | 2,397 | 2,407 | 2,434 | 2,461 | 2,485 | 2,559 | |
| All | 3,689 | 3,684 | 3,702 | 3,740 | 3,784 | 3,787 | 3,819 | 3,845 | 3,886 | 3,945 | 4,021 | 4,196 | | |

| Number of Clients With Services In the Twelve 30 Days Periods Prior to Death by Gender, Age and Marital Status (cont'd) | | | | | | | | | | | | |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Age group | | | | | | | | | | | | |
| 19-44 | 202 | 202 | 204 | 201 | 207 | 204 | 215 | 210 | 221 | 227 | 240 | 302 |
| 45-64 | 647 | 650 | 660 | 679 | 711 | 715 | 736 | 740 | 758 | 789 | 819 | 931 |
| 65-74 | 1,055 | 1,062 | 1,086 | 1,082 | 1,089 | 1,100 | 1,137 | 1,156 | 1,176 | 1,215 | 1,251 | 1,347 |
| 75-84 | 2,153 | 2,181 | 2,195 | 2,211 | 2,210 | 2,231 | 2,261 | 2,290 | 2,328 | 2,369 | 2,423 | 2,565 |
| 85+ | 2,925 | 2,911 | 2,903 | 2,947 | 2,973 | 2,960 | 2,991 | 2,987 | 3,033 | 3,063 | 3,105 | 3,207 |
| Total | | | | | | | | | | | | |
| Marital Status | | | | | | | | | | | | |
| Single Divorced or Separated | 1,199 | 1,192 | 1,191 | 1,223 | 1,247 | 1,233 | 1,247 | 1,261 | 1,276 | 1,295 | 1,343 | 1,485 |
| Married or Common Law | 2,785 | 2,815 | 2,844 | 2,851 | 2,868 | 2,901 | 2,992 | 3,011 | 3,089 | 3,167 | 3,251 | 3,508 |
| Widowed | 2,998 | 2,999 | 3,013 | 3,046 | 3,075 | 3,076 | 3,101 | 3,111 | 3,151 | 3,201 | 3,244 | 3,359 |
| All | 6,982 | 7,006 | 7,048 | 7,120 | 7,190 | 7,210 | 7,340 | 7,383 | 7,516 | 7,663 | 7,838 | 8,352 |

| Counts of Persons With Service in the Last 30 Days of Life by Client Characteristics and Type of Care | | | | | | | | | | |
|---|------------------------------|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------|-------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Male | Age group | | | | | | | | | |
| | 19-44 | 7 | 19 | 78 | 72 | 168 | 180 | 179 | 232 | |
| | 45-64 | 55 | 160 | 374 | 374 | 565 | 597 | 593 | 660 | |
| | 65-74 | 187 | 248 | 546 | 579 | 761 | 787 | 786 | 821 | |
| | 75-84 | 491 | 368 | 910 | 931 | 1,336 | 1,404 | 1,386 | 1,434 | |
| | 85+ | 706 | 316 | 651 | 937 | 1,190 | 1,258 | 1,244 | 1,264 | |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 323 | 190 | 498 | 611 | 884 | 955 | 946 | 1,052 | |
| | Married or Common Law | 720 | 707 | 1,615 | 1,705 | 2,372 | 2,463 | 2,449 | 2,535 | |
| | Widowed | 403 | 214 | 446 | 577 | 764 | 808 | 793 | 824 | |
| All | 1,446 | 1,111 | 2,559 | 2,893 | 4,020 | 4,226 | 4,188 | 4,411 | | |
| Female | Age group | | | | | | | | | |
| | 19-44 | 9 | 30 | 72 | 61 | 122 | 131 | 130 | 147 | |
| | 45-64 | 62 | 132 | 260 | 244 | 351 | 364 | 360 | 386 | |
| | 65-74 | 133 | 212 | 408 | 411 | 549 | 571 | 568 | 583 | |
| | 75-84 | 529 | 339 | 695 | 921 | 1,103 | 1,180 | 1,164 | 1,190 | |
| | 85+ | 1,356 | 377 | 754 | 1,675 | 1,867 | 1,977 | 1,955 | 1,986 | |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 241 | 130 | 295 | 389 | 523 | 562 | 554 | 591 | |
| | Married or Common Law | 325 | 376 | 735 | 816 | 1,044 | 1,084 | 1,075 | 1,102 | |
| | Widowed | 1,523 | 584 | 1,159 | 2,107 | 2,425 | 2,577 | 2,548 | 2,599 | |
| All | 2,089 | 1,090 | 2,189 | 3,312 | 3,992 | 4,223 | 4,177 | 4,292 | | |

| Counts of Persons With Service in the Last 30 Days of Life by Client Characteristics and Type of Care (cont'd) | | | | | | | | | | |
|---|------------------------------|--|------------------|-------------------------|-----------------|--------------------------|-------------------------|--|-------|--------------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Age group | | | | | | | | | | |
| | 19-44 | 16 | 49 | 150 | 133 | 290 | 311 | 309 | 379 | |
| | 45-64 | 117 | 292 | 634 | 618 | 916 | 961 | 953 | 1,046 | |
| | 65-74 | 320 | 460 | 954 | 990 | 1,310 | 1,358 | 1,354 | 1,404 | |
| | 75-84 | 1,020 | 707 | 1,605 | 1,852 | 2,439 | 2,584 | 2,550 | 2,624 | |
| | 85 + | 2,062 | 693 | 1,405 | 2,612 | 3,057 | 3,235 | 3,199 | 3,250 | |
| Total | | | | | | | | | | |
| Marital Status | | | | | | | | | | |
| | Single Divorced or Separated | 564 | 320 | 793 | 1,000 | 1,407 | 1,517 | 1,500 | 1,643 | |
| | Married or Common Law | 1,045 | 1,083 | 2,350 | 2,521 | 3,416 | 3,547 | 3,524 | 3,637 | |
| | Widowed | 1,926 | 798 | 1,605 | 2,684 | 3,189 | 3,385 | 3,341 | 3,423 | |
| | All | 3,535 | 2,201 | 4,748 | 6,205 | 8,012 | 8,449 | 8,365 | 8,703 | |

| Counts of Persons with Service in the Last 30 Days of Life by Different Categories and Type of Care | | | | | | | | | |
|---|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------------------|--|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | | |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | Number of Clients | |
| Lunney/Fassbender Classification | | | | | | | | | |
| Frailty | 1,287 | 374 | 970 | 1,891 | 2,253 | 2,431 | 2,390 | 2,503 | |
| Organ Failure | 1,377 | 617 | 1,665 | 2,203 | 2,859 | 3,021 | 2,988 | 3,076 | |
| Other | 125 | 49 | 158 | 176 | 248 | 259 | 256 | 265 | |
| Sudden Death | 70 | 25 | 121 | 197 | 307 | 343 | 340 | 460 | |
| Terminal Illness | 676 | 1,136 | 1,834 | 1,738 | 2,345 | 2,395 | 2,391 | 2,399 | |
| Type of Service at Period Start | | | | | | | | | |
| In Facility | 2,866 | 82 | 553 | 2,495 | 2,626 | 2,866 | 2,782 | 2,866 | |
| In Hospital | 388 | 409 | 1,201 | 586 | 1,176 | 1,201 | 1,201 | 1,201 | |
| In the Community With Home Care | 159 | 1,451 | 1,077 | 1,164 | 1,400 | 1,451 | 1,451 | 1,451 | |
| In the Community Without Home Care | 122 | 259 | 1,917 | 1,960 | 2,810 | 2,931 | 2,931 | 3,185 | |
| Underlying Cause of Death | | | | | | | | | |
| Infectious and parasitic diseases | 36 | 25 | 93 | 71 | 110 | 114 | 113 | 114 | |
| Neoplasms | 645 | 1,106 | 1,784 | 1,677 | 2,265 | 2,313 | 2,309 | 2,317 | |
| Endocrine, nutritional and metabolic diseases, immunity disorders | 195 | 91 | 199 | 298 | 390 | 411 | 408 | 417 | |
| Diseases of blood and blood-forming organs | 13 | 5 | 25 | 27 | 33 | 34 | 34 | 34 | |
| Mental disorders | 201 | 9 | 44 | 173 | 217 | 236 | 228 | 243 | |
| Diseases of the nervous system and sense organs | 339 | 37 | 99 | 335 | 363 | 420 | 403 | 425 | |
| Diseases of the circulatory system | 1,237 | 570 | 1,409 | 2,248 | 2,753 | 2,947 | 2,920 | 3,044 | |
| Diseases of the respiratory system | 404 | 159 | 462 | 581 | 763 | 793 | 777 | 799 | |
| Diseases of the digestive system | 101 | 61 | 227 | 200 | 292 | 302 | 302 | 306 | |
| Diseases of the genitourinary system | 97 | 61 | 135 | 154 | 210 | 211 | 211 | 212 | |
| Diseases of the skin and subcutaneous tissue | 11 | 2 | 7 | 16 | 18 | 18 | 18 | 18 | |
| Diseases of the musculoskeletal system and connective tissue | 62 | 11 | 46 | 70 | 88 | 90 | 90 | 90 | |
| Congenital anomalies | 8 | 4 | 9 | 18 | 18 | 20 | 19 | 21 | |

