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## Use of Palliative Care Services and General Practitioner Visits at the End of Life in The Netherlands and Belgium

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### ABSTRACT

**Context:** At the end of life, some personalized and specialized care is required. The way that general practitioner (GP) visits and palliative care services at the end of life are organized in different countries may impact the frequency of care provision. However, nationwide data on the prevalence of these interventions and comparisons among countries are scarce.

**Objectives:** To compare the frequency of GP visits and use of palliative care services at the end of life in two European countries and identify the associated factors.

**Methods:** In 2007, two mortality follow-back studies were conducted simultaneously in The Netherlands and Belgium, using existing sentinel GP networks and similar standardized procedures. Within the one-year period, all registered patients who died at home or in a care home were selected.

**Results:** From the data of 543 registered patients, GP visits are more frequent at the end of life in The Netherlands than in Belgium: the mean number of GP visits in the last week of life was 5.1 vs. 3.2 (home) and 4.4 vs. 2.3 (care home). Conversely, palliative care services in the last three months of life are used more frequently in Belgium than in The Netherlands: 78% vs. 41% (home) and 39% vs. 5% (care homes). The differences between countries remain consistent despite correcting for possible confounders. Having more frequent GP visits at home is associated with cancer-related deaths both in The Netherlands and Belgium.

**Conclusion:** Independent of the differences in patient populations (at home and care home) between countries, there are more frequent GP visits at the end of life in The Netherlands and greater use of palliative care services in Belgium.

## INTRODUCTION

Patients with life-threatening diseases have unique needs that may require personalized<sup>[1] and [2]</sup> and specialized care on a continuous basis,<sup>[3], [4] and [5]</sup> till death. The ultimate goal of palliative care is to ensure the best possible quality of life for such patients through the entire duration of their illnesses.<sup>[6] and [7]</sup> Given the current aging trend in most Western populations,<sup>8</sup> the rise in nonacute deaths<sup>9</sup> and the fact that the home is the preferred place of death for many,<sup>[10] and [11]</sup> general practitioners (GPs) play a key role in end-of-life care.<sup>12</sup> Their tasks include managing interpersonal relationships among the incurably ill, their families, and a host of care providers<sup>[12], [13], [14], [15] and [16]</sup>; providing adequate support to their staff<sup>2</sup>; and maintaining continuity of information and care.<sup>17</sup> Home visits, which traditionally are a part of their normal routine<sup>[18] and [19]</sup> become more strategic<sup>12</sup> and often are done more frequently, as conditions worsen.<sup>20</sup> To improve overall health outcomes and guide quality efforts, collaborations are encouraged with multidisciplinary palliative care teams,<sup>[3], [7], [21] and [22]</sup> even before death becomes imminent.<sup>7</sup> Such multidisciplinary teams comprise specially trained professionals who are well equipped to relieve patients of pain and refractory symptoms and support primary carers in other meaningful ways.<sup>[7] and [23]</sup> In the United Kingdom and the United States, GPs may function within standardized frameworks or policies that enable the fusion of end-of-life initiatives and resources into primary care practices.<sup>[4] and [7]</sup> In spite of the recent proliferation of palliative care services and initiatives in developed nations, specialized palliative care teams are yet unevenly distributed in some regions,<sup>[24], [25] and [26]</sup> between patient groups<sup>[25] and [27]</sup> and across care settings,<sup>[28] and [29]</sup> and when present, patient needs,<sup>[4] and [14]</sup> insufficient physician knowledge and misconceptions,<sup>[14], [15] and [30]</sup> and existing care policies<sup>[31] and [32]</sup> could dictate the frequency and extent of their use.

In The Netherlands and Belgium, there is a strong emphasis on primary care, with GPs of the former having a more restrictive gatekeeper function to secondary care access. About 95% of the entire population in both countries have a regular GP, including residential care home residents.<sup>[33] and [34]</sup> There is a relatively low availability of care home beds in Flanders (Belgium) compared with The Netherlands, and the patients dying in hospital and nursing homes in the two countries have different profiles. In 2006, 57% of the Dutch population died of chronic progressive illnesses, and almost a third of all deaths occurred in a home setting.<sup>9</sup> There was a 6% rise in nonacute deaths between 1996 and 2006,<sup>9</sup> and in 2008, the national statistics reflected a switch in paradigm, with the proportion of cancer deaths exceeding those from heart diseases.<sup>35</sup> Comparative data from a 2001 death certificate study in northern Belgium (Flanders) produced a similar pattern of results, with about a quarter of all the deaths occurring at home that year.<sup>36</sup> Although some data on traditional GP home visits do exist,<sup>[18] and [19]</sup> the frequency of GP visits at the end of life and use of palliative care initiatives is largely unknown. Furthermore, cross-country comparisons can be limited by differences in study design, making the results difficult to compare.

In this study, we examined terminal care in the setting where most people prefer to die, which is at home or in a regular place of residence.<sup>[10] and [11]</sup> Using the same research instrument in The Netherlands and Belgium, we explored:

1. The characteristics of terminally ill patients who die at home (and in care homes), the frequency of GP visits at the end of life, and use of palliative care services toward death; and
2. The associations among these characteristics and having frequent GP visits in the last week of life, and the use of palliative care services in the last three months of life.

## METHODS

### Study Design and Procedures

This study, the Sentinel network Monitoring End-of-Life Care Study (Senti-MELC), is a mortality follow-back study that has sought to examine patient care from within a general population of end-of-life patients in parts of Europe since 2005.<sup>[37], [38], [39] and [40]</sup> In 2007, we conducted two studies simultaneously in The Netherlands and Belgium using a similar nationwide health surveillance network of GPs and similar standardized procedures of data collection. Participating sentinel GPs were representative of the GPs in

both countries.<sup>[39] and [41]</sup> GPs were requested to provide data on deceased patients, and the entire data collection process was supervised by a nationally operating public health research institute or its equivalent. With the exception of the Dutch nursing home deaths, the samples were representative nationwide in both countries; gender and age were comparable per setting to corresponding national mortality rates.<sup>[37] and [39]</sup> A detailed description of the Senti-MELC study methodology is published elsewhere.<sup>39</sup> Within one week after a patient's death, the GPs were asked to fill in a registration form providing information about care the deceased had received in the last three months of life. The completed forms were returned to The Netherlands Institute for Health Services Research (NIVEL) or the Belgian Scientific Institute of Public Health (IPH), where they were scrutinized for missing data and errors.<sup>[34] and [37]</sup> Patients whose forms had multiple missing variables were excluded from the study. The Belgian patients had their information further encoded at IPH for confidentiality purposes.<sup>39</sup> All data were sent to the researchers for analyses.

