

Comparison to other studies

There is a lack of measurable, large scale data of good quality, reflecting actual practice and need for care in home health care in the Netherlands. This has several reasons which are likely to hold true in other nations as well.

First of all, the most extensive and continuous data collection in this sector has been done for financial and administrative purpose for decades. Administrative rules and regulations for billing and reimbursement purposes have been leading. Analysis and documentation of clinical and health related client data from a nurse-client perspective have not been the main focus in the majority of home health care organizations. This is expected to result in poor quality and quantity of documented health related data in actual daily practice.

Secondly, when it comes to data collection by nurses and nurse-assistants, computerized documentation and Information and Communication Technology (ICT) come in place as facilitators. However, in the home health care sector these facilitators are often lacking, client records are often still paper based and they lack data fit for the purpose of certain analysis. Data needs to be standardized and structured in order to be useful and valid for analysis. This is one of the main reasons why the use of standardized health terminologies and classification systems has been promoted. The use of any standardized terminology however, is not common in home health care. ICT can help implement standardized terminology in daily practice, as it provides a way to make the terminology easily usable.

Another issue is that data often is entered in software systems by administrative staff and / or collected periodically in software that is not the point of care electronic health record. Data is less likely to be entered by the professional delivering care to the client and documenting client needs and services delivered on a day to day basis in the main electronic health record.

And last but not least, the way health care is organized greatly determines the nature and value of the data collected and services provided. Home health care is often organized as a result of financial incentives or of rules and regulations. This often results in care delivered as 'stopwatch care', fragmented care, delivered by many different professionals for one client, and / or by staff that is educated as low as possible. So it is likely that the type and amount of care delivered is not the optimal care nurses themselves would strive for. A nurse may for example only be reimbursed for addressing certain problems and certain activities, causing her to not look for, document and / or deliver anything else. Another effect of many different professionals or less qualified staff attending to the needs of a client is the possibility that changes in the client's status, knowledge and behavior may not be noticed, so valuable data is not observed, let alone recorded or intervened upon. A systematic review drew similar conclusions for acute care settings (Lankshear, Sheldon, & Maynard, 2005).

Sites from other studies do not compare to the organization and delivery of care of Buurtzorg. Another reason findings are not comparable is that client types differed; for example HIV patients and maternal and child health care were included in studies. These are not common in home health care in the Netherlands.

One of the most comparable studies, in design, however, also found skewed distributions on number of visits and hours of care. It has to be noted though, that services did not include personal care, but tasks typical for nurses in the US only. In this study, patients with dementia also received more visits and more hours of nursing care (Marek, 1996).

Considerations and disputable issues

The dataset analyzed in this study covered a period of time of approximately 7 years. Some clients need and have received care for longer than this period. This is probably a relatively small group. Dementing elderly comprise the largest group requiring the most long term care. These clients are on average (depending on the profile) 81 to 84 years of age and the chances of these clients receiving home health care for longer than two years are rather small. This is logical considering the nature of the morbidity. There are also clients who received care from Buurtzorg before start of registration in the software in 2008. These data were not analyzed. Also, clients may have transferred from another provider, so they have received care before their episode with Buurtzorg. Therefore, estimates of the amount of care these clients received are higher than the analyses would show. The percentage of clients who transfer though on the total number of clients is expected to be low.

On outcomes such as number of hours of care and visits it should be noted that these can fluctuate per week. They might be higher at start of care and lower at the end of an episode or vice versa. A mean number per week was calculated. Fluctuations, trends, peaks or drops were not analyzed. On the subject of number of visits: certain clients were excluded from analyses, namely all clients receiving care from third parties. This includes a small group of clients receiving care for many hours per visit, for example 8 to 24 hours per day. Buurtzorg teams generally do not offer this type of care. Finally, the number of visits were counted as the number of times that minutes were registered in the client record. In this report this was translated into visits. Technically speaking, a professional could also register client time not spent at the client's home, but elsewhere. This could be for consultation with colleagues or a general practitioner. The authors know from experiences with many users of this software that this type of time spent is often not documented separately and the majority of registrations concerns actual visits.

