
**Annual Report
of the
Director of Public Health** **1991**

*Challenges for Health
in Argyll and Clyde*



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Introduction

This is my third annual report. As in previous reports (Refs 1 and 2), a variety of topics has been included, but the main focus in 1991 is on health needs assessment. Coronary heart disease - one of the major causes of death - has been chosen to illustrate this.

Inequalities in health continue to give rise to concern. Inverclyde District is notable in having higher than average mortality rates from various causes. Children's dental health is also shown to be poorer than average in this district. The reasons for such differences are undoubtedly complex, but socio-economic factors are believed to play a major part.

One of the greatest challenges facing health boards in their new role is how to make best use of available resources to achieve the greatest enhancement of the health of the population as a whole. Resources will always be finite, and therefore they must be used efficiently and effectively. This is important, not only in treating illness and providing care, but also in preventing disease and in promoting health in a positive way. Where inequalities in health exist, there is a strong case for targeting resources towards those areas where need is greatest.

This year's report has not focused specifically on smoking-related illnesses, but damage to health from smoking continues to be a major public health concern. Action to reduce this damage must continue, and there is still much to be done. In particular, public bodies need to take a more positive stand against smoking in the areas which they control; and it is very disappointing that the Government, despite its open acknowledgement of the harmful effects of smoking, has so far resisted the mounting pressure for a ban on the advertising of tobacco products.

This report includes a short section on health problems relating to the water supply. At the time of writing, there is much public debate about the future of water and sewerage services in Scotland, and a consultation paper on the subject has been issued by the Government. It is not part of my department's function to become embroiled in the politics of the options which are being considered - but the incidents reported do underline the need for the closest possible co-operation between those who supply our water and those responsible for the public's health. Whatever future arrangements are made for water and sewerage services, it will be of the greatest importance to ensure that such close co-operation can continue.

As usual, the production of this report has been a corporate effort by the Department of Public Health, and I am grateful to all my consultant and senior registrar colleagues in the department, to Mr Alan Gerrish, acting Chief Administrative Dental Officer, and to the department's Information Officer, Dr Alison Burlison, for the chapters which they contributed. Dr Lewis Reay and Dr Burlison have carried out the important, and at times frustrating, task of editing, while Mrs Irene Raine has undertaken the desk-top publishing and co-ordinated the production of the report. Assistance with data analysis was provided by the Board's Information Services Agency and the department's clerical staff, while the secretarial staff undertook the bulk of the typing. My thanks are due to all of these individuals for their efforts.

The provision of ad hoc data analyses by the Information and Statistics Division (ISD) of the Common Services Agency in Edinburgh is much appreciated.

The report is being circulated widely, and feedback from its readers, by way of comment or further enquiry, will be very welcome.

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Summary

- * When compared against the situation in Scotland as a whole, mortality from all causes is found to be 4% higher in Argyll and Clyde, and 10% higher in Inverclyde District. This district also has a generally higher level of socio-economic deprivation.
- * Mortality from coronary heart disease is 7% higher in Argyll and Clyde than in all-Scotland. Inverclyde and Renfrew Districts have high death rates for males and for females; Inverclyde also tends to have an increased rate of hospital inpatient admissions.
- * Coronary heart disease is estimated to result in over 600,000 working days lost each year in certified sickness absence in Argyll and Clyde. The overall cost of the disease to the Health Board is estimated to exceed £8 million per year.
- * The Health Board strategy for coronary heart disease has a three-tiered approach; prevention, treatment and continuing care. Greater emphasis should be placed on prevention.
- * Health promotion activities planned for 1992 include a health needs assessment seminar involving people from one of the areas for priority treatment, a health project for the Cowal peninsula, and large-scale surveys of the general public on health and health-related behaviour.
- * While the number of childhood deaths has declined markedly over recent years, efforts must continue to reduce the toll. Major causes include 'cot death' in babies, and accidents in older children - particularly motor vehicle accidents.
- * In 1991, the percentage of five year olds with no tooth decay ranged from 48% in the relatively advantaged district of Argyll and Bute, down to only 27% in Inverclyde. Primary schools where dental health is poor are being targeted for health promotion initiatives on oral hygiene.
- * By the end of 1991, approximately 10,000 Argyll and Clyde women aged 50-64 years had taken part in the breast screening programme. A total of 74 cancers were detected, mostly at an early stage when the outlook is considered more favourable.
- * Of the 15 health board areas in Scotland, Argyll and Clyde currently has the worst mortality experience for cervical cancer. However, the cervical screening programme which should help to counter this, is gathering momentum.
- * It is estimated that of those Argyll and Clyde residents aged 65 years and over, approximately 7,100 (11%) will be severely disabled and very dependent upon carers for help with eating, dressing, mobility and continence.
- * Amongst the 16-64 years age group, approximately 4,150 individuals (1.4%) are estimated to be severely disabled. Assistance from both social services and health services can enable many to live more independently in the community.

1. Argyll and Clyde Profile

Overview

Argyll and Clyde comprises four local government districts; Argyll and Bute and Dumbarton to the west and north of the Firth of Clyde, and Inverclyde and Renfrew to the south (see map inside front cover). A total of 26 inhabited islands lie within Argyll and Bute district, including Coll, Tiree, Mull, Iona, Islay, Jura, Colonsay, Gigha and Bute.

Argyll and Clyde is a mixed rural and urban area. Most centres of population are situated beside the River Clyde (Gourock, Greenock, Port Glasgow, Renfrew, Milton, Dumbarton, Helensburgh and Dunoon) and in the Paisley and Vale of Leven areas. Other areas are only sparsely populated, including most of Argyll and Bute.

The economy is based on a variety of industries. In Argyll and Bute, farming, forestry, fishing and tourism predominate, and unemployment is generally comparatively low. By contrast, Inverclyde has a high unemployment rate, due largely to the decline in ship-building and heavy engineering in recent years. All four districts include areas which are relatively affluent, and other areas characterised by high unemployment and indicators of poverty.

Renfrew district lies adjacent to the city of Glasgow, with good road and rail links. Travel within the remoter areas of Argyll and Bute is inevitably less straightforward, but there are ferry links between Gourock and Dunoon, and from the mainland to the major islands. Glasgow Airport is situated at Inchinnan near Renfrew and has airlinks with Campbeltown, Islay, Tiree and the outer isles.

Five other health board areas border with Argyll and Clyde; Ayrshire and Arran to the south, Greater Glasgow to the south-east, Forth Valley to the north-east, Tayside to the north-north-east, and Highland to the north. While most hospital patients are treated in their area of residence, there is some 'cross-boundary flow' of patients both into and out of Argyll and Clyde. This mainly involves Greater Glasgow Health Board, and to a lesser extent Ayrshire and Arran.

Population

At the time of writing, neither population data nor socio-economic data from the 1991 Census were available, but these are awaited with interest. The most recent population estimates down to local government district level published by the General Register Office for Scotland are for 30 June 1990, and these are used throughout this report unless stated otherwise. The total Argyll and Clyde population is estimated to be 440,400 persons.

Two characteristics of the Argyll and Clyde population have a particular bearing on health service planning. First, the distances which separate many of the rural communities influence the ease with which local health and other services can be provided.

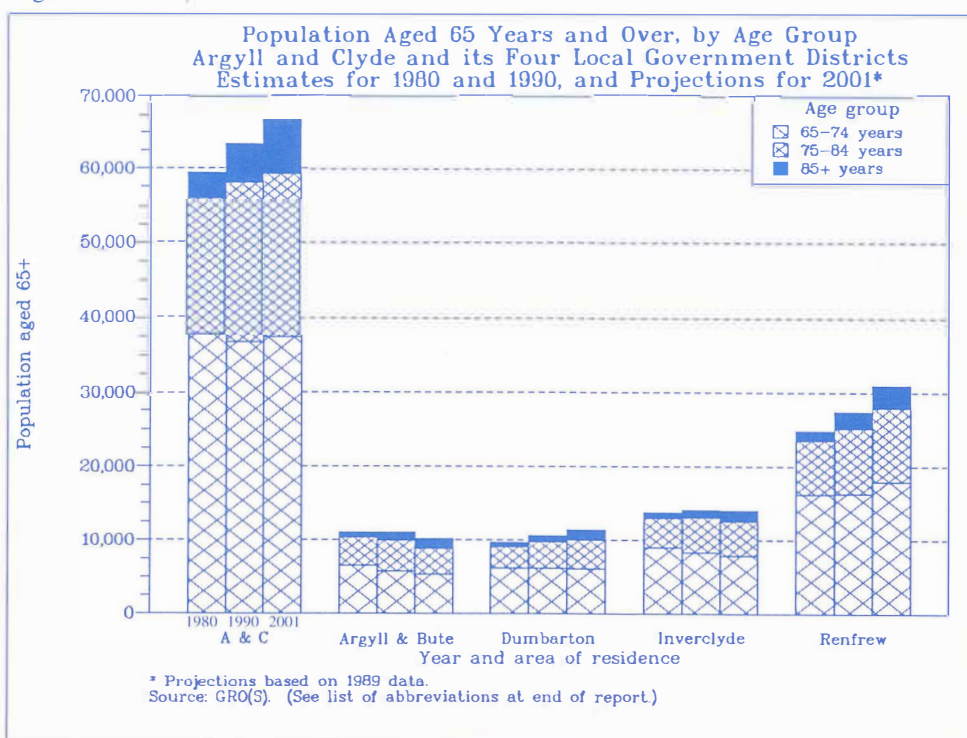
Second, account must be taken of the fact that there is an ageing population in Argyll and Clyde, as there is in Scotland as a whole. Elderly people are major users of health services,



and have specific health needs. This must be taken into consideration in planning future services.

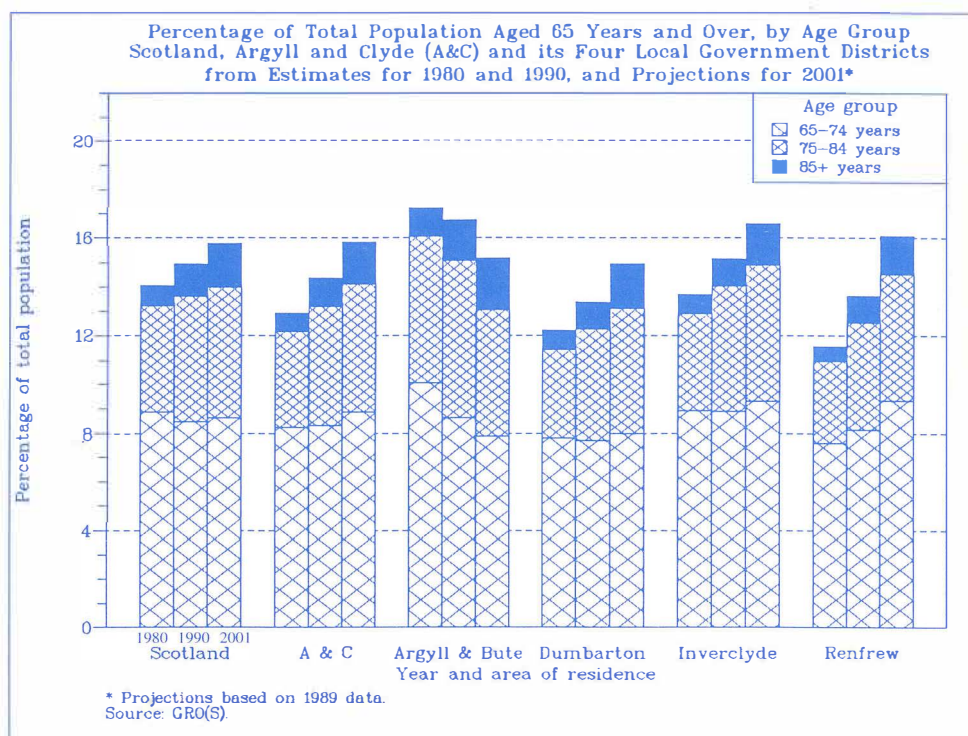
The extent to which the population is ageing is illustrated in Figure 1.1. The total height of each of the 15 bars in the diagram indicates the number of people aged 65 years and over, and there are bars for each of three time periods, for each of five areas (Argyll and Clyde and its four local government districts). It can be seen that the population aged 65 years and over has increased between 1980 and 1990 in all areas except Argyll and Bute. Moreover, it is projected to increase still further by the year 2001, except in Argyll and Bute and in Inverclyde. The very elderly population (aged 85 years and over) is represented in the diagram by the uppermost (solid) portion of each bar. It is notable that in all areas the numbers of very elderly people have increased between 1980 and 1990 by between 40 and 71%, and this trend looks set to continue. Projected numbers of very elderly people for the year 2001 are between 84 and 134% greater than the 1980 numbers.

Figure 1.1



In addition to the absolute numbers of elderly people, the proportion of the total population which they represent is important. Figure 1.2 shows the elderly population data from Figure 1.1 expressed as percentages of the total population, and includes Scotland for comparison. It shows that, with time, the 65 years and over age group (indicated by the total height of each of the 18 bars) is forming a greater proportion of the total population in all areas except Argyll and Bute. The same finding applies to the age group 75-84 years. All areas, including Argyll and Bute, have an increasing percentage of the population in the 85 years and over age group.

Figure 1.2



Argyll and Bute therefore stands out as the exception in terms of demography. The area has been characterised by an aged population in the past. In 1980, over 17% of the population was aged 65 years and over, as compared to 14% in all Scotland, and less than 12% in the comparatively 'young' district of Renfrew. By the year 2001, however, it is projected that the Argyll and Bute figure will have fallen to 15% whilst the Renfrew figure will have increased to 16%.

Some of the implications for health care arising from the ageing population in Argyll and Clyde are outlined in Chapter 12.

Areas for Priority Treatment

It is well known that socio-economic factors influence health needs. A total of 15 areas in Argyll and Clyde have been designated areas for priority treatment (APTs) by Strathclyde Regional Council. The designation was based on a range of indicators measured in the 1981 Census which when taken together indicate social and economic deprivation.

The APTs are listed in Table 1.1, together with their 1987 populations (the most recent available). Over one in ten of the Argyll and Clyde population is resident in an APT, although the corresponding figure for Strathclyde Region as a whole is over one in five.

One of the APTs with a population of over 5,000 - Larkfield, in Inverclyde district - is discussed in more detail in Chapter 5.

Table 1.1

Areas for Priority Treatment (APTs) and their Resident Populations
Local Government Districts in Argyll and Clyde
1987

District	APT Name and Location	APT Population	% of Total Population of District
Argyll & Bute	Ballochgoy (Rothesay)	894	1
Dumbarton	Haldane (Vale of Leven)	3625	
	Renton	2208	
	West Dumbarton	<u>5611</u>	
		11444	14
Inverclyde	Bow Farm (Greenock)	2899	
	Gibshill (Greenock)	3010	
	Kelburn/Woodhall (Port Glasgow)	2406	
	Larkfield (Greenock)	5209	
	Strone/Maukinhill (Greenock)	<u>4338</u>	
		17862	19
Renfrew	Dunterlie (Barrhead)	2190	
	Ferguslie Park (Paisley)	5607	
	Foxbar (Paisley)	2349	
	Howwood Road (Johnstone)	2937	
	Moorpark (Renfrew)	2280	
	Shortroods (Paisley)	<u>1191</u>	
		16554	8
Argyll and Clyde		46754	11

Sources: GRO(S) and SRC 1987 VPS.

Births

In 1991, there were 5,650 live births to Argyll and Clyde residents. Of these, 29% (1,658) were to unmarried parents - a similar percentage to that for all Scotland. Within the Health Board area, however, Inverclyde had a notably higher percentage at 34% (402 out of a total of 1,185 live births).

Illegitimacy rates have more than doubled in the last 10 years. In 1981, the Scottish and Argyll and Clyde rates stood at only 12% of the total live births, while Inverclyde was slightly higher at 14%. Twenty years ago, the Scottish rate was just 8%, with the figures for Argyll and Clyde and Inverclyde both around 7%.

Clearly, family structures are changing, with fewer people marrying before having children, particularly in Inverclyde. The number of single parents who are unsupported and may be facing financial hardship is likely to have an important bearing on requirements for social and health services.

Deaths

A historical perspective

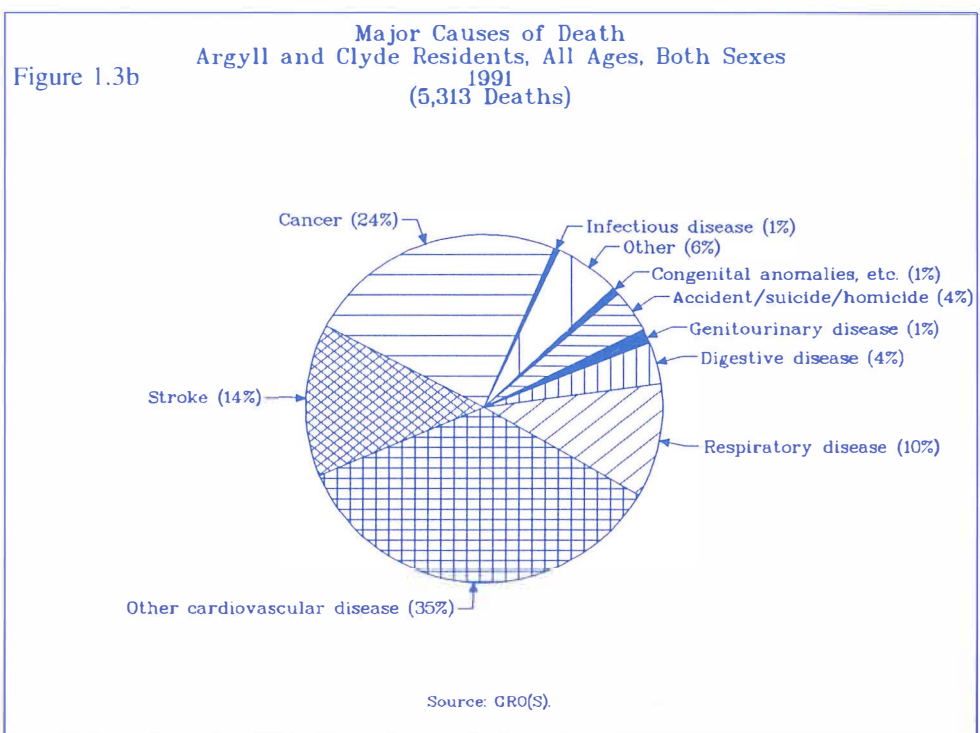
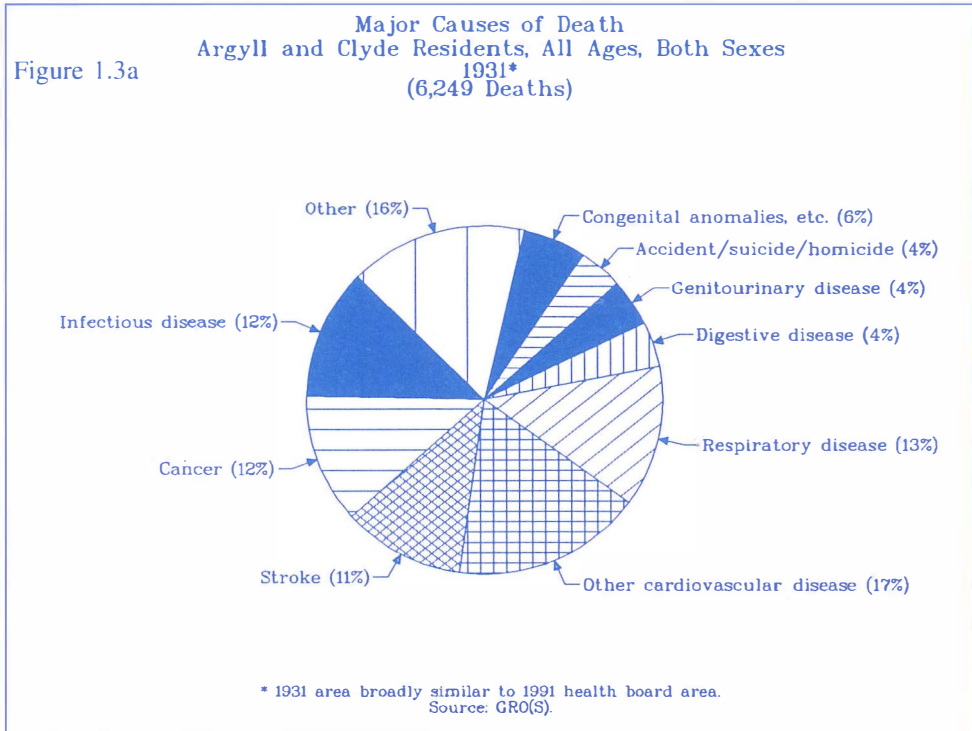
Statistics from the General Register Office for Scotland show that between 1931 and 1991, average life expectancy at birth in Scotland increased from 56 to 71 years for males, and from 60 to 77 years for females. While such increases are to be generally welcomed, and reflect amongst other things a decrease in 'premature' deaths (before the age of 65 years), it is important to ensure that quality, as well as quantity, of life is maintained in the later years.

