

Nursing homes in 10 nations: a comparison between countries and settings

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Abstract

Aim: to illustrate demographic differences and recent trends in the provision and structure of long-term care systems in the 10 countries participating in the Resident Assessment Instrument studies (Denmark, France, Iceland, Italy, Japan, The Netherlands, Sweden, Switzerland, the UK and the USA).

Method: data were assembled from government documents, statistical yearbooks and articles from journals; supplemental data on long-term care and nursing homes were solicited from colleagues.

Results: All 10 countries are developed nations with high life-expectancies. Sweden has the oldest and Iceland the youngest population in this study, with Japan showing the highest ageing rates over the next three decades. Between 2 and 5% of elderly people reside in nursing homes. Interestingly, Iceland, as the 'youngest country' in this study, has the highest rate of institutionalization (living in residential or nursing homes), while the 'oldest country' (Sweden) has a low rate of institutionalization. In all countries the support ratio (number of elderly people per 100 younger adults) is high and increasing rapidly.

Conclusions: no relation appears to exist between the ageing status of a country and the number of nursing home beds. Institutionalization rates among the nations studied differ even more, due at least in part to differences in the organization and financing of long-term care services, in the amount of responsibility assumed in the care for disabled elderly people by each sector and the availability of long-term care beds. Facing a rapid ageing of their population, many countries are in the process of health and social care reforms.

Keywords: ageing population, health care reforms, institutionalization, long-term care, nursing homes, residential homes, support ratios

Introduction

Demographic trends and age-related morbidity rates are important determinants of the need for long-term care services, such as nursing homes. In addition, a host of socio-cultural factors, including the availability and type of housing, the structure of families and the preferences of elderly people and their caregivers significantly influence both the demand for and the availability of long-term care services. The increase in the numbers of elderly people (65 years of age and

over) and especially the oldest old (those 80 years of age and over), who generally have a greater level of disability secondary to multiple chronic diseases, has resulted in most developed nations experiencing a striking growth in the demand for long-term care over the last two to three decades. It is projected that there will be an even greater need for such services in the future [1].

The policy responses to this demand by health care and social services agencies vary greatly from country

to country. They depend on the structure and organization of the health care system, the availability of community resources, the mechanism of funding care by both the government and the private sector and even on the degree of collaboration between medical and social services. Hence, it can be expected that the use of nursing homes will vary considerably among countries discussed here and differences will exist even within a single nation. It should benefit each country to appreciate more fully how nursing homes are utilized in other nations.

The objective of this paper is to describe and compare the long-term care systems in 10 countries participating in studies employing the Resident Assessment Instrument (RAI) and to place them in the context of the changing population dynamics in each country. This information provides a background to place into a broader context the research data and results from the specific RAI analytic studies presented elsewhere in this supplement.

Methods

We assembled data from government documents, statistical yearbooks and journal articles. Data on population characteristics were obtained from each country's national bureau of statistics or its equivalent, when possible. In addition, a questionnaire was sent to the authors of all papers in this supplement, requesting data on their countries' long-term care system. This questionnaire included items on the definition of terms, the characteristics and functions of nursing homes and policies pertinent to patient care. The participating countries in this study were Denmark, France, Iceland, Italy, Japan, The Netherlands, Sweden, Switzerland, the UK and the USA. These countries have been selected because they have one or more members in the international research group *interRAI* of the RAI and these members were able to provide data of sufficient quality for the questionnaire.

Results

Demographic indicators

Demographic changes result from both a decrease in fertility rate (live births per woman) and an increase in life expectancy [1, 2]. Fertility rates vary considerably among the countries, with the highest rate in Iceland, followed by the US and Sweden, and the lowest in Japan and Italy. In all 10 nations under study, life expectancy is high, with Japan having the world's highest from birth and beyond 65 years (Table 1) [1–4]. Of all the nations considered, Denmark has the lowest life expectancy for women, both at birth and at age 65. It also has the lowest life expectancy for men at age 65.