### **Settings and Study Population**

In 2007, the Dutch and Belgian sentinel GP networks consisted of 45 (including 67 GPs) and 181 (including 205 GPs) regular general practices respectively, covering approximately 1%–2% of the total registered patient population in both countries.<sup>[34] and [39]</sup> Because our focus was on those eligible to receive palliative care and those who died at home or in a care home, we excluded all patients who had died “totally unexpected and suddenly”; all those aged one year or younger (to eliminate congenital problem-related deaths); and all those who had died in a palliative care unit, hospital, or in a Dutch nursing home, where care is usually taken over by a specialist (i.e., so as to provide comparable cohorts in both countries). The Dutch care home, like that in Belgium, is a residential care home for frail and elderly persons.<sup>42</sup> Some Belgian care homes are adapted to meet more complex needs.<sup>40</sup> GPs are the attending physicians and can provide a reasonable account of patient care in the period leading to death, because they remain in charge of care at home and in care homes in both countries, unlike in Dutch nursing homes, where a nursing home physician takes over care after a transfer.<sup>42</sup>

### **Instrument**

The research instrument (registration form) consisted of 19 items on a two-sided A4 page. There were multiple-choice and open-ended questions on patient characteristics (age, gender, ethnic group, postal code, and highest education attained); the cause of death; preferred place of death; and care characteristics in the last three months of life, that is, GP awareness of preferred place of death, involvement of multidisciplinary palliative care services, the main goal of patient's treatment in the last week of life (curative/life prolonging/palliative), the longest place of residence in the last year of life, and the actual place of death. We used internationally accepted nomenclature, disease classifications (ICD-10), and the Edmonton Symptom Assessment Scale for symptoms in the last three days of life, 10 being the worst possible clinical scenario on a scale of 0–10.<sup>43</sup> The GPs were asked to estimate the number of visits made to a patient's home or bedside (excluding telephone calls and other indirect consultations) and the use of palliative care services per patient, selecting from five broad categories of existing and well-known multidisciplinary care initiatives in both countries that are accessible to patients at the end of life.<sup>40</sup> In The Netherlands, we included 1) a GP with palliative care training, 2) a team with a palliative care consultant (trained nurse or physician), 3) hospital-based palliative units, 4) nursing home-based palliative units, and 5) hospice day care facility. In Belgium, there were 1) multidisciplinary palliative support home care teams, 2) hospital-based mobile support teams, 3) hospital-based palliative units, 4) palliative day care centers, and 5) care home-based palliative reference nurses.

### **Comparing Dutch and Belgian Primary End-of-Life Care Services**

GPs in The Netherlands are strict gatekeepers to the health care system, which does not allow patients direct access to the use of specialized services. In contrast, patients in Belgium could bypass their GP, directly accessing specialized services. Nonsudden deaths commonly occur at home, residential care homes, nursing homes, hospitals, and hospices in both countries. Apart from the differences in nursing home organization, the Dutch palliative care institution is further varied, with high-care hospices (with a physician), low-care hospices, and units for short-term terminal care in nursing homes (with a physician) or

residential homes. A recent death certificate study showed significant differences in care home deaths in The Netherlands vs. Belgium (34% vs. 22%) and hospital deaths (34% vs. 52%).<sup>36</sup> Nonsudden deaths in The Netherlands and in Belgium (Flanders) are mainly a result of aging, cancers, and other chronic illnesses; the deaths of persons older than 80 years in The Netherlands vs. Belgium were 47% vs. 49%, respectively. Cancer, cardiovascular, and respiration-related deaths occurred in The Netherlands in 27%, 25%, and 10%, respectively, and in Belgium, in 26%, 28%, and 13%, respectively.

### Statistical Analysis

Using SPSS 15.0 (SPSS Inc., Chicago, IL), all the nonsudden and totally expected deaths at home or care home were selected ( $n = 543$ ). Patient characteristics, frequency of GP home visits, and the use of palliative care services were compared across countries, per setting, using Pearson's  $\chi^2$  and the Mann-Whitney  $U$  test (significance level of  $\leq 0.05$ ). Separately, we used linear and logistic regression to investigate the influence of possible confounders on the differences between the countries. The possible confounders were defined as the patient, disease, and care-related characteristics that differed significantly between countries (Table 1). Country was entered in hierarchical multiple linear (for GP visits) and logistic regression analyses (for palliative care service use), followed by each of the potential confounders, regarding frequency of end-of-life visits by GPs and use of palliative care services as dependent variables.

### [TABLE 1.]

Because of the skewed distribution of the data, logistic regression was again used to identify the variables that were associated with having GP home visits (dichotomized using the median) and using palliative care services in the last three months. Associated patient and care characteristics were analyzed univariately, and to make a predictive model, all the variables that had a significant ( $P \leq 0.05$ ) relationship were included in a stepwise backward logistic regression, that is, variables were removed from the equation where  $P > 0.05$ .

### Ethical Considerations

An approval from the Ethical Review Board was not required for this study in The Netherlands because of the nature of the data collection (postmortem), whereas in Belgium, the study protocol was approved by the relevant Ethical Review Board. In both countries, patient anonymity was preserved and physician confidentiality maintained through the registration and data entry processes.

## RESULTS

### Characteristics of the Study Population

About 63% of the total 1,711 deaths registered by the sentinel GPs had been nonsudden ( $n = 1,075$ ). From this, we selected 570 patients who had lived for the longest part of their last year at home or in a care home and excluded 27 cases (for having predominantly missing values); this left 543 patients. Overall, the proportion of men, home deaths, and palliative treatment goal were more in The Netherlands than in Belgium.

