

Healthcare in a rural setting

January 2005





British Medical Association
Board of Science

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- The BMA General Practitioners Committee.

Foreword

The British Medical Association (BMA) resolved at its 2003 meeting to further investigate the difficulties in recruiting and retaining doctors in rural practice. In particular, the BMA is concerned about the sustainability of services in rural areas and the resulting problems with access to healthcare.

The BMA had previously published a report on the nature of rural general practice in the UK, written by the general practitioners committee (GPC) of the BMA and the Institute of Rural Health (IRH).^a The joint report addressed four key issues in rural general practice, assessing the current level of evidence for each:

- access for patients in rural areas
- rural deprivation and the Deprivation Payments Scheme
- issues of dispensing and other General Medical Services income
- definitions of rurality.

The Board of Science^b decided to build on the earlier GPC/IRH report and widen the discussion on rural healthcare in the UK. In this report the key areas of medical education and training, recruitment and retention, and accessibility and sustainability of healthcare are examined in the rural context, with a focus on primary care. UK and international examples of good practice are included and recommendations for action made. The report is aimed at all healthcare professionals and organisations that can respond and improve healthcare in rural areas.



Professor Sir David Carter
Chairman, Board of Science
January 2005

^a Please see reference 3.

^b The Board of Science, a standing committee of the BMA, provides an interface between the medical profession, the government and the public. The Board produces numerous reports containing policies for national action by government and other organisations, with specific recommendations affecting the medical and allied professions.

Abbreviations

A&E: accident and emergency

BASICS: British Association for Immediate Care

CPD: continuing professional development

DH: Department of Health

E-learning: electronic learning

EU: European Union

EWTD: European Working Time Directive

GMS: General Medical Services

GP: general practitioner

GPC: general practitioners committee of the BMA

IPE: interprofessional education

IRH: Institute of Rural Health

ISU: Indiana State University

IUSM: Indiana University School of Medicine

RARARI: Remote and Rural Areas Resource Initiative

RHF: Rural Health Forum

RRAPP: Rural and Remote Area Placement Program (USA)

SEHD: Scottish Executive Health Department

WONCA: WONCA is an acronym comprising the first five initials of the World Organisation of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians. WONCA's short name is World Organisation of Family Doctors

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Introduction

The Dewar report (1912)¹ examined healthcare in rural areas and highlighted many difficulties with service provision. This led to the formation of the Highlands and Islands Medical Scheme, widely held to be a forerunner of the National Health Service.² Since that report there has been little research in this area, although a recognition of inequalities in health in the UK during recent years³ has led to a re-examination of rural healthcare provision and outcomes, and highlighted the need for further research and improvements. This is shown by a number of projects and organisations committed to improvements in rural health, for example, the joint report by the general practitioners committee (GPC) of the BMA and the Institute of Rural Health (IRH),³ the Rural Health Forum (RHF),⁴ the IRH⁵ and the Remote and Rural Areas Resource Initiative^c (RARARI).⁶

In the UK, rurality is now increasingly recognised as an issue worthy of its own policies.⁷ The Department of Health (DH) is funding Rural Proofing for Health – a project of the IRH and managed by the RHF. This involves developing a toolkit for use by primary care organisations, to enable them to ‘rural proof’ their policies to take into account the health needs of people living in rural communities.⁸ Health is a devolved responsibility of the Scottish Parliament, Welsh Assembly and the Northern Ireland Assembly, each with distinct rural communities and identities. This has given new opportunities to improve remote and rural care in these regions,⁹ and drive policy forward.

Rural healthcare in the UK is not given the same attention as in countries such as Australia, USA and Canada. In these countries, research into the crisis affecting rural healthcare has led to innovative solutions. In this report international examples from Australia and USA are introduced to inform debate. Examples of good practice from other countries where rural healthcare has been addressed may also be usefully explored, and this needs to be further researched. The UK needs to begin to view rural healthcare as a policy area separate from urban healthcare. Many policies work well in urban areas but do not translate to rural ones,¹⁰ for example, having large hospitals to cover large populations. In this case, a comparative scale in rural areas would produce prohibitively long distances for the outliers to travel, and long journeys for emergency services, which could compromise clinical outcome. Evidence indicates that different solutions are needed in rural areas.¹⁰

^c RARARI ceased to exist on 31 March 2004, however, there are active projects still running.

Rurality and healthcare

Research is beginning to show that there are rural-urban differences in health outcomes, and challenges the belief that rural patients have a health advantage over their urban counterparts.¹¹ Different approaches to healthcare provision may need to be taken in rural and urban areas, as often those that work well in urban areas do not translate to a rural situation.

Recognition of the benefits of specialised cancer care, for example, has led to the reshaping of cancer services in the UK. This has resulted in a move towards centralisation, which has implications for those living in rural areas.¹² A Scottish study investigated whether survival from cancer differed for patients resident in a rural and an urban area. It was found that patient distance from the nearest cancer centre can affect cancer survival.¹¹ More remote patients are less likely to have their stomach, breast and colorectal cancer diagnosed, and have poorer survival after diagnosis for prostate and lung cancer.¹¹ Another study¹² lends support to the theory that remote/rural patients may be disadvantaged in the early diagnosis of cancer.

Health outcomes for patients in rural areas compared with patients in urban areas needs to be more fully researched as there is a paucity of evidence. The joint GPC/IRH report suggests that this reflects the relatively recent development of health research in rural areas and the use of varying definitions of rurality. The report suggests that a consensus definition of rurality is needed to help develop this evidence base.³ However, it is very difficult to identify a definition that encompasses the many facets of rurality relevant to primary and secondary care.

What is rurality?

This section discusses the characteristics of a rural area and examines the different methods of measuring rurality and rural deprivation. For the purposes of this report we are particularly interested in defining rurality and rural deprivation in a manner that is relevant to healthcare. More detailed discussion of the wider debate can be found in the joint GPC/IRH report.³

Rural areas account for over four-fifths of the UK landmass and include up to a quarter of the population. Rural areas are heterogeneous and the differences between rural areas in terms of social, environmental and economic challenges are arguably as great as the differences between urban and rural areas.¹³ The definition of rurality is, therefore, far from straightforward.

Population

In remote/rural areas, the proportion of older people in the population will be higher than in the general UK population.¹⁴ Many rural areas have experienced migration patterns that have led to an ageing population, with the outward migration of young people and the inward migration of older, retired people.¹⁵ This may mean that healthcare practitioners in rural areas need to deal more often with chronic diseases that increase from the middle years of life into old age, such as heart disease, stroke and mental illness.¹⁶ In addition, older patients may have more difficulty accessing

services than the general population. Many rural areas also experience changes in population density, with the fluctuating population of temporary residents, many of whom are tourists.

Loss of services

Research has suggested that the core services essential to maintain a sense of community are a shop, primary school, general practitioner (GP) and community hall.¹⁷ A local post office could also be considered essential. However, many rural areas are now suffering a decline in these local amenities, resulting in the need to travel longer distances to access services. It is suggested that service decline impacts most on poor people and the elderly.¹⁸

Remoteness

Rural areas that are also remote are challenged by the greater inaccessibility of urban centres and sparser infrastructure than less remote rural areas.¹⁸ Remote areas may also have fewer economic opportunities. For example, remote/rural areas of Scotland such as the Highlands and Islands area, is one of the most sparsely populated in the European Union (EU).¹⁸ This area has a population density of 9.5 people per square kilometre compared with an EU average of 116 people in 1998. Thirty per cent of the population live on more than 90 inhabited islands. While more accessible areas within the Highlands are flourishing, the population of the island and remote areas is declining and ageing. Average weekly earnings in the Highlands area are lower than the Scottish average and there are high rates of long-term unemployment. The cost of living is higher than in more accessible parts of Scotland.¹⁸

Remote islands in particular experience difficulties in providing healthcare services. This results from:

- having to provide a certain standard of service for a small population
- the need to cater for the fluctuating population of temporary residents
- high proportions of elderly residents
- the cost of transporting goods
- the need to pay incentives to recruit and retain healthcare professionals.¹⁹

Deprivation

Rural deprivation has been largely ignored in the post-war period, partly due to the image of the 'rural idyll', which has been difficult to counteract, and also due to the focus on urban deprivation. However, there are people experiencing disadvantage throughout rural areas, and they often live in close proximity to people with very different circumstances.²⁰ This results in small pockets of deprivation existing within relative affluence.²¹ Deprivation in a rural context involves a complex interaction between factors associated with income, social circumstances, access to services and choice.²² Those with resources can access a range of services using private transport, while those with lower income have restricted access to services, limited choice and high living costs.¹⁷

It is suggested that rural areas experience particular forms of deprivation to a greater extent than urban areas.^{3,7} These include:

- *household deprivation*: low incomes and lack of housing opportunities
- *opportunity deprivation*: decline in services and employment
- *mobility deprivation*: difficulties in obtaining access to jobs, services and facilities.

Deprivation and poverty are important determinants of health and disease,²³ and various aspects of deprivation such as poor quality housing have been the subject of previous Board reports.²⁴ Researchers are now beginning to examine relationships between health and life circumstances in rural areas.²² Deprivation needs to be appropriately measured if resources are to be targeted at local health inequalities.²² However, existing measures of deprivation are inappropriate for use in rural areas. This is partly because they may be more suitable for urban areas and partly because they do not allow for the heterogeneous nature of rural areas. Small pockets of deprivation are, therefore, missed.²² An appropriate measurement also relies on an understanding of the extent to which urban and rural deprivation differ. In recent years there have been attempts to develop rural specific indicators, which now need to be evaluated in the context of rural healthcare.³

Measuring rurality

The lack of an agreed definition of rurality means that there is not one preferred method of measurement.⁷ Different methods of measuring rurality, stressing different rural characteristics, fit different purposes.²⁵ The Countryside Agency uses settlement size to delineate rural areas. It defines rural wards and postcode sectors as having a population of less than 10,000.³ Due to the demand for a better definition of rural settlements, a new project has developed more detailed classifications for rural areas.²⁶ However, there is a lack of international consensus on settlement size thresholds.²⁷

Healthcare researchers have tended to use definitions that focus on distance from key healthcare facilities.²⁸ For example, a review of the Scottish Medical Workforce approached the definition of rurality by using drive-time to services.¹⁴ It was found that 89 per cent of the population in Scotland live less than 30 minutes drive-time from an acute hospital accepting acute admissions while 1 per cent live more than 120 minutes away. Eighty-four per cent live less than 30 minutes drive-time from a hospital with a major accident and emergency unit and 3 per cent live more than 120 minutes away.¹⁴ The more rural and remote the area, the greater the drive-time and the greater the risk in emergency and acute conditions. The Accessibility/Remoteness Index of Australia uses a geographical information system to bring together information on distance, roads, locality and services. Rural areas are then rated on a five-part scale of highly accessible, accessible, moderately accessible, remote and very remote.²²

Further indicators for the measurement of rurality include the following.

- *Population density/sparsity* is the most widely used measure of rurality which, in addition to distinguishing urban from rural areas, can be used to discriminate between different rural areas. However, the distribution of the population must also be taken into account.⁷
- *Accessibility to services* measures nearest neighbour distance and concerns the physical availability of services and facilities. It is useful to show if populations are widely dispersed.⁷ The Scottish Executive Health Department (SEHD) defines rural areas as 'accessible rural' and 'remote rural'. Accessible is defined as being within a 30 minute drive of an urban settlement of 10,000 or more people.²⁹
- *Land use* allows rurality to be defined in terms of economic activity, such as a percentage of the population involved in agriculture.⁷
- *Measures using multiple variables* overcome the problem that single measures cannot adequately capture the heterogeneous nature of rurality.^{3,7} For example, rurality can be defined around the combined measurement of sparsity *and* remoteness.

Measuring rurality in relation to healthcare should incorporate an array of variables, in addition to geographical features, to reflect the heterogeneity of rural areas and the perceived differences between urban and rural areas.³ Research by the IRH and the University of Glamorgan, reported in the joint GPC/IRH report, set out to develop a consensus definition of rural healthcare based on the perceived differences between rural and urban general practice (key issues 1).³

Key issues 1: factors distinguishing rural from urban general practice

Four factors distinguish rural practices:

- increased emergency/minor casualty work
- difficulties associated with distance and travel
- specific rural illness, for example zoonoses
- difficulties in obtaining cover for absence and out-of-hours work.

Further factors found to be important are:

- a wider range of clinical skills needed
- in general, smaller list sizes and larger geographical areas
- personal/family implications, such as social isolation
- professional isolation.

Source: Deaville³ (2001).

Recruitment and retention of healthcare professionals

There continues to be a shortage of GPs in the UK. For example, in 2000 there were 1.8 practising GPs per 1,000 population, compared with an average of 3.3 among European countries.³⁰

The DH *General Practitioner Recruitment, Retention and Vacancy Survey*,³¹ highlights the dramatic decline in the average number of applicants per GP vacancy in England and Wales (table 1). There was an average of 8.5 applicants per vacancy in 2000, compared with 3.3 applicants in 2003. Urban deprived areas attracted fewer applicants on average than any other type of area.

Table 1: average number of applicants per vacancy by self-defined area in England and Wales (2000-03)

Area served	Overall average number of applicants			
	2000	2001	2002	2003
Urban deprived	5.9	4.7	3.6	2.4
Urban	8.5	6.4	4.7	3.3
Mixed urban/rural	9.5	8.3	4.1	3.7
Rural	10.6	8.1	5.6	3.6
Not defined	4.6	2.7	-	-
Overall average	8.5	6.9	4.4	3.3

Source: Adapted from Government Statistical Service (2003).³¹

Although these figures suggest that, in general, the recruitment and retention of GPs is less problematic in rural areas than urban areas in England and Wales, this picture is deceptive once the heterogeneous nature of rural areas is taken into account. Statistics from the whole of the UK confirm that some rural areas are more difficult to recruit to than others. Pockets of recruitment difficulty exist, for example, in remote rural areas and deprived rural areas. Healthcare practitioners other than GPs may also be more difficult to recruit in some rural areas than in others.

In Scotland, the percentage of vacancies open more than three months in 2003 for allied health professions illustrates the vulnerability of services in remote/rural areas. Statistics from the Information Services Directorate, Scotland show that in some rural areas vacancies are more long-term in comparison to the urban areas of Lothian and Greater Glasgow (table 2).³² Long-term vacancies are a major concern in remote/rural areas, particularly in one or two person practices. Carrying a vacancy will be very different in a five- or 10-person practice, compared with a one- or two-person practice where it will make significant differences to the ability to maintain workload; in some cases resulting in a complete loss of a service.³³ The figures also reveal a high vacancy level in the remote Highlands.