| Counts of Persons with Service in the Last 30 Days of Life by Different Categories and Type of Care (cont'd) | | | | | | | | | |
|--|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------|-------------------|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Symptoms, signs and ill-defined conditions | 77 | 13 | 25 | 81 | 99 | 109 | 105 | 113 | |
| External causes of morbidity and mortality | 109 | 47 | 184 | 256 | 393 | 431 | 428 | 550 | |
| Palliative Care | | | | | | | | | |
| No | 2,837 | 1,074 | 3,015 | 4,507 | 5,811 | 6,201 | 6,121 | 6,454 | |
| Yes | 698 | 1,127 | 1,733 | 1,698 | 2,201 | 2,248 | 2,244 | 2,249 | |
| Rural/Urban | | | | | | | | | |
| Rural | 1,740 | 965 | 2,151 | 2,808 | 3,690 | 3,841 | 3,832 | 3,984 | |
| Urban | 1,795 | 1,236 | 2,597 | 3,397 | 4,322 | 4,608 | 4,533 | 4,719 | |
| Location of Death | | | | | | | | | |
| Hospital | 855 | 1,506 | 3,861 | 2,858 | 4,401 | 4,499 | 4,441 | 4,513 | |
| Non-hospital | 2,680 | 695 | 887 | 3,347 | 3,611 | 3,950 | 3,924 | 4,190 | |
| Region | | | | | | | | | |
| Regina Qu'Appelle Regional Health Authority | 779 | 551 | 1,109 | 1,415 | 1,834 | 1,955 | 1,892 | 2,012 | |
| Saskatoon Regional Health Authority | 785 | 564 | 1,192 | 1,541 | 1,966 | 2,054 | 2,052 | 2,118 | |
| Northern Regional Health Authorities | 10 | 6 | 68 | 28 | 84 | 91 | 91 | 113 | |
| All other regional health authorities | 1,961 | 1,080 | 2,379 | 3,221 | 4,128 | 4,349 | 4,330 | 4,460 | |
| All | 3,535 | 2,201 | 4,748 | 6,205 | 8,012 | 8,449 | 8,365 | 8,703 | |

| Counts of Persons with Service in the Last 90 Days of Life by Client Characteristics and Type of Care | | | | | | | | | | |
|---|------------------------------|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------|-------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With any Service | Any Service Excluding Facility Care | | |
| Male | Age group | | | | | | | | | |
| | 19-44 | 8 | 24 | 87 | 95 | 189 | 195 | 194 | 231 | |
| | 45-64 | 60 | 177 | 402 | 486 | 600 | 623 | 619 | 659 | |
| | 65-74 | 193 | 284 | 606 | 685 | 787 | 804 | 803 | 819 | |
| | 75-84 | 508 | 461 | 1,007 | 1,155 | 1,379 | 1,418 | 1,408 | 1,433 | |
| | 85+ | 720 | 404 | 747 | 1,072 | 1,231 | 1,259 | 1,250 | 1,261 | |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 328 | 228 | 568 | 731 | 951 | 990 | 983 | 1,050 | |
| | Married or Common Law | 752 | 852 | 1,767 | 2,092 | 2,441 | 2,491 | 2,482 | 2,530 | |
| | Widowed | 409 | 270 | 514 | 670 | 794 | 818 | 809 | 823 | |
| All | 1,489 | 1,350 | 2,849 | 3,493 | 4,186 | 4,299 | 4,274 | 4,403 | | |
| Female | Age group | | | | | | | | | |
| | 19-44 | 9 | 31 | 80 | 82 | 137 | 143 | 142 | 147 | |
| | 45-64 | 64 | 144 | 290 | 308 | 370 | 377 | 373 | 386 | |
| | 65-74 | 137 | 241 | 454 | 505 | 567 | 576 | 573 | 582 | |
| | 75-84 | 539 | 413 | 774 | 1,077 | 1,158 | 1,186 | 1,176 | 1,190 | |
| | 85+ | 1,372 | 479 | 885 | 1,893 | 1,935 | 1,983 | 1,972 | 1,985 | |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 244 | 159 | 332 | 469 | 567 | 582 | 576 | 590 | |
| | Married or Common Law | 333 | 436 | 809 | 991 | 1,079 | 1,093 | 1,088 | 1,102 | |
| | Widowed | 1,544 | 713 | 1,342 | 2,405 | 2,521 | 2,590 | 2,572 | 2,598 | |
| All | 2,121 | 1,308 | 2,483 | 3,865 | 4,167 | 4,265 | 4,236 | 4,290 | | |

| Counts of Persons with Service in the Last 90 Days of Life by Client Characteristics and Type of Care (cont'd) | | | | | | | | | | |
|---|------------------------------|--|------------------|-------------------------|-----------------|--------------------------|-------------------------|--|-------|--------------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With any Service | Any Service Excluding Facility Care | | |
| Age group | | | | | | | | | | |
| | 19-44 | 17 | 55 | 167 | 177 | 326 | 338 | 336 | 378 | |
| | 45-64 | 124 | 321 | 692 | 794 | 970 | 1,000 | 992 | 1,045 | |
| | 65-74 | 330 | 525 | 1,060 | 1,190 | 1,354 | 1,380 | 1,376 | 1,401 | |
| | 75-84 | 1,047 | 874 | 1,781 | 2,232 | 2,537 | 2,604 | 2,584 | 2,623 | |
| | 85+ | 2,092 | 883 | 1,632 | 2,965 | 3,166 | 3,242 | 3,222 | 3,246 | |
| Total | | | | | | | | | | |
| Marital Status | | | | | | | | | | |
| | Single Divorced or Separated | 572 | 387 | 900 | 1,200 | 1,518 | 1,572 | 1,559 | 1,640 | |
| | Married or Common Law | 1,085 | 1,288 | 2,576 | 3,083 | 3,520 | 3,584 | 3,570 | 3,632 | |
| | Widowed | 1,953 | 983 | 1,856 | 3,075 | 3,315 | 3,408 | 3,381 | 3,421 | |
| | All | 3,610 | 2,658 | 5,332 | 7,358 | 8,353 | 8,564 | 8,510 | 8,693 | |

