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HEALTH PLANNING FOR THE ELDERLY

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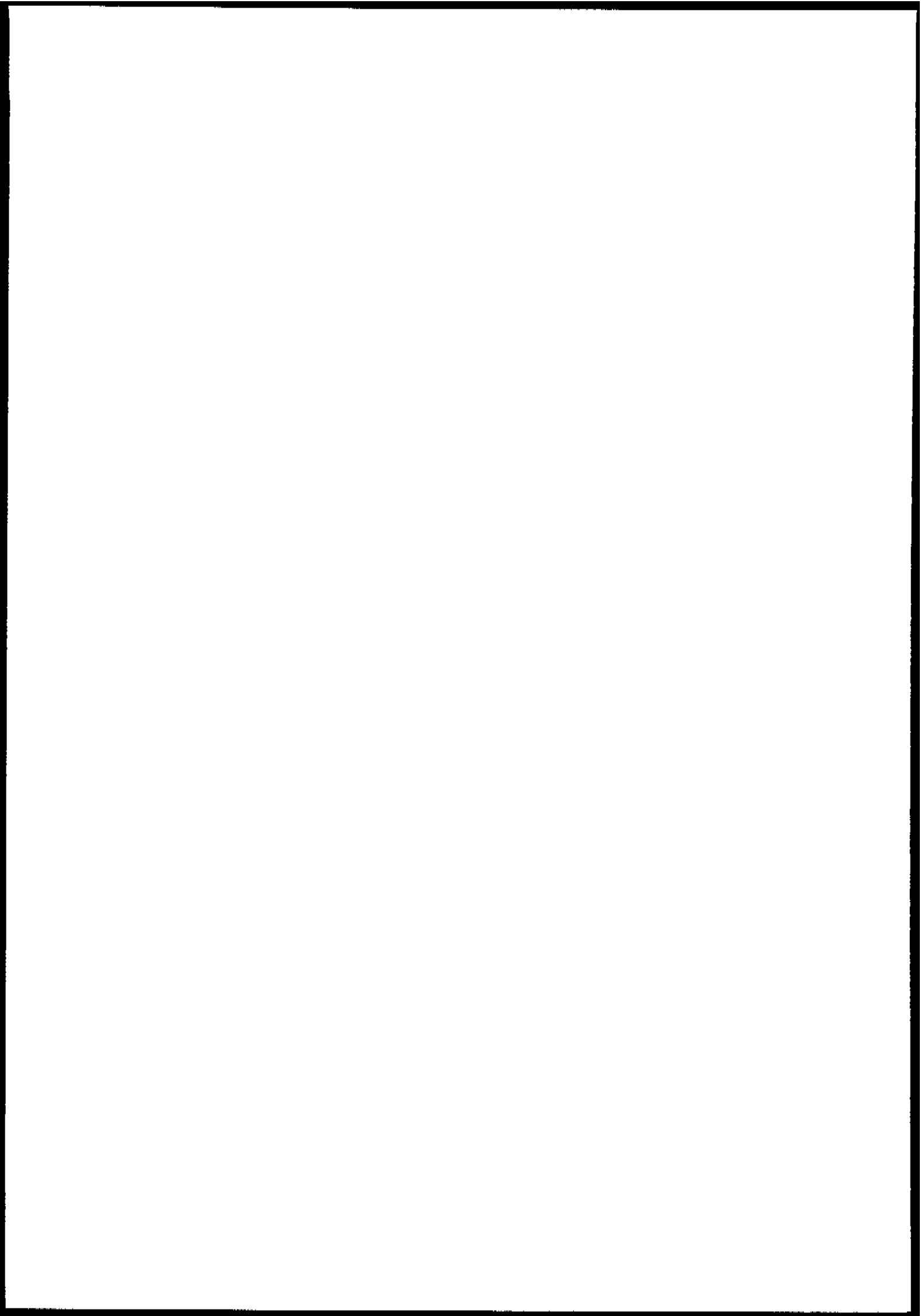
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INTRODUCTION

The Workshop which is reported in the following text provided an opportunity to exchange national experience in planning health care for the elderly, in the longer term. This national experience is described in country reports which are annexed.

Graphical displays of demographic trends in the elderly population by the year 2000 with implications for the health sector were demonstrated on an inexpensive computer. These displays were developed for the Workshop in order to facilitate planning health resource requirements for the elderly by the year 2000.

As a result of the Workshop, participants from 12 developed and developing countries (Annex 4) carried back to their own planning groups the experience of other countries in following innovative approaches and methodologies in planning health care of the elderly. This includes experience in quantifying the changes in health care provision that will flow from the increasing number of old and very old citizens.

The Workshop concluded with recommendations on the usefulness of micro-computers as an aid to making rational planning decisions on future health care provisions for the elderly.

1. NATIONAL EXPERIENCE IN PLANNING FOR HEALTH OF THE ELDERLY

The focus of national health plans is now on a long-term horizon, the year 2000, by which date the number of elderly persons will have grown faster than any other population group. Moreover, current projections assume continuation of current mortality patterns at higher ages, whereas epidemiological evidence suggests that these have considerable potential for improvement. A major implication in the size of the elderly population will be a rising prevalence of chronic disease, much of which is preventable through the early introduction of measures of health promotion. Under present policies, heavy utilization of services by the elderly is predicted with marked escalation of costly hospitalization. Changing societal attitudes have consequences for the quality of life of the elderly and the changing demographic structure will create pressures to allocate proportionately more of a nation's income to this age cohort.

In anticipation of these changes, governments are assuming stronger central roles in promoting equity in health resource allocation and health attainment (popularly known as "Health for All by the Year 2000"). Greater participation by the elderly is facilitated by decentralization of the planning process. Health planners can obtain pointers to improving services for the entire population by assessing the current health situation of the elderly. The challenge of finding increased resources to serve the increased number of elderly people during a period of economic stagnation puts a premium on providing quality care at low cost. This is a challenge which WHO has responded to by formulating a simple and pragmatic planning methodology (Managerial Process for National Health Development), a process that begins with a future-oriented analysis of health care problems and resources.

The age of aging

By the year 2000, the nations of the world will experience a major growth in the size of their elderly populations. Assuring that these elderly will live out their lives with dignity is a growing humanitarian concern of all societies. To accomplish this objective, long-term planning for health of the elderly must begin now utilizing the best available data, techniques, and tools.

National reports on health and the elderly from a number of developed and developing nations (Annex 1) indicate similar demographic patterns. Women typically outlive men, with the result that the majority of women of advanced age are widowed or single. By the year 2000, this pattern will be accentuated. Families are choosing to have fewer children and this has important economic and social implications for developing nations for the early decades of the twenty-first century.

The future of mortality

Trends in health of the elderly across nations are alarmingly dissimilar. Some are experiencing declines in mortality rates of the elderly which are especially steep in the United States of America with respect to deaths from heart disease and stroke. On the other hand, death rates for elderly men in Denmark are on the rise, especially for heart disease and respiratory disease, and for both men and women in Hungary. These trends should not be accepted with complacency, since improvements in mortality at higher ages are clearly possible. Many developing nations still have a pattern of death rates linked to poor socioeconomic conditions which are also subject to considerable improvement.

Stemming the flow of chronic diseases

One major implication of the increase in the size of the elderly population is the increased prevalence of chronic disease, disability, limitation of functional capacity and mobility that will occur by the year 2000. Predictions of the enormous resources that would be required to provide adequate care underscore the importance of initiating strategies of prevention to mitigate these problems. Measures of health promotion can reduce the rate of morbidity among the elderly. Such activities include those focused on the individual - such as physical fitness, hypertension and diabetes screening - and health education regarding smoking, diet and alcohol abuse, all of which have a high payoff in terms of improved functioning and quality of life for the elderly. Such measures should be encouraged from a young age onward. Environmental measures to reduce accident rates in the work site, home, and community as well as atmospheric pollution also have the potential of stemming the flow of chronic diseases.

De-escalating costs

Under current policies, heavy utilization of services for the elderly are predicted, with marked escalation of costly inpatient utilization. The experience of a number of European nations suggests that the elderly are frequently treated in a higher level of care than necessary because of the absence of suitable alternatives. Chronic care beds are in relatively short supply with the result that many problems are cared for in high-cost acute care beds. Medical care is often used when the basic problem is social in nature. In many cases health services are simply not adapted to the needs of the aged.

In Sri Lanka, although hospitals are geared adequately to cope with acute care of the aged, slow stream rehabilitation is not adequately supported due to rapid bed turnover. There is a need therefore for slow stream rehabilitation facilities in hospitals for aged patients with degenerative disorders.

Changing attitudes

An important gap is information on how changing attitudes will affect the elderly. Societal attitudes towards aging and the attitudes of physicians and nurses influence the quality of life of the elderly as well as the willingness of people to work with them. Family attitudes are such that members often feel incompetent to assist with health problems of the elderly at home. The attitudes of the elderly themselves influence their motivation, mental wellbeing, life satisfaction and compliance with beneficial regimens.

Pressures to increase resources

The impact of aging will also be felt on the economy: a major growth in the size of the elderly population is likely to create serious financial problems for social security systems, unless alternative policies such as flexible retirement or later retirement are adopted. The Gross National Product of certain industrialized countries will have to increase each year just to accommodate greater social security and health insurance benefits for the aged.

Planning in an era of non-growth

The growth in the size of the elderly population comes at a time of economic restraint. Since many elderly, especially the very old, require substantial health care services for acute and chronic problems, growth in the size of this population has enormous resource implications. Additional health personnel and facilities are likely to be required. Meeting these needs in an era of scarcity poses a challenge and opportunity to design new approaches to care of the elderly. A premium will be placed on innovative approaches that provide quality care at lower cost.

The elderly as an indicator group

The health of the elderly is a good measure of how well a health system works. Health promotion and disease prevention throughout the life span contribute to long life and to a healthy and vigorous old age. Since the need for health care increases markedly with age, the way in which a nation organizes and delivers general health services will be reflected in the health care received by the elderly. If the health system is characterized by inequitable distribution of services, this will be apparent in patterns of health care utilization by the elderly in different socioeconomic groups and geographical locations. If an excessively technological approach is pursued to the neglect of primary health care and disease prevention, the consequences will be most sharply illustrated in care patterns of the aged. Thus, assessing the health situation of the elderly can point the way to improving services for the entire population.