Table 2: the number of vacancies for allied health professions in selected health board areas of Scotland in 2003. Data expressed as a percentage of total positions and the number of these filled within three months

Health board	Vacancies as percentage of total positions	Percentage of vacancies filled within 3 months
Rural areas		
Orkney	9.0	0
Shetland	7.8	Not available
Western Isles	2.5	0
Highlands	10.4	38
Borders	4.4	82
Dumfries and Galloway	8.0	74
Urban areas		
Lothian	6.3	52
Greater Glasgow	9.7	65

Source: Information Services Directorate, Scotland.³²

The number of dental practitioners involved in NHS treatment in Scotland also reveals recruitment difficulties in remote/rural areas,³³ with figures showing a general shortage in these areas as compared with the urban areas of Lothian and Greater Glasgow (table 3).³²

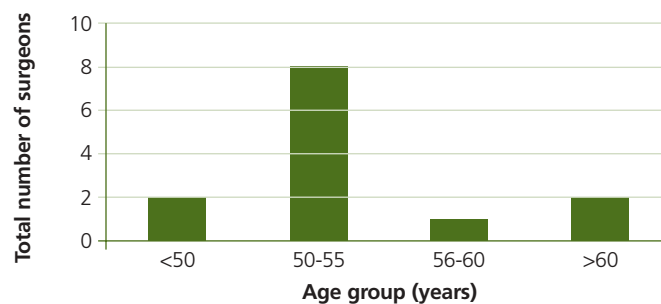
Table 3: the number of dental practitioners providing NHS treatment per 100,000 population in selected health board areas of Scotland in 2003

Health board	Dentists per 100,000 population
Rural areas	
Orkney	15
Shetland	13
Western Isles	25
Highlands	32
Borders	26
Dumfries and Galloway	33
Urban areas	
Lothian	44
Greater Glasgow	44

Source: Information Services Directorate, Scotland.³²

The impending retirement of healthcare professionals in rural areas must also be examined. For example, communities in the deprived South Wales Valleys are facing a GP recruitment crisis. Many non-UK trained doctors who emigrated to the UK in the 1960s and 1970s, and fill almost three-quarters of the posts, are now nearing retirement age. Therefore, some communities face the possibility of not having access to a GP in the near future.³⁴ A study of all permanent consultant surgeons practising in remote/rural Scotland in 2001 (13 in total) found that the majority were over 50 years of age (figure 1).³⁵

Figure 1: ages of all 13 permanent remote/rural consultant surgeons in Scotland in 2001



Source: Sim³⁵ (2001).

The attitudes of medical students are important and could also reveal future recruitment difficulties in rural areas. For example, in 1996 a US study found that only 2.2 per cent of medical school graduates planned to practise in rural areas or small towns.³⁶ This suggests that newly qualified practitioners may choose to live and work in an urban area, leading to a shortfall in the rural medical workforce. There is a pressing need to define the career intentions of UK medical students as part of the need to address the recruitment and retention of healthcare professionals in the UK.

Many strategies designed to improve recruitment and retention in rural/remote areas emphasise raising awareness of the incentives for working in such areas (key issues 2). It is also recognised that in order to recruit and retain these individuals, the disincentives to becoming a healthcare professional in a rural or remote area need to be addressed. The disincentives of working in a rural/remote area as compared with urban areas are highlighted below (key issues 3).

Key issues 2: incentives/benefits for working in a rural/remote area

GPs

- A rural practice is likely to provide a range of specialist services that most urban practices do not. Rural GPs can therefore gain new skills, for example in minor surgery and more specialist treatment of minor injuries, a range of 'hands on' clinical work and experience in dealing with emergencies.
- A rural GP is more likely to be able to practise traditional family medicine.
- A rural practice offers the chance to contribute to the holistic care of a community.
- A rural practitioner is likely to be regarded as an essential leading figure in a community.

Surgeons

- There is the opportunity to perform a wider range of surgery, have greater clinical autonomy and provide a more personalised service with greater patient contact.
- A rural surgeon can take a more holistic approach to the care of a patient.

General

- Rural healthcare professionals are likely to enjoy a good quality of life (for example outdoor pursuits) and an ideal environment in which to raise a family (generally safe communities with low crime levels).

Sources: Gillies³⁷ (1998), McCabe³⁸ (2002), Sim³⁵ (2001).

Key issues 3: disincentives of working in a rural/remote area

- New medical graduates do not always see working in a rural area as a positive career option and are not always encouraged and appropriately trained to work in a rural area.
- Professional isolation, including lack of opportunities for continuing professional development due in part to difficulties in obtaining locum relief.
- Social isolation for the professional, partner and children and potentially fewer job opportunities for the spouse.
- Lack of personal privacy in a small community and lack of access to personal healthcare outside of the local practice.
- Greater burden of duty, including excessive on-call commitment and living and working in a small community with corresponding pressures on working hours.^d

Sources: Buckley³³ (2003), Dewar¹ (1912), McCabe³⁸ (2002), Sim³⁵ (2001).

^d It should be noted that it is also possible for the intensity of workload to be less, though the on-call commitment might be greater, so that there can be trade-offs between availability and intensity, which may be attractive compared to the high intensity of working in a more densely populated and busy urban setting.

In the following sections ways of addressing the disincentives to working in a rural/remote area, which affect recruitment and retention, are discussed and possible solutions and actions are highlighted.

Education and training

The challenge of recruiting healthcare professionals to rural areas needs to be approached in numerous ways. Medical students and new medical graduates need to see rural practice as a positive career option and need to be encouraged and appropriately trained to work in a rural area. A report by the World Organisation of Family Doctors (WONCA)^e recognises that recruitment can be influenced throughout a student's medical education.³⁹

Recruiting students from rural areas

International examples indicate that recruiting medical students from rural areas will increase the likelihood of professionals wanting to work in such areas.³⁹ The Rural Health Initiative in Indiana (in the American midwest) was begun in 1997 because more than a quarter of the 92 counties had a shortage of GPs, despite a general increase in the number of primary care graduates in the state. The initiative involves Indiana State University (ISU) and Indiana University School of Medicine (IUSM), and is administered by the IUSM's Terre Haute Center for Medical Education. It recruits students from rural areas who have shown a desire to practise medicine in a similar setting. Recruitment efforts focus on students from areas with populations of less than 10,000 or from areas with a shortage of medical practitioners. Admissions are limited to 10 Indiana residents from rural areas per year.

Students are admitted to the undergraduate programme at ISU and have a provisional place at IUSM until this has been completed. Entry into IUSM is dependent on achieving particular grades. Career-related experiences to enhance the likelihood of success in the practise of rural medicine are provided throughout the undergraduate and medical school programmes. To aid recruitment efforts, ISU offers qualified students full-tuition waivers for the undergraduate portion of the degree.⁴⁰

In the UK, there is a relative lack of evidence on the beneficial effects of encouraging more students from rural areas to apply to medical schools. A study examining the locations of family home, medical schools and work found a relationship between family home location, medical school, and location of career posts.⁴¹

- Thirty-eight per cent of respondents attended a medical school in the region of their family home.
- Forty-two per cent had a career post in the same region as their medical school.
- Another thirty-eight per cent had a career post in the same region as their family home.

^e WONCA is an acronym comprising the first five initials of the World Organisation of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians. WONCA's short name is World Organisation of Family Doctors

Although the study does not distinguish between rural and urban areas in each region, it does highlight that there is a relationship between family home and choice of medical school, family home and choice of career post, and medical school and choice of career post. It is worthwhile conducting further research and it is suggested that encouraging students from rural areas to apply to medical schools could be considered as a strategy to boost recruitment and retention of doctors in rural areas.

Secondary school students in rural areas need to be encouraged to consider medicine as a career option and to apply for entry to medical school. Consequently, there is a need for specific programmes that promote medicine to rural secondary schools.³⁹ In the UK work has begun in this area. For example, the IRH runs a long-standing programme to promote medicine to students in the sixth form. Dentistry is also included in the programme.⁵ RARARI ran a Highlands School Mentor Scheme to encourage pupils to consider medicine as a career. This recognised that Highland communities need to develop doctors who are 'at home' in such a community.⁶ In addition, healthcare professionals are visible role models in rural communities when compared to urban peers. This visibility could be developed and used to encourage school students to enter the caring professions.

Recommendation 1

A broad range of strategies should be implemented to promote medicine to potential students from a rural background and encourage them to apply to medical school.³⁹

- Programmes for rural secondary school students should be run to promote medicine as a career. Medical schools in partnership with the local authority should implement these as widely as possible.

Undergraduate placements in a rural area

Evidence from other countries strongly supports the need for students to be given the option to undertake a placement in a rural area at undergraduate level.³³ Research in New Zealand evaluated the effect of a new undergraduate placement in a rural area developed by the Department of General Practice at Dunedin School of Medicine.⁴² Students are placed in rural centres during their fifth (penultimate) year, for a period of seven weeks, as part of their training. During this time they are exposed to both rural general practice and rural hospital work. The attitudes of the students to a career in a rural area were measured immediately before and after participation in the placement during 2000 and 2001. Positive changes in students' attitudes towards rural practice were found (table 4).

Table 4: influence of a seven-week rural placement on the percentage of Dunedin School of Medicine students indicating that they would or probably would enter rural general practice

	Before the placement (%)	After the placement (%)
Students from a rural background	6	22
Students from an urban background	1.1	13

Source: adapted from data in Williamson et al⁴² (2003).

The results show that a rural placement can produce attitude changes in students from both a rural and an urban background. Medical schools need to provide the opportunity to undertake a rural placement at undergraduate level as this encourages students to consider rural general practice as a career. The report found that 50 per cent of students had decided on a career path earlier than the fifth year of their undergraduate degree and it may be that placements could have a more beneficial effect if run earlier in the degree.

Many medical schools in Canada, Australia and the USA have separate rural health faculties.³⁸ The concept of rural medical education and the significance of new rural-oriented medical schools is discussed by Hays (2003).⁴³ It is suggested that the main distinguishing attribute of rural schools may lie in their greater 'social accountability' or orientation to the needs and opinions of their closely connected communities. The significant workforce and programme developments in medical education in Australia, partly in response to the recruitment difficulties facing rural areas, are detailed in Prideaux (2001).⁴⁴

Case study – Promoting rural practice throughout the medical curriculum: Indiana State University (USA)

The Rural Health Initiative, involving Indiana State University and the Indiana University School of Medicine promotes rural healthcare throughout the undergraduate curriculum. Students begin to study rural medicine early in the undergraduate curriculum and have mentoring opportunities and contact with active rural healthcare providers. They have the opportunity to work alongside rural GPs, participate in summer placements at rural clinics, take part in a rural health seminar series, and gain patient experience during placements with rural hospitals or clinics in the third and fourth years.⁴⁰

Case study – Promoting rural practice throughout the medical curriculum: Flinders University Rural Clinical School (Australia)

Rural healthcare issues are included at all levels throughout the four year Graduate Entry Medical Programme at Flinders University Rural Clinical School. In year one, students complete a weekend-long cultural awareness programme, learning about Aboriginal, medical and rural culture and how they interact. Students are encouraged to consider the merits of working in a rural, remote, Aboriginal or multicultural environment at some stage of their career. Students work in small groups with local rural GPs to gain a better understanding of healthcare provision within a rural setting. In year two, students undergo a one-week rural programme. During the week students complete a community-based research project and the findings are fed back to the relevant community.⁴⁵

In year three, students showing an interest in rural practice have the chance to move to rural regions for the academic year and follow the Parallel Rural Community Curriculum Programme. The students live and learn in a rural general practice, but do not learn only about rural practice and are expected to attend clinical activities related to all areas of medicine. Instead of studying these disciplines in rotation as their university-based peers do, students learn about them in an integrated way throughout the year. Patients encountered in general practice are followed through primary care and secondary care. Students also become actively involved in community projects.⁴⁵ The third year Parallel Rural Community Curriculum Programme follows from a successful pilot programme, detailed in Worley (2000).⁴⁶ Finally, in year four, students are expected to spend a six-week placement in a rural healthcare setting.⁴⁵

Although the evidence just discussed comes from other countries, it seems likely that placing students in a rural area for a period of their study can have generalisable educational benefits. Medical education in the rural primary and secondary care environment provides important opportunities for medical students to understand the context of illness and gain a holistic view of health in communities where many of the illnesses and social issues are more visible⁴² (key issues 4).

Key issues 4: advantages of placements in a rural healthcare setting

- Introduces students to rural healthcare and culture and dispels misconceptions.
- Promotes the status of rural healthcare within the training programme.
- Maintains contact with rural communities for students orientated towards rural practice.
- Provides students with a wider range of experiences than urban placements can always provide.
- Helps students to understand the context of illness including transport and emergency care issues.
- Allows students to observe a holistic model of healthcare for individuals and communities, and observe medical leadership within small communities.
- Has the potential to widen understanding of international rural health issues and the care of indigenous communities on other continents.
- Gives an understanding of the balance between access and quality of health services.

Sources: Buckley³³ (2003), Williamson et al⁴² (2003).

Although further research is required in relation to UK rural placements, it is suggested that valuable advantages for the development of a student's medical education can be gained from placements in different types of area. Although most UK medical schools now recognise the value of providing the opportunity of a placement in a rural area, in medical schools in predominantly urban areas the majority of placements are urban-based. For example, the University of Liverpool places some students in rural GP practices in the Morecambe Bay area and Llandudno, although the majority of placements are urban-based for most of the course. The locations of UK medical schools are shown in figure 2.

Figure 2: location of medical schools in the UK (based on UCAS listings)



Some medical schools do have significant rural connections and can place a significant number of students in rural areas. Examples are given in key issues 5.

Key issues 5: medical schools with significant rural placements

- **The University of East Anglia** places students in a primary care setting one day per week from year one to year five. The majority of the placements are in small towns or villages. All students gain experience in practices in Norwich and in rural practices over the five years. Planning is under way to ensure that all students have experience of working in a community hospital, most of which are in rural areas.
- **Peninsula Medical School** places students throughout Devon and Cornwall from year two to year five. Many of these placements are rural in nature. In addition, Special Study Units allow students to experience remote and isolated environments.
- **Hull York Medical School** operates a travel-time rule in year one and two so that students do not travel for more than half an hour to reach their placement. Current year one placements include village practices with a rural catchment area. It is intended that year three and four students will experience primary care in both rural and urban areas, while year five students will travel more widely for placements and continue to build upon their experience of rural areas.
- **The University of Aberdeen** places approximately two-thirds of its students in rural/remote areas in years four and five. In the fourth year just over 50 per cent of placements are in rural areas, mainly rural towns. In the fifth year around 90 per cent are in rural areas, with some in the remote island areas.
- **The University of Dundee** has rural/remote placements in year five only, amounting to 50 per cent of the total placements in that year. In addition, 6 per cent of year five students may elect to do a three-month extended placement in a rural practice.
- **The University of Edinburgh** places students in a rural (but not remote) practice in year four only, which accounts for around 50 per cent of placements in that year, although they are actively looking to increase the number of rural placements.

However, even when there are opportunities for rural placements, there may be access difficulties. Rural placements can be expensive for students and universities, with significant travel and accommodation costs. Funding for rural placements would help to address these issues. An example of a funding scheme is in place in Australia, where scholarships are administered on behalf of the government to sponsor students in rural areas and encourage medical schools to undertake rural teaching.⁴⁷ Students may also feel isolated from their peers and local-networking structures need to be established.

Recommendation 2

It is desirable that all medical students have the opportunity to choose a rural placement. The opportunity should be seen as a positive contribution to a student's medical development. Placing students in a rural area could promote working in a rural area as a positive career choice.

