Letters to the Editor

Pneumonia: projected age-related needs for hospital services in Finland

Sir—Data on pneumonia-related hospitalization days during 1972–93 were collected from the hospital discharge register and population records maintained by Statistics Finland, which covers the entire population of Finland (5 million). The need for hospital services for patients with pneumonia in the coming decades was then evaluated on the basis of population forecasts, age-structure and time-series models.

In the age-structure model, the use of hospital services relative to age and sex was assumed to continue at the average level recorded between 1984 and 1993, and forecasts for the 21st century were made on the basis of population and age-structure changes.

The time series model was based on the age-specific numbers of treatment days and periods recorded for 1972–93. The forecast for the 21st century was calculated with respect to population data, and predicted changes on the basis of the age-structure and the use of hospital services.

For men, 12 519 pneumonia treatment periods were recorded in 1972 and 15 156 in 1993 (the figures for women being 8 518 and 11 402, respectively). According to the forecast based on age structure, the number will increase by 34% by the year 2010 and 53% by 2020, while the time series model predicts rises of 40 and 60% (Figure 1). Among men aged over 64, the number of treatment periods will increase by 69% by the year 2010 and 124% by 2020 (52% and 73% for all those aged over 64 years), while the time series model gives increases of 81% by the year 2010 and 144% by 2020 (60% and 98% respectively for all those aged over 64 years).

A total of 179 529 days of pneumonia treatment were recorded for men in 1972 and 164 437 in 1993 (the figures for women being 123 859 and 144 713, respectively). According to the forecast based on age-structure, the number of treatment days will increase by 43% by the year 2010 and 67% by 2020, while the figures for the time series model forecast are 45% and 58%, respectively. Likewise the number of treatment days among men aged over 64 years is predicted in the age-structure model to increase by 70% by the year 2010 and 125% by 2020 (53% and 89% for all people aged over 64 years), while the time series model suggests a rise of 69% among men over 64 years by 2010 and 112% by 2020 (53% and 73% for all people aged over 64 years).

The average treatment time for pneumonia was 14.4 days in 1972 and 11.6 days in 1993. Between 1972 and 1993, the treatment time for patients aged less than 65 decreased from 12.7 days to 6.9 days and the treatment time for patients over 64 years decreased from 17.9 days to 14.3 days. The model based on age-structure predicted average treatment periods of 13.0 days in 2010 and 13.3 days in 2020, while the time series model predicted 12.6 days and 12.1 days. According to the latter, the average for people aged under 65 years will be 8.9 days in both 2010 and 2020, while the averages for people over 64 years will be 14.5 days and 13.3 days, respectively.

According to the extensive hospital discharge register, which covers the entire country, the average duration of hospitalization in Finland was 12.2 days in 1972 but only 6.0 days in 1992 [1]. The trend has not been so rapid in the case of pneumonia, however, with reduction in treatment times seen only among those aged under 65 years. The results obtained here suggest that the duration of stay for people aged over 65 years is still long. Even if the decline in treatment times were to continue, as recognized in the time series model, little reduction can be expected in average pneumonia treatment times, as pneumonia patients themselves are becoming older and this in itself will presuppose longer treatment times.

World-wide, the incidence of pneumonia is 7–20 per 1000 and the admission rate is 6–16% [2–4]. In Finland the incidence is 12 per 1000 and 40% are admitted to hospital [5]. The high rate of admission in Finland may be due to traditions of treatment, the long distances between home and hospital and the number of hospital beds.

Prediction of the demand for hospital services for the treatment of pneumonia indicates that ageing of the population will increase this demand considerably, so that overall need for treatment could double. No major changes are expected in treatment times and the
Letters to the Editor

need for hospital services will increase—especially for men.

**Keistinen Timo, Saunajakangas Pyry, Honkanen Pekka O, Tuuponen Tuul Department of Public Health Science and General Practice, University of Oulu, Aapistie 1, FIN-90220 Oulu, Finland**

1. Nawhi Health Care: overview of the population’s health situation, use of health services and resources. Health (Helsinki) 1994; 2.

Are new medical students interested in the introduction of public long-term care insurance in Japan?

**SIR—**In April 2000, mainly as a result of a consensus on the need for more long-term care resources for the rapidly ageing society and dissatisfaction with the current system, a public long-term care insurance programme will be introduced in Japan [1].

To assess their level of interest and knowledge of this area, I asked first-year medical students at Nagoya University to complete a questionnaire. The questions were: (i) ‘Do you know about the introduction of a public long-term care insurance system in the year 2000?’; (ii) ‘Do you know about the care managers in the system?’; (iii) ‘Have you experienced the care of older members of your family?’ and (iv) ‘Are you interested in the care system for elderly people?’.

Students selected ‘yes’ or ‘no’ for each.

Out of 100 students, 90 (70 male and 20 female) responded. Twenty (22.2%) knew about the introduction of long-term care insurance. Eighteen (20%) knew about the care managers. Only nine (10%) had experienced the care of members of their family. Finally, 31 (44.3%) of the male students and 15 (75%) of the female students [in total 46 students (51.1%)] expressed an interest in the care system of the elderly people, indicating that female students show more interest than male students in this area (95% CI 0.08–0.53, \( P < 0.05 \)).

I was rather disappointed to find that even fresh (and in particular male) medical students had little interest in the elderly care system in Japan. I hope that their attitudes will change during their 6 years of student life.

**Michitaka Naito**

Department of Geriatrics, Nagoya University School of Medicine, Nagoya 466–8550, Japan