Across all home deaths, the countries differed significantly in age, mental state, and main treatment goal (Table 1). The mean age was higher in Belgium. The proportion mentally incapable was more than twice as high in Belgium as in The Netherlands. About two-thirds of these patients had cancer in The Netherlands, unlike in Belgium, where the proportions with and without cancer were about half. About 14% of the Belgian patients dying at home received curative and life-prolonging care in the last week of life, whereas none did in The Netherlands.

Across the care home deaths, the cohorts differed in mental state and main treatment goal, too. In The Netherlands, the proportion of patients not capable of making decisions was about half of that in Belgium (26% vs. 51%). Over four-fifths of both cohorts did not have cancer. Cardiovascular disease was the most common singular diagnosis leading to death in the two countries.

### **Pattern of General Practitioner Home Visits Per Setting Per Country**

The frequency of GP home visits increased as patients approached death in both settings and in both countries (Table 2). GP home visits were more frequent in The Netherlands than in Belgium ( $P < 0.05$ ). In the last week of life, the Dutch mean number of GP visits to patients at home was almost twice that of Belgium (5.1 vs. 3.2 for home deaths and 4.4 vs. 2.3 for care home deaths). However, less than a tenth of the Dutch care home patients used palliative care services in the last months of life. Age, capacity for decision making and palliative treatment goal were identified as possible confounders that may explain the differences between countries regarding the number of GP visits at the end of life in the three time frames. After the consecutive addition of the possible confounders into a multiple regression analysis, including country as a correlate, the possible confounders altogether only explained small amounts of additional variance (3%–5%) of the variance in the number of GP visits at the end of life. The standardized regression coefficient associated with country diminished slightly after addition of the possible confounders, but the associated  $t$ -values remained significant.

#### **[TABLE 2.]**

#### **Use of Palliative Care Services in the Last Three Months of Life**

Table 2 shows the frequency of palliative care service use by country, per setting. Overall, this was 41% at home vs. 5% in care homes within The Netherlands and 78% at home vs. 39% in care homes within Belgium. There is relatively more frequent palliative care service use in Belgium than in The Netherlands. After the consecutive addition of the possible confounders in a multiple regression analysis, including country as a correlate, the possible confounders together explained only a small amount of additional variance (3%–5%) of the variance in the use of palliative care services. Table 3 describes selected palliative care services and their usage in the two countries. These initiatives were used more in Belgium and more frequently than in The Netherlands. There were more hospital-based initiatives in Belgium than in The Netherlands. Home-based services in The Netherlands often involved a GP. The Dutch subgroup more frequently used no palliative care service in both home and care home settings.

#### **[TABLE 3.]**

#### **Associated Characteristics**

Table 4 shows the patient and care-related characteristics associated with having frequent GP visits in the last week of life. Decision-making capability, primary diagnosis, and use of palliative care services had significant univariate relationships with the number of GP visits of patients dying at home in The Netherlands, whereas gender, age, primary diagnosis, main treatment goal, and palliative care service use were significant univariate correlates in Belgium. After multiple regression analysis of all home deaths, primary diagnosis and decision-making capability remained significant in The Netherlands, whereas primary diagnosis, palliative care service use, and gender were significant in Belgium. The proportion of Dutch cancer patients dying at home had twice as many GP home visits in the last week of life than those with cardiopulmonary illnesses and almost three times more than those with “others.” In Belgium, the proportion of patients who died at home after cardiopulmonary illnesses was close to those with cancer, and those with “other” diagnoses were significantly least likely to have GP home visits. Of the care home deaths, univariate correlates of having more frequent end-of-life GP visits in Belgium (than in The Netherlands) were age and gender, and age (65–84 years) remained in the Belgian multivariate analyses.

#### **[TABLE 4.]**

With respect to the use of palliative care services at home, associated factors on multiple regression analyses of the Dutch data were diagnosis and educational status, and in Belgium, having a palliative treatment care goal in the last week of life and cancer (Table 5). Factors associated with palliative care

service use in care homes were age, gender, and main treatment goal, in Belgium, but not in The Netherlands. However, having cancer was associated with using palliative care services in both countries.

#### [TABLE 5.]

#### DISCUSSION

We examined data obtained from 543 patients in The Netherlands and Belgium whose deaths were expected and nonsudden, and occurred at home or in a care home. Our results show that GP visits at the end of life were more frequent in The Netherlands than in Belgium: the mean numbers of GP visits in the last week of life were 5.1 vs. 3.2 (home) and 4.4 vs. 2.3 (care home). Conversely, palliative care services in the last three months of life were used more frequently in Belgium than in the Netherlands: 78% vs. 41% (home) and 39% vs. 5% (care homes). Having more frequent GP visits at home was associated with cancer-related deaths in both The Netherlands and Belgium.

To the best of our knowledge, this is the first nationwide study that compares the incidence of caregiving at the end of life between two countries. To have a general non-disease-specific patient population, we recruited patients through the two corresponding national GP networks. To enhance comparability, data were collected using similar representative mortality follow-back procedures undertaken simultaneously in both countries. One limitation of our study design is recall bias; a few of the questions asked depended on the GPs' abilities to remember certain details, some of which may not have been previously recorded. However, past studies have shown that patient proxies, such as GPs, do provide valid and reliable reports, especially when the questions asked are objective,<sup>44</sup> and the study is undertaken within six weeks of the death.<sup>45</sup> Another drawback is the lack of representativity of the nursing home deaths in The Netherlands; they have been duly excluded from our analyses.

This study provides some useful insight on differences in the characteristics of terminally ill patients at home and in care homes in The Netherlands and Belgium. The distribution of gender and educational status were similar in both countries, particularly in the home setting. There were more women than men in the care homes in both countries, perhaps because women usually outlive their partners and are more likely to use communal care facilities than men. The patients in the Belgian care homes were significantly older and more often less capable of making decisions than those in The Netherlands, obviously because of the exclusion of the Dutch nursing home deaths.<sup>[40] and [46]</sup> The observed differences, however, did not explain the large disparity in the mean number of GP visits at the end of life and use of palliative care services (Table 2). Rather, they seem to reflect fundamental differences in public policy in general, and also in palliative care, and perhaps, GP care provision existing in the two countries.<sup>32</sup>