- Appropriate funding should be provided to cover any additional costs of travel and accommodation that are incurred by rural placements. The costs incurred by the practice providing the training must also be considered.

Postgraduate training

Rural and remote practices can provide a broader range of services than those in urban areas. Research in Australia has found that, in general, the proportion of GPs providing a broader range of services increases with increasing rurality or remoteness.⁴⁸ Rural GPs are often the first port of call for a wide range of health needs, and may be exposed to health problems for which they may not have received sufficient training and support. Those health problems that practitioners in rural/remote areas may need experience and knowledge of are highlighted below in key issues 6.

Key issues 6: healthcare aspects common in rural practice

- **Emergency and trauma care:** practitioners need to be prepared to deal with day-to-day trauma and a rotation through accident and emergency (A&E) as part of vocational training is an enormous benefit. Rural practitioners should also be prepared to deal with the pre-hospital management of trauma patients where there may be problems of access and absence of A&E equipment.⁴⁹ The British Association for Immediate Care (BASICS) provides courses in dealing with emergencies that are strongly recommended for rural practitioners.³⁷ The need for rural practitioners to be prepared for dealing with emergencies and the problem of skill decay have recently been identified as important issues for educational research and policy development.
- **Mental health:** some mental health problems are more prevalent in certain rural/remote populations. A RARARI report identified that there is not always the infrastructure in rural/remote areas to ensure that acutely distressed mentally unwell people have access to specialist care.⁵⁰
- **Chronic disease:** the higher proportion of elderly people in rural/remote areas leads to a higher incidence of chronic disease.

Sources: Cox⁴⁹ (1999), Gillies³⁷ (1998), Kerr⁵⁰ (2003) and Sim³⁵ (2001).

In addition, patients in rural areas may present practitioners with health problems that are particular to rural areas or more prevalent in rural areas. For example, certain health problems are more prevalent in farming communities (key issues 7).

Key issues 7: health problems that are more prevalent in the farming community

- Anxiety, depression and suicide.
- Farm-related accidents.
- Zoonotic diseases (infections passed to humans from animals) such as food poisoning, rabies, tuberculosis, and infections with ringworm, orf and cowpox.
- Risks associated with use of chemicals.

Sources: Mungall⁵¹ (1999), Burnett and Mort⁵² (2001) and the Rural Mental Health Working Group⁵³ (1998/1999).

In the secondary sector, there is a similar need for consultants working in such areas to provide a broader range of services. The surgical skills needed by surgeons in rural areas may vary with location. For example, consultants in Shetland and Orkney need to carry out caesarean sections, while those in Fort William need skills in mountain trauma.³⁵ Surgeons also need generalist skills to deal with a complex case mix.

Healthcare professionals in rural/remote areas therefore need to develop a greater range of skills than those in urban areas. RARARI in conjunction with Skills for Health has recently explored the skills used by rural healthcare professionals and these are discussed in key issues 8.

Key issues 8: skills for rural healthcare teams

In the UK, RARARI has worked with Skills for Health, the Scottish Executive and relevant NHS health boards and organisations to provide an improved understanding of the activities that make up healthcare in rural communities. Skills for Health has categorised the skills and competencies that are needed by rural healthcare teams. Identifying these skills will assist workforce planning and inform the education and training of staff at all stages of their career.

The project has identified:

Skills that appear to be specific to rural/remote healthcare

- Maintain confidentiality and respect professional boundaries in small closely-knit communities.
- Undertake roles that in other communities would be undertaken by other practitioners (for example dispensing as well as prescribing drugs with its implications for practice income).

Skills that are often needed by rural/remote healthcare teams that may not be needed in urban areas

- Emergency care, including an active role in road traffic injuries and major incidents; stabilising patients prior to hospitalisation; dealing with obstetric emergencies.

Issues that might need greater emphasis in rural/remote communities

- Mechanisms to deal with travel difficulties and distance from specialist care.
- Effective prioritising and planning of workload.
- Effective team working for dispersed population and small communities.

Source: Skills for Health.⁵⁴

Postgraduate training programmes should be provided which reflect the generalist skills required in rural areas by different healthcare professionals. This would help to provide professionals with the confidence and encouragement to choose rural practice. Primary and secondary care in rural areas can provide opportunities to expose trainees to a variety of situations and experiences, and thereby increase knowledge of generalist skills.

A period spent in general practice would give all trainee specialists experience of the holistic, generalist and continuous care delivered in general practice. Most patients treated in hospital are referred from general practice, most return to a community setting, and 80 to 90 per cent of all healthcare episodes are dealt with in general practice. An improved mutual understanding of the skills, knowledge, experience and roles of GPs and other specialists would be helpful. Modernising Medical Careers offers the opportunity to broaden the experience of trainees within the general practice setting. The second foundation year (the equivalent of the current senior house officer training) will focus on the management of acutely ill patients as well as the acquisition of key generic skills. One aim of this training period is to foster a better understanding of the relationship between primary and secondary care, by providing a greater number of experiences in, and knowledge of, general practice.⁵⁵ It is desirable that the choice to spend time in a rural practice as part of this training should be offered and encouraged.

Case study – Promoting rural practice through postgraduate training: The Australian College of Rural and Remote Medicine (Australia)

The Australian College of Rural and Remote Medicine has developed a Rural and Remote Area Placement Program (RRAPP) to offer junior doctors 10 to 13-week placements in rural practices as part of their clinical rotations. RRAPP trainees receive high quality training in procedural and other practice skills in a wide range and depth of clinical situations. The aims of the RRAPP are to:

- assist state and regional bodies to establish up to 20 training sites and 100 posts throughout Australia for postgraduate students during years 2000-03
- help to establish postgraduate training sites in small rural/remote towns (and in larger provincial towns, with special justification)
- increase the number of doctors experiencing postgraduate rural practice/rural community experience
- increase the length of exposure to postgraduate rural practice
- provide a high quality learning experience – both clinical and social – in a setting other than a major teaching or provincial hospital.⁵⁶

Recommendation 3

Postgraduate training programmes should use the opportunities provided in rural primary and secondary care to teach generalist skills to healthcare professionals (including surgeons) during their basic training.

- It would be desirable to provide all doctors with the opportunity to spend time in general practice as part of their postgraduate training, and the option to spend time in a rural practice should be encouraged.
- Small rural hospitals provide an excellent opportunity for postgraduate medical education. It is desirable that rotations proposed in Modernising Medical Careers for the foundation years should include the option of rural placements as part of generalist training.
- Funding should be available to support such placements.

Continuing professional development (CPD)

Due to the heterogeneity of rural areas, specific skills are needed for certain locations. Maintaining high standards across this broad range of services poses special educational challenges.³³ There is a need to provide healthcare professionals with opportunities for individual learning and training. Programmes should maintain the breadth of competencies required in rural areas and the individual should identify his/her specific educational needs according to the needs of their particular practice. High quality CPD can improve/maintain confidence, increase job satisfaction and reduce professional isolation (thereby aiding retention).³³ Professional isolation can be reduced

by initiatives such as interprofessional learning, where a wide range of healthcare professionals are involved in continuing education.⁵⁷ Such initiatives encourage partnership and closer working with colleagues. (Also see page 46 on *interprofessional working*). Practitioners need to know that a rural post will provide appropriate opportunities for professional development.¹⁴

Centres of expertise, that provide training in the specific skills that rural healthcare professionals require, could usefully be established. In one example, an affiliation between the IRH and the School of Postgraduate Medical and Dental Education of the University of Wales College of Medicine, has led to the creation of the Welsh Rural Postgraduate Unit. The unit has particular expertise in postgraduate training and continuing professional development for those working in rural Wales. The scope of activities is multidisciplinary and covers all rural health practitioners in Wales.⁵

Recommendation 4

Continuing professional development should be flexible and responsive to the range of needs found in rural/remote medical practice and tailored to the educational needs identified by the individual.⁵⁸

Workforce planning

One of the great difficulties is that while staff may be encouraged to pursue training, access to available opportunities may be limited by staff constraints, patient overload and financial constraints (key issues 9). It is therefore important that rural practices assess their workforce planning in a rigorous and proactive manner so that staff can be supported in their professional development.

Key issues 9: difficulties associated with access to CPD opportunities in rural areas

- Lack of adequate staff cover due, for example, to the difficulty and/or expense of obtaining locum cover.
- CPD opportunities may be available in urban centres only, leading to difficulties in accessibility.
- Budget constraints, for example, the high costs of travelling.

Sources: Niven⁵⁹, Servers & Crane⁵⁷ (2000).

CPD training could be provided locally and at a distance from a main university campus, to reduce the substantial costs and extended periods away from practice. For example, the Department of Nursing and Midwifery, based at the University of Stirling, provides a wide range of CPD courses for nurses and midwives. Many of these courses are delivered in satellite campuses closer to rural areas.⁵⁹ A road show approach can also be taken,³³ in which mobile facilities provide skills development and training. Secondary care services in rural/remote areas could be linked with

hospitals in urban areas, to ensure provision of cover for study leave and to allow CPD. A sabbatical or secondment that allows doctors from rural areas to spend time with their peers in urban facilities would be very beneficial, and could be delivered as part of the flexible employment opportunities available to all healthcare professionals (also see page 28 on *flexible employment opportunities*).

The NHSU, the corporate university for the NHS, has been set up to provide everyone who works in health and social care with opportunities to learn and develop,⁶⁰ and acquire the skills they need to work effectively. These opportunities will be delivered in a variety of ways. Most learning will take place in the workplace but there will be an emphasis on electronic learning (e-learning). The NHSU have suggested that they will prioritise programmes for areas that will have the biggest impact on patients' experiences.⁶⁰ In the present context, the NHSU could help to widen access to training for rural healthcare professionals and so bring great benefit to their patients. It will be of great interest to see whether the NHSU addresses the specific training requirements of professionals in rural areas.^f

E-learning

E-learning involves education using the Internet or specific computer programmes. An e-learning approach could offset the limited access to professional development opportunities faced by rural practitioners. E-learning has several advantages. For example, each learner can organise an individual time-schedule, images and data can be worked upon easily, groups of learners can be pooled to determine educational need, and distance poses no problems as educational providers can be sourced from far afield including other countries where appropriate.

However, technology often lags behind expectation and is expensive in capital investment and implementation. E-learning also has the potential to increase rather than lessen personal isolation if it is viewed as a means of reducing costs and avoiding attendance at courses, which have the benefit of peer interaction. Many experienced rural practitioners view the social element of courses as just as beneficial as the educational content. E-Learning should be seen as one of many educational tools and it is important that its use is driven by educational principles, rather than the technology driving the education.

^f It was announced in December 2004 that the NHSU will merge with the Modernisation Agency to create a new NHS Institute of Learning, Skills and Innovation.

Case study – Bringing managers together using an e-learning approach to CPD (Australia)

An e-learning approach is in place for health service managers in Western Australia, where distance and geographical isolation can limit many rural practitioners' access to CPD opportunities. The Electronic Advanced Learning Set provides the flexibility and efficiency of e-learning, along with limited face-to-face meetings, for a group of managers from various health service backgrounds. This provides a forum for them to work together on locally relevant programmes, encourages networking, decreases isolation and develops organisational and management skills. Videoconferencing, telephone conference calls, an electronic bulletin board, email networking and limited face-to-face workshops are used.

Time is a major limiting factor and health service regions must demonstrate commitment to CPD by contributing funding for participation and so enable time out for work-based learning. Common problems to be overcome include the need for access to videotechnology and the Internet, and training in the use of videoconferencing.^{61,62} Initial financial expenditure on equipment is also a limiting factor.

Recommendation 5

Workforce planning must consider CPD training needs. A wide range of CPD opportunities should be developed so that staff from various types of rural practice have access to training.

- CPD training can be carried out away from the main university campus and taken out to rural practitioners.
- Secondary care services in rural/remote areas should be linked with hospitals in urban areas, to provide cover for study leave and facilitate CPD. CPD should involve professionals from rural areas spending time with their peers in urban facilities.
- CPD should include opportunities for isolated practitioners to learn with and have contact with colleagues.
- Appropriate funding from the primary care organisation should be provided to enable staff cover, the purchase of computers or other equipment, and to underpin CPD programmes.
- E-learning must be available and should use appropriate electronic media so that those with only limited access can take part. Training in using the equipment is necessary and broadband will need to be made available in all rural areas.

Social isolation

The disincentive of professional isolation, particularly the lack of opportunities for CPD, has been discussed within education strategy. The need to provide solutions to the problem of social isolation is explored here.

Community involvement

Schemes to support healthcare professionals and their families within the community are vital as an aid to retention. A series of studies in North America found that healthcare professionals who choose to remain in rural areas over a number of years are likely to be well integrated socially. Those who do not fully integrate are less likely to remain in the area. To aid retention in a rural area, communities could make efforts to include healthcare professionals in local activities and allow them to become appropriately integrated in social networks.⁶³

Case study – The Rural Medical Family Network of New South Wales (Australia)

The Rural Medical Family Network of New South Wales⁶⁴ aims to aid integration within the community by reducing isolation and creating social networks. Services include:

- supporting medical families in rural/remote medical practice
- creating a 'friendship network' to lessen feelings of loneliness and isolation experienced by some families
- providing comprehensive family programmes at CPD weekends/medical conferences that encourage the whole family to attend
- offering assistance to medical students interested in rural living
- running initiatives such as 'meet and greet' sessions, crisis assistance and spouse retraining/education grants.

Evidence suggests that involving the local community at the beginning of the recruitment process can be effective. Communities that share responsibility for finding solutions to local recruitment problems often find that these are more effective than imposed solutions.⁶⁵ The community can firstly become involved in selecting students for rural placements and working with them as part of their medical training. As highlighted earlier, providing students with rural placements increases the likelihood of them working in a rural practice after qualification. Communities can also be involved in finding solutions to a local recruitment crisis.

Case study – Flinders University Rural Clinical School: involving the community (Australia)

In year three of the four year Graduate Entry Medical Programme at Flinders University Rural Clinical School, students showing an interest in rural practice have the chance to move to rural regions for the academic year and follow the Parallel Rural Community Curriculum Programme. Students have the choice of two regions to spend the year in, one being the Riverland region within the central-eastern area of Southern Australia, where community involvement is seen as paramount.

