ANALYZING CLIENT CHARACTERISTICS AND NEEDS IN HOME HEALTH CARE
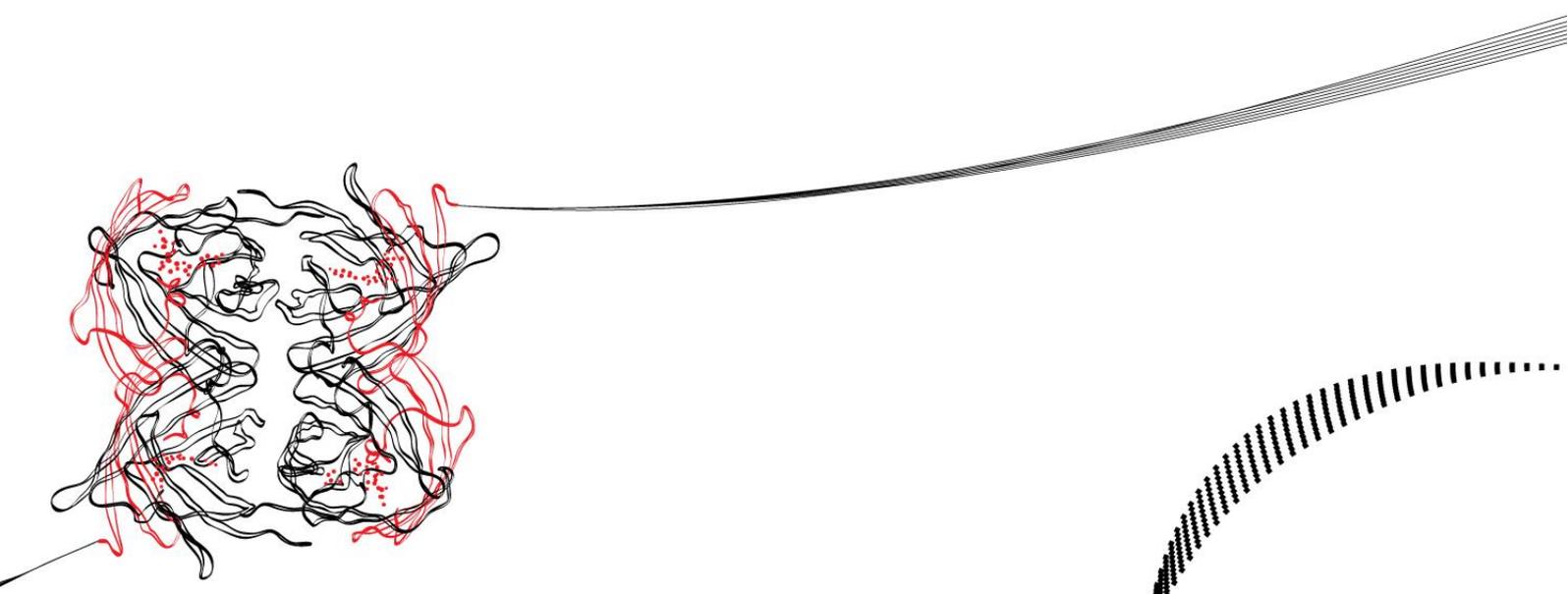
ANALYZING CLIENT CHARACTERISTICS
AND NEEDS IN HOME HEALTH CARE

UNIVERSITY OF TWENTE.

COLOFON

AUTHORS

Nicole M. Koster, PT, MSc (1)

Jeroen Harmsen, BSc (2)

Job van der Palen, Prof, PhD (3)

AUTHOR AFFILIATION

1) MSc Public Health, Department of Research Methodology, Measurement, and Data Analysis (OMD), Faculty of Behavioural Science, University of Twente, Enschede, The Netherlands
2) BSc Computer Technology, Software engineer, Ecare Innovatie, Hengelo, The Netherlands
3) Professor, Medical School Twente, Medisch Spectrum Twente, Enschede, The Netherlands & Department of Research Methodology, Measurement, and Data Analysis, Faculty of Behavioural, Management, and Social Sciences, University of Twente, Enschede, The Netherlands

CORRESPONDING AUTHOR

Nicole M. Koster

E-MAIL

n.m.koster@utwente.nl

POSTAL ADDRESS

P.O. Box 217
7500 AE Enschede
The Netherlands

WEBSITE

http://www.utwente.nl/bms/omd/en

UNIVERSITY OF TWENTE.