All 10 countries have small population growth rates, a reflection of the fertility rate, the mortality rate and

the net rate of migration. The growth rate in Iceland, the Netherlands, Switzerland, Sweden and the USA has been between 0.7 and 1.1% annually, while in Japan, the UK and Italy it has been only 0.3%. Sweden is the 'oldest' country in the study, and the USA, Iceland and the Netherlands are the 'youngest' (Table 1) [1–4]. The most rapid ageing of the population [the increase in the percentage of the elderly population (≥ 65 years) between 1993 and 2025] will be experienced by Japan (almost 100%). Most other countries show in that period an increase of the elderly population of around 50%, with the exceptions of the Netherlands (an increase of 70%) and Sweden and the UK (35%). Sweden, Denmark, UK, Switzerland and France have the highest percentage of oldest old at present (around 4% of their population is ≥ 80 years). In all countries this age group has about twice as many women as men. In 2025 the category of the oldest old in Japan, Sweden and Italy will comprise 7% or more of the population (Table 1).

Support ratios, useful both to clinical administrators and national policy makers, indicate the number of elderly people who depend on younger adults (elderly and parent support ratios) or on a member of their own age group (oldest old support ratio; Table 2) [1–4]. The elderly support ratios reveal that at this time there are about 20–25 elderly people for every 100 individuals aged 20–64 years, with marked increases in this ratio over the next 30 years especially in Japan (a 2.2-fold increase) and the Netherlands and Italy (a 1.8-fold increase). The parent support ratios (the number of people 80 years of age and over per 100 people 50–64 years old) in most of the countries studied also range from 20 to 25, with considerable variation. Nonetheless, all countries have shown approximately a doubling of the parent support ratio over the past two decades, highlighting the potential need for elder care responsibility even among those at or near retirement age themselves. In countries like Japan and Sweden the parent support ratio will have increased to about 40 by the year 2025. On average, at present about one of every four elders is at least 80 years of age (the oldest old support ratio), apart from in Iceland. In 2025 in Japan, Sweden and Italy one of every three elders will be in this subpopulation (Table 2) [1–4].

Descriptive definitions

When making comparisons, it is essential to note that there are no universally accepted definitions for the different long-term care services. Based upon the characteristics of individuals residing in long-term care facilities, we adopted the following definitions for purposes of comparison:

1. A *nursing home* is an institution providing nursing care 24 h a day, assistance with activities of daily living and mobility, psychosocial and personal care, paramedical care, such as physiotherapy and occupational therapy, as well as room and board.

Table 1. Future population growth (years 2010 and 2025), life expectancies (1992/1993) and number of elderly women to 100 elderly men (1993)

Characteristics	Country									
	USA	Japan	Iceland	Sweden	Denmark	Netherlands	UK	Switzerland	France	Italy
Total population (x1000)										
1993	256 556	124 764	265	8745	5197	15 341	58 227	6969	57 804	59 960
2010	298 109	130 480	307	8728	5310	16 239	59 617	7717	61 001	59 089
2025	334 216	125 279	337	8565	5295	16 276	60 032	7786	61 997	57 075
Elderly (%)										
≥65 years										
In 1993	12.7	13.5	10.9	17.6	15.4	13.1	15.8	14.6	14.7	15.5
In 2010	13.3	21.3	11.4	19.6	17.8	15.4	17.1	16.6	17.2	19.8
In 2025	18.7	26.7	16.6	23.7	23.3	22.2	21.5	22.4	22.6	24.1
≥80 years										
In 1993	2.9	2.8	2.6	4.5	3.9	3.0	3.9	3.9	4.1	3.6
In 2010	3.8	5.7	2.9	5.9	4.9	3.8	5.1	4.2	5.6	5.8
In 2025	4.3	9.3	3.6	7.5	6.8	5.0	6.3	5.6	6.3	7.5
Life expectancy (1992/93)										
From birth										
Male	72.1	76.0	75.7	75.5	72.4	74.0	73.6	74.3	72.9	73.5
Female	79.0	82.0	80.9	80.8	77.8	80.0	79.0	81.2	81.1	80.2
≥65 years										
Male	15.5	16.4	16.1	15.4	14.3	14.7	14.4	15.7	15.7	14.8
Female	19.1	20.6	19.4	19.2	17.8	19.2	18.1	19.9	20.1	18.8
Number of women to 100 men in 1993, by age category										
≥65 years	150	145	120	135	140	150	145	150	150	145
≥80 years	210	195	205	185	205	230	230	215	220	205

Sources: National Bureaux of Statistics; An Aging World II 1993; Recent Demographic Developments in Europe 1994; United Nations Demographic Yearbook 1991; The Sex and Age Distribution of the World Populations, 1994 Revision [1-4].