Initially, community involvement was provided through the students making patient visits at community centres. It then grew as students began giving health prevention talks to service clubs and working with the community to run particular schemes. The community has now established a Community Liaison Committee with responsibility for selecting a sub-quota of students beginning the four year Graduate Entry Medical Programme. These students have a rural background and develop close links with the community throughout their course, undertaking rural placements in the region in years one and two, before their year-long placement in year three of the course. The committee is responsible for developing a programme for the initial visits in years one and two. The local government for the region donates cash for fuel, to assist students with the cost of travel in rural South Australia, and the local health authority subsidises the cost of two houses being used as permanent homes for the students.⁴⁵

Case study – Involving the community in recruitment (Australia)

A study in Australia worked with two rural communities that were experiencing continuing difficulties in recruiting and retaining GPs. Components of the problem that each community could influence and which were most likely to improve recruitment and retention were discussed in depth. Each community identified a number of similar objectives and strategies that they could influence, despite the differences between them. This suggested that objectives/strategies could be implemented more widely, with minor changes to reflect local needs.⁶⁵ The common strategies included:

- developing information packages for prospective applicants
- forming a welcome process that helps doctors and families settle in
- addressing quality and appropriateness of housing
- sponsoring a medical student to spend time in the community
- considering partners' education and employment needs.⁶⁵

Concerns included the need to contribute community funding. In addition, past experiences may have left communities sceptical about efforts to recruit GPs.⁶⁵

A rural 'package' can be designed to improve awareness of the distinctive and positive aspects of working in a rural environment. It can also address concerns that a professional's family may have about living in a rural area, for example, schooling and employment opportunities.¹⁴ Funding to help with relocation costs and support in finding suitable housing should be provided. Access to healthcare for GPs, their families and the healthcare team, outside the local practice, should also be considered. There is a danger that those working in isolated rural communities may be disadvantaged in their personal healthcare provision, when compared to their urban colleagues. Primary care organisations need to ensure a defined service of external provision of GPs for doctors and their families living in remote communities in order that their own personal health needs are met outside the local community in which they live. The GPs for GPs scheme, set up by RARARI in the Highlands, provides an example of a scheme to fulfil such a need.⁶ Unmarried doctors may face an added difficulty in that the GMC prohibits a sexual or improper emotional relationship with a patient or someone close to them.⁶⁶ In a rural area, however, everyone in the area is likely to be the doctor's patient and community members do not easily have an opportunity to register elsewhere.

Recommendation 6

Schemes to support healthcare professionals and their families within the community are vital as an aid to retention.

- Communities can be encouraged to make efforts to include professionals and their families in local activities and integrate them in social networks. Primary care organisations could provide programmes offering 'meet and greet' sessions and crisis assistance.
- Communities can also be involved in finding solutions to local recruitment problems, and working with students on rural placements.
- A 'rural package' should be offered when recruiting healthcare professionals. This should address concerns that a professional's family may have with moving to a rural area, as well as providing funding for relocation costs and housing support.
- Primary care organisations need to ensure a structured service of external provision of GPs for GP's and their families in remote communities in order that their own personal health needs are met outside the local community in which they live. The needs of members of the community wishing to register elsewhere should also be considered.

The burden of duty

The excessive on-call commitment

A seminar on rural healthcare at the BMJ Careers Fair (2003) highlighted the fact that a main concern of potential rural GPs is being on-call for 24 hours a day. A study of all 13 permanent consultant surgeons working in remote/rural hospitals in Scotland in 2001 found a similar concern. Ten surgeons had encountered difficulty in finding locums to cover periods of absence and 10 had

to cancel holidays and meetings because of difficulties in obtaining suitable surgeons to cover their work. All 13 felt that a centralised locum system in rural/remote areas would be beneficial.³⁵ New research on attitudes and opinions about access to healthcare services in relation to location found that those living in rural/remote areas of Scotland expect GPs to fill the gap in A&E facilities out of hours.⁶⁷

The new General Medical Services (GMS)⁶⁸ contract requires primary care organisations to provide out-of-hours services where feasible. Under their new contract GPs have the opportunity of joining co-operative out-of-hours organisations and of opting out of out-of-hours care entirely. However, remote areas will have difficulty,⁶⁹ and some isolated single-handed GPs in remote areas are unable to opt out of out-of-hours care. It is important that the complexities of providing out-of-hours care in remote areas is fully understood and solutions are well thought out, adequately funded and safe for patients.⁶⁹ One such solution is to provide a centralised locum system that practices in rural/remote areas can use.

Recommendation 7

An infrastructure for out-of-hours care needs to be put in place in rural areas. A centralised locum system is essential for the sustainability of isolated and remote GP practices and the remote communities in which they serve.

The European Working Time Directive (EWTD)

The EWTD came into force on 1 October 1998 for all senior hospital doctors; junior doctors were excluded. However, since August 2004 the EWTD also applies to junior doctors. The key points of the EWTD are:

- a maximum of 48 hours per week
- a continuous 11 hour rest in every 24 hours
- a continuous 24 hour rest in every seven days or a continuous 48 hour rest in every 14 days.

The EWTD is having a particularly large impact in rural/remote areas. Smaller patient numbers in rural areas make it difficult to provide services economically, while complying with working time restrictions.⁷⁰ In addition, it is not unusual to find a small number of consultants covering the full number of hours each week in acute hospitals in these areas.⁷¹ The EWTD will, therefore, have an effect on the sustainability of both primary and secondary care services.

Flexible employment opportunities

Healthcare staff across the UK, in line with social trends and to comply with legal requirements such as the EWTD, will expect a more flexible way of working and reasonable working hours.¹⁴

More flexible employment arrangements would:

- ensure a more responsive medical workforce better able to respond to service need
- support recruitment and retention
- meet individual doctor's needs
- improve career development.¹⁴

Flexible working is an especially important issue to address in rural areas where the burden of duty is seen as a particular disadvantage to recruitment and retention. However, there are opportunities for flexible working that are particularly relevant to rural/remote areas.

- Career breaks and sabbaticals give professionals an opportunity to experience different ways of working and apply good practice, maintain clinical skills and reduce isolation. This can help long-term retention.¹⁴ The opportunity to participate in shorter rural/urban exchange schemes should also be available. A two-week exchange would allow urban practitioners to experience rural practice and begin to develop new skills, and rural practitioners to experience different ways of working and access CPD opportunities.
- Flexible retirement options⁷² can help delay early retirement. These options include winding-down into part-time roles, stepping-down into less demanding roles, and return to work options.⁷³
- Flexible working that allows part-time work and the provision of child-care facilities is particularly valuable when recruiting those with families, and female practitioners, to rural areas. The increasing number of women doctors means that these issues will acquire increasing importance.¹⁴
- A flexible approach to the NHS workforce requires easily identifiable and accessible systems that will allow a 'safe trial' of working in rural primary or secondary care, at various stages of a career, to encourage rural service. The GP Rural Training Fellowship in Scotland is designed to follow vocational training for general practice and has enabled young GPs to try rural practice without long-term commitment. Similar schemes could be put in place for older GPs nearing retirement and wishing to end their career in a rural location and for GPs returning to UK healthcare from abroad.

Recommendation 8

The provision of flexible employment opportunities is particularly important in rural areas to aid recruitment and retention. It is important to provide:

- part-time opportunities to reduce the burden of working unreasonable hours
- flexible retirement to prevent the crisis affecting some rural areas where the majority of healthcare professionals are approaching retirement age
- career breaks and sabbaticals, possibly on a recurring basis, and the opportunity to participate in two-week rural/urban exchange schemes
- a system that allows healthcare professionals to try rural primary or secondary care at any point throughout a career, without making a long-term commitment.

Remuneration

Rural GPs are increasingly frustrated by remuneration that does not adequately reward for the time, skill and responsibility associated with meeting patients' needs in rural/remote areas. Remuneration must be sufficient to enable the recruitment of practitioners.³⁸

The new GMS contract⁶⁸ specifically refers to supporting practices in rural/remote areas. The relevant section of the contract is reproduced in appendix A.

In addition, equitable funding needs to be considered. Services in rural areas can be more expensive to provide than similar services in urban areas, due in part to factors such as remoteness and population dispersal.⁹ In England there is no clear formula to provide adequate funding for rural areas, and a review of the resource allocation formula is required. In Scotland, The National Review of Resource Allocation was established in December 1997 to advise on methods of allocating NHS resources between health boards. The results of this review, which was carried out by a Steering Group chaired by Professor Sir John Arbutnott, are set out in the report *Fair Shares for All*.⁷⁴ Following consultation, a new method of allocating resources was adopted, which:

- is based on much better evidence
- reflects more accurately the influence of morbidity and life circumstances on healthcare needs
- takes into account more fully the influence of remoteness on the costs of delivering healthcare
- achieves a more equitable distribution of resources.⁷⁴

⁹ An example given is that in North Cumbria a population of 330,000 has two general hospital sites 40 miles apart with consultants having to travel between them. The consequence of this is that costs are increased, as it costs more to provide services to 330,000 people spread over 2,000 square miles than it would do compared to where a population is concentrated in a conurbation.

Accessibility and the impact of distance

Access and transport are two major problems facing rural healthcare. In rural areas there are:

- additional travel costs associated with providing services
- additional travelling time for healthcare professionals and patients
- difficulties faced by individuals in gaining access to health services.¹⁰

Access to services is a major difficulty for many rural residents, and there is evidence that some health outcomes for rural patients are poor compared with those from urban areas.⁹ In a study in Scotland, distance from services was found to be the most significant factor on the take-up of breast screening services, followed by lack of car ownership, full-time employment and being married.⁷⁵ A delay in screening may lead to a delay in diagnosis and thus treatment. In rural East Anglia, asthma mortality was found to increase with travel time to hospital.⁷⁶

Increasingly, many services are being withdrawn from local areas and centralised in larger city centres. This means that many rural residents have to travel large distances to gain access to services such as A&E care that the local GP cannot provide.²¹ For example, one practice in remote Scotland has 5,000 patients who live an average of 130 miles away from the nearest district general hospital.³⁸

Another consequence of the centralisation of services is the lack of choice about facilities available to rural patients. Urban residents may be able to choose which GP to register with, but for most rural patients there is only one service available.²¹ The Countryside Agency's recent report on services in rural England found that there is a steady decline in the number of doctors' surgeries. In 1991, 16 per cent of rural parishes had a GP's surgery, compared with 14 per cent in 2001.²¹ Withdrawal of services such as family planning clinics, and a lack of choice in regard to facilities and GPs, may prevent people from seeking out these services.

A survey on attitudes and opinions about access to healthcare in relation to location, focusing particularly on opinions about appropriate levels of access for those living in rural/remote areas of Scotland, can be found in a study by Farmer et al (2004).⁶⁷

Transportation and access to services

The limitations of public transport

Transport is important as a means of gaining access to good quality healthcare services.²¹ However, the lack of public transport in many rural areas means that residents have to rely on private transport, and car ownership is often higher in rural areas due to necessity.²¹ More than nine in 10 people living in rural areas use the car for their main food shopping trips and for travel to hospital; this compares with seven in 10 adults in urban areas.⁷⁷

Residents on limited income are less likely to have access to private transport, and a lack of public transport causes difficulty in travelling to healthcare facilities. In addition, people aged 16 to 24, and those aged 75 and over have more difficulty accessing services than the general population.⁷⁷ As previously highlighted, the proportion of those aged 75 and over is greater in rural areas. In one-car families where the working parent uses the car to get to work, the remaining partner needing to travel to health facilities will be reliant on public transport if it is available, or taxicabs if they can be afforded and are available.²¹ Women are more likely than men to report difficulty in accessing a chemist, GP, post office or main food shop. This reflects the longer journey times they experience and their lower car use.⁷⁷

Improving rural transport is vital to improve accessibility of available services. The Countryside Agency has made special provision for public transport services in rural areas, to promote the social inclusion of people living in these areas by enhancing transport services and securing a long-term improvement in access to jobs, services and social activities. The Rural Bus Subsidy Grant Service was set up in 1998 and is provided by central government funding. These funds are to enhance existing services in rural areas, for example by extending evening services. The Rural Transport Partnerships Scheme supports community-based transport initiatives, including commercial and voluntary schemes.⁷⁸ For example, Hampshire County Council used available funds to set up transport to Basingstoke Hospital from rural areas, as existing journeys were long and involved changing buses. This scheme operates two services three days a week to Basingstoke Hospital.⁷⁹

Unfortunately, the funding available for enhancing public transport services in rural areas is not fully able to meet health needs, as it is also used to increase opportunities for travel to work and training, and to retail and leisure services. There are also concerns about funding for transport schemes in the long-term, for example the Rural Transport Partnership scheme is currently only due to run until March 2006. Long-term funding dedicated to improving access to healthcare services for patients living in rural areas is required. The Countryside Agency has recently published research on the benefits of providing transport to healthcare in rural areas. The report recognises that there is currently little health sector funding for transport schemes and that the health sector, local authorities, Community Transport Association, Countryside Agency and Department for Transport need to be involved in providing solutions.

In addition, only limited funding is available for voluntary services such as community car schemes, which many rural residents rely on. Research by Hampshire County Council has suggested that some 70,000 health related journeys are provided countywide by voluntary car schemes,⁷⁹ and it is probable that these provide a vital service nationwide. These schemes are necessary when patient transport services are not available, and for those who do not have private transport or cannot use public transport. Public transport is not the most appropriate transport option for sick people, because of timing, discomfort and lack of skilled support.⁸⁰ However, many community transport schemes struggle for funding. Hampshire County Council suggest that an increase in the proportion of elderly people in the population will result in a much greater demand for such health-related transport schemes.⁷⁹

Emergency transportation

An infrastructure of transportation that responds to emergency calls is vital in rural/remote areas to ensure rapid access to effective pre-hospital and hospital care. Pre-hospital care is particularly important in rural/remote areas where specialist hospital care may only be available in urban centres with longer travelling times. Pre-hospital care can be effective for diseases such as myocardial infarction, where 91 per cent of cardiac arrest deaths in people under 55 years of age occur outwith hospital.⁸¹ Pre-hospital care therefore provides the greatest scope to improve survival.⁸² A study found that reducing ambulance response times increased the chances of survival from out of hospital cardiac arrest. A general improvement in response time results in more people with chest pain being reached by a healthcare provider with a defibrillator before the onset of cardiac arrest.⁸²

In-hospital thrombolysis is an effective treatment for myocardial infarction, providing treatment is received promptly. However, patients in rural/remote areas may not receive timely transportation to hospital.⁸³ In response to research on thrombolysis in peripheral general practices in Scotland by Rawles and Ritchie (1999),⁸⁴ pre-hospital thrombolysis is now being developed in rural/remote areas to improve access to early treatment prior to reaching hospital.

A study in Scotland explored the effectiveness of pre-hospital thrombolysis after the closure of the coronary care facility of a small district general hospital.⁸⁵ The closure meant longer journey times for rural/remote patients to the base hospital; rural patients were classified as those outside a 15km radius of the base hospital. Rural patients were divided into two groups for the study. Group one was outside the 15km radius but still considered for in-hospital thrombolysis. Group two was outside the 15km radius of the base hospital, in the area previously served by the district general hospital, and considered for pre-hospital thrombolysis. Paramedics with the Scottish Ambulance Service, with hospital-based support, delivered the treatment to group two patients. The median time from first medical contact to initiation of thrombolysis for group one was 125 minutes and for group two was 52 minutes. The pre-hospital treatment was found to be most effective in meeting the needs of patients from rural areas with a median time saved of 73 minutes.⁸⁵

Increasing the response times of emergency care in rural/remote areas is vital. In addition, all ambulance Trusts in the UK should be trained and equipped to provide appropriate pre-hospital care, including thrombolysis. In remote areas, it is also important to consider alternative forms of transport to road ambulances. For example, roads can become congested in summer months in rural tourist areas,⁸⁶ making journeys longer and more unpredictable. For patients living on remote islands, ferry transportation is not always appropriate and is weather-dependant. Other forms of transport, such as air ambulances, must be considered in such areas.

