

**PHIS Needs Assessment Report on  
Community Care and Oral Health**

**April 2002**

## **Membership of the Working Group**

**Ms Rachel Strachen/Mrs Teresa Briggs**

**Fife Health Board  
Assistant Director of Service  
Development**

**Mr Barry Corkey**

**Senior Dental Officer,  
Fife Primary Care NHS Trust**

**Ms Pam Fenton**

**Head of Community Care  
East Dunbartonshire Council**

**Dr Jim McCafferty**

**General Dental Practitioner  
Perth**

**Mrs Margaret Pollock**

**Senior Dental Officer  
Community Dental Service Directorate  
Glasgow**

**Dr Gillian Smith**

**Consultant in Oral Medicine  
Glasgow Dental Hospital and School**

**Mr Patrick Sweeney (Chair)**

**Consultant in Dental Public Health  
Argyll & Clyde and Forth Valley NHS  
Boards**

**Mr C Tilley**

**Health Economist, Dental Health Service  
Research Unit, Dundee**

# **CONTENTS**

## **EXECUTIVE SUMMARY**

## **KEY RECOMMENDATIONS**

### **Chapter 1 INTRODUCTION**

### **Chapter 2 THE SCOPE OF THE PROBLEM**

### **Chapter 3 ROLES AND RESPONSIBILITIES IN COMMUNITY CARE PLANNING**

### **Chapter 4 ORGANISATION AND UPTAKE OF DENTAL SERVICES FOR COMMUNITY CARE GROUPS**

### **Chapter 5 HEALTH ECONOMICS ISSUES**

### **Chapter 6 CONSUMER VIEWS ON ACCESS TO AND PROVISION OF HEALTHCARE SERVICES**

### **Chapter 7 REFERENCES**

#### **Appendix 1 Glossary of Terms**

#### **Appendix 2 Sources of Community Care Group Population Data**

#### **Appendix 3 Community Care Population**

#### **Appendix 4 Residents in Nursing Homes: Age 65 and over, by Health Board and Client Group. Year ending 31 March 1999 (Source:ISD 1999)**

#### **Appendix 5 Hospital Discharges - Geriatric Medicine (excluding long stay) by Health Board and destination of discharge. Year ending 31 March 1999 (Source ISD)**

#### **Appendix 6 Responses from Social Work Departments on the integration of Oral and Dental Health in Community Care**

#### **Appendix 7 Number of registered special needs child patients by Health Board and patient age groups as at 31 March 1999 (Source SDPD)**

#### **Appendix 7b GDS claims and costs associated with enhanced capitation payments for children with special needs (excluding any additional enhancement for deprivation) (1999 Source: SDPD)**

#### **Appendix 8 Number of courses of treatment undertaken on a domiciliary basis 1991-1999: General Dental Services in Scotland (Source: SDPD)**

#### **Appendix 9 General Dental Service: Costs of domiciliary visit claims 1991-1999 (Source SDPD)**

#### **Appendix 10 Community Dental Services - Number of patients treated in Scotland - Patient category 1990-1999 (Source ISD SMR13)**

#### **Appendix 11 Trends in domiciliary visits by the Community Dental Service in Scotland**

#### **Appendix 12 General and Community Dental Service workforce levels 1980-1998 (Whole time equivalents except for General Dental Practitioners)**

#### **Appendix 13 Current and projected population figures for those aged 65 and over by Health Board area in Scotland (Source ISD)**

**Appendix 14 Costs of current GDS domiciliary visits based on different sessional payments**

## **EXECUTIVE SUMMARY AND RECOMMENDATIONS**

### **STATEMENT OF THE PROBLEM**

Community Care policy aims to integrate needs assessment and delivery of care for Community Care individuals, including a move from service-led to needs-led services and care. This applies equally to the planning and provision of oral and dental health care services. Individuals within Community Care groups have the same right to good oral health as the general population but are more vulnerable to oral disease and discomfort. This report provides an overview of the extent to which the oral and dental health needs of individuals in Community Care are being met. More detailed work on individual care groups could usefully be undertaken in the future.

#### **1. THE SCOPE OF THE PROBLEM**

##### **1.1 Defining the Community Care Population**

Accurate population figures for Community Care groups are not universally available throughout Scotland. NHS Boards and Local Authorities often rely on national epidemiological surveys, some of which are now over 10 years old. The relevance of the information used is now questionable given the changes that have occurred in Community Care. Local needs assessments have been undertaken for individual care groups using different approaches and methodologies.

##### **1.2 Oral and Dental Health**

Poor oral health remains a significant public health problem in Scotland with major resource implications. There are clear inequalities in oral health among children and adults in Scotland and these also exist between older adults who live independently and those who are cared for. The available information indicates that all forms of oral disease are worse among community care groups, who experience a higher unmet treatment need and restricted access to dental services. Oral health is often a low priority for individuals, family members and care staff and individuals may not perceive or be able to express their own oral health problems.

#### **2. INTEGRATION OF ORAL AND DENTAL HEALTH IN THE COMMUNITY CARE PLANNING PROCESS**

Individuals are increasingly looked after in a wide variety of settings and can follow complex care pathways. This compromises the delivery and continuity of dental care. Good working relationships between the NHS and Local Authorities are well established in Scotland. Oral and dental health needs are, however, generally overlooked. Oral health services for community care groups have been poorly integrated in planning, needs assessment, admission/discharge protocols and inspection processes. NHS Boards and Local Authorities recognise that greater importance should be given to meeting the oral health needs of these priority groups.

#### **3. ORGANISATION AND UPTAKE OF DENTAL SERVICES FOR COMMUNITY CARE GROUPS**

Whilst children with special needs are entitled to free dental care within general dental services, not all adults in community care groups are exempt from charges. The majority of children with special needs are not registered with a general dental practitioner. Information on the number of adults from community care groups receiving care within general dental services is not routinely available. Amongst

the elderly, only a minority receive regular primary dental care. Only 27% of adults aged over 74 are currently registered with a family dentist. The lack of appropriate information services in dental hospitals in Scotland precludes any meaningful analysis of their activity in relation to community care.

The provision of domiciliary care within general dental services in Scotland has remained stable in the past decade compared with a 5 fold increase in the provision of domiciliary care by community dental services. As more adults retain their natural teeth for longer, treatment needs become increasingly complex, yet access to dedicated and appropriately equipped dental facilities is often restricted. Improved access to domiciliary equipment, dedicated facilities, further training and changes to remuneration systems may encourage more general dental practitioners to provide regular dental care for these patients.

Community dental services undertake screening in a wide variety of care establishments throughout the country but protocols are not currently standardised across Scotland. Interpretation of 'normalisation' and difficulties around consent can compromise access by dental services to care establishments and subsequent treatment provision. Training for care staff varies considerably throughout Scotland and, where provided, rarely results in long term changes in practice, which is further compromised by high staff turnover in care establishments.

#### **4. HEALTH ECONOMICS ISSUES**

Health economics are informed by good quality data, which is not currently available in sufficient detail for community care groups to allow meaningful analysis. The overlap among community care groups further complicates resource allocation decisions and the need for dental services within each group may differ considerably.

Higher costs associated with the treatment of community care groups may represent a barrier to care within general dental services in Scotland. Making remuneration more sensitive to the cost of providing care for such patients, either individually or in groups, may help overcome these barriers. Further research and pilot schemes are needed to inform change. The community dental service has a vital role to play as a specialist 'safety net' service, but it is also governed by its other service objectives and financial constraints. There is a fine balance to be struck between the goals of efficiency and equity in dental service provision.

#### **5. CONSUMER VIEWS ON ACCESS TO AND PROVISION OF HEALTHCARE SERVICES**

There is little specific information on how Community Care users and carers have been consulted in relation to oral health and dental services. An Age Concern (Scotland) survey of older people found that 58% were concerned about paying for services, especially dental care and wanted clear information on benefits. Problems in obtaining dental services and long waiting lists for treatment have been reported by people with Learning Difficulties (MENCAP 1998).

## **RECOMMENDATIONS**

### **Prevention and Health Promotion**

1. Fluoridation of the public water supplies would equally benefit community care groups as well as the general population and should be promoted.
2. Oral Health Promotion and Prevention should be fully integrated into the Community Care Planning process and policies and programmes for Community Care Groups.

### **Epidemiology**

3. The National Health Service Scotland (NHSS) and Local Authorities should continue to develop robust and reliable health needs assessment data for community care groups, to facilitate planning and provision of appropriate dental services.
4. The Scottish Health Board's Dental Epidemiological Programme should continue to monitor the oral and dental health status of children and adults in Scotland on a regular basis.
5. The inclusion of community care groups in future adult dental health surveys in Scotland should be explored in order to ensure that robust epidemiological data are available at national and health board levels.
6. Appropriate longitudinal data on the oral health status and treatment patterns of community care individuals should be collected to help inform policy makers about the magnitude of current and future need and demand and the degree to which these are being met.