The WHO approach to planning

The World Health Organization has set forth a systematic approach to health planning and management in view of implementing Health for All by the Year 2000 (HFA2000), the so-called Managerial Process for National Health Development (MPNHD)¹. This MPNHD is basically a comprehensive, long-term and strategic planning approach, but it can be applied to specific problem areas, e.g., the care of the elderly. It emphasizes a comprehensive framework for problem-solving, rather than a narrow emphasis upon resource requirements. It encourages analysis of alternative strategies for achieving objectives, rather than assuming a fixed level of requirements for a given population group. Basic principles of the process are:

- it stems from the priorities in health development specified by the country;
- it responds to the health for all movement by emphasizing primary health care;
- it makes health a national concern, involving other sectors as active partners in health development;
- it involves planning with people, not for them;
- it is based on a clear constraint analysis including political, cultural, technical, economic, and administrative constraints;
- it is flexible and adaptable; and
- it provides a balance between the need for national central coordination and decentralized local involvement.

The Managerial Process for National Health Development is pragmatic and does not replace current planning. Rather the concept is to outline a comprehensive health planning process which will serve to guide countries to identify missing elements in current approaches and to make continuous modifications over time.

The steps involved in the process include:

- formulation of national health goals and priorities;
- broad programming to provide preferential allocation of budgetary resources according to these priorities and the development of a master plan of action outlining the main problems to be solved;
- detailed programming at the local level translating the outlines of the broad programme into specific actions;
- implementation, including training of personnel responsible for carrying out the programme;
- monitoring and evaluation of the performance of the programme; and
- reprogramming or modifications based on experience with the programme.

¹ Managerial Process for National Health Development "Guiding Principles for Use in Support of Strategies for Health for All by the Year 2000". Geneva, World Health Organization, 1981

All of these steps are facilitated by a well-designed information system including a comprehensive data base on the current health situation, major problems identified in that situation analysis, systematic projections anticipated if current policies continue, and simulation and analysis of alternative strategies for realizing explicit objectives. This information system should be designed in such a way that it promotes clear communication of information to all parties involved in the planning process.

It is important to balance the need for national coordination with decentralization in health planning for the elderly. National central involvement is necessary to ensure coordination between health and non health sectors and a strong national role is also important in assuring equitable distribution of health care resources.

Decentralization of planning for the elderly is an important complement to national involvement since it permits adjusting health programmes based on the heterogeneity of the population in rural areas. It provides better definition of local needs and gives more responsibilities to local authorities. With a decentralized approach it is possible to incorporate greater participation of the elderly.

However, there are significant obstacles to decentralization of planning if funding continues from national sources. Politicians at the national level may resist delegation of programme authority to the local level. Designing equitable allocation formulae for the distribution of funds across local areas is also difficult. Selection of the appropriate local level such as town or provincial government level is not always clear cut. Shortages of qualified manpower services may exist in some local areas; typically there are shortcomings in local statistics and data.

These considerations suggest that the planning process should be built upon strong national involvement in financing and establishment of guidelines with the centralized involvement at the local level in detailed programming and implementation.

2. INNOVATIVE STRATEGIES

Innovative strategies directed to health promotion, disease prevention and improved services for the elderly and their families include:

- a network of health centres each served by a family health worker and assisted by volunteers and village health committees, in Sri Lanka;
- home visits to aged persons by a polyclinic team, supported by social workers and volunteers from the Women's Federation, in Cuba;
- nationwide consultation dialogues with the elderly, in the Philippines and France;
- cadre of 170 000 volunteers serving 860 senior citizen clubs and assisting with domestic work and administration of medicaments, in the German Democratic Republic;
- local community subsidies to youth groups for leisure activities in exchange for the services they donate to elderly citizens, in Denmark;
- gerontological consultations (modeled on antenatal consultations), in Hungary; and comprehensive assessments of health and social needs, in Canada and the United Kingdom;
- housing for the elderly in an environment of orchards and fish ponds where responsible and worthwhile roles can be assumed, in the Democratic People's Republic of Korea;
- small homes for the aged, at the village level, each with a "geronto-hostess", in Yugoslavia;
- improvement in housing, to reduce demand for institutional care, in Norway.

The potential of research and technological innovations include:

- improvement by life-style changes, such as smoking and exercise habits or by diffusing existing methods of hypertension control or by improved hearing and vision aids;
- modification of age-related physiological changes for example by influencing the decline in immune function or through similar breakthrough in fundamental research.

Primary health care

Several nations have implemented innovative approaches to promote health and disease prevention and to improve services to the elderly and their families in a home setting. This emphasis upon primary care is often an inexpensive and especially humanitarian approach to care of the aged. Over the next 10 years, Sri Lanka plans to strengthen the health care delivery at the peripheral level by the provision of village health centres (Gramodaya Health Centre), one centre for a population of 3000. Each centre will be in charge of an adequately trained family health worker who will be resident in the health centre which will provide the base from which primary health care activities will be developed within the community with its active support and participation through further development of village level volunteers and village health committees.

Volunteers

Another innovative approach is the Volkssolidarität programme in the German Democratic Republic. This approach encourages the use of volunteers to provide assistance to elderly people. The programme has enlisted the aid of over 170 000 volunteers in every town and village in the nation. Volunteers work in 860 clubs, providing hot lunches and a host of activities and services. Home help visits are conducted, often on a daily basis, to homebound aged persons to assist with domestic work and administer medications. These aides are trained by the Red Cross.

Social contracts

Another innovative approach would be the use of sports clubs, music organizations, etc. to provide services to elderly people in exchange for subsidized facilities or financial contributions given to them by the community.

Exercise and stimulus

Denmark attempts to keep aged persons active, fit, and involved in their communities through a number of programmes. These include: pensioners clubs, subsidized entertainment tickets, educational programmes in folk high schools, access to gymnasia and physical fitness programmes. Surveys indicate a marked increase in bicycling, swimming, and other specific exercise by older people in Denmark.

Gerontological consultations have been introduced in Hungary, modelled on the practice of antenatal consultations, with the aim of keeping the elderly fit and active.

Caring for the carers

Several nations are pursuing or planning strategies that would provide support to families who care for their aged kin. Some studies have found that 80% of the support care services received by older people is provided by family, friends, and neighbours. Among the approaches falling in this category are education of families to overcome feelings of incompetence in coping with health problems of their aged relatives in their homes, foster care, respite care to provide families with time off from caring, and day hospitals to permit working people to care for their kin during the night and weekends.

Coordinating services for home care

Aged persons in Cuba are visited at home by a polyclinic health team composed of a physician, field nurse, social worker and, in some cases, by a health worker. This team, besides the care rendered, also coordinates their activities with the family members of the aged persons, in order to help them maintain the best level of health of the patient. Comprehensive support of social workers to old persons without family is assisted through mass organizations, such as the Cuba Womens Federation whose activities include practical health duties directed toward advanced age people, under the advice of the Ministry of Public Health.

Scotland and Manitoba have instituted comprehensive assessment programmes to determine the health and social needs of elderly persons. These programmes are based on the philosophy that independent functioning of aged persons within their own homes should be encouraged and assisted. A wide range of home care services are available to achieve this objective including hot meals, alarm systems, telephone calling, and day centres. Manitoba has 24 hour nursing services to help even seriously impaired aged persons remain at home, and Denmark is experimenting with a similar programme.

The Philippines will develop a national plan for the aging for the national planning period 1983-1987. In the formulation of a National Plan of Action, a series of consultation dialogues on the elderly were conducted nationwide, the purpose of which was to gather baseline data on problems and needs, based on first-hand experience, and to encourage the elderly to participate in the formulation of plans including those involving voluntary work. Participants were elderly persons from the rural and urban areas with varying educational attainment, experiences, social standing and those representing different multidisciplinary sectors.

The current pattern of provisions of long-term care within the home and within the community is being realized through primary health care, as a strategy directed at enabling the elderly to lead independent lives in their own family and community for as long as possible. The elderly are encouraged to participate in the organization of primary health care.

Reducing institutional care

Other strategies are concerned with providing new forms of housing to meet the social needs of elderly people. Evidence from Scandinavian countries suggests that people are willing to move to better flats in the same community, if the reduced burden of maintaining their own homes allows them an independent life. There is new interest in collective housing, particularly among women. Evidence from Norway and the United Kingdom indicate that an improved standard of housing may be effective in reducing the demand for institutional care. Scotland provides a continuum of housing settings depending upon the functional capacities of aged persons. Sheltered housing staffed by auxiliaries is available for those with minimal impairments who are largely able to care for themselves.

Residential care

In the Democratic People's Republic of Korea housing for elderly citizens is surrounded by orchards and fish ponds. Aged persons are expected to work in these activities to the extent possible since this creates a feeling of worth and responsibility in the old.

For those with more serious impairments, Scotland has developed residential homes. Increasingly, these homes are located in the centre of town to keep older persons active in the community. In theory, aged persons whose condition deteriorates to the point of requiring skilled nursing care should be discharged to nursing homes or long-term beds in hospitals. However, staff in residential homes are reluctant to part with elders whom they have come to know. Increased training of staff to provide more skilled nursing services in residential settings may be required.

Certain activities have been undertaken recently in Yugoslavia to establish small homes for the aged persons in villages each with one geronto-hostess. Such homes are built on a voluntary basis by contributions of those who will be later accommodated their own village.

Nursing homes

The quality of care in nursing homes varies across nations. Ideas for improving the quality of these institutions for those for whom independent dwellings are not feasible include giving nurses greater responsibility for running the homes. Encouraging nursing homes and hospitals to provide a continuum of care including respite care, day care, and home care can also improve staff morale and facilitate appropriate levels of care for the aged according to their needs.

Innovative strategies for research and technology

Policy-makers are obliged to exercise choice among research and technological approaches to improving the health of elderly persons. Such choices should be assessed in terms of their likelihood of extending life while simultaneously improving the quality of life.

