Few patients receive care from their family physician near the end of life after referral to home care: A retrospective cohort study

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This work has not been previously presented at any conferences or shared with anyone outside the author list above.

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Abstract

Introduction

Physician home visits are associated with better health outcomes, yet most dying patients never receive one. Our objectives were to describe the receipt of physician home visits during the last year of life following a referral to homecare – a sign patients can no longer live independently – and to measure associations between patient characteristics and receipt of a home visit.

Methods

We conducted a retrospective cohort study using linked population-based health administrative databases housed at ICES. We identified decedents in Ontario between April 1, 2013-March 31, 2018, who were receiving primary care and were referred to publicly funded homecare services. We described the provision of physician home visits, telephone management and office visits. Multinomial logistic regression produced adjusted odds ratio of home visits received from a rostered primary care physician.

Results

Of the 58,753 decedents in our cohort, 5.3% received a home visit from their family physician. Patient characteristics associated with higher odds of receiving home visits compared to office or telephone care were being female (OR: 1.28 [95% CI: 1.21-1.35 p<.0001]), being 85 years of age or older (OR 2.42 [95% CI: 1.80 -3.26], and living in rural areas (OR: 1.09 [95% CI: 1.00-1.18, p 0.047]). Increased odds were associated with homecare referrals from patient's family physician (OR: 1.49 [95% CI: 1.39-1.58, p<.0001]) and referrals occurring during a hospital admission (OR: 1.20 [95% CI: 1.13-1.28, p<.0001]).

Interpretation

Few dying patients receive home-based physician care. Patient characteristics may only explain part of low home-based service delivery.

Keywords*: primary care, health services, capitation models, end-of-life care, palliative care*

Abbreviations: *no abbreviations used, unless typical and specified with full name in manuscript*

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Introduction

The end-of-life period is difficult for many patients and their families. Care at home is often desired,[1] however, most patients utilize acute care during the last few months of life.[2,3] Home visits from physicians during the end-of-life period are associated with better quality of life,[4] reduced acute care use and costs,[5,6] and more out-of-hospital deaths.[5] However, the majority of dying patients never receive a physician home visit.[7,8] Studies have shown patient and physician characteristics are associated with home visits, including that physicians who have an existing relationship with their patients may be more likely to perform home visits.[9,10] Furthermore, an existing and ongoing relationship between patient and provider,[11] known as relational continuity of care, has been found to be associated with improved patient-centered outcomes.[12]

End-of-life care is often coordinated through primary care, including referring patients to formal homecare services (e.g., nursing, personal support worker, occupational therapy, etc.). Referral to homecare services by a physician may indicate clinical signs of decline, including a recognition of patients' increased care needs with an inability to live independently. In Ontario, those referred to publicly-funded formal homecare services are assessed with the Resident Assessment Instrument (RAI) for Home Care, a comprehensive clinical assessment tool to establish individuals' care needs. Physician-based care is not mandated, even after homecare services are initiated, and remains an optional service for physicians; however, physician involvement can provide additional care support and oversight.

This study examined patients with an existing relationship to a family doctor through capitation rostering. Rostering is a function of capitation-based remuneration models for providers, in which annual lump sum payments are given for each rostered patient to encourage retention of long-term, provider-patient relationships and to increase care continuity across all patients' life stages.[13,14] In the site of this study, physician home visits are remunerated as an additional service on top of annual capitation

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payments and referral to homecare and to other physicians conducting home visits (e.g., palliative care specialists) will not reduce annual remuneration.

It is unknown if family physicians continue caring for their rostered patients who are referred to homecare services at the end of life, and if patient factors predict care continuity. Our first objective was to describe end-of-life home visits from rostered physicians to patients in Ontario after physician referral to homecare services. Secondary objectives were to measure associations between patient characteristics and the receipt of rostered physician home visits, outpatient or management care provided by physicians, as well as to explore patterns across different disease trajectories (e.g., cancer versus organ failure).

Methods

Study population

We identified a population-based retrospective cohort of adult decedents, aged 18 to 104 years, who died between March 31, 2013-March 31, 2018 in Ontario, were rostered to a primary care physician through a capitation remuneration model, and who had been referred to formal homecare services during the last five years of life (Appendix I). We excluded those who were ineligible for OHIP three years before death and those admitted to a residential long-term care institution after referral. We identified individuals and their characteristics using multiple, linked, health administrative databases (Supplemental Appendix II). If an individual was referred more than once, the referral within or closest to the last 12 months of life was used. Homecare referral by a physician was chosen as an index event since it indicates physician recognition of increasing patient need.

Study design and data sources

Rostering was determined using the Client Agency Program Enrolment (CAPE), which captures patients' enrollment to capitation-based models. Referral by a physician to homecare services and

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services provided was captured the Ontario Health Insurance Plan (OHIP) Claims Database, which contains all physician billings, including shadow billing used in capitation-based remuneration. Emergency department visits were identified using the National Ambulatory Care Reporting System (NACRS), which holds ambulatory care records. Hospitalization records were from the Discharge Abstract Database (DAD), which contains records of each acute care admission. Death was determined using the Ontario Vital Statistics data (ORGD). These datasets were linked using unique encoded identifiers and analyzed at ICES.