Table 2. Support ratios for participating countries calculated for the years 1993, 2010 and 2025

Support ratio/year	Country									
	USA	Japan	Iceland	Sweden	Denmark	Netherlands	UK	Switzerland	France	Italy
Elderly^a										
1993	22	22	19	31	25	21	27	24	25	25
2010	22	37	20	34	30	25	29	27	27	34
2025	34	49	29	43	42	39	39	40	38	44
Parent^b										
1993	23	15	21	29	24	20	26	24	27	20
2025	25	45	20	38	32	22	30	25	32	32
Oldest old^c										
1993	23	21	23	26	25	23	25	27	28	23
2010	28	27	26	30	26	25	30	25	30	28
2025	23	35	21	32	27	22	30	25	24	32

Sources: National Bureau of Statistics; An Aging World II 1993; Recent Demographic Developments in Europe 1994; United Nations Demographic Yearbook 1993; The Sex and Age Distribution of the World Populations, 1994 Revision [1-4].

^aNumber of people 65 years and over per 100 people aged 20 to 64 years.

^bNumber of people 80 years and over per 100 people aged 50 to 64 years.

^cNumber of people 80 years and over per 100 people aged 65 years and over.

Availability of these different types of care (especially paramedical care) may vary from facility to facility and from country to country. Nursing homes mainly serve frail elders with chronic diseases, disabilities, either physical or mental (mainly dementia) or both. These facilities usually provide care which can be characterized as the 'highest level of care', with residential homes offering lower levels of care.

Hostels (residences with limited assistance for individuals with deficits in the activities of daily living) and sheltered housing are excluded from the nursing home category. Also excluded are hospitals which provide very intensive medical services, although in some countries frail elders with long-term care needs receive their care in hospitals.

Table 3. Percentage of people ≥ 65 years living at home and in institutions (prevalence data; different years in the early 1990s)

Place of residence	Country									
	USA	Japan	Iceland ^a	Sweden	Denmark	Netherlands	UK	France	Italy	
Own home, independently or with informal and/or formal care (including domestic help and home nursing)	-	94.0	87.0	94.0	85.0	90.0	93.0	94.0	96.0	
Residential homes, homes for the aged, old people's homes (low levels of care)	1.5 ^b	0.5	5.0	3.0	10.5 ^c	6.5	3.5 ^d	4.0	1.0	
Nursing homes (high levels of care)	5.0	1.5	8.0	2.0	4.0	2.5	2.0	- ^e	<2.0	
Hospitals (intensive medical care)	-	4.0	-	<1.0	<1.0	<1.0	1.5	-	1.0	

Source: Postal questionnaires to RAI-study participants; NIVEL report; fact sheets on Sweden [6, 7].

^aIncluding only elderly of ≥ 67 years.

^bIncluding only residential care homes and not group facilities such as board and care homes.

^cIncluding some sheltered housing and other special dwellings for elderly.

^dIncluding some young disabled.

^eNo facilities described as nursing homes; 2% of elderly reside in nursing-home-like facilities.

2. A *residential home* for elderly people (home for the aged) is an institution providing living conditions adjusted to the needs of residents usually requiring no more nursing care than can be given by a visiting nurse. In general, admission results from an inability to manage at home because of difficulties with activities of daily living and instrumental activities of daily living. In some homes, assistance can be provided for some basic activities of daily living, including assistance with dressing, assistance with mobility from a private room to a communal room for meals and limited assistance with appliances such as urinary catheters. Usually, most care in residential homes is provided by nursing aides and personnel with little or no training. In many countries, residential homes are building complexes (apartment buildings) where elders reside in private apartments or single rooms. Most residents can provide their own cold meals.

Numbers living in institutional settings

Table 3 compares institutionalization rates (the percentage of elderly people living in residential or nursing homes) for the 10 countries [5, 6]. Iceland and Denmark (more than 12%) and the Netherlands (9%) show the highest institutionalization rates. Japan and Italy have only a few nursing homes (but Japan does have a large number of elders in hospitals). France has no facilities that meet our definition of 'nursing home'. In the nine remaining nations, between 2 and 5% of the elderly population reside in nursing homes. In most countries, 90–95% of elders remain at home, with many receiving formal and informal support services.