Regarding GP visits, the GPs in The Netherlands appear to be more involved in patient care at the end of life. Perhaps, this is because more of them have formal palliative care training;<sup>47</sup> they practice more bedside palliative care,<sup>48</sup> and thus, they perceive end-of-life care as a specific part of their roles as GPs. In Belgium, on the other hand, the GPs appear to delegate more of the terminal care to the specialized teams. Probably, this is because they are confronted with more "diversity" and/or complexity in terms of their patient population (they need to cater for all patient groups, unlike in The Netherlands where most geriatric and dementia patients are seen by specialists in nursing homes and hospices<sup>42</sup>). Also, given that, in Belgium, there is a high rate of end-of-life hospital admissions,<sup>[38] and [40]</sup> it is possible that the GPs there often lose track of their patients after a series of hospitalizations. Furthermore, in The Netherlands, being gatekeepers to the health care system, the GPs have more oversight of end-of-life care. In Belgium, even though they manage overall care (being the regular caregiver), the GPs do not "control" all aspects of palliative care, that is, visits to or by hospital specialist teams.<sup>22</sup>

Regarding the use of palliative care services, our data show that a sizable number of palliative care "reference persons" function in the care homes in Belgium. Though we do not know specifically what these reference persons actually do, that is, whether they function as administrators or provide hands-on care, their presence does suggest a palliative care policy in Belgian care homes. On the other hand, end-of-life care for the elderly in care homes in The Netherlands do not necessarily have a specific palliative focus.

Finally, age and gender were significant correlates associated with palliative care service use at home, in Belgium but not in The Netherlands. The Belgian result coincides with findings from a previous study.<sup>40</sup> Aside from cancer, which is a well-known indication for palliative care referral,<sup>[6] and [40]</sup> our results show

that having cardiopulmonary disease is related to using palliative care services in The Netherlands, whereas the reverse is the case in Belgium. Again, this could be as a result of the Dutch policy, which supports the training of caregivers in palliative care, such that only specific tasks are left to the “specialists,”<sup>[14]</sup> and <sup>[42]</sup> whereas in Belgium, more attention is given to developing the palliative care units.

In conclusion, our results show that terminally ill patients in general practice in The Netherlands are relatively younger and more capable of making decisions than those in Belgium. From a behavioral perspective, GPs in The Netherlands have a palliative care treatment goal more often and perform end-of-life visits more frequently but have fewer palliative care options and use palliative services less frequently than those in Belgium. Cancer and nonuse of palliative care services predict more frequent GP visits at the end of life, whereas cancer and a palliative care treatment goal predict the use of palliative care services.

### Future Research

Our findings show the frequency of end-of-life care provision in The Netherlands and Belgium, without informing on the quality of palliative care received. Also, details about the quality of home visits and palliative care services were simply outside the limits of this study and were, therefore, not explored. These differences, if any, in quality of care, as influenced by the organization of care in the two countries, remain to be studied. In general, epidemiological research could be conducted and the quality of palliative care studied using quality indicators.<sup>49</sup>

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### REFERENCES

- 1 M.D. Wenrich, J.R. Curtis and D.A. Ambrozy et al., Dying patients' need for emotional support and personalized care from physicians: perspectives of patients with terminal illness, families, and health care providers, *J Pain Symptom Manage* 25 (2003), pp. 236–246.
- 2 K.E. Steinhauser, N.A. Christakis and E.C. Clipp et al., Factors considered important at the end of life by patients, family, physicians, and other care providers, *JAMA* 284 (2000), pp. 2476–2482.
- 3 C. Zimmermann, R. Riechelmann, M. Krzyzanowska, G. Rodin and I. Tannock, Effectiveness of specialized palliative care: a systematic review, *JAMA* 299 (2008), pp. 1698–1709.
- 4 S. Dy and J. Lynn, Getting services right for those sick enough to die, *BMJ* 334 (2007), pp. 511–513.
- 5 E. Cochrane, E. Colville and R. Conway, Addressing the needs of patients with advanced non-malignant disease in a hospice day care setting, *Int J Palliat Nurs* 14 (2008), pp. 382–387.
- 6 World Health Organization, Cancer pain relief and palliative care. Report of a WHO Expert Committee, *World Health Organ Tech Rep Ser* 804 (1990), pp. 1–75.
- 7 B. Ferrell, S.R. Connor and A. Cordes et al., The national agenda for quality palliative care: the National Consensus Project and the National Quality Forum, *J Pain Symptom Manage* 33 (2007), pp. 737–744.
- 8 R. Palomba and P. Dell'Anno, 2030: Another Europe? Results from the Policy Dephi Study. In: C. Hohn, D. Avramov and I.E. Kotowska, Editors, *People, population change and policies: Lessons from the population policy acceptance study*. Vol. 2: Demographic knowledge—gender—ageing, Springer Netherlands, Dordrecht, The Netherlands (2008), pp. 93–108.