Another marked change over the past 60 years has been in the relative importance of different causes of death (Figure 1.3a and b). In 1931, stroke and 'other cardiovascular disease' accounted for between a quarter and one-third of all deaths in Argyll and Clyde, whereas in 1991 nearly half of all deaths were due to these causes. Although not shown in the diagram, it should be noted that coronary heart disease accounted for over 80% of the 'other cardiovascular disease' category of deaths in 1991. A major cause of death today, coronary heart disease is the subject of a detailed health needs assessment project reported in Chapter 4.

Cancer deaths have also increased markedly over the 60-year period, with the percentage of all deaths doubling from 12 to 24%. Both cardiovascular disease (including stroke) and cancer are predominantly diseases of the elderly, and the increasing importance of these diseases as major causes of death is largely due to the fact that people are now living longer.

As might be expected, smaller percentages of all deaths are now due to infectious disease (1% compared with 12% in 1931), congenital anomalies and birth-related problems (1% compared with 6% in 1931) and genitourinary disease (1% compared with 4% in 1931). Improvements in hygiene, nutrition and housing, the introduction of immunisation programmes, and the discovery of antibiotics in the 1930s and 1940s and their subsequent development, have undoubtedly contributed to the decrease in importance of infection and

genitourinary disease as causes of death. It is interesting that the percentages for two categories have not changed; accident/suicide/homicide, and digestive disease (both remaining at 4%).

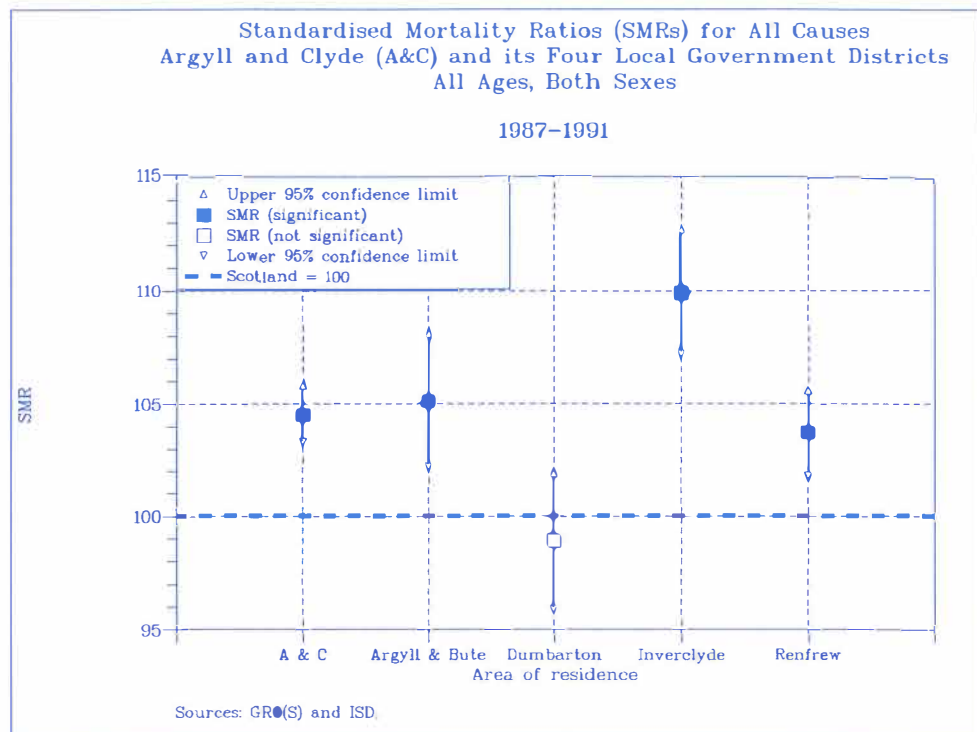


A geographical perspective

In addition to changing patterns with time, there are marked differences in mortality between different geographical areas. In order to draw valid comparisons between areas where the age (and possibly sex) structure of the population differs, it is necessary to employ a standardising procedure. This allows for the fact that, for most causes of death, populations with a high proportion of elderly people are expected to experience more deaths.

Figure 1.4 shows standardised mortality ratios (SMRs) for deaths from all causes, for residents of Argyll and Clyde and each of its four local government districts, over the five-year period 1987-1991. Scotland was used as the standard area in the calculations, and was therefore assigned an SMR of 100. Argyll and Clyde, with an SMR of 104.5, had a mortality experience 4.5% worse than Scotland as a whole. This is a reflection of the relatively high death rates in all local government districts except Dumbarton. Inverclyde was notable in having a mortality experience 9.9% worse than Scotland as a whole.

Figure 1.4



The 95% confidence limits for each of the five SMRs depicted in Figure 1.4 determine whether the SMR is considered to be statistically significant or not. For example, there is a 95% (or 19 in 20) chance that the true value of the SMR for Argyll and Clyde (after allowing for chance effects) lies between 103.3 (the lower limit) and 105.8 (the upper limit). As the lower limit is greater than 100, the SMR is considered to be significantly

high in comparison with Scotland.

It can be seen that Argyll and Bute, Inverclyde and Renfrew also have significantly high SMRs. Dumbarton, on the other hand, has an apparently low SMR (98.9), but as the upper confidence limit (101.9) exceeds 100 the SMR is not significantly low in comparison with Scotland. For each local government district, the confidence interval (the difference between the lower and upper limits) is wider than that for Argyll and Clyde. This is because, all else being equal, smaller numbers of events generate wider confidence intervals.

Similar graphs, depicting SMRs, and - for hospital data - standardised discharge ratios and standardised patient ratios, are presented for particular diseases and for residents of one of Argyll and Clyde's APTs, in later chapters.

Appendix 2 contains tables with further details of birth and death statistics taken from the Argyll and Clyde Health Board Annual Statistical Report for 1991 (Ref 3).

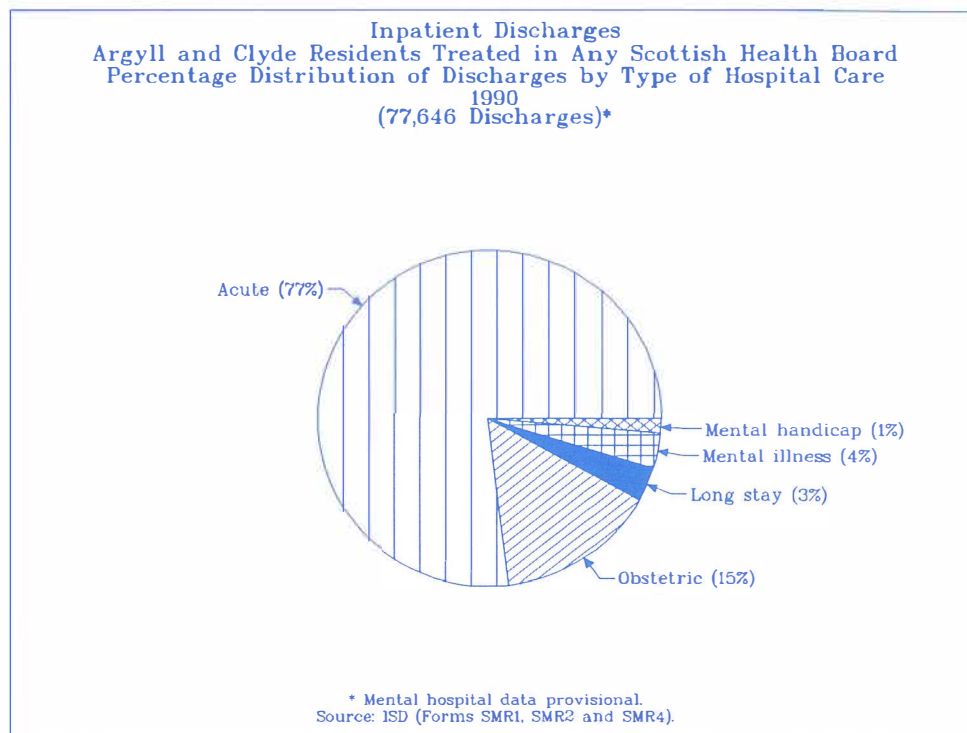
Morbidity

The lack of comprehensive statistics on illness in the population was discussed in last year's annual report. Hospital data represent only the tip of the iceberg for morbidity, but are nevertheless of some value in assessing health needs and planning health services.

Use of hospital services

Figure 1.5 gives an overview of the main types of hospital care received by Argyll and Clyde residents treated as inpatients in NHS hospitals in Scotland in 1990. Of nearly 78,000 hospital discharges, over three-quarters were from acute specialties, with obstetrics accounting for a further 15% of the total. Taken together, the mental illness and mental handicaps specialties plus the three non-psychiatric long stay specialties (geriatric assessment, geriatric long stay and young chronic sick) accounted for only 8% of discharges. However, it should be noted that using statistics based on numbers of discharges will tend to under-represent patient numbers and workload for the longer-term specialties where patients may be resident in hospital for months or even years.

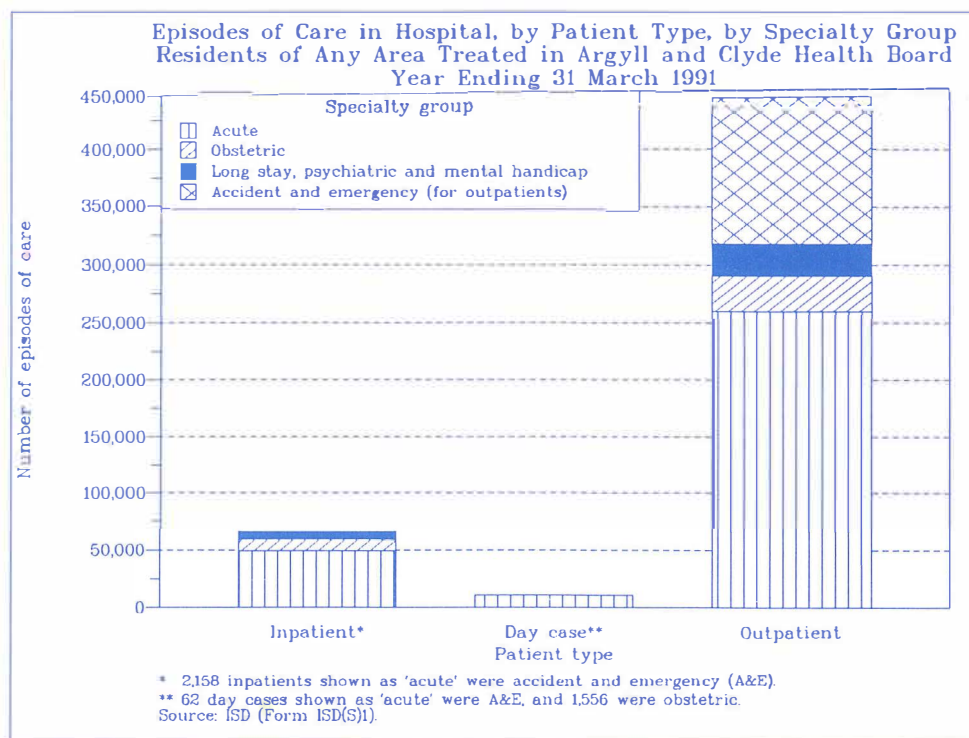
Figure 1.5



While the data in Figure 1.5 relate to episodes of care rather than numbers of patients (one individual may have been discharged several times in the course of the year), it is interesting to note that on average one in six of the Argyll and Clyde population generated a hospital inpatient discharge record in 1990.

In order to compare numbers of episodes of care of outpatients, inpatients and day cases on the same basis, it is necessary to use hospital activity statistics. Unfortunately, data are not available by health board of residence as in Figure 1.5, but they are available by health board of treatment. Figure 1.6, relating to the year ending 31 March 1991, shows that of the three patient types, outpatients accounted for by far the largest number of episodes of care (443,000 attendances compared with 65,000 inpatient discharges and 11,000 day case discharges). Within each patient type, the acute specialties accounted for the majority of episodes of care. It is also of note that there were 125,000 outpatient attendances at accident and emergency departments - nearly double the total number of inpatient discharges.

Figure 1.6



General practice

Population surveys, such as those undertaken regularly by the Office of Population Censuses and Surveys, show that most contact with the health service (as much as 90%) takes place in a general practice setting. While currently little information is routinely available on this large area of activity, work is underway to develop systems to provide such information. In Argyll and Clyde, the Health Board and general practitioners are collaborating in a scheme to provide key morbidity data from selected 'spotter' practices in different areas.

2. Purchasing for Health

The reforms of the National Health Service, introduced in 1990/91, brought about a fundamental change in the role of health boards. Previously, boards were greatly preoccupied with the provision of services, being directly responsible for the management of service delivery. Now, boards are to act as purchasers of services on behalf of the people resident in their areas. Hospitals, health centres and clinics, under local management, will provide services in accordance with contracts agreed with the purchasing board. During the present transitional stage, most of the providers of services still come under overall health board management, but it is envisaged that with the development of NHS Trusts over the next two years or so, boards will become entirely divorced from operational responsibility for the delivery of health services.

A further change introduced by the NHS reforms has been the development of general practice fund-holding, where certain larger general practices can be given a fund by the health board with which to purchase a range (at present fairly limited) of services for their patients. Such an arrangement gives the fund-holding general practitioner much flexibility in purchasing services in the best interests of his patients, and also gives him influence over the nature and pattern of services provided.

A major advantage of the new role for health boards is that it focuses on each board's responsibility for the health of the population living in its geographic area. As the providers of services gain management independence by the acquisition of Trust status, the health board, untrammelled by day-to-day management problems, is free to concentrate attention on the following questions:

How healthy is our population?

What measures are needed, not only to maintain the present level of health, but to improve upon it?

How best should we use the resources available to us to implement these measures?

Given that many aspects of health are not determined by the National Health Service, whose help do we need to enlist to bring about improvements in health?

Are the measures which we are implementing having the intended effect of improving health?

Seeking answers to these questions forces health boards to look critically and objectively at what services are currently provided and at the balance of these services. Existing patterns of health care have evolved for many historical reasons, but rarely as a result of systematic, critical assessment of what is needed to improve the health of the population.

The first question, 'how healthy is our population?', tends to be looked at in terms of 'how does the health of our population compare with that of others?', rather than in terms of any absolute scale of health. However, Scotland's health compares badly in most respects with

the health of the populations of other developed countries, and the health of people in West-Central Scotland, including Argyll and Clyde, compares badly with that of people in the rest of Scotland. Hence, a comparative approach to the question is fully justified, rather than attempting to measure against a notion of absolute health which is virtually impossible to define.

The term 'purchasing', with its connotation of commercial transactions and the exchange of goods for cash, perhaps inadequately expresses the process which is the keystone of the health board's new role. Nevertheless, in our everyday lives, before we make a purchase we tend to ask ourselves what it is that we need, where it can be obtained, will it serve our purpose, is it of good quality, can we afford it and is it worth the money?

Health boards in their purchasing decision-making have to look at very similar issues. The first issue, what it is that we need (to maintain and improve health), is being addressed by what is termed 'health needs assessment'. This is a complex process involving the study of patterns of illness and death in the population, the characteristics of the population, its geographic distribution and other social and economic resources (such as housing and employment). The perception of local people as to what is required, expressed directly or through representatives and professionals, is also important. Assessment of health needs is the first stage in the purchasing process.

3. Health Needs Assessment- an overview

The Department of Public Health has taken the lead role in assessing the health and the health care requirements of the population of Argyll and Clyde, and has developed a standard format for this process. The topic chosen for a health needs assessment may be specific to a particular condition or disease, a hospital specialty, a client group or a geographical location, but in each case a common approach is taken. This approach is summarised in Figure 3.1 and discussed below.

Figure 3.1



The first step of the assessment involves determining current knowledge on the topic by reviewing medical and other literature and by seeking advice from the relevant professionals. Routinely collected morbidity and mortality statistics are reviewed and analysed, and augmented by information obtained from local surveys and/or national data. Consideration is also given to the results of research carried out locally or elsewhere. A further step in the process frequently involves consultation with local residents as well as with health and other professionals.

The next step involves developing targets to give a clear sense of direction. These provide a goal against which progress in improving health can be measured. For certain topics, targets for improvement have been set nationally; others are set by the Health Board for its local population. The Scottish Office Home and Health Department published the National Policy Statement 'Health Education in Scotland' in March 1991, and this sets targets for the year 2000. Specific targets may relate to behavioural changes (for example reducing the percentage of people who smoke) or to particular conditions or diseases (for example reducing deaths from coronary heart disease). Most targets are quantifiable and apply to a particular age group, generally the under-65s.

Option appraisal of possible interventions involves a detailed consideration of the present provision of services, taking into account preventive, treatment and rehabilitative aspects. The relative benefits of each type of approach are assessed, with known new and potential developments in care also considered. This may highlight current procedures which are of little or no benefit in preventing illness or providing treatment, as well as identifying those areas of proven benefit.

The health needs identified by this process have also to be matched against currently available resources. These include trained staff, appropriate facilities and finance. It is essential that all resources are used as efficiently and effectively as possible, with consideration given to the health service costs and social costs involved. In addition, a reasonable balance must be achieved in meeting the demands of competing care groups, conditions and geographical areas.

Each assessment of need provides a strategy which enables the Health Board to set targets and to devise a plan of action. In the longer term, as more topics are considered, a balanced and comprehensive strategic plan for the overall improvement of health will be produced.

The health needs assessment process is illustrated in the following chapter, where the problem of coronary heart disease is considered.

4. Coronary Heart Disease

Introduction

Coronary heart disease (CHD) is a major cause of mortality and morbidity worldwide, but Scotland has consistently been at the top of the international mortality league table. Argyll and Clyde, in common with other health board areas in the West of Scotland, has a particularly high death rate from the disease. In 1991, the crude rate for 'premature' deaths (those occurring before the age of 65 years) was 89 per 100,000 population in Argyll and Clyde, as compared to 76 per 100,000 population in Scotland as a whole.

Of the 336 premature deaths due to CHD in Argyll and Clyde in 1991, 252 occurred in men and 84 in women. These numbers represent nearly one-third of all premature male deaths and one-fifth of all premature female deaths, and are clearly a major cause for concern. Furthermore, CHD also causes considerable chronic ill-health and disability, and it has been estimated that it results in more than 600,000 working days lost each year in certified sickness absence in Argyll and Clyde.

The underlying cause of the disease is a narrowing of the coronary arteries due to a deposit of fatty material which eventually calcifies. This has the effect of reducing the blood supply to the heart, preventing oxygen and other nutrients from reaching the heart muscle. This produces the symptoms of angina and can cause an acute myocardial infarction ('heart attack').

Other arteries within the body can be similarly affected, resulting in peripheral vascular disease or stroke. Therefore, efforts to prevent the narrowing of arteries can help to reduce mortality and morbidity from a range of diseases.