### **Planning and Integration of Services for Community Care Groups**

7. NHS Boards and Local Authorities should ensure that the oral and dental health needs of community care groups are included in Health Plans and Community Plans for their resident populations.
8. NHS Boards and Trusts should further develop links with statutory and voluntary care providers to ensure that carers are aware of their role and responsibilities in promoting optimal oral health and ensuring that those in their care receive appropriate assessment, advice and dental care, while respecting their right of choice.
9. To facilitate the above, the proposed single Health and Social Work Needs Assessment of older adults should be developed to include appropriate oral and dental health issues and oral health should be included as an integral part of admission and discharge protocols and individual care plans in all settings.
10. NHS Boards should monitor the existence and implementation of oral health policies as an integral part of the registration and inspection process for nursing homes. The new Scottish Commission for the Regulation of Care should assume this responsibility when established in 2002.

11. The expert working group being convened by the Chief Medical Officer to advise on improving primary and acute services for older adults, should include their oral and dental health as an integral part of its remit.

### **Development of Dental Services**

12. NHS Boards and Trusts should review their local dental workforce and skill mix and develop plans to develop dental services to meet the increasing demand for domiciliary care and the increasingly complex treatment needs of community care groups. This should include, where necessary, the establishment of appropriately equipped dedicated dental facilities for the management of community care groups.
13. The recommendations of this needs assessment report should be considered by the Scottish Advisory Committee on Dental Workforce so that their final recommendations will facilitate the development of a workforce that will meet the treatment needs and demands of Community Care Groups.
14. Communication and co-operation should be improved between the different branches of dentistry in order to provide the most appropriate dental care for individuals within community care groups at all times, irrespective of changing health or social circumstances.

### **Information and Technology**

15. The Electronic Patient Record should be developed to include data relevant to community care in order to ensure that health service and local authority agencies have access to all relevant information and to facilitate continuity of dental care in all settings. The Community Health Index (CHI) should be the unique patient identifier in dentistry in Scotland.
16. Dental information recording systems in Scotland should be standardised and made compatible so that all branches of dentistry in Scotland can accurately record uptake of services by and treatment provided for community care groups to inform service planning and evaluation.

### **Training**

17. Further research should be undertaken to determine the effectiveness and appropriateness of different models of training for care staff and the frequency with which it should be provided, given the reported high staff turnover within Community Care establishments.
18. Undergraduate and postgraduate training for dental practitioners and professions complementary to dentistry should be further developed to increase knowledge and skills in relation to the provision of dental care for Community Care Groups and thus increase the proportion of practitioners willing and able to treat such individuals.
19. National Training Organisations should include oral and dental healthcare as mandatory modules in courses leading to a Scottish Vocational Qualification in Personal Social Services.

### **Health Economics**

20. The relative efficiency and effectiveness, including cost effectiveness, of dental service provision for community care groups by the different dental service providers within Scotland should be evaluated. The NHSS should support the piloting of alternative models of dental care



provision, including different remuneration systems, for community care groups in order to inform potential alterations to the current remuneration system.

21. The impact of any potential alterations in the current NHS GDS remuneration system for the provision of care to community care groups on overall GDS service provision and activity should be monitored and evaluated.

### **Consumer Issues**

22. Further quantitative and qualitative research should be undertaken to more accurately seek the attitudes and views of Community Care groups and their carers in relation to oral health and dental care services, including the benefits of dental treatment in order to inform service planning and implementation.

# 1 INTRODUCTION

This report aims to provide an overview of the extent to which the oral and dental health needs of the care groups included in Community Care are being addressed.

The NHS and Community Care Act (1990) set out the Government's objectives for care in the community and clarified the responsibilities of the different agencies involved in planning community care. More recently, 'Modernising Community Care: An Action Plan' (1998) placed an even greater emphasis on joint working and an integrated approach to needs assessment and delivery of care, proposing a move away from traditional services to flexible, modern services. The recently published Scottish Health Plan clearly identifies the elderly, the single largest community care group, as a priority group in terms of improving service delivery and integration.

There are 13 care groups relevant to Community Care, 12 of which are addressed in this report. Carers who are identified as a group in their own right in Community Care Plans are not included in this report. Care groups included in the Community Care planning process include:

- Older people
- People with dementia
- People with a learning disability
- People with a physical disability
- People with mental health problems
- People with sensory impairment
- those with an alcohol problem
- those with a drug problem
- people with a terminal illness
- people with a brain injury
- people with HIV or AIDS
- children with special needs.

Individuals within Community Care groups have an equal right to optimal oral health as the general population and experience similar oro-dental problems, but in some cases, are more vulnerable to disease and discomfort. In addition, specific conditions and disabilities associated with some Community Care groups may compromise their ability to maintain adequate oral hygiene, access to and uptake of dental services and their ability to articulate their dental needs. The side effects of medication may also compromise their oral and dental health.

Oral health remains a significant public health problem in Scotland, which has a poorer oral health record than the rest of the United Kingdom (U.K.). Oral health is defined as "**a standard of health of the oral and related tissues without active disease. This state should enable the individual to eat, speak and socialise without discomfort or embarrassment, and contribute to general well-being**" (SODoH 1995). Oral health is an essential component of good general health and the mouth cannot be considered in isolation from the rest of the body.

The White Paper '**Towards a Healthier Scotland**' (1999), has set out a new approach to improving health, including oral health, and reducing health inequalities in Scotland. It highlights, in particular, the need to improve Scotland's poor oral health record and ensure relief from fear, pain and disablement, all of which are associated with poor oral health. It sets 2 national dental health targets:

- 60% of 5 year olds to have no experience of dental disease by 2010
- Less than 5% of 45-54 year olds to have no natural teeth by 2010

## **2. THE SCOPE OF THE PROBLEM**

### **2.1 Community Care**

Community care policy aims to reduce the proportion of care provided in institutional settings and give suitable alternatives in the community.

NHS Boards are due to close all hospitals for people with learning disabilities by 2005 and it is proposed that there should be a move away from traditional services to flexible modern services through joint working and an integrated approach to needs assessment and delivery of care. Oral health care should be an integral part of this process.

#### **Community Care – Population Needs Assessments for Community Care Groups**

Information on needs assessment in community care plans in Scotland is acknowledged as being patchy (HMSO 1996).

All NHS Boards in Scotland were approached to determine population figures for Community Care groups. Responses indicated that accurate population figures for these care groups are not routinely available and, in general, NHS Boards and Local Authorities are poorly equipped to determine disease or condition prevalence as appropriate information systems are not uniformly in place.

The most frequently used epidemiological surveys for estimating population figures in Community Care groups are either out of date, or inappropriate, for assessing the needs of these client groups (Meltzer et al 1995, Bone and Meltzer 1998). In some NHS Board areas in Scotland, local needs assessments have been undertaken for individual care groups using varying approaches and methodologies.

In an attempt to match need with service provision, the numbers in each care group were calculated using NHS Board population estimates for 1998 (ISD 1999) and the national epidemiological survey rates most frequently used by NHS Boards and Local Authorities, as described above (HMSO 1996). Appendix 1 gives estimated figures for each NHS Board for each care group and a notation of the reference sources used.

These figures are acknowledged as being inaccurate, in particular in relation to those with alcohol or drug problems, for example, where significant increases in alcohol related morbidity have occurred in recent years (A&C Director of Public Health Annual Report 2000).

There is also a significant degree of double counting in the figures presented, in that many of the care groups are not mutually exclusive and, therefore, no attempt has been made to provide totals for Scotland or NHS Board Areas.

#### **Hospital and Nursing Home Activity Associated with Community Care Groups**

Appendix 2 details the number of residents in registered nursing homes by NHS Board and for Scotland. In 1990 there were 16,677 residential care homes in Scotland, 35,927 sheltered house dwellings, 7,670 day centres places for older people and local authorities provide home care to 80,000 people on average every year.

Appendix 3 shows the proportion of those over 65 requiring hospital admission and the number and destination of patients discharged from geriatric medicine, excluding long-stay establishments.

Elderly people discharged from hospital will go back to their own home (60%), go to another specialty or hospital (24%) and a small proportion are discharged to local authority care.

### **Mental Health and Learning Disabilities:**

There were just over 32,000 admissions to hospitals and psychiatric units in Scotland in 1998 with considerable variations in the rates per 100,000 between different Health Board areas. On average 68% of these episodes were re-admissions. The most common causes of admission were mood disorders, dementia, mental health problems due to use of alcohol or drugs, schizophrenia and neurotic or stress related disorders. The majority of these individuals were discharged home, with others being transferred to local authority care, psychiatric care units, other NHS or Private institutions.

There were 4,147 inpatient admissions for people with learning disabilities in Scotland in 1998. 96% of admissions were re-admissions and as for those with mental health problems, the majority were discharged home (92%).

### **Recommendations**

1. The National Health Service Scotland (NHSS) and Local Authorities should continue to develop robust and reliable health needs assessment data for community care groups, to facilitate planning and provision of appropriate dental services.
2. The Electronic Patient Record should be developed to include data relevant to community care in order to ensure that health service and local authority agencies have access to all relevant information and to facilitate continuity of dental care in all settings. The Community Health Index (CHI) should be the unique patient identifier in dentistry in Scotland.

## **2.2 Oral and Dental Health in Scotland**

### **Introduction and Background**

The most common dental diseases, dental caries (decay) and periodontal (gum) disease are largely preventable, dependent on the adoption of oral health promoting behaviours. They are associated with considerable morbidity and costs.

The epidemiological aspects of oral and dental diseases have been described in detail in previous SNAP reports; Dental Caries in Children (Pitts et al 1998), Adult Oral Health (Taylor et al 1997) Oral Cancer (Dawson et al 1996) and Oral Health Promotion (Binnie et al 1999).