| Counts of Persons with Service In the Last 90 Days of Life by Different Categories and Type of Care | | | | | | | | |
|---|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------------------|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | Number of Clients |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | |
| Lunney/Fassbender Classification | | | | | | | | |
| Frailty | 1,307 | 482 | 1,115 | 2,154 | 2,381 | 2,472 | 2,445 | 2,502 |
| Organ Failure | 1,408 | 778 | 1,877 | 2,588 | 2,966 | 3,049 | 3,027 | 3,075 |
| Other | 126 | 59 | 164 | 218 | 255 | 262 | 260 | 265 |
| Sudden Death | 71 | 31 | 146 | 252 | 371 | 392 | 391 | 459 |
| Terminal Illness | 698 | 1,308 | 2,030 | 2,146 | 2,380 | 2,389 | 2,387 | 2,392 |
| Type of Service at Period Start | | | | | | | | |
| In Facility | 2,571 | 89 | 643 | 2,327 | 2,453 | 2,571 | 2,520 | 2,571 |
| In Hospital | 226 | 234 | 469 | 363 | 468 | 469 | 469 | 469 |
| In the Community With Home Care | 374 | 1,468 | 1,216 | 1,348 | 1,448 | 1,468 | 1,468 | 1,468 |
| In the Community Without Home Care | 439 | 867 | 3,004 | 3,300 | 3,984 | 4,056 | 4,053 | 4,185 |
| Underlying Cause of Death | | | | | | | | |
| Infectious and parasitic diseases | 37 | 33 | 98 | 92 | 112 | 114 | 113 | 114 |
| Neoplasms | 665 | 1,270 | 1,975 | 2,075 | 2,299 | 2,308 | 2,306 | 2,311 |
| Endocrine, nutritional and metabolic diseases, immunity disorders | 201 | 124 | 233 | 340 | 406 | 416 | 413 | 417 |
| Diseases of blood and blood-forming organs | 13 | 5 | 26 | 31 | 34 | 34 | 34 | 34 |
| Mental disorders | 201 | 17 | 60 | 200 | 226 | 240 | 234 | 243 |
| Diseases of the nervous system and sense organs | 343 | 56 | 123 | 366 | 387 | 422 | 410 | 424 |
| Diseases of the circulatory system | 1,265 | 706 | 1,603 | 2,610 | 2,909 | 3,000 | 2,983 | 3,043 |
| Diseases of the respiratory system | 413 | 209 | 499 | 678 | 781 | 796 | 787 | 799 |
| Diseases of the digestive system | 105 | 71 | 244 | 245 | 299 | 304 | 304 | 306 |
| Diseases of the genitourinary system | 98 | 70 | 152 | 185 | 210 | 210 | 210 | 211 |
| Diseases of the skin and subcutaneous tissue | 11 | 2 | 9 | 17 | 18 | 18 | 18 | 18 |
| Diseases of the musculoskeletal system and connective tissue | 62 | 17 | 51 | 83 | 89 | 90 | 90 | 90 |
| Congenital anomalies | 8 | 4 | 10 | 18 | 18 | 20 | 19 | 21 |

| Counts of Persons with Service In the Last 90 Days of Life by Different Categories and Type of Care (cont'd) | | | | | | | | | |
|--|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------------------|--|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | | |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | Number of Clients | |
| Symptoms, signs and ill-defined conditions | 78 | 17 | 37 | 93 | 105 | 111 | 109 | 113 | |
| External causes of morbidity and mortality | 110 | 57 | 212 | 325 | 460 | 481 | 480 | 549 | |
| Palliative Care | | | | | | | | | |
| No | 2,892 | 1,355 | 3,387 | 5,283 | 6,114 | 6,315 | 6,264 | 6,444 | |
| Yes | 718 | 1,303 | 1,945 | 2,075 | 2,239 | 2,249 | 2,246 | 2,249 | |
| Rural/Urban | | | | | | | | | |
| Rural | 1,785 | 1,174 | 2,416 | 3,315 | 3,833 | 3,907 | 3,905 | 3,980 | |
| Urban | 1,825 | 1,484 | 2,916 | 4,043 | 4,520 | 4,657 | 4,605 | 4,713 | |
| Location of Death | | | | | | | | | |
| Hospital | 897 | 1,740 | 3,941 | 3,750 | 4,450 | 4,499 | 4,458 | 4,506 | |
| Non-hospital | 2,713 | 918 | 1,391 | 3,608 | 3,903 | 4,065 | 4,052 | 4,187 | |
| Region | | | | | | | | | |
| Regina Qu'Appelle Regional Health Authority | 798 | 636 | 1,240 | 1,666 | 1,928 | 1,989 | 1,942 | 2,011 | |
| Saskatoon Regional Health Authority | 794 | 690 | 1,327 | 1,834 | 2,026 | 2,071 | 2,071 | 2,113 | |
| Northern Regional Health Authorities | 13 | 8 | 73 | 35 | 96 | 99 | 99 | 112 | |
| All other regional health authorities | 2,005 | 1,324 | 2,692 | 3,823 | 4,303 | 4,405 | 4,398 | 4,457 | |
| All | 3,610 | 2,658 | 5,332 | 7,358 | 8,353 | 8,564 | 8,510 | 8,693 | |

| Counts of Persons with Service in the Last 180 Days of Life By Client Characteristics and Type of Care | | | | | | | | | | |
|---|------------------------------|--|------------------|-------------------------|-----------------|--------------------------|-------------------------|--|-------|--------------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Male | Age group | | | | | | | | | |
| | 19-44 | 8 | 26 | 102 | 107 | 202 | 203 | 203 | 230 | |
| | 45-64 | 61 | 187 | 422 | 504 | 620 | 634 | 630 | 655 | |
| | 65-74 | 198 | 307 | 639 | 709 | 801 | 808 | 808 | 818 | |
| | 75-84 | 513 | 521 | 1,072 | 1,191 | 1,398 | 1,425 | 1,418 | 1,431 | |
| | 85+ | 733 | 474 | 817 | 1,090 | 1,246 | 1,260 | 1,255 | 1,260 | |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 329 | 268 | 626 | 764 | 977 | 1,005 | 1,000 | 1,045 | |
| | Married or Common Law | 769 | 941 | 1,870 | 2,154 | 2,487 | 2,506 | 2,501 | 2,527 | |
| | Widowed | 415 | 306 | 556 | 683 | 803 | 819 | 813 | 822 | |
| All | 1,513 | 1,515 | 3,052 | 3,601 | 4,267 | 4,330 | 4,314 | 4,394 | | |
| Female | Age group | | | | | | | | | |
| | 19-44 | 9 | 36 | 93 | 85 | 142 | 143 | 142 | 147 | |
| | 45-64 | 67 | 157 | 303 | 316 | 374 | 379 | 375 | 385 | |
| | 65-74 | 141 | 259 | 476 | 522 | 572 | 578 | 575 | 582 | |
| | 75-84 | 546 | 464 | 836 | 1,102 | 1,170 | 1,187 | 1,179 | 1,190 | |
| | 85+ | 1,382 | 555 | 983 | 1,912 | 1,958 | 1,981 | 1,975 | 1,983 | |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 248 | 178 | 366 | 481 | 569 | 581 | 575 | 589 | |
| | Married or Common Law | 339 | 478 | 858 | 1,010 | 1,091 | 1,096 | 1,092 | 1,102 | |
| | Widowed | 1,558 | 815 | 1,467 | 2,446 | 2,556 | 2,591 | 2,579 | 2,596 | |
| All | 2,145 | 1,471 | 2,691 | 3,937 | 4,216 | 4,268 | 4,246 | 4,287 | | |

| Counts of Persons with Service in the Last 180 Days of Life By Client Characteristics and Type of Care (cont'd) | | | | | | | | | | |
|--|------------------------------|--|------------------|-------------------------|-----------------|--------------------------|-------------------------|--|-------|--------------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Age group | | | | | | | | | | |
| | 19-44 | 17 | 62 | 195 | 192 | 344 | 346 | 345 | 377 | |
| | 45-64 | 128 | 344 | 725 | 820 | 994 | 1,013 | 1,005 | 1,040 | |
| | 65-74 | 339 | 566 | 1,115 | 1,231 | 1,373 | 1,386 | 1,383 | 1,400 | |
| | 75-84 | 1,059 | 985 | 1,908 | 2,293 | 2,568 | 2,612 | 2,597 | 2,621 | |
| | 85+ | 2,115 | 1,029 | 1,800 | 3,002 | 3,204 | 3,241 | 3,230 | 3,243 | |
| Total | | | | | | | | | | |
| Marital Status | | | | | | | | | | |
| | Single Divorced or Separated | 577 | 446 | 992 | 1,245 | 1,546 | 1,586 | 1,575 | 1,634 | |
| | Married or Common Law | 1,108 | 1,419 | 2,728 | 3,164 | 3,578 | 3,602 | 3,593 | 3,629 | |
| | Widowed | 1,973 | 1,121 | 2,023 | 3,129 | 3,359 | 3,410 | 3,392 | 3,418 | |
| | All | 3,658 | 2,986 | 5,743 | 7,538 | 8,483 | 8,598 | 8,560 | 8,681 | |