There are many risk factors associated with CHD. Men are more likely than women to be affected, and a strong family history is a predisposing factor. These risks cannot be eliminated, but other major risk factors which can be reduced or eliminated include smoking, high blood pressure and high blood cholesterol levels. A recent study (Ref 4) shows that more than two-thirds of Scots have at least one major risk factor, and one-fifth of the population has two. The individual risk factors can act together to produce a much greater overall risk of CHD than would be expected from simply adding their effects.

Disease Patterns

Time trends for crude rates of premature deaths from CHD over the past 12 years highlight the considerably higher rates for men than for women (Figure 4.1). While there is an encouraging overall decline in the male rates, the rate for Argyll and Clyde is consistently higher than that for Scotland and there are indications that the decline is bottoming out. The rates for females show a much smaller overall decrease with time, and again Argyll and Clyde fares worse than Scotland. It is likely that if the downward trend in male and female rates is to be maintained, a wide range of interventions needs to be introduced.

Within Argyll and Clyde, there are marked differences between local government districts with regard to both CHD mortality experience (as indicated by standardised mortality

Figure 4.1

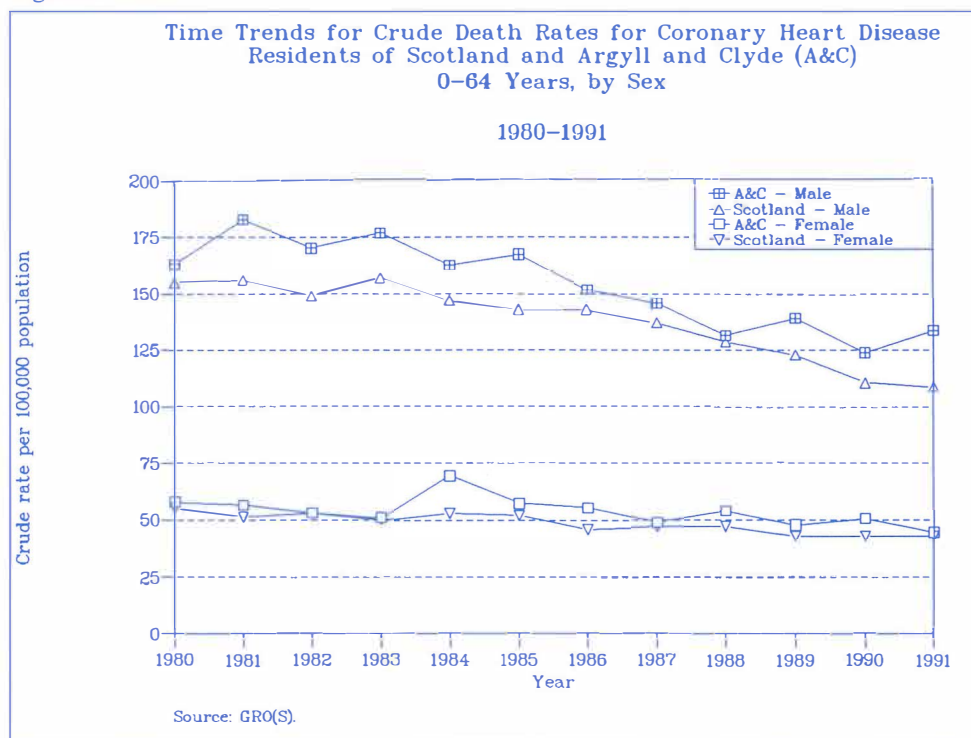


Figure 4.2

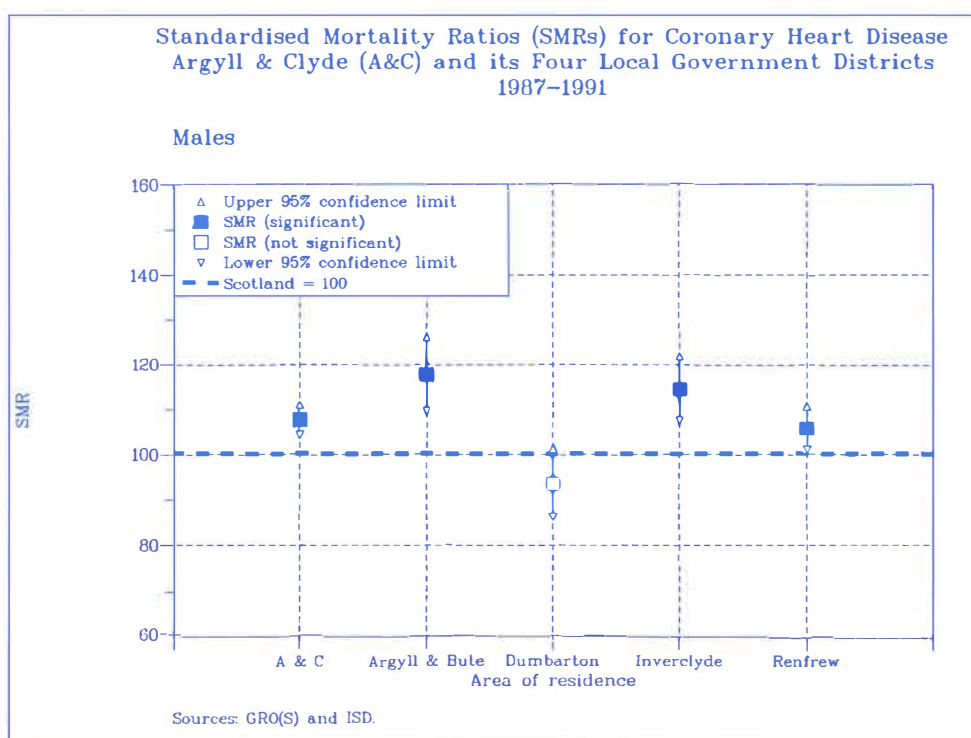


Figure 4.3

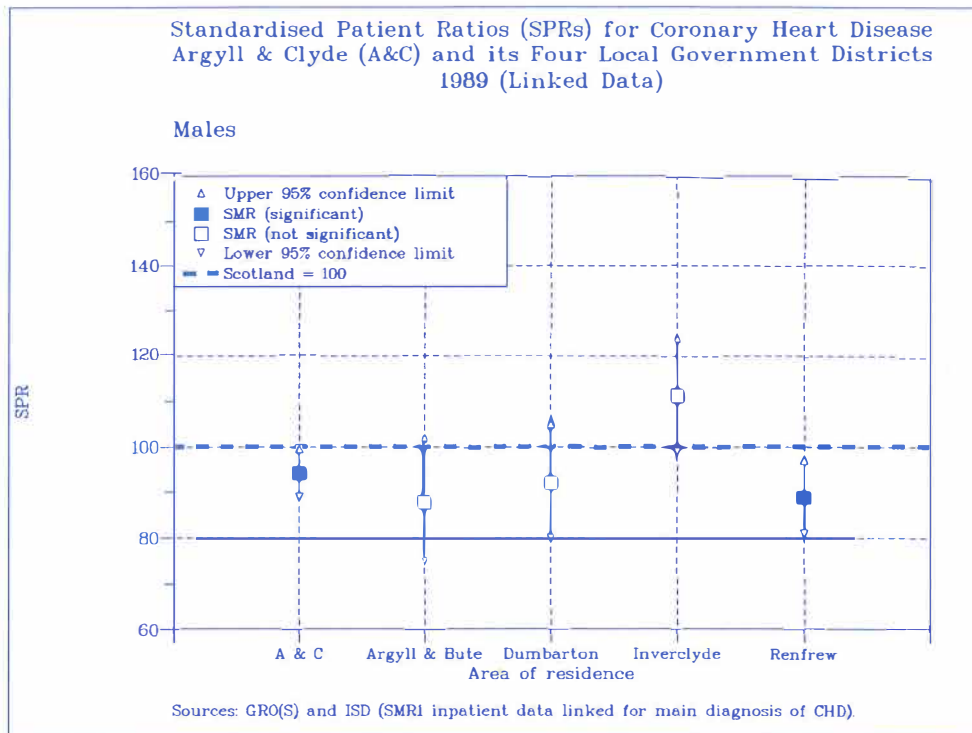


Figure 4.4

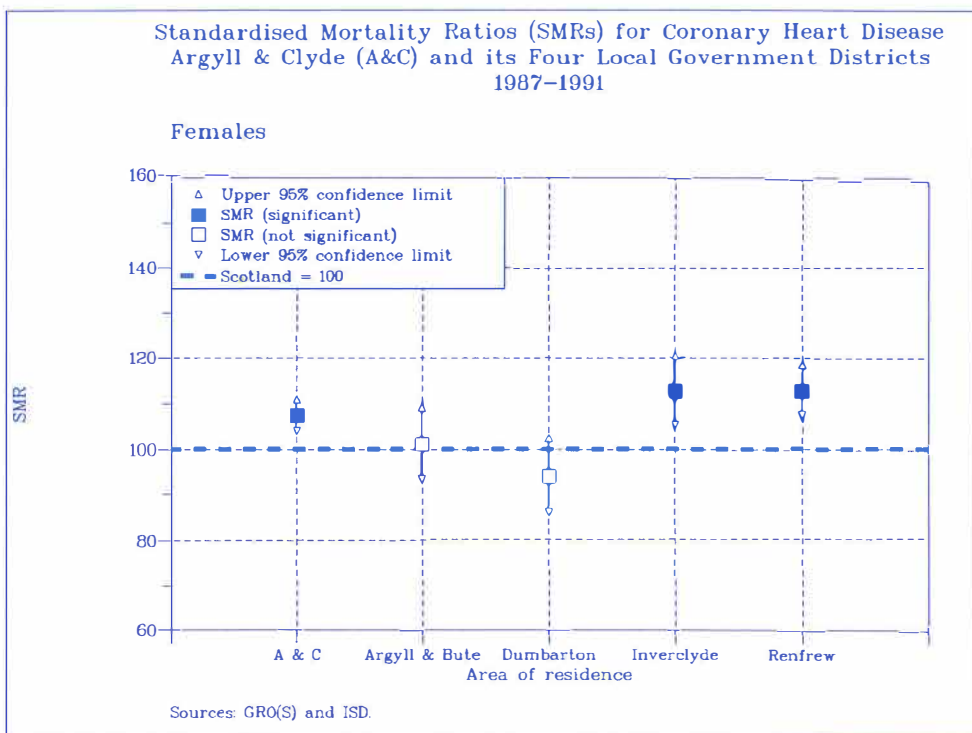
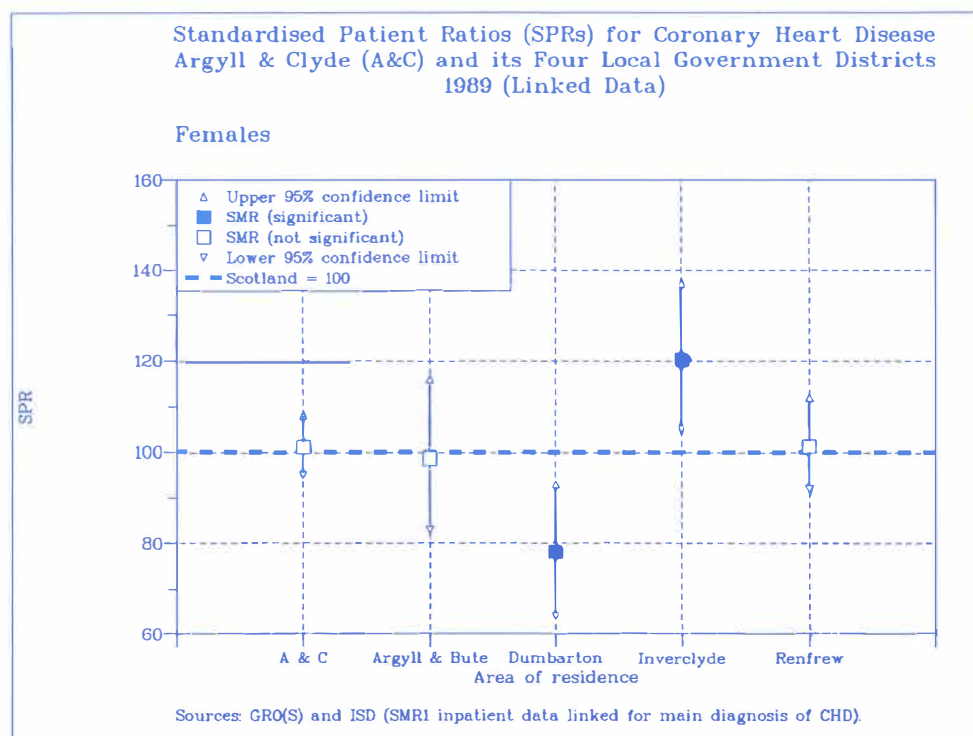


Figure 4.5



ratios (SMRs)) and hospital inpatient experience (as indicated by standardised patient ratios (SPRs)). Just as an SMR indicates how death rates for an area compare with Scotland, after allowing for differences in the age and sex structure of the population, so an SPR indicates how the rates of inpatients treated compare. In both cases, Scotland is assigned the value of 100. It should be noted that the SPR relates to people rather than episodes of care - data linkage has been used to ensure that an individual admitted to hospital for CHD more than once in the year is only counted once.

Figure 4.2 shows that for males, the SMR over the past five years was significantly higher in Argyll and Clyde than in Scotland, due to significantly high ratios in Argyll and Bute, Inverclyde and Renfrew, but not Dumbarton. Although it might be expected that this pattern would be repeated in inpatient statistics for the corresponding areas, Figure 4.3 indicates that this is not the case. The SPR for CHD in 1989 was significantly lower in Argyll and Clyde than in Scotland, with a similar result for Renfrew district.

The situation for females is broadly similar to that for males as far as mortality is concerned - Argyll and Clyde, Inverclyde and Renfrew all had significantly high SMRs for women (Figure 4.4). The overall pattern between local government districts tended to be echoed for female inpatients (Figure 4.5). Although the SPR for Argyll and Clyde did not differ

significantly from that for Scotland, Dumbarton had a low ratio and Inverclyde a high ratio.

The main findings of these four graphs may be summarised as follows:

- * Argyll and Clyde, Inverclyde and Renfrew had a high mortality experience for CHD for both sexes.
- * Inverclyde also tended to have an increased inpatient rate.
- * Dumbarton had the lowest mortality experience and - for females - the lowest inpatient rate.

A further insight into differences between districts may be gained by considering referral rates for specialist cardiac investigations and surgery, and by more detailed analysis of the linked inpatient data. Inpatient statistics were split into 'established cases' and 'incidence cases' according to whether or not the patient had been admitted with a main diagnosis of CHD during the preceding five years. Patterns in outcomes (readmission and death) could then be studied, particularly for the 'incidence cases'.

Whilst interpretation of the various findings is not easy - they tend to raise more questions than they answer - certain underlying factors are suggested. It is likely that geographical constraints in remote areas of Argyll and Bute will tend to reduce the rates of CHD inpatients, with more patients being treated at home. As might be expected, referral rates for specialist cardiac investigations and surgery tend to be relatively low in this district.

The comparatively low death rates in Dumbarton District may reflect a relatively favourable social class distribution, while the opposite may be true for Inverclyde where rates of inpatients treated are also high. Targeting health promotion to the areas of deprivation could have a significant effect in lowering the incidence of CHD in the longer term, while an increase in the early investigation and treatment of established disease could help to prevent myocardial infarction.

Health Care Activity

The current patterns of health care activity relating to CHD can be divided into three main areas - prevention, treatment and continuing care. Prevention and treatment can be further subdivided into primary and secondary (Table 4.1).

Table 4.1

Current Patterns of Health Care Activity
Relating to Coronary Heart Disease

	Primary	Secondary
Prevention	Population approach. Identification of risk factors and provision of advice and help.	Screening for risk factors, with specialist referral and advice. Drug treatments.
Treatment	Advice and assistance for risk factors. Drug treatment. Diagnostic procedures. Cardiac surgery.	Early recognition and referral. Resuscitation skills. Thrombolytic therapy. Cardiac surgery.
Continuing care	Rehabilitation Counselling Cardiac surgery Advice and assistance for risk factors Drug treatment	

The overall cost to the Health Board of CHD is estimated to be in excess of £8 million per year. Only 6% of this sum is used for prevention by means of health promotion, with the major input of this being into health promotion clinics in general practice.

Targets for Coronary Heart Disease

In common with the target set for Scotland, the Health Board's target in relation to CHD is to reduce the premature death rate by 40% by the year 2000, using the 1990 rate as a baseline (Figure 4.6). The graph shows an encouraging decline in the actual death rate during the mid- and late-1980s, and this is likely to be at least partly due to new treatments introduced within the last few years, reductions in smoking and moves to a healthier lifestyle. However, it would appear that the rate may now be bottoming out, and further decreases may not be so easy to achieve. It was noted earlier that the rate for women has changed little over time, and although fewer men now smoke, women and young girls have

not responded so well to the advice not to smoke.

The problem of CHD has to be tackled in a variety of ways. Promoting a healthier lifestyle should help to reduce the predisposing factors that lead to the narrowing of the arteries, and should therefore have a longer-term influence on the disease. In the shorter term, it is necessary to ensure that early, effective treatment is available to all, in order to prevent excess morbidity and mortality.

Health Board Strategy

The Health Board strategy for CHD can be considered in the same way as the current patterns of health care activity - prevention, treatment and continuing care.

Prevention

To reduce risk factors on a population basis, Well Person Clinics, where available, can offer appropriate advice and help to individuals. With regard to smoking, efforts are to be concentrated in preventing children and young people from starting to smoke as well as in helping those who want to give up. Smoking policies in the workplace should also be developed as these often provide the incentive for an individual to stop smoking.

Healthy eating should be an accepted standard, particularly within Health Board premises and in the workplace. Advice should be offered on healthy food options such as low-fat alternatives. Local retailers and caterers are to be encouraged to increase the range of healthy foods on offer. Wherever possible they should employ a pricing policy which helps to make healthy eating economically attractive, particularly in respect of fresh fruit and vegetables and high fibre foods.

Physical exercise is also important in the prevention of CHD. Exercise facilities should be easily available and their use encouraged in schools and throughout the community.

Preventive measures aimed at individuals at risk will depend to a large extent on general practitioners. People most at risk may be identified by selectively screening groups of patients in a practice. Careful control of hypertension and diabetes is particularly important in the prevention of CHD.

The detailed views of general practitioners in Argyll and Clyde will be sought by means of a survey of all practices in 1992. In addition, two general lifestyle surveys are planned, one involving adults and the other schoolchildren.

Treatment

Patients who are suspected of having CHD need to be quickly and fully investigated. Where necessary, arrangements must be made for cardiac investigations or surgery to be carried out. Lifestyle advice must also be given, with help to reduce any of the predisposing risk factors.



For patients who do have a heart attack, time is all-important, and everyone should be aware of the need for urgent admission to hospital to allow the appropriate treatment to be given with the minimum delay. There are times when cardiopulmonary resuscitation is needed and anyone who has an interest in learning the technique should have the opportunity to be taught.