The majority of 5 year olds in Scotland are affected by decay by the time they reach school and one in 8 adults over the age of 16 have lost all their natural teeth. Poor oral health in

Scotland remains a significant public health problem for children and adults, with major resource implications.

There are clear inequalities in oral health amongst children and adults in Scotland associated with social economic status. In addition inequalities exist between older adults who live independently and those cared for within residential settings as described below.

## **Oral Health Status of Community Care Groups**

### ***Older Adults***

People over the age of 65 in Scotland have poorer oral health than those in the rest of the UK. (Steele et 1998). Those living in a residential setting were half as likely to have retained some natural teeth, and those who had teeth were more likely to have gross decay and require extensive treatment. One in 8 people living in residential settings reported having their teeth cleaned by a carer and the oral hygiene practices of free living individuals were much better.

People with no remaining natural teeth were more likely to report difficulty with eating and had a restricted range of foods open to them. The looked-after group were more likely to not wear their dentures and had a poorer diet.

These findings confirm previous studies which have demonstrated poorer oral health among looked-after older adults, including a higher incidence of periodontal disease, coronal and root caries, high levels of oral pathology and poor oral and denture hygiene (Fiske et al 1990, Weyant et al 1993, Sweeney et al 1995). In addition there is a significant association between the severity of disability and levels of tooth loss among looked-after older adults (Jones and Lester 1992).

### ***Other Community Care Groups***

All forms of oral disease are worse amongst community care groups where there is a higher unmet treatment need and often restricted access to dental services. Oral health is often a low priority for individuals, family members and care staff and in addition, community care individuals may not perceive oral health problems, or cannot communicate their needs which can further compromise their oral and dental health (Holland and Mullane 1986, Fiske et al 1990, Oliver and Nunn 1996, Lester et al 1998, Steele et al 1998).

People with physical disabilities can also have a reduced ability for oral self-care and their mobility problems may compromise their ability to access dental care (Jones and Lester 1992).

People with mental health problems have increased risk factors for oral and dental disease, including poor oral hygiene and medication and have a high unmet treatment need. (Stiefel et al 1995, Hede 1995). The type, severity and stage of mental health problems, as well as the individual's mood, motivation and self esteem, have a significant impact on oral health and can compromise self care (BSDH 2000).

Data on adults with learning disabilities is patchy but the studies that have been carried out show poor oral hygiene, high levels of treatment need, with relatively less restorative care

and more extractions than the rest of the population. (Thornton et al 1989, Whyman et al 1995).

Information on those with alcohol or drug problems is limited, but it is known that alcoholics and drug addicts have poor oral hygiene, advanced dental decay and gum disease, as well as increased levels of tooth wear and erosion (Robb and Smith 1990, Angelillo et al 1991, Harris et al 1990).

Oral health is often a low priority for individuals, family members and care staff and some local dental personnel may be unwilling, or unable, to provide dental care for those care groups either on a domiciliary basis, or within their surgery (Chalmers et al 1996, Stiefel et al 1987, Quinn 1998). There can also be issues around the provision of care for these patients and the concept of normalisation. (BSDH 2000).

### **Recommendations**

1. The Scottish Health Board's Dental Epidemiological Programme should continue to monitor the oral and dental health status of children and adults in Scotland on a regular basis.
2. The inclusion of community care groups in future adult dental health surveys in Scotland should be explored in order to ensure that robust epidemiological data is available at national and NHS Board levels.
3. Fluoridation of the public water supplies would equally benefit community care groups as well as the general population and should be promoted.
4. Oral health promotion and prevention should be fully integrated into the Community Care planning process and policies and programmes for community care groups.

### **3. ROLES AND RESPONSIBILITIES IN COMMUNITY CARE PLANNING**

#### **3.1 Introduction**

The 1990 Community Care Act defined the range of client groupings to be considered and highlighted the need for collaboration and joint working between not only the NHS and Social Work Departments but also the private and voluntary sector. The central role of housing and housing support services in supporting and delivering care in the community was strongly emphasised.

There have been major changes in the ability of community care groups to live at home and in the community during the last 10 years. Good working relationships between the NHS and local authorities are well established in Scotland.

#### **3.2 Integration of Oral and Dental Health in the Community Care Planning Process**

##### **Social Work Departments**

The Social Work Departments of all 32 Local Authorities in Scotland were approached to determine the extent to which oral health was included in their planning process. In total, 27 out of the 32 Social Work Departments in Scotland responded, representing an 84% response rate and responses are detailed in Appendix 4.

The majority of social work departments do not have an explicit policy on oral and dental health as part of the community planning process and only 2 joint community care plans refer to the importance of oral and dental health and its integration in service development and delivery.

A variable pattern was evident for the inclusion of oral and dental health in individual care plans.

The survey brought useful comments from social work departments who recognised the need for them to address the issue and acknowledge the importance of oral health improvement and care, highlighting the importance of ensuring appropriate dental input to the development of these strategic and operational health documents.

##### **Health Board Nursing Home Registration and Inspection Processes**

NHS Boards currently have the responsibility for Registering and Inspecting Nursing Homes, although this process is due to be centralised in 2002. The core criteria for nursing home registration include the need for an oral and dental policy to be in place and for new residents to receive a dental examination soon after a week of admission.

A survey of all 15 NHS Boards in Scotland showed that there are variations on how the core criteria for registered nursing homes are monitored and the degree and type of training provided for care staff.

A review of all 15 Health Improvement Programmes for 2000-2004 showed that while 4 referred to developing screening in residential care and/or hospital accommodation and

monitoring oral health policies, only 2 specifically highlighted specifically developing programmes for the elderly. Further detail is provided in Appendix 4.

## **Recommendations**

1. NHS Boards and Local Authorities should ensure that the oral and dental health needs of community care groups are included in Health Plans and Community Plans for their resident populations.
2. NHS Boards and Trusts should further develop links with statutory and voluntary care providers to ensure that carers are aware of their role and responsibilities in promoting optimal oral health and ensuring that those in their care receive appropriate assessment, advice and dental care, while respecting their right of choice.
3. To facilitate the above, the proposed single Health and Social Work Needs Assessment of older adults should be developed to include appropriate oral and dental health issues and oral health should be included as an integral part of admission and discharge protocols and individual care plans in all settings.
4. NHS Boards should monitor the existence and implementation of oral health policies as an integral part of the registration and inspection process for nursing homes. The new Scottish Commission for the Regulation of Care should assume this responsibility when established in 2002.
5. The expert working group being convened by the Chief Medical Officer to advise on improving primary and acute services for older adults, should include oral and dental health as an integral part of its remit.



## **4. ORGANISATION AND UPTAKE OF DENTAL SERVICES FOR COMMUNITY CARE GROUPS**

### **4.1 General Dental Services**

The organisation of General Dental Services (GDS) in Scotland, the main provider of primary dental care, has been described in detail in previous SNAP reports (Taylor et al 1997, Pitts et al 1998).

The current arrangements allow for the provision of a wide range of treatment for adults, including those in Community Care Groups. Unlike children, adults have to meet 80% of the cost of NHS treatment up to a maximum charge, unless they fall into one of several exemption categories including being an expectant or nursing mother, being in receipt of family credit, income support or incapacity benefit.

Children, including those with special needs, are entitled to free dental care within general dental services in Scotland but not all adults in community care groups are exempt.

### **General Dental Services for Children**

Under current GDS Terms and Conditions, provision is made for dentists to claim an enhanced capitation fee for examining and treating a child with special needs. This includes children with severe mental or physical handicap or severe learning difficulties. In such circumstances dentists receive double the normal capitation payments for children. This enhancement has the effect of increasing the monthly capitation payments for children with special needs in the different age groups.

In addition to this, where children are aged 0-5 the dentist receives an enhanced capitation payment according to Deprivation Category (DEPCAT). At present this is based on the practice postcode but will, in the near future, be based on the child's postcode of residence.

The number of registered special needs patients aged 0-17 registered with GDPs in Scotland and the associated cost of capitation payments are shown in Appendices 5 and 5a)

The majority of children with special needs are not currently registered with a general dental practitioner, as highlighted by figures from Scottish Practitioner Services Division, although these figures are likely to be an underestimate because of variation in recording with some practitioners reluctant to "label" patients.

### **Domiciliary Care**

Information on the number of adults from community care groups receiving care within general dental services is not routinely available but amongst the largest community care group, the elderly, only a minority receive regular primary dental care. At present only 37.6% of 65-74 year olds and 27% of those aged over 74% are registered with a general dental practitioner (Practitioner Services Division).

There is no information available on numbers of domiciliary visits undertaken specifically for adults with special needs or those belonging to community care groups. Total domiciliary visits undertaken are shown in Appendices 6 and 7.

Eighty seven percent of domiciliary care was to people aged 65 and over. Overall figures have not changed a great deal since 1991 and these are less likely to occur in rural Health

Board areas. It should be noted that this may be affected by the current requirement for NHS Boards/Primary Care Trust approval for domiciliary visits requiring travel of more than 40 miles from the surgery.