Study variables

The primary outcome was receiving community-based care from a rostered physician after referral to homecare services, captured according to the following hierarchy: 1) the patient received at least one home visit from rostered physician, 2) the patient received office-based or telephone-based care from rostered physician, or 3) the patient did not receive any care from their rostered physician.

Secondary outcomes included the frequency of physician home visits received after the patients' referral to homecare services during their last year of life, presence and number of home visits provided by non-rostered physicians (such as palliative care physicians), visit patterns across patients' disease trajectories, and timing of the referral to home care in relation to patients' death, including whether it occurred during a hospitalization. Since palliative care has only recently been recognized as a medical specialty, we used a validated algorithm designed to identify palliative care physicians in health administrative data[15,16] based on their proportion of palliative care billings across the previous two years of practice, with those billing ≥10% as specialists and <10% as generalists.

Patient characteristics were age, sex, area-level income quintile, immigration status, rurality based on postal code at time of death, disease trajectory based on patients' cause of death and number and prevalence of chronic conditions based on previously developed algorithms at ICES.[17-25]

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Decedents were categorized according to major illness trajectories, as in previous research.[1,26,27] The trajectories are terminal illness (e.g., cancer), organ failure (e.g., chronic heart failure), frailty (e.g., Alzheimer disease), sudden death (i.e., unanticipated, such as an accident) and other. Researchers validated these trajectories using the International Classification of Diseases, 10th Revision (ICD-10) codes and a modified Delphi process to discriminate how cause of death corresponds to similar health care utilization costs and illness trajectories.[28] Subsequent research found these trajectories aligned with palliative service initiation and intensity.[29]

Statistical analysis

For descriptive analyses on patients referred to homecare, we calculated frequencies and proportions for categorical and binary variables and means, medians, interquartile ranges, distributions, and standard deviations for continuous variables. We described visit characteristics, including visits provided by non-rostered physicians, according to patients' disease trajectories. The rate of home visits in the last year of life was calculated using person-time, excluding the number of days patients spent in hospital. We assessed associations between each variable and the primary outcome. A multinomial logistic regression model was fitted to calculate the odds of patients receiving 1) a home visit from their rostered physician; or 2) no care from their rostered physician during their last year of life compared to the reference category of receiving any office-based or telephone care (typical primary care) from their rostered physician, independent of age, sex, income quintile, rurality, recent immigrant status, referral by rostered physician, referral during hospital admission, referral during the last year of life, number of chronic conditions and patients' cause of death disease trajectory. We reported adjusted odds ratios (ORs) and 95% confidence intervals (CI).

Ethics

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The use of data in this project was authorized under section 45 of Ontario's Personal Health Information Protection Act, which does not require review by a Research Ethics Board

Results

Study population

There were 105,816 patients referred to homecare during the last five years of life and our final descriptive cohort consisted of 58,753 patients referred by a physician within the last 12 months of life. Over half (58.8%) of patients were between 60-84 years of age, there were more males (53.0%), most patients (88.2%) lived in urban areas, and 28.6% of patients had five or more chronic conditions (Table 1). Half of the patients (51.3%) died of terminal illness, followed by organ failure (27.7%), frailty (15.0%), other causes (4.9%), and sudden death (1.1%).

Primary outcome

Within the cohort of decedents referred to homecare in their last year of life, 5.3% received a home visit from their rostered physician, 27.5% received office-based or telephone-based care from their rostered physician and 67.2% did not receive any care from their rostered physician after referral.

In the adjusted model, the relative odds of receiving a home visit rather than an office visit or telephone management were 1.28 [95% CI: 1.21-1.35 p<.0001] times higher for females than that of males, 2.42 [95% CI: 1.80-3.26 p<.0001] times higher for those aged 85 years or older compared to those aged 18-44 years, and 1.09 [95% CI: 1.00-1.18, p 0.047] times higher for those living in rural areas compared to urban areas (Figure 1a). Being referred to homecare services by a rostered physician (19.7% of the cohort) was associated with 1.49 [95% CI: 1.39-1.58, p<.0001] the odds of receiving a home visit rather than visiting the office or receiving telephone management compared to than those referred by a different physician. Similarly, those referred during a hospitalization had 1.20 [95% CI: 1.13-1.28, p<.0001]

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the odds of receiving a home visit rather than an office visit or telephone management from their rostered physician during the last year of life compared to those referred outside a hospital admission. The findings from the multinomial model found the odds of ***not*** receiving a home visit from a rostered physician compared to receiving typical primary care though office visits or telephone care management (Figure 1b) were significantly higher when referral to homecare was during the patient's last year of life (OR: 4.51 [95%CI:4.38-4.64]).

Secondary outcomes

Among patients who did not receive care from their rostered physician, 31.1% received outpatient care (home visit, office appointment, or telephone management) from non-rostered physicians. Palliative care generalists and specialists provided outpatient care to 31.8% and 17.6% of patients respectively (Appendix III). Within the subgroup analysis of patients' disease trajectory, we found those with terminal illness had an average of 1.1 home visits (standard deviation (STD): 3.49) from a rostered physician in their last year of life and the most, 2.78 (STD 9.08), home visits provided by palliative care specialists than any other disease trajectory. Those dying of frailty (6.9%) had an average of 1.57 visits (STD 3.97) with the highest rate (0.32 (STD 2.78)) of end-of-life visits from a rostered physicians after referral to homecare (Appendix III). However, after adjusting for all other characteristics in the model, associations did not remain significant.