Continuing Care

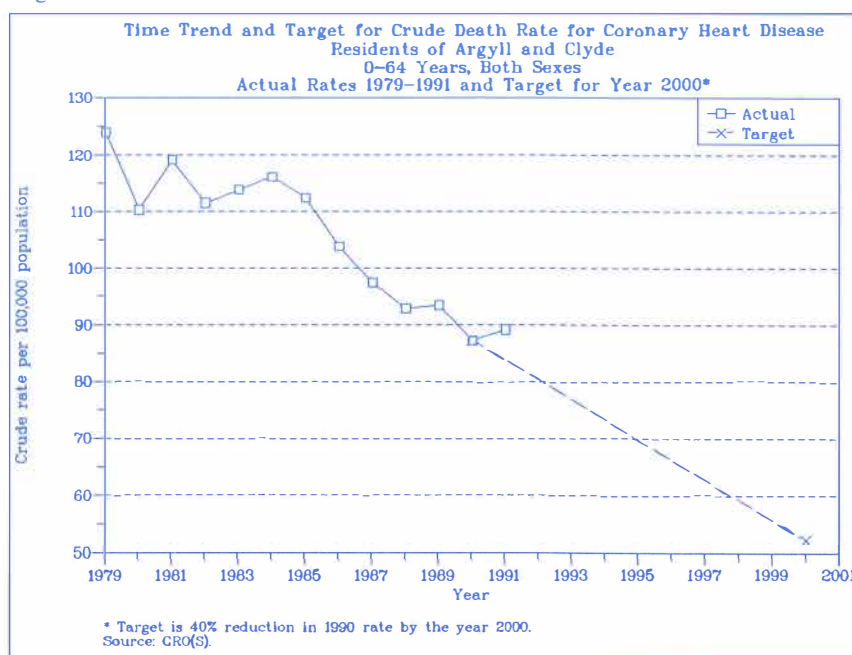
The care of patients after a heart attack involves not only the use of drug treatments, but also help and advice on lifestyle and risk factor reduction. Both relatives and patients require support.

Conclusions

If the problem of CHD is to be tackled effectively, greater emphasis must be placed on prevention - improved techniques to treat heart disease once it is established are of limited benefit. There are considerable advantages to be gained in adopting the healthy lifestyle approach, as many of the health promotion interventions also help to prevent a wide range of other illnesses, including cancers of many sites.

It is time to think more positively about health - we must act now to prevent the problems caused by smoking, a poor diet and insufficient exercise. If this advice is disregarded, Argyll and Clyde will remain a blackspot in the world for CHD, and many more people will die prematurely and unnecessarily from this largely avoidable disease.

Figure 4.6



5. Health Promotion

During recent years, there has been a growing recognition of the need for increased and co-ordinated action by the local statutory and non-statutory agencies working in the field of health promotion. This led to the setting up of the Health Promotion Steering Group by Argyll and Clyde Health Board in September 1990. The group has the task of ensuring that the optimum use is made of effective health promotion measures. Current representation includes the Health Board, a general practitioner, the Local Health Council, the regional and district councils and the police.

One of the priorities for health promotion activities must be to tackle the inequalities in health which are known to exist among different geographical areas. Two examples of areas in Argyll and Clyde which give rise to concern are Larkfield Area for Priority Treatment (APT) and the Cowal peninsula.

Larkfield Area for Priority Treatment

Larkfield lies in south-west Greenock in Inverclyde district. It is an urban area on the fringe of the town, at some distance from the local amenities, and has a population of over 5,000.

As in other APTs, the population is relatively 'young', and 40% of all households have children (Ref 5). The percentage of these households with four or more children is also comparatively high (8% compared with only 4% in both Inverclyde district and Strathclyde Region as a whole). The majority of the houses are either local authority rented or Scottish Homes own stock (88% at March 1989). Male unemployment is high; at March 1990 it stood at 20%, as compared to 16% in Inverclyde district and 14% in Strathclyde Region. Indicators of poverty, such as the percentage of pupils receiving free school meals and clothing grants, are also high.

In comparing the mortality and morbidity experience of Larkfield with other areas which do not have an unusually young population, it is essential that standardising procedures, as outlined in Chapter 1, are employed. Data for a seven-year period (1984-1990) were used to ensure the numbers were large enough for analysis, and because the most recent available population data for the APT are for 1987 which is in the middle of the period in question.

Standardised mortality ratios for several causes of death are shown in Figure 5.1 (males) and Figure 5.2 (females). For each sex, the SMRs were significantly high for both all causes of death and all cancers. The SMR for lung cancer in males was particularly high (192), with 25 deaths occurring over the seven-year period when the expected number was only 13. While the other SMRs on the graphs all lie above 100, suggesting a worse mortality experience than all-Scotland, none of these is statistically significant because the lower confidence limit extends below 100.

Figure 5.1

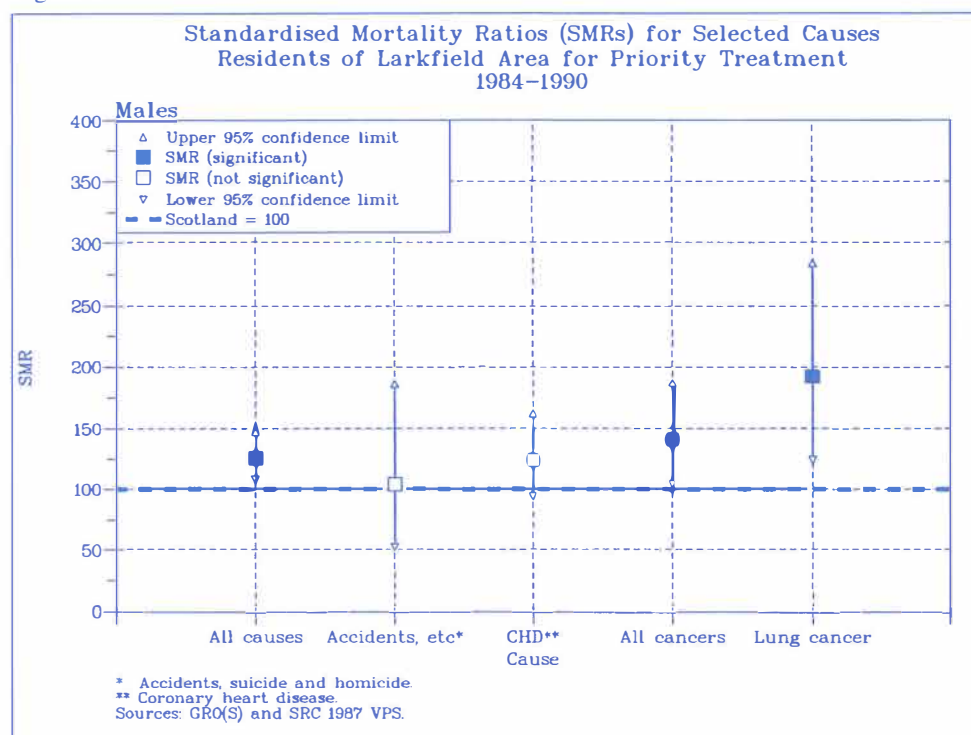
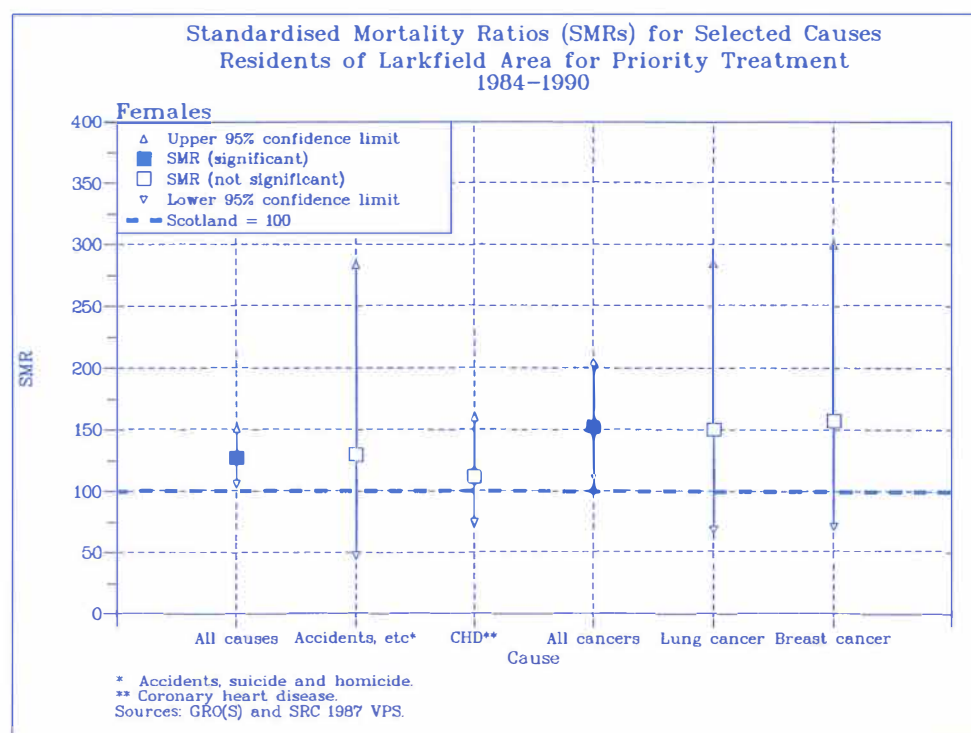
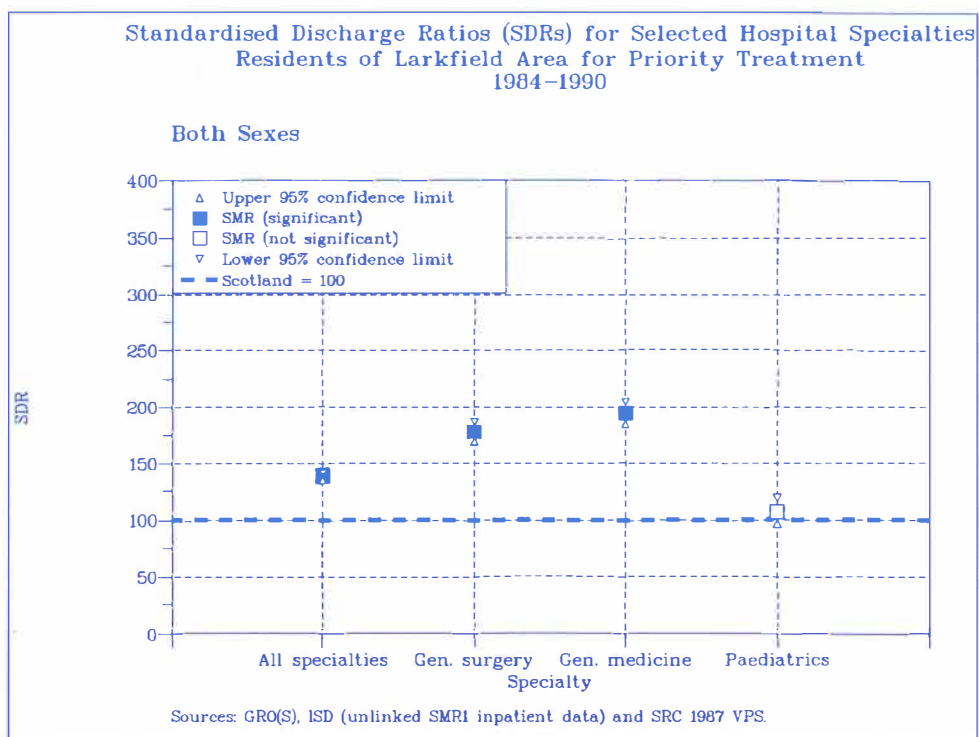


Figure 5.2



Hospital admissions (or strictly discharges) were used as an indicator of morbidity, although it is recognised that these are not ideal. Figure 5.3 shows that hospital discharge rates were also high for Larkfield residents compared to the Scottish norm. This was particularly the case for the general medicine specialty where the standardised discharge ratio (SDR) was 195. A total of 1,490 discharges from hospital were recorded for this specialty over the seven years, whereas only 764 discharges were expected.

Figure 5.3



The confidence intervals (difference between the upper and lower confidence limits) are considerably smaller for the SDRs (Figure 5.3) than for the SMRs (Figures 5.1 and 5.2). This is because the numbers were much larger for the former.

It may be concluded from the data presented that Larkfield has a generally higher than average mortality, and probably morbidity, experience. In order to identify what the people of Larkfield perceive as their health needs, a health promotion health needs assessment seminar will be held in 1992. Discussions involving both local people and health care professionals should produce useful information and ideas which can then be used to develop local health promotion activities.

Cowal Peninsula

The Cowal peninsula in Argyll is a largely rural, hilly area extending to 374 square miles. It has a population of nearly 16,000, the main town being Dunoon (see map inside front cover). Other villages include Sandbank, Innellan, Strone, Kilmun, Tighnabruaich,

Colintraive, Strachur and Lochgoilhead.

The local economy is dominated by the service sector. It has been heavily dependent on the US Naval Base at Sandbank and the Holy Loch, which has directly or indirectly accounted for 24% of all civilian employment in the area. Unemployment rates have not been particularly high in the past (male unemployment 11% at September 1991, as compared to 10% in Argyll and Bute district as a whole, and 15% in Strathclyde Region). This situation is, however, expected to change following the closure of the US Naval Base in March 1992.

Whilst the area has not been noted as having major health problems in the past, there is concern that problems may occur in the future. Previous studies have shown that rising local unemployment can have major health implications, with consequent pressure on health services.

A health project is planned in Cowal to co-ordinate the efforts of existing agencies and groups, and to undertake education and training of health care and other professionals working in the area. Officers from Strathclyde Regional Council and the district council, together with local people, will be closely involved in developing the project.

Other Developments

In order to monitor the impact on the Argyll and Clyde population of new initiatives in health promotion, it is necessary to gather information on health and health-related behaviour (such as diet, smoking and exercise patterns). Two baseline surveys are planned for 1992, one a postal survey of adults aged 18 years and over and the other a survey of children in secondary classes 1 and 3. Next year's annual report will detail the results of these surveys. Repeating the surveys in future years will allow comparisons to be drawn with the findings of the baseline surveys which will help to indicate any changes in health and health-related behaviour over time.

6. Health and the Water Supply

The Department of Public Health works closely with the Water Department of Strathclyde Regional Council to minimise the effects of water contamination incidents, whether microbiological or chemical. When there is a possible health risk, notices advising people to boil water before cooking and drinking may be issued following discussions between the two departments.

Several incidents of note occurred in 1991, mainly in Argyll. Boil water notices were issued as a precautionary measure when supplies were adversely affected on the islands of Iona and Gigha, and in Bunessan on Mull. Problems included inadequate filtration due to rough weather conditions, and microbiological contamination following agricultural activity on the source catchment. The quality of the water was closely monitored and normal supplies restored as quickly as possible. In Tighnabruaich, boil water notices were issued and emergency supplies delivered by bowser and container when tap water became contaminated with aluminium and seriously discoloured. This was due to a failure of the water treatment process; the problem was subsequently resolved with the re-establishment of the treatment process.

Chapter 14, Dental Health, includes mention of the proposal to fluoridate the public water supplies.

7. Infectious Diseases

The number of deaths in Argyll and Clyde due to infectious diseases has declined dramatically - over 20 fold - in the last 60 years. However, the burden of illness in the community due to infections is still considerable and is in many cases preventable, for example by immunisation and through improved food hygiene.

Notifiable Diseases

Of a potential list of 33 diseases for which health regulations require medical practitioners to notify the Chief Administrative Medical Officer, cases of 16 diseases were notified in Argyll and Clyde in 1991. These diseases, and the numbers of notifications for each, are listed in Table 7.1. Over three-quarters of all notifications were for chickenpox, 1991 appearing to have been an epidemic year (3,672 cases compared with 1,661 in 1990).

Table 7.1

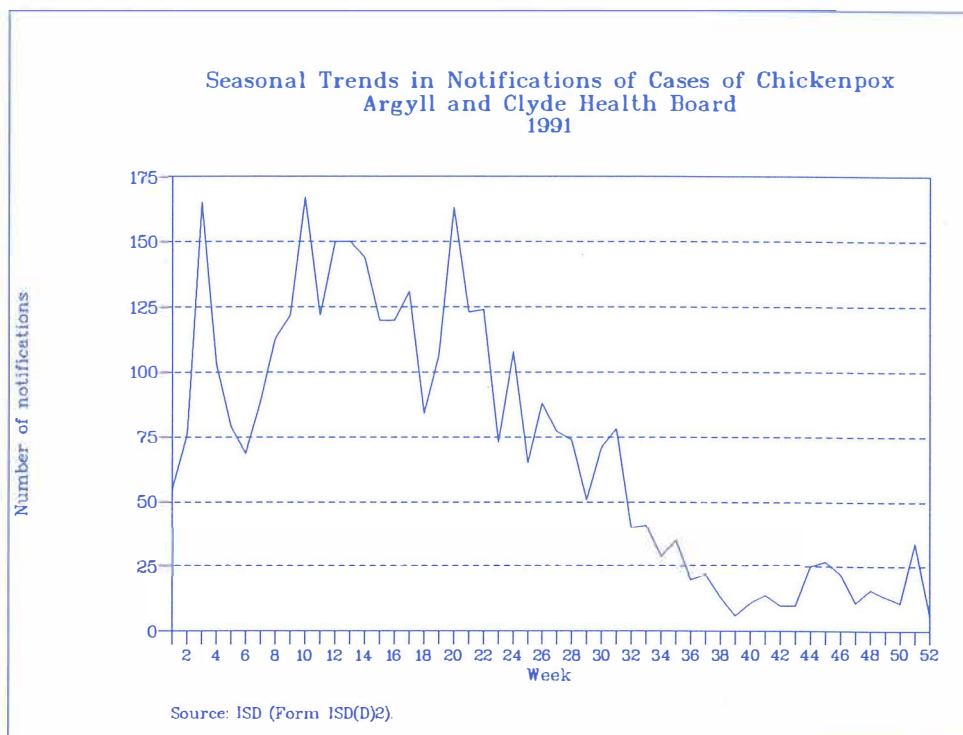
Numbers of Notifications of Infectious Diseases
Argyll and Clyde Health Board
1991

Disease	Number
Chickenpox	3672
Rubella	307
Measles	214
Food poisoning	169
Mumps	61
Scarlet fever	53
Tuberculosis (respiratory)	38
Whooping cough	36
Erysipelas	28
Meningococcal infection	21
Viral hepatitis	13
Bacillary dysentery	12
Tuberculosis (non-respiratory)	4
Malaria	3
Lyme disease	2
Legionellosis	1
Total	4634

Source: ISD (Forms ISD(D)3 and 6).

Figure 7.1 shows the pattern in chickenpox notifications week by week. Most cases were notified in the first half of the year.

Figure 7.1



The number of notifications of cases of suspected food poisoning fell in 1991 to three-quarters of the 1990 level (169 compared with 232), but it is generally accepted that the true incidence of illness due to foodborne infections is much higher than the number of notified cases and has increased in recent years. Outbreaks of foodborne infection are investigated by the Department of Public Health in collaboration with the relevant district council's Environmental Health Department. In one such incident, over 20 cases of two rare types of salmonella bacteria were associated with chicken in a take-away restaurant in Inverclyde.

Meningococcal infection notifications increased from 15 in 1990 to 21 in 1991. This is a serious infection, and vigorous and immediate public health action is required when a case occurs in order to prevent the disease spreading. Close contacts of the patient who are at risk are given a short course of antibiotics. Organising this can be an extensive task - for example, on the May Bank Holiday weekend in Greenock there was an outbreak of meningococcal meningitis in a nursery affecting three children, but a total of 260 people (family contacts and nursery school children) had to be followed up and given antibiotics.

Reportable Diseases

These diseases are mainly diagnosed by laboratory investigations. Weekly reports from local laboratories are sent to the Department of Public Health, while laboratories throughout Scotland send information to the Communicable Disease (Scotland) Unit at Ruchill Hospital in Glasgow.

Two reportable diseases of note occurred in the Royal Alexandra Hospital in Paisley in 1991. First, there were a number of cases of methicillin-resistant *Staphylococcus aureus* (MRSA) among patients, but the infection was eliminated by vigorous control measures. Second, a small outbreak of antibiotic-resistant *Enterobacter cloacae* in the special care baby unit was investigated and controlled in collaboration with the hospital's infection control team.

HIV infection and AIDS

Since reporting began, a total of 12 people resident in Argyll and Clyde have been recorded as suffering from AIDS (data to 31 March 1992). Approximately twice that number have tested positive for HIV infection.