Abstract

Abstract

Purpose

The purpose of this study is to describe characteristics of the home health care population, including their needs for care and the amount of care delivered.

Design

A quantitative retrospective analysis of electronic client records was performed. Data of 77,129 clients originated from a large nationally operating Dutch home health care organisation (Buurtzorg). Clients lived throughout the country in both rural and urban locations. Data was collected from January 2008 until March 2015 by nurses and nurse assistants working in over 800 community based self-managing teams.

Methods

Electronic data was captured in point of care situations and was entered on a day to day basis by professionals, providing care to the clients. Items analysed concerned age, gender, living unit, client type, client problem, nursing diagnosis, and signs and symptoms (as documented with the Omaha System), number and duration of care episode, amount of time spent and number of visits.

Conclusions

Five actual problems that were documented most frequently for all clients were personal care, skin, medication regimen, circulation and neuro / musculo / skeletal function. There is a large between-client variation in the amount of care needed and the means are highly influenced by outliers. Sixteen relevant client profiles, based on six client types (frail elderly, dementing elderly, hospital discharged, palliative care clients, chronically ill clients and other) could be defined. The amount of care is highly dependent upon these client profiles. Categorisation by these client profiles seems to be distinctive and relevant when analysing needs in home health care, because the outcomes related to the amount of care differ per profile. Homogenous subsets of client profiles for each outcome could be defined. The most care intensive clients can be found in the profiles of dementing elderly and palliative care clients. Dementing elderly have the longest duration of care episode and the highest total number of hours of care. Palliative care clients have the highest number of hours of care per week and highest number of visits per week. The least care intensive clients can be found in the groups 'other' and 'discharged from hospital'. The prevalence of relevant client profiles is very different for the population that still receives care compared to the population with completed care episodes. Both groups have to be analysed in order to provide reliable information about the population served.

Keywords

Home health care, community based care, self-managing teams, patient classification, nursing diagnosis, client characteristics, client needs, utilization of resources, Omaha System

1 INTRODUCTION

Home health care is among the most common types of care delivered for a wide range of clients. Clients from all ages and with all sorts of conditions or problems need this type of care, which can range from care for physiological or psychosocial problems, to problems related to the client's environment. Examples of problem areas are respiration, bowel function, mental health, income or residence. The number of people in need for home health care is considerable and will rise. The ageing of the population is often mentioned as the main driver, but other factors need to be considered as well, which is highlighted in Figure 1.

FIGURE 1 NEED FOR HOME CARE (SOURCE: HOME CARE IN EUROPE. THE SOLID FACTS (WHO REGIONAL OFFICE FOR EUROPE, 2008)

In the Netherlands, over the past decade, every year around 3% of the Dutch adult population, received reimbursed home health care (CBS, 2015). This number (approximately 500,000 clients) includes clients receiving skilled nursing care, such as administering of medication or providing wound care, and it includes help with activities of daily living, such as bathing and getting dressed. Domestic services are not included in this number. The services reimbursed nationally amounted to € 3,1 billion

in 2013. In Europe, public spending on home care accounted for more than 30% of the resources spent on long-term care in many OECD countries, ranging from 0.2% of gross domestic product in Spain to 2.75% in Sweden (WHO Regional Office for Europe, 2008).