Rate of visits

The person-time rate of home visits in the last year of life from rostered primary care physicians remained relatively low between 12 to 4 months before death, increasing in the last three months of life (Figure 2). Home visits from a non-rostered physician occurred at a higher rate than visits from a rostered physician, with an increase in the rate of all home-based visits during the last four months of life for patients at home.

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Interpretation

Among patients who were referred to homecare services, few received any outpatient care in the last year of life and even fewer received a home visit by their rostered physician after the referral. Patient characteristics associated with higher odds of receiving home visits from a rostered physician were being female, being 85 years of age or older, and living in rural areas, however, rates of visits remained low, even for those with these characteristics. These results suggest patient characteristics are not the driving factor in receiving an end-of-life home visit from a physician. Referrals to homecare made by the rostered physician themselves compared to another healthcare provider, patients who self-refer and referrals during a hospitalization were also associated with higher odds of subsequent home visit delivery rather than typical primary care as an office visit or telephone management.

Previous literature has highlighted unmet palliative care needs, including that only 1 in 5 Ontarians receive a home visit from any physician in their last year of life.[30] Our results show these gaps remain, particularly at the end of life, with 46.3% of the patients referred to homecare not receiving outpatient services from any physician during their last year of life. Although these rates are low, we observed an increased rate of visits across the last months of life which is aligned with previous end-of-life literature,[31-33] showing outpatient physician care intensifies during the last three months of life. This highlights how patients' care needs increase as they approach death. Our rate accounted for the days patients spent in hospital, since they would be ineligible to receive a home visit from their rostered physician in the last year of life. However, there remains a significant number of community-dwelling patients not being visited in at home, in office, or being managed over the telephone by rostered physicians near the end of life.

Alternative payment plans for primary care physicians who consistently care for their patients were introduced in Canada and other jurisdictions to increase comprehensive care, coordination, accountability, and to promote interdisciplinary care.[34] Since then, international findings have reported a

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lower volume of care provision and fewer follow-up visits associated with these models.[35,36] While we are not comparing remuneration models, this provides insight into why the proportion of patients referred to home care (19.7%) and subsequently receiving a home visit by a rostered physician (5.3%) was low. Nonetheless, almost half of the patients (42.9%) received outpatient care from non-rostered physicians, suggesting hand-off or shared care may be happening.

Strengths and limitations

A strength of this study is that it is the largest study to describe end-of-life home visits delivered by physicians with an existing patient relationship. There are also notable limitations, including that health administrative data does not capture care coordination precisely, thus hand-off care between different primary care providers can only be deduced. Secondly, this study focused on the provision of home visits from primary care physicians due to data limitations. In Ontario, Nurse Practitioners also provide home visits, thus our study is only capturing a portion of the community-based primary care. Thirdly, we restricted our cohort to patients with a rostered physician who were referred by a physician to homecare services. This referral is a clinical and system-level signal of increased care needs that we hypothesized would lead to physician involvement. We did not ensure patients received other homecare services after referral and did not exclude those who subsequently were admitted to hospital, although we accounted for hospital days in the rates. Also, it is important to acknowledge that many patients in Ontario do not have a rostered physician, which could limit generalizability to jurisdictions with complete rostering, and may be further marginalized without a consistent provider relationship.

Conclusion

Most patients referred by a physician to homecare did not receive a subsequent home visit from their rostered physician during their last year of life in Ontario. These findings contribute to evidence on community-based end-of-life care, showing that patient characteristics may not drive low rates of home

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visits. Our findings highlight the need for research on system-level supports that could enable primary care providers to remain involved as care-needs increase, to evaluate the feasibility of increasing rostered physicians' capacity to provide home-based supportive care, and to outline the required supports for hand-over or shared care models.

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Conflicts of interest

The authors have no conflicts of interest to report.

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Table 1: Patient characteristics according to physician visits in their last year of life for decedents referred to homecare and who have a rostered physician for at least 6 months prior

Patient characteristics	Total	Patients with a home visit from rostered physician in last year of life	Row percent	Patients with office/management from rostered physician	Row percent	Patients without encounter from rostered physician in last year of life	Row percent
Sample size	58,753	3125	5.3%	16,162	27.5%	39,466	67.2%
Age, n							
18-44	1,099	24	2.2%	232	21.1%	843	76.7%
45-59	5,731	176	3.1%	1,286	22.4%	4,269	74.5%
60-84	34,568	1,572	4.5%	9,646	27.9%	23,350	67.5%
85+	17,355	1,353	7.8%	4,998	28.8%	11,004	63.4%
Sex							
Female	27,602	1,657	6.0%	7,368	26.7%	18,577	67.3%
Male	31,151	1,468	4.7%	8,794	28.2%	20,889	67.1%
Neighbourhood Income							
1	13,223	643	4.9%	3,703	28.0%	8,877	67.1%
2	12,868	659	5.1%	3,581	27.8%	8,628	67.1%
3	11,581	605	5.2%	3,144	27.1%	7,832	67.6%
4	10,644	607	5.7%	2,939	27.6%	7,098	66.7%
5	10,328	603	5.8%	2,766	26.8%	6,959	67.4%
Missing	109	8	7.3%	29	26.6%	72	66.1%
Rural/Urban							
Rural	6,924	466	6.7%	2092	30.2%	4,366	63.1%
Immigrant status							
Canadian born	54,996	3,001	5.5%	15,304	27.8%	36,691	66.7%
Multimorbid conditions count							
0	505	29	5.7%	153	30.3%	323	64.0%
1	5763	266	4.6%	1371	23.8%	4126	71.6%
2	11315	567	5.0%	3031	26.8%	7717	68.2%