While the numbers are still comparatively small in this area, there can be no doubt that AIDS is one of the most serious public health challenges of the late twentieth century and will have implications far into the twenty-first century. Numerous preventive and educational activities relating to HIV infection and AIDS were undertaken in Argyll and Clyde in 1991. These included the setting up of a collaborative venture with Strathclyde Regional Council's Education Department whereby a Health Education Development Officer will undertake a two year project in a number of secondary schools. A counselling clinic has been established in Greenock, and the Inverclyde Needle and Syringe Exchange Scheme which has been shown to be operating successfully will continue.

8. Children's Health

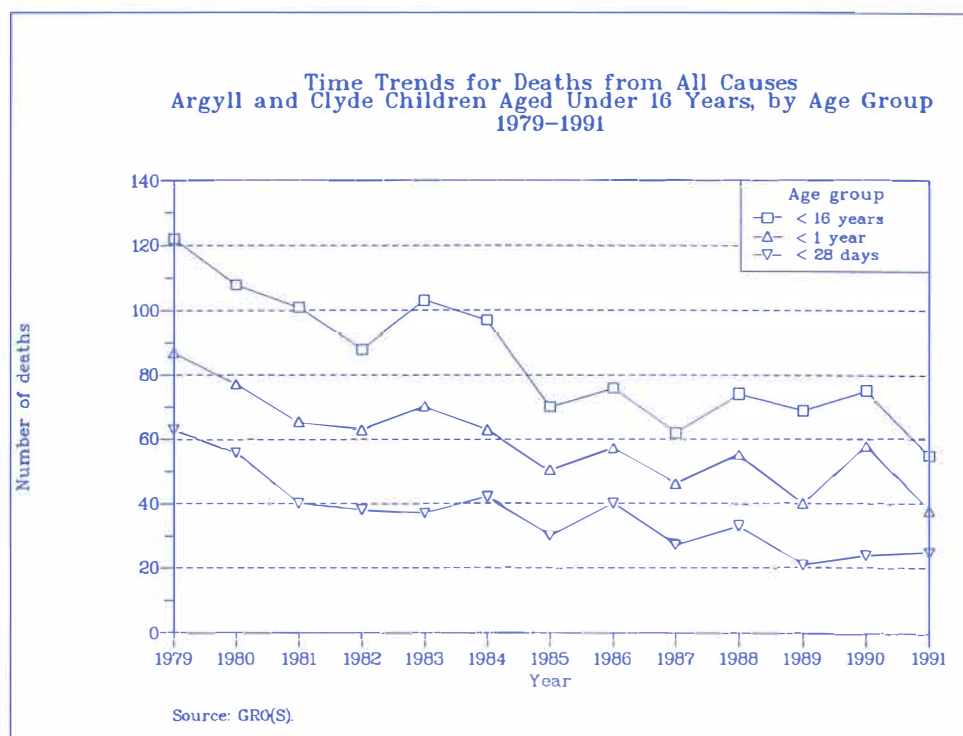
In the last two annual reports, attention was drawn to the falling rates of stillbirths and first week, neonatal and infant deaths, and to the considerable efforts made to ensure that pregnancy and birth are as safe as possible for mother and baby. These efforts do and will continue.

In this report, attention is focused on two topics. First, the main findings of a study into causes of death among children up to the age of 16 years are reported. Second, the work undertaken in child health surveillance is outlined.

Childhood Mortality

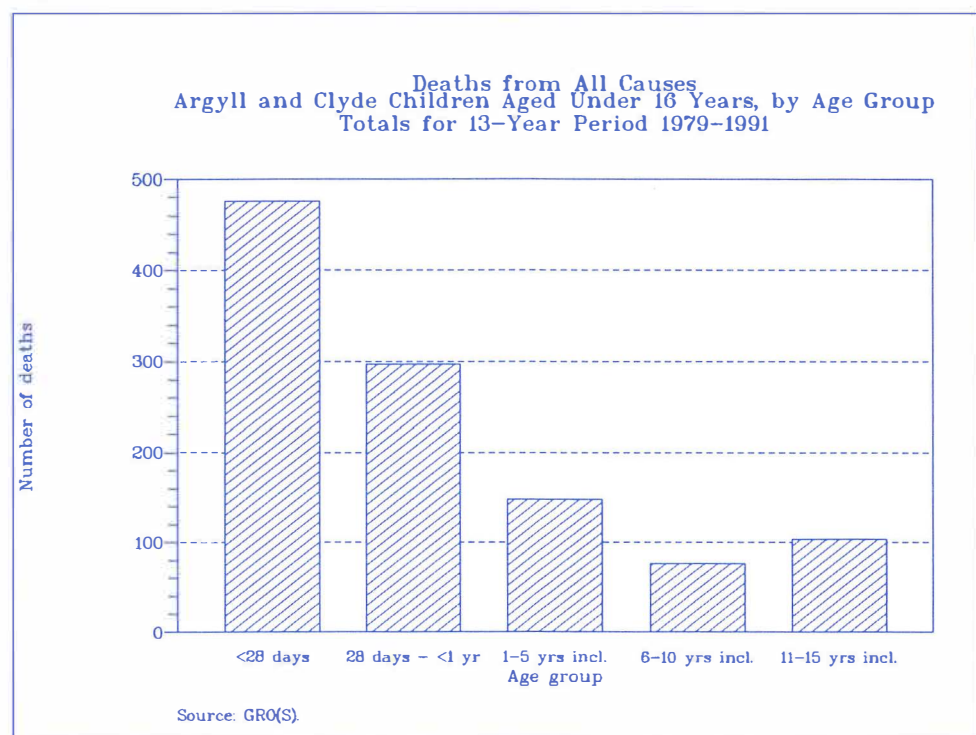
During the 13-year period 1979 to 1991 inclusive, there were a total of 1,100 deaths to Argyll and Clyde residents aged under 16 years. While there are no grounds for complacency, it is encouraging that there has been a steady reduction in the annual numbers with time, as shown in Figure 8.1. This downward trend applies to each of the three age groups illustrated, with the total number for 1991 (55) being less than half that for 1979 (122).

Figure 8.1



A breakdown of age at death over the 13-year period is shown in Figure 8.2. Over 40% of all deaths (476) occurred before the twenty-eighth day of life. Most of these were due to congenital anomalies or conditions originating in the perinatal period (period from the start of viable pregnancy until 28 days after birth).

Figure 8.2



From the age of 28 days up to one year, 'sudden infant death syndrome' was the major cause of death.

Sudden Infant Death Syndrome ('Cot Death')

A total of 160 deaths during the 13 years were attributed to 'sudden infant death syndrome'. All but one of these occurred during the first year of life, with babies aged one to five months appearing to be most at risk. The syndrome accounted for 20% of all deaths in the first year of life, and for 50% of all deaths between the ages of 28 days and one year.

'Sudden infant death syndrome' causes considerable concern and distress, and much research into its cause or causes is underway. There are some grounds for optimism from recent national trends which indicate a decline in the number of deaths from the latter part of 1990. In Argyll and Clyde, the numbers have also fallen; from 21 deaths in 1990 to nine in 1991. These decreases coincide with considerable publicity about research into the syndrome which has been carried out in several countries, particularly New Zealand,

Australia and the Netherlands.

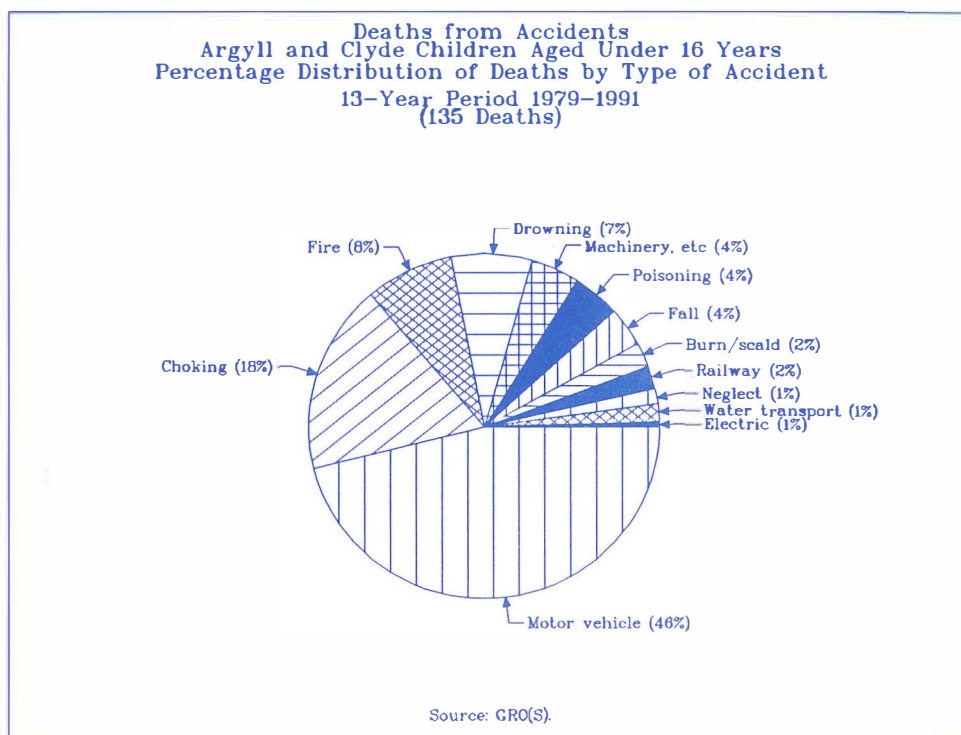
In December 1991, a national publicity campaign was launched in the UK which made three main recommendations. These were that babies are laid to sleep on their back or side rather than their front, are not overheated, and are not exposed to cigarette smoke. It is to be hoped that continued research and health promotion activity will lead to a further reduction in deaths.

Fatal Accidents

While 'sudden infant death syndrome' was the most common cause of death among infants aged from 28 days up to one year, accidents accounted for the majority of deaths to children aged from one year up to 16 years. Over the 13-year period, there were a total of 135 fatal accidents to children under 16 years. Clearly these deaths represent a tragic loss of young life from what must be at least partly preventable or avoidable factors. Moreover, for every fatal accident, there will be many more non-fatal accidents which also cause considerable injury, disability and distress.

In order to decide where efforts should be concentrated to reduce the number of childhood accidents, it is useful to identify the various types of accident. Figure 8.3 shows that motor vehicle accidents were the most common cause of death (62 deaths), followed by choking (24 deaths), fire (11 deaths) and drowning (10 deaths). Taken together, these four categories accounted for over three-quarters of all fatalities due to accidents.

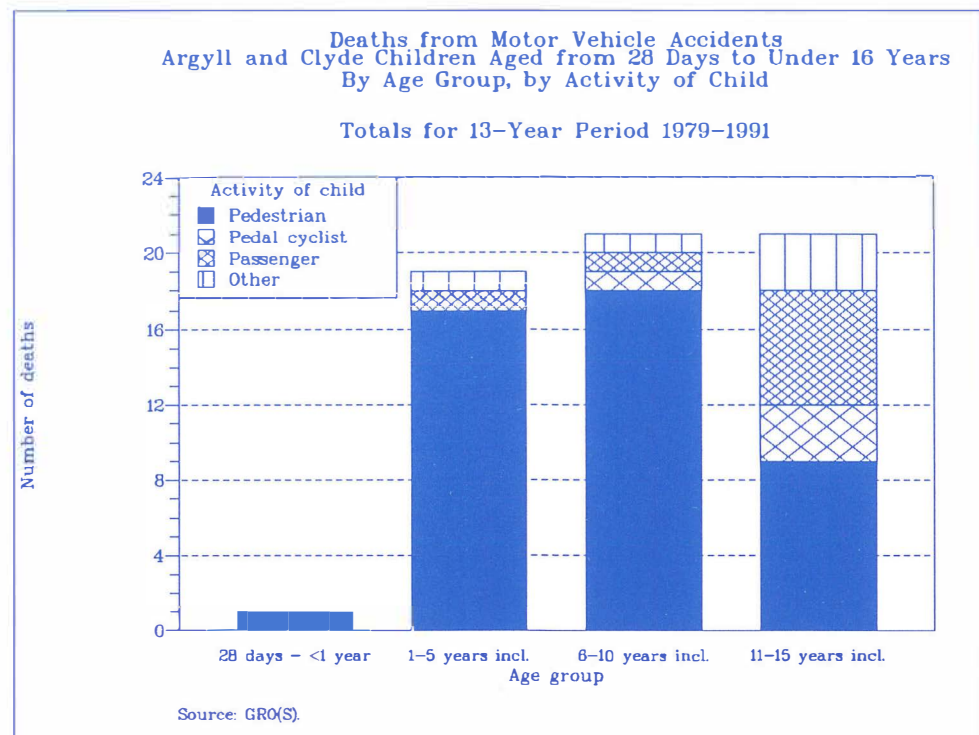
Figure 8.3



Motor Vehicle Accidents

As might be expected, children appear to be at most risk of motor vehicle accidents after the age of one year, when they start to become mobile. Figure 8.4 indicates a similar level of total fatalities in the 1-5 years, 6-10 years and 11-15 years age groups. There is, however, a difference in the breakdown by activity of child. In the oldest age group, there were as many fatalities to children riding a bicycle/tricycle or being driven in a motor vehicle, as there were to child pedestrians.

Figure 8.4



The problem of road traffic accidents was also highlighted in last year's annual report, where it was shown that the rate of pedestrian casualties per 1,000 population was two to three times as high for the under-16s as it was for the rest of the population.

The public health messages from these findings are clear; all drivers and other road users must be extremely vigilant and keep to sensible speeds, especially in built-up areas. Drinking and driving must be further discouraged. Parents and others must ensure that children are taught and follow road safety procedures, and that they appreciate the need to be easily visible to drivers when crossing the road or riding bicycles.

Other Accidents

Of the 24 deaths attributed to choking, 16 occurred in children aged from 28 days up to one year, with the remaining eight being in children aged 1-15 years. These deaths were caused

by food, vomit or another object causing obstruction of the airway and subsequent suffocation.

In some cases, the life of a choking person can be saved by the application of first aid procedures. A simple example would be to ensure that someone who has lost consciousness is placed on their side to avoid the risk of inhaling vomit. There is a case for increasing public knowledge of such procedures; leaflets, media coverage and increased provision of first aid courses would help, as would inclusion of this topic in the school curriculum.

Fires in private dwellings claimed the lives of 11 children aged under 16 years, over the 13-year period. There is increasing public awareness of the value of smoke alarms fitted in houses. Initiatives by local councils to fit more alarms in public sector houses, and ensure their maintenance, are to be welcomed.

Finally, it would appear that older children are the most at risk from drowning. Of the 10 deaths, nine were to children aged 6-15 years while one involved a bathtime accident to a child under five years. All reasonable safety precautions should be taken when children are playing in or near water. Children should also be taught to swim at an early age.

Child Health Surveillance

Regular checks on the health of young children began in the UK early this century, following the Boer War when large numbers of young adults volunteering for service were found to be unfit. Today, there are special health services aimed at all children of both pre-school and school age which undertake regular developmental examinations and screening tests. While the majority of children examined will be developing normally, a few will need further attention. The early detection of problems, for example hearing or eyesight difficulties, enables help to be given early and will minimise any detrimental effect on the child's health and educational and social development.

Health surveillance for children aged under five years has been carried out in the past mainly by health visitors and community child health doctors. However, following the introduction of the new general practitioner contract in 1990, there has been a marked increase in the involvement of general practitioners with a recognised interest in the subject.

The records for Argyll and Clyde show that a check at six weeks of age was undergone by 4,739 children born in 1991 (87% of those who were eligible). Checks are also offered at eight months, 21 months and 39 months of age. Approximately 2% of children seen at six weeks and 4% of children seen at eight months and at 21 months are referred to a specialist for further assessment. The problems detected range from orthopaedic problems, to speech and hearing and eyesight problems, to developmental delay for whatever reason.

This programme is an example of offering systematic screening to a particular sector of the population, with the purpose of identifying problems or potential problems at the earliest stage in order that appropriate further assessment and treatment can take place.

9. Screening for Health

Screening programmes are often viewed simplistically as the ideal means of detecting early signs of disease, with early detection leading to early treatment and, it is hoped, cure. In practice, the advantages of screening are not always clear-cut.

Antenatal care and child health surveillance are examples of long-established programmes which include specific screening procedures. Many of these have been accepted as being beneficial, but some are now recognised as having little or no benefit and are being discontinued. It is important that all screening programmes have a sound scientific basis and are subject to comprehensive and regular appraisal. Harm can be caused by ill-conceived or badly organised screening programmes.

The two major cancer screening programmes for women contrast sharply. The breast screening programme was introduced to the UK in 1987 following careful analysis of controlled trials in a number of countries, and is subject to strict quality assurance checks. Cervical screening, on the other hand, was introduced in a haphazard and piecemeal fashion in the 1960s and is only now being thoroughly appraised. An outline of these two programmes in Argyll and Clyde follows.

The Breast Screening Programme

The Argyll and Clyde breast screening programme uses a mobile mammography screening unit. Screening is offered to women aged 50-64 years of age, every three years.

The programme began in October 1990. In 1991, the unit visited Helensburgh, Oban, Mull, Tiree, Lochilphhead, Campbeltown, Islay, Tarbet, Inveraray and Dumbarton. In 1992, the programme will move to Inverclyde, Cowal and Bute, and in 1993 to the Renfrew and Paisley districts. It will then return to Alexandria to continue the three year screening cycle.

The aim of the programme is to detect cancers as early as possible, and there are a number of national quality assurance standards to meet. These standards are set in order to minimise the risk of not detecting cancers and also the risk of subjecting women to unnecessary over-investigation. Both of these can be sources of anxiety and concern.

Acceptability

The views of women who have been screened or who are being invited for screening are vital to the success of the programme. Such views were sought in the summer of 1991 when a research study was carried out in Mull, Iona, Islay and Jura. A total of 404 women completed questionnaires and 163 women who attended were also interviewed.

The findings indicated that women who chose not to accept the invitation for screening were more likely to live further away from where the screening van was located and to be older than those who attended. The time of day of the proposed screening appointment and availability of suitable public transport also seemed to affect attendance.

Over 90% of women who attended were satisfied with the service. However, many would have liked further information on the screening process, including the reason for breast

compression during the x-ray. As a result of the study, publicity methods for screening have been altered, and the locations of the mobile van in rural areas have been reviewed.

During November, a national consumer opinion survey was also carried out, on women who were attending for screening. At that time the Argyll and Clyde mobile unit was sited in Dumbarton. The response rate to the questionnaire was 86% nationally, with most of the views expressed being very positive towards the programme. Most women who responded (88%) stated that they were 'very likely' to respond to the recall invitation in three years time, and a further 8% stated that they were 'fairly likely' to attend. Many women, however, considered that they had received inadequate information about screening and found the screening position uncomfortable and the procedure painful. These clearly are important issues, and while overall the findings are encouraging, careful note is being taken of the many comments made.

Another source of feedback is a survey questionnaire sent to all general practitioners after their practice has been visited by the screening programme. This highlights any difficulties or problems which might have been encountered.

Results

By the end of 1991, approximately 10,000 women had accepted an invitation for mammography in Argyll and Clyde. Overall uptake of screening is currently 68%, with the highest uptake in Campbeltown (81%) and the lowest in Dumbarton (61%).

While the majority of women screened will receive a letter to assure them that their result is normal, a number will be asked to attend for further assessment. This may simply be because the x-ray was not clear, or because an abnormality is suspected. To date in Argyll and Clyde, 9% of women screened have been recalled for further assessment, and only 8% of these women have been found to have a cancer. Nearly three-quarters of the cancers detected were very small, enabling easier treatment with the prospect of a good outlook.

The current detection rate from the programme is 7.4 cancers per 1,000 women screened. There is bound to be a greater number of cancers detected in the first round of screening, but a lower detection rate is expected in subsequent rounds.

