Explanatory model for nursing and care 2007

Summary

Population ageing is expected to lead to a marked increase in the demand for and take-up of care services in the coming years. Older persons mainly make use of home care services, nursing homes and residential care homes, collectively referred to here as ‘nursing and care’. The Dutch Ministry of Health, Welfare and Sport (VWS) is consequently interested in the trend in nursing and care in the coming decades. This study presents forecasts of the demand for and use of nursing and care services up to and including the peak in the ageing process (2030). It is an update of forecasts presented in 2004 (see Timmermans & Woittiez 2004a and b). The present study incorporates new data, and a number of changes resulting from this have been incorporated in the model. This report describes the data used, the model and the estimates.

Potential demand and take-up

The central question addressed in this study is: ‘How will the demand for and take-up of nursing and care develop between 2006 and 2030?’ It should be stated immediately here that demand and take-up are two different variables. Take-up by definition means there is demand, but the existence of demand does not necessarily lead to take-up. Demand can be defined in various ways (see Schellingerhout 2007). This study takes ‘potential demand’ as a starting point: people who, because of their impairments, are in theory eligible for publicly funded care.

The different care products that fall within nursing and care can be divided into three groups: self-organised care (informal care, private help); publicly funded care paid for pursuant to the Social Support Act (WMO) (household assistance); and publicly funded care paid for under the Exceptional Medical Expenses Act (AWBZ) (home-based care or residential care). Home-based care and residential care can in turn each be subdivided into a number of care products. The most important home-based care products are personal care and nursing care. The main distinction drawn in this study for residential care is that between rest home care and nursing home
People often use or demand combinations of care products: ‘plus packages’. The naming of these packages is based on the ‘intensity’ of the care, ranging from informal care (the lightest form) to nursing home care (the most intense).

Data
Three datasets were used for the study: a survey of people living independently (Amenities and Services Utilisation Survey, AVO2003), a survey of residents of residential care homes and nursing homes (Elderly People in Institutions Survey, OI12004) and files from the CIZ care needs assessment centres. Since these databases contain no information on cognitive impairments, our study focuses mainly on physical impairments. The databases cover the period 2003/2004 and were not calibrated for the year 2006 using external sources, since no absolute figures are presented in this study.

We concentrate in this study on the 10 million people in the Netherlands aged 30 years and older. The vast majority of this group (90%) make no use of care provisions. Of the remainder, 6% use publicly funded care and 4% use only informal care or private help. Breaking down publicly funded care further reveals that more than 3% use only household assistance (provided under the WMO), that around 1.5% receive other forms of care at home (funded pursuant to the AWBZ), such as nursing or other care, and that the remaining 1.5% receive inpatient care.

Care is often received in combinations. For example, a quarter of those receiving household assistance also receive informal care. Similarly, half the people receiving AWBZ-funded care also receive household assistance.

The potential demand for publicly funded care is considerably greater than the actual use (17% and 6%, respectively). Roughly 11% of this group have a need for care at home, while 6% require inpatient care.

Models
Two models are used, one for the potential demand for care and one for the take-up. Multinomial logit analysis is used in both cases. The potential demand is analysed in two stages. The first step involves looking at whether someone has a potential demand, while the second step analyses the choice made by those with a potential demand between different care packages. These two steps are necessary, because

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1 This is because the data on residential care are based on surveys of residents of care and nursing homes. For this reason, we make no distinction in this study between care without treatment (delivered mainly by residential care homes) and care with treatment and bracket delivered mainly by nursing homes, but instead refer to rest home care and nursing home care.

2 In the next report, which will present a volume estimate, the data will be calibrated.
the information on potential demand comes from two data sources. Only one step is needed to analyse the take-up, because this information is contained in a single database.

Determinants
The determinants ‘explain’ why someone has a need for or uses a particular care product. The determinants can be divided into four groups: health characteristics, demographic characteristics, socioeconomic characteristics and forms of support. The relationship between the potential demand for and take-up of care on the one hand and the determinants on the other together shape the trends in the determinants, in the potential demand and in the take-up.

Health and demographic characteristics play an important role in the use of care packages. The role played by degree of urbanisation and education level is variable, while presence of diseases and income have relatively little effect on care use. Not surprisingly, we find that poor health increases the likelihood of potential demand for and use of care. Potential demanders and users more often live alone. A high income or education level increases the probability of a potential demand for care. Having a high income increases the likelihood of the use of informal care, but reduces the probability of residential care.

Trends in determinants
The number of people aged over 30 is forecast to grow by 8% up to the year 2030. Population ageing will continue, and up to 2030 there is likely to be a (relatively) strong increase in the number of 65-84 year-olds in particular. The proportion of single persons in the elderly population will also increase markedly. As regards health characteristics, the prevalence of diabetes is expected to show the strongest increase (+73%), while the number of cases of cancer, heart disease and nervous disorders will also rise sharply (+25%). The education level of older persons is also rising steadily; the same is also true of the rest of the population, though the rise is less marked.

Forecasts

Potential demand
The potential demand for all care products will be 30% higher in 2030 than in 2006. The growth in the number of potential demanders will thus be much greater than the increase in the population size (8%); this is due to population ageing. The ageing process also means that potential demand for residential care will grow slightly more strongly than the potential demand for home-based care: the biggest growth

3 Based on projections by Statistics Netherlands (CBS).
is expected in admissions to nursing homes (+45%). Demand for care at home will increase by around 30% for almost all provisions, with only demand for treatment and rehabilitation support lagging behind (+15%), primarily because this is chiefly a provision for young people.

Take-up
The growth in the take-up of care will lag slightly behind the rise in potential demand and is expected to be 26% higher in 2030 than in 2006. In home-based care, the growth in the use of informal care and household assistance will be somewhat slower.

The forecasted increase in the take-up of care is much higher than the growth in the population (8%). This is due to population ageing, which is also likely to drive up take-up of residential care sharply (+32%) – though we also expect to see a steep increase in home-based care (+25%). Household assistance funded under the WMO is projected to rise more modestly, by 22%, probably because older persons in the future will more often opt for private care (+58%), chiefly as a result of the increase in education level and the associated rise in income.

Comparison with earlier forecasts
These forecasts differ somewhat from those presented in Timmermans & Woittiez (2004a and b). The potential demand for all care packages is slightly lower; the take-up of home-based care is slightly higher and the use of inpatient care slightly lower. This is due mainly to the fact that the population forecast used is 4% lower than last time and that the trends in diseases are much lower.

Further research
At the request of VWS, this model will be developed further in the future. Consideration will be given to the need for a different definition of potential demand. The influence of the patient contribution will also be explicitly incorporated in the model and estimates will be made of the number of hours of care rather than the number of persons. This will make it possible, in addition to a forecast of the number of persons who will use care funded under the AWBZ and the WMO, to gain an insight into the trend in costs, since persons who (choose to) use fewer hours of care will cost less than persons who receive many hours of care.