Nursing homes in 10 countries

USA

The USA has approximately 21 000 nursing homes with almost 1.5 million elderly residents (53 beds/1000 elderly people). They represent the third largest segment of the US health care budget, with total expenditures of nearly US\$ 60 billion in 1991 (one bed is equivalent to an expenditure of approximately US\$ 40 000/year). Of that amount, 47% comes from the Medicaid programme, the joint federal-state programme for the poor, 41% from personal sources, 2% from private insurance and the rest from other sources.

At present, residents of nursing homes in the USA may be divided into two groups: a relatively small number of people requiring a short stay, who are usually transferred from hospitals and require rehabilitative services or are at the end of life, and a much larger group of individuals needing long-term care because of impairments in physical functioning and cognition. About two-thirds of all nursing home

residents are cognitively impaired and have memory, orientation and/or decision-making problems. Recently, some nursing homes (approximately 10%) have established special care units which are designed to be used for unique purposes, for example, for sub-acute care, for victims of head trauma or for those with Alzheimer's disease or requiring hospice care [8].

Japan

In Japan, the only facilities that provide care comparable to that available in US nursing homes are the 'special homes for the aged'. There are 2800 of these, with 196 000 beds (12 beds/1000 elderly people). However, this incorrectly assumes a low rate of institutionalized elderly people. It must be appreciated that two other types of facilities also provide long-term care: (geriatric) hospitals and 'health facilities for the elderly'. The 800 health facilities for the elderly, with 69 000 beds, were established in 1988 and are intermediary level facilities [9, 10].

All three types of facilities in Japan function as nursing homes according to our definition. Almost 6% of Japan's elderly people are institutionalized: two-thirds in hospitals, over one-quarter in special homes for the aged and health facilities for the elderly and less than a half percent in residential homes. One-third of elderly people (32%) in hospitals remain there for more than a year. This unusual circumstance arose as a result of public pressure that eliminated the co-payment rate of 50% for medical care. The lack of financial barriers for hospital-based long-term care, together with the absence of the negative image of indigent care in hospitals and the lack of a general practitioner gatekeeper resulted in hospitals being extensively used for long-term care purposes [11].

Iceland

According to Icelandic sources, 13% of the elderly population live in 'nursing homes'. However, there are two levels of homes: skilled nursing homes (2060 beds; 69 beds/1000 elderly people), where 8% of those 67 years of age and over reside, and unskilled nursing homes (1210 beds; 41 beds/1000 elderly people), where the remaining 5% reside. The unskilled level of care is similar to residential care in the USA. Iceland has experienced a maldistribution of nursing home beds, with a surplus in the countryside and a relative shortage in Reykjavik, the capital city.

In order to regulate access to nursing homes, a pre-admission evaluation programme was introduced in 1992. A Certificate of Need, completed by a geriatric team ('indication committee') of a physician, nurse and social worker, is required for an individual to be admitted to a nursing home. Before the introduction of this assessment tool, nursing home managers could

admit whoever they wished. Discharge policies are currently being developed, as less than 2% of nursing home residents ever go home [12].

Sweden

Of the countries studied, Sweden has the highest percentage of elderly people but a relatively low ratio of nursing home beds to elderly subjects, averaging only 21 nursing home beds per 1000 older people (in absolute numbers: 31 000 nursing home beds). As a result of the 'Adel Reform' of 1992 (based on reports of a commission of inquiry on the situation of old people), the municipalities assumed responsibility for the social services and health care needs of elderly people. Since then there has been a more efficient use of services and beds, with an increase in transfers of older people from acute hospitals to nursing homes. As a result, more patients with severe chronic illnesses, dementia and terminal illnesses are being admitted to nursing homes. In addition, hospice care, respite care, short-term rehabilitation and care for demented people is becoming more common in some homes, while others have been developed mainly as a 'housing' alternative, comparable to residential homes [6].