Case study – The West Country Service: providing a range of transport services (UK)

The West Country Ambulance Service NHS Trust provides ambulance services for two strategic health authorities: Dorset and Somerset, and the South West Peninsula. In addition, the Trust works with 15 primary care organisations for ambulance matters and 18 for NHS Direct.⁸⁶

The Trust provides out of hospital care and transportation in response to 999 (emergency) or urgent calls (from doctors, dentists and midwives) within the counties of Cornwall, Devon and Somerset. There is an air ambulance available, which is particularly important in rural areas where roads can become congested in the summer months.

The Trust also has patient transport vehicles and provides transport to individuals who are unable, for medical reasons, to make their own way to hospital. This is non-emergency work including admissions and discharges from hospital and attendance at out-patient clinics. This service is provided by ambulance care assistants and provides opportunities to support and give assistance to those in need. Staff are extensively trained in basic life support skills and first aid. Voluntary car drivers are also used to drive non-urgent patients to and from hospital appointments.

The Trust also runs a responder scheme, where first responders answer life-threatening emergencies in advance of the ambulance's arrival in their local area, providing the best opportunity of survival for patients. First responders comprise of off-duty Trust staff, fire and rescue co-responders and community volunteers. The ambulance service welcomes applications from members of the public to become community first responders. The first responders are called at the same time as the ambulance, and usually arrive at the scene first due to their knowledge of the area, or their proximity to it, and can initiate treatment straight away.

Voluntary emergency services

Isolated rural communities have a tradition of self-help with voluntary emergency services such as Mountain Rescue, Lifeboat Service, Auxiliary Coastguard Teams and Fire Teams. The NHS needs to construct an organisational framework for voluntary participation in emergency healthcare situations, such as attending local road accidents or sudden collapses, for the whole of the UK. The involvement of voluntary participants within small communities will mean that issues of training, liability and indemnity will need to be addressed.

Recommendation 9

Improved coordination and planning of transport schemes is needed at local and regional level. Transport considerations should be integrated into any health service planning for rural/remote communities.

- A range of new innovative transport schemes is needed within rural areas, for example emergency transport, non-emergency hospital transport and transport to day centres, GPs, getting prescriptions and follow-up care.
- Need should be identified at local level. Local service providers (public, private and community-based) and communities should be involved in systematically identifying these transport needs. Funding specifically for health-related needs must be provided by the local authority for both voluntary schemes and non-voluntary schemes.
- An infrastructure of transportation that responds to emergency calls and ensures access to effective, rapid, pre-hospital care is vital in rural/remote areas. Rapid response times need to be ensured and the transportation adequately equipped to provide pre-hospital care. Different methods of rapid transportation must be available according to the different needs of a rural area.

Bringing healthcare services to local areas

Many services are becoming increasingly centralised and withdrawn from local areas, particularly specialist secondary sector services. Primary care is therefore increasingly important in rural areas, allowing rural patients access to local healthcare facilities and avoiding transport limitations. In this section different ways of delivering a local health service are discussed.

Branch surgeries

If access to a practice is difficult for residents in rural areas, a limited service may be periodically provided locally in suitable accommodation. Branch surgeries are one way for patients in outlying villages to be able to see their GP. However, branch surgeries are now much less common than a generation ago. They vary enormously in scope and size, and may be identical to a main surgery or may be merely a room in a village hall. Equipment and staffing levels also vary widely. These surgeries tend to be popular with patients because of the easy access, but may offer a limited range of services and be a time burden for the GP.⁸⁷ Additionally, under the new GMS contract,⁶⁸ if branch surgeries where the premises are owned by the GP partners are open less than 20 hours per week, they will no longer attract funding for improvement and enhancement, money for computer equipment or other additional benefits, making it less financially viable. However, primary care organisations can still choose to fund them, if they are providing vital local services.⁸⁸ Branch surgeries are an essential service that provides rural patients with access to GP facilities and it is important that such services are developed.

Case study – Branch surgery threatened with closure (UK)

Proposals to close the last remaining GP branch surgery in a north-east village in the UK caused concern among residents in November 2003. With the doctor running the branch surgery due to retire, her partners wanted to close the surgery as with one doctor fewer it would have been impossible for them to open the 20 hours a week needed to qualify for government funding. Instead, the 1,100 patients on the list would have had to transfer to the partners' main practice three miles and two bus rides away. This would mean four bus rides in total for people already sick enough to need a doctor and would be practically impossible for elderly people and mothers with young children.⁸⁹ Without a surgery the local pharmacy would become unviable. The North Tyneside primary care organisation decided that a surgery was needed in the village and helped the surgery recruit and pay for another doctor to run the service.⁸⁸

Case study – Sustainable nurse-led branch surgery (UK)

A branch surgery in the large rural village of Letham (in north-east Scotland) provides a weekly nurse-led clinic and is a successful adjunct to existing services. Running the branch surgery without heavily involving the time and input of the closest GP surgery, which is six miles away, has created a sustainable service.⁹⁰

The clinic was initially open for patients over 65 years of age, but is now available for all age groups. It gives access to advice, medical care and health promotion for those living in a rural area. Many minor ailments are handled by the district nurse; other patients are handled by a GP using teleconsultation. The nurse screens the patient before the clinic to decide on suitability for teleconsultation and the GP is then sent a list of suitable patients. The GP can then request the nurse to perform follow-up investigations and actions. While some patients may prefer to visit the main surgery due to urgency or a need to use the chemist facilities, the clinic spares many rural patients the need to travel the six miles to the clinic on limited public transport. Challenges include the costs involved in training participants in the use of technology, in conducting effective teleconsultations and upgrading and maintaining technology.⁹⁰

Community hospitals

Community hospitals are at the interface of primary and secondary care. They provide more care locally and relieve pressure on the secondary sector.¹⁴ They are generally run by local GPs, many of whom have specialised skills to help provide medical services. The GPs can be aided by visiting consultants and good liaison is important because of the need to seek advice when the consultant is far away. Telemedicine can also link the Community Hospital with its local district general

hospital.⁸⁷ About 10 per cent provide the majority of the hospital-based care for the populations they service, including acute medicine, surgery, terminal care and maternity care. Another 10 per cent of community hospitals provide extended nursing long-term and respite care in much the same way as well equipped nursing homes. The remainder provide care which lies between these two extremes, usually including a minor injury service, specialist out-patient clinics, X-ray facilities and physiotherapy.⁸⁷

Nearly 400 hospitals in England, Wales and Northern Ireland are represented through the Community Hospitals Association (Scotland is represented by the Scottish Association of Community Hospitals). The Association reports that community hospitals are now being promoted as a critical part of the new primary care led NHS and many are considering plans for expansions, upgrades and new developments.⁹¹ For example, consideration should be given to the expansion of hospital and day surgery or one-stop clinics; travelling radiology units providing MRI, CT and ultrasound scanning; outreach dialysis clinics; oncology services and mental health teams.⁹ There is the potential to develop new variants of community hospitals that would act as community resource centres and provide locally accessible integrated care in one place.⁹²

Potential problems regarding the staffing of community hospitals should be addressed. With GPs being given the opportunity to transfer the responsibility for arranging provision of out-of-hours care under the new GMS contract, there is a concern that there will be inadequate staff to run community hospitals out of hours. It is important that the complexities of providing out-of-hours care in remote areas is fully understood and solutions are well thought out, adequately funded and safe for patients (see the previous section on the burden of duty). Staffing problems may also arise from the lack of a national framework for payment of those GPs who staff community hospitals. This can result in pay variations amongst community hospitals in the UK and can act as a disincentive to recruitment.

Mobile services

Mobile services can provide access to healthcare in a non-healthcare setting, making services geographically accessible for patients in rural/remote areas. For example, a pilot mobile wheelchair-repair service in the Highlands, funded by RARARI, had a huge impact on the quality of clients' lives and should be continued. Mobile services can also make healthcare facilities culturally accessible. The existence of cultural barriers, such as self-reliance and fear of visibility and stigmatisation in small rural communities can result in poor uptake of services.²¹ These services also help rural communities to access information, employment, and education and training which influence wider determinants of health and wellbeing.²¹ Providing services in non-traditional healthcare settings, where patients can 'drop in', encourages use of those services.

Mobile services can act as an interface between primary and secondary care, providing ultrasound, CT scans and MRI scanning, as well as therapeutic interventions such as chemotherapy, dialysis

and breast screening.⁹ They can also usefully provide other essential services such as family planning and STI clinics. Mobile services can provide access to health education information and healthcare in a non-threatening, culturally accessible format.

Case study – Improving access to healthcare for farming communities (UK)

Many farming communities are by their nature isolated from mainstream services, and have developed a culture of self-sufficiency and stoicism, yet evidence suggests their health needs are actually greater than in many other sectors of society. The two-year Farmers' Health Project, which began in 1999, aimed to bridge this gap between healthcare need and service provision in the farming communities of South Lakeland and North Lancashire.⁵² Piloting involved nurse practitioner-led mobile outreach, including agricultural auctions and farm visits. The researchers examined the particular health needs of the farming communities. They addressed inequalities and created healthcare which crossed the boundaries of primary/secondary care, physical/mental health and health/social welfare provision.

The presence of the mobile clinic at agricultural gatherings created access to healthcare in a non-healthcare setting and encouraged health awareness. Nurses also became involved in farmers' organisations such as Young Farmers and the Women's Institute, partly to communicate what the project was offering and partly to create opportunities for health promotion. Networking was also important to build trust with the farming community, to ensure an uptake of the services.

Previous unmet need was addressed, with the vast majority (85 per cent) of patients self-referring and using the nurse practitioner and the clinic van to drop in, if only for 'just a check up' (often with additional problems that they disclosed after time). The age range of patients was wide but 70 per cent of them were over the age of 50 and constituted the group the project wished to reach – older men likely to have health problems who only rarely found their way to their GPs' surgeries.

The Farmer's Health Project was an exploration of one method of addressing the healthcare needs of isolated communities. Evidence shows that this method of providing healthcare is effective, complementary to that of the GP, and demonstrates a multi-agency approach to addressing the complex problems found in this community. The recommendations of the project included establishing the principle of mobile outreach services in rural health provision, and developing the role and skills of nurses and other healthcare workers.⁵² Due to a lack of funding Morecambe Bay Primary Care Trust has run a much more limited farming community health service since 2002, which is due to run for three years. Services available include life style advice and blood pressure checks, and public health campaigns are regularly run with rural community groups such as the Young Farmers. The initiative is limited as a mobile van is not available for work and travel purposes, although local auction markets are visited on a regular basis.

Recommendation 10

Local, innovative healthcare services must be provided to allow patients to reach those services and have a choice in the facilities that they use. To deliver high standards of healthcare, the combination of services for a community should vary according to size and location, distance from alternative healthcare services, and community demographics.⁹³

In order to maintain these essential services:

- the incentives and disincentives of working in local services needs to be addressed to improve recruitment and retention
- the basis for funding needs to be reviewed and branch surgeries and community hospitals must be viewed as providing a vital local service.

Telemedicine

Telemedicine provides and supports healthcare when distance separates provider from patient,⁹³ through the use of information and communication technologies such as interactive video, digital imaging and electronic data transmission.⁹⁴ In rural/remote areas, where patients may have difficulty accessing healthcare services, and where GPs may not have access to consultations with specialists, this is vital technology.

Telemedicine allows consultations between patient and doctor where face-to-face contact is not possible. Live telemedicine allows the clinician and patient to communicate via a real-time live audio-visual link. Time-delayed telemedicine involves capturing a visual image of the patient and then transmitting it electronically to the clinician, for example, a picture of a pigmented skin lesion sent to a dermatologist.⁹⁵

Telemedicine also facilitates interaction between healthcare professionals and can enable a rural practice to link with a larger hospital, usually in an urban centre.⁹³ In Canada telemedicine has been shown to be an effective way to reaccredit neo-natal resuscitation skills in remote practitioners on a regular basis. Providing telemedicine in rural areas presents particular difficulties (key issues 10).

Case study – Accident and emergency (A&E) teleconsultation (UK)

A study evaluated the success of an A&E teleconsultation service over a 12-month period.⁹⁶ Fourteen community hospitals in north-east Scotland, with remote minor injuries units, participated in this service. The A&E department at the Aberdeen Royal Infirmary provided telemedicine advice on still images of wounds and radiographs. The majority of teleconsultations related to fractures or suspected fractures of the limbs.

Although this study was carried out in Scotland, its implementation could be widened across the UK. The telemedicine equipment can be used for many other purposes, so increasing its cost-effectiveness. Some possible uses are as follows.

- Expanding the range of clinical applications beyond accident and emergency services: for example, a US maternity services system could be adapted for the UK. The Fairview Ridges Hospital in Minnesota (which serves a suburban and rural area) uses telemedicine to connect patients and practitioners to the specialty care and services available in the central Minneapolis/St Paul region. The equipment includes an ultrasound scanner that is connected for viewing at the specialist centre, physiological monitoring equipment with remote access, videoconferencing equipment and electronic medical record equipment. This increases patients' access to specialty providers and therefore improves patient assessment and care management, while maintaining patients within the local community.⁹⁷
- Televisiting: telemedicine technology has also been employed as an aid to overcome the problems of patient communication with family and friends. For example, a teleconferencing link was set up at the Royal Cornhill Hospital in Aberdeen, to allow long-term psychiatric patients from Shetland to communicate with family.⁶
- Continuing professional development (CPD): telemedicine equipment can be used to widen access to CPD opportunities through an e-learning approach, for example by making videoconferencing possible (see previous e-learning section).

Case study – Telemedicine in the Falklands

Telemedicine has a major part to play in the Falklands, where outlying farms and settlements may be a 100 miles away from the medical services based in the capital, Stanley. For example, telemedicine is used to seek advice from colleagues in the UK. Radiographs and photographs of skin rashes are commonly emailed for advice. In 2003 the plan was to install new X-ray equipment to allow all radiographs to be reported on by a consultant radiologist. The main limiting factor in 2003 was the absence of ISDN lines or broadband communication.⁹⁸ In addition, consultations are often completed by telephone and the patient may be advised to take medication from the 'medicine chest' that is provided. A replacement for the chest is then sent in the post.⁹⁸

Key issues 10: difficulties associated with providing telemedicine

- If patients in rural areas have difficulties accessing healthcare services, they may also have difficulties getting to where the telemedicine service is available.⁶¹
- The quality of a consultation is very dependent on the quality of the system being used and a poor quality link may mean that images and sound are fragmented and distorted.⁹⁵
- In GP-patient teleconsultations, the patient cannot be palpated or subjected to physical examination by the GP.⁹⁵ However, methods of addressing this difficulty can be considered, such as a nurse practitioner physically examining the patient.

Initially, many rural areas were less likely to have access to the necessary technology, such as broadband communication and NHSnet (a secure wide area network developed exclusively for the NHS and available from two service providers: BT and Cable & Wireless).⁹⁹ This was due to the use of trigger levels, where a certain amount of local interest had to be expressed before broadband could be introduced. However, the initiative by BT to introduce broadband to more areas is most welcome, as is the discontinuation of the trigger level system. It is intended that most of the UK population will automatically be able to receive broadband by mid-2005. However, this would still leave some rural parts of Scotland and Wales without fast internet access. These areas should be able to be reached using a wireless broadband network similar to the one established in Northern Ireland. It is recommended that the introduction of broadband to rural/remote areas must be introduced as quickly as possible.