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3	13058	685	5.2%	3563	27.3%	8810	67.5%
4	11293	613	5.4%	3237	28.7%	7443	65.9%
5	16819	965	5.7%	4807	28.6%	11047	65.7%
Prevalent conditions							
AMI	948	50	5.3%	282	29.7%	616	65.0%
Arrhythmia	6320	365	5.8%	2009	31.8%	3946	62.4%
Asthma	10110	530	5.2%	2901	28.7%	6679	66.1%
Cancer	35706	1744	4.9%	8682	24.3%	25280	70.8%
CHF	17458	1069	6.1%	5118	29.3%	11271	64.6%
COPD	14690	855	5.8%	4403	30.0%	9432	64.2%
Coronary	7569	420	5.5%	2474	32.7%	4675	61.8%
Dementia	7599	611	8.0%	1899	25.0%	5089	67.0%
Diabetes	22401	1140	5.1%	6551	29.2%	14710	65.7%
Hypertension	45234	2528	5.6%	13007	28.8%	29699	65.7%
IBD	733	31	4.2%	209	28.5%	493	67.3%
Other Mental health	5215	251	4.8%	1310	25.1%	3654	70.1%
Stroke	2191	136	6.2%	547	25.0%	1508	68.8%
Disease trajectory							
Terminal illness	29858	1384	4.6%	6942	23.3%	21532	72.1%
Organ Failure	16149	984	6.1%	5179	32.1%	9986	61.8%
Frailty	8741	599	6.9%	2782	31.8%	5360	61.3%
Sudden death	615	17	2.8%	239	38.9%	359	58.4%
Other	2879	114	4.0%	846	29.4%	1919	66.7%

Legend: AMI=Acute Myocardial Infarction, CHF=Congestive Heart Failure, COPD=Chronic Obstructive Pulmonary Disease, IBD=Inflammatory Bowel Disease.

Legend: SD=Standard deviation, UPC=Usual Provider Care (a continuity of care index to measure consistent care from the rostered physician

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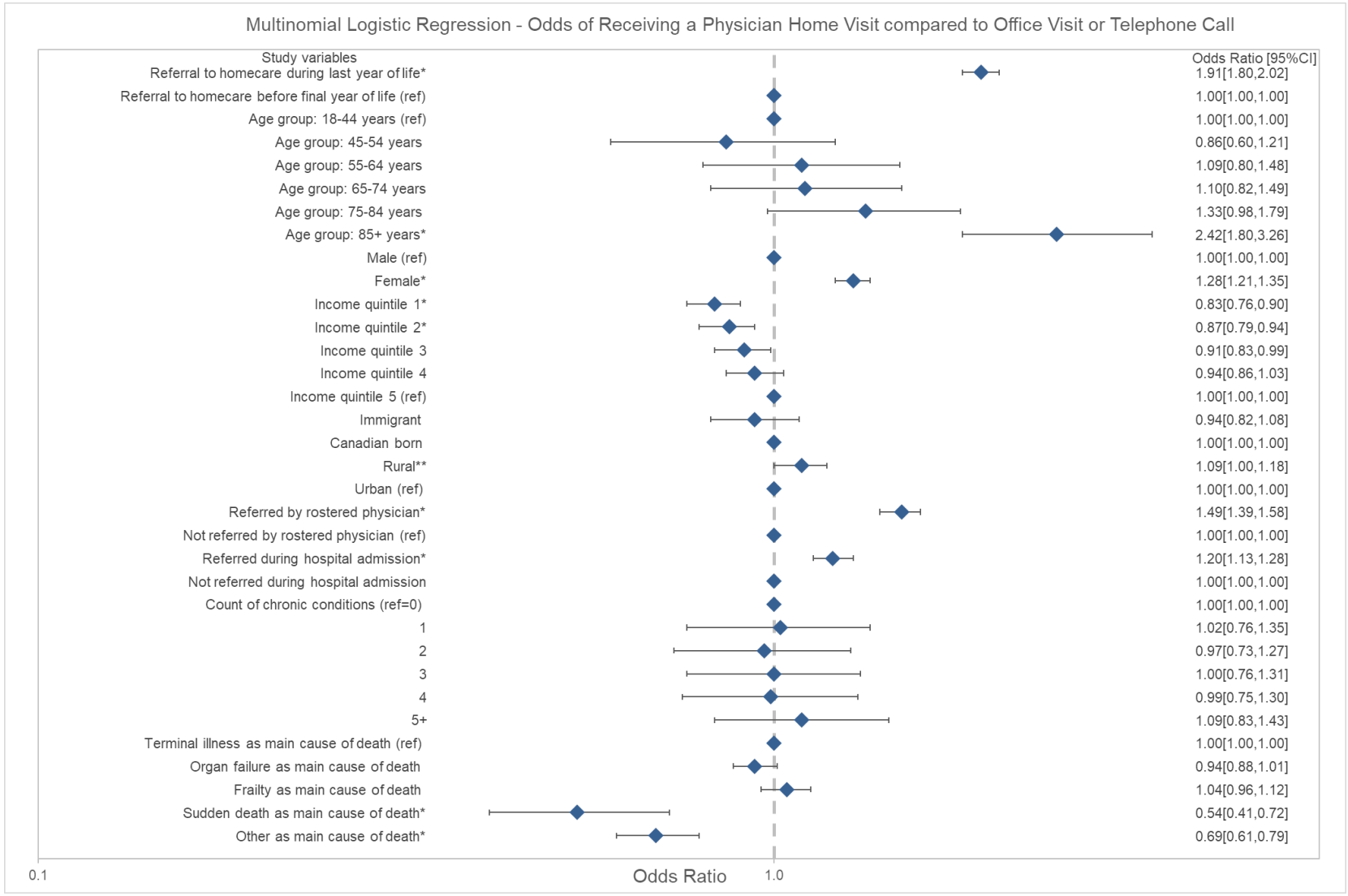