The tables on homogenous subsets for time related outcomes describe which groups were homogeneous with respect to the five outcomes. This was based on statistical testing and does not mean that there is no overlap between non-homogenous groups. Within each client profile there is still a large variation in outcomes, creating overlap with profiles that belong to another homogenous subset. When evaluating practice of home health care though, differences in duration of care of for example 5.7 weeks and 6.6 weeks, are hardly relevant. Since the goal was to present a picture of the population, it is debatable whether other subsets need to be defined. These subsets could for example be based on minimal overlap. These could be groups with medians for duration of care episode ranging from 0-26 weeks, a group ranging from 26 to 52 weeks, a group of 52 weeks and over (but still finite / temporary) and a final group of non-temporary, long term care.

A few considerations have to be mentioned when interpreting data on client types. Prevalence of client types may change over time with certain trends, peaks or drops. Such analyses were not included in

this study. Secondly, no start or end dates were applied to documenting the client types. So if a client for instance received care after being discharged from hospital, and 6 months later the client turned out to need palliative care, both characteristics “hospital discharged” and “palliative care clients” applied to the client for the full duration of the care episode, or episodes. Considering the relatively short duration of most episodes though, and the fact that most clients received care for one episode only, most client type characteristics can be viewed as applicable to the whole care episode. The only profiles for which this seems unlikely are palliative care clients in combination with frail elderly or chronically ill. Palliative care clients only (a large group of clients) are among the groups of clients receiving short term care, with a median of 3.3 weeks (IQR 1.1-9.9). ‘Frail elderly and palliative care clients’ receive care for nearly five times longer. This could be explained by the fact that a client can be only ‘frail elderly’ at the start of care and ‘become’ a palliative care client at the end. The term palliative care is broadly used in several sectors and countries. In this case however it may be assumed for several reasons that the term applies mostly to clients receiving end of life care. This care may range from days to weeks before passing away and was started knowing the client had a greatly reduced life-expectancy.

Another consideration is that up until November 2014 the software allowed that characteristics were documented and later deleted, without archiving: for example, a client ceases to be typically ‘discharged from hospital’. This would result in loss of data. However, client type characteristics tend to be documented once at start of care, not to be deleted later. And the only client type that is temporary in nature is ‘discharged from hospital’. So it is the only one that would be deleted for reasons of being ‘no longer applicable’. For the client type ‘other’ the same may or may not apply.

Up until September 2014, professionals did not have the option to check ‘other’ as a client type. They had five client type options or the option to check nothing, resulting in a missing value. The sample of 77129 however, only included cases with at least one known client type, including ‘other’. Therefore, a relatively large group of clients were not typified or analyzed. The group ‘other’ is different from this ‘missing’ group. ‘Other’ is checked for everything but the five client types, so we also know what the client type was not. The group ‘missing’ types (N=23,882) however could be anything, including omission of the other five types. The prevalence rate of the client type ‘other’ could be relatively low due to this fact and may not be an accurate representation of the data.

All six client type characteristics, such as dementing elderly, tend to be under documented. Nurses may tend to document the most urgent type only, or maybe interpret the options as ‘either / or’, instead of ‘and’. Also updating client records when later on during the episode of care the situation changes is not always done completely. Therefore, combinations might occur more often in practice than is reflected in the data. This is why the cut off point for ‘relevant client profiles’ was set on 1% of cases, and not higher: this would exclude most combinations, while combinations are likely to be more prevalent than is shown in the data. Finally, questionnaires or measurement instruments for example to determine ‘frailty’ were available but not used as a rule to select client type.

On the subject of Omaha System data: actual problems may be viewed as ‘umbrella problems’. This means that if signs and symptoms occur for other problems as well, these may not be documented as

present if they are minor. Nurses and nurse assistants were not instructed to document all present problems, signs or symptoms nor were they instructed to document on each of the 42 Omaha System problems in the software. They were instructed to document what they considered the most relevant and typical for the client situation. Another thing to consider is that all actual problems were analyzed. Some problems may be included in care plans, some may receive targeted interventions, other problems may not. This means that not all documented problems are problems nurses and nurse assistants spent time on. The vast majority of them however would be.