Recommendation 11

The use of telemedicine should be encouraged. It gives increased flexibility to healthcare service providers and allows them to expand the scope and quality of services.

While the initial consultation with a patient may need face-to-face interaction, follow-up consultations could usefully use telecommunication. As the distance to alternative healthcare services increases, telemedicine can become a more attractive option.⁹³ Isolated rural GPs may particularly benefit from contact with colleagues. Funding is needed from the DH to subsidise the equipment necessary to provide telemedicine services.

The local provision of specialised acute and emergency services

In some rural/remote areas there is a reliance on larger urban facilities to provide more specialised acute and emergency services.¹⁴ However, travel time to this care equates to risk in emergency and acute conditions,¹⁴ and patients from rural/remote areas will encounter longer travel times than patients from urban areas. Patients from rural areas therefore need local access to specialist care, particularly emergency care, for example surgical services and obstetrics and gynaecology.¹⁰⁰ This

local access to emergency care and acute services must be balanced with maintaining viable services of appropriate quality.¹⁰⁰ The quality of service provided locally can be compromised by small populations, making it difficult to provide services economically while complying with working time restrictions, and for clinicians to maintain and update clinical competence.¹⁴ In the context of the surgeon as a risk factor, determinants of outcome included technical skill, volume of work and complexity of case mix.¹⁰¹ An assessment must be made on what core local services must be provided because travel is linked to risk, and what can be provided by central facilities.¹⁴ Sustainable, long-term solutions to providing these core services must then be found. Different models of providing appropriate emergency and acute services will be needed for different rural areas.

The current arrangements for delivering acute services in some small and remote hospitals in Scotland cannot be sustained. For example, the West Highland project looks at service provision in two small consultant-led acute hospitals in the West Highlands.⁷⁰ The project has found that current service provision is very fragile due to difficulties in recruiting and retaining healthcare professionals; a premature resignation, retirement or long-term sickness would cause severe staffing difficulties. The consequences of the trend towards medical specialisation, long working hours and a lack of support structures for key staff are also found to be problematic. Different service delivery models are suggested, based on appropriate services being provided locally wherever possible. A suggested sustainable long-term solution is a move towards a holistic, more integrated primary care and secondary care service, with healthcare professionals working in a more integrated way. GPs with specialist interests such as surgery, and consultants with community interests such as care of the elderly, could be appointed.⁷⁰

The problem of the long-term care of patients with an acute illness, who need to be seen by a specialist centre at a distance from rural/remote areas, needs to be considered. Patients require the benefit of an assessment by an expert in their particular disease, with continuous supervision from local healthcare providers. This could be achieved in the form of a managed clinical network where good communication is developed between centres, a common treatment plan is developed and the specialist centre-based consultant makes regular visits to rural areas.¹⁰²

Case study – NHS Orkney: a model of consultant supported intermediate care (UK)

Orkney is an archipelago of many islands, 17 of which are inhabited, only three of which are connected by causeways.¹⁰³ Healthcare provision was previously based around primary care and the development of a consultant-led service was considered beneficial. A new model of service provision was therefore piloted across NHS Orkney from 2001 to 2003, in conjunction with Highland Acute Hospital Trust and RARARI. The GPs providing generalist secondary medical care were supported by a consultant based in a district general hospital in Inverness on the mainland. The consultant provided clinical and educational support to the GPs, for example through ward rounds and 'classroom' sessions and regularly commuted to the Orkney islands. The consultant had a base where clinical skills could be maintained through patient and peer contact. Interprofessional working was also encouraged through monthly interdisciplinary meetings. In addition, an SHO programme was developed to help provide doctors with hospital-based skills, to equip them to work in isolated, rural/remote general practices.¹⁰³ NHS Orkney has undergone a consultation process on future service provision and working groups are being established to oversee service redesign once final decisions have been made.¹⁰⁴

In rural/remote areas, emphasis should be on screening and the early detection of disease, to prevent the need for emergency care.¹⁰⁰ An ongoing Highlands and Islands aortic aneurysm screening programme is currently analysing data from the first three years and has presented preliminary findings.¹⁰⁵ The study was set up against a background of increasing centralisation of vascular surgical services, resulting in difficulties in providing emergency care for ruptured abdominal aortic aneurysm in remote and rural areas. The possibility of identifying aneurysms by screening in remote and rural areas, thereby reducing the need for emergency intervention, was identified. The study set out to determine whether screening could be successfully carried out in these areas by inviting men aged between 65 and 74 years to attend screening at their GP practice.

The study has resulted in an extremely high level of uptake of screening, even amongst those living in the most remote areas. This suggests that screening can be effectively delivered with high compliance in the most remote and rural areas of the UK. Initial indications are that the number of emergency procedures for ruptured abdominal aortic aneurysm in the screened group has fallen since the programme began, although data is still being analysed.

Recommendation 12

There is a need to assess and review options for sustaining and improving local access to secondary healthcare due to the pressures on acute and emergency service delivery in rural/remote areas.

Sustainable, long-term solutions to providing core services must be found. Different models of providing appropriate emergency and acute services will be needed for different rural areas.

- Emphasis should be on screening and early detection of disease in rural areas, to reduce the need for emergency care.
- A suggested sustainable long-term solution is a move towards a holistic, more integrated primary care and secondary care service, with healthcare professionals working in a more integrated way.⁷⁰

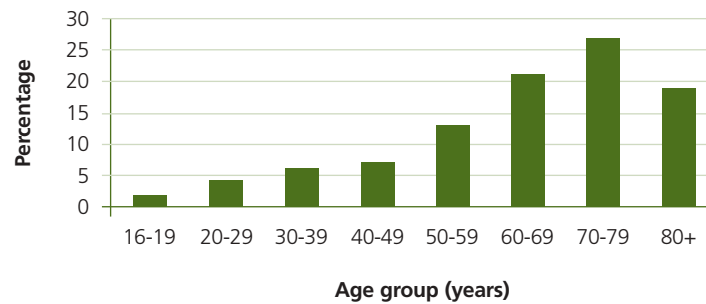
The local provision of facilities for disabled people

The Disability Discrimination Act characterises disability as follows:

- there must be a physical or mental impairment
- the impairment must adversely effect the person's ability to carry out normal day to day activities
- the adverse effect must be substantial
- the adverse effect must be long term (meaning that it has lasted or is likely to last for more than 12 months).¹⁰⁶

Research in the US found that while people living in rural areas generally experienced barriers to access to healthcare, these problems were further exacerbated for people with disabilities.¹⁰⁷ In the UK, most disabled people have the same kind of health needs as the rest of the population, but they may also have some specific health needs related to their particular impairment or condition.¹⁰⁸ Firstly, accessibility difficulties can occur because most of the specialised healthcare services are centred in the larger towns, as well as meeting groups, voluntary groups and information resource centres. This can be exacerbated by the transport difficulties that can be found in rural areas, as highlighted earlier. Secondly, the Office of Population Censuses and Surveys (OPCS)¹⁰⁹ found that greater proportions of disabled people are found in those aged 50 years and over (figure 3). As highlighted earlier, there is a greater proportion of older people in rural areas and these age groups experience difficulties accessing healthcare.

Figure 3: disabled people in particular age groups expressed as percentage



Source: Office of Population Censuses and Surveys¹⁰⁹

Case study – Living with mental health difficulties in rural areas (UK)

The Rural Community Network (NI) magazine highlights the additional difficulties that people with mental health problems living in rural areas as opposed to urban areas may face.¹¹⁰

- The sense of isolation experienced in some rural areas can exacerbate conditions, and feelings of loneliness can lead to a greater sense of alienation.
- A culture of self-sufficiency sometimes found in rural areas can make people reluctant to seek help.
- A lack of privacy in small, tightly-knit communities can make the stigma associated with some mental health difficulties more apparent.
- Specialised mental health services may not be available in rural areas and local GPs may not have the specialist knowledge required.
- Many people with mental health difficulties may have their driving license suspended, and a lack of public transport in rural areas can make accessing healthcare services difficult.

In America, research suggests that healthcare providers need special training to help them identify and treat people with disabilities. In addition, alternative strategies for delivering services are needed to address the health problems of people with disabilities in rural areas. These should include mobile service units, the use of telemedicine to allow rural healthcare professionals to consult urban-based colleagues, and the use of trained non-professional community workers.¹⁰⁷

More research is needed in the UK to explore the health needs of disabled people living in rural areas. However, the substantial evidence that people living in rural areas have difficulty accessing healthcare services strongly implies that these difficulties will be compounded for people with disabilities. A range of healthcare services are needed, such as mobile services. For example, the centrally-based disability information and resource centre in South Ayrshire is less easily accessed by people living in rural areas than those living in urban areas. The establishment of a mobile

disability resource centre is therefore being considered, to deliver services more conveniently to the rural communities of South Ayrshire.¹¹¹ It is also suggested that there is a place for trained local volunteers to provide information and resources, and help to reduce the isolation that may be experienced by people with disabilities in rural areas through networking and 'buddy systems'.

Recommendation 13

A range of healthcare services are required to meet the needs of people with disabilities, for example mobile services and voluntary services provided by trained local community members. Further research is needed in the UK to comprehensively define the healthcare needs of disabled people living in rural areas.

Sustainability of services

The sustainability of healthcare provision in rural/remote areas needs to be addressed. Recruitment, retention and accessibility difficulties, and other factors that have implications for a sustainable healthcare service in rural/remote areas, have been discussed. The core competencies required for rural areas are not always being taught and maintained, and skills decay is a cause for concern. The move towards centralisation of services, the reduced provision of healthcare services to small communities, and the viability of local acute services can all impact on sustainability of services. Interprofessional working and education, and expert patient groups are two potential solutions.

Interprofessional working

Interprofessional working involves professionals collaborating to work together more effectively to improve the quality of patient care. It allows for flexible and coordinated services and a skilled and responsive workforce.¹¹² Collaborative and interprofessional working can be seen as a key element in improving rural health service delivery. Mutual understanding and collaboration develops effective multidisciplinary teams. This allows professionals to work across the boundaries of traditionally defined roles,¹¹³ and enables effective role substitution. This provides rural healthcare professionals with the vital support of skilled personnel, for example nurse practitioners, midwives and pharmacists. This is particularly beneficial in rural areas where healthcare professionals often have to provide a broader range of services than those in urban areas.

A survey of 89 professionals working in rural/remote areas conducted at a RARARI Helse-Nord conference (2003) found that interprofessional working was considered vital.¹¹⁴ The majority of the 89 professionals surveyed were doctors, nurses and managers working in rural/remote areas in Norway and Scotland. In answer to the question 'Do you agree that working in multiprofessional networks is of major importance in remote and rural areas?' respondents answered:

- Yes: 92 per cent
- No: 5 per cent
- Don't know: 3 per cent

Case study – The changing role of nurse practitioners (UK)

Interprofessional working can be seen in practice in the UK, in various schemes run by Morecambe Bay NHS Trust.¹¹⁵ The Trust serves people living in urban and rural areas in parts of Cumbria, Lancashire and north Yorkshire. In response to the legal requirements to cut junior doctors' hours, nurses are being trained to take on new roles. Two nurses – a theatre sister and a ward sister – are being trained in an 18-month project (due to finish in November 2004) to become colorectal surgical assistants. Training includes opening and closing surgical wounds. The Trust has also taken on Swiss nurses, who perform some anaesthetic work in Switzerland, to see if this role could be usefully implemented in the UK. There are some concerns as to how this new trend will be received by doctors, but it is believed that these types of pilot programme will provide an opportunity for different and 'smarter' ways of working.¹¹⁵

Interprofessional education (IPE)

Healthcare professionals need education and training to enable them to successfully work in collaboration with colleagues. The UK Centre for the Advancement of Interprofessional Education states that IPE occurs when two or more professions learn from and about each other to improve collaboration and the quality of care.¹¹⁶ IPE can occur at any level of education and appears to be most effective when it occurs throughout.¹¹²

Undergraduate curriculum

In 1993, the General Medical Council called for a 'mutual respect and understanding of roles, and a capacity for teamwork that should begin to develop during the undergraduate years'.¹¹⁷ The DH began funding four projects in 2002, involving 10 universities in collaboration with Workforce Development Confederations, to implement an integrated model of IPE at undergraduate level. The impact of teamworking on practice will be tracked and assessed over a number of years. The New Generation Project, involving the University of Southampton, the University of Portsmouth and the Hampshire & Isle of Wight Workforce Development Confederation commenced in October 2003. This gives students studying medicine, midwifery, nursing, occupational therapy, pharmacy, physiotherapy, podiatry, radiography or social work the opportunity to work and learn together, through the Common Learning Curriculum.¹¹⁸

The curriculum has four interprofessional learning units.

- **Collaborative learning:** introduces students to the concept and practice of collaborative learning and team working and develops the knowledge management and IT skills needed to participate in collaborative learning supported by online methods.

- **Interprofessional team working:** provides students with an opportunity to apply their team working and negotiation skills in an interprofessional context.
- **Enabling change in practice:** helps students gain an understanding of the need for role flexibility and the complexity of introducing change into interprofessional service provision.
- **Interprofessional problem solving:** provides students with the opportunity to work as a team to build an interprofessional understanding of a complex ethical issue or service failure.¹¹⁸

Rural IPE placements

An important method of learning interprofessional skills is to observe and interact with collaborative practice.¹¹² This can be achieved during student placements and it is suggested that some of these placements occur in a rural area, as recommended previously. IPE in a rural setting has particular advantages, for example in demonstrating extended roles, generalism and the functioning of small teams.

Case study – IPE learning in a rural context (Australia)

The Rural Interprofessional Education project in Victoria selects mixed groups of nursing and medical students for placements in rural primary care. The students are educated in the field by nursing and medical tutors. The learning objectives include understanding the principles of collaboration, teamwork and various roles in the healthcare team within a rural primary healthcare framework. The project has created important links between health education providers and rural primary healthcare providers. An education programme that reflects the diversity of rural practice is beginning to emerge and is challenging the traditional model of education.¹¹²

Recommendation 14

Doctors should carry out part of their training in association with other healthcare professionals to create respect and trust between team members and to allow professionals to work across boundaries of traditionally defined roles.¹¹³ IPE should be part of the complete undergraduate curriculum and IPE in a rural setting has particular advantages, for example demonstrating extended roles, generalism and the functioning of small teams. However, this educational potential requires planning and resources to make it effective.