The aging process may be influenced by three means: early diagnosis and therapy through screening programmes; elimination of factors inducing aging by identifying the causes of aging; controlling development of age-related physiological changes, by inhibiting or delaying those changes (see Table below).

Among the technological approaches which show promise are: new methods for retarding physiological changes, new methods for managing the most common diseases of aged persons, new methods for preserving vision and hearing, new drugs for therapy of the most common diseases, new drugs for mental diseases, production of hormones by recombinant technology, extension of organ transplantation, improvements in nutrition and lifestyle, and new health and care systems.

It should be recognized that there are very different economic and social consequences of these strategies which need to be carefully weighed.

In addition it may be necessary to modify policies in non-health sectors to be supportive of these technological advances. For example, it may be important to postpone retirement, adopt flexible retirement, promote part-time employment of aged people, or development of a secondary economy such as in agriculture or forestry to permit the aged to remain actively productive. Much more needs to be learned about the relationship between work and health of older people, and how best to prepare them for an active, involved and socially contributing old age.

Use of complex technology should not overshadow the importance of relatively simple technological advances such as design of implantable hearing aids and improved vision aids, and aids in support of those with limitations in carrying out activities of daily living. Preventive activities, even at very young ages, are important to assure a healthy, functioning old age.

TABLE

MAIN LINES OF FUNDAMENTAL RESEARCH ON THE POSSIBILITY
OF MODIFYING AGE-RELATED PHYSIOLOGICAL CHANGES

1. Influencing the alterations occurring in the vital molecules DNA and RNA, for example by pyritinol or pyracetam.
2. Eliminating cross-links in DNA and collagen molecules, for instance by micro-protease produced by *Bacillus brevis*.
3. Exerting effect on the formation of free radicals by giving anti-oxidants e.g. cystein, 2-mercaptoethyl-amine, 2,2 diamino-diethyl disulfide, Vitamin C and E.
4. Restriction of calorie intake.
5. Impeding accumulation of lipofuscin, for instance by centrophenoxine.
6. Influencing the decline of immune function by immunological manipulations.

Better management of chronic diseases

There is considerable potential for life expectancy at advanced ages to increase slowly due to improvements in the control and management of specific chronic diseases. This is based on a number of observations. First, control of lifestyle risk factors such as smoking and exercise can lead to further significant life expectancy increases.

Reductions are occurring in cigarette consumption and in the tar and nicotine levels of cigarettes so that there seems to be a likelihood of individuals adapting their behaviour to realize those gains. Second, there exist procedures for clinically managing certain chronic diseases which, though proven effective, have not saturated the populations. For example, screening studies in the United States of America tell us that 75% of persons with hypertension were detected; of all those detected 72% were under treatment for hypertension and of that group, only 70% had their hypertension under control, i.e., 38% of the total population. Thus, there seems to be considerable room for life expectancy gains to be achieved through the more complete diffusion of existing methods for hypertension control. Third, as procedures for chronic disease management are in existence for longer periods of time, practical experience improves their efficacy.

Finally, entirely new methods for the management of chronic diseases have been developed. These developments are of several distinct types. For example, the implanted chemical reservoir and pump, through better control of insulin administration, promises to greatly reduce the chronic complications of diabetes. Many cancer therapies, though not possibly curing the disease, have extended survival times for several cancer types by several years.

3. CONTRIBUTION OF THE SMALL-SCALE COMPUTER TO PLANNING

A Computer-Assisted Planning model, developed by the Johns Hopkins School of Hygiene and Public Health for the present Workshop, displays on a television screen the implications for the health sector of projected demographic trends in the elderly population by the year 2000. This inexpensive microcomputer produces, on a choice of formats, projections of the population under alternative mortality rate assumptions, as well as the impact of the projected growth of the elderly population on the health status of the population, utilization of health services, and health expenditures. The interactive design of the model permits viewers to select data elements of particular interest, the mode of display, the underlying assumption and the time period of projection. It is well-suited, therefore, to the broad involvement of many individuals and groups in the planning process.

Illustrative data from a multitude of sources have been entered for the United States of America and Canada, as well as for the Canadian Provinces of Manitoba and Quebec.

The outputs of the computer model are in the form of coloured bar graphs, pie chart or line graph displays and cover 100 different subjects including projections to the year 2000 of trends in health expenditures per capita by age group, and of mortality rates by major cause of death.

These displays permit government health officials, health professionals and administrators, elderly persons and other interested parties to grasp quickly the dimensions and implications of the aging of the population. The impact of many of the innovative strategies outlined above on health status, use of health services and biomedical breakthroughs can be modelled with the aid of the computer. Similarly, simulations can be made regarding alternative primary health care strategies, such as the impact on utilization and expenditures of promoting home care services.

In short the Computer-Assisted Planning model illustrates how future-oriented analysis of the health problems of the elderly can provide a basis for rational planning.

Microcomputer technology in planning

Advance in microcomputer technology shows promise of assisting long-term planning efforts. With interactive graphic programmes, selective data can be retrieved from a massive data base and displayed in a readily understandable format. Factors influencing future projections can be studied and analyses made of assumptions underlying these projections.

An inexpensive, small-scale computer can store a comprehensive national data base on health aspects of the elderly (in the broadest context), including the relation to other non-health sectors. This would include information on demographic characteristics, socioeconomic status, health status, health resources, health utilization, health expenditures, as well as information on other sectors affected by and affecting health of the elderly such as the overall economy, labour force participation, pensions, housing and social services.

More importantly, the capacity of computers permits projections of future trends with the ability to incorporate alternative assumptions, for example on mortality rates or other key parameters. It permits selection of alternative planning horizons, such as the year 2000 or beyond. The interactive nature of the computer keeps such analyses manageable and comprehensible. Further, the computer is an ideal tool for conducting policy simulations of alternative strategies. Different types of "what if" questions can be posed and answered through computer simulations.

The Johns Hopkins University Computer-Assisted Planning Model

A Computer-Assisted Planning Model to assist health planning for the elderly has been developed by the Johns Hopkins School of Hygiene and Public Health for the present Workshop. This model provides an interactive, graphic display of the implications for the health sector of

projected demographic trends in the elderly population by the year 2000. It displays, on a choice of formats, projections of the population under alternative mortality rate assumptions, as well as the impact of the projected growth of the elderly population on the health status of the population, utilization of health services, and health expenditures. It is designed to facilitate simulation of alternative strategies for meeting the future health needs of the elderly, including displays of the health and cost implications of alternative policies.

The Model has been developed on an Apple II microcomputer. This inexpensive, portable computer linked to a colour monitor provides high quality graphic displays in the form of bar charts, pie charts, line graphs or tabular information. The interactive design of the model permits viewers to select those data elements of particular interest, the mode of display, the underlying mortality rate assumption, the time period of projection, depending upon their particular interests. It is well suited, therefore, to the broad involvement of many individuals and groups in the planning process.

Using the microcomputer in the WHO planning and management process

The Model was developed for the conduct of comprehensive situation analyses of health of the elderly since it facilitates future-oriented examination of health problems, as proposed in the WHO Managerial Process for National Health Development. The data base also permits examination of the impact of aging on non-health sectors such as the economy and the social security system, as well as the implications of sectors such as housing.

Illustrative analyses

The Model has been implemented with data from the United States of America and Canada, as well as the Canadian Provinces of Manitoba and Quebec. Current baseline data from a multitude of sources were collected for these countries and provinces. The data base contains information on demographic characteristics of the population, socioeconomic status, economy, labour force participation, social security, housing, social services, health status, health resources, health utilization, and health expenditures. Special information on long-term care services is included.

Projections of the elements of the computer model are based on official government estimates in the United States and Canada of future population by age and sex. For the United States this includes projections to the year 2030, and for Canada and the provinces projections to the year 2001. Alternative mortality rate assumptions permit projections for the United States that assume a decline in overall mortality twice that of the official forecast, at half the rate officially forecasted, or with no change in mortality.

Projection methodologies

The computer model permits a number of projection methodologies. These include: direct data entry, a fixed annual rate of increase, increase at the same rate as population growth of subgroups of the population, or some combination of these methods. For example, in the United States, projections of future physician supply are entered directly, based on results of a five-year study by a national committee. Health expenditures are assumed to increase at a constant annual rate of growth, with specific parameters based on econometric estimates of past trends in expenditures, adjusted for inflation. The prevalence of disability or functional limitation per person of a given age-sex group is assumed to be constant over time. The total level of disabling conditions in the population in future years is determined therefore by the growth of those population subgroups. These assumptions can be readily modified if evidence is obtained on superior predictive assumptions.

Sample outputs

Examples of output of the Model include coloured bar chart, pie chart, and line graph displays of the current age-sex distribution of the population and its growth over time; projections of trends in health expenditures per capita by age group, adjusted for inflation; the health resources used by the elderly and predictions of future supply; mortality rates by major cause of death for different elderly men and women currently and projected to the year 2000; patterns of utilization of physician, hospital, and nursing home services by age and sex currently and projected over time. Approximately 100 different subject topics (Annex 2) are displayed in a variety of graphical formats for the United States.

Participative planning

These displays permit government health officials, health professionals and administrators, elderly persons and other interested parties to grasp quickly the dimensions and implications of the aging of the population. The design of the model facilitates simulation of alternative strategies for altering the future course of the health of the elderly such as preventive measures, breakthroughs in biomedical research on illness of the aged, or new approaches to the organization, delivery, and financing of health and social services.

Use of computers in simulation of strategies

Choice among strategies is among the most difficult but important tasks facing health officials. It is important that the best available information on the impact, consequences, and costs of these strategies be made available to all interested persons to facilitate informed decision-making.

Many of the innovative strategies outlined in Section 2 above can be modelled with the aid of computers. These models can project impact on health status, use of health services, and health expenditures of alternative strategies. For example, the Model can project nursing home utilization and expenditures that would occur with biomedical breakthroughs in the prevention or treatment of senile dementia or osteoporosis. Similarly, simulations can be made regarding alternative primary care strategies, such as the impact on utilization and expenditures of promoting home care services. Alternatively, fixed budgetary constraints may be established and simulations conducted of the relative payoff from alternative strategies within that constraint.