Denmark

In Denmark, large numbers of nursing homes were built during the 1950s and 1960s, when 'growth without policy' prevailed [13]. With a national emphasis on independence and self-determination, in 1987 the parliament adopted the 'Ageing Package', based on the principles of continuity of care, autonomy and self care. As a result, construction of nursing homes and sheltered housing was frozen and permanent home health care was provided free of charge for up to 24 h each day if deemed necessary. Nursing homes continue to be closed at the rate of approximately 10% per year. In 1993 there were 39 000 beds in a total of 1074 nursing homes (48 beds/1000 elderly people), down from 49 750 beds in 1983. The current turnover rate (new nursing home residents per 100 beds per year) is 50 and the average length of stay is 2 years. The more modern nursing homes in Denmark have a single room with a bathroom facility and a small hallway. Co-payment for care is capped at 60% of the income of the resident, who is not required to spend their capital [13].

All admissions to nursing homes require an assessment, and increasingly institutional beds are being used for those with the most demanding requirements, especially those who have a dementing illness. Treatment of the resident in the nursing home is usually the responsibility of the general practitioner, the primary care provider for the Danish health care system and the gatekeeper to more intensive care.

The Netherlands

The Netherlands has 325 nursing homes with 53 800 beds (26 beds per 1000 elderly people). Approximately half of these are used by physically disabled residents and half by those afflicted by psychogeriatric illness, mostly dementia. Each type of resident is maintained on a separate ward. Residents are admitted to nursing homes for several reasons: 50% require long-term institutional care, 40% use predominantly rehabilitative services, 5% have terminal illness and another 5% require special services such as the care needed by comatose people and those on respirators. Many nursing homes in the Netherlands also provide respite care.

The rehabilitative services provided by Dutch nursing homes include physical therapy, occupational therapy and speech and activity therapy (six paramedics per 100 beds). Such intensive rehabilitative efforts result in approximately one in three residents (35%) being discharged home and a turnover rate of 75/100 (average length of stay almost 1.4 years). In addition, medical care is provided by specially trained physicians, who are employed by the nursing home, with an average ratio of one full-time doctor per 100 beds. In 1995 there were 850 registered nursing home physicians. As in Denmark, the general practitioner is the cornerstone of the health care system in general [14].

All nursing home expenses are paid under the Capital Act AWBZ or Exceptional Medical Expenses Act of 1968, irrespective of the resident's income or personal financial resources. The AWBZ payments constitute more than 90% of all reimbursements to nursing homes, with each bed costing approximately US\$ 60 000 per year—one and one half times the average cost of a nursing home bed in the USA. Co-payments by residents (income-based) are usually several hundred dollars per month but never exceed US\$ 1600 (and very rarely reach this maximum). The resident is not required to pay such fees from his or her own capital. Admissions to nursing and residential homes require approval of an 'indication committee', thereby centralizing decisions as to the use of institutional services [15].

UK

A marked increase in the number of nursing home beds and the use of residential care took place in the 1980s in the UK. At that time, the major source of funding for long-term care was the social security system rather than the health or social service agencies. There was as a dearth of community care options. As a result, reimbursement sources rather than the needs of individuals tended to dictate the use of services. The increase in nursing home places tended to be associated with the availability of funding on the

basis of financial assessment, rather than an actual need for nursing home services. In the late 1980s, major reforms in both health and community care followed the issuance of a paper, *Working for Patients*, and the policy document, *Caring for People*. This document allowed for the provision of support for carers, ensured the formal assessment of the needs of those seeking care (assessment prior to placement) and introduced case management. From that point forward, placements in residential and nursing homes were dictated by need rather than financial eligibility.

Today, the UK has 168 200 beds in private nursing homes and 15 000 in not-for-profit nursing homes, resulting in approximately 20 beds per 1000 elderly people. There are 5088 nursing homes. Long-term care services in hospitals under the National Health Service have been reduced substantially over the last two decades. At present, there are 37 600 beds in hospital long-stay geriatric wards and 22 300 beds in hospital wards for those with a dementing illness (in total seven beds/1000 elderly people). Post-acute care and rehabilitation for elderly people are provided predominantly in hospitals, since most UK nursing homes have no physical or occupational therapy services. Many nursing homes do, however, provide respite care, although accommodation and service levels vary considerably. As in Denmark, medical care in nursing homes is provided by a general practitioner [16].