Strengths

Strengths of this study are that it is multisite, nationwide, covers both rural and urban locations, measuring a wide range of variables for a large population sample over a large period of time. The amount of care delivered was decided upon by nurses and nurse assistants in cooperation with clients.

Future studies

The authors will proceed in a following study to determine what characteristics are associated with outcomes related to the amount of care. Relevant correlation of these client characteristics will be determined. Prediction models will be made for all five outcomes and each model will be validated. This research will draw on other research in this area as discussed in the chapter 2 Background.

Clients who had two or more episodes should be analyzed as a specific group. These clients may form a specific group with different patterns of delivery of care. The definition of an episode may need to be different for these clients. For some of these cases, all time related outcomes and characteristics should be assigned to each specific episode. Each episode should be analyzed on both outcomes and client characteristics during that episode.

Future research should include evaluating the severity of problems and their duration, and combinations of these facts. Apart from this potential problems and strengths of the client and his or her environment should be documented and included in analysis. These items are expected to influence the amount of care needed.

Future research should also include data from other home care agencies, drawing on research findings in the area of comparing datasets, like the one used in this study, across health care providers (Monsen, Westra, Yu, Ramadoss, & Kerr, 2009; Westra, Oancea, Savik, & Marek, 2010).

6 CONCLUSION

The purpose of this study was to describe characteristics and needs of the home health care population. Client demographics, client types, problems, signs and symptoms and the amount of care delivered (duration of episode, hours of care and visits) were analyzed. 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. Categorization by these client profiles seems to be distinctive and relevant when analyzing 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 need 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 analyzed in order to provide reliable information about the population served.

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APPENDIX A ACTUAL PROBLEMS, ALL CLIENTS

The table shows for which percentage of all clients, these problems were documented as 'actual'.

TABLE 16 ACTUAL PROBLEMS, ALL CLIENTS

Actual Problems, all clients (N=42,519)	
COMMON PROBLEMS (≥ 25% PREVALENCE)	
Personal care	60.7%
Skin	40.8%
Medication regimen	40.0%
Circulation	33.2%
Neuro-musculo-skeletal function	25.0%
OTHER PROBLEMS (<25% PREVALENCE)	
Nutrition	21.6%
Pain	21.5%
Urinary function	18.2%
Cognition	18.1%
Bowel function	16.5%
Caretaking parenting	14.6%
Social contact	13.6%
Mental health	12.8%
Respiration	12.1%
Physical activity	12.1%
Communication with community resources	11.8%
Interpersonal relationship	10.2%
Digestion and hydration	8.4%
Vision	8.2%
Sleep and rest patterns	7.4%
Hearing	5.3%
Residence	4.2%
Speech and language	3.6%
Grief	3.5%
Income	3.2%
Oral health	3.0%
Role change	2.5%
Communicable infectious condition	2.3%
Healthcare supervision	2.3%
Consciousness	1.7%

Sanitation	1.6%
Substance use	1.3%
Neglect	1.0%
Neighborhood workplace safety	1.0%
Reproductive function	0.8%
Spirituality	0.23%
Sexuality	0.23%
Abuse	0.21%
Growth and development	0.14%
Pregnancy	0.02%
Family planning	0.01%
Postpartum	0.005%

Definitions of common problems	
Personal care	Management of personal cleanliness and dressing.
Skin	Natural covering of the body.
Medication regimen	Use or application of over-the-counter and prescribed/recommended medications and infusions to meet guidelines for therapeutic action, safety, and schedule.
Circulation	Pumping blood in adequate amounts and pressure throughout the body.
Neuro-musculo-skeletal function	Ability of nerves, muscles and bones to perform or coordinate specific movement, sensation, of regulation.