4. QUANTIFYING CHANGE

The Computer-Assisted Planning model encourages the formulation of quantitative predictions of trends under current practices contrasted with the changes that would flow from better target attainment. Illustrations from the United States of America and Scotland are given as to how quantified targets can relate:

- to health status, for example by 1990, to reduce the number of days of restricted activity in people aged 65 and over to fewer than 30 days per year
- to prevention, for example by 1990, to reduce by 25% the number of elderly persons requiring hospitalization because of adverse drug reactions
- to health services, for example planning targets of 25 spaces per 1000 aged 65 and over for sheltered housing; or of 6.2 places per 1000 aged 65 and over for day centres
- to equitable distribution of services, for example by 1990, no geopolitical area should be without an effective public programme to identify persons with high blood pressure and followup their treatment
- to increase public and professional awareness for example by 1990, at least 50 percent of adults should be able to state the principle risk factors for coronary heart disease and stroke
- to eliminate information gaps limiting prediction, for example by 1990, data should be available to evaluate the effect on health care costs of physical fitness programmes.

Quantifying predictions

The Model encourages establishment of quantified objectives for improving health of the elderly. Quantitative predictions generally include health status of the elderly, use of health services, health expenditures, and other aspects. Objectives can be established for improving on current levels, and future performance can be evaluated relative to what would have been expected in future years without policy interventions. It is important, however, to supplement quantitative goals available in a computerized model with qualitative goals for those dimensions that cannot be easily modelled or measured, as well as those aspects for which baseline data are not available.

Setting targets

The primary goal for health of the elderly is to maintain the independence and quality of life of the elderly for as long as possible. This overall goal can be amplified into specific objectives and targets, regarding improvements in health status of the elderly, improved provision of medical, social, and other non-health services; improvements in life conditions, environment and lifestyle; increased public and professional awareness; and improved surveillance, evaluation, and research.

Targets in each of these areas should be acceptable to the elderly and their families. Criteria in the establishment of targets should assume that:

- they are achievable;
- they can be monitored;
- they are affordable within the constraints of the society for which they are formulated;
- they are understandable; and
- they are politically acceptable.

Selection of targets should consider whether the problem can be defined, an objective met, a method to achieve it exists, as well as a mechanism for evaluation.

Targets focused on health status

The principle underlying the pursuit of the goal of Health for All by the Year 2000 is that variance in measures of health status within and among nations should be minimized.

Targets focusing on health status of the elderly should include mortality rates by major cause, disability, functional capacity, satisfaction and autonomy. Examples are:^a

- by 1990, to reduce the average annual number of days of restricted activity due to acute and chronic conditions by 20%, to fewer than 30 days per year for people aged 65 and older.

Targets focused on prevention

Targets for improvements in prevention should address such areas as: high blood pressure control; accident prevention and injury control; dental health; immunization; smoking; misuse of alcohol and drugs; nutrition; physical fitness and exercise; control of stress; reduction in social isolation and support to cope with bereavement; control of environmental hazards. Examples are:

- by 1990, the share of the adult population aware that smoking is one of the major risk factors for heart disease should be increased to at least 85%;
- by 1990, adverse reactions from medical drug use that are sufficiently severe to require hospital admission should be reduced to 25% fewer such admissions per year;
- by 1990, the prevalence of significant overweight (120% of "desired" weight) among the elderly population should be decreased by 10%;
- by 1990, 50% of adults 65 years and older should be engaging in appropriate physical activity, e.g. regular walking, swimming or other "elderobic" activity;
- by 1990, to reduce the gap in mental health services, the number of persons reached by mutual support or self-help groups should double.

^a unless otherwise stated, all examples are from the United States of America

Targets focused on health services

Targets for health services should include the availability of a continuum of home care, ambulatory care, acute and chronic institutional care. Targets may also be established for the organization and coordination of services. Examples from Scotland are:

- home-help support to clients aged 65 and over should reach a target of 89 per 1000;
- a planning target of 200 meals per week per 1000 population aged 65 and over;
- day centre places number 6.2 per 1000 population aged 65 and over;
- for both geriatric and geriatric psychiatry day hospital provisions the target is 2.5 to 3 places per 1000 aged 65 and over;
- for sheltered housing, the planning target is 25 spaces per 1000 elderly.

Targets focused on equitable distribution

Targets may also be established regarding the equitable distribution of services among socioeconomic groups and elderly living in different geographical areas of the nation. For example:

- by 1990, no geopolitical area should be without an effective public programme to identify persons with high blood pressure and to follow up on their treatment.

Targets focused on increasing awareness

Targets for increased public and professional awareness should include measures of the effectiveness of health education efforts and training of health professionals involved in the care of the aged.

- By 1990, at least 50% of adults should be able to state the principal risk factors for coronary heart disease and stroke, i.e., high blood pressure, cigarette smoking, elevated blood cholesterol levels, diabetes.
- by 1990, at least 75% of adults should be aware of the necessity for both thorough personal oral hygiene and regular professional care in the prevention and control of periodontal disease.

Targets for eliminating information gaps

Finally, it is important that targets be established for the surveillance of trends in health of the elderly and evaluation of the impact of strategies to improve health. This should include targets for eliminating gaps in important data bases and research. Examples are:

- before 1990, a comprehensive national nutrition status monitoring system should have the capability for detecting nutritional problems in special population groups, as well as for obtaining baseline data for decisions on national nutrition policies;
- by 1990, data should be available to evaluate the effects of participation in programmes of physical fitness on job performance and health care costs;

5. FUTURE DIRECTIONS IN HEALTH PLANNING

Health planning which follows a systematic comprehensive approach such as the WHO Managerial Process for National Health Development has great potential for improving health of the elderly in an era of economic restraint. Informed debate over policy changes will enhance the chances of significant progress.

WHO should therefore support the extension of computer-assisted health planning for the elderly since:

- it promotes political consciousness of health problems of the elderly both now and in the future
- it pools information from a number of sources in one central place
- it is inexpensive and feasible to implement
- it facilitates comparisons of inequalities within and between countries thereby stimulating the attainment of health for all by the year 2000.

Obstacles

Health planning which follows a systematic comprehensive approach such as the WHO Managerial Process for National Health Development has great potential for improving health of the elderly. In an era of economic restraint, it is important to consider a broad array of alternatives and to base decisions on the best available information.

However, it is important to be aware of the obstacles that rational planning must face. Political, economic, administrative, cultural, and social barriers to change are inevitable. Broad involvement and debate over policy changes will enhance the chances of significant progress.

Among the major obstacles to rational planning must be included:

- political pressures, which frequently are unanticipated;
- professional medical bias that emphasizes cure of acute disease rather than improved functioning for those with multiple chronic conditions.

Recommendations

The World Health Organization should suggest the extension of computer-assisted health planning for the elderly in order to raise political consciousness of the health problems of the elderly both now and in the future.

Annex 1

LONG-TERM PLANNING FOR CARE OF THE ELDERLY

NATIONAL REPORTS

CUBA

by Dr A. Rodriguez, Chief, Department of Social Welfare, Province Las Tunas.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

by Dr Kim Chang Ho, Researcher, Ministry of Public Health, Pyongyang.

DENMARK

by Dr P. From Hansen, Head, Department of Internal Medicine C, Section of Prospective Medicine, Glostrup Hospital, University of Copenhagen.

FRANCE

by Professor J.C. Henrard, Technical Adviser, Secrétariat d'Etat chargé des personnes âgées, Paris.

GERMAN DEMOCRATIC REPUBLIC

by Dr C. Seidel, Head, Department of Social Service, Institute of Social Hygiene and Organization of Health Protection, Berlin.

HUNGARY

by Dr E. Beregi, Professor, Gerontology Centre, Semmelweis Medical School, Budapest, and
Dr H. Hankiss, Head, Department of Internal Medicine, Markusovszky Teaching Hospital, Szombathely.

NORWAY

by Dr O.B. Movind, Director, Hospital Division, Health Services of Norway, Oslo.

PHILIPPINES

by Mrs C. Fermin, Social Programme Supervisor, Ministry of Social Services and Development, Manila.

SRI LANKA

by Dr D.C.R. Liyanage, Assistant Director, Ministry of Health, Colombo.

UNITED KINGDOM (SCOTLAND)

by Dr R.M. Melville, Senior Medical Officer, Scottish Home and Health Department, St Andrew's House, Edinburgh.

YUGOSLAVIA

by Dr N. Milosavljevic, Professor, Specialist in social medicine, Head of Department of Investigation of Diseases and Phenomena of Medicosocial Importance, Medical Faculty, Institute for Health Protection, Novi Sad.

CUBA

At present 10,9% of the population of Cuba is more than 60 years old. The expectation of life at birth is 73 years.

Since 1970 the birth rate has fallen consistently and is now the lowest in Latin America. The death rate has shown a continuous decrease since 1960.

Health and social security for the aged

The organization of social and medical care for the aged is geared to the prevention of pathological and premature aging; the prevention of chronic diseases of mass incidence; research aimed at early detection of the causes of chronic diseases and at discovering the best prophylactic, therapeutic, and rehabilitation measures. Emphasis is placed on the following aspects:

- improvement of the scientific knowledge of health and social welfare professional and auxiliary staff concerned with geriatrics and gerontology;
- health education applied to geronto-hygiene and geronto-prophylaxis;
- ambulatory domiciliary services for the aged and the disabled;
- maintaining aged people in their family environment as much as possible;
- leisure-time activities: cultural and social, occupational, gymnastic, educational;
- institutional care for those who need it for social or medical reasons;
- rehabilitation for aged persons with psychomotor disabling chronic diseases;
- countrywide comprehensive health and social care, free of charge.