Switzerland

Switzerland is divided into 26 cantons, each with its own unique health care system, and as a result, country-wide data on long-term care are difficult to obtain. For 1991, it was estimated that there were 72 000 beds in nursing homes (approximately 70 beds/1000 elderly people) with an additional 42 000 beds in general hospitals directed to the care of geriatric patients and 12 000 beds in psychiatric hospitals. With a turnover rate of 30 per 100 (the average length of stay in nursing homes is >3 years), it is apparent that some nursing homes function more or less as residential facilities. Co-payments are relatively high, with at least 50% or more of the costs borne by the individual, although there are considerable differences among the cantons. If co-payments exceed current earnings, including pensions, public assistance benefits are provided. Today, with more emphasis on home care, the growth in the nursing home sector has almost ceased [17].

France

France has no facilities deemed nursing homes. Care of this character is generally provided in long-stay hospitals under the hospital authorities (representing 70 000 beds or eight beds/1000 elderly people) and in

the medical care sections of retirement homes (representing 96 000 beds or 11 beds per 1000 elderly people). Approximately 2% of elderly people reside in these two facilities. The retirement homes are under the jurisdiction of the social service agencies with the medical care component supported by health insurance (the sickness insurance funds), and paid for at a flat rate (e.g. for nurses and auxiliary nurses). Admission to the medical care section is determined by the medical advisor to the sickness insurance funds. Patients pay for board, with an average cost of US\$ 50 and a maximum of US\$ 120 per day. If people needing such care are unable to afford it, welfare assistance is available. Demented elderly people are usually placed in psychiatric and long-stay hospitals [18].

Approximately 4% of the elderly population reside in retirement homes or private commercial residences bringing the total institutionalization rate (here used in a broader sense) to around 6% of the elderly population. At present, there are recommendations (the Boulard and Schopflin reports) for reforms in institutional care with a focus on the need to increase the number of beds in long-stay hospitals and medical care units, the elimination of multiple differences in the legal status of different kinds of institutions, the development of a standard rate in different kinds of institutions and a conversion of some psychiatric wards into skilled nursing facilities for demented elderly patients [19].

Italy

Italy has a national health care system with universal coverage, modelled on the UK's National Health Service [20]. There is, however, a major difference, in that no provision was made for the long-term care of elderly people. There is no uniform policy and there are literally hundreds of local solutions to meet the needs of elderly people. The availability of nursing home beds (on average 23 beds per 1000 elderly people) shows great variation throughout the country, with up to 50 beds per 1000 elderly people in some northern industrialized regions. Most nursing homes provide little other than custodial care, with few services such as physical therapy. In addition, home care is poorly developed. Thus, in Italy the care of elderly people is almost exclusively the concern of families. When families are no longer able to manage, elderly people are admitted to acute care hospitals. Approximately 60% of the patients on an internal medicine hospital ward are 65 years of age and over. In 1992, a national health plan proposed converting all existing older people homes and sheltered housing into skilled nursing homes, in addition to the construction of 140 000 new skilled nursing home beds and the implementation of an integrated home care system.

Discussion

All countries in this study are developed nations with high life-expectancy. All are experiencing a considerable ageing of their population, especially of the oldest old (those 80 years of age and over), that segment of the population which has the highest disability rate as a result of both age and chronic illness. Except for Iceland, all countries belong to the top 20 'oldest' countries in the world. Japan, followed by Italy, will experience the most rapid ageing of the population in the near future [11]. As part of the ageing phenomenon, all elderly support ratios (those 65 years and over per 100 people 20 to 64 years of age) in the countries under study will increase markedly over the next three decades, indicating that elderly people of the future will be able to rely on fewer adults in the working age categories. With much higher parent support ratios in the coming decades, especially in Japan, Sweden, Denmark and Italy, the assistance from older adults (those 50–64 years of age) will also come under severe pressure. In addition, many older people will live alone, as the life expectancy of older women usually exceeds that of their husbands. The literature reveals that risk factors for nursing home admission include age, diagnosis, living alone, deficits in activities of daily living and availability of social and family support. Depending upon the country, the higher dependency factors have meant growth in the size and variety of the long-term care system, including institutional care. With the growing number of disabled elders in the future, each country must consider how best to support frail elderly people and how to organise a coherent long-term care system, in and outside of institutions.