Figure 1a: Results of a multinomial logistic regression on receiving a home visit from patient's rostered primary care physician after referral to home care services for those who died between 2013-2018 in Ontario compared to receiving other community-based care from rostered physicians.

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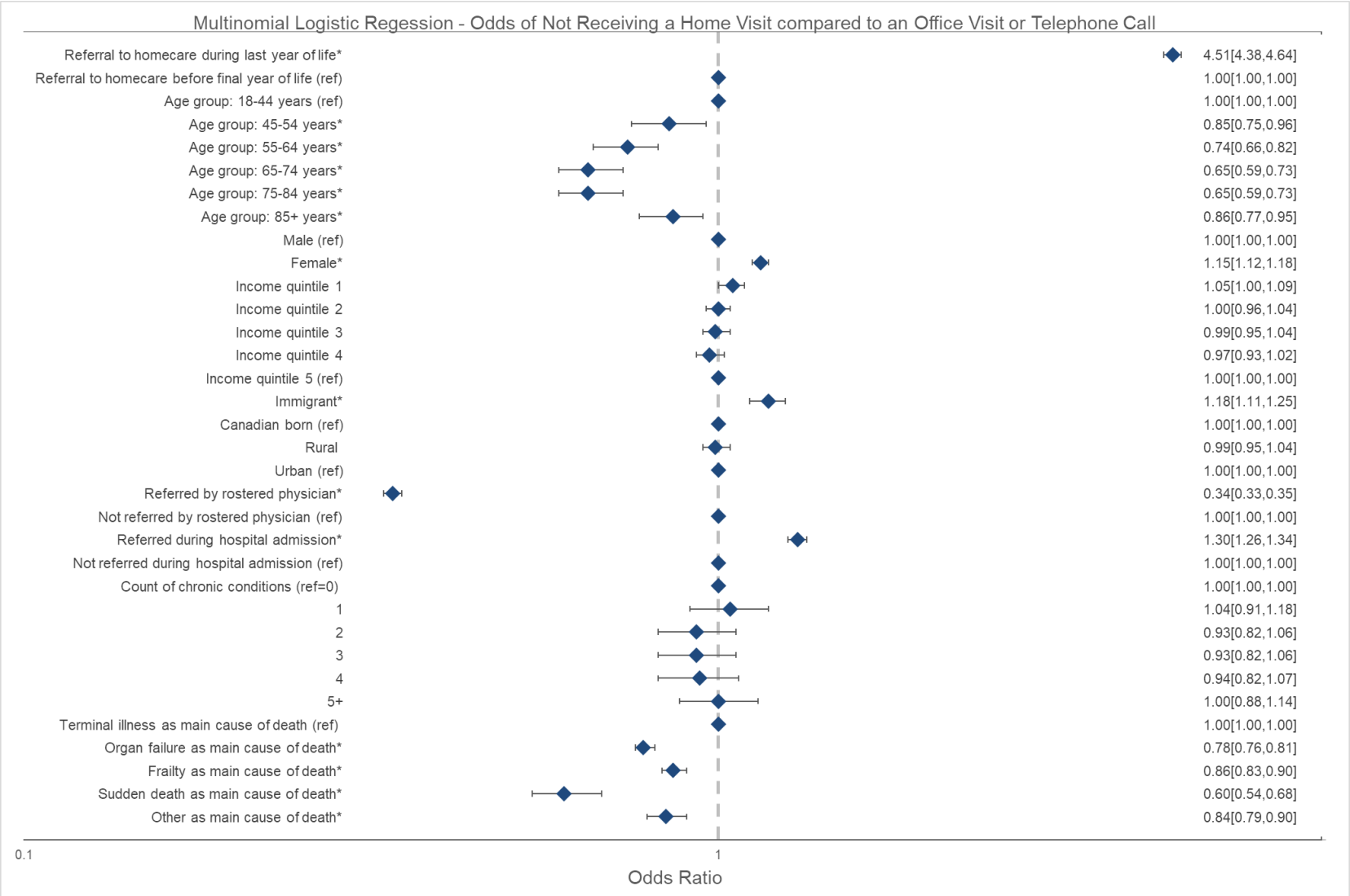

Figure 1b: Results of a multinomial logistic regression on not receiving a home visit from patient's rostered primary care physician after referral to home care services for those who died between 2013-2018 in Ontario compared to receiving other community-based care from rostered physicians.