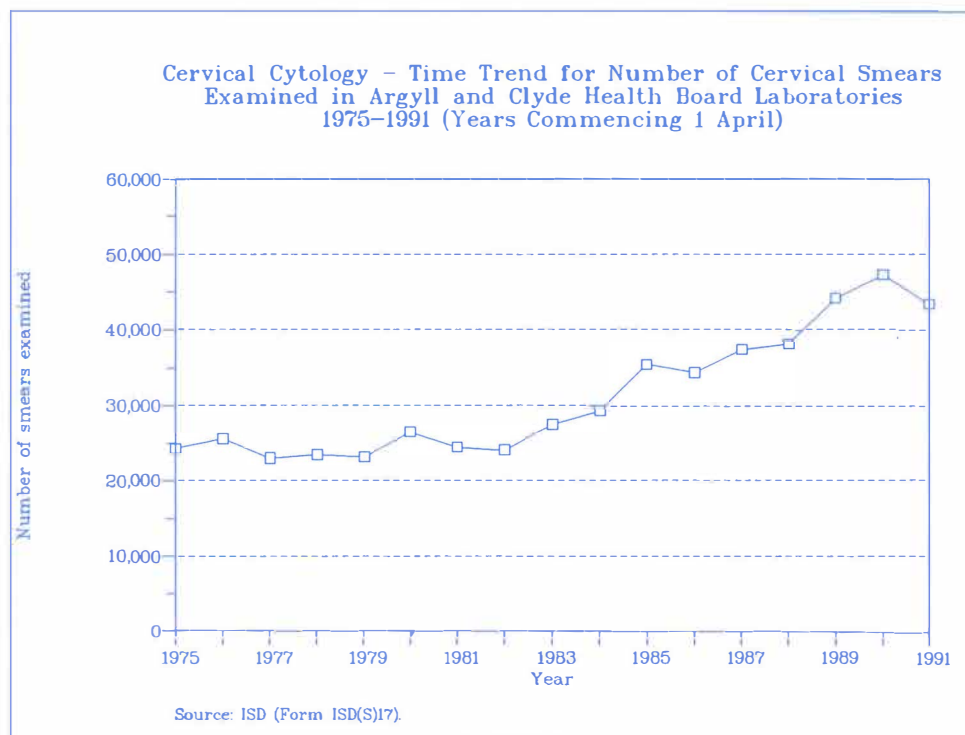
The Cervical Screening Programme

Development of the cervical screening programme has continued. By the end of 1991, 76% of women in Argyll and Clyde aged 20-60 years had a record of at least one cervical smear test within the previous five years. This percentage has risen steadily over recent years, partly as a result of more complete recording and partly because of increased and more systematic screening.

The national target is to invite all women eligible for the programme to have a smear test by the end of 1993. It is estimated that approximately 40,000 smears need to be taken annually in Argyll and Clyde to meet the recommended coverage levels. Figure 9.1 shows that while only approximately 25,000 smears were examined annually between the mid-

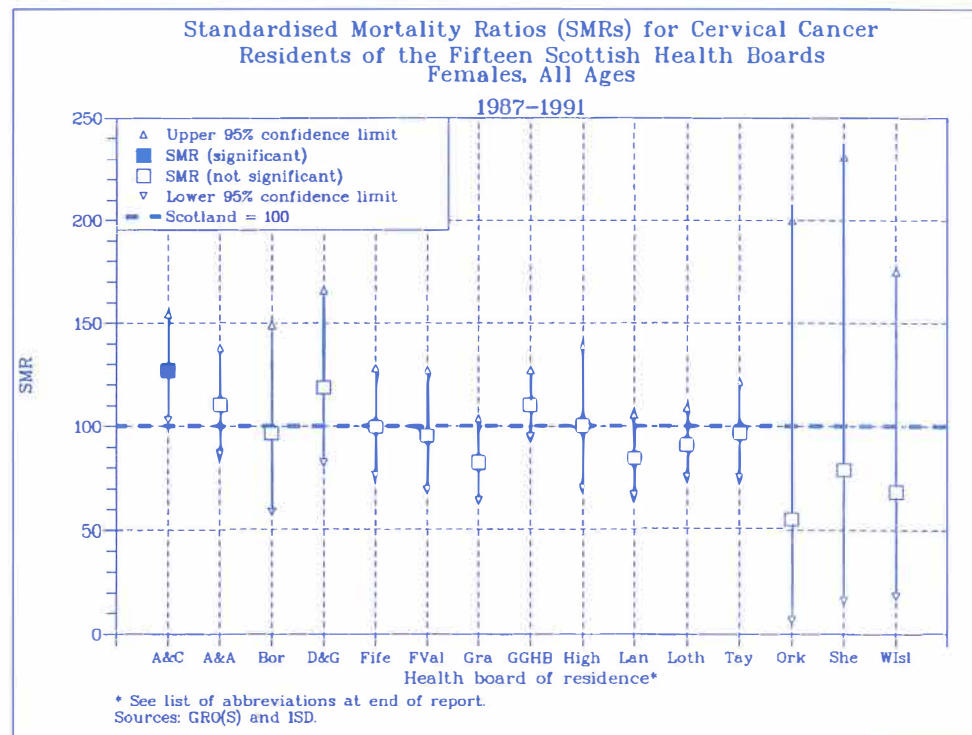
1970s and early-1980s, the number has increased steadily since then. Indeed, the 40,000 level has been exceeded in recent years, largely as a result of increased screening activity by general practitioners following the introduction of the new general practitioner contract in 1990. The number now appears to be stabilising around the expected level.

Figure 9.1



It is important that the cervical screening programme in Argyll and Clyde continues at this level, as Argyll and Clyde does not have a good record with regard to deaths from cancer of the cervix. Standardised mortality ratios (SMRs) for deaths from this cause over the period 1987-1991 indicate a significantly higher death rate in Argyll and Clyde than in Scotland as a whole (Figure 9.2). Moreover, no other health board area in Scotland had such a high SMR. It will be noted that in areas such as Grampian and Tayside where systematic screening and management of detected abnormalities were introduced a number of years ago, the SMRs tend to be relatively low.

Figure 9.2



The aim of the cervical screening programme is to detect and treat conditions which, if left, would become cancerous. These conditions can usually be cured. While the programme will probably not prevent all cases of cervical cancer, a measurable improvement in death rates should become apparent within a few years in Argyll and Clyde.

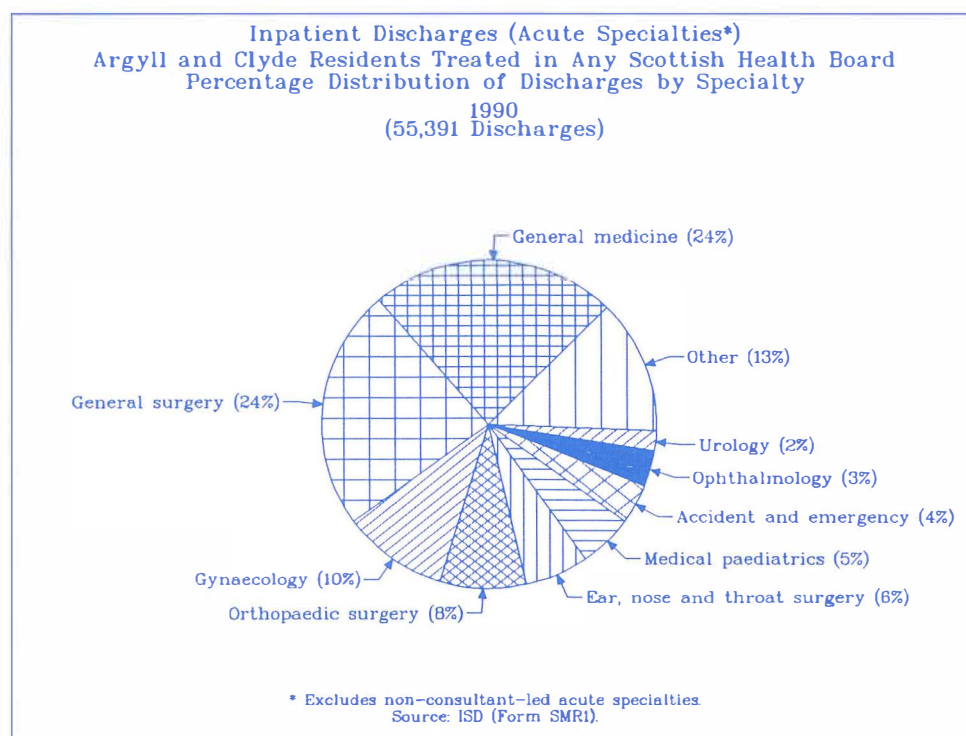
10. Challenges for the Acute Hospital Services

What are the acute services?

The acute services comprise the majority of hospital services which undertake specialised assessment and treatment of outpatients, day cases and inpatients. Patients may be seen on either a planned or an emergency basis. Not included in the acute services are specialist services for expectant mothers, newborn babies, young physically disabled people, elderly people, and mentally ill and mentally handicapped people.

As was shown in Chapter 1 (Figure 1.5), discharges from the acute services accounted for over three-quarters of all inpatient discharges of Argyll and Clyde residents in 1990. Figure 10.1 shows a further breakdown of discharges from the main acute specialties. Nearly half of those discharged had been in general medicine or general surgery wards, with a further quarter in gynaecology, orthopaedic surgery or ear, nose and throat (ENT) surgery.

Figure 10.1



Outpatient attendances are also important in the acute services, with episodes of care for outpatients outnumbering those for inpatients by about five to one.

Where are the acute services provided?

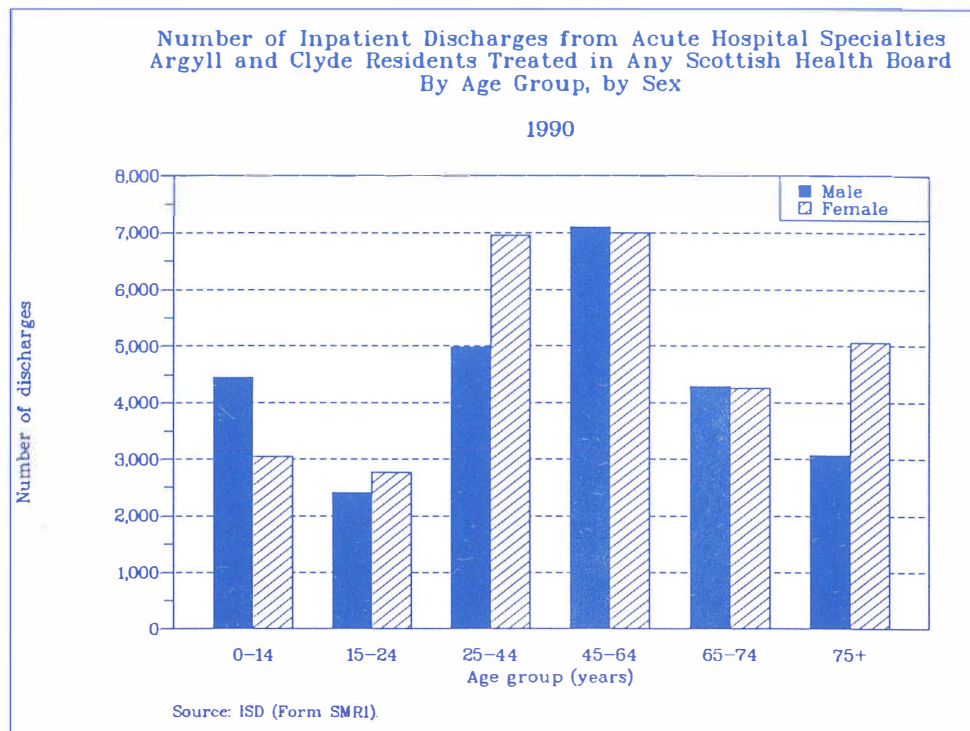
Consultant outpatient clinics in the acute services are held in a wide variety of locations throughout Argyll and Clyde. Inpatient services are provided mainly by District General

Hospitals in Paisley, Greenock, Alexandria, and to a lesser extent Oban. In addition, smaller community hospitals staffed by local general practitioners provide a valuable local service to the rural areas. Glasgow hospitals also play an important part in acute service provision, accounting for a quarter of all discharges of Argyll and Clyde residents in 1990. The new reforms are beginning to focus attention on issues such as which services should be provided locally in the district hospitals and which could be more effectively, efficiently or safely provided in a more centralised location.

Who uses the acute services?

The data for inpatient discharges in 1990 have been further analysed to identify the age and sex of people admitted to the acute hospital specialties. Figure 10.2 shows how the number of discharges varied with age for each sex, for the acute specialties as a group. It can be seen that after an initial fall in the number of admissions from childhood to the teenage years and early twenties, the numbers increased and peaked in the middle years. In childhood, more boys than girls were admitted to the acute specialties, but women predominated both in the child-bearing years and in the 75 years and over age group (where women outnumber men).

Figure 10.2



The picture changes, however, when crude rates per 100,000 population, rather than numbers, are considered. Figure 10.3 indicates that the highest rates of admission occurred

in the older age groups. Women experienced higher rates than men only in the child-bearing years, and after the age of 65 years the rates were much higher for men. On average, one in three of the male population in the oldest age group (75 years plus) experienced an inpatient stay in one of the acute specialties in 1990. This compares with only one in ten for boys in the youngest age group (under 15 years).

Figure 10.3

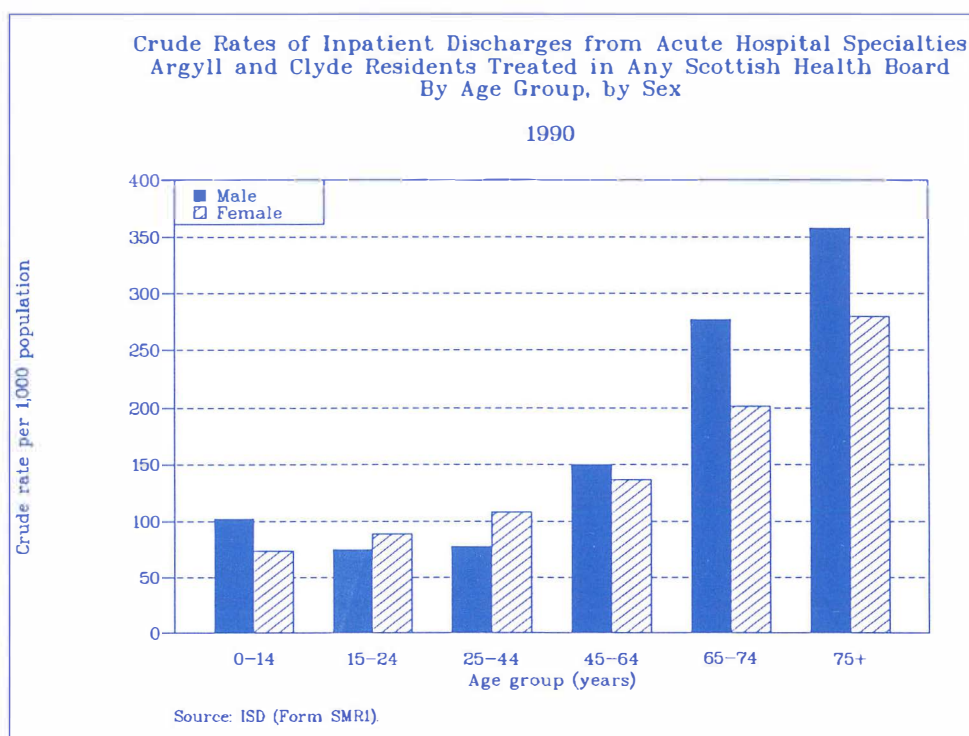
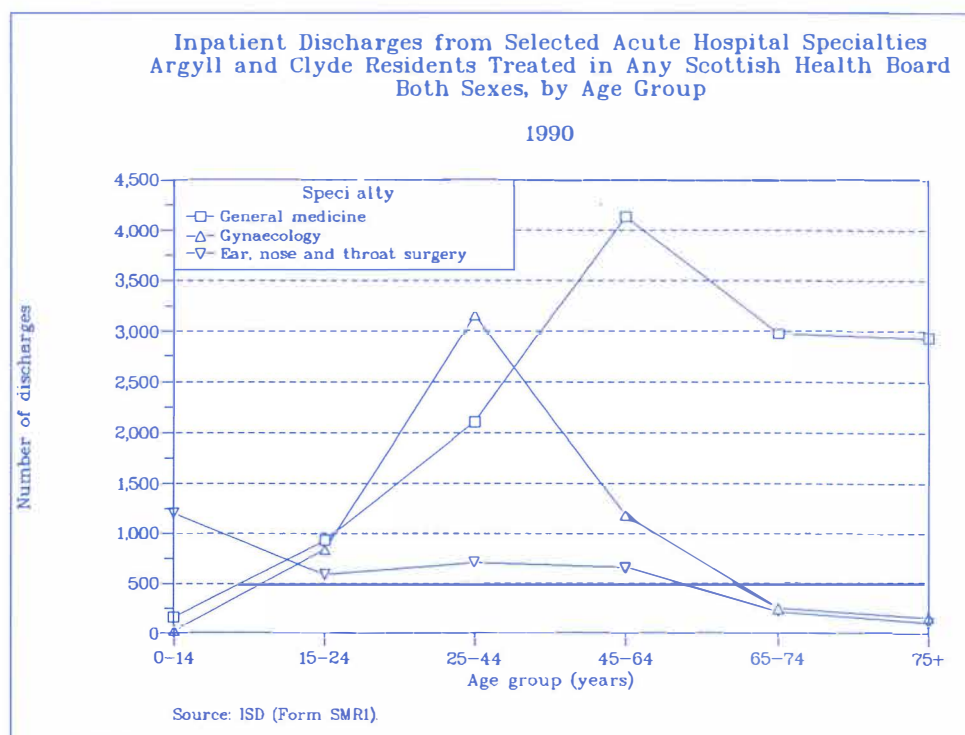


Figure 10.4 shows contrasting age distribution patterns for patients discharged from three of the acute specialties. As might be expected, in general medicine the majority of discharges were in the middle-aged and elderly age groups, while most gynaecology patients were aged 25-44 years. Numbers of ear, nose and throat surgery discharges were relatively high for children but declined steadily with age.

Figure 10.4



What factors influence the need for, and provision of, acute services?

Two key determinants of need for acute services are the age-sex structure of the population and socio-economic factors. An ageing population like that in Argyll and Clyde - and indeed in Scotland as a whole - presents a special challenge to acute hospital services. A greater demand is placed on acute services in general as well as services specifically for elderly people. In addition, elderly people tend to stay longer in hospital and may experience more complications than younger people. Conversely, areas with a younger population with more young women and more children will need a balance of acute services with greater emphasis on the specialties most used by these sectors of the population.

It has been demonstrated that areas with greater levels of deprivation place greater demands on all medical services, from general practitioners to hospital and community services. Within Argyll and Clyde, such areas include the local government district of Inverclyde, and

several smaller areas in each of the four districts. Where possible, the volume and nature of the services provided locally must allow for this, in order to avoid increasing the disadvantage already experienced.

The development of new technologies and techniques in all areas of medicine means that potentially more and more operations or treatments can be carried out on more and more people. The challenges are to determine which of these advances bring a real benefit to the population, and how they are to be resourced, if at all. The hardest decision may be to slow the implementation of certain high technology advances in order that other less glamorous but possibly more beneficial treatments or methods of care can go ahead.

11. Cataract Surgery

One condition which affects the wellbeing of many people and which is readily treatable is cataract.

Cataract means clouding of the normally transparent lens of the eye. This interferes with clear focusing and causes hazy vision which is worse in sunshine. Most cataracts are age-related and may be partly due to exposure to ultraviolet light. Damage to the earth's ozone layer, resulting in higher levels of ultraviolet light, may cause a future increase in the incidence of cataract.

A cataract exacerbates the deterioration in visual sharpness which occurs naturally with age. Although a change of glasses can often help in the early stages, cataract surgery is usually needed to restore an adequate level of vision for activities such as driving. If a cataract is left untreated, it can lead to blindness or increased pressure in the eye (glaucoma). It can also prevent existing diseases being detected, for example diabetic eye disease (diabetic retinopathy). Cataract surgery involves the removal of the cloudy lens nucleus and its replacement with a clear plastic lens. This is usually done under local anaesthesia and is very suitable for day case treatment, although general anaesthesia is still preferred by some patients and surgeons.