MARTIN, K.S. (2005)

APPENDIX B PROBLEMS, SIGNS / SYMPTOMS

Tables show for which percentage of cases, the sign or symptom was documented. A 15% cut-off point was used, this means that not all documented signs and symptoms are shown. Percentages don't show for how many clients the sign was documented, but that when a problem was documented, what the prevalence was of signs for that problem. A client could have one or more signs or symptoms per actual problem.

In Table 17 the top 5 of problems are shown which were documented for more than 25% of clients, regardless of profile.

In Table 18 additional problems are shown which were documented for more than 25% of clients within a client profile; these are called profile specific problems.

TABLE 17 PREVALENCE OF SIGNS AND SYMPTOMS, COMMON PROBLEMS

Circulation	
edema	75.0%
abnormal blood pressure reading	15.9%
other	15.3%

Medication regimen	
unable to take medications without help	50.4%
other	34.7%
inadequate medication regimen	20.1%
does not follow recommended dosage/schedule	17.7%

Neuro-musculo-skeletal function	
limited range of motion	72.3%
decreased muscle strength	52.7%
difficulty transferring	47.1%
decreased balance	39.0%
gait/ambulation disturbance	38.9%
decreased coordination	26.8%
decreased sensation	17.9%
increased muscle tone	17.9%

Personal care	
difficulty with bathing	83.7%
difficulty dressing lower body	62.9%
difficulty dressing upper body	51.1%
difficulty shampooing/combing hair	31.7%
unwilling/unable/forgets to complete personal care activities	19.4%
difficulty with toileting activities	18.9%
other	15.7%

Skin	
lesion/pressure ulcer	52.5%
rash	34.8%
excessively dry	25.0%
other	17.7%
pruritus	17.4%

TABLE 18 PREVALENCE OF SIGNS AND SYMPTOMS, PROFILE SPECIFIC PROBLEMS

Bowel function	
abnormal frequency/consistency of stool	52.8%
other	42.2%
incontinent of stool	20.8%
cramping/abdominal discomfort	17.1%

Communication with community resources	
unfamiliar with options/procedures for obtaining services	57.1%
difficulty understanding roles/regulations of service providers	54.1%
unable to communicate concerns to provider	41.8%
unable to use/has inadequate communication devices/equipment	17.9%
transportation barrier	17.1%
limited access to care/services/goods	16.3%

Interpersonal relationship	
difficulty establishing/maintaining relationships	46.2%
minimal shared activities	40.7%
inadequate interpersonal communications skills	35.9%
prolonged, unrelieved tension	29.4%
inappropriate suspicion/manipulation/control	25.7%
difficulty problem solving without conflict	23.7%
incongruent values/goals/expectations/schedules	23.6%
other	22.1%

Pain	
expresses discomfort/pain	90.6%
compensated movement/guarding	17.0%

Physical activity	
sedentary life style	58.8%
other	35.9%
inappropriate type/amount of exercise for age/physical condition	16.3%
inadequate/inconsistent exercise routine	16.2%

Urinary function	
incontinent of urine	48.0%
other	34.8%
difficulty emptying bladder	24.2%

Caretaking/parenting	
other	51.7%
difficulty providing physical care/safety	40.5%
difficulty interpreting or responding to verbal/nonverbal communication	21.6%
difficulty providing emotional nurturance	19.0%
dissatisfaction/difficulty with responsibilities	15.8%

Cognition	
limited recall of recent events	73.5%
diminished judgment	52.1%
limited concentration	46.4%
limited reasoning/abstract thinking ability	41.1%
disoriented to time/place/person	35.0%
repetitious language/behavior	33.9%
limited calculation/sequencing skills	26.0%
limited recall of long past events	24.8%
other	19.7%
wanders	15.6%

Digestion-hydration	
other	49.1%
difficulty/inability to chew/swallow/digest	32.2%
nausea/vomiting	28.7%

Nutrition	
other	39.9%
unable to obtain / prepare food	35.8%
lacks established standards for daily caloric/fluid intake	20.7%
underweight: adult bmi 18,5 or less; child bmi 5th percentile or less	16.5%