| Counts of Persons with Service in the Last 180 Days of Life By Different Categories and Type | | | | | | | | | |
|--|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------------------|--|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | | |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | Number of Clients | |
| Lunney/Fassbender Classification | | | | | | | | | |
| Frailty | 1,315 | 571 | 1,242 | 2,202 | 2,420 | 2,478 | 2,457 | 2,498 | |
| Organ Failure | 1,433 | 916 | 2,029 | 2,654 | 3,013 | 3,058 | 3,043 | 3,072 | |
| Other | 129 | 66 | 175 | 225 | 260 | 264 | 263 | 264 | |
| Sudden Death | 72 | 40 | 179 | 265 | 406 | 411 | 411 | 458 | |
| Terminal Illness | 709 | 1,393 | 2,118 | 2,192 | 2,384 | 2,387 | 2,386 | 2,389 | |
| Type of Service at Period Start | | | | | | | | | |
| In Facility | 2,298 | 69 | 633 | 2,091 | 2,222 | 2,298 | 2,265 | 2,298 | |
| In Hospital | 124 | 135 | 234 | 205 | 234 | 234 | 234 | 234 | |
| In the Community With Home Care | 502 | 1,402 | 1,192 | 1,320 | 1,394 | 1,402 | 1,402 | 1,402 | |
| In the Community Without Home Care | 734 | 1,380 | 3,684 | 3,922 | 4,633 | 4,664 | 4,659 | 4,747 | |
| Underlying Cause of Death | | | | | | | | | |
| Infectious and parasitic diseases | 38 | 39 | 101 | 95 | 113 | 114 | 113 | 114 | |
| Neoplasms | 674 | 1,350 | 2,061 | 2,119 | 2,303 | 2,306 | 2,305 | 2,308 | |
| Endocrine, nutritional and metabolic diseases, immunity disorders | 205 | 144 | 263 | 351 | 410 | 416 | 414 | 417 | |
| Diseases of blood and blood-forming organs | 13 | 6 | 27 | 32 | 34 | 34 | 34 | 34 | |
| Mental disorders | 201 | 23 | 67 | 205 | 234 | 242 | 238 | 243 | |
| Diseases of the nervous system and sense organs | 344 | 75 | 144 | 371 | 393 | 422 | 411 | 424 | |
| Diseases of the circulatory system | 1,283 | 814 | 1,780 | 2,679 | 2,966 | 3,015 | 3,003 | 3,040 | |
| Diseases of the respiratory system | 419 | 250 | 526 | 690 | 788 | 796 | 791 | 797 | |
| Diseases of the digestive system | 107 | 81 | 246 | 252 | 302 | 303 | 303 | 305 | |
| Diseases of the genitourinary system | 102 | 84 | 157 | 188 | 210 | 210 | 210 | 211 | |
| Diseases of the skin and subcutaneous tissue | 11 | 3 | 9 | 17 | 18 | 18 | 18 | 18 | |
| Diseases of the musculoskeletal system and connective tissue | 62 | 22 | 60 | 83 | 89 | 89 | 89 | 89 | |

| Counts of Persons with Service in the Last 180 Days of Life By Different Categories and Type (cont'd) | | | | | | | | | |
|--|--|------------------|-------------------------|-----------------|--------------------------|-------------------------|--|-------|--------------------------|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Congenital anomalies | 8 | 4 | 10 | 18 | 18 | 20 | 19 | 21 | |
| Symptoms, signs and ill-defined conditions | 79 | 21 | 45 | 95 | 109 | 112 | 111 | 112 | |
| External causes of morbidity and mortality | 112 | 70 | 247 | 343 | 496 | 501 | 501 | 548 | |
| Palliative Care | | | | | | | | | |
| No | 2,921 | 1,602 | 3,709 | 5,422 | 6,238 | 6,349 | 6,313 | 6,432 | |
| Yes | 737 | 1,384 | 2,034 | 2,116 | 2,245 | 2,249 | 2,247 | 2,249 | |
| Rural/Urban | | | | | | | | | |
| Rural | 1,811 | 1,321 | 2,606 | 3,398 | 3,905 | 3,935 | 3,934 | 3,976 | |
| Urban | 1,847 | 1,665 | 3,137 | 4,140 | 4,578 | 4,663 | 4,626 | 4,705 | |
| Location of Death | | | | | | | | | |
| Hospital | 932 | 1,878 | 4,010 | 3,867 | 4,463 | 4,496 | 4,466 | 4,501 | |
| Non-hospital | 2,726 | 1,108 | 1,733 | 3,671 | 4,020 | 4,102 | 4,094 | 4,180 | |
| Region | | | | | | | | | |
| Regina Qu'Appelle Regional Health Authority | 809 | 709 | 1,347 | 1,706 | 1,951 | 1,990 | 1,956 | 2,007 | |
| Saskatoon Regional Health Authority | 799 | 762 | 1,406 | 1,883 | 2,059 | 2,083 | 2,083 | 2,110 | |
| Northern Regional Health Authorities | 15 | 9 | 79 | 40 | 103 | 104 | 104 | 112 | |
| All other regional health authorities | 2,035 | 1,506 | 2,911 | 3,909 | 4,370 | 4,421 | 4,417 | 4,452 | |
| All | 3,658 | 2,986 | 5,743 | 7,538 | 8,483 | 8,598 | 8,560 | 8,681 | |

| Counts of Persons with Service In the Last 365 Days of Life By Client Characteristics and Type of Care | | | | | | | | | | |
|--|------------------------------|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------|-------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Male | Age group | | | | | | | | | |
| | 19-44 | 9 | 27 | 112 | 115 | 206 | 206 | 206 | 206 | 221 |
| | 45-64 | 61 | 196 | 442 | 519 | 631 | 635 | 633 | 633 | 647 |
| | 65-74 | 200 | 324 | 674 | 722 | 809 | 812 | 812 | 812 | 815 |
| | 75-84 | 524 | 579 | 1,149 | 1,211 | 1,412 | 1,424 | 1,419 | 1,419 | 1,429 |
| | 85+ | 741 | 557 | 894 | 1,107 | 1,246 | 1,255 | 1,253 | 1,253 | 1,255 |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 335 | 303 | 672 | 783 | 1,000 | 1,009 | 1,007 | 1,007 | 1,029 |
| | Married or Common Law | 787 | 1,035 | 1,999 | 2,194 | 2,497 | 2,507 | 2,504 | 2,504 | 2,520 |
| | Widowed | 413 | 345 | 600 | 697 | 807 | 816 | 812 | 812 | 818 |
| All | 1,535 | 1,683 | 3,271 | 3,674 | 4,304 | 4,332 | 4,323 | 4,323 | 4,367 | |
| Female | Age group | | | | | | | | | |
| | 19-44 | 9 | 40 | 107 | 86 | 144 | 144 | 144 | 144 | 147 |
| | 45-64 | 68 | 169 | 320 | 318 | 376 | 380 | 377 | 377 | 384 |
| | 65-74 | 145 | 281 | 489 | 528 | 576 | 580 | 577 | 577 | 581 |
| | 75-84 | 552 | 537 | 901 | 1,115 | 1,179 | 1,184 | 1,180 | 1,180 | 1,186 |
| | 85+ | 1,397 | 697 | 1,114 | 1,922 | 1,962 | 1,976 | 1,973 | 1,973 | 1,978 |
| | Marital Status | | | | | | | | | |
| | Single Divorced or Separated | 251 | 204 | 403 | 482 | 575 | 582 | 577 | 577 | 586 |
| | Married or Common Law | 347 | 532 | 898 | 1,021 | 1,094 | 1,096 | 1,094 | 1,094 | 1,101 |
| | Widowed | 1,573 | 988 | 1,630 | 2,466 | 2,568 | 2,586 | 2,580 | 2,580 | 2,589 |
| All | 2,171 | 1,724 | 2,931 | 3,969 | 4,237 | 4,264 | 4,251 | 4,251 | 4,276 | |