Examples of these are:

- a campaign against unhealthy habits such as sedentary living, smoking, dietary practices leading to obesity, self-medication, and accident-producing behaviours;
- health screening of aged persons by means of complete medical examination including laboratory tests at primary health care polyclinics, or once a year at home - followed if necessary by special and systematic medical care for 2 or 3 months;
- special domiciliary medical services for disabled aged persons who cannot attend polyclinics;
- home visits to aged persons by polyclinic health team composed of a physician, a community nurse, a social worker and a sanitary worker;
- the participation of the organized masses in such activities as comprehensive support of social workers for old persons without families organized, for instance, by the Cuba Women's Federation.

Two agencies, the State Committee for Work and Social Security supported by other agencies and mass organizations and the Ministry of Public Health, are responsible respectively for financial support and for guaranteeing free medicaments and other health accessories - prosthesis etc. - to needy persons.

There is institutional accommodation for 8500 aged people and other homes are being constructed or planned. These institutions are made as attractive as possible for the aged, to avoid a sense of isolation or reduce the effects of disability, and they provide free of charge a range of services: medical and nursing care, stomatology, dietetics, podology, physiotherapy, occupational therapy, recreation and cultural and social programmes. An effort is made to avoid an excess of medical procedures, because the residents should consider the institution as a home rather than a hospital, and they should not be overprotected or unduly restricted. There is a close relation, however, with a hospital service. These residential institutions are provided mainly for aged persons whose families are unable to care for them; they contain a large number of immigrants. Also, they provide day services, but only if all members of a family are workers and there is no one to care for the aged person.

Perspectives in gerontology and geriatrics

Although 60% of inpatients in internal medicine services are aged persons, cared for by internal medicine specialists, it is felt necessary to direct some physicians towards geriatrics. There are at present no geriatrics hospitals or institutes but geriatrics research is carried out in such national institutes as those concerned with angiology, oncology, cardiovascular diseases, endocrinology and metabolic diseases.

Several theses of graduate nurses, and medicine specialists, including angiologists and psychiatrists, are based on studies on aged populations. The National Group of Geriatrics has outlined a development plan of social and medical assistance methods for institutional and home care.

The educational level of social workers is being raised so that they can benefit from studies of this speciality, and there is a plan for university studies for social workers.

The technical capacity of physicians and paramedical staff concerned with geriatrics is being raised by national training and scholarships abroad.

A National Study-Day on geriatrics and gerontology was held in October 1982; sixty scientific papers on medical and social care of the aged as well as developments and perspectives in the field were discussed. Previously the country's 14 provinces had held their own meetings.

The country will be participating in world-wide and regional studies in geriatrics, and scientific exchanges will be made with other countries with gradual incorporation of advances according to resources and level of socioeconomical development.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

The elderly population, i.e., those over 60 years of age, in the Democratic People's Republic of Korea increased by 79% between 1950 and 1980. However, the rate of growth is comparatively slow in relation to total population growth, and the population as a whole will remain a "young" population for some time. In 1976 the average life span was 73 years (males 70, females 76); this represented a doubling since 1944.

The Socialist Constitution of the Democratic People's Republic of Korea assures free medical care for all citizens and material assistance for persons disabled by old age, sickness or deformity and for old people with no means of support.

The Labour Law prescribes that the elderly may use cultural houses and dormitories free of charge, that they are supplied with at low prices, that they receive an old-age pension, and that the elderly with no means of support are accommodated in homes for the aged, free of charge.

There are special hospitals and research centres for the elderly in the capital, and a network of hospitals throughout the country. The section-doctor system, whereby a section-doctor is responsible for the health care of the elderly and the children in a designated section, is devoted mainly to preventive health care for the elderly, based on health education, regular visits and consultations, medical examinations and systematic medical treatment. With increasing socioeconomic development, the level of social and medical services for the elderly is expected to rise considerably.

The technical capacity of section-doctors in geriatrics will be increased and maintained by means of continuing medical education and of undergraduate medical education in gerontology and geriatrics; the training of specialists in the geriatrics research institutes will be similarly strengthened.

On-the-spot nursing and nursing consultations for the elderly is to be promoted by special training of nurses in geriatrics. Besides the strengthening of the geriatric hospital in the capital, new geriatric hospitals will be set up in every provincial capital and geriatric sections will be organized in all city and county hospitals.

Plans provide for the intensification of molecular-biological and biophysical research into the causes of aging and their mechanism, and of research into the adaptation and regulation of the organism, and for the strengthening of clinico-gerontological and preventive gerontological research.

In the homes for the aged, situated in the suburbs and in beauty spots, the residents have the opportunity to continue with light outdoor work as long as they are able to do so, in order to preserve their abilities, improve their health, and enhance their mental life.

The Korean culture accords parents and elderly people an honourable place, and the present political philosophy and educational system reinforces this positive cultural attitude. Grown-up children have a strong sense of responsibility towards their elders. One result is that elderly people never live alone. At the same time the elderly are proud that they continue to be useful as full members of their families and of society.

DENMARK

The population forecast for 1981-2000 shows an increase of men 67 years and over from 266 400 to 268 500, and of women from 376 600 to 401 700; compared with the total population it means a 4% increase for both sexes, whereas the age group 26-66 years will increase by 9% and the younger age groups decrease considerably.

Expectation of life, according to the life-tables, assuming that mortality rates remain constant, has hardly changed since 1955-60 in men between 70 and 79 years of age (10.7 years) and has increased by 0.4 year (5.8-6.2) for men 80-89 years of age and by 0.2 year (3.1-3.3) for men 90 years or over. With regard to women it has increased from 11.5 to 13.9, from 6.1 to 7.7 and from 3.2 to 3.7 years respectively in the same three age brackets.

Two-thirds of all deaths above the age of 60 years are due to three causes: malignant neoplasms, ischaemic heart disease, and cerebrovascular diseases.

As the number of elderly in Denmark increases the need for services is growing also. Services for the elderly are provided by the Ministry of the Interior (medical and nursing care) and the Ministry of Social Welfare (social services to the elderly at home and in social centres). Municipalities are responsible for home care and institutional care. The counties provide hospital services. Geriatric departments form a bridge between these two authorities; they assess the functional level of an old person in need of care, provide treatment and rehabilitation, and finally assess the need for future services. A gap between home care and nursing-home care is only partly filled by day-care centres and day hospitals for the elderly living at home.

Between 1979 and 1992 the total of full-time employees providing services for the elderly is expected to rise from 41 700 to 58 000 - i.e. a 40% increase. This corresponds to the expected increase in the numbers of elderly, taking into account the changes in age stratification. This forecast does not take into account probable economic recession or change in political concepts. At present the staff of nursing homes account for 94-95% of the total staff providing services for the elderly.

Staff for the care of the elderly are less well educated than the corresponding level for, say, the care of children. Besides, relatively few have had special training for social services to the elderly. Medical and nursing care are the preferred training areas.

In 1980 a new category of staff was introduced - old people's home auxiliary; this function encompasses up to 50% of service/care in nursing homes, compared with 11% for specific nursing care and therapy. There is a trend therefore towards employing more old people's home auxiliaries and more assistant nurses.

Hospital resident patients awaiting admission to nursing homes number about 2000; the average waiting period is 66 days. Hospital bed usage is three times as high among single men and women as among those who live with a spouse, and still higher if the groups are adjusted for age.

A 24-hour home care service continuous or intermittent, as an alternative to hospitalization is being evaluated in different parts of the country. It remains to be seen whether this home-care experiment will diminish the need of hospital beds or merely result in better home facilities. Medical needs apart the risk groups among the elderly are characterized by their living alone, poor transport and shopping facilities, and greater use of home help than other elderly people in the community. On the whole, the unmet needs of home care seem to be moderate, at least as far as the lighter services, such as 'meals-on-wheels', linen service, and control and alarm calls are concerned; other services such as day centres and sheltered flats need to be expanded.

The value of the tradition of institutional housing for frail elderly has been questioned in public discussions. Housing and service are proposed to be separated. Old people in need of services should receive them irrespective of where they live - in their own house or flat, in a sheltered flat, or in a nursing home. The provision of suitable housing should depend on factors other than the need for services.

Another suggestion is that services for the elderly should be paid for, while ensuring that the old person is not forced to do without important services for economic reasons.

A recent survey of 219 persons in a birth cohort aged exactly 85 years (The Glostrup Population Studies) showed that 18% were living in a nursing home and that 2% were in hospital. Among those living alone, 50% lived in their own house and only 50% received home help. The Glostrup Population Studies have followed up a number of cohorts since 1964. The 1897 birth cohort has been investigated at ages of 70, 80 and 85; the 1914 birth cohort at ages 50, 60, and 67; and the 1936 birth cohort at ages 40 and 45. The studies are continuing and the results will provide data for assessing age-determined and age-conditioned trends, as well as the changes between generations - the secular trends. Thus, the Glostrup Population Studies constitute an instrument for registering changes in health, service, and care for the elderly in the future.

FRANCE

Demographic trends and projections

France was the first 'aged' country of the industrialized world. Since the beginning of the 19th century the proportion of the aging in the French population has continuously increased.

In 1981 there were 9 336 000 persons aged 60 and over (17.3% of the population), of which 3 200 000 were 75 and over, and 580 000 were 85 and over.

The first cause of demographic aging in France is a continuing decline in fertility interrupted by the baby boom of the 1946-1964 period. If fertility rates remain unchanged, there will be no significant increase in the numbers of the elderly during the next 20 years. The young elderly will decrease because of the lean generations of 1915-1920 reaching 65, and the very old will increase. The age-group of 85 and over will increase from 580 000 to 860 000 (possibly to 990 000), posing a major challenge to health policy makers.

The aged population has a high proportion of women and an unequal geographic distribution. The older women are the most isolated, have the lowest incomes, live often in individual housing of substandard conditions, particularly in rural areas. They constitute the main risk group for being institutionalized.

The decline of rural areas as well as the development of new urban conglomerations pose problems of social integration of the aging and accessibility to needed services.

The health of the aged population

A higher morbidity rate among males, particularly the aged between 55 and 74 years is caused by lung cancer, ischaemic heart diseases and cirrhosis of the liver. Cardiovascular diseases, acute and chronic respiratory disorders, rheumatic disorders, gastro-intestinal disorders, diseases of the nervous system and ill-defined conditions represent 60 to 70% of the health problems seen by general practitioners. Several disability surveys have shown that one-third of those aged 65 and over living at home are unable to do domestic duties, 15% are unable to carry out the daily activities related to survival.