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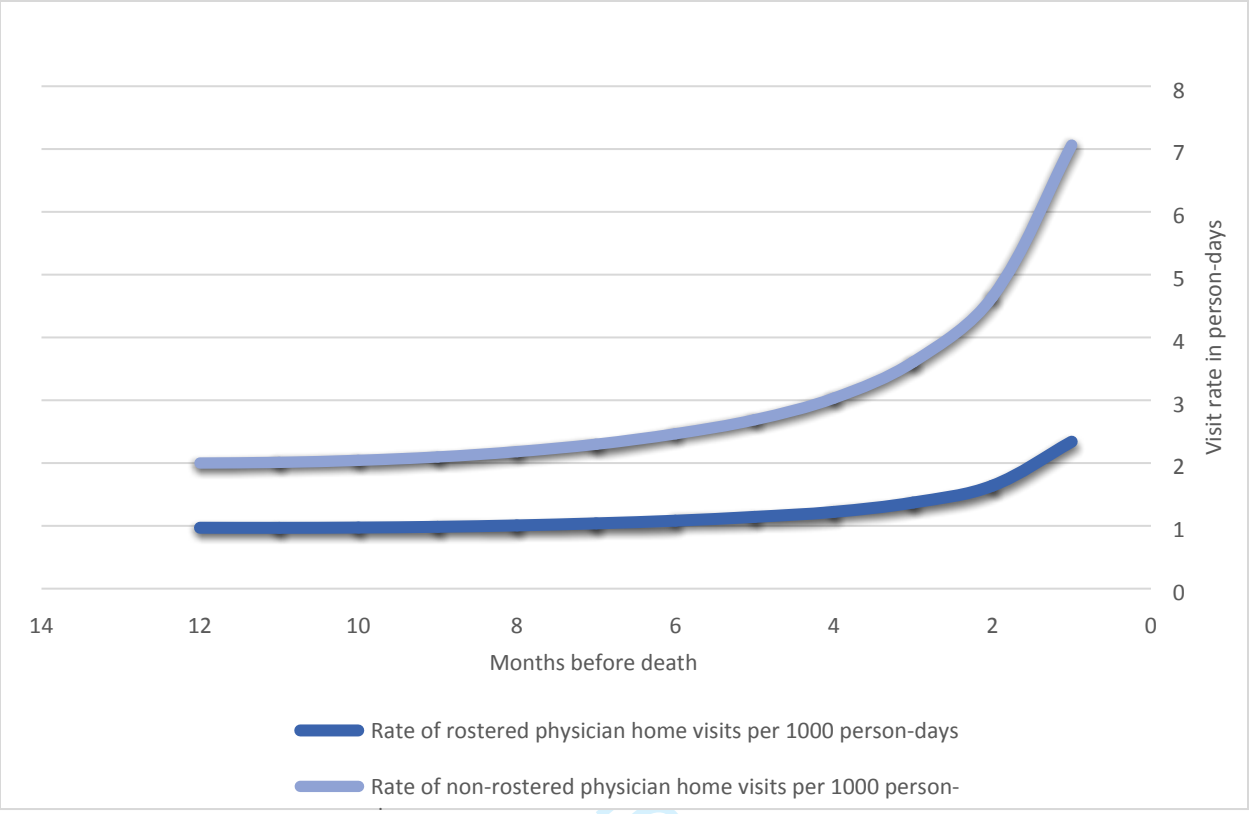

Figure 1: Rate of home visits per 1000 person-days by month delivered to patients during their last year of life by rostered and non-rostered physicians after patients' referral to publicly funded homecare services in Ontario between 2013-2018