Respiration	
abnormal breath patterns	44.3%
other	41.0%
cough	36.3%
abnormal breath sounds	17.9%
noisy respirations	17.5%

Social contact	
limited social contact	73.7%
minimal outside stimulation/leisure time activities	60.4%
uses health care provider for social contact	39.7%
other	15.9%

APPENDIX C DATA PER CLIENT PROFILE

TABLE 19 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE C

Client profile c (chronically ill clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	27.5	47.5	7.3	2.6	26.5	135.1
Total number of hours of care	135.8	357.0	20.4	7.3	86.2	703.3
Mean number of hours of care per week	4.3	4.2	3.1	1.8	5.2	11.2
Total number of visits (excluding 3rd party)	161.9	403.7	32.0	11.0	109.0	841.2
Mean number of visits per week	7.4	5.7	6.1	3.2	10.0	17.0
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% c	% all clients	
Personal care				55.0%	60.7%	
Skin				41.1%	40.8%	
Circulation				39.1%	33.2%	
Neuro-musculo-skeletal function				35.2%	25.0%	
Medication regimen				35.1%	40.0%	

TABLE 20 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE D

Client profile d (dementing elderly)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	45.1	45.9	30.7	10.0	64.7	141.0
Total number of hours of care	239.0	333.5	120.9	35.3	309.3	863.1
Mean number of hours of care per week	5.2	4.6	4.2	2.4	6.9	12.9
Total number of visits (excluding 3rd party)	358.9	552.6	154.0	40.0	456.3	1420.2
Mean number of visits per week	9.1	6.4	7.6	3.9	13.4	21.3
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% d	% all groups	
Cognition				70.2%	18.1%	
Personal care				68.6%	60.7%	
Medication regimen				59.2%	40.0%	
Nutrition				37.6%	21.6%	
Social contact				29.2%	13.6%	
Caretaking parenting				27.1%	14.6%	
Mental health				25.7%	12.8%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Skin				24.1%	40.8%	
Circulation				18.4%	33.2%	
Neuro-musculo-skeletal function				10.7%	25.0%	

TABLE 21 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE DC

Client profile dc (dementing elderly & chronically ill clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	62.4	68.5	37.4	13.4	92.4	213.1
Total number of hours of care	404.9	609.8	158.7	40.4	525.2	1616.2
Mean number of hours of care per week	5.3	4.1	4.4	2.4	7.2	14.6
Total number of visits (excluding 3rd party)	552.4	946.3	159.0	51.0	551.0	2808.6
Mean number of visits per week	9.9	6.8	8.4	4.0	14.5	21.5
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% dc	% all groups	
Personal care				77.8%	60.7%	
Cognition				71.3%	18.1%	
Medication regimen				68.1%	40.0%	
Nutrition				43.6%	21.6%	
Skin				40.3%	40.8%	
Caretaking parenting				39.0%	14.6%	
Communication with community resources				38.8%	11.8%	
Social contact				38.2%	13.6%	
Circulation				36.9%	33.2%	
Interpersonal relationship				35.5%	10.2%	
Urinary function				33.6%	18.2%	
Mental health				29.5%	12.8%	
Neuro-musculo-skeletal function				28.5%	25.0%	

TABLE 22 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE F

Client profile f (frail elderly)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	19.9	37.7	6.1	2.4	16.3	100.7
Total number of hours of care	79.0	215.1	17.0	7.0	49.6	371.5
Mean number of hours of care per week	3.7	3.3	2.9	1.8	4.7	9.6
Total number of visits (excluding 3rd party)	117.7	326.9	29.0	12.0	85.0	514.0
Mean number of visits per week	7.4	5.3	6.0	3.3	10.1	17.5
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% f	% all groups	
Personal care				52.4%	60.7%	
Skin				37.6%	40.8%	
Circulation				36.3%	33.2%	
Medication regimen				30.2%	40.0%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Neuro-musculo-skeletal function				19.1%	25.0%	