The majority of domiciliary care involves check ups and the provision, repair or alteration of dentures and a small proportion reported treatment involving extraction of teeth. Some aspects of treatment recorded as domiciliary are in fact carried out within a dental surgery when more complex treatment is required (Scottish Practitioner Services Division).

### **Attitudes of General Dental Practitioners**

Given the lack of information currently available relating to the provision of general dental services for community care groups, a questionnaire survey was sent to a 1 in 6 random sample of principal general dental practitioners in Scotland (N=300). In total, following one reminder a 58% response rate was achieved.

Of the respondents, 46% had been in general dental practice for over 20 years and 39% had been working in practice for between 11 and 20 years. Fifty one percent of respondents reported practicing in an urban area with 19% and 30% working in rural or mixed areas respectively.

The majority of general dental practitioners reported treating all categories of Community Care individuals, although there were variations between different care groups. 94% of practitioners reported treating frail elderly patients, while 63% reported treating children and young people with special needs. Although 20% reported not routinely referring patients with special needs elsewhere, 9% did so on a regular basis and 70% referred patients on occasions either to Hospital or Community Dental Services in similar proportions.

The main reason for not routinely treating Community Care individuals in dental practice included lack of sedation facilities (38%), constraints around the additional time required to treat these care groups (37%), patient behavioural issues (37%) and lack of disabled access to the practice or adequate toilet facilities (24%). Problems in getting patients to the surgery were reported by 17% of practitioners and lack of training was an issue for 17%.

The main reason reported by general dental practitioners for not providing treatment on a domiciliary basis was, lack of appropriate portable dental equipment (54%). This may have related to National Dental Advisory Committee Guidance at the time of the survey (NDAC Emergency Dental Drugs 1999). Other factors included lack of an appropriate facility in which to undertake dental treatment and care (45%) and time constraint issues (38%).

When asked what factors would facilitate them providing care for these care groups, either within their practice or on a domiciliary basis, a quarter of respondents suggested access to or funding for appropriate, high quality domiciliary equipment. A change to the domiciliary item of service fee or an appropriate sessional fee to acknowledge the extra time often needed to treat such care groups was suggested by 48 of the respondents (28%).

Improved links with the local Community Dental Service and training were the other most common suggestions, particularly greater access to postgraduate training on Conscious Sedation.

Overall, given the significant population numbers in the different community care groups only a small proportion appear to receive appropriate and regular dental care and advice.

## **4.2 Community Dental Services**

The role and remit of the Community Dental Service in Scotland was defined in SHHD/SGM (1989) 15 and updated in 1997 (NHS 1997 PCA(D) 10).

These circulars identify a Public Health function to include screening, health promotion and preventive public health programmes. This aspect of the service applies equally to Community Care groups. The second function is the treatment element of the community dental service and specifically, identifying and treating special needs groups.

### **Community Care Provision by the Community Dental Service in Scotland**

Community dental service activity under the special needs categories for Scotland is detailed in Appendix 8. The number of special needs patients has increased by 113% since 1990.

Between 1990 and 1998/99, the proportion of patients treated by the community dental service with special needs including anxiety/phobia and the medically compromised, has risen from 10.5% to 27.6%. The treatment of these special needs groups is more complex and time consuming than the routine provision of treatment to children and treatment is now provided in an increasing number of care settings.

Details of domiciliary care is shown in Appendix 9 and has increased by 500% since 1990, although this varies enormously between the rural areas which are very low and the urban areas.

The number of completed domiciliary courses of treatment undertaken by the community dental service increased from 2,242 in 1990/91 to 12,093 in 1998/99. The total number of domiciliary visits increased from 5,824 to 25,493 during the same time period.

The provision of domiciliary care for community care groups has implications for staff and patients in terms of time commitment, health and safety issues, quality of treatment outcomes and what aspects of dental care can appropriately be provided on a domiciliary basis.

As more and more adults retain some natural teeth into later years, complexity of treatment increases accordingly and as patient expectations of treatment increase, there is an increasing need for appropriately equipped and accessible dedicated dental care facilities for the treatment of community care groups with complex treatment needs. Such facilities could be used by both general and community dental practitioners where local agreement is reached.

### **Screening**

Screening is undertaken by the CDS as a means of making an initial assessment of oral health needs and identifying individuals requiring further treatment.

All community dental services in Scotland were approached to seek more detailed information on services and issues pertinent to community care Groups, including screening policies and practices. Community dental services in Scotland have established good working relationships with local authorities and undertake screening programmes in a wide variety of care establishments throughout Scotland.

Within Scotland screening is mainly carried out, in relatively large numbers, for people cared for in a residential setting, with limited screening being undertaken in smaller units such as group homes, day and resource centres. Some children attending special schools or special units within mainstream schools also receive dental screening from the CDS.

Screening protocols, policies and definitions of treatment need are not, currently, standardised across Scotland and, therefore, it is not possible to accurately detail or compare identified treatment need between different areas in Scotland.

There are also considerable variations in the proportion of Community Care group patients living in nursing or residential homes and long stay hospitals and known to the local community dental service who receive screening. For geriatric and psycho-geriatric patients the proportion screened on a regular basis ranged from 40% to 70% and 45% to 85% respectively.

### **Provision of Training for Care Staff**

The provision of training for care staff on oral and dental health varies widely throughout Scotland with some areas providing no training carried out for care staff of any Community Care groups. In the majority of areas, however, some training for carers for some Community Care groups is being provided, usually on request from care establishments. In some instances training is provided for carers of nearly all Community Care groups. Training is usually provided for groups of carers employed by the statutory or voluntary sectors as well as on a one to one basis with patients being care for by the CDS.

Recent evidence has shown that while oral health care training is well received it rarely results in changed practice and that barriers to the practice of oral health care remain (Simons et al 2000). Positive changes in practice are further compromised by the high turnover of care staff within establishments. This high staff turnover makes training and support difficult and dental care is rarely a priority for many care staff. This affects both daily oral health care and the keeping of dental appointments. There is also some confusion and variation in practice as to who should accompany an individual to dental appointments; social worker, carer, nurse or a relative.

Oral and Dental Health are not currently included as mandatory modules for Scottish Vocational Qualifications for Personal Social Services.

### **Policies and Protocols for Oral Health and Communication Issues**

The extent to which there is inclusion of oral and dental health and individual care plans is variable with only 2 services reporting detailed descriptions of them.

Lack of communication with family or carers and the omission of oral health and discharge protocols were reported as significant factors compromising prevention and maintenance of good oral health.

Community dental services throughout Scotland expressed a desire for much better contact and co-operation between the CDS and social workers, community nurses, general medical practitioners, community care establishments and local General Dental Practitioners in order to enable individuals in community care groups to access appropriate dental care more easily.

### **Consent and Issues Around Normalisation**

Difficulties may be experienced around consent and agreement for treatment for adults incapable of consent for themselves. Future European legislation relating to decision making for those with an incapacity, may help clarify these issues for dental practitioners providing care for Community Care groups.

Issues around consent and agreement for treatment can compromise treatment provision by general and community dental services and rigid interpretation of “normalisation” by care staff can compromise access to care establishments and the provision of treatment to community care groups by community and general dental services.

### **4.3 Hospital Dental Services**

The complex medical backgrounds of many patients receiving care in the community may predispose to oral disease and complicate its management. The hospital dental service can provide integrated care from a range of specialists, including restorative dentists, oral physicians and maxillofacial surgeons.

Hospital dental services in Scotland also treat all categories of community care groups but inadequate information systems prevent any meaningful analysis of such activity.

### **4.4 Workforce Issues in the Provision of Dental Care for Community Care Groups**

The trends in the volume and nature of activity within the CDS described above, should be considered against a change in workforce numbers between 1980 and the present day as shown in Appendix 10.

Between 1980 and 1998 the number of Whole Time Equivalent Community Dental Officers in Scotland reduced from 278 to 182 while in contrast, the number of Senior Dental Officers, who have greater experience and skills in the complex management issues associated with Community Care, has risen from 6.5 WTE to 30.9 WTE in the same period.

In contrast to the community dental service the number of general dental practitioners working within Scotland, has increased between 1980 and 1998 but Whole Time Equivalent figures are not, currently, available. This increase in overall numbers hides an increasing proportion of dentists working part time, difficulty in attracting associates to practice and increased early retirements by dentists.

A recently published consultation document on dental workforce planning in Scotland (SEHD 2000) also stresses the important contribution that Professionals Complementary to Dentistry can play in the preventive and routine care of elderly patients.

## **Recommendations**

1. Further research should be undertaken to determine the effectiveness and appropriateness of different models of training for care staff and the frequency with which it should be provided, given the reported high staff turnover within community care establishments.
2. National Training Organisations should include oral and dental healthcare as mandatory modules in courses leading to a Scottish Vocational Qualification in Personal Social Services.
3. Undergraduate and postgraduate training for dental practitioners and professions complementary to dentistry should be further developed to increase knowledge and skills in relation to the provision of dental care for community care groups and thus increase the proportion of practitioners willing and able to treat such individuals.
4. Communication and co-operation should be improved between the different branches of dentistry in order to provide the most appropriate dental care for individuals within community care groups at all times, irrespective of changing health or social circumstances.
5. NHS Boards and Trusts should review their local dental workforce and skill mix and develop plans to develop dental services to meet the increasing demand for domiciliary care and the increasingly complex treatment needs of community care groups. This should include, where necessary, the establishment of appropriately equipped dedicated dental facilities for the management of community care groups.
6. The recommendations of this report should be considered by the Scottish Advisory Committee on Dental Workforce so that their final recommendations will facilitate the development of a workforce that will meet the treatment needs and demands of Community Care Groups.
7. Dental information recording systems should be standardised and made compatible so that all branches of dentistry in Scotland can accurately record uptake of services by and treatment provided for community care groups to inform service planning and evaluation.