However, at the moment, no relationship appears to exist between the ageing status of a nation and the number of nursing home beds available to its citizens or the rate of institutionalization (those living in residential or nursing homes). For example, Iceland, the youngest country in our study pool, has the highest institutionalization rate, while Sweden, the oldest country, has a low rate. Part of the explanation for differences in rates of institutionalization might result from variations in the interpretation of the definitions of residential homes and nursing homes, but such semantic differences do not totally explain the striking degree of variation. In addition, in some countries homes for elderly people need not be registered if their number of residents is low, indicating that institutionalization rates might be even higher than presented here. Differences in the organization of care systems (including the functions and use of nursing homes and the way in which other institutions, such as hospitals, are used for long-term care purposes), the use of different criteria for eligibility (e.g. based on financial terms, level of dependency, etc.) and, in some countries, the existence of an

'indication committee' for admission to residential and nursing homes might also explain some of the variations. Thus, definite conclusions cannot be drawn from these data.

Although some nations' nursing homes, for example those in the Netherlands, currently have well-developed rehabilitation programmes resulting in a high level of discharge to the community, others, such as those in Denmark, the UK and Italy, have no or only very limited rehabilitation available [14]. Hence, the functions of nursing homes in the different health care systems are not uniform. Nonetheless, despite the idiosyncratic characteristics of the facilities under study, many, if not most, residents of nursing homes will continue to have significant disabilities and efforts will likely need to be directed to the restoration and maintenance of the highest possible level of functional independence and the delay of progression of medical illness, wherever possible. Only then will each individual's autonomy be preserved and the quality of life of each resident improved. In addition, the nursing home sector will almost surely witness a greater need for use of nursing homes for specialized care, such as that required by individuals who are terminally ill or afflicted with Alzheimer's disease [8].

Payment systems for long-term care also show great variation. Long-term institutional care is usually paid for by either public (state or municipal) or private (insurance or personal resources) means in a manner strikingly idiosyncratic to each nation. Some government-financed programmes are means-tested or require a co-payment (for example in Italy, France, the USA, Japan). Some countries rely heavily on the tax revenues collected by municipalities and the state to pay for the care of all citizens (for example Denmark, Sweden). In Iceland and the Netherlands, people pay up to about US\$ 1000 per month from their pensions but there is no requirement to pay long-term care expenses from capital accumulated prior to retirement. France's system of payment is especially complex, including a mix of means-tested public funding, insurance plans and personal resources that depends upon the site of care and the service to be financed [19]. Private insurance programmes are not well developed in most nations in this study group. Although such programmes are under consideration as a way of funding long-term care to varying degrees in many countries (for example the USA, the UK, Switzerland), many European countries are still heavily reliant on the state and society for the financial basis of long-term care and will most likely do so in the future, albeit with higher private participation and a more selective indication policy with regard to the use of services.

As all countries look to the future [21], many are in the process of reforming their health and social care systems. Governments appear to be struggling to address the needs of their enlarging population of frail elders, especially those who require formal

long-term care. Consideration is being given to the transformation of some hospital beds to less acute beds (for example in the USA and France). There will need to be a change in the function of nursing homes so that they more effectively provide care to those with the greatest or most complicated care needs. Also in this respect, rehabilitation services will need to be emphasized in nursing homes. Some nations are also appreciating the need to increase home services (for example Sweden, Denmark, the Netherlands, France) [5] but, as care outside of institutions usually requires a mix of both traditional medical and custodial services, governments are understandably concerned about expending home care services to elderly people because of the risk of increasing the nation's financial liability beyond its means. The criteria for eligibility for such services are, of course, debated widely and efforts to co-ordinate the care provided in all settings, including more continuity of such care, are being actively pursued by many nations (for example Denmark, the Netherlands, Switzerland, Italy).

Additionally, it will be essential that services be less fragmented so that the most cost-effective service can be provided to each individual. Flexibility, co-operation with other health and social services, sharing of responsibilities for disabled elderly people and innovations in care will be required of the nursing home sector in every country, especially in the context of fewer resources and a future population with greater self-awareness of care needs [21]. Only then will the 'warehousing' of individuals be replaced by care which allows for more personal autonomy, increased privacy and the highest possible quality of care.

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