- 9 L.F. van der Velden, A.L. Francke, L. Hingstman and D.L. Willems, Dying from cancer or other chronic diseases in the Netherlands: ten-year trends derived from death certificate data, *BMC Palliat Care* 8 (2009), p. 4.
- 10 A. Gruneir, V. Mor and S. Weitzen et al., Where people die: a multilevel approach to understanding influences on site of death in America, *Med Care Res Rev* 64 (2007), pp. 351–378.
- 11 S. Weitzen, J.M. Teno, M. Fennell and V. Mor, Factors associated with site of death: a national study of where people die, *Med Care* 41 (2003), pp. 323–335.
- 12 D.A. Cherin, S.M. Enguidanos and P. Jamison, Physicians as medical center “extenders” in end-of-life care: physician home visits as the lynch pin in creating an end-of-life care system, *Home Health Care Serv Q* 23 (2004), pp. 41–53.
- 13 J. Bliss and A. While, Decision-making in palliative and continuing care in the community: an analysis of the published literature with reference to the context of UK care provision, *Int J Nurs Stud* 40 (2003), pp. 881–888.
- 14 M.M. Groot, M.J. Vernooij-Dassen, B.J. Crul and R.P. Grol, General practitioners (GPs) and palliative care: perceived tasks and barriers in daily practice, *Palliat Med* 19 (2005), pp. 111–118.
- 15 B. Hanratty, D. Hibbert and F. Mair et al., Doctors’ understanding of palliative care, *Palliat Med* 20 (2006), pp. 493–497.
- 16 M. Mezey, N.N. Dubler, E. Mitty and A.A. Brody, What impact do setting and transitions have on the quality of life at the end of life and the quality of the dying process?, *Gerontologist* 42 (Spec No 3) (2002), pp. 54–67. View Record in Scopus | Cited By in Scopus (37)
- 17 E. Michiels, R. Deschepper and G. Van Der Kelen et al., The role of general practitioners in continuity of care at the end of life: a qualitative study of terminally ill patients and their next of kin, *Palliat Med* 21 (2007), pp. 409–415.
- 18 C. Joyce and L. Piterman, Trends in GP home visits, *Aust Fam Physician* 37 (2008), pp. 1039–1042. )
- 19 P. Van Royen, J. De Lepeleire and R. Maes, Home visits in general practice: an exploration by focus groups, *Arch Public Health* 60 (2002), pp. 371–384.
- 20 B. Hanratty, Palliative care provided by GPs: the carer’s viewpoint, *Br J Gen Pract* 50 (2000), pp. 653–654.
- 21 M.A. Neergaard, B. Abom and F. Olesen, [Palliation in the primary care sector–shared care], *Ugeskr Laeger* 169 (2007), pp. 3745–3747.
- 22 K. Drieskens, J. Bilsen and L. Van Den Block et al., Characteristics of referral to a multidisciplinary palliative home care team, *J Palliat Care* 24 (2008), pp. 162–166.
- 23 G.K. Mitchell, How well do general practitioners deliver palliative care? A systematic review, *Palliat Med* 16 (2002), pp. 457–464.
- 24 R. Wenk, L.L. De and J. Eisenclas, Palliative care research in Latin America: results of a survey within the scope of the Declaration of Venice, *J Palliat Med* 11 (2008), pp. 717–722.
- 25 P. Yates, Palliative care for specific populations, *Aust Fam Physician* 35 (2006), pp. 776–779.
- 26 S.R. Connor, F. Elwert, C. Spence and N.A. Christakis, Geographic variation in hospice use in the United States in 2002, *J Pain Symptom Manage* 34 (2007), pp. 277–285.
- 27 G.L. Stein, Providing palliative care to people with intellectual disabilities: services, staff knowledge, and challenges, *J Palliat Med* 11 (2008), pp. 1241–1248.
- 28 J.A. Paice, J.C. Muir and S. Shott, Palliative care at the end of life: comparing quality in diverse settings, *Am J Hosp Palliat Care* 21 (2004), pp. 19–27. View Record in Scopus | Cited By in Scopus (8)
- 29 J. Steers, L. Brereton and C. Ingleton, Palliative care for all? A review of the evidence in community hospitals, *Int J Palliat Nurs* 13 (2007), pp. 392–399. View Record in Scopus | Cited By in Scopus (0)
- 30 N. Ahmed, J.C. Bestall and S.H. Ahmedzai et al., Systematic review of the problems and issues of accessing specialist palliative care by patients, carers and health and social care professionals, *Palliat Med* 18 (2004), pp. 525–542.
- 31 A. Arnaert, B. Heuvel van den and T. Windey, Health and social care for the elderly in Belgium, *Geriatr Nurs* 26 (2009), pp. 366–371.
- 32 D. Clark and C. Centeno, Palliative care in Europe: an emerging approach to comparative analysis, *Clin Med* 6 (2006), pp. 197–201.
- 33 Bayigana K, Demarest S, Gisle L, et al. Health survey interview, Belgium 2004. Depotno: D/2006/2505/4, IPH/EPI REPORTS No. 2006-035, 2009.
- 34 J.E. van Alphen, G.A. Donker and R.L. Marquet, Requests for euthanasia in general practice before and after implementation of the Dutch Euthanasia Act, *Br J Gen Pract* 60 (2010), pp. 263–267.
- 35 J. Hoogenboezem and J. Garsen, Cancer number one cause of death in 2008. *Statistics Netherlands Web Magazine* Available from <http://www.cbs.nl/en-GB/menu/themas/gezondheid-welzijn/publicaties/artikelen/archief/2009/2009-2687-wm.htm> Accessed February 3, 2009.

- 36 J. Cohen, J. Bilsen and J. Addington-Hall et al., Population-based study of dying in hospital in six European countries, *Palliat Med* 22 (6) (2008), pp. 702–710.
- 37 E. Abarshi, B. Onwuteaka-Philipsen and G. Donker et al., GP awareness of preferred place of death and correlates of dying in a preferred place: a nationwide mortality follow-back study in the Netherlands, *J Pain Symptom Manage* 38 (4) (2009), pp. 568–577.
- 38 L. Van den Block, R. Deschepper, J. Bilsen, V. Van Casteren and L. Deliens, Transitions between care settings at the end of life in Belgium, *JAMA* 298 (14) (2007), pp. 1638–1639.
- 39 L. Van den Block, V. Van Casteren and R. Deschepper et al., Nationwide monitoring of end-of-life care via the sentinel network of general practitioners in Belgium: the research protocol of the SENTI-MELC study, *BMC Palliat Care* 6 (2007), p. 6.
- 40 L. Van Den Block, R. Deschepper and N. Bossuyt et al., Care for patients in the last months of life: the Belgian Sentinel Network Monitoring End-of-Life Care Study, *Arch Intern Med* 168 (2008), pp. 1747–1754.
- 41 A.I.M. Bartelds, J. Fracheboud and J. van der Zee, The Dutch sentinel practice network: relevance for public health policy, *Euro Surveill* 4 (1999), p. 54.
- 42 A.L. Francke and A. Kerkstra, Palliative care services in The Netherlands: a descriptive study, *Patient Educ Couns* 41 (2000), pp. 23–33.
- 43 V.T. Chang, S.S. Hwang and M. Feuerman, Validation of the Edmonton Symptom Assessment Scale, *Cancer* 88 (2000), pp. 2164–2171.
- 44 C.J. McPherson and J.M. Addington-Hall, Judging the quality of care at the end of life: can proxies provide reliable information?, *Soc Sci Med* 56 (2003), pp. 95–109.
- 45 D.J. Casarett, R. Crowley and K.B. Hirschman, Surveys to assess satisfaction with end-of-life care: does timing matter?, *J Pain Symptom Manage* 25 (2003), pp. 128–132.
- 46 M.W. Ribbe, J.T. van Mens and D.H. Frijters, Characteristics of patients during their stay in a nursing home and at discharge, *Ned Tijdschr Geneesk* 139 (1995), pp. 123–127.
- 47 R. Lofmark, F. Mortier and T. Nilstun et al., Palliative care training: a survey of physicians in Australia and Europe, *J Palliat Care* 22 (2006), pp. 105–110. View Record in Scopus | Cited By in Scopus (7)
- 48 V. Schrijnemaekers, A. Courtens and A. Kuin et al., A comparison between telephone and bedside consultations given by palliative care consultation teams in the Netherlands: results from a two-year nationwide registration, *J Pain Symptom Manage* 29 (2005), pp. 552–558.
- 49 H.R. Pasman, H.E. Brandt, L. Deliens and A.L. Francke, Quality indicators for palliative care: a systematic review, *J Pain Symptom Manage* 38 (2009), pp. 145–156.