TABLE 23 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE FC

Client profile fc (frail elderly & chronically ill clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	56.4	67.8	22.1	4.9	93.6	194.8
Total number of hours of care	298.2	497.4	80.1	15.4	361.9	1330.7
Mean number of hours of care per week	4.4	4.0	3.4	2.0	5.6	12.3
Total number of visits (excluding 3rd party)	392.8	700.3	85.0	20.0	421.0	1857.5
Mean number of visits per week	8.5	6.0	7.2	3.5	12.8	20.5
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% fc	% all groups	
Personal care				66.7%	60.7%	
Circulation				53.3%	33.20%	
Skin				48.5%	40.8%	
Medication regimen				47.5%	40.0%	
Neuro-musculo-skeletal function				34.9%	25.0%	

TABLE 24 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE FD

Client profile fd (frail elderly & dementing elderly)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	52.4	54.0	33.6	10.6	76.0	167.5
Total number of hours of care	270.2	357.9	133.2	38.3	361.5	934.5
Mean number of hours of care per week	5.0	3.9	4.1	2.4	6.5	12.6
Total number of visits (excluding 3rd party)	407.3	572.2	159.0	43.0	553.5	1676.6
Mean number of visits per week	9.4	6.2	8.3	4.4	13.5	21.4
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% fd	% all groups	
Personal care				70.6%	60.7%	
Cognition				68.3%	18.1%	
Medication regimen				66.7%	40.0%	
Nutrition				44.7%	21.6%	
Skin				31.9%	40.8%	
Social contact				31.1%	13.6%	
Communication with community resources				26.0%	11.8%	
Circulation				25.5%	33.2%	
Mental health				25.4%	12.8%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Neuro-musculo-skeletal function				14.4%	25.0%	

TABLE 25 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE FDC

Client profile fdc (frail elderly & dementing elderly & chronically ill clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	78.6	70.4	60.5	16.9	125.7	221.6
Total number of hours of care	548.4	724.9	279.5	61.5	762.8	2075.3
Mean number of hours of care per week	5.7	4.4	4.9	3.0	7.2	14.3
Total number of visits (excluding 3rd party)	700.9	1094.9	205.0	60.0	887.0	2994.0
Mean number of visits per week	11.2	6.9	10.3	6.0	15.0	21.5
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% fdc	% all groups	
Medication regimen				77.3%	40.0%	
Personal care				75.7%	60.7%	
Cognition				71.2%	18.1%	
Nutrition				47.7%	21.6%	
Circulation				45.1%	33.2%	
Skin				43.8%	40.8%	
Communication with community resources				39.1%	11.8%	
Social contact				38.0%	13.6%	
Neuro-musculo-skeletal function				33.7%	25.0%	
Interpersonal relationship				32.1%	10.2%	
Mental health				30.7%	12.8%	
Urinary function				30.7%	18.2%	
Caretaking parenting				30.6%	14.6%	
Physical activity				25.1%	12.1%	

TABLE 26 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE H

Client profile h (hospital discharged)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	7.9	12.4	4.9	2.1	8.4	25.7
Total number of hours of care	31.2	67.4	15.8	7.3	32.4	101.3
Mean number of hours of care per week	4.1	3.7	3.5	2.3	5.1	8.5
Total number of visits (excluding 3rd party)	52.7	93.8	30.0	13.0	60.0	162.0
Mean number of visits per week	7.7	4.5	7.0	4.5	9.8	15.4
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% h	% all groups	
Personal care				50.5%	60.7%	
Skin				41.2%	40.8%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Medication regimen				22.7%	40.0%	
Circulation				22.0%	33.2%	
Neuro-musculo-skeletal function				21.9%	25.0%	