Home services and institutions for the elderly

To facilitate living at home, the aspiration of the great majority of the elderly, home renewal and home services are a major concern. An important home renovation programme is under way, including specific adaptations for disability. A national network of associations, the Centres for 'La Protection, Amélioration, Conservation et Transformation de l'Habitat' is a major channel for financing the programme. Since 1982 the State pays up to 6 000 francs per operation, and double the amount in case of disability; this financing is complemented by local community organization and pension funds which dispose of social and health action funds.

Home-help services are the most widespread, for which the aged pay according to their means. Welfare and social security pensions are the main providers of funds to the public or private, non-profit, services, which reach nearly 400 000 beneficiaries.

Other social services are numerous neighbourhood meal centres and, for the more disabled, 'meals-on-wheels' services; repair services, laundry, transport on demand, and tele-alarm systems are beginning to develop.

Home nursing services have expanded from 3 000 to 10 000 places in one year since a ministerial circular encouraged their development. Intermediate between living at home and in an institution are temporary housing and day-centres or day-hospitals.

About 400 000 (4.5%) of the elderly are living in institutions. The main principles of community-living policy are the adaptation of establishments to the problems of the elderly and the avoidance of segregation. Funds earmarked for the conversion of old almshouses are being used for the reconstruction or renovation of small buildings in the middle of towns or in villages, in such a way that individual privacy is respected and the social needs of each person are met. Residents' associations are set up to encourage people to take part in the life of the establishment.

Because of the aging of people in residences and the increase in the number of dependent people, the medical sections of the social establishments are to be considerably extended.

Organization of medico-social policy

Besides the State, other agencies - social security schemes, local community organizations - complement the funds to public and private establishments and services provided by professionals and volunteers.

Following the Government's decentralization of responsibilities to the Regions and Departments, the Departments must now prepare a Gerontological Plan. Its objective is to assure a better understanding of needs, with a view to a coherent reinforcement of health and social care for the elderly. A contractual relationship will be established between the Department council responsible for planning and implementation and the State, which is responsible for the level of health insurance financing. The plan must include a detailed agenda of actions to be updated annually after consultation with the Departmental committee of retired and elderly persons.

The creation for the first time of a State Secretary for the Elderly ensures good governmental coordination and inspires a more global policy with the drafting of the Intermediary Plan 1982-1983. At the local level, grants have been allotted for the creation of 500 coordinators' positions to assure a closer link between services and establishments. State Credits are given to organizations grouping all the local partners involved in medicosocial policy for the elderly.

GERMAN DEMOCRATIC REPUBLIC

The Constitution of the German Democratic Republic (Article 36) states: 'Every citizen of the German Democratic Republic shall have the right to social care in case of old age and invalidity. This right shall be guaranteed by a rising standard of material, social and cultural care, and care of elderly and disabled citizens.' State institutions, enterprises and public organizations play a part in comprehensive care of the elderly. A decree of the Council of Ministers covers the principles and measures designed to improve the medical, social and cultural care of citizens of an advanced age and to promote greater participation in the life of the community, and also deals with the main areas of gerontological research.

Social insurance pensions form the main element of material provision for the elderly.

The medical care system for the elderly was reorganized following new Ministry of Health guidelines in 1973, designed to keep medical care abreast of advances and changing expectations in this field. It involves all doctors and nurses both in hospitals and in the outpatient sector. The doctors obtain precise information about the older residents in their community, especially those in need of care, from district nurses, welfare workers and Volkssolidaritat and German Red Cross volunteers. They also have access to local council files. Geriatric consultants play a coordinating role, ensuring that patients who need care receive proper attention in their own homes, or are admitted to a home for the infirm or, temporarily, to a hospital. They work together with general practitioners and advise on aspects of medical attention related to age.

Providing accommodation for older and elderly citizens is part of the GDR's housing programme, the central project within a broad range of social policies, which should solve the housing problem by 1990. Many older people have received better accommodation either in new houses or as a result of modernization work on individual flats or even on whole boroughs. One special form of accommodation is blocks of flats for the elderly: an intermediary stage between individual flats equipped for the elderly, on the one hand, and old people's and nursing homes, on the other.

In 1981, 4.2% of citizens of pensionable age were living in old people's or nursing homes because they could no longer cope alone with their own household and had no recourse to an alternative (family, neighbours). Nursing homes accommodate old people who are chronically ill and need constant care; old people's homes include care units for those who fall ill. There are many more applicants for accommodation in old people's homes than can currently be met, despite a steadily growing provision of places. The 1981 capacity of 125 000 places is to increase to 140 000 by 1985.

The Volkssolidarität is a public organization, of over 2 million members, specifically concerned with elderly citizens, and funded to the extent of about 40 million marks a year from contributions and donations. In each neighbourhood, the Volkssolidarität plays a crucial part in the broad range of care and welfare offered to old people, cooperating closely with the state authorities, trade unions, enterprises, other organizations, and families. About 170 000 volunteers, organized in every town and village in about 14 000 groups, provide services. Old-age pensioners who enjoy variety and company can visit one of the Volkssolidarität's 860 clubs. Over 42 000 home helps, paid Volkssolidarität staff trained by the German Red Cross visit 73 000 pensioners daily or at least several times a week to carry out chores such as shopping, cleaning the flat, bringing a hot dinner, or administering prescribed medicines.

HUNGARY

Preventive and therapeutic care of the elderly is an integral part of the health care system.

Health care planning for the old requires demographic and health-status analysis to define expected needs. Mortality and morbidity data as well as less reliable data on utilization of institutions and information obtained from screening examinations may assist in the analysis. Hungarian mortality data indicate a deterioration in the health of the old. Mortality due to diseases of the circulatory system, neoplasms and accidents over 60 years accounts for 75% of all causes of death. A remarkable rise has been registered in the past decade in deaths due to accidents.

The most reliable morbidity data are obtained in respect of hospitalized patients. The latest detailed survey, in 1972-73, showed every third bed occupied by an old person; since then the proportion hospitalized has risen further. A considerable increase in incidence occurred in four groups of diseases - diabetes, hypertension, arteriosclerosis, and chronic ischaemic heart disease - between 1972 and 1976. With regard to all diseases, hospitalization in old age lasts longer, but average hospitalization time decreased in all groups of diseases and in all age groups between 1972 and 1976, owing probably to improved treatment.

Health planning for the elderly

The questions for planners are whether present health services can meet the growing needs of the elderly, and what kinds of long-range programmes are needed? The key issue of health care for the aged is the provision of primary health care, first of all by the district physician (general practitioner). Old people need continuous medical control at the primary-care-level; hence the absolute need to improve the efficiency of the district physician's service. Deficiencies are manifested mainly with regard to the regular care of old people with chronic diseases, and in inadequate contact between the district physician and the home-care network.

Besides the district physician the district nurse has a significant role in the care of patients confined to bed at home.

It is a general deficiency that patients who need nursing are sent to inpatient institutions, without professional justification: the district physician's service too often does not call on the social welfare network.

Most old patients are treated in unnecessarily costly inpatient departments. Medium- and long-term health plans give exceptional importance to preventive health care for the aged and to expanding the network of social care. Long-term development focuses on the expansion of primary health care. Long-term plans in respect of diseases with the highest mortality provide for post-primary treatment and rehabilitation in long-stay departments. Rehabilitation facilities will be established also specialized departments such as cardiology, rheumatology and traumatology. Methods of population screening are being elaborated. It is planned to extend social care from the current 5% of the population over 60 to 10%, and new types of institution care to some 15% of the old population by the year 2000.

The possibility of a national preventive gerontological consultation service is being considered.

Medical curricula are to include the geriatric aspects of the different disciplines, and a second specialization in gerontology built upon a basic specialization, e.g. in internal medicine, is contemplated.

NORWAY

Health planning for the elderly

In Norway health planning for the elderly is part of a still incomplete health planning system. It encompasses only the institutional sector - hospitals and nursing homes - and excludes old-folk's homes and community services. This is seen as fundamental weakness, given the interdependence of primary health care and institutions. It is planned to reduce the number of beds in acute hospitals to develop outpatient facilities, and increase the number of beds and rehabilitation services in the nursing homes.

The planning target for nursing homes is 7.5 beds per 100 population aged 70 years and more. The planning guidelines emphasize flexibility, innovation, decentralization, and coordination.

At present new methods are being developed whereby housing standards may be attained which will better meet health needs and thus reduce demand for services and institutional care.

There is an obvious need and a demand for new ideas and innovation, particularly with regard to the organization and administration of services, and in that content to coordination, access, and acceptability. The public accepts that there is a limit to services but do not accept unfair distribution and utilization of services. The need is to ensure that the services reach those who need them most, to get the most out of the community's resources, and to achieve the optimal balance between the services.

Special training programmes for geriatricians and primary care practitioners, nurses, physiotherapists, and occupational therapists are organized by the various professional organizations. There are no national manpower planning guidelines.

Research is funded to the extent of approximately US \$3.0 million a year into the organization of services and new approaches to health and social services for the elderly.

PHILIPPINES

The Philippines has a very young population. The aging sector, those 60 years old and above, numbers about 2.5 million or 4.8% of the total population of 48 million; 46% of the aging sector are male. The next Philippine Development Plan covers the period 1983-87 and it has as one of its components a national plan for the aging.

In 1982 the President appointed a National Executive Committee on Aging, attached to the Ministry of Social Services and Development and composed of representatives of various agencies concerned with the welfare of the elderly. Its functions are:

- (a) to formulate a national plan of action on aging in consonance with the regional plan of action evolved during the Regional Intergovernmental Preparatory Meeting for the World Assembly on Aging;

- (b) direct and supervise its implementation, and
- (c) serve as liaison to the UN World Assembly on Aging.