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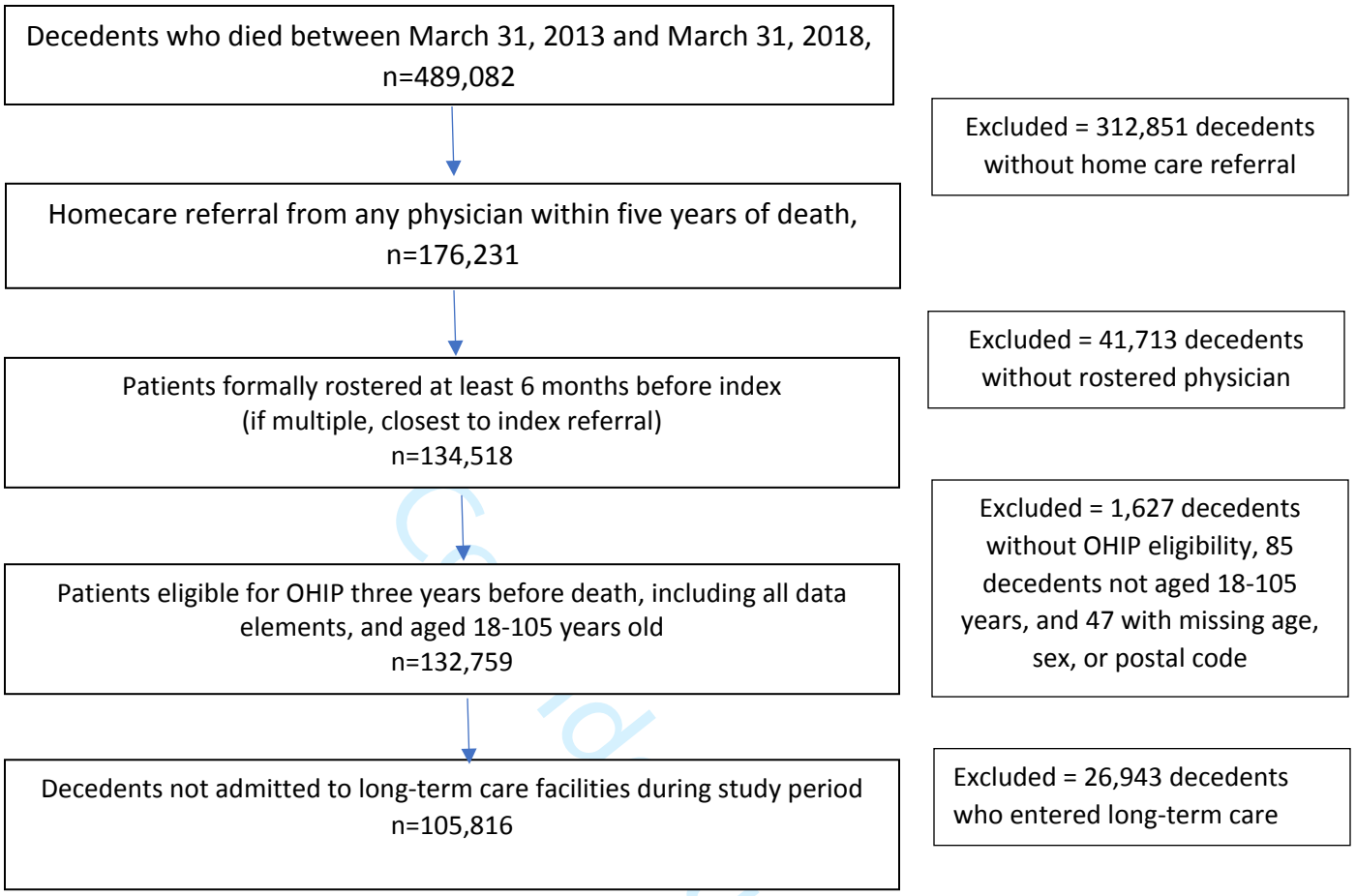
Appendix I: Cohort creation



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Appendix II: ICES databases description and included study variables

ICES Databases	Description	Study variables
Client Agency Program Enrolment (CAPE) Database	CAPE provides information on primary care physicians' care organization and remuneration model. This data was provided annually by the Ontario Ministry of Health and Long-Term Care (MOHLTC).	Rostered physician status
Continuing Care Reporting System (CCRS)	The CCRS is a dataset that reports on individuals living in institutional long-term care settings. This data is provided quarterly by the Ontario Ministry of Health and Long-Term Care (MOHLTC).	Excluded those in institutional care post index referral to homecare
Discharge Abstract Database (DAD)	The DAD includes information on all hospitalizations based on a retrospective chart review including International Classification of Diseases-10 (ICD-10) diagnoses codes (up to 16 diagnoses codes for each discharge record), procedures performed during hospitalization, physician providing care, hospital administrative information, and patients' demographic information.	Hospitalizations post index referral to homecare, previous treatment to identify prevalent chronic conditions
Homecare Database (HCD)	The HCD contains information on those receiving publicly funded non-physician home care services.	Used to determine the location of visits
ICES Physician Database (IPDB)	An ICES derived database with information on Ontario physicians including demographics, specialty, workload, services provided and location. This dataset is updated annually from OHIP, Corporate Provider Database (CPDB), and the Ontario Physician Human Resource Data Centre (OPHRDC) database.	Physician specialty
The Immigrant, Refugees and Citizenship Canada (IRCC)	IRCC includes immigration application records for individuals who originally landed in Ontario, Canada dating back to 1985. The main variables in this dataset include country of citizenship, level of education, mother tongue, and landing date. New immigrants who landed in Ontario and immediately moved to another province or those who moved from another province may not be captured in this data.	Patient immigration status
National Ambulatory Care Reporting System (NACRS)	The NACRS holds data on visits to healthcare institutions. This includes demographics, the setting visited (e.g. day surgery, emergency department, cancer care unit), and clinical data (e.g. diagnosis, treatment).	Recent emergency department visits post index referral to homecare
Ontario Health Insurance Plan (OHIP) Claims Database	The OHIP database holds all billing claims paid for by the Ontario Health Insurance Plan. Each record represents the delivery of a service from a particular physician to a particular patient and includes the date, the fee paid, and the number of times it was billed.	Home visit delivery (primary outcome), office and management codes, palliative care physician designation.