| Counts of Persons with Service in the Last 365 Days of Life By Client Characteristics and Type of Care (cont'd) | | | | | | | | | | |
|--|------------------------------|--|------------------|-------------------------|-----------------|--------------------------|-------------------------|--|-------|--------------------------|
| Counts of Clients | | Number of Clients with Type of Care Service | | | | | | | | Number of Clients |
| | | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Age group | | | | | | | | | | |
| | 19-44 | 18 | 67 | 219 | 201 | 350 | 350 | 350 | 350 | 368 |
| | 45-64 | 129 | 365 | 762 | 837 | 1,007 | 1,015 | 1,010 | 1,010 | 1,031 |
| | 65-74 | 345 | 605 | 1,163 | 1,250 | 1,385 | 1,392 | 1,389 | 1,389 | 1,396 |
| | 75-84 | 1,076 | 1,116 | 2,050 | 2,326 | 2,591 | 2,608 | 2,599 | 2,599 | 2,615 |
| | 85 + | 2,138 | 1,254 | 2,008 | 3,029 | 3,208 | 3,231 | 3,226 | 3,226 | 3,233 |
| Total | | | | | | | | | | |
| Marital Status | | | | | | | | | | |
| | Single Divorced or Separated | 586 | 507 | 1,075 | 1,265 | 1,575 | 1,591 | 1,584 | 1,584 | 1,615 |
| | Married or Common Law | 1,134 | 1,567 | 2,897 | 3,215 | 3,591 | 3,603 | 3,598 | 3,598 | 3,621 |
| | Widowed | 1,986 | 1,333 | 2,230 | 3,163 | 3,375 | 3,402 | 3,392 | 3,392 | 3,407 |
| | All | 3,706 | 3,407 | 6,202 | 7,643 | 8,541 | 8,596 | 8,574 | 8,574 | 8,643 |

| Counts of Persons with Service In the Last 365 Days of Life by Different Categories and Type of Care | | | | | | | | | |
|--|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------------------|--|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | Number of Clients | |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Lunney/Fassbender Classification | | | | | | | | | |
| Frailty | 1,333 | 696 | 1,401 | 2,222 | 2,444 | 2,475 | 2,462 | 2,486 | |
| Organ Failure | 1,457 | 1,101 | 2,209 | 2,702 | 3,033 | 3,054 | 3,047 | 3,061 | |
| Other | 129 | 89 | 182 | 229 | 263 | 264 | 263 | 264 | |
| Sudden Death | 72 | 56 | 209 | 286 | 424 | 424 | 424 | 451 | |
| Terminal Illness | 715 | 1,465 | 2,201 | 2,204 | 2,377 | 2,379 | 2,378 | 2,381 | |
| Type of Service at Period Start | | | | | | | | | |
| In Facility | 1,944 | 74 | 593 | 1,787 | 1,903 | 1,944 | 1,928 | 1,944 | |
| In Hospital | 86 | 96 | 162 | 144 | 162 | 162 | 162 | 162 | |
| In the Community With Home Care | 615 | 1,300 | 1,137 | 1,233 | 1,298 | 1,300 | 1,300 | 1,300 | |
| In the Community Without Home Care | 1,061 | 1,937 | 4,310 | 4,479 | 5,178 | 5,190 | 5,184 | 5,237 | |
| Underlying Cause of Death | | | | | | | | | |
| Infectious and parasitic diseases | 38 | 48 | 100 | 94 | 110 | 111 | 110 | 111 | |
| Neoplasms | 680 | 1,419 | 2,134 | 2,133 | 2,298 | 2,300 | 2,299 | 2,302 | |
| Endocrine, nutritional and metabolic diseases, immunity disorders | 210 | 174 | 292 | 353 | 415 | 416 | 416 | 416 | |
| Diseases of blood and blood-forming organs | 14 | 9 | 29 | 32 | 34 | 34 | 34 | 34 | |
| Mental disorders | 202 | 36 | 82 | 209 | 236 | 241 | 238 | 242 | |
| Diseases of the nervous system and sense organs | 348 | 89 | 173 | 372 | 405 | 423 | 416 | 424 | |
| Diseases of the circulatory system | 1,307 | 967 | 1,989 | 2,727 | 2,989 | 3,012 | 3,006 | 3,026 | |
| Diseases of the respiratory system | 423 | 300 | 570 | 694 | 791 | 794 | 791 | 794 | |
| Diseases of the digestive system | 108 | 100 | 254 | 260 | 303 | 304 | 304 | 304 | |
| Diseases of the genitourinary system | 103 | 99 | 167 | 191 | 209 | 209 | 209 | 210 | |
| Diseases of the skin and subcutaneous tissue | 11 | 7 | 11 | 17 | 18 | 18 | 18 | 18 | |

| Counts of Persons with Service in the Last 365 Days of Life by Different Categories and Type of Care (cont'd) | | | | | | | | | |
|---|---|-----------|------------------|----------|-------------------|------------------|-------------------------------------|-------------------|-------|
| Counts of Clients | Number of Clients with Type of Care Service | | | | | | | Number of Clients | |
| | LTC | Home Care | Hospital Service | Pharmacy | Physician Service | With Any Service | Any Service Excluding Facility Care | | |
| Diseases of the musculoskeletal system and connective tissue | 62 | 30 | 61 | 82 | 88 | 88 | 88 | 88 | 88 |
| Congenital anomalies | 8 | 5 | 11 | 18 | 20 | 20 | 20 | 20 | 21 |
| Symptoms, signs and ill-defined conditions | 80 | 29 | 49 | 96 | 111 | 112 | 111 | 111 | 112 |
| External causes of morbidity and mortality | 112 | 95 | 280 | 365 | 514 | 514 | 514 | 514 | 541 |
| Palliative Care | | | | | | | | | |
| No | 2,958 | 1,952 | 4,084 | 5,507 | 6,293 | 6,347 | 6,326 | 6,326 | 6,394 |
| Yes | 748 | 1,455 | 2,118 | 2,136 | 2,248 | 2,249 | 2,248 | 2,248 | 2,249 |
| Rural/Urban | | | | | | | | | |
| Rural | 1,843 | 1,517 | 2,834 | 3,440 | 3,935 | 3,945 | 3,944 | 3,944 | 3,965 |
| Urban | 1,863 | 1,890 | 3,368 | 4,203 | 4,606 | 4,651 | 4,630 | 4,630 | 4,678 |
| Location of Death | | | | | | | | | |
| Hospital | 973 | 2,052 | 4,079 | 3,939 | 4,459 | 4,480 | 4,460 | 4,460 | 4,484 |
| Non-hospital | 2,733 | 1,355 | 2,123 | 3,704 | 4,082 | 4,116 | 4,114 | 4,114 | 4,159 |
| Region | | | | | | | | | |
| Regina Qu'Appelle Regional Health Authority | 813 | 797 | 1,446 | 1,733 | 1,956 | 1,980 | 1,959 | 1,959 | 1,990 |
| Saskatoon Regional Health Authority | 810 | 860 | 1,502 | 1,908 | 2,074 | 2,086 | 2,086 | 2,086 | 2,103 |
| Northern Regional Health Authorities | 17 | 9 | 83 | 44 | 105 | 105 | 105 | 105 | 111 |
| All other regional health authorities | 2,066 | 1,741 | 3,171 | 3,958 | 4,406 | 4,425 | 4,424 | 4,424 | 4,439 |
| All | 3,706 | 3,407 | 6,202 | 7,643 | 8,541 | 8,596 | 8,574 | 8,574 | 8,643 |