## 5. HEALTH ECONOMICS ISSUES

### 5.1 Introduction

This section focuses on a health economics perspective of providing dental care for Community Care groups including; their need for treatment, how to determine the most appropriate provider and how providers may be encouraged to meet identified treatment need. These issues are informed by good quality data but as this report highlights, to a large extent, such information is not currently available.

### 5.2 Demand for Dental Services by Community Care Groups

The magnitude and nature of the need for treatment is determined by membership of (at least) one of the community care groups and the oral health requirements of those individuals

Treatment need is likely to differ widely both between and within different Community Care groups. For brevity, discussion is restricted to a single group – older adults.

#### Older Adults

The membership of this group is increasing (Appendix 11). These data also illustrate that population changes have different implications in different NHS Board areas.

The nature of dental services required by older adults is also likely to change. Kelly et al. (1998) forecast that significantly more individuals within this community care group will be dentate in 2008 (Table 1). In addition, patients' expectations and attitudes towards dental treatment are changing.

**Table 1: Current and Projected Total Tooth Loss Among Older Adults in the U.K. (% of those with no remaining natural teeth) (Kelly et al. 1998)**

Age Band	1998 (%)	2008 (%)	2018 (%)
65-74	35.9	23	12
75-84	52.5	39	26
85+	80.9	57	44

#### Discussion

There is very little information on the scale or nature of the needs of patients either within or between Community Care groups. The routine collection of information is hampered by the lack of coordination between providers and institutions.

### 5.3 Provision of Dental Services for Community Care Groups

#### Dental Service Providers

Providers of dental services may have significantly different objectives and face significantly different constraints and the nature of service provision may vary between both providers and NHS Board areas (Sintonen and Linnosmaa (2000); Buck (2000)).

In economic terms the appropriate provider of dental services is the most cost-effective provider, otherwise resource could be used to greater benefit elsewhere.

### **Economic Barriers to General Dental Service Provision**

Section 4 reports that the higher costs associated with Community Care patients represent a barrier to care. These include: the additional treatment/travel time required; additional training costs; and the cost of specialist equipment. In addition a GDP is unlikely to be able to exploit economies of scale in service provision, given the number of patients any one general dental practitioner (GDP) encounters may be small.

These problems are exacerbated by a set of fees that are insensitive to the cost of treatment. One option that might overcome these barriers to care would be to make the fee more sensitive to the actual cost of care. To explore this issue further, an exercise was undertaken to determine the cost to the National Health Service in Scotland of augmenting payments for domiciliary visits using 4 different sessional fees (see appendix 12).

While relatively large (the cheapest option is 1.8 times the cost of the current system), these costs are still likely to underestimate the true cost of implementing any fee increase. The enhanced rates of remuneration for domiciliary visits are intended to provide an incentive for GDPs to provide more of this care. The rationale for increasing the remuneration of GDPs is based on the premise that the GDS is the least-cost provider of care. There is, however, no evidence to suggest that this is in fact the case for community care groups.

### **Equity in Service Provision**

The existence of significant barriers to care has important implications for equity. As a result, a policy maker may be willing to trade some level of efficiency (by increasing payment to GDPs, for example) for an improvement in equity.

## **5.4 Discussion**

The key issue is how to provide appropriate dental services to Community Care patients in light of their distinct characteristics. Information is required on both the treatment requirements of Community Care patients and the appropriate provider of that treatment. At present this information is not available.

There is evidence to suggest that the interaction of high-cost patients and fixed fees for providers generates significant barriers to care for Community Care groups.

The optimal design of payment mechanisms for providers of medical and dental care is a topic of continuing academic research (Chalkley and Malcomson 1998). There is a balance to be struck between the goals of efficiency and equity. Clearly, more information and research is required to inform this debate.

### **Recommendations**

1. Appropriate longitudinal data on community care individuals' oral health status and treatment patterns should be collected to help inform policy makers about the magnitude



of current and future need and demand and the degree to which the needs of individuals are being met.

2. The relative efficiency and effectiveness, including cost effectiveness, of dental service provision for community care groups by the different dental service providers within Scotland should be evaluated. The NHSiS should support the piloting of alternative models of dental care provision, including different remuneration systems, for community care groups in order to inform potential alterations to the current remuneration system.
3. The impact of any potential alterations in the current NHS GDS remuneration system for the provision of care to community care groups on overall GDS service provision and activity should be monitored and evaluated.

## **6. CONSUMER VIEWS ON ACCESS TO AND PROVISION OF HEALTHCARE SERVICES**

In generic terms, while the majority of those discharged from hospitals to the community are happier with their circumstances, they have experienced difficulties on discharge, particularly in relation to continuity of care. (Social Work Services Inspectorate [SWSI] 1996).

There is, however, little specific information in relation to views and experiences of oral health and dental services. An Age Concern (Scotland) survey undertaken in 1995 among older people in Lockerbie found that 58% were concerned about paying for health services, especially dental care and wanted clear information about the availability of benefits. A lack of information about health services and eligibility for benefits was also found to be a common issue throughout Scotland by the Mental Health Taskforce User Group ( SWSI 1996).

Problems in obtaining dental services and long waiting lists for treatment have been reported by people with Learning Difficulties but on a positive note, more dentists were reported to talk directly to a patient with Learning Difficulties compared with GMPs (60% compared with 7%) (MENCAP 1998).

Information, access and transport are consistently quoted by people with disabilities as the key factors in independence and choice. This applies equally to dental care and services (BSDH 2000 & 2001).

### **Recommendations**

- 1 Further quantitative and qualitative research should be undertaken to more accurately seek the attitudes and views of Community Care groups and their carers in relation to oral health and dental care services, including the benefits of dental treatment in order to inform service planning and implementation.

## 7. REFERENCES

- Angelillo IF, Grasso GM, Sagliocco G, Villari P, D'Errico MM. (1991) Dental health in a group of drug addicts in Italy. *Community Dentistry and Oral Epidemiology*, 19, 36-7
- Argyll & Clyde Joint Community Care Plan. 1995/96 - 1997/98 ACHB.
- Argyll and Clyde Health Board; Director of Public Health Annual Report 2000
- Binnie V, Bain M, Chestnutt I, Craig N, et al, Scottish Needs Assessment Programme, Oral Health Promotion, Office of Public Health in Scotland, 1999
- Bone M and Meltzer H. . Office of Population Censuses and Surveys, OPCS Surveys of Disability in Great Britain Report 3: The prevalence of disability among children. (1988)
- British Society for Disability and Oral Health. Guidelines for Oral Health Care for People with a Physical Disability. 2000
- British Society for Disability and Oral Health. Oral Health Care for People with Mental Health Problems: Guidelines and recommendations. 2000
- British Society for Disability and Oral Health and the Faculty of Dental Surgery. Clinical Guidelines and Integrated Care Pathways for the Oral Care of People with Learning Disabilities 2001.
- Buck, David. 2000. "The efficiency of the Community Dental Service in England: a data envelopment analysis," *Community Dentistry and Oral Epidemiology*, 28, 4, 274-80.
- Carstairs V, Morris R, (1991). Deprivation and Health in Scotland. Aberdeen. Aberdeen University Press.
- Chalkley, Martin and Malcomson, James M. 1998. "Contracting for health services with unmonitored quality," *Economic Journal*, 108, 449, 1093-110.
- Chalmers, JM, Levy SM, Buckwalter KC, Ettinger RL and Kambhu PP. Factors influencing nurses' aides' provision of oral care for nursing facility residents. *Special Care in Dentistry*. 1996; 16 (2): 71-79
- Dawson C E, Bain M, McCall D, Macpherson, LMD, Moos K F, Scottish Needs Assessment Programme, Oral Cancer, Scottish Forum for Public Health Medicine, 1996
- Fiske J, Gelbier S and Watson RM. Barriers to dental care in an elderly population resident in an inner city area. *Journal of Dentistry*. 1990;18 (5): 236-242.
- Harris C, Warnakulasuriya KA, Gelbier S, Johnson NW, Peters TJ. (1997) Oral and dental health in alcohol misusing patient. *Alcoholism: Clinical and Experimental Research*, 21, 1707-9
- Hede B. Dental health behaviour and self-reported dental health problems among hospitalised psychiatric patients in Denmark. *Acta Odontol Scand*. 1995; 53: 35-40
- Holland TJ and Mullane DM. Dental treatment needs in three institutions for the handicapped. *Community Dent Oral Epidemiol*. 1986; 14: 132-135.