Among the recommendations for considerations in the National Plan of Action are:

- the expansion of Medicare coverage to include those not currently covered;
- the motivation of voluntary socio-civic clubs and organizations to provide free medical consultation, treatment and technical aids such as eyeglasses and dentures specially for elderly persons;
- research into the degenerative diseases associated with aging, into the use of herbal medicines, and into the nutritional requirements of the elderly;
- the identification of local experts to act as resource persons, and the training of professionals and community workers to provide geriatric services in the primary health care context;
- the inclusion of geriatrics and gerontology in the undergraduate medical curriculum.

In preparation for the ESCAP Regional Intergovernmental Preparatory Meeting held in Manila in 1981, and in the formulation of the National Plan of Action, consultations on the elderly were conducted throughout the country to gather baseline data on problems and needs, opportunities and recommendations, and to encourage the elderly to participate in the formulation of plans. The participants were themselves elderly persons from rural and urban areas, with varying educational attainment, experiences and social standing, and they also represented different disciplines and sectors.

The primary health care approach now being implemented throughout the country provides for long-term care in the home and in the community, and for enabling the elderly to lead independent lives in their families and communities for as long as possible. The elderly are being encouraged to participate in primary health care.

The National Plan of Action has provisions for training geriatric nursing aides, as well as for the training of local para-professionals, community health workers, and volunteers engaged in primary health care in the management of the problems of the elderly.

SRI LANKA

The population of Sri Lanka in 1981 was 14 585 001. The following table shows the expected increase in the aged population to the year 2001 and an expected reversal in the male to female ratio.

Table 1. Actual and projected aged population 1963-2001

Census year	Number			Percentage of total population		
	Males aged 60+	Females aged 60+	Total aged 60+	Males aged 60+	Females aged 60+	Population aged 60+
1963	346 950	275 300	622 250	<u>3.28</u>	<u>2.60</u>	<u>5.88</u>
1971	440 201	362 010	802 211	<u>3.40</u>	<u>2.85</u>	<u>6.25</u>
1981	522 763	461 929	984 692	<u>3.52</u>	<u>3.11</u>	<u>6.63</u>
1991	782 000	741 000	1 523 000	<u>3.92</u>	<u>3.72</u>	<u>7.64</u>
2001	961 000	1 017 000	1 978 000	<u>3.90</u>	<u>4.13</u>	<u>8.03</u>

The child and youth population is gradually declining. The great majority of the aged are married: 86.7% of males and 64.4% of females. Nearly 31% of aged females are widowed.

The extended family system, strengthened by custom, enables aged people to live in their own homes.

The State provides for social and economic security, with pension schemes, widows' provident fund schemes, insurance and savings and public assistance schemes.

A large number of persons of over 60 years are employed, in private activities or by voluntary organizations or in agriculture and casual work. Nearly half are gainfully employed; this is one of the main reasons for the continuance of the extended family system.

About 0.3% of the elderly are in residential institutions, of which there are three types for the elderly:

- state homes which do not charge for accommodation,
- homes which charge, managed by voluntary organizations with state assistance, and
- cottage homes for the elderly managed by ad hoc committees, with state grants.

Two day centres have been established by voluntary organizations.

It is evident that the family homes are what the aged need in Sri Lanka, and consequently the strengthening of the community services should be the policy rather than the provision of residential institutions.

The security and the care of the aged is almost guaranteed by the social system and the cultural background; the health care of the aged has not been a problem in the past and there is no special health plan for the aged. There are no geriatric hospitals. The general health care system is adequately geared to cope with acute care needs of the aged. However, there is a need for rehabilitation facilities in hospitals for patients.

The Government has recently approved the restructuring of the health care system, to use the primary health care approach and the health centre concept to achieve Health for all by the Year 2000. The emphasis is on strengthening health care at the periphery by providing village centres, one centre for 3000 people, in charge of a trained resident family health worker, supported by volunteers and a village health committee. Since 99% of the aged live in family homes and mostly in rural areas, this system is expected to be the mainstay of the care of the aged. The planned referral and supervisory support to the primary health care system will provide for the general and specialist medical care needs of the elderly.

The country has an extensive network of voluntary organizations and voluntary workers, with close links at the village level with the family health workers. After the World Assembly on Aging a National Committee on aging was appointed, comprised of key personnel from the Department of Social Services, Ministry of Health, from voluntary organizations. The Committee emphasizes that the solution to the problems of aging lies in economic development with continued growth of present cultural and social values, which promote respect and supportive family care for the elders.

The National Committee has launched six projects:

- the analysis from census data of demographic trends in respect of the elderly to the year 2000, for the attention of development planners, policy-makers and social workers;
- surveys to identify social and economic problems of the elderly as a basis for devising strategies for solving them;
- enlisting the elderly and their integration in the community;
- formulating programmes to ensure the economic security of the elderly;
- formulating programmes to ensure the social security of the elderly;
- disseminating knowledge about the elderly to the general public.

Some of the steps that are indicated in connexion with the development of geriatric care services in Sri Lanka are:

- to identify the specific health needs amenable to primary health care;
- to determine the specific training needs of primary health care workers for geriatric services;
- pilot studies related to geriatric care within primary health care;
- the provision by the primary health care of health education in the care of the elderly as part of the domiciliary care services;
- a widening of the scope of activities of departments of rheumatology, and of acute medical care facilities in the district hospitals; these departments should develop a comprehensive team approach for the total care of the aged, with links with the primary health care teams;
- the establishment of a national geriatric institute to meet long-term needs;
- the incorporation of education in geriatrics at all levels of medical education;
- the extensive use of mass media for community education;
- the encouragement and stimulation of voluntary bodies and service clubs to support the development of geriatric care.

UNITED KINGDOM (SCOTLAND)

Between now and the year 2000, the population aged 65 and over is projected to remain more or less static but the age-group 80 and over will continue to increase - from 126 000 in 1981 to 160 200 in 1996. The age-group 85 and over is expected to increase even more - from 45 100 in 1981 to 67 100 in 1996, an increase of 48.8%.

Most Scots obtain health care through the National Health Service. Personal social services are provided by the social-work departments of local authorities.

The Secretary of State for Scotland is responsible for the provision of health services; 15 Health Boards exercise his functions within defined geographical areas.

The Scottish Health Service Planning Council, on which is represented each Health Board and the four universities with medical schools, advises the Secretary of State. A National Consultative Committee for each of the principal health professions reports to the Planning Council and may establish sub-committees for specialties. Health Boards may seek advice from Area Advisory Committees established by the different professions.

Thus at national level, advice on planning can be obtained from the Planning Council through its committees and sub-committees. Alternatively the Planning Council may establish ad hoc planning groups with a membership drawn from the professions involved and from other interested agencies. In either case the advice assists in the formulation of policy within the Scottish Home and Health Department (SHHD). Health Boards are expected to plan in accordance with the policy promulgated by SHHD.

Care of the elderly at home

The great majority of the elderly live at home. Fewer than 6% of the elderly live in institutions. Current planning provides for community support to enable the elderly to remain at home for as long as is practicable consistent with their own and others safety. The elements of community support are the primary care team and their allies, the home-help, sitting, 'tucking-in', laundry and 'meals-on-wheels' services. Lunch clubs, social clubs, day centres, day hospitals, and crises, respite and holiday short-term admissions are additional methods of supporting patients at home.

The primary care team comprises a general medical practitioner, a visitor, a district nurse, and sometimes a social worker. Except in cities most practices have attached health visitors and district nurses who provide services for the patients of the practice. Increasing numbers of practices maintain age registers for elderly patients to identify those especially at risk. The primary care team is in an excellent position to take action in case of need. Health visitors are well trained assessing patients' need for support services and for the mobilization of the necessary services.

The average number of patients on a doctor's list in 1980 was 1831 of whom 256 (14%) were aged 65 years or more. The number of general medical practitioners rises slowly to cope with an ever increasing workload, part of which is related to the greater demands made by the increasing numbers of elderly patients. The numbers of health visitors and district nurses have been increasing more rapidly. Between 1970 and 1980 visits by health visitors to the elderly increased by 65%, and by district nurses by 82%.

The allies of the primary care team are the dentist, the physiotherapist, the occupational therapist, the chiropodist, the optician, the audiometrician and the pharmacist. There are no planning targets for these groups.

For patients at home the key person is the home-help. Although employed primarily for domestic work, many home-helps perform a caring role beyond the nominal scope of their duties. Night and evening sitter services are available in a few areas to allow caring relatives to have a good night's sleep or a free evening. Voluntary bodies also provide this type of relief.

Additional support to patients and relief to relatives is provided by day centres for patients whose major needs are social; day hospitals for patients who need continuing medical, nursing and physiotherapy care; night nursing and "tucking-in" services; and short-term admissions to residential homes or hospitals to cover domestic crises or to provide the caring relative with short spells of respite or a holiday break. In 1981, per 1000 population aged 65 and over, day centres provided 6.2 places, and day hospitals 1.1 places for geriatric patients and 0.76 for geriatric psychiatry patients. For both geriatric and geriatric psychiatry day-hospital provision the target is 2.5-3 places per 1000 aged 65 and over.

For the small proportion of the elderly who become unable to maintain a fully independent existence in their own homes or in specially designed houses, but who do not need institutional care, sheltered housing has been developed. It comprises a group of one- or two-roomed houses connected by an alarm or communication system with the house of a warden. In some schemes meals are available from a central dining-room. Communal sitting-rooms are made available to encourage social intercourse among the residents. A ratio of 17.5 bed spaces per 1000 population aged 65 and over was provided in 1979; the interim planning target is 25 spaces per 1000.

Institutional care

Patients in residential homes are expected to be able to dress, toilet and feed themselves; meals and cleaning services are provided and assistance is given as necessary. The newer homes seldom cater for more than 50 residents and provide individual bed/sitting-rooms as well as communal sitting and dining-rooms. The aim is to build relatively small homes close to the community to which the residents belong.

The rate of provision is 20 beds per 1000 population aged 65 and over, against an interim planning target of 25 beds per 1000. To take account of the demographic changes, a working group suggested a revised target of 60 beds per 1000 population aged 75 and over.