| Counts and Percentages of Persons for Different Time Periods | | | | | | | | | | | | |
|--|------------------------------|---------|-------------------|---------|----------------|---------|------------------------|---------|--------------------|---------|-----------------|-------|
| Time Period | Long Term Care Facility Days | | Home Care Service | | Hospital Days | | Pharmacy Prescriptions | | Physician Services | | Number in Group | |
| | # With Service | Percent | # With Service | Percent | # With Service | Percent | # With Service | Percent | # With Service | Percent | | |
| 30 Days | All | 3,535 | 40.62 | 2,201 | 25.29 | 4,748 | 54.56 | 6,205 | 71.30 | 8,012 | 92.06 | 8,703 |
| | Excluding Facility Care | 0 | 0.00 | 1,841 | 35.62 | 3,622 | 70.09 | 3,202 | 61.96 | 4,726 | 91.45 | 5,168 |
| | Some Facility Care | 3,535 | 100.00 | 360 | 10.18 | 1,126 | 31.85 | 3,003 | 84.95 | 3,286 | 92.96 | 3,535 |
| | Over 80% Facility Care | 3,004 | 100.00 | 103 | 3.43 | 701 | 23.34 | 2,585 | 86.05 | 2,762 | 91.94 | 3,004 |
| | 80% or less facility Care | 531 | 100.00 | 257 | 48.40 | 425 | 80.04 | 418 | 78.72 | 524 | 98.68 | 531 |
| 90 Days | All | 3,610 | 41.53 | 2,658 | 30.58 | 5,332 | 61.34 | 7,358 | 84.64 | 8,353 | 96.09 | 8,693 |
| | Excluding Facility Care | 0 | 0.00 | 1,984 | 39.03 | 3,793 | 74.62 | 4,087 | 80.41 | 4,866 | 95.73 | 5,083 |
| | Some Facility Care | 3,610 | 100.00 | 674 | 18.67 | 1,539 | 42.63 | 3,271 | 90.61 | 3,487 | 96.59 | 3,610 |
| | Over 80% Facility Care | 2,638 | 100.00 | 88 | 3.34 | 715 | 27.10 | 2,384 | 90.37 | 2,520 | 95.53 | 2,638 |
| | 80% or less facility Care | 972 | 100.00 | 586 | 60.29 | 824 | 84.77 | 887 | 91.26 | 967 | 99.49 | 972 |
| 180 Days | All | 3,658 | 42.14 | 2,986 | 34.40 | 5,743 | 66.16 | 7,538 | 86.83 | 8,483 | 97.72 | 8,681 |
| | Excluding Facility Care | 0 | 0.00 | 2,049 | 40.79 | 3,917 | 77.98 | 4,179 | 83.20 | 4,906 | 97.67 | 5,023 |
| | Some Facility Care | 3,658 | 100.00 | 937 | 25.62 | 1,826 | 49.92 | 3,359 | 91.83 | 3,577 | 97.79 | 3,658 |
| | Over 80% Facility Care | 2,366 | 100.00 | 100 | 4.23 | 687 | 29.04 | 2,158 | 91.21 | 2,289 | 96.75 | 2,366 |
| | 80% or less facility Care | 1,292 | 100.00 | 837 | 64.78 | 1,139 | 88.16 | 1,201 | 92.96 | 1,288 | 99.69 | 1,292 |
| 365 Days | All | 3,706 | 42.88 | 3,407 | 39.42 | 6,202 | 71.76 | 7,643 | 88.43 | 8,541 | 98.82 | 8,643 |
| | Excluding Facility Care | 0 | 0.00 | 2,151 | 43.57 | 4,038 | 81.79 | 4,210 | 85.27 | 4,882 | 98.89 | 4,937 |
| | Some Facility Care | 3,706 | 100.00 | 1,256 | 33.89 | 2,164 | 58.39 | 3,433 | 92.63 | 3,659 | 98.73 | 3,706 |
| | Over 80% Facility Care | 2,051 | 100.00 | 123 | 6.00 | 678 | 33.06 | 1,886 | 91.96 | 2,008 | 97.90 | 2,051 |
| | 80% or less facility Care | 1,655 | 100.00 | 1,133 | 68.46 | 1,486 | 89.79 | 1,547 | 93.47 | 1,651 | 99.76 | 1,655 |

| Total Cost to Government by Type of Service at Start of Period and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|------------------------------------|-------------------------|-----------|------------------|----------|--------------------|----------------------|---------------------------------|--|
| Time Period Prior to Death | Type of Service at Start of Period | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | In Facility | 3,081 | 5 | 1,023 | 152 | 188 | 4,449 | 1,367 | |
| | In Hospital | 688 | 163 | 15,084 | 153 | 845 | 16,933 | 16,245 | |
| | In the Community With Home Care | 142 | 824 | 5,130 | 211 | 501 | 6,808 | 6,665 | |
| | In the Community Without Home Care | 37 | 45 | 4,831 | 84 | 700 | 5,698 | 5,661 | |
| 90 Days Prior to Death | In Facility | 9,384 | 30 | 1,576 | 401 | 373 | 11,764 | 2,380 | |
| | In Hospital | 2,903 | 609 | 23,739 | 559 | 1,537 | 29,347 | 26,444 | |
| | In the Community With Home Care | 819 | 1,834 | 10,655 | 550 | 981 | 14,838 | 14,019 | |
| | In the Community Without Home Care | 273 | 213 | 9,387 | 280 | 1,154 | 11,307 | 11,034 | |
| 180 Days Prior to Death | In Facility | 18,953 | 23 | 1,931 | 726 | 569 | 22,202 | 3,249 | |
| | In Hospital | 6,008 | 1,284 | 29,379 | 1,340 | 2,292 | 40,303 | 34,295 | |
| | In the Community With Home Care | 2,137 | 3,377 | 13,132 | 1,030 | 1,367 | 21,043 | 18,906 | |
| | In the Community Without Home Care | 708 | 395 | 12,395 | 519 | 1,577 | 15,595 | 14,887 | |
| 365 Days Prior to Death | In Facility | 38,526 | 39 | 2,231 | 1,328 | 939 | 43,064 | 4,538 | |
| | In Hospital | 13,275 | 2,560 | 32,495 | 2,575 | 3,367 | 54,272 | 40,998 | |
| | In the Community With Home Care | 5,644 | 6,362 | 15,711 | 1,734 | 1,916 | 31,367 | 25,723 | |
| | In the Community Without Home Care | 1,662 | 699 | 15,463 | 964 | 2,186 | 20,973 | 19,311 | |

| Total Cost to Government by Lunney/Fassbender Classification and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|----------------------------------|-------------------------|-----------|------------------|----------|--------------------|----------------------|---------------------------------|--|
| Time Period Prior to Death | Lunney/FassBender Classification | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Frailty | 1,527 | 76 | 3,431 | 105 | 406 | 5,545 | 4,018 | |
| | Organ Failure | 1,289 | 108 | 5,046 | 115 | 578 | 7,135 | 5,847 | |
| | Other | 1,392 | 103 | 6,234 | 109 | 834 | 8,672 | 7,280 | |
| | Sudden Death | 439 | 21 | 2,245 | 49 | 423 | 3,177 | 2,738 | |
| | Terminal Illness | 676 | 413 | 7,121 | 219 | 543 | 8,972 | 8,295 | |
| 90 Days Prior to Death | Frailty | 4,469 | 262 | 5,230 | 312 | 686 | 10,958 | 6,489 | |
| | Organ Failure | 3,652 | 339 | 7,884 | 352 | 958 | 13,184 | 9,532 | |
| | Other | 3,968 | 330 | 8,577 | 342 | 1,198 | 14,416 | 10,447 | |
| | Sudden Death | 1,278 | 71 | 3,406 | 137 | 610 | 5,502 | 4,225 | |
| | Terminal Illness | 1,582 | 891 | 12,102 | 524 | 1,126 | 16,224 | 14,643 | |
| 180 Days Prior to Death | Frailty | 8,513 | 576 | 6,597 | 603 | 975 | 17,262 | 8,750 | |
| | Organ Failure | 6,806 | 713 | 9,943 | 684 | 1,317 | 19,463 | 12,657 | |
| | Other | 7,403 | 626 | 10,994 | 683 | 1,630 | 21,335 | 13,933 | |
| | Sudden Death | 2,418 | 164 | 4,531 | 256 | 807 | 8,176 | 5,758 | |
| | Terminal Illness | 2,546 | 1,296 | 15,305 | 832 | 1,661 | 21,640 | 19,094 | |
| 365 Days Prior to Death | Frailty | 16,166 | 1,220 | 8,367 | 1,120 | 1,434 | 28,307 | 12,141 | |
| | Organ Failure | 12,367 | 1,471 | 12,708 | 1,286 | 1,907 | 29,738 | 17,371 | |
| | Other | 13,565 | 1,314 | 13,404 | 1,245 | 2,188 | 31,715 | 18,151 | |
| | Sudden Death | 4,320 | 361 | 5,815 | 486 | 1,195 | 12,178 | 7,658 | |
| | Terminal Illness | 3,996 | 1,838 | 18,960 | 1,273 | 2,433 | 28,499 | 24,503 | |