TABLE 27 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE HC

Client profile hc (hospital discharged & chronically ill clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	17.6	29.9	6.6	2.5	17.6	83.9
Total number of hours of care	89.5	236.0	23.3	8.9	66.5	395.5
Mean number of hours of care per week	4.8	4.8	3.9	2.3	6.0	12.3
Total number of visits (excluding 3rd party)	107.4	207.5	38.0	15.0	92.5	511.2
Mean number of visits per week	8.6	5.8	7.2	4.2	11.9	16.5
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% hc	% all groups	
Personal care				66.0%	60.7%	
Skin				47.1%	40.8%	
Circulation				42.9%	33.2%	
Medication regimen				41.6%	40.0%	
Neuro-musculo-skeletal function				34.3%	25.0%	
Pain				25.4%	21.5%	

TABLE 28 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE HF

Client profile hf (hospital discharged & frail elderly)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	14.1	24.5	6.3	3.0	13.7	56.2
Total number of hours of care	65.4	180.8	22.2	10.0	51.3	256.2
Mean number of hours of care per week	4.5	3.3	3.8	2.3	5.7	11.5
Total number of visits (excluding 3rd party)	100.6	255.1	42.0	18.0	90.0	344.9
Mean number of visits per week	8.8	5.5	7.7	4.6	12.0	18.7
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% hf	% all groups	
Personal care				63.8%	60.7%	
Skin				37.7%	40.8%	
Medication regimen				37.4%	40.0%	
Circulation				30.3%	33.2%	
Neuro-musculo-skeletal function				28.0%	25.0%	

TABLE 29 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE HFC

Client profile hfc (hospital discharged & frail elderly & chronically ill clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	24.6	36.3	8.7	3.0	29.5	113.1
Total number of hours of care	123.3	216.9	36.3	11.7	129.4	585.6
Mean number of hours of care per week	5.1	4.0	4.1	2.4	6.5	13.2
Total number of visits (excluding 3rd party)	178.8	309.3	53.0	18.0	148.3	925.9
Mean number of visits per week	9.3	6.0	8.0	4.5	13.6	20.1
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% hfc	% all groups	
Personal care				73.6%	60.7%	
Circulation				53.3%	33.2%	
Skin				52.3%	40.8%	
Medication regimen				50.4%	40.0%	
Neuro-musculo-skeletal function				35.3%	25.0%	
Pain				27.7%	21.5%	
Nutrition				25.5%	21.6%	

TABLE 30 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE O

Client profile o (other)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	8.5	20.6	3.1	1.4	7.0	31.0
Total number of hours of care	30.0	162.6	8.3	3.9	18.8	88.8
Mean number of hours of care per week	3.2	5.8	2.5	1.6	3.6	6.7
Total number of visits (excluding 3rd party)	43.2	192.1	16.5	8.0	35.0	130.3
Mean number of visits per week	6.1	4.4	5.0	3.0	7.6	14.6
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% o	% all groups	
Skin				40.8%	40.8%	
Circulation				29.9%	33.2%	
Personal care				26.9%	60.7%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Medication regimen				19.9%	40.0%	
Neuro-musculo-skeletal function				13.6%	25.0%	

TABLE 31 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE P

Client profile p (palliative care clients)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	11.0	23.2	3.3	1.1	9.9	50.4
Total number of hours of care	148.7	398.6	51.3	20.2	131.8	574.5
Mean number of hours of care per week	19.9	20.5	12.8	6.4	25.6	64.2
Total number of visits (excluding 3rd party)	89.4	222.2	32.0	13.0	78.0	322.0
Mean number of visits per week	12.8	9.1	10.5	6.0	17.5	30.7
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% p	% all groups	
Personal care				70.4%	60.7%	
Pain				44.6%	21.5%	
Medication regimen				42.3%	40.0%	
Skin				37.8%	40.8%	
Bowel function				32.9%	16.5%	
Urinary function				25.8%	18.2%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Circulation				17.9%	33.2%	
Neuro-musculo-skeletal function				16.4%	25.0%	