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Ontario Registrar General Death (ORGD)	The ORGD is the registrar for all deaths in Ontario and reports the date of death, cause of death, and characteristics of the deceased. Data is updated annually for fact of death, with subsequent updates for cause of death as information becomes available.	Cause of death – disease trajectory.
Statistics Canada's Postal Code Conversion File Plus (PCCF+)	This is an ICES derived macro designed to link PCCF files to other census geographic identifiers and was used to create urban/rural flags, neighbourhood income quintiles, dissemination area/enumeration area, census division, and latitude/longitude. This macro is updated according to changes in census data from which it is derived.	Converts postal code from the RPDB to determine: Rurality and Income quintile
Registered Persons Database (RPDB)	The RPDB holds information on each individual who has ever had an active Ontario health card number. This data was provided by the Ministry of Health and Long-Term Care (MOHLTC). The most relevant information in this dataset are demographic information, geographic information, and eligibility of OHIP coverage.	Patient's age, sex, postal code (if applicable)

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Appendix III: Characteristics of visits to patients in their last year of life according to patient's illness trajectory

	Total	Terminal illness	Organ Failure	Frailty	Sudden death	Other
Total n	N=58,242	N=29,858	N=16,149	N=8,741	N=615	N=2,879
Proportion	100%	51.3%	27.7%	15.0%	1.1%	4.9%
Number of visits from rostered physicians in the last year of life (mean, SD)	1.28 (3.63)	1.08 (3.49)	1.51 (3.79)	1.57 (3.97)	1.53 (3.37)	1.19 (2.93)
Patients who received home care from non-rostered physicians, n (%)	24,995 (42.9%)	14,048 (47.0%)	6,209 (38.4%)	3,403 (38.9%)	300 (48.8%)	1,035 (35.9%)
Palliative care specialists, n (%)	10,241 (17.6%)	8,214 (27.5%)	1,229 (7.6%)	584 (6.7%)	28 (4.6%)	186 (6.5%)
Palliative care generalists, n (%)	18,517 (31.8%)	10,183 (34.1%)	4,730 (29.3%)	2,553 (29.2%)	225 (36.6%)	826 (28.7%)
Other family physicians, n (%)	3,500 (6.0%)	1,373 (4.6%)	1,157 (7.2%)	665 (7.6%)	97 (15.8%)	208 (7.2%)
All other specialties (non palliative)	19,005 (32.6%)	9,702 (32.5%)	5,321 (32.9%)	2,808 (32.1%)	283 (46.0%)	891 (30.9%)
Number of visits from palliative care specialist physicians (mean, SD)	1.70 (7.11)	2.78 (9.08)	0.61 (3.95)	0.51 (3.50)	0.43 (3.83)	0.54 (3.86)
Number of visits from palliative care generalist physicians (mean, SD)	1.83 (5.37)	2.10 (5.78)	1.57 (5.02)	1.44 (4.65)	2.18 (6.07)	1.62 (4.58)
Number of visits from other family physicians (mean, SD)	0.19 (1.49)	0.13 (1.10)	0.24 (1.73)	0.26 (1.81)	0.80 (3.88)	0.23 (1.51)
Patients referred during hospital admission, n (%)	22,254 (38.2%)	10,854 (36.4%)	6,525 (40.4%)	3,444 (39.4%)	243 (39.5%)	1,188 (41.3%)
Number of hospitalizations post index referral to homecare (mean, SD)	1.67 (1.37)	1.59 (1.35)	1.81 (1.46)	1.63 (1.32)	1.54 (1.48)	1.73 (1.18)
Patients referred by palliative specialist during hospital admission, n (%)	2,028 (3.5%)	1,546 (5.2%)	294 (1.8%)	143 (1.6%)	*1-5	*40-44
Number of hospital admissions with palliative care (mean, SD)	0.28 (0.51)	0.36 (0.57)	0.20 (0.43)	0.17 (0.40)	0.10 (0.32)	0.16 (0.39)
Patients referred by rostered physician during hospital admission, n (%)	900 (1.5%)	389 (1.3%)	332 (2.1%)	135 (1.5%)	6 (1.0%)	38 (1.3%)
Patients referred by a rostered physician at any time in last 5 years of life, n (%)	11,463 (19.7%)	4,345 (14.6%)	4,147 (25.7%)	2,233 (25.5%)	121 (19.7%)	617 (21.4%)
Incidence rate of home visits post index (rostered physicians), mean (SD)	0.27 (2.75)	0.27 (2.79)	0.27 (2.89)	0.32 (2.78)	0.07 (0.57)	0.14 (1.48)

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Incidence rate of home visits post index (non-rostered physicians), mean (SD)	0.54 (3.67)	0.77 (4.47)	0.30 (2.56)	0.34 (2.95)	0.08 (0.69)	0.12 (1.03)

*range provided due to small cells mall which highly increase the risk of disclosure.

Legend: SD=Standard deviation

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