| Total Cost to Government by Five Most Common Causes of Death and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|---|-------------------------|-----------|------------------|----------|--------------------|----------------------|---------------------------------|--|
| Time Period Prior to Death | Five Most Common Causes of Death | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Diseases of the circulatory system | 1,170 | 94 | 4,032 | 99 | 496 | 5,893 | 4,722 | |
| | Neoplasms | 662 | 408 | 7,084 | 219 | 538 | 8,910 | 8,248 | |
| | Diseases of the respiratory system | 1,475 | 101 | 5,655 | 101 | 501 | 7,833 | 6,359 | |
| | External causes of morbidity and mortality | 583 | 42 | 2,854 | 56 | 494 | 4,029 | 3,446 | |
| | Diseases of the nervous system and sense organs | 2,406 | 92 | 1,950 | 113 | 214 | 4,776 | 2,370 | |
| 90 Days Prior to Death | Diseases of the circulatory system | 3,344 | 312 | 6,124 | 298 | 812 | 10,889 | 7,545 | |
| | Neoplasms | 1,527 | 875 | 12,094 | 518 | 1,128 | 16,142 | 14,614 | |
| | Diseases of the respiratory system | 4,194 | 342 | 8,912 | 329 | 858 | 14,634 | 10,440 | |
| | External causes of morbidity and mortality | 1,644 | 151 | 4,184 | 153 | 706 | 6,837 | 5,193 | |
| | Diseases of the nervous system and sense organs | 7,133 | 262 | 3,228 | 325 | 433 | 11,380 | 4,248 | |
| 180 Days Prior to Death | Diseases of the circulatory system | 6,272 | 640 | 7,742 | 572 | 1,131 | 16,358 | 10,086 | |
| | Neoplasms | 2,434 | 1,265 | 15,323 | 816 | 1,664 | 21,502 | 19,069 | |
| | Diseases of the respiratory system | 7,814 | 788 | 11,145 | 667 | 1,185 | 21,601 | 13,786 | |
| | External causes of morbidity and mortality | 3,028 | 310 | 5,405 | 297 | 939 | 9,979 | 6,951 | |
| | Diseases of the nervous system and sense organs | 13,731 | 532 | 4,276 | 620 | 661 | 19,821 | 6,090 | |
| 365 Days Prior to Death | Diseases of the circulatory system | 11,570 | 1,300 | 9,831 | 1,076 | 1,641 | 25,418 | 13,849 | |
| | Neoplasms | 3,774 | 1,783 | 18,952 | 1,236 | 2,433 | 28,179 | 24,405 | |
| | Diseases of the respiratory system | 14,282 | 1,686 | 13,369 | 1,284 | 1,693 | 32,314 | 18,031 | |
| | External causes of morbidity and mortality | 5,384 | 644 | 6,841 | 579 | 1,354 | 14,801 | 9,417 | |
| | Diseases of the nervous system and sense organs | 26,333 | 1,133 | 5,952 | 1,141 | 1,052 | 35,612 | 9,279 | |

| Total Cost to Government by Receipt or Non-Receipt of Palliative Care and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|--|--------------------------------|------------------|-------------------------|-----------------|---------------------------|-----------------------------|--|--|
| Time Period Prior to Death | Receipt or Non Receipt of Palliative Care | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Received Palliative Care | 1,291 | 85 | 4,338 | 96 | 514 | 6,323 | 5,032 | |
| | Did Not Receive Palliative Care | 733 | 445 | 7,062 | 256 | 531 | 9,026 | 8,294 | |
| 90 Days Prior to Death | Received Palliative Care | 3,723 | 274 | 6,549 | 290 | 832 | 11,668 | 7,945 | |
| | Did Not Receive Palliative Care | 1,708 | 969 | 12,410 | 624 | 1,150 | 16,862 | 15,153 | |
| 180 Days Prior to Death | Received Palliative Care | 7,024 | 575 | 8,237 | 568 | 1,151 | 17,555 | 10,532 | |
| | Did Not Receive Palliative Care | 2,731 | 1,451 | 15,821 | 995 | 1,710 | 22,707 | 19,977 | |
| 365 Days Prior to Death | Received Palliative Care | 13,073 | 1,202 | 10,421 | 1,078 | 1,667 | 27,441 | 14,368 | |
| | Did Not Receive Palliative Care | 4,224 | 2,105 | 19,729 | 1,515 | 2,512 | 30,086 | 25,862 | |

| Total Cost to Government by Living Environment and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|--|---------------------------|--------------------------------|------------------|-------------------------|-----------------|---------------------------|-----------------------------|--|--|
| Time Period Prior to Death | Living Environment | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Rural | 1,236 | 140 | 4,892 | 137 | 501 | 6,907 | 5,671 | |
| | Urban | 1,071 | 209 | 5,168 | 137 | 533 | 7,119 | 6,048 | |
| 90 Days Prior to Death | Rural | 3,444 | 382 | 8,059 | 360 | 897 | 13,142 | 9,698 | |
| | Urban | 2,997 | 515 | 8,071 | 390 | 930 | 12,902 | 9,905 | |
| 180 Days Prior to Death | Rural | 6,350 | 713 | 10,202 | 637 | 1,268 | 19,169 | 12,819 | |
| | Urban | 5,541 | 878 | 10,202 | 714 | 1,319 | 18,654 | 13,114 | |
| 365 Days Prior to Death | Rural | 11,571 | 1,376 | 12,829 | 1,113 | 1,819 | 28,708 | 17,137 | |
| | Urban | 10,092 | 1,489 | 12,855 | 1,258 | 1,945 | 27,639 | 17,547 | |

| Total Cost to Government by Location of Death and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|--------------------------|--------------------------------|------------------|-------------------------|-----------------|---------------------------|-----------------------------|--|--|
| Time Period Prior to Death | Location of Death | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Hospital | 486 | 177 | 8,486 | 123 | 828 | 10,099 | 9,613 | |
| | Non-Hospital | 1,858 | 179 | 1,332 | 153 | 185 | 3,708 | 1,849 | |
| 90 Days Prior to Death | Hospital | 1,280 | 512 | 12,441 | 373 | 1,325 | 15,931 | 14,651 | |
| | Non-Hospital | 5,270 | 392 | 3,357 | 380 | 473 | 9,871 | 4,601 | |
| 180 Days Prior to Death | Hospital | 2,253 | 910 | 14,967 | 691 | 1,763 | 20,584 | 18,331 | |
| | Non-Hospital | 9,851 | 687 | 5,071 | 666 | 792 | 17,066 | 7,216 | |
| 365 Days Prior to Death | Hospital | 3,895 | 1,569 | 17,896 | 1,231 | 2,421 | 27,012 | 23,117 | |
| | Non-Hospital | 18,183 | 1,294 | 7,395 | 1,149 | 1,312 | 29,333 | 11,151 | |