Expert patients programme

In the UK, at any one time, as many as 17.5 million adults may be living with a chronic disease and there is a greater prevalence in older people. Increasing longevity in the population has resulted in an increased burden of chronic diseases such as heart disease, stroke, cancer and diabetes mellitus. As previously mentioned, there is a greater proportion of older people living in rural areas. Living with a long-term condition can mean physical and psychological difficulties, socio-economic problems, reduced quality of life and sometimes social exclusion. There is increasing evidence that a patient-centred approach, with patients taking a lead in managing their chronic condition, can help to improve health, quality of life and reduce incapacity.¹⁶

The Expert Patients report (2001) sets out the vision of a more patient-centred NHS.¹⁶ Patients with a chronic illness are not seen simply as passive recipients of care, but rather as active partners in the decision-making process, able to take an active role in their own care. Patients' expertise in their own illness and particular needs should enable them to self-manage the illness in partnership with a healthcare professional. The Expert Patients report proposes developing self-management programmes designed to empower patients to take greater control over their lives.¹⁶

Self-management courses

A typical self-management course is usually led by two volunteer lay tutors and involves attending one session per week lasting two hours and 30 minutes, for six weeks. The course builds skills and resourcefulness and improves confidence to allow the patient to work in partnership with healthcare professionals. The typical contents of a course are shown in key issues 11. Trusts are encouraged to run generic rather than disease-specific courses. Patients then feel less isolated as they realise that many of the problems they encounter are not specific to their own condition. This is particularly important for those in remote areas. Courses are also more accessible to more people, as patients from one locality with different chronic diseases can access the same course.¹¹⁹ By 2007 self-management programmes should be mainstreamed throughout the NHS.

Key issues 11: contents of an expert patients self-management course

- Cognitive skills (mind affecting body for positive change)
- Relaxation and fatigue symptom management
- Anger, fear and frustration management
- The role of healthy eating and exercise
- Communication skills, to open dialogue with doctor and avoid defensive conversations
- Managing medication
- Managing depression
- Planning for the future and making an action plan
- Problem solving
- How to make informed treatment decisions
- How to work in partnership with the health professional team

Source: Lorig K, Gonzalez V & Laurent D (1997).¹²⁰

Patients can more effectively manage aspects of their disease such as long-term pain and are given techniques to cope with fatigue and the emotional consequences of the disease. The need for regular medication can be reduced and patients feel more in control of their disease and medication. The course raises self-esteem and patients feel empowered and are less reliant on healthcare services.¹⁶

Providing self-management courses is a low-cost intervention that has a positive impact on the primary care organisation, healthcare professionals and acute Trusts. The courses can reduce a patient's need to see a healthcare professional, which will consequently free that professional for other people. The duration of each appointment can also be reduced as patients are able to explain their needs more clearly during clinic appointments, are more focused and more able to help the healthcare professional. Fewer hospital stays are necessary and the duration of stay is shortened. This can reduce the stress levels of the healthcare professionals and reduce overall costs in the long term.¹¹⁹

Self-management courses in rural areas

It has been suggested that patients in rural areas where health services are not easily accessible, may find self-management courses particularly beneficial. If healthcare services are less accessible, patients can feel powerless, isolated and removed from the services that they are reliant upon. Self-management courses can help patients to manage their illness and reduce their dependence upon healthcare services. Courses can also help them to benefit more from the time spent with healthcare professionals through being able to focus on their needs and work in partnership.

Providing expert patients programmes in rural areas presents particular challenges.

- The interface between implementing courses and giving patients access to those courses. At present there are not enough lay tutors to run an adequate number of courses in rural areas. This means that patients in rural and isolated areas do not always have access to courses in their local area. In addition, the lack of public transport in many rural areas prevents some patients from attending courses. Expert patients programmes do not qualify for funding for NHS transport as the courses are not a direct medical intervention implemented by a healthcare professional.
- Self-management courses should be run in community venues rather than medical institutions where possible, to emphasise that the course is a non-medical intervention. It can be challenging to find accessible, comfortable venues with adequate facilities in rural areas.
- The high proportion of elderly people living in rural areas increases the potential burden of care created by a greater percentage of the population developing chronic diseases. This places a high financial burden upon the primary care organisations.

Recommendation 15

Patients in rural and isolated areas need to have access to expert patients self-management courses in their local area.

- The government must prioritise the establishment of expert patients programmes in rural areas and provide sufficient resources for course implementation.
- Government funding is required to enable more volunteer lay tutors to be trained. This will allow more courses to be run in rural areas.
- Transport should be improved to allow patients access to courses that are not held in the immediate vicinity. Funding should be allocated by the NHS.

Recommendations

Recruitment and retention of healthcare professionals

1. A broad range of strategies should be implemented to promote medicine to potential students from a rural background and encourage them to apply to medical school.³⁹
2. It is desirable that all medical students have the opportunity to choose a rural placement. The opportunity should be seen as a positive contribution to a student's medical development. Placing students in a rural area could promote working in a rural area as a positive career choice.
3. Postgraduate training programmes should use the opportunities provided in rural primary and secondary care to teach generalist skills to healthcare professionals (including surgeons) during their basic training.
4. Continuing professional development should be flexible and responsive to the range of needs found in rural/remote medical practice and tailored to the educational needs identified by the individual.⁵⁸
5. Workforce planning must consider CPD training needs. A wide range of CPD opportunities should be developed so that staff from various types of rural practice have access to training.
6. Schemes to support healthcare professionals and their families within the community are vital as an aid to retention.
7. An infrastructure for out-of-hours care needs to be put in place in rural areas.
8. The provision of flexible employment opportunities is particularly important in rural areas to aid recruitment and retention.

Accessibility and the impact of distance

9. Improved coordination and planning of transport schemes is needed at local and regional level. Transport considerations should be integrated into any health service planning for rural/remote communities.
10. Local, innovative healthcare services must be provided to allow patients to reach those services and have a choice in the facilities that they use.
11. The use of telemedicine should be encouraged. It gives increased flexibility to healthcare service providers and allows them to expand the scope and quality of services.

12. There is a need to assess and review options for sustaining and improving local access to secondary healthcare due to the pressures on acute and emergency service delivery in rural/remote areas.
13. A range of healthcare services are required to meet the needs of people with disabilities, for example mobile services and voluntary services provided by trained local community members.

Sustainability of services

14. Doctors should carry out part of their training in association with other healthcare professionals to create respect and trust between team members, and to allow professionals to work across boundaries of traditionally defined roles.¹¹³
15. Patients in rural and isolated areas need to have access to expert patients self-management courses in their local area.

Websites providing further information on healthcare in rural areas

These websites are suggested for further information only and this does not suggest an endorsement of their content in any way by the BMA. Furthermore, the BMA can make no warranty, expressed or implied, as to the accuracy of any information or advice provided by external sources for which links are provided here. The views of other organisations do not necessarily reflect those of the BMA.

- **The British Association of Immediate Care (BASICS):** BASICS is a registered charity which acts as the national co-ordinating body for both schemes and individuals providing Immediate Care throughout the United Kingdom. www.basics.org.uk
- **BMA:** information on GMS and consultant contract; European Working Time Directive. www.bma.org.uk
- **Centre for the advancement of interprofessional education:** a charitable organisation promoting interprofessional education for health, social care and related professions. www.caipe.org.uk
- **Department for Environment, Food and Rural Affairs (DEFRA):** created in 2001 to drive forward the government's programmes on the environment, food and rural affairs. www.defra.gov.uk
- **Department of Health:** contains information on improving working lives for healthcare professionals. www.dh.gov.uk
- **Institute of Rural Health:** established in 1997 to optimise the health and wellbeing of rural people and their communities by addressing issues such as poverty, social exclusion and deprivation, through research and education. www.rural-health.ac.uk
- **Remote and Rural Areas Resource Initiative (RARARI):** RARARI was set up in 2000 to develop healthcare services and support for professional staff in remote/rural parts of Scotland, funded by the NHS in Scotland. Although the organisation was disbanded on 31 March 2004, there are still active projects running. www.rarari.org.uk
- **Rural Health Forum:** UK-wide partnership initiative, working to promote the health and wellbeing of rural communities. www.ruralhealthforum.org.uk
- **Rural Proofing for Health project:** the final aim of the project is to develop a rural proofing toolkit for use by organisations involved in the delivery of healthcare. The toolkit will act as a guide when planning policy, enabling organisations to take account of the needs of people living in rural communities. www.ruralhealthforum.org.uk/proofing.htm
- **The Countryside Agency:** funded by DEFRA to make life better for people in the countryside and to make the quality of the countryside better for everyone. www.countryside.gov.uk
- **The Royal College of General Practitioners Rural Practice Group:** founded in 1993 to raise the profile of rural medicine in the United Kingdom through education, research and the dissemination of good practice in rural healthcare. www.rcgp.org.uk
- **World Organisation of Family Doctors (WONCA):** an organisation with the mission to develop and maintain high standards of care in general practice and family medicine. www.globalfamilydoctor.com

Appendix A: Extract from the General Medical Service (GMS) contract: investing in general practice

4 Developing human resources and modernising infrastructure

4.23 Supporting practices in rural and remote areas

GPs in rural and remote areas of the UK form a small but essential part of the NHS. The new contract will recognise their specific needs and help ensure they receive proper support:

- (i) through the Carr-Hill allocation formula, which includes a specific adjustment for rurality. This takes account of population sparsity and dispersion, and means that rural and remote GPs will benefit in their global sum and the practice weighted population adjustment to quality payments.
- (ii) through the powers described in chapter 2 for primary care organisations (PCOs) to employ staff to provide GMS and support practices. The new flexibility for PCO and practice-based salaried options may also be particularly useful in rural and remote areas.
- (iii) through funding arrangements that will ensure support for practices in recognition of the extra burdens of being a remote and rural GP, for example extra travel costs to attend PCO-sponsored or PCO-approved training and the continued need to provide out-of-hours care which will be supported by the Out-of-Hours Development Fund. There will be a range of independent contractor and employed options, which will improve upon and replace the current inducement scheme, which will cease on 31 March 2004.
- (iv) for immediate care and first responder services. Rural and remote GPs are often more involved in the provision of emergency care outside the setting of their surgery or a local community hospital. This work requires extra training (eg the British Association for Immediate Care provides courses in dealing with emergencies), equipment, resource, commitment and reward. Under the new contract, these services will be commissioned and funded as an enhanced service. PCOs will normally wish to commission such services where land ambulance response times are relatively long or the practice is remote from the nearest appropriate hospital. Practices providing these services will need to ensure relevant practitioners have the necessary skills, for example through attending a BASICS course at least once every five years.
- (v) for GPs working for community hospitals and minor injury clinics. Staffing of community hospitals and minor injury services is an integral part of many GP practices, particularly in rural or remote areas. Under the new contract these services will be commissioned and funded from the unified budget or its equivalent in Northern Ireland. A specification for the minor injuries enhanced service provided within a practice will be published shortly in supporting documentation.

- (vi) through twinning arrangements. Under the new contract, PCOs will support arrangements to minimise the impact of geographical isolation on all professions in rural and remote areas. The Remote and Rural Areas Resource Initiative (RARARI) in Scotland will examine how twinning arrangements could best support GPs in remote and isolated areas. Lessons learned from this will be implemented throughout the UK. Where twinning is feasible, and supported by the LMC (or its equivalent), the PCO will do its utmost to support implementation.

4.24 Supporting practices in deprived areas

The new contract will recognise the additional workload involved in providing care in deprived inner city areas through the morbidity factor in the Carr-Hill formula. Under-doctored areas will also gain from the allocation of money on the basis of patient need rather than the number of doctors. Practices will be able to seek to provide a range of enhanced services for the specific needs of their population.

Explanatory notes

Carr-Hill allocation formula

This is a new resource allocation formula and will provide the basis for allocating funds for global sum resources and for quality payments. It takes account of determinants of relative practice workload and costs. The proposed formula includes the following components:

- an adjustment for the age and sex structure of the population, including patients in nursing and residential homes
- an adjustment for the additional needs of the population, relating to morbidity and mortality
- an adjustment for list turnover
- adjustments for the unavoidable costs of delivering services to the population, including a staff Market Forces Factor and rurality.

References

- 1 The Highlands and Islands Medical Service Committee (1912) *Report to the Lords Commissioners of His Majesty's Treasury (The Dewar Report)*. Edinburgh: HMSO.
- 2 Godden DJ and Richards HM (2003) Health research in remote and rural Scotland. *Scottish Medical Journal* **48**: 10-2.
- 3 Deaville JA (2001) *The nature of rural general practice in the UK – preliminary research*. Joint report from the Institute of Rural Health and The General Practitioners Committee of the BMA. Wales: Institute of Rural Health.
- 4 www.ruralhealthforum.org.uk (accessed February 2004).
- 5 www.rural-health.ac.uk (accessed February 2004).
- 6 www.rarari.org.uk (accessed February 2004).
- 7 Asthana S, Halliday J et Brigham P et al (2002) *Rural deprivation and service need: a review of the literature and an assessment of indicators for rural service planning*. Bristol: South West Public Health Observatory.
- 8 www.ruralhealthforum.org.uk/proofing.htm (accessed March 2004).
- 9 RARARI Solutions Group (2002) *Solutions for the provision of health care in the remote and rural areas of Scotland in the 21st Century*. RARARI at www.rararibids.org.uk (accessed January 2004).
- 10 Moore A (2003) Out in the field. *Health Service Journal* **7**: 10-1.
- 11 Campbell NC, Elliott AM & Sharp L et al (2000) Rural factors and survival from cancer: analysis of Scottish cancer registration. *British Journal of Cancer* **82**: 1863-6.
- 12 Campbell NC, Elliott AM & Sharp L et al (2001) Rural and urban differences in stage at diagnosis of colorectal and lung cancers. *British Journal of Cancer* **84**: 910-4.
- 13 The Prime Minister's Strategy Unit (1999) *Rural economies*. SU at www.number-10.gov.uk (accessed March 2004).
- 14 Temple JG (2002) *Future practice: a review of the Scottish medical workforce*. Edinburgh: Scottish Executive Health Department.
- 15 Philips M (1999) Migration and social change. In: The Rural Group of Labour MPs, Rural audit: a health check on rural Britain (pp 26-9). Cheltenham: The Rural Group of Labour MPs. In: Farmer J, Lauder W & Richards H et al (2003) Dr. John has gone: assessing health professionals' contribution to remote rural community sustainability in the UK. *Social Science and Medicine* **57**: 673-86.
- 16 Department of Health (2001) *The expert patient: a new approach to chronic disease management for the 21st century*. London: Department of Health.
- 17 Hope S, Anderson S & Sawyer B (2000) *The quality of services in rural Scotland*. Edinburgh: Scottish Executive Central Research Unit.
- 18 Farmer J, Lauder W & Richards H et al (2003) Dr. John has gone: assessing health professionals' contribution to remote rural community sustainability in the UK. *Social Science and Medicine* **57**: 673-86.