TABLES

Table 1  
Sociodemographic, Clinical, and Care Characteristics of Patients Who Died at Home and in Care Homes in NL and BE (n = 543)

Patient Characteristics	Number (%) of All Home Deaths (n = 296)			Number (%) of All Care Home Deaths (n = 247)		
	NL: 114 (21)	BE: 182 (33)	PValue	NL: 57 (10)	BE: 190 (35)	PValue
Gender						
Males	63 (59)	100 (55)	0.515 <sup>a</sup>	20 (36)	49 (26)	0.125 <sup>a</sup>
Females	44 (41)	82 (45)		35 (64)	141 (74)	
Age, in years						
Mean (SD)	71.13 (14.8)	75.25 (14.0)	0.013 <sup>b</sup>	88.17 (6.5)	86.72 (7.4)	0.144 <sup>b</sup>
Range	24–99	21–102		71–100	52–102	
15–64	31 (30)	42 (23)		0	4 (2)	
65–84	55 (54)	92 (51)		13 (24)	58 (31)	
≥85	16 (16)	48 (26)		41 (76)	128 (67)	
Educational status (as estimated by GP)						
Primary or lower	39 (38)	58 (36)	0.909 <sup>a</sup>	28 (62)	90 (52)	0.465 <sup>a</sup>
Secondary	45 (44)	75 (47)		14 (31)	70 (41)	
Tertiary and higher	18 (18)	27 (17)		3 (7)	13 (7)	
Level of consciousness 3 days before death (the worst possible scenario [i.e., 0] on a scale of 0–10)						
Comatose	6 (5)	18 (10)	0.153 <sup>a</sup>	3 (6)	20 (11)	0.218 <sup>a</sup>
Not comatose	104 (95)	157 (90)		50 (94)	154 (89)	
Capacity for decision making 3 days before death						
Totally incapable (worst case possible)	16 (14)	64 (37)	<0.001 <sup>a</sup>	14 (26)	90 (51)	0.001 <sup>a</sup>
Capable of making decisions to some extent	95 (86)	111 (63)		40 (74)	85 (49)	
Primary diagnosis leading to death						
Cancer	79 (70)	104 (57)	0.376 <sup>a</sup>	9 (16)	26 (14)	0.607 <sup>a</sup>
Cardiovascular	12 (11)	26 (14)		14 (25)	38 (20)	
Pulmonary	5 (4)	11 (6)		5 (9)	22 (12)	
Nervous system	4 (4)	8 (4)		8 (14)	16 (8)	
Cardiovascular accident (CVA)	3 (3)	5 (3)		6 (10)	19 (10)	
Others	10 (9)	28 (15)		15 (26)	69 (36)	
Diagnosed with cancer present or not						
Cancer	79 (70)	104 (57)	0.028 <sup>a</sup>	9 (16)	26 (14)	0.669
No cancer	34 (30)	78 (43)		48 (84)	164 (86)	
Longest place of residence in the last 12 months						
Home	111 (97)	171 (98)	0.852 <sup>a</sup>	4 (7)	27 (15)	0.108 <sup>a</sup>
Other (including nursing home in NL)	3 (3)	4 (2)		53 (93)	149 (85)	
Main treatment goal in the last week of life						
Curative	—	6 (3)	<0.001 <sup>a</sup>	—	17 (9)	0.006 <sup>a</sup>
Life prolonging	—	19 (11)		—	14 (7)	
Palliative	108 (100)	151 (86)		53 (100)	156 (83)	

[Q15] Percentages of missing observations from within the aforementioned variables were between 0.3% and 11.5%.

SD = standard deviation; NL = The Netherlands; BE = Belgium.

<sup>a</sup>Pearson's  $\chi^2$  test (test of associations).

<sup>b</sup>Mann-Whitney *U* test (test of associations).

[Q16]

[Q14]

*Table 2*  
**Pattern of GP Home Visits in the Last Three Months of Life for the 543 Patients Who Died at Home and in Care Homes, by Country**

Frequency of GP Home Visits <sup>a</sup>	Number (%) of All Home Deaths (n = 296)			Number (%) of All Care Home Deaths (n = 247)		
	NL: 114	BE: 182	PValue	NL: 57	BE: 190	PValue
Last 2–3 months of life						
0	8 (8)	11 (7)		4 (8)	7 (4)	
1	18 (19)	73 (45)		25 (51)	114 (63)	
2	31 (33)	39 (24)		12 (24)	42 (23)	
3–5	31 (33)	32 (20)		7 (14)	17 (9)	
≥6	6 (6)	6 (4)		1 (2)	1 (1)	
Mean no. GP visits (SD)	2.67 (2.8)	2.02 (1.9)	0.001 <sup>c</sup>	1.73 (1.5)	1.51 (1.2)	0.411 <sup>c</sup>
Last 2–4 weeks of life						
0	8 (8)	14 (9)		4 (8)	11 (7)	
1	31 (31)	99 (63)		30 (60)	123 (76)	
2	34 (34)	23 (15)		11 (22)	22 (14)	
3–5	22 (22)	15 (9)		5 (10)	5 (3)	
≥6	5 (5)	7 (4)		—	—	
Mean no. GP visits (SD)	2.07 (1.6)	1.49 (1.4)	<0.001 <sup>c</sup>	1.38 (0.9)	1.07 (0.6)	0.008 <sup>c</sup>
Last 7 days of life						
0	4 (3)	10 (6)		1 (2)	16 (9)	
1	10 (9)	33 (19)		7 (13)	52 (28)	
2	11 (9)	49 (28)		10 (18)	42 (23)	
3–5	49 (43)	54 (30)		21 (38)	66 (36)	
≥6	40 (36)	31 (17)		16 (29)	9 (5)	
Mean no. GP visits (SD)	5.14 (3.6)	3.23 (2.4)	<0.001 <sup>c</sup>	4.38 (3.2)	2.30 (1.6)	<0.001 <sup>c</sup>
Last 3 months of life						
Palliative care services used	43 (38)	91 (51)	0.026 <sup>b</sup>	5 (9)	62 (34)	<0.001 <sup>b</sup>
Not used	70 (62)	86 (49)		52 (91)	123 (66)	