TABLE 32 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE PC

Client profile pc (palliative care clients & chronically ill)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	32.7	47.7	11.1	3.7	40.1	137.2
Total number of hours of care	351.8	651.4	121.6	44.9	360.0	1696.5
Mean number of hours of care per week	15.1	18.3	9.4	4.8	18.0	49.8
Total number of visits (excluding 3rd party)	255.3	512.8	76.5	30.0	223.8	1077.3
Mean number of visits per week	13.0	9.6	10.3	5.4	18.0	32.3
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% pc	% all clients	
Personal care				74.7%	60.7%	
Skin				48.8%	40.8%	
Medication regimen				46.9%	40.0%	
Pain				42.7%	21.5%	
Bowel function				35.9%	16.5%	
Respiration				34.5%	12.1%	
Urinary function				31.9%	18.2%	
Circulation				30.2%	33.2%	
Nutrition				30.2%	21.6%	
Neuro-musculo-skeletal function				30.0%	25.0%	
Caretaking parenting				25.8%	14.6%	

TABLE 33 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE PF

Client profile pf (palliative care clients & frail elderly)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	35.8	50.1	15.0	5.3	43.4	154.9
Total number of hours of care	375.6	889.4	154.4	55.0	409.3	1416.5
Mean number of hours of care per week	15.4	18.3	9.4	5.0	18.5	50.6
Total number of visits (excluding 3rd party)	298.6	497.7	108.0	39.0	321.5	1176.1
Mean number of visits per week	12.8	8.9	10.3	6.2	17.6	31.0
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% pf	% all groups	
Personal care				78.2%	60.7%	
Medication regimen				51.5%	40.0%	
Skin				47.4%	40.8%	
Circulation				38.4%	33.2%	
Nutrition				32.9%	21.6%	
Pain				32.6%	21.5%	
Bowel function				30.2%	16.5%	
Urinary function				27.3%	18.2%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Neuro-musculo-skeletal function				16.6%	25.0%	

TABLE 34 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE PH

Client profile ph (palliative care clients & hospital discharged)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	11.7	17.0	5.7	1.9	14.1	42.3
Total number of hours of care	157.3	266.7	75.8	30.3	171.1	583.4
Mean number of hours of care per week	18.9	20.7	11.4	5.7	23.1	67.7
Total number of visits (excluding 3rd party)	121.0	180.4	59.0	22.0	137.0	467.0
Mean number of visits per week	14.3	10.0	11.7	7.0	19.2	35.0
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% ph	% all groups	
Personal care				74.6%	60.7%	
Medication regimen				47.0%	40.0%	
Skin				42.7%	40.8%	
Pain				41.3%	21.5%	
Bowel function				40.2%	16.5%	
Urinary function				31.0%	18.2%	
Digestion-hydration				27.0%	8.4%	
Nutrition				26.5%	21.6%	
COMMON ACTUAL PROBLEMS > 25 % prevalence for all clients						
Circulation				21.7%	33.2%	
Neuro-musculo-skeletal function				17.3%	25.0%	

TABLE 35 AMOUNT OF CARE AND ACTUAL PROBLEMS FOR PROFILE R

Client profile R (rest)						
AMOUNT OF CARE						
	mean	SD	median	Interquartile range (IQR)		
				25%	75%	95%
Total duration of care episode (weeks)	39.9	53.2	14.4	3.9	58.3	154.4
Total number of hours of care	365.1	720.0	115.0	24.2	390.9	1585.5
Mean number of hours of care per week	8.9	12.0	5.4	3.0	9.9	39.7
Total number of visits (excluding 3rd party)	349.4	744.8	75.0	23.0	314.3	1684.2
Mean number of visits per week	10.6	7.9	8.3	4.9	14.4	28.2
ACTUAL PROBLEMS > 25 % prevalence within this group						
				% R	% all groups	
Personal care				68.8%	60.7%	
Medication regimen				53.9%	40.0%	
Skin				45.9%	40.8%	
Circulation				35.4%	33.2%	
Cognition				33.9%	18.1%	
Nutrition				32.4%	21.6%	
Neuro-musculo-skeletal function				27.9%	25.0%	
Pain				27.6%	21.5%	
Urinary function				27.3%	18.2%	
Bowel function				26.1%	16.5%	
Caretaking parenting				25.1%	14.6%	