- 19 Gould MI & Moon G (2000) Problems of providing healthcare in British island communities. *Social Science and Medicine* **50**: 1081-90. In: Farmer J, Lauder W & Richards H et al (2003) Dr. John has gone: assessing health professionals' contribution to remote rural community sustainability in the UK. *Social Science and Medicine* **57**: 673-86.
- 20 The Countryside Agency (2003) *Indicators of rural disadvantage: guidance note*. Gloucestershire: The Countryside Agency.
- 21 Mitchinson K (2002) *Rural health and community strategies: key points for rural health and community planning*. Powys: The Rural Health Forum.
- 22 Farmer JC, Baird AG & Iversen L (2001) Rural deprivation: reflecting reality. *British Journal of General Practice* **51**: 486-91.
- 23 Cox J (1999) Rural poverty, deprivation and health. In: Cox J & Mungall I (eds) *Rural healthcare*. Oxon: Radcliffe Medical Press.
- 24 British Medical Association (2003) *Housing and health: building for the future*. London: BMA.
- 25 Office of the Deputy Prime Minister (2002) *A review of urban and rural areas definitions: project report*. HMSO at www.statistics.gov.uk (accessed August 2004).
- 26 The Countryside Agency, Department for Environment, Food and Rural Affairs, Office of the Deputy Prime Minister, Office for National Statistics and the Welsh Assembly Government (2004) *Rural and urban classification (2004) An introductory guide*. HMSO at www.statistics.gov.uk (accessed October 2004).
- 27 Shucksmith M (1990) The definitions of rural areas and rural deprivation. Report to Scottish Homes. In: Asthana S, Halliday J & Brigham P et al (2002) *Rural deprivation and service need: a review of the literature and an assessment of indicators for rural service planning*. Bristol: South West Public Health Observatory.
- 28 Rossuau N (1995) *What is rurality?* In: Cox J (ed) *Rural general practice in the United Kingdom*. Occasional paper 71. London: Royal College of General Practitioners. In: Farmer JC, Baird AG & Iversen L (2001) Rural deprivation: reflecting reality. *British Journal of General Practice* **51**: 486-91.
- 29 Scottish Executive Health Department Rural Development. *Scottish household survey: 6 fold urban rural classification*. At www.scotland.gov.uk (accessed March 2004).
- 30 British Medical Association (2003) *GP vacancy survey*. London: BMA.
- 31 Government Statistical Service (2003) *General Practitioner Recruitment, Retention and Vacancy Survey 2003 England and Wales*. London: Department of Health.
- 32 Scottish Health Statistics, Information Services Directorate NHS Scotland at www.isdscotland.org (accessed April 2004).
- 33 Buckley EG (2003) *The retention and recruitment of health care staff in the rural and remote areas of Scotland*. NHS Education for Scotland.

- 34 Brindley M (2003) Crisis looms as foreign doctors retire. *The Western*. At www.icwales.icnetwork.co.uk (accessed October 2004).
- 35 Sim A (2001) *A profile of consultant surgeons working in Scottish remote and rural hospitals*. Scotland: Remote and Rural Area Resource Initiative.
- 36 Jolly P & Hudley DM (1996) (eds) *AAMC Data Book: Statistical Information related to Medical Education*. Washington DC: Association of American Medical Colleges. In: Rabinowitz HK et al (1999) A Program to increase the number of family physicians in rural and underserved areas: impact after 22 years. *Journal of the American Medical Association* **281**: 255-60.
- 37 Gillies JCM (1998) Remote and rural general practice. *British Medical Journal* **317**: 7166.
- 38 McCabe S (2002) General practice in remote areas. *British Medical Journal* **324**: s121.
- 39 World Organisation of Family Doctors (WONCA) Working Party on Rural Practice (2001) Policy on rural practice and rural health. www.globalfamilydoctor.com (accessed February 2004).
- 40 medicine.indiana.edu (accessed November 2003).
- 41 Parkhouse J and Lambert TW (1997) Home, training and work: mobility of British doctors. *Medical Education* **31**: 399-407.
- 42 Williamson M, Gormley A & Bills J et al (2003) The new rural health curriculum at Dunedin School of Medicine: how has it influenced the attitudes of medical students to a career in rural general practice? *The New Zealand Medical Journal* **116**. At www.nzma.org.nz (accessed September 2004).
- 43 Hays R (2003) Rural medical education: how different is it? *Medical Education* **37**: 4-5.
- 44 Prideaux D (ed) (2001) Country report: Australia. *Medical Education* **35**: 495-504.
- 45 som.flinders.edu.au (accessed November 2003).
- 46 Worley P, Silagy C & Prideaux D et al (2000) The Parallel Rural Community Curriculum: an integrated clinical curriculum based in rural general practice. *Medical Education* **34**: 558-65.
- 47 www.health.gov.au/budget2004 (accessed May 2004).
- 48 Humphreys JS, Jones JA & Jones MP et al (2003) The influence of geographical location on the complexity of rural general practice activities. *Medical Journal Association* **179**: 416-20.
- 49 Cox J (1999) Emergencies. In: Cox J & Mungall I (eds) *Rural healthcare*. Oxon: Radcliffe Medical Press.
- 50 Kerr M (2003) *Bid 79: recommendations for the safe management of acutely disturbed psychiatric patients in Scotland's remote and rural areas*. Report of a consultation sponsored by RARARI.
- 51 Mungall I (1999) Rural diseases. In: Cox J & Mungall I (eds) *Rural healthcare*. Oxon: Radcliffe Medical Press.

- 52 Burnett T & Mort M (2001) Improving access to healthcare for farming communities: 'The Farmers Health Project'. Report to NHS Executive (North West) of Project RDF/LSC/99/0037. At www.lancs.ac.uk (accessed August 2004).
- 53 www.farm-ruralhealth.org.uk (accessed March 2004).
- 54 www.skillsforhealth.org.uk (accessed May 2004).
- 55 The four UK Health Departments (2004) *Modernising Medical Careers. The next steps: the future shape of foundation, specialist and general practice training programmes*. Leeds: The four UK Health Departments.
- 56 www.acrrm.org.au (accessed November 2003).
- 57 Servers M & Crane S (2000) Challenges in medical education – what the doctor ordered? *Postgraduate Medical Journal* **76**: 599-600.
- 58 Crampton M & Wilkinson D (2002) The Professional Development Program of the Australian College of Rural and Remote Medicine. *Australian Family Physician* **31**: 952-6.
- 59 Niven K (2000) Recruiting, teaching and providing clinical experience locally in remote and rural areas. In: Scottish Council for postgraduate medical and dental education *Seeking solutions: education and training for remote and rural professionals*. Edinburgh: Scottish Council for postgraduate medical and dental education.
- 60 www.nhsu.nhs.uk (accessed May 2004).
- 61 www.abc.net.au (accessed January 2004)
- 62 www.ecu.edu.au (accessed January 2004)
- 63 Cutchin MP (1994, 1997) In: Farmer J, Lauder W & Richards H et al (2003) Dr. John has gone: assessing health professionals' contribution to remote rural community sustainability in the UK. *Social Science and Medicine* **57**: 673-86.
- 64 www.rmfn.org.au (accessed January 2004).
- 65 Veitch C, Harte J & Hays R et al (1997) Community participation in the recruitment and retention of rural doctors: methodological and logistical considerations. *Australian Journal of Rural Health* **7**: 206-11.
- 66 www.gmc-uk.org (accessed July 2004).
- 67 Farmer J, Hinds K & Richards H et al (2004) *Access, satisfaction and expectations: a comparison of attitudes to health care in rural and urban Scotland*. University of Aberdeen and the Scottish Centre for Social Research.
- 68 British Medical Association (2003) *New GMS contract 2003: investing in general practice*. London: BMA.
- 69 Wynn-Jones J (2003) *The new GP contract and its possible impact on rural practice*. Rural Forum (8)8 Institute of Rural Health.
- 70 Clark J, Shapiro J, Spurgeon P et al (2003) *West Highland project: final report*. Health Services Management Centre, School of Public Policy: The University of Birmingham.

- 71 Clark J (2003) *Perhaps small is beautiful after all?*
At www.hsmc.bham.ac.uk (accessed March 2004).
- 72 Department of Health *Improving Working Lives for Doctors*. London: Department of Health. At www.dh.gov.uk (accessed March 2004).
- 73 Wind-down and step-down options may impact on pension benefits by either reducing the amount of pensionable service or the amount of pensionable pay. To resolve this someone needs to meet the costs of continuing to provide pension build-up, pre step-down or wind-down. Return to work options are more complex and can affect pension already earned. Further information is available from the NHS pensions agency at www.nhs.gov.uk (accessed November 2004) and for BMA members at www.bma.org.uk/pensions (accessed November 2004).
- 74 Scottish Executive (2000) Fair shares for all. At www.scotland.gov.uk (accessed November 2004).
- 75 Haiart DC, Paul AB & Griffiths JM (1990) An audit of the usage of operating theatre time in a peripheral teaching surgical unit. *Postgraduate Medical Journal* **66**: 612-5. In: Mitchinson K (2002) *Rural Health and Community Strategies: Key points for rural health and community planning*. Powys: The Rural Health Forum.
- 76 Jones AP, Bentham G & Horwell C (1999) Health service accessibility and deaths from asthma. *International Journal of Epidemiol* **28**: 101-5. In: Godden DJ & Richards HM (2003) Health Research in Remote and Rural Scotland. *Scottish Medical Journal* **48**: 10-2.
- 77 Office for National Statistics (2002) *Difficulty in accessing key services*. Data taken from the National Statistics Omnibus survey in January and March, 2000 and 2001. Available online only at www.statistics.gov.uk (accessed May 2004).
- 78 www.countryside.gov.uk (accessed September 2004).
- 79 ctweb.hants.gov.uk (accessed December 2003).
- 80 www.abc.net.au (accessed January 2004).
- 81 Norris RM & United Kingdom Heart Attack Study Collaborative Group (1998) Fatality outside hospital from acute coronary events in three British Health districts, 1994-5. *British Medical Journal* **316**: 1065-70. In: Pell JP, Sirel, JM, Marsden AK et al (2001) Effect of reducing ambulance response times on deaths from out of hospital cardiac arrest: cohort study. *British Medical Journal* **322**: 1385-8.
- 82 Pell JP, Sirel JM, Marsden AK et al (2001) Effect of reducing ambulance response times on deaths from out of hospital cardiac arrest: cohort study. *British Medical Journal* **322**: 1385-8.
- 83 Prendergast BD (2003) Prehospital thrombolysis. *British Medical Journal* **327**: 1-2.
- 84 Rawles JM & Ritchie LD (1999) Thrombolysis in peripheral general practices in Scotland: another rule of halves. *Health Bulletin* **57**: 10-6.

- 85 Pedley DK, Bissett K & Connolly CG et al (2003) Prospective observational cohort study of time saved by prehospital thrombolysis for ST elevation myocardial infarction delivered by paramedics. *British Medical Journal* **327**: 22-6.
- 86 www.wcas.nhs.uk (accessed December 2003).
- 87 Royal College of General Practitioners Information Sheet (1999) *Rural General Practice* (no. 23). RCGP at www.rcgp.org.uk (accessed December 2003).
- 88 Crook A (2003) Plan to close surgery axed. *The Journal*. At icnewcastle.icnetwork.co.uk (accessed March 2004).
- 89 The Journal (2003) Closure alert at surgeries. *The Journal*. At icnewcastle.icnetwork.co.uk (accessed March 2004).
- 90 Macduff C & West B (2000) *Evaluation of a nurse-telemedicine service within rural primary care: executive summary*. Centre for Nurse Practice Research and Development, School of Nursing and Midwifery, Faculty of Health and Social Care, The Robert Gordon University.
- 91 www.rural-health.ac.uk (accessed February 2004).
- 92 Ritchie L (2003) Developing primary care in Scotland. In: Woods K & Carter D (eds) *Scotland's health and health services*. London: The Stationary Office.
- 93 Capalbo SM & Heggem CN (1999) Innovations in the delivery of health care services to rural communities: telemedicine and limited-service hospitals. *Rural Development Perspectives* **14**: 8-13.
- 94 Finch T, May C, Mair F et al (2003) Integrating service development with evaluation in telehealthcare: an ethnographic study. *British Medical Journal* **327**: 1205-9.
- 95 British Medical Association (2001) *Consulting in the modern world*. London: BMA. At www.bma.org.uk (accessed January 2004).
- 96 Brebner EM, Brebner JA & Ruddick-Bracken H et al (2004) Evaluation of an accident and emergency teleconsultation service for north-east Scotland. *Journal of Telemedicine and Telecare* **10**: 16-20.
- 97 telehealth.hrsa.gov (accessed January 2004).
- 98 Diggle R (2003) Medicine in the Falkland Islands. *Postgraduate Medical Journal* **79**: 3-4.
- 99 www.nhsia.nhs.uk (accessed August 2004).
- 100 Scottish Executive, Department of Health (1998) *Acute services review report*. Edinburgh: The Stationary Office.
- 101 BMJ Editorial (2003) The surgeon as a risk factor. *British Medical Journal* **326**: 832-3.
- 102 Goodall J (2004) *Medicine in remote and rural hospitals: what services should be provided locally and how should the hospitals be staffed? A personal view*. Remote and Rural Areas Resource Initiative. Unpublished.
- 103 Orkney RARARI (2003) Project Report 2001-03: A new model of consultant-supported intermediate care in remote areas. RARARI.

- 104 www.show.scot.nhs.uk (accessed October 2004).
- 105 Parnaby C, Wolf B & Godden DJ et al (2004) Screening for aortic aneurysm can be delivered with high compliance in a remote and rural area. *British Journal of Surgery* **91**(s1): 115.
- 106 www.drc-gb.org (accessed August 2004).
- 107 Lishner DM, Richardson M & Levine P et al (1996) Access to primary health care among persons with disabilities in rural areas: a summary of the literature. *Journal of Rural Health* **12**: 45-53.
- 108 Morris J (1999) *Hurling into a void: Transition to adulthood for young people with complex health and support needs*. Brighton: Pavilion Publishing in association with Joseph Rowntree Foundation.
- 109 Data drawn from the Office of Population Censuses and Surveys. In: Riddell S & Banks P (2001) *Disability in Scotland: a baseline study*. A report prepared for the Disability Rights Commission Scotland Office by the Strathclyde Centre for Disability Research: University of Glasgow.
- 110 Finnegan G (2003) Mental Health in Rural Areas. *Rural Network News: Rural Community Network (NI) Magazine*. Rural Community Network (NI).
- 111 www.south-ayrshire.gov.uk (accessed October 2004).
- 112 McNair R, Brown R & Stone N et al (2001) Rural interprofessional education: promoting teamwork in primary health care education and practice. *Australian Journal of Rural Health* **9**: s19-s26.
- 113 Finch J, May C & Mair F et al (2000) Interprofessional education and teamworking: a view from the education providers. *British Medical Journal* **321**: 1138-40.
- 114 itlearningspace-scot.ac.uk (accessed December 2003).
- 115 Rayner F (2003) Are nurses ready to take over junior doctors' roles? *Nursing Times* **99**: 10-1.
- 116 Barr H (2002) Ensuring quality in interprofessional education. The UK Centre for the Advancement of Interprofessional Education (CAIPE). At www.caipe.org.uk (accessed March 2004).
- 117 General Medical Council (1993) *Tomorrow's doctors: recommendations on undergraduate medical education*. London: General Medical Council. In: Tunstall-Pedoe S, Rink E & Hilton S (2003) Student attitudes to undergraduate interprofessional education. *Journal of Interprofessional Care* **17**: 161-72
- 118 www.mhbs.soton.ac.uk/newgeneration (accessed March 2004).
- 119 Spettigue B, Senior Trainer, NHS Expert Patients Programme.
- 120 Lorig K, Gonzalez V & Laurent D (1997) *The Expert Patients Programme Chronic Disease Self-Management Course: leader's manual*. Stanford Patient Education Research Center. Copyrighted by The Board of Trustees of the Leland Stanford Junior University. Adapted for the UK by Phillips J & Thompson J.

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