- Jennet B and MacMillan R. Epidemiology of Head Injuries. *British Medical Journal* 1981 282; 101-104
- Jones D and Lester C (1992). Dental Health of a random community based elderly population 1992. Research Team, Department of Geriatric Medicine, University of Wales College of Medicine, Cardiff
- Jorn A F, Korten A E and Henderson A S (1987). The prevalence of dementia: A quantitative integration of the literature *Acta Psychiatrica Scandinavia* 1987: 76
- Jorn A F and Korten A E: A method for calculating projected increases in the number of dementia sufferers. (1988)
- Kelly M, Steele J, Nuttall N, Bradnock G, Morris J, et al, Office for National Statistics Adult Dental Health Survey , Oral Health in the United Kingdom 1998, London. The Stationery Office
- Lester, V, Ashley FP and Gibbons DE. The relationship between socio-dental indices of handicap, felt need for dental treatment and dental state in a group of frail and functionally dependant older adults. *Community Dentistry and Oral Epidemiology*. 1998; 26 (3): 155-159.
- Lester V, Ashley FP and Gibbons DE. Reported dental attendance and perceived barriers to care in frail and functionally dependant older adults. *Br. Dent J.* 1998; 184: 285-289.
- Levine R (1996) *The Scientific Basis of Dental Health Education*. 4<sup>th</sup> ed. Health Education Board for Scotland
- Martin, Melfjor and Elliot (1986) Office of Population Censuses and Surveys, OPCS Survey of Disability in Great Britain Report 1. The prevalence of disability among adults.
- Meltzer H, Gill B, Pettigrew M and Hinds K (1995). The prevalence of psychiatric morbidity among adults living in private households. OPCS Surveys of Psychiatric Morbidity Report 1, HMSO
- MENCAP Health Report. Health for All 1998.
- Scottish Office Department of Health'. National Dental Advisory Committee. Emergency Dental Drugs 1999.
- Nugent Z J, Pitts N B, 1997. Patterns of change and results overview 1985/6-1995/6 from the British Association for the Study of Community Dentistry (BASCD) co-ordinated National Health Service Surveys of caries prevalence. *Comm Dent Hlth*; 14 (Supplement 1): 30-54.
- Oliver HC and Nunn JH. The accessibility of dental treatment to adults with physical disabilities in Northeast England. *Special Care in Dentistry*. 1996; 16 (5): 204-209.
- Pitts N B, Binnie V, Gerrish A C, Stevenson J, Scottish Needs Assessment Programme, Dental Caries in Children, Office of Public Health in Scotland, 1998
- Pitts N B, Nugent ZJ and Smith PA 2000. Scottish Health Board's Dental Epidemiological Programme. Report of the 1999/2000 Survey of 5 Year Old Children. Dundee; University of Dundee
- Population Needs Assessment in Community Care. A Handbook for Planners and Practitioners. Social Work Services Inspectorate for Scotland HMSO 1996

- Quinn MJ. Establishing a preventive programme in a long-term care institution. *Gerodontology*. 1988; 4: 165-167.
- Robb ND, Smith BGN (1990) Prevalence of pathological toothwear in patients with chronic alcoholism. *British Dental Journal*, 169, 367-9
- Scottish Centre for Infection and Environmental Health 2000; Glasgow
- Scottish Executive: The Same As You? A Review of Services for People with Learning Disabilities (2000).
- Scottish Health Statistics 1999: Information and Statistics Division, National Health Service in Scotland: Edinburgh (2000)
- Scottish Office 1995: Scotland's Health A Challenge to us All – The Oral Health Strategy for Scotland. SODoH 1995, Edinburgh
- Scottish Office 1998: Modernising Community Care: An Action Plan. Edinburgh: The Stationery Office 1998
- Scottish Office Department of Health 1999: Towards a Healthier Scotland - A White Paper on Health. 1995; Edinburgh: The Stationary Office
- Simons D, Baker P, Jones B, Kidd E A M and Beighton D (2000) An Evaluation of an Oral Health Training Programme for Carers of the Elderly in Residential Homes. *British Dental Journal* 2000; 188, 206-210
- Sintonen, Harri and Linosmaa, Ismo. 2000. "Economics of dental services," in *Handbook of Health Economics*. Culyer, A. J. and Newhouse, J. P. eds. Amsterdam: Elsevier, pp. 1251-96.
- Steele, JG, Sheiham A, Marcenes W and Walls AWG. 1998. National Diet and Nutrition Survey: People Aged 65 Years and Over Volume 2: Report of the Oral Health Survey. 1998. London: The Stationary Office.
- Stiefel DJ, Truelove EL and Jolly DE. The preparedness of dental professionals to treat persons with disabling conditions in long term care facilities and community settings. *Special Care Dentistry*. 1987; 7: 108-113.
- Stiefel DJ, Truelove EL, Menard TW et al. A comparison of the oral health of persons with and without chronic mental illness in community settings. *Special Care in Dentistry*. 1990: 10(1): 6-12
- Sweeney MP, Shaw A, Yip B, Bagg J. (1995) Oral health in elderly patients. *British Journal of Nursing* 4, 1204-8
- Sweeney MP. (2000). Oral disease in dependent adult patients: Extent of the problem and the need for staff training
- Sweeney P, McColl D, Nugent Z and Pitts N, (1996): Addendum to the 1996/96 survey of 5 year old children; Deprivation and Dental Caries. Scottish Health Boards' Dental Epidemiological Programme Report, Dundee: University of Dundee.
- Sweeney P, Allison D, Davies J and Pitts N, (1997). Deprivation and Dental Caries Among 12 Year Old Children in Scotland; Dundee. University of Dundee

Taylor M, Allan C, Bain M, Gerrish A, Gray N, Macpherson L, Nuttall N, Sweeney P, Watson I, Scottish Needs Assessment Programme: Adult Oral Health, Glasgow, Scottish Forum for Public Health Medicine, 1997.

Thornton JB, Al-Zahid S, Campbell VA et al. Oral hygiene levels and periodontal disease prevalence among residents with mental retardation at various residential settings. *Spec Care Dent.* 1989; 9(6): 186-190

Waplinton, J. A., White, D. A., and Clarke, J. R. 1998. "A comparison of the social backgrounds and dental health of patients attending the Community Dental Service, the General Dental Service and non registered patients," *Community Dental Health*, 15, 2, 93-6.

Weyant RJ, Jones JA, Hobbins M, Niessen LC, Adelson R, Rhyne RR. (1993) Oral health status of a long-term-care, veteran population. *Community Dentistry and Oral Epidemiology*, 21, 227-33

Whyman RA, Treasure ET, Brown RH et al. The oral health of long-term residents of a hospital for the intellectually handicapped and psychiatrically ill. *New Zealand Dent J.* 1995; 91: 49-56

## APPENDIX 1

### GLOSSARY OF TERMS

<b>Calculus</b>	Plaque which has undergone mineralisation is referred to as calculus or tartar. It comprises mostly of calcium phosphate as well as an organic element of protein, carbohydrate, lipids and various non-vital organisms. The rate of calculus formation is very variable between individuals. It may be present above the gum margin (supra-gingival calculus) or below the gum margin (sub-gingival calculus). It is always covered by soft plaque and retains toxic bacterial products.
<b>Candidosis</b>	An opportunistic fungal infection of the oral mucosa which can present in the form of white patches or redness and in some cases soreness of the lining of the mouth
<b>Chronic Gingivitis</b>	A reversible inflammation of the gingivae without destruction of the supporting tissues. Characterised by enlargement of the gum margins which tend to bleed spontaneously or on tooth cleaning. While not directly threatening to tooth survival, it may prejudice good restorative treatment and is a precursor of chronic periodontitis.
<b>Chronic Periodontitis</b>	The form of periodontal disease which results in destruction of periodontal support, with the formation of gum pockets, and, when sufficient bone has been lost, development of tooth mobility and eventual loss of teeth. It may be associated with acute infection or movement of teeth with consequent deterioration of function and/or appearance. The commonest form is adult chronic periodontitis. Other forms include (a) early onset periodontitis, (b) pre-pubertal periodontitis, (c) juvenile periodontitis, (d) rapidly progressive periodontitis and (e) periodontitis associated with systemic disease.
<b>Dental Anxiety</b>	An emotional and psychological behaviour state precipitated by the need or desire for dental care. A common self-reported reason for avoiding going for a dental check-up.
<b>Edentulous</b>	Having no remaining natural teeth
<b>Epidemiology</b>	The vast majority of malignant neoplasms in and around the mouth are squamous cell carcinomas. Oral cancers describe those cancers affecting the oral cavity and lip and account for between one and four per cent of all malignant disease in the United Kingdom and most Western industrialised countries
<b>Non-Milk Extrinsic Sugars</b>	Sugars which are not part of the cells in a food, but which are free or added to food. They include sucrose, fructose, glucose, honey, sugars added to recipes and drinks and table sugars.
<b>Periodontal Disease</b>	Includes all pathological conditions of the periodontal tissues supporting the teeth (the periodontium). It is, however, commonly used with reference to those inflammatory diseases which are induced by microbial plaque and which affect the supporting tissue of the teeth.
<b>Periodontal Pocket</b>	Apical (rootward) extension of the inflammatory process described as chronic periodontitis results in destruction of periodontal tissue and the formation of a

pocket.