| Total Cost to Government by Region and Type of Service for 30, 90, 180 and 365 Day Time Periods | | | | | | | | | |
|---|---|-------------------------|-----------|------------------|----------|--------------------|----------------------|---------------------------------|--|
| Time Period Prior to Death | Region | Type of Service | | | | | | | |
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average of All Costs | Average Excluding Facility Care | |
| 30 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 1,021 | 243 | 5,603 | 146 | 599 | 7,612 | 6,591 | |
| | Saskatoon Regional Health Authority | 958 | 173 | 5,035 | 140 | 508 | 6,814 | 5,856 | |
| | Northern Regional Health Authorities | 424 | 46 | 5,915 | 120 | 619 | 7,124 | 6,700 | |
| | All Other Regional Health Authorities | 1,312 | 154 | 4,770 | 132 | 484 | 6,852 | 5,540 | |
| 90 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 2,857 | 561 | 8,670 | 414 | 1,029 | 13,530 | 10,674 | |
| | Saskatoon Regional Health Authority | 2,682 | 446 | 7,760 | 380 | 876 | 12,143 | 9,462 | |
| | Northern Regional Health Authorities | 1,294 | 99 | 8,766 | 195 | 901 | 11,255 | 9,961 | |
| | All Other Regional Health Authorities | 3,652 | 418 | 7,920 | 362 | 881 | 13,234 | 9,582 | |
| 180 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 5,319 | 937 | 11,135 | 753 | 1,453 | 19,598 | 14,279 | |
| | Saskatoon Regional Health Authority | 4,961 | 810 | 9,726 | 683 | 1,263 | 17,443 | 12,482 | |
| | Northern Regional Health Authorities | 2,396 | 137 | 11,185 | 287 | 1,267 | 15,272 | 12,875 | |
| | All Other Regional Health Authorities | 6,718 | 755 | 9,982 | 653 | 1,241 | 19,348 | 12,631 | |
| 365 Days Prior to Death | Regina Qu'Appelle Regional Health Authority | 9,737 | 1,603 | 13,962 | 1,328 | 2,106 | 28,736 | 18,999 | |
| | Saskatoon Regional Health Authority | 9,076 | 1,413 | 12,029 | 1,177 | 1,881 | 25,576 | 16,500 | |
| | Northern Regional Health Authorities | 4,110 | 211 | 13,587 | 436 | 1,633 | 19,977 | 15,867 | |
| | All Other Regional Health Authorities | 12,203 | 1,405 | 12,709 | 1,156 | 1,798 | 29,271 | 17,068 | |

| Average Cost | | Type of Care Service | | | | | | | Average of All Costs |
|--------------|---------------------------|-------------------------|-----------|------------------|----------|--------------------|---------------------------------------|----------------------|----------------------|
| | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Excluding Facility Care Costs | Average of All Costs | |
| Time Period | | | | | | | | | |
| 30 Days | All | 1,147 | 178 | 5,042 | 137 | 518 | 5,875 | 7,022 | |
| | Excluding Facility Care | 0 | 273 | 6,923 | 119 | 710 | 8,026 | 8,026 | |
| | Some Facility Care | 2,823 | 38 | 2,292 | 163 | 238 | 2,730 | 5,554 | |
| | Over 80% Facility Care | 3,102 | 4 | 1,381 | 164 | 192 | 1,741 | 4,843 | |
| | 80% or less facility Care | 1,248 | 229 | 7,446 | 160 | 493 | 8,328 | 9,576 | |
| 90 Days | All | 3,202 | 454 | 8,065 | 376 | 915 | 9,810 | 13,012 | |
| | Excluding Facility Care | 0 | 624 | 10,216 | 342 | 1,155 | 12,336 | 12,336 | |
| | Some Facility Care | 7,710 | 215 | 5,038 | 425 | 576 | 6,253 | 13,963 | |
| | Over 80% Facility Care | 9,481 | 8 | 1,952 | 408 | 383 | 2,751 | 12,233 | |
| | 80% or less facility Care | 2,903 | 774 | 13,412 | 469 | 1,102 | 15,757 | 18,660 | |
| 180 Days | All | 5,911 | 802 | 10,202 | 679 | 1,296 | 12,979 | 18,890 | |
| | Excluding Facility Care | 0 | 976 | 12,237 | 623 | 1,550 | 15,386 | 15,386 | |
| | Some Facility Care | 14,029 | 563 | 7,408 | 755 | 947 | 9,674 | 23,702 | |
| | Over 80% Facility Care | 19,026 | 20 | 2,182 | 744 | 579 | 3,524 | 22,550 | |
| | 80% or less facility Care | 4,877 | 1,559 | 16,978 | 777 | 1,621 | 20,935 | 25,812 | |
| 365 Days | All | 10,770 | 1,437 | 12,843 | 1,192 | 1,887 | 17,359 | 28,129 | |
| | Excluding Facility Care | 0 | 1,492 | 14,670 | 1,080 | 2,152 | 19,393 | 19,393 | |
| | Some Facility Care | 25,118 | 1,364 | 10,409 | 1,340 | 1,535 | 14,649 | 39,767 | |
| | Over 80% Facility Care | 38,622 | 51 | 2,580 | 1,326 | 959 | 4,916 | 43,538 | |
| | 80% or less facility Care | 8,383 | 2,992 | 20,112 | 1,358 | 2,248 | 26,711 | 35,093 | |

| Average per Person Government Costs for Different Time Periods | | | Type of Care Service | | | | | | |
|--|---------------------------|-------|-------------------------|-----------|------------------|----------|--------------------|---------------------------------------|--|
| | | | Long Term Care Facility | Home Care | Hospital Service | Pharmacy | Physician Services | Average Excluding Facility Care Costs | |
| Time Period | % of Cost | | | | | | | | |
| 30 Days | All | 16.33 | 2.53 | 71.80 | 1.95 | 7.38 | 83.67 | | |
| | Excluding Facility Care | 0.00 | 3.41 | 86.26 | 1.49 | 8.85 | 100.00 | | |
| | Some Facility Care | 50.84 | 0.69 | 41.26 | 2.94 | 4.28 | 49.16 | | |
| | Over 80% Facility Care | 64.05 | 0.09 | 28.51 | 3.38 | 3.97 | 35.95 | | |
| | 80% or less facility Care | 13.04 | 2.39 | 77.75 | 1.67 | 5.15 | 86.96 | | |
| 90 Days | All | 24.61 | 3.49 | 61.98 | 2.89 | 7.03 | 75.39 | | |
| | Excluding Facility Care | 0.00 | 5.06 | 82.81 | 2.77 | 9.36 | 100.00 | | |
| | Some Facility Care | 55.22 | 1.54 | 36.08 | 3.04 | 4.13 | 44.78 | | |
| | Over 80% Facility Care | 77.51 | 0.07 | 15.96 | 3.34 | 3.13 | 22.49 | | |
| | 80% or less facility Care | 15.56 | 4.15 | 71.87 | 2.52 | 5.90 | 84.44 | | |
| 180 Days | All | 31.29 | 4.25 | 54.01 | 3.59 | 6.86 | 68.71 | | |
| | Excluding Facility Care | 0.00 | 6.35 | 79.53 | 4.05 | 10.07 | 100.00 | | |
| | Some Facility Care | 59.19 | 2.38 | 31.25 | 3.19 | 4.00 | 40.81 | | |
| | Over 80% Facility Care | 84.37 | 0.09 | 9.67 | 3.30 | 2.57 | 15.63 | | |
| | 80% or less facility Care | 18.89 | 6.04 | 65.78 | 3.01 | 6.28 | 81.11 | | |
| 365 Days | All | 38.29 | 5.11 | 45.66 | 4.24 | 6.71 | 61.71 | | |
| | Excluding Facility Care | 0.00 | 7.69 | 75.64 | 5.57 | 11.09 | 100.00 | | |
| | Some Facility Care | 63.16 | 3.43 | 26.18 | 3.37 | 3.86 | 36.84 | | |
| | Over 80% Facility Care | 88.71 | 0.12 | 5.93 | 3.05 | 2.20 | 11.29 | | |
| | 80% or less facility Care | 23.89 | 8.52 | 57.31 | 3.87 | 6.41 | 76.11 | | |