A large study in the USA has estimated that around 30% of people aged 75 years and over have a cataract (Ref 6). Every year, for every 1,000 people in this age group, 43 new cases of cataract will arise. Cataract is therefore an important cause of disability in the elderly population, but one which is amenable to relatively simple and effective treatment.

The questions which the Health Board as a purchaser has to address include: are all cataracts which are amenable to treatment being detected?; are services appropriately located and resourced to treat the desired number of detected cases?; and how should the effectiveness of both detection and treatment be evaluated?

Some insight into the evenness of service provision and possible levels of unmet need may be gained by comparing rates of cataract surgery in different geographical areas. Figure 11.1 compares the all-ages rates of cataract surgery (performed as the principal operation) for residents of Scotland and Argyll and Clyde over the past 12 years. In both areas there has been a steady rise with time, but from 1985 onwards there has been a higher operation rate for Argyll and Clyde residents.

The majority of cataract operations are carried out on people aged 65 years and over. This age group has accounted for an increasing share of operations in recent years - from around 75% in 1980, to around 82% in 1991, for residents of both Scotland and Argyll and Clyde. Within this age group, the operation rate increases markedly with age, as indicated for Argyll and Clyde in Figure 11.2. In addition, it can be seen that rates for those aged 75-84 years and 85 years and over rose more sharply between 1980 and 1991 than did the rates for those aged 65-74 years.

Figure 11.1

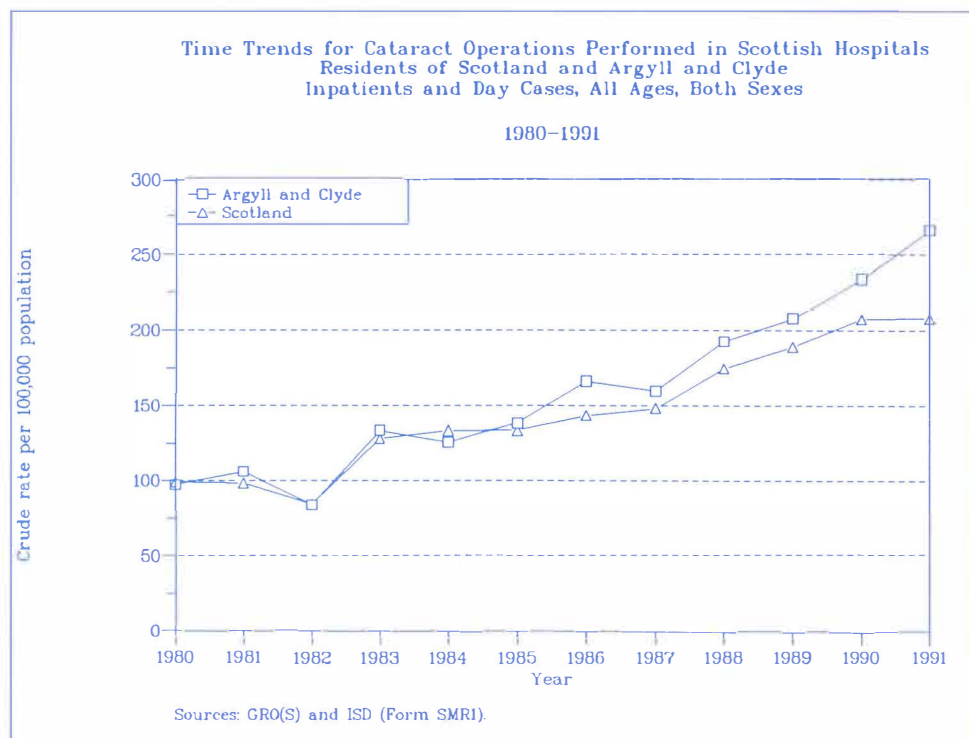


Figure 11.2

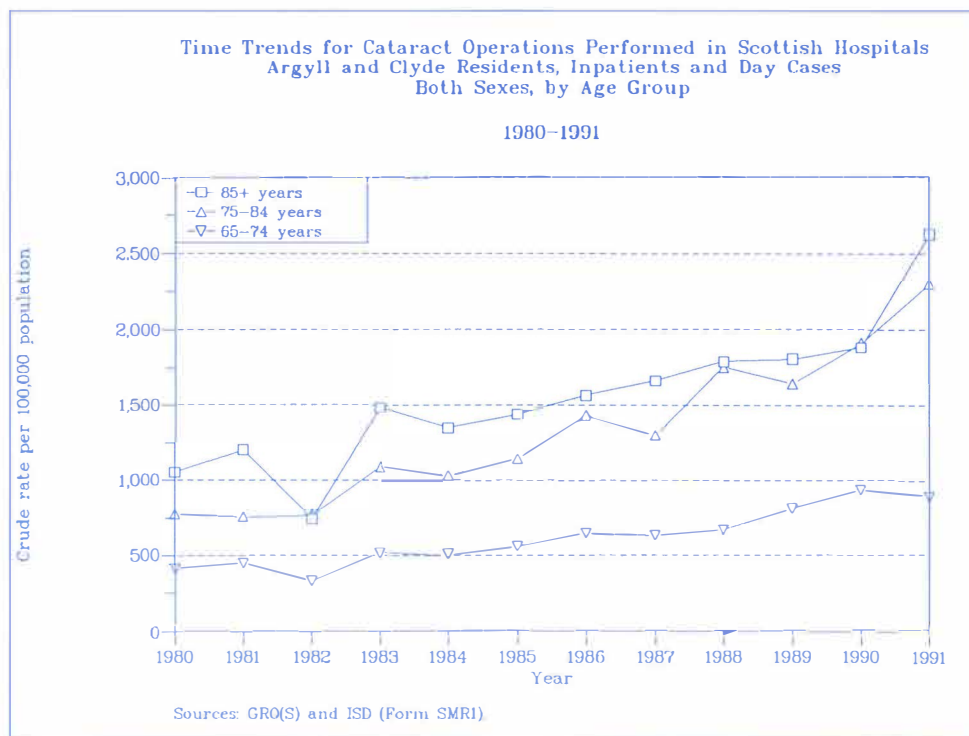
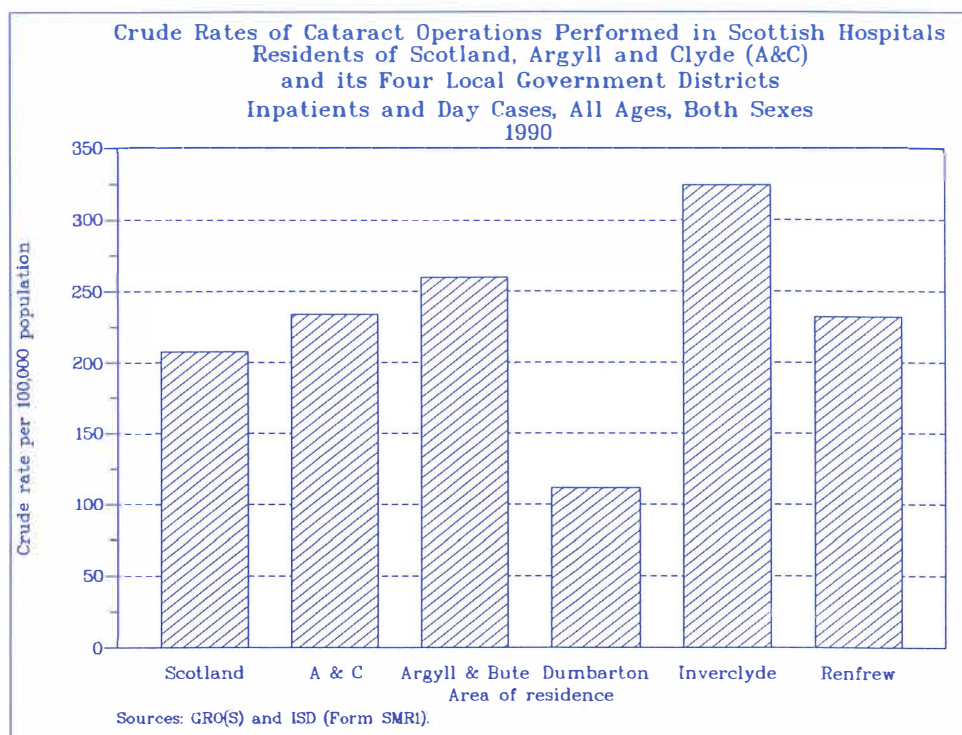


Figure 11.3



There are also striking differences in cataract operation rates within Argyll and Clyde. Figure 11.3 shows that in 1990, the all-ages operation rate for residents of Inverclyde district was about one and a half times the rate for all Scotland, while the rate for Dumbarton was approximately half the Scottish rate.

The rise in cataract operation rates both nationally and locally over the past 12 years is almost certainly due to improved techniques which result in better outcomes. Lens implants have virtually removed the need to wear special spectacle lenses after the operation. Thus, more elderly people are being considered suitable for operation at an earlier stage of visual impairment. It has also been suggested that elderly people may now be generally fitter for surgery, and have greater expectations with regard to the treatment of conditions previously accepted as part of growing old.

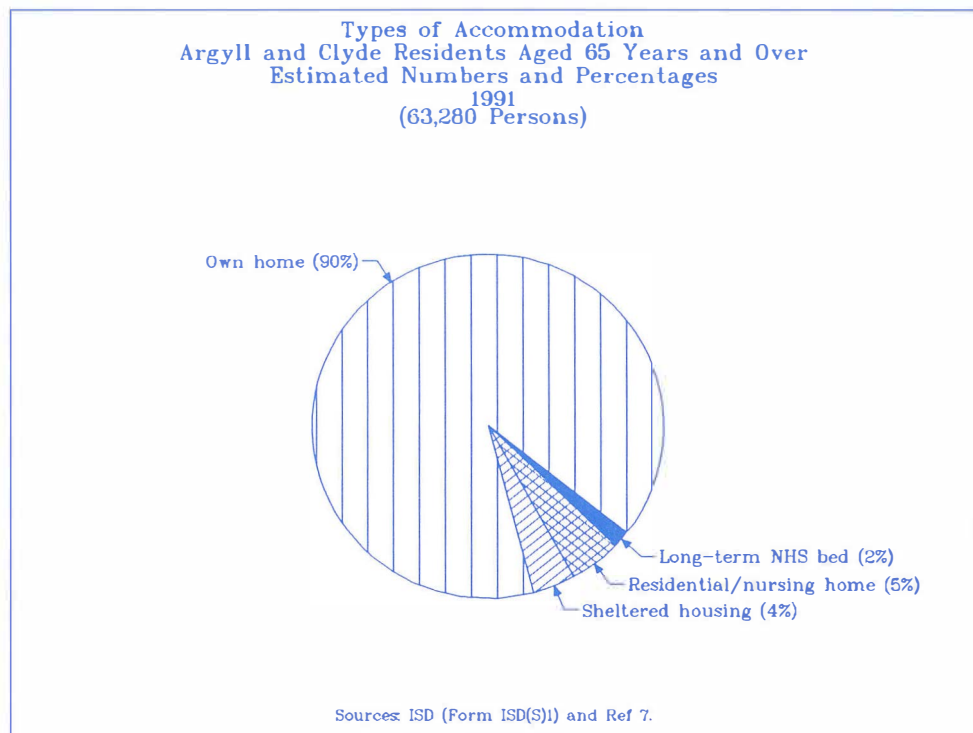
Due to technical advances in cataract surgery, an effective procedure is now potentially available for a greater number of patients with the condition. It is known that marked differences in operation rates exist both between and within health board areas. As information on true need becomes available, purchasing policy will need to ensure that all sectors of the population, be they geographical, demographical or socio-economic, have their need met equally.

12. Challenges for the Care of Elderly People

As was shown in Chapter 1, there are currently over 63,000 people in Argyll and Clyde who are aged 65 years and over (14% of the total population). Of these individuals, over 26,500 are aged 75 years and over, with over 5,000 aged 85 years and over. Population projections for the year 2001 suggest that the numbers of elderly people will continue to increase, at least until early next century.

Of those aged 65 years and over, the vast majority live in the community, in their own homes (Figure 12.1). Only approximately 5% live in local authority, private or voluntary residential homes or in nursing homes, and 2% are in long-term NHS hospital beds (in the specialties of geriatric long stay and psychogeriatrics). Obviously, at any one time there will also be a number of elderly people in hospital in other specialties, such as geriatric assessment and general surgery.

Figure 12.1



Most people in the 65 years and over age group living in their own homes will be in good health and able to lead independent lives. However, the likelihood of experiencing some disability increases markedly with age, as has been shown in the survey of disability among adults carried out in Great Britain during 1985 and 1986 by the Office of Population Censuses and Surveys (OPCS) (Ref 8). This survey identified individuals with a restriction

or lack of ability to perform normal activities, resulting from the impairment of a structure or function of the body or mind. A relatively low threshold was chosen above which individuals were considered 'disabled' and assigned to one of ten severity categories.

The survey estimated that whereas only 8% of people aged 16-64 years were likely to be affected by disability, the percentage increased to 41% amongst those aged 65 years and over, and to 60% amongst those aged 75 years and over. The most common types of disability amongst the elderly were those affecting locomotion, hearing, sight, and personal care. Most disabled elderly people suffered from more than one type of disability.

By applying the national estimates of the frequency of disability in the population to Argyll and Clyde, it may be estimated that among those aged 65 years and over, approximately 37,300 (59%) will be free from disability. Approximately 7,800 (12%) will suffer mild disability (OPCS severity categories 1-2), while 11,100 (18%) will suffer moderate disability (OPCS categories 3-6). A further estimated 7,100 (11%) will be severely disabled (OPCS categories 7-10) and very dependent upon carers for help with eating, dressing, mobility and continence.

Support for elderly people is provided by a number of agencies, including social services, health services and various voluntary agencies. In addition, the key role of 'the carer' must not be overlooked or underestimated. Carers - usually family, neighbours or friends of the elderly person - often provide a high level of support, and it should be remembered that many are themselves elderly.

Flexible patterns of care are aimed at helping both the elderly and their carers. Types of care range from the provision of a 'meals on wheels' or home help service, to short-term 'respite care' in hospital or a nursing home (while, for example, carers are on holiday), to long-term hospital or nursing home care. Other important services include home visits by general practitioners, district nurses, health visitors and chiropodists, etc., and the provision of local day hospitals and centres which the elderly person may attend regularly.

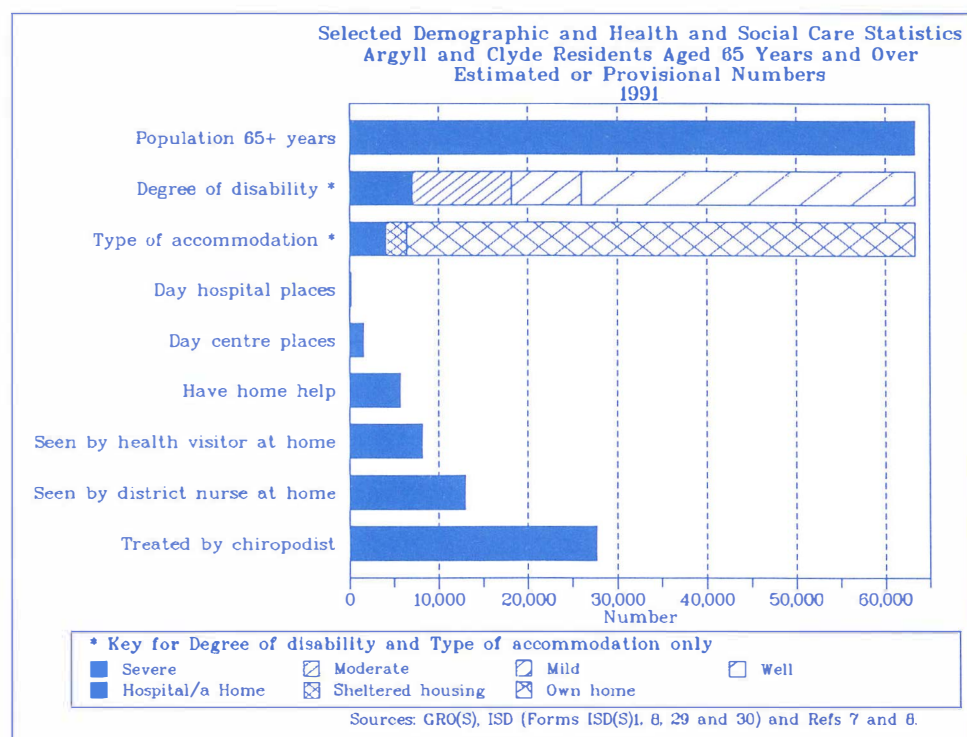
Figure 12.2 highlights some estimated/provisional numbers for several key statistics relating to elderly people. It would appear that there are a considerable number of disabled elderly people living in their own homes, some of them severely disabled. (It should not be inferred from the diagram that all people in long-term hospital or residential/nursing home care are in the severely disabled category; this is clearly not the case.) It can also be seen that there are relatively few places in day centres and particularly day hospitals.

Levels of provision of several key services are indicated in the diagram by the numbers of elderly persons receiving a particular service during 1991, but the frequency and duration of services will also be important (for example the frequency of visits by a health visitor or district nurse). Over 40% of elderly people receive NHS community chiropody treatment. The value of this service in maintaining mobility amongst the elderly is often underrated.

Increasing numbers of elderly people, and particularly the very elderly, are adding to the demand for, and pressure upon, such caring services. The trend towards smaller and often more dispersed families, plus increased expectations of assistance from society, are causing a major resources gap. An important area for consideration is the allocation of funding among and within the different agencies involved. Changes are planned with the

NHS and Community Care Act 1990 which is due to be implemented in April 1993. This Act is aimed at increasing the emphasis on providing resources to support elderly people in the community wherever possible.

Figure 12.2



Consequently, within the health service resources are being shifted from the hospital sector to community-based services. The general practitioner contract which commenced in April 1990 requires general practitioners to offer all of their patients aged 75 years and over a yearly health assessment. This systematic programme should increasingly help to identify unmet health care needs amongst the elderly at an earlier stage.

It may be considered ironic that one of the consequences of increased lifespan (which is often stated to be one of the objectives of health promotion) is to increase rather than decrease the challenge of caring for the elderly in the twenty-first century, as more people enter the more dependent age groups.

13. Community Care for Young Physically Disabled People

Young physically disabled people are defined as individuals aged 16-64 years (inclusive) who are suffering from chronic medical conditions which cause some degree of persistent physical disability. Such conditions include multiple sclerosis, cerebral palsy, severe arthritis, congenital anomalies such as severe spina bifida, and the after-effects of head or spinal injury or stroke. There is a considerable spectrum of disability, which results in a range of levels and types of dependency.

Estimates of the numbers of young physically disabled people will vary with the exact definition of this group. The OPCS survey of disability among adults (Ref 8) which was described in the last chapter found that in Great Britain around one in 13 people aged 16-64 years will suffer some disability. This equates to over 22,000 individuals in Argyll and Clyde, but only approximately 4,150 are estimated to be severely disabled (OPCS categories 7-10) and very dependent.

Although many young physically disabled people require specialist medical attention at some time, only a small number require long-term hospital care. The majority will be frequent users of community services and/or hospital day care and outpatient services. Appropriate assistance from both health and social services can enable many to achieve greater independence.