Data and knowledge about the population served, as well as the services needed and delivered are necessary in order to identify the best and most cost effective practices. The generation of these data in home health care, however, has its challenges. Home health care delivery is often driven by regulations and reimbursement rather than by clinical reasoning or incentives. For example, what and how is being reimbursed, determines how care delivery is organised, and how much and what type of care is being delivered. In the Netherlands, this has lead to fragmented home health care delivery, an increased use of lower educated staff and staff with a strict time limit. This affects what happens in actual practice and what is documented about the client situation and the services provided. With little time to document or fragmented knowledge of the client situation, documentation is likely to be compromised. Apart from this, data collection in home health care in itself is a challenge. One of the most reliable sources should be client records. In the Netherlands, these are often still paper based and contain free text. Where electronic records are used, free text is also abundant, rather than the use of standardised health terminology and predefined items. This affects data quality and options for analyses. Other issues are that data is often collected periodically in ICT systems other than the main electronic health record or by others than the professional delivering daily care to the client. From a nurse / client perspective however, health data from point of care situations collected on a day to day basis by the actual caregiver are indispensible.

The only way to provide quality information about home health care is to find datasources that are less affected by the issues above. This source was found in databases from a large national home care organisation 'Buurtzorg', serving around 30.000 clients each year (Gray, 2015; Huijbers, 2011 / 2015; Laloux & Wilber, 2014; Nandram, 2015; Schulmann & Leischenring, 2014). The organisation employs over 9000 nurses and nurse-assistants working in self-managing community based teams of 8-12 professionals without team managers. Nurses and nurse-assistants accept clients, plan workload and divide tasks as they see fit. Nurses may also provide personal care for example. Teams are free to deliver the type and amount of care needed, from a company vision of striving for care-independency of clients where possible. The company has used IT from its start in 2006 to simplify tasks, lessen bureaucracy, improve efficiency and to communicate.

Teams are also free to combine home health care tasks with district nursing, community nursing and public health tasks. It may be assumed that with this broad scope and practice analysis of a client's situation is comprehensive and holistic and data on care delivery provides valuable information about the client population and need for care.

All frontline staff are responsible for nearly all data-entering about their clients into electronic health records. The company chose to professionalise the health records using standardised health terminology and a classification system: the Omaha System (Martin, 2005; Topaz, Golfenshtein, & Bowles, 2014). The Omaha System was integrated in the software to support daily nursing practice, professionalise documentation and enable knowledge discovery.

1.1 Client characteristics and client needs

Analysing the client characteristics and their need for care is possible in many ways. In this study the focus will be on two main components:

- characteristics of the client: demographics, client types, actual problems and signs and symptoms

- the amount of professional care actually delivered

Both components my vary in time. For example, a client situation can be characterised by many things at start of care and may improve with time resulting in less care delivered, and vice versa. Situations may also be stable in time with little change.

The health related characteristics that were analysed in this study ranged from general to more specific. Six client types, such as 'palliative care client' and 'dementing elderly' represent the most general level. Forty-two problem areas that can affect a client's wellbeing, such as circulation and medication, are considered to be of the intermediate level. The third and most specific level consists of signs and symptoms further specifying these problem areas, such as 'edema' and 'inadequate system for taking medication'.

In order to describe the population sample on the amount of care delivered, care episodes, the hours of care and the number of visits were analysed.

Categorising by client types

When describing a population sample, items on which to categorise should be relevant for that population. If we were for example to describe all problem areas and amount of care spent for females versus males, it would not create a useful picture, because the home health care population is not defined by gender. In home health care many different categorisations are possible, such as long term care clients versus short term care clients, or a categorisation by disease. This first option would be rather general, while the latter option would be extremely complex with hundreds of possible diseases, and combinations of diseases to analyse.

The home health care organisation whose data are analysed, chose to categorise clients in the electronic health records by client types that were considered common in home care:

- chronically ill clients

- frail elderly

- dementing elderly

- hospital discharged

- palliative care clients

- other

In this study this categorisation by client types, and their combinations, will be used as a basis for analyses and comparing groups. These combinations will further be described as 'client profiles'. Client profiles are unique mutually exclusive combinations of client types.

Research Questions

The following research questions will be answered in this study:

1. What are the client demographics?

2. What is the prevalence of client types, problems and signs and symptoms?

3. What are relevant client profiles based on client types?

4. What is the amount of care delivered in terms of care episodes, time spent and number of visits?

5. Do client profiles differ significantly in the amount of care delivered?

6. Can homogenous subsets of clients with regard to the amount of care delivered be defined?