<b>Plaque</b>	A soft almost invisible layer of bacteria which forms on the tooth surface and is present in all mouths
<b>Recurrent Aphthous Stomatitis</b>	A condition characterised by recurrent ulceration of the oral mucosa and which is classified by the size and number of ulcers present
<b>Scaling</b>	The mechanical removal of calculus deposits from above (supra-gingival scaling) and below sub-gingival scaling) the gum margin. Sufficient for removing plaque and calculus from enamel, leaving a smooth clean surface.
<b>Xerostomia</b>	A term used to describe dryness of the mouth which occurs as a result of reduced production of saliva. It is associated with difficulty in swallowing and talking, general oral discomfort, and in some cases increased levels of dental decay.



## **APPENDIX 2**

### **Sources of Community Care Group Population Data**

- 1** Scottish Health Statistics 1999: Information and Statistics Division, National Health Service in Scotland: Edinburgh (2000)
- 2** Argyll & Clyde Joint Community Health Plan 1995/98
- 3** Jorn AF and Korten AE: A method for calculating projected increases in the number of dementia sufferers: Australian and New Zealand Journal of Psychiatry (1998) 22 (2). 183-9
- 4** Population Needs Assessment in Community Care. A handbook for planners and practitioners. Social Work Services Inspectorate for Scotland (1996) Edinburgh
- 5** Martin, Melfjor and Elliot (1986) Office of Population Censuses and Surveys, OPCS Survey of Disability in Great Britain Report 1. The prevalence of disability among adults.
- 6** Meltzer et al (1995) . The prevalence of psychiatric morbidity among adults living in private households. Opcs Survey of Psychiatric Morbidity Report 1
- 7** Bone and Meltzer 1988. Office of Population Censuses and Surveys, OPCS Survey of Disability in Great Britain Report 3: The prevalence of disability among children (1988)
- 8** Scottish Health Statistics 1999: Information and Statistics Division, National Health Service in Scotland: Edinburgh (2000)
- 9** Jennet B and MacMillan R 1981. Epidemiology of Head Injuries. British Medical Journal 282; 101-104 1981.
- 10** Scottish Centre for Infection and Environmental Health (2000), Glasgow

**APPENDIX 3**

Community Care Group	ACHB	AAHB	BHB	DGHB	FHB	FVHB	GHB	GGHB	HHB	LAHB	LOHB	OHB	SHB	THB	WIHB
Older People 65-74 (1)	37,393	34,393	10,777	15,534	20,600	23,322	42,294	77,575	18,901	45,561	61,761	1,721	1,563	37,702	2,739
75+ (1)	28,478	26,926	9,314	11,844	24,565	17,805	33,276	59,764	13,999	30,460	50,025	1,447	1,372	30,588	2,439
People with Dementia : (2,3,4)															
(65+) 6%	3,952	3,679	1,205	1,643	3,310	2,468	4,534	8,240	1,974	4,537	6,707	190	176	4,097	311
(75+) 12.8%	3,645	3,831	1,192	1,516	3,144	2,279	4,259	7,650	1,792	3,899	6,403	185	175	3,915	312
People with Learning Disabilities (2,4)															
(0.5% of population)	2,135	1,877	532	737	1,745	1,379	2,626	4,556	1,042	2,804	3,867	98	115	1,949	140
People with Physical Disabilities (2,5)	19,780	17,197	4,754	6,567	16,100	12,957	24,797	42,810	9,540	16,551	37,224	885	1,063	17,698	1,236
(7.2% of 16-64 Year olds)															
People with Mental Health Problems (4,6)															
Mild or moderate (16% of adults 16-64)	43,956	38,216	10,564	14,594	35,779	28,704	55,104	95,133	21,200	59,001	82,720	1,968	2,362	39,328	2,747
Serious (4% of adults 16-64)	10,909	9,554	2,641	3,648	8,945	7,198	13,776	23,783	5,300	14,750	20,680	492	591	9,832	687
People with Sensory Impairment (5)															
(Visual 3.8% of Population)	16,222	14,265	4,039	5,597	13,258	10,480	19,957	34,625	7,915	21,310	29,400	743	870	14,812	1,061
(Hearing 5.9% of Population)	25,187	22,148	6,271	8,691	20,585	16,272	30,986	53,760	12,289	33,087	45,648	1,153	1,351	22,998	1,645
Children and Young People with Special Needs (7)	3,235	2,835	744	1,060	2,650	2,065	3,962	6,815	1,593	4,395	5,470	150	193	2,849	210
(3% of under 16 Year olds)															
People with worsening terminal illness (8)	1,314	1,116	351	465	1,018	761	1,341	2,886	602	1,368	2,129	51	49	1,216	85
(Based on cancer deaths 1988)															
People with a Head Injury (9)	64	56	16	22	52	41	79	137	31	84	116	3	3	58	4
People with Alcohol and Drug Problems (6)															
Alcohol Dependence (4.9% 16-64 year olds)	13,462	11,704	3,235	4,469	10,957	8,818	16,876	29,134	6,493	18,069	25,333	603	723	12,044	842
Drug Dependence (2.2% 16-64 year olds)	6,044	5,255	1,453	2,007	4,920	3,959	7,577	13,081	2,915	8,113	11,374	271	325	5,408	378
People with HIV and/or AIDS (10)	94	58	20	23	112	65	161	593	39	91	1,356	---	6	446	2

## APPENDIX 4

### Residents in Nursing Homes: Age 65 and Over, By Health Board and Client Group. Year Ending 31<sup>st</sup> March 1999 (Source: ISD 1999).

	All Residents		Client group of residents					
		Rate per 1000 Population (65+)	Dementia	Mental health problems	Alcohol-related problems	Physical disabilities	Learning disabilities	Other health care needs
<b>Scotland</b>	<b>18498</b>	<b>23.6</b>	<b>6769</b>	<b>472</b>	<b>115</b>	<b>1956</b>	<b>329</b>	<b>8879</b>
Argyll & Clyde	1126	17.1	478	13	4	207	21	402
Ayrshire & Arran	1699	27.7	819	56	12	234	15	562
Borders	402	20.0	140	31	2	39	22	168
Dumfries & Galloway	445	16.2	130	7	3	65	1	239
Fife	1143	20.7	499	21	2	173	14	434
Forth Valley	956	23.2	343	22	2	50	52	487
Grampian	1994	26.4	721	44	16	316	13	880
Greater Glasgow	3613	26.3	1229	133	37	231	27	1961
Highland	761	23.1	207	19	2	62	28	443
Lanarkshire	1892	24.9	522	68	20	142	32	1108
Lothian	2830	25.3	1199	39	15	340	55	1196
Orkney	--	--	--	--	--	--	--	--
Shetland	--	--	--	--	--	--	--	--
Tayside	1576	23.1	458	19	--	96	49	963
Western Isles	61	11.8	24	--	--	1	--	36

**APPENDIX 5**

**Hospital Discharges - Geriatric Medicine (excluding long stay) by Health Board and Destination of Discharge. Year Ending 31<sup>st</sup> March 1999 (Source ISD)**

	<b>All Residents</b>	<b>Client group of residents</b>						
	<b>Total</b>	<b>Rate per 1000 65+ pop</b>	<b>Home</b>	<b>Other hospital</b>	<b>Local authority care</b>	<b>Other specialty in same hospital</b>	<b>Died</b>	<b>Other discharge</b>
<b>Scotland</b>	<b>44115</b>	<b>56.3</b>	<b>26283</b>	<b>3720</b>	<b>770</b>	<b>6949</b>	<b>5965</b>	<b>428</b>
<b>Argyll &amp; Clyde</b>	2791	42.4	1616	318	71	353	417	16
<b>Ayrshire &amp; Arran</b>	3546	57.8	1954	224	29	851	468	20
<b>Borders</b>	1112	55.3	564	234	34	112	165	3
<b>Dumfries &amp; Galloway</b>	955	34.9	439	313	20	42	140	1
<b>Fife</b>	1841	33.4	1025	61	23	457	272	3
<b>Forth Valley</b>	4485	109.1	2737	445	14	715	565	9
<b>Grampian</b>	3783	50.1	2309	351	153	423	503	44
<b>Greater Glasgow</b>	11354	82.7	6805	413	173	2403	1423	137
<b>Highland</b>	1349	41.0	853	184	28	142	110	32
<b>Lanarkshire</b>	2840	37.4	1546	393	48	413	408	32
<b>Lothian</b>	7393	66.1	4734	629	149	688	1087	106
<b>Orkney</b>	--	--	--	--	--	--	--	--
<b>Shetland</b>	--	--	--	--	--	--	--	--
<b>Tayside</b>	2588	37.9	1628	155	28	350	403	24
<b>Western Isles</b>	78	15.1	73	--	--	--	--	1
<b>Other</b>	108	--	53	15	--	10	13	17

## APPENDIX 6

### Responses from Social Work Departments On the Integration of Oral and Dental Health in Community Care.

The Social Work Departments of all 32 Local Authorities in Scotland were approached to determine the extent to which oral health was included in their planning process. In total, 27 out of the 32 Social Work Departments in Scotland responded representing an 84% response rate and responses are detailed in Appendix 4.

The majority of Social Work departments do not have an explicit policy on oral and dental health as part of the Community Care Planning process and only 2 Joint Community Care Plans referred to the importance of oral and dental health and its integration in service development and delivery.

A more variable pattern was seen for the inclusion of oral and dental health in individual care plans and care programmes for the different care groups. While few Social Work departments considered universal arrangements to be in place for all Community Care groups, individual care plans and care programmes were considered to include oral and dental health for some care groups in 19 out of the 27 Social Work responses. Oral health was reflected in discharge protocols for some Community Care groups in 9 cases. This was true in particular for older people, those with learning or physical disability, people with dementia and looked after or accommodated children and young people.