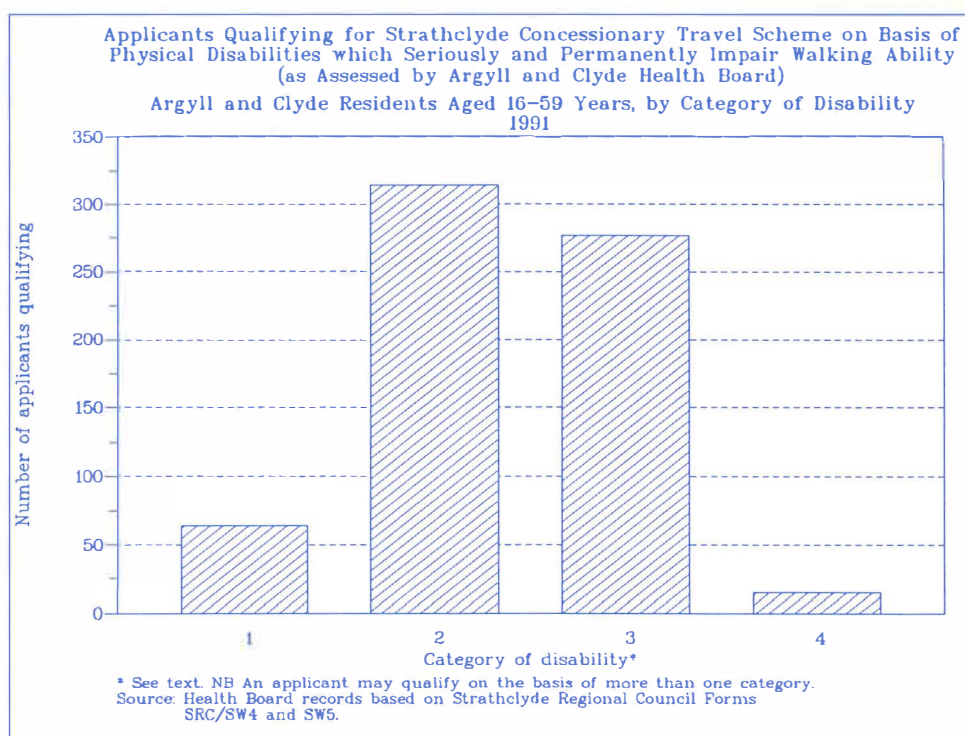
Disabled people may be eligible for a number of benefits which include disabled parking permits and concessionary travel on public transport. The Health Board has considerable input to the screening of applicants for concessionary travel.

Concessionary Travel

Most applicants for this benefit are people aged 16 years and over who are not yet eligible for retirement pension and whose mobility is seriously impaired. The Social Work Department of Strathclyde Regional Council requests a medical opinion on those cases where qualifying criteria have not already been met. The reason for this request is to confirm whether or not the applicant has a serious and permanent impairment of their walking ability.

In 1991, over 1,000 applications were referred for medical opinion. Of these, 603 applicants aged 16 years and over but less than 60 were accepted for the scheme. The underlying medical conditions of these successful applicants are grouped under four broad categories in Figure 13.1.

Figure 13.1



The categories are defined as follows:

Category 1: Defect of the spine or disease of the central or peripheral nervous system leading to loss of balance or to weakness or loss of control of the lower limbs.

Category 2: Disease of the bones, joints or other tissues of the spine, hips or lower limb, e.g. arthritis, gravitational ulcer, spastic foot, etc.

Category 3: Disease of the heart, lungs, blood vessels, e.g. chronic bronchitis, emphysema, cor pulmonale, ischaemic heart disease, congestive cardiac failure, intermittent claudication, etc.

Category 4: Other.

It can be seen from the figure that categories 2 and 3 were the most common categories for applicants qualifying for the scheme.

Environmental Control Equipment

The most severely disabled people can be helped to retain independence in the community in other ways. Individuals who are so disabled that they cannot operate a normal manual electrical switch are eligible to apply for environmental control equipment. Such equipment can control electrical appliances for lighting and heating, and operating telephone, television or radio. More sophisticated appliances can help with communication. The control equipment is operated by activating a touch pad with minimal pressure, or by blowing air through a tube.

The examples of the concessionary travel and environmental control equipment schemes illustrate the range of services available to aid people with varying degrees of disability.

Measures which will minimise new disability are also important. Key issues include accident prevention and the early recognition of medical problems which, if left untreated, could lead to disability or increased disability. As work on health needs assessment progresses, health gain strategies would be expected to give greater emphasis to preventive work to reduce long-term disability.

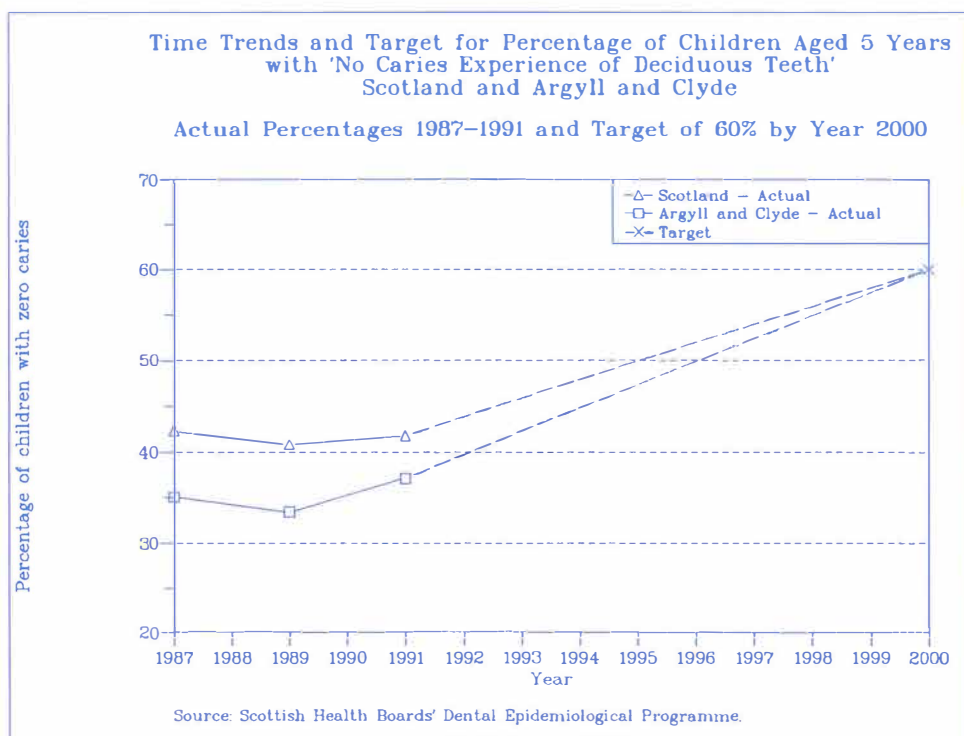
14. Dental Health

Children

The dental health of schoolchildren has been closely monitored over many years, and the quality of information gathered has been refined to allow comparisons within and between health board areas. Last year's report drew attention to the relatively poor state of children's teeth in Argyll and Clyde compared with most other areas in Scotland.

The dental health of five year olds is a good indicator of future caries (tooth decay) risk, as after this age the permanent teeth replace the deciduous (milk) teeth. The national target set by the Scottish Office for the year 2000 for five year olds is that 60% should have no decayed, extracted or filled teeth (i.e. no caries experience). Figure 14.1 shows that Scotland is still far short of this target, and Argyll and Clyde is in an even worse position. In 1991 the percentage of five year olds who were caries-free was 42% in Scotland and only 37% in Argyll and Clyde.

Figure 14.1



There are also marked variations in dental health within Argyll and Clyde. This is highlighted in the data obtained from primary school surveys carried out by the community dental service. Each year, nearly all five year old children in primary school are screened and advice is given on treatment need. Some schools have a much poorer result than others, and are targeted for health promotion initiatives on oral hygiene. Even when the results for individual schools are combined to give local government districts, differences are still apparent. Table 14.1 shows that in 1991, the percentage of five year olds with no caries

experience ranged from 48% in the relatively advantaged district of Argyll and Bute, down to only 27% in the district of Inverclyde which has the highest levels of social deprivation. Clearly, socio-economic status is linked with dental health as well as with general health.

Table 14.1

**Number and Percentage of Children Aged 5 Years
Screened at Primary School and Found to Have
'No Caries Experience of Deciduous Teeth'
Argyll and Clyde and its Four Local Government Districts
1991**

District	Children Screened	ZERO CARIES	
		Number	Percentage
Argyll and Bute	495	240	48.5
Dumbarton	1044	415	39.8
Inverclyde	729	198	27.2
Renfrew	1780	624	35.1
Argyll and Clyde	4048	1477	36.5

Source: ISD (Form ISD(S)23).

Fluoridation of water supplies

There are several ways of tackling this inequality in dental health, one of which is the proposed fluoridation of the public water supply. Fluoridation would be expected to help by improving children's teeth particularly in the worst areas. A formal public consultation exercise on the fluoridation issue is planned for 1992. If a positive conclusion is reached, Argyll and Clyde Health Board and the three other boards using Strathclyde Regional Council's water supplies will approach the Council to request that the supplies be fluoridated.

Adults

The national target relating to dental health in adults is that by the year 2000, the percentage of adults aged 45-54 years with no natural teeth should be reduced to 10%. Unfortunately, no local data are currently available on the percentage of adults with no natural teeth. This is one area to be investigated in a national survey which is being planned.

Dental attendance

An important issue in relation to improving levels of dental health is how to increase the rate of attendance for dental treatment. At 31 March 1992, only 46% of the adult population in Argyll and Clyde was registered with an NHS dentist for continuing care (Ref 9). The corresponding figure for Scotland was similar, at 47%. Ways are being sought to identify non-attenders and target health education messages more effectively.



Appendix 1

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Dr Lewis M Reay

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Dr David S G Sloan

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Acute Medical Services

Women and Children's Health

Longterm Services

Care of the Elderly and People with Physical Disability

Communicable Disease and Environmental Health

Acute Surgical Services

Health Promotion and Primary Care

Senior Registrars

Dr Andrew K Fraser

Dr Cameron R Stark

Registrar

Dr Helen Gibson (Part-time)

Acting Chief Administrative Dental Officer

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Support Staff

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Mrs Dorothy Cafferty

Ms Adrienne Hannah

Mr Pat Lochery

Mrs Irene M Raine

Information Officer

Support Services Manager

HIV/AIDS Outreach Worker

Emergency Planning Officer

Departmental Administrator

Secretarial and Clerical Staff

Miss Sharon Campbell

Miss Shirley Devine

Mrs Shona Hynds

Mrs Georgie McGowan

Mrs Irene McLean

Miss Paula Martin

Mrs Jeanette Morrison

Mrs Janine Muir

Mrs Barbara Parrish

Mrs Margaret Perry

Miss Ellen Saunders

Appendix 2: Births and Deaths

Time Trends for Births and for Deaths (All Ages, Infant, Neonatal and Perinatal)
Residents of Scotland, Argyll and Clyde and its Four Local Government Districts
1988-1991

a) Numbers

Area	Births				All Deaths				(1) Infant Deaths				(2) Neonatal Deaths				(3) Perinatal Deaths			
	Live		Still																	
	1988	1989	1990	1991	'88	'89	'90	'91	1988	1989	1990	1991	'88	'89	'90	'91	'88	'89	'90	'91
Scotland	66212	63480	65973	67024	357	319	349	369	61957	65017	61527	61041	543	552	508	476	298	298	290	295
Argyll & Clyde	5843	5582	5718	5650	30	35	26	29	5311	5606	5419	5313	55	44	58	38	33	21	24	25
Argyll & Bute	875	830	804	880	1	2	3	4	939	1050	990	921	7	10	8	9	4	2	3	5
Dumbarton	1129	1067	1093	1052	9	2	2	6	842	917	859	857	17	7	12	8	12	3	5	8
Inverclyde	1172	1179	1205	1185	7	7	10	4	1237	1285	1268	1243	6	8	13	5	3	5	6	4
Renfrew	2667	2506	2616	2533	13	24	11	15	2293	2354	2302	2292	25	19	25	16	14	11	10	8

Notes : (1) Deaths in the first year of life.
(2) Deaths in the first four weeks of life.
(3) Stillbirths and deaths in the first week of life.

b) Crude Rates

Area	Births				All Deaths				(3) Infant Deaths				(4) Neonatal Deaths				(5) Perinatal Deaths			
	Live (1)		Still (2)																	
	1988	1989	1990	1991	1988	1989	1990	1991	1988	1989	1990	1991	1988	1989	1990	1991	1988	1989	1990	1991
Scotland	13.0	12.5	12.9	13.1	5.4	5.0	5.3	5.5	12.2	12.8	12.1	12.0	8.2	8.7	7.7	7.1	4.5	4.7	4.4	4.4
Argyll & Clyde	13.2	12.7	13.0	12.8	5.1	6.2	4.5	5.1	12.0	12.7	12.3	12.1	9.4	7.9	10.2	6.7	5.6	3.8	4.2	4.5
Argyll & Bute	13.3	12.5	12.2	13.3	1.1	2.4	3.7	4.5	14.2	15.8	15.0	14.0	8.0	12.0	10.0	10.2	4.6	2.4	3.7	5.7
Dumbarton	14.0	13.4	13.7	13.2	7.9	1.9	1.8	5.7	10.5	11.5	10.8	10.7	15.1	6.6	11.0	7.6	10.6	2.8	4.6	7.6
Inverclyde	12.3	12.5	12.9	12.7	5.9	5.9	8.2	3.4	13.0	13.6	13.6	13.4	5.1	6.8	10.8	4.2	2.6	4.2	5.0	3.4
Renfrew	13.3	12.5	13.0	12.6	4.9	9.5	4.2	5.9	11.4	11.7	11.5	11.5	9.4	7.6	9.6	6.3	5.2	4.4	3.8	3.2

Notes : (1) Live births per 1,000 total population.
(2) Stillbirths per 1,000 total births (live and still).
(3) Deaths in the first year of life per 1,000 live births.
(4) Deaths in the first four weeks of life per 1,000 live births.
(5) Stillbirths and deaths in the first week of life per 1,000 total births (live and still).

Source: GRO(S).

Numbers of Deaths from Selected Causes
Argyll and Clyde Residents, by Age Group and Sex
1991

ICD no. (1)	Cause of Death	All Ages		Age Group (years)															
		Male	Female	<1		1-4		5-14		15-34		35-44		45-64		65-74		75+	
				M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
	ALL CAUSES	2569	2744	25	13	4	4	5	1	71	22	61	44	613	383	751	599	1039	1678
	Main Causes	2011	2051	6	2	2	3	4	1	55	16	41	33	508	328	626	491	769	1177
02	Tuberculosis	3	4	-	-	-	-	-	-	1	-	-	-	-	1	1	1	1	2
020-021	Respiratory	3	3	-	-	-	-	-	-	1	-	-	-	-	1	1	1	1	1
08-14	Malignant Neoplasms	619	631	-	-	-	-	-	-	1	5	9	18	189	172	232	191	188	245
091	Stomach	53	41	-	-	-	-	-	-	-	-	1	1	17	7	18	11	17	22
101	Lung	248	122	-	-	-	-	-	-	1	-	-	5	80	28	102	52	65	37
113	Breast	-	118	-	-	-	-	-	-	-	-	-	7	46	-	28	-	-	37
120	Cervix	-	16	-	-	-	-	-	-	1	-	-	1	-	6	-	3	-	5
181	Diabetes	15	28	-	-	-	-	-	-	1	-	-	-	1	7	8	7	5	14
26-28	Heart Diseases	940	788	1	-	-	-	-	-	7	-	21	4	246	90	296	186	369	508
27	Ischaemic	859	660	-	-	-	-	-	-	4	-	17	3	231	81	278	168	329	408
29	Cerebrovascular Disease	260	486	-	-	-	1	-	-	1	1	2	7	33	39	59	89	165	349
323	Bronchitis,Emphysema,Asthma	26	24	-	-	-	-	-	1	-	1	-	-	1	7	9	6	16	9
341	Ulcer of Stomach & Duodenum	12	14	-	-	-	-	-	-	-	-	-	-	2	3	3	-	7	11
44	Congenital Anomalies	11	5	5	2	-	1	2	-	3	-	1	-	-	-	-	2	-	-
E47-E53	Accidents & Adverse Effects	97	63	-	-	2	1	2	-	29	5	5	2	28	7	15	9	16	39
E471	Motor Vehicle	36	12	-	-	1	-	-	-	15	4	2	1	7	4	8	1	3	2
E50-E52	Home Accidents	25	14	-	-	1	-	2	-	4	-	2	1	8	2	3	3	5	8
E54	Suicide	28	8	-	-	-	-	-	-	12	4	3	2	8	2	3	-	2	-

Deaths from Selected Causes - Crude Rates per 100,000 Population
Residents of Argyll and Clyde (A & C) and Scotland (S), by Age Group
1991

ICD no. (1)	Cause of Death	All Ages (3)		Age Group (years)															
		Argyll & Clyde	Scot- land	<1		1-4		5-14		15-34		35-44		45-64		65-74		75+	
				A&C	S	A&C	S	A&C	S	A&C	S	A&C	S	A&C	S	A&C	S	A&C	S
	ALL CAUSES Main Causes	1206 922	1196 906	681 143	743 215	34 21	43 26	11 9	20 16	69 53	74 51	177 125	176 126	1012 850	910 762	3692 3055	3506 2860	10170 7284	9935 7116
02 020-021	Tuberculosis Respiratory	2 1	1 1	-	-	-	-	-	-	1 1	0 0	-	0 0	1 1	1 1	5 5	3 2	11 7	8 7
08-14 091 101 113 120	Malignant Neoplasms Stomach Lung Breast (2) Cervix (2)	284 21 84 52 7	292 16 82 48 7	-	3	-	3	-	3	4 -	9 0	45 3	50 2	367 24	334 16	1157 79	1127 64	1621 146	1752 113
				-	-	-	-	-	1	0 2	8 2	8 24	110 19	98 73	421 133	392 126	382 204	412 209	113 206
181	Diabetes	10	10	-	-	-	-	0	1	1	-	3	1	8	9	41	31	71	82
26-28 27	Heart Diseases Ischaemic	392 345	381 331	18 -	9 -	-	2	-	0	5 3	3 1	42 34	30 27	341 317	303 277	1318 1220	1238 1127	3283 2759	3171 2647
29	Cerebrovascular Disease	169	156	-	-	4	0	-	0	1	2	15	9	73	61	405	356	1924	1721
323	Bronchitis,Emphysema, Asthma	11	11	-	-	-	-	2	0	1	1	-	2	8	11	41	31	94	79
341	Ulcer of Stomach & Duodenum	6	7	-	-	-	-	-	-	0	-	0	-	5	5	8	18	67	70
44	Congenital Anomalies	4	4	125	190	4	5	4	3	2	1	2	1	-	1	5	1	-	1
E47-E53 E471 E50-E52	Accidents & Adverse Effects Motor Vehicle Home Accidents	36 11 9	34 10 9	-	13	13	15	4	9	25	21	12	18	36	24	66	45	206	220
				-	2	4	3	-	4	14	14	5	8	11	8	25	8	19	21
				-	9	4	8	4	2	3	2	5	4	10	7	16	14	49	66
E54	Suicide	8	10	-	-	-	-	0	12	13	8	14	10	13	8	10	7	11	

Notes: (1) International Classification of Diseases (Ninth Revision), abbreviated 'B' List.
(2) Crude rate per 100,000 female population.

Source: GRO(S).

References and Abbreviations

References

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- 8 Martin, J., Meltzer, H., Elliot, D. OPCS Surveys of Disability in Great Britain. Report 1: The Prevalence of Disability among Adults. Office of Population Censuses and Surveys. London: HMSO. 1988.
- 9 Scottish Dental Practice Board. Annual Report, 1991/92.

Abbreviations

Data Sources

GRO(S)	General Register Office for Scotland
ISD	Information and Statistics Division of the Common Services Agency
SRC 1987 VPS	Strathclyde Regional Council 1987 Voluntary Population Survey

Health Boards

A&A	Ayrshire and Arran
A&C	Argyll and Clyde
Bor	Borders
D&G	Dumfries and Galloway
FVal	Forth Valley
Gra	Grampian
GGHB	Greater Glasgow
High	Highland
Lan	Lanarkshire
Loth	Lothian
Tay	Tayside
Ork	Orkney
She	Shetland
WIsl	Western Isles