Percentages of missing observations from within the aforementioned variables were between 1.7% and 13.4%.

SD = standard deviation; NL = The Netherlands; BE = Belgium.

<sup>a</sup>Note that the intervals vary in terms of number of days, i.e., last 2–3 months of life = 60- to 90-day period; last 2–4 weeks of life = 14- to 28-day period; last 7 days of life = 7-day period.

<sup>b</sup>Pearson's  $\chi^2$  test (test of associations).

<sup>c</sup>Mann-Whitney *U* test (test of associations).

*Table 3*  
**Frequency of the Use of PCS in the Last Three Months of Life for the 543 Patients Who Died at Home and in Care Homes, by Country**

Type of PCS used	Frequency of PCS Use in the Last 3 Months in NL <sup>a</sup> —n (%)		Type of PCS used	Frequency of PCS Use in the Last 3 Months in BE <sup>a</sup> —n (%)	
	Home: 114	Care Home: 57		Home: 182	Care Home: 190
None	70 (61)	52 (91)	None	86 (47)	123 (65)
A GP with palliative care training	20 (17)	2 (3)	A Palliative home care team	85 (47)	10 (5)
A palliative care consultant team	24 (21)	2 (3)	Mobile palliative care support team (hospital)	6 (3)	3 (1)
Palliative care unit in a hospital	4 (3)	0	Palliative care unit (hospital)	85 (47)	10 (5)
Palliative care unit in a nursing home	0	1 (2)	Palliative day (care) center	1 (0.5)	0
Hospice day care facility	0	0	Palliative care reference persons in a care home	4 (2)	57 (30)

PCS = palliative care services; NL = The Netherlands; BE = Belgium.

<sup>a</sup>More than one answer possible.



Table 4  
Characteristics Associated with Having Had More Frequent<sup>a</sup> GP Visits in the Last Week of Life by Patients Who Died at Home, by Country (n = 296<sup>b</sup>)

Patient Characteristics	Frequency of GP Visits > 4 in Those Patients Who Died at Home in NL <sup>c</sup> -n (row %)				Frequency of GP Visits > 2 in Those Patients Who Died at Home in BE <sup>c</sup> -n (row %)			
	≤4 Visits: 53 (47%)	>4 Visits: 60 (53%)	Logistic Regression		≤2 Visits: 92 (53%)	>2 Visits: 82 (47%)	Logistic Regression	
			Univariate <sup>e</sup>	Multivariate <sup>d</sup>			Univariate <sup>e</sup>	Multivariate <sup>d</sup>
			OR (95% CI)	OR (95% CI)			OR (95% CI)	OR (95% CI)
Gender								
Males	25 (51)	37 (49)	0.56 (0.3-1.2)	<sup>e</sup>	57 (61)	37 (39)	<b>0.51 (0.3-0.9)</b>	<b>0.52 (0.3-1.0)</b>
Females	24 (65)	20 (35)	1		35 (44)	45 (56)	1	1
Age, in years								
15-64	14 (45)	17 (55)	1	<sup>e</sup>	14 (38)	23 (62)	1	<sup>g</sup>
65-84	20 (37)	34 (63)	1.40 (0.6-3.4)		55 (60)	36 (40)	<b>0.40 (0.2-0.9)</b>	
≥85	10 (62)	6 (37)	0.49 (0.1-1.7)		23 (50)	23 (50)	0.61 (0.3-1.5)	
Educational status (as estimated by GP)								
Primary or lower	19 (49)	20 (51)	0.67 (0.2-2.1)	<sup>e</sup>	30 (55)	25 (45)	0.77 (0.3-1.9)	<sup>e</sup>
Secondary	18 (41)	26 (59)	0.92 (0.3-2.8)		38 (54)	33 (46)	0.81 (0.3-2.0)	
Tertiary and higher	7 (39)	11 (61)	1		13 (48)	14 (52)	1	
Clinical status before death								
Complete coma	0	6 (100)	<sup>f</sup>	<sup>e</sup>	7 (41)	10 (59)	0.60 (0.2-1.7)	<sup>e</sup>
Other	50 (49)	53 (51)			81 (54)	69 (46)	1	
Completely incapable of making decisions	3 (19)	13 (81)	<b>0.23 (0.1-0.9)</b>	<b>0.08 (0.01-0.5)</b>	35 (58)	25 (42)	1.43 (0.8-2.7)	<sup>e</sup>
Other	47 (50)	47 (50)	1	1	53 (50)	54 (50)	1	
Primary diagnosis leading to death								
Cancer	32 (41)	46 (59)	1	1	46 (46)	53 (54)	1	1
Cardiopulmonary	10 (59)	7 (41)	0.49 (0.2-1.4)	0.41 (0.1-1.3)	19 (51)	18 (49)	0.82 (0.4-1.8)	1.81 (0.7-4.7)
Others <sup>h</sup>	11 (65)	6 (35)	<b>0.38 (0.1-1.0)</b>	<b>0.13 (0.02-0.6)</b>	27 (71)	11 (29)	<b>0.35 (0.2-0.8)</b>	<b>0.31 (0.1-0.8)</b>
Main treatment goal in the last week of life								
Palliative	48 (45)	59 (55)	<sup>f</sup>	<sup>e</sup>	70 (49)	74 (51)	<b>3.17 (1.2-8.4)</b>	<b>2.57 (0.8-7.9)</b>
Not palliative (curative/life prolonging)	—	—			18 (75)	6 (25)	1	1
Use of specialist palliative care initiative in last 3 months								
Yes	15 (35)	28 (65)	<b>2.22 (1.1-4.8)</b>	<sup>g</sup>	13 (15)	76 (85)	<b>3.14 (1.7-5.8)</b>	<b>3.08 (1.5-6.4)</b>
No	38 (54)	32 (46)	1		31 (36)	54 (64)	1	1

NL = The Netherlands; BE = Belgium; OR = odds ratio; CI = confidence interval.