A small number of elderly patients need continued medical and nursing care in hospital. Full multidisciplinary assessment is made and maximum efforts at rehabilitation before patients are admitted for long-term hospital care. Many long-stay geriatric units which provide difficult working conditions for nursing staff and lack of privacy for patients are being replaced by buildings which offer better working conditions and more suitable accommodation for long-stay patients.

In 1980 the provision of 9,792 beds were available for geriatric patients, i.e. beds per 1000 population aged 75 and over was 35.94, against a planning target of 40. With the projected increase by 25% over the next decade in the population aged 80 years and over, and the corresponding rise in the incidence of dementia, there will be a greater need for hospital accommodation and care, even though many patients can be managed at home. Health Boards are accordingly tending to construct units of 30 beds near the communities they serve, for geriatric psychiatry patients without serious behaviour problems; patients with serious behaviour disorders

will have to continue to be cared for in the psychiatric hospitals. No firm planning target has been set for geriatric psychiatry patients but a working group has suggested a need for 10 beds per 1000 population aged 65 and over.

Innovative approaches

Studies have shown that close collaboration between specialists in geriatric medicine and their colleagues in acute medical wards leads to a reduction in the mean and median stays of geriatric patients in acute wards, and to more patients being discharged home instead of to convalescent wards. Morbidity and mortality are similar in patients treated at home with additional nursing and home-help support to those of patients admitted to acute hospital wards with similar illnesses. Return to the pre-illness level of independence has been shown to be quicker and more complete in patients treated at home.

Manpower planning and training

Geriatric medicine is taught in undergraduate medical curricula; postgraduate training on the subject involves progression through posts of increasing seniority in the specialty for at least 5 years and usually the obtaining of a higher qualification; and geriatric medicine is an optional subject in general practitioner vocational training. No specific manpower targets are set for geriatric medicine or for general practitioners. Additional posts are requested and authorized as workload requires.

Basic nursing training and courses for health visitors and district nurses are placing increased emphasis on the aging process and the needs of the elderly. The Scottish Home and Health Department has produced a training package for in-service training for nursing staff. A large element related to the elderly, particularly the assessment of activities of daily living, is included in the training of occupational therapists; in the physiotherapy syllabus the emphasis is less. Additional training in the needs of the elderly is now included in the training of opticians, audiometricians, and chiropodists. Social-work training so far includes very little on the elderly.

Research

Research in progress includes studies of:

- augmented home care within the confines of the primary care team;
- different aspects of the structure of services, pathways into and between them, and the impact on the provision of care for the elderly;
- the attitudes and expectations of the elderly living at home towards sheltered housing and towards residential homes, and of pre and post admission attitudes of the same individuals; and
- the impact of community support services on the supporters of geriatric psychiatry patients.

YUGOSLAVIA

The Yugoslav society, like most others, has found itself inadequately prepared for many of the health and social problems associated with aging and the aged.

The Yugoslav population is an aging one; the number and the proportion of aged persons is rising, but with considerable regional variation. There is a general rise in the ratio of dependent to active persons.

Social policy and attitudes towards old age and aging, as reflected in the Federal Constitution and by sociopolitical, scientific and professional associations, accord the aged equal social and political status as the rest of the population, and recognize the contribution they have made to the country's development.

There have been impressive achievements in applying this policy, with regard to social welfare and health care, the provision of institutional and domiciliary services, education and scientific and research work and the participation of the aged in decision-making particularly regarding the problems and solutions that affect themselves.

However, the demand for special institutional accommodation for the aged is still not fully met, but increasing attention is being paid to the development of so-called "open" social welfare and treatment at home, particularly in the larger towns. Home medical treatment, a form of hospital treatment but at the patient's place, is still more defined in theory than it is implemented in everyday practice; however, the number of home visits paid by doctors on request is great, many medicaments are ministered in patients' homes, and ambulance stations offer a great number of services.

Health care of the aged is expanding in scope and improving in quality. The number of patients per physician is 650. The percentage of hospitalized old persons is increasing; diagnoses indicate the increasing number of chronic diseases characteristic of older age groups. The increasing opportunities afforded to citizens to exercise their health care rights result in increases in registered morbidity, very much influenced by population aging, comparable with the disease patterns of more developed countries.

There is social security for all in case of illness or disability, including the aged, and the right of every citizen to health care, as part of social welfare and social security is thereby guaranteed.

It is accepted that hospital care of the aged should not be separated from the health care of the population at large. For ambulatory care doctors tend to reserve separate surgery hours for aged persons or at least to provide separate counselling services for chronic diseases. If neither is possible aged persons should come for check-ups by appointment.

During working age the health care services, particularly occupational medicine, protects the workers as much as possible from the inevitable hazards of the work process, with the aim of allowing them to age naturally. However, the psychosocial and educational preparation of working people for retirement is still insufficiently organized, though self management offers enough possibilities of doing so. The retirement age for men is 65 and for women 60 but the problem of lack of occupation for retired active people has not been solved. A so-called "small-scale economy" has been suggested based on individual or group handicrafts. Many people in the "third age" engage themselves in activities of various clubs, or in local community activities.

Housing and old age was the main topic of the inaugural Congress of the Association of the Gerontological Societies of Yugoslavia, held in 1979. However, many houses are old and lack modern sanitation, particularly in rural areas, mostly inhabited by old persons. The provision of comfortable and functionally adapted accommodation specially for old persons and close to the younger generations, is financially not feasible. Thus, although a great number of flats have been built since World War II, housing of the aged remains a serious problem.

The economic status of the aged is assured by personal and family pensions and financial assistance in case of special need. Pensions are constantly adjusted to the cost of living.

Towns are "younger" than villages today, as the result of strong migrational movements which inevitably follow abrupt technical and other development. The aged are concentrated in town, which has both advantages and disadvantages. Alienation is more liable to occur in the towns, but organized measures to deal with social difficulties associated with aging are more feasible in towns.

In villages the aging of the population is more pronounced. Some predominantly agricultural regions are menaced by depopulation, and aged farmers are deprived of labour, skills, and investment. Traditional neighbourliness can no longer be relied upon. The leasing of land to agricultural combines in exchange for a life pension is suggested as a way to reduce social problems in rural areas. There is a move to establish a system of pensions for all farmers.

Steps have been taken recently to establish small homes for aged persons and a "geronto-hostess" in villages. Such homes built by volunteers and paid for by contributions of prospective residents seem to be one form of solution of the problem.

Professional education and research in geriatrics and gerontology

Social medicine and related sciences applied to aging is continuously being elaborated. Important contributions to education and the publishing of new knowledge were made by the two Gerontological Congresses held in Yugoslavia in 1977 and in 1982. The Gerontological Societies of Republics, the Geriatric Sections of Medical Societies, and various associations of citizens have published several thousand articles which constitute a valuable multidisciplinary treasure of knowledge in the field, as well as a number of studies and monographs. Theses on gerontological subjects, for masters' and doctors' degrees, have been submitted.

There is continuous scientific and research work concerned either with direct questions on aging and old age, or with indirect issues such as the disintegration of village life, urbanization, industrial development, demographic trends, and health status.

The future of Yugoslav gerontological and geriatric thought and practice can be regarded with confidence and optimism for a number of reasons. For example, there is a progressive social attitude; there is a strong basis of gerontological and geriatric thought and practice; multidisciplinary is accepted as a way of observing phenomena and pursuing solutions; primary health care is well established; there are incentives to work with the aged and to engage more junior experts; aged persons have increasing possibilities to participate in decision-making in general and with reference to themselves and their rights, life and work; and it is realized that since great problems require great efforts, organized social forces must contribute to the further development of gerontological thought and practice and to the search for ever-better solutions.

Annex 2

COMPUTER-ASSISTED PLANNING:

Subject topics

1. Demography
 1. Age-Sex Distribution
 2. Marital Status
 3. Living Arrangements
 4. Urban/Rural Residence
2. Socioeconomic Status
 1. Income Distribution
 2. Poverty Levels
 3. Educational Attainment
3. Economy
 1. Gross National Product Per Capita
 2. Dependency Ratio
 3. Labour Force Participation
4. Social Security
 1. Social Security Beneficiaries
 2. Social Security Expenditures
 3. Sources of Income
 4. Payroll Tax Rate
5. Housing
 1. Age of Dwelling
 2. Number of Bathrooms
 3. Type of Heating
 4. Type of Dwelling
 5. Ownership
6. Health Resources
 1. Physicians
 2. Registered Nurses
 3. Other Health Professionals
 4. Hospital Beds
 5. Nursing Home Beds
 6. Home Health Services
7. Health Status
 1. Death
 2. Life Expectancy
 3. Heart Death Rate
 4. Cancer Death Rate
 5. Stroke Death Rate
 6. Chronic Conditions
 7. Restrictions in Activities of Daily Living
 8. Mobility Restriction
 9. Limitation of Activity
 10. Self Assessment of Health
 11. Edentulous Population

8. Health Utilization

1. Physician Services
2. Physician Services by Specialty
3. Physician Services by Place of Care
4. Dental Services
5. Hospital Discharges
6. Hospital Patient Days
7. Hospital Patient Days by Diagnosis
8. Operations
9. Male Operations
10. Female Operations

9. Health Expenditures

1. Total
2. Relation to GNP
3. Age Differences
4. Physician Expenditures
5. Hospital Expenditures
6. Nursing Home Expenditures
7. Dental Expenditures
8. Source of Financing
9. Financing by Type of Service
10. Public Expenditures
11. Total Current
12. Relation to GNP
13. Age Differences
14. Physician Expenditures
15. Hospital Expenditures
16. Nursing Home Expenditures
17. Dental Expenditures
18. Source of Financing
19. Financing by Type of Service
20. Public Expenditures

10. Long-Term Care

1. ADL for Non-Institutionalized
2. Sources of Help
3. Mobility Restriction
4. Nursing Home Residents
5. Age-Sex Distribution
6. ADL for Nursing Home Residents
7. Primary Diagnosis
8. Conditions and Impairments
9. Prior Residence
10. Nursing Home Expenditures
11. Source of Payment

11. Mental Health

1. Suicide
2. Selected Measures
3. Concerns

12. Social Contacts

1. Church Attendance
2. Contact with Children
3. Leisure Activities

Annex 3

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