<sup>a</sup>Reference: worst possible scenario, i.e., score 10 (vs. all others).

<sup>b</sup>Includes 4 missing values from all home deaths; percentages of missing-observation variables ranged between 0.3% and 5.8%.

<sup>c</sup>Dependent variable in NL/BE: People who had more than the median number of GP home visits in the last week of life.

<sup>d</sup>Stepwise backward logistic regression not done, because only 1 set of variable survived the 2 steps of univariate analyses. Significant values (p ≤ 0.05) are shown in bold print.

<sup>e</sup>Not entered in multiple backward logistic regression analyses.

<sup>f</sup>Estimation was terminated, because parameter-estimated changes were <0.001.

<sup>g</sup>Not retained after multiple backward logistic regression analyses.

Table 5  
Characteristics Associated with Having Used Palliative Care Services in the Last Three Months in All Those Who Died at Home, by Country (n = 296<sup>a</sup>)

Patient Characteristics	Frequency of PCS Use in Those Patients Who Died at Home in NL <sup>b</sup> -n (row %)				Frequency of PCS Use in Those Patients Who Died at Home in BE <sup>b</sup> -n (row %)			
	No PCS: 70 (62%)	PCS: 43 (38%)	Logistic Regression		No PCS: 86 (49%)	PCS: 91 (51%)	Logistic Regression	
			Univariate <sup>c</sup>	Multivariate <sup>d</sup>			Univariate <sup>c</sup>	Multivariate <sup>d</sup>
			OR (95% CI)	OR (95% CI)			OR (95% CI)	OR (95% CI)
Gender								
Males	38 (61)	25 (39)	1.51 (0.7-3.4)	<sup>e</sup>	53 (55)	43 (45)	1	<sup>g</sup>
Females	31 (70)	13 (30)	1		33 (41)	48 (59)	<b>1.79 (1.0-3.3)</b>	
Age, in years								
15-64	18 (58)	13 (42)	2.17 (0.6-8.2)	<sup>e</sup>	13 (33)	27 (67)	<b>2.95 (1.2-7.1)</b>	<sup>g</sup>
65-84	33 (61)	21 (39)	1.91 (0.5-6.7)		46 (50)	45 (50)	1.39 (0.7-2.8)	
≥85	12 (75)	4 (25)	1		27 (59)	19 (41)	1	
Educational status (as estimated by GP)								
Primary or lower	29 (74)	10 (26)	1	1	29 (54)	26 (46)	1	<sup>e</sup>
Secondary	23 (52)	21 (48)	<b>2.65 (1.0-6.7)</b>	<b>3.0 (1.1-8.1)</b>	31 (42)	42 (58)	1.51 (0.7-3.0)	
Tertiary and higher	10 (56)	8 (44)	2.32 (0.7-7.5)	2.8 (0.8-9.8)	14 (52)	13 (48)	1.04 (0.4-2.6)	
Clinical status before death								
Complete coma	4 (67)	2 (33)	1	<sup>e</sup>	9 (53)	8 (47)	1	<sup>e</sup>
Other	63 (61)	40 (39)	0.79 (0.4-1.5)		74 (48)	79 (52)	0.83 (0.3-2.3)	
Completely incapable of making decisions	10 (63)	6 (37)	1	<sup>e</sup>	31 (51)	30 (49)	1	<sup>e</sup>
Other	58 (62)	36 (38)	0.97 (0.3-2.9)		52 (48)	57 (52)	0.88 (0.5-1.6)	
Primary diagnosis leading to death								
Cancer	43 (55)	35 (45)	1	1	35 (35)	66 (65)	1	1
Cardiopulmonary	11 (65)	6 (35)	0.67 (0.2-2.0)	0.78 (0.2-2.7)	29 (78)	8 (22)	<b>0.15 (0.1-0.4)</b>	<b>0.18 (0.1-0.5)</b>
Other <sup>h</sup>	16 (94)	1 (6)	<b>0.08 (0.01-0.6)</b>	<b>0.08 (0.01-0.7)</b>	22 (56)	17 (44)	<b>0.41 (0.2-0.9)</b>	0.62 (0.3-1.4)
Main treatment goal in the last week of life								
Palliative	64 (60)	43 (40)	<sup>f</sup>		59 (40)	87 (60)	<b>10.8 (3.1-37.8)</b>	<b>4.7 (1.3-17.5)</b>
Not palliative (curative/life prolonging)	0 (0)	0 (0)			22 (88)	3 (12)	1	1
More GP visits per country in the last week of life								
Yes <sup>h</sup>	32 (53)	28 (47)	<b>2.21 (1.0-4.9)</b>	<sup>g</sup>	28 (34)	54 (66)	<b>3.14 (1.7-5.8)</b>	<b>3.15 (1.5-6.5)</b>
No <sup>h</sup>	38 (72)	15 (28)	1		57 (62)	35 (38)	1	1

NL = The Netherlands; BE = Belgium; OR = odds ratio; CI = confidence interval; PCS = palliative care services.

<sup>a</sup>Includes 6 missing values; percentages of missing observations from the listed variables ranged between 0.3% and 1.9%.

<sup>b</sup>Reference: worst possible scenario (i.e., vs. all others).

<sup>c</sup>Dependent variables in NL/BE: People who had PCS in the last 3 months.

<sup>d</sup>Stepwise backward logistic regression. Variables removed after 2 steps of the backward analyses. Significant values (p ≤ 0.05) are shown in bold print.

<sup>e</sup>Not entered in multiple backwards logistic regression analyses.

<sup>f</sup>Estimation was terminated, because parameter-estimated changes were <0.001.

<sup>g</sup>Not retained after multiple backward logistic regression analyses.

<sup>h</sup>Median number of GP visits per country.