	YES	NO	For Some Groups Only or When Specific Need Identified
	N	N	N
Is there a Departmental Policy on Oral Health Care for any of the Care Groups?	2	22	3
Does Policy Specify service type e.g. Community Dental Practitioner, General Dental Practitioner, Hospital Dental Service, Other (Specify) ?	0	25	2
Is there Reference to Oral Health Care in the Joint Community Care Plan?	2	25	0
Is Oral Health Care Reflected in Individual Care Plans?	2	6	19
Is Oral Health Care Reflected in Care Programmes in: Day Services (D) Residential Services (R) Group Homes (G)	2	6	19
Is Oral Health Care Reflected in Hospital Discharge Systems/Protocols?	0	17	10

## **Comments From Social Work Departments:**

*Dental health is seen as an important component of our residential care homes for older people*

*As councils strive to deal with the present culture and planning environment, there is a danger of fragmentation of services*

*It's one of the issues that gets left on the back burner, everyone is so pre-occupied by other difficulties. Our attention to this whole issue is, therefore, relatively ad hoc.*

*It is certain that dental services play a significant part in the general feeling of well being in all community care groups*

*Unless there are very specific issues for individuals, it will not generally be addressed as a matter of routine in individual care plans, either for people in the community or in hospital.*

## **Health Board Nursing Home Registration and Inspection Process:**

Health Boards currently have the responsibility for Registering and Inspecting Nursing Homes, although this process is due to be centralised in 2002. The core criteria for nursing home registration include the need for an oral and dental policy to be in place and for new residents to receive a dental examination soon after a week of admission. All 15 NHS Boards in Scotland were approached to determine whether:

- local guidelines require nursing homes to have an explicit policy on oral health
- the implementation of any such policy was monitored
- they monitor whether an oral health assessment is offered as an integral part of the admission process and whether it was normal practice to approach the CDS or GDS or both
- they were aware of training being offered to care/nursing staff and who provided such training

Responses were received by all 15 NHS Boards and 3 indicated that they currently require an explicit policy on oral and dental health within nursing homes, and, of these, 2 were monitoring the implementation of such policies. One NHS Board was in the process of developing guidelines around the topic. A variable picture was evident in relation to monitoring of dental examinations as part of the admission process with 6 NHS Boards indicating that this was being offered on a comprehensive basis. In the remaining NHS Board areas an oral examination on admission was considered a minor part of the admission process, with only some nursing homes adhering to the requirement.

General and Community Dental Services were reported to undertake an oral examination and provide care for nursing home residents in all 15 NHS Board areas and 11 NHS Boards indicated that training of nursing home staff was undertaken on either a regular or an ad hoc basis. Training was in all instances provided by staff from the Community Dental Service.

A review of all 15 Health Improvement Programmes for 2000-2004 showed that while 4 referred to developing screening in residential care and/or hospital accommodation and monitoring oral health policies, only 2 specifically highlighted specifically developing programmes for the elderly.

**APPENDIX 7****Number of Registered Special Needs Child Patients by NHS Board and Patient Age Groups as at 31 March 1999 (Source SDPD)**

Health Board	Age 0-2	Age 3-5	Age 6-12	Age 13-17	Total	Rate per 1,000 0-17 Population
<b>Scotland</b>	<b>12</b>	<b>99</b>	<b>656</b>	<b>449</b>	<b>1216</b>	<b>1.1</b>
Argyll	1	7	54	33	95	1.0
Ayrshire	1	11	44	49	105	1.2
Borders	0	1	8	13	22	1.0
Dumfries	0	1	32	21	54	1.7
Fife	3	8	35	38	84	1.1
Forth Valley	0	8	46	30	84	1.4
Grampian	2	9	66	36	113	1.0
Greater Glasgow	1	13	74	62	170	0.8
Highland	1	0	23	24	48	1.0
Lanarkshire	0	21	75	48	144	1.1
Lothian	3	14	114	49	180	1.1
Orkney	0	0	0	0	0	-
Shetland	0	0	0	0	0	-
Tayside	0	6	64	46	116	1.3
Western Isles	0	0	1	0	1	-

**APPENDIX 7B****GDS Claims and Costs Associated with Enhanced Capitation Payments for Children with Special Needs (excluding any additional enhancement for deprivation) (1999 Source: SDPD)**

Age Group	Number of Claims	Cost
0-2	12	£17.52
3-5	99	£227.70
6-12	656	£3,175.04
13-17	449	£3,151.98
<b>Total</b>	<b>1,216</b>	<b>£6,572.24</b>

**APPENDIX 8      Number of Courses of Treatment Undertaken on a Domiciliary Basis 1991-1999: General Dental Services in Scotland (Source: SDPD)**

<b>Health Board</b>	<b>1991/92</b>	<b>1992/93</b>	<b>1993/94</b>	<b>1994/95</b>	<b>1995/96</b>	<b>1996/97</b>	<b>1997/98</b>	<b>1998/99</b>	<b>Rate per 1,000</b>	<b>1998/99 Total No. Visits</b>
<b>Scotland</b>	<b>9,431</b>	<b>10,195</b>	<b>10,393</b>	<b>11,152</b>	<b>10,904</b>	<b>10,421</b>	<b>13,156</b>	<b>11,996</b>	<b>2.3</b>	<b>31,505</b>
Argyll & Clyde	1,099	1,245	1,158	1,246	1,169	1,131	1,419	1,246	<b>2.9</b>	3,452
Ayrshire & Arran	950	1,029	1,082	1,104	1,148	1,053	1,295	1,075	<b>2.9</b>	2,890
Borders	224	237	237	305	268	245	270	186	<b>1.7</b>	404
Dumfries & Galloway	237	182	229	279	317	280	284	237	<b>1.6</b>	622
Fife	672	640	669	795	753	673	933	964	<b>2.8</b>	2,442
Forth Valley	453	522	527	659	643	571	758	676	<b>2.5</b>	1,650
Grampian	600	672	654	559	547	442	597	639	<b>1.2</b>	1,505
Greater Glasgow	1,643	1,949	2,151	2,128	2,157	2,420	3,157	2,988	<b>3.3</b>	7,779
Highland	300	245	212	211	193	159	204	188	<b>0.9</b>	385
Lanarkshire	865	929	924	1,133	1,071	1,072	1,373	1,211	<b>2.2</b>	3,745
Lothian	1,332	1,386	1,325	1,520	1,431	1,238	1,597	1,410	<b>1.8</b>	3,925
Orkney	20	69	73	63	39	36	48	44	<b>2.3</b>	60
Shetland	6	4	11	10	16	3	2	7	<b>0.3</b>	16
Tayside	1,016	1,059	1,124	1,119	1,126	1,057	1,179	1,095	<b>2.8</b>	2,562
Western Isles	20	27	17	21	26	41	40	20	<b>0.7</b>	68

**Note:** Data relate to the number of courses of treatment undertaken on a domiciliary basis. As there can be more than one visit per course of treatment the total number of domiciliary visits is presented for 1998/99.



**APPENDIX 9**

**General Dental Service: Costs of Domiciliary Visit Claims 1991-1999 (Source**

**SDPD)**

<b>Health Board</b>	<b>1991/92 Cost £</b>	<b>1992/93 Cost £</b>	<b>1993/94 Cost £</b>	<b>1994/95 Cost £</b>	<b>1995/96 Cost £</b>	<b>1996/97 Cost £</b>	<b>1997/98 Cost £</b>	<b>1998/99 Cost £</b>
Scotland	665,163	700,295	659,274	726,178	702,758	662,912	886,206	842,683
Argyll & Clyde	82,678	89,520	79,982	89,317	80,657	75,172	101,856	92,375
Ayrshire & Arran	64,885	75,596	68,229	72,642	74,248	71,805	93,390	79,214
Borders	13,305	14,484	13,511	18,725	14,005	13,761	14,974	10,911
Dumfries & Galloway	16,001	12,254	13,886	18,474	21,003	17,576	18,497	17,765
Fife	44,737	44,604	43,452	51,313	47,512	44,017	65,925	62,663
Forth Valley	32,014	33,879	31,853	40,766	40,198	34,228	48,392	46,302
Grampian	38,152	33,879	38,427	31,947	33,541	24,983	38,555	41,698
Greater Glasgow	130,190	144,709	145,299	145,642	145,471	158,341	212,391	204,310
Highland	19,934	16,731	11,410	12,761	11,756	9,533	12,145	10,422
Lanarkshire	66,446	72,161	67,478	52,168	77,176	74,083	99,970	99,260
Lothian	88,046	88,096	77,785	91,065	88,745	79,360	104,119	104,098
Orkney	748	2,209	1,850	1,908	1,231	960	1,791	1,573
Shetland	0	317	695	575	886	163	111	382
Tayside	67,187	62,266	64,701	67,651	64,810	57,617	71,105	69,383
Western Isles	843	1,493	717	1,226	1,518	2,314	2,985	2,327

**APPENDIX 10 Community Dental Services - Number of Patients Treated in Scotland - Patient Category 1990-1999 (Source ISD SMR13)**

Year	Patient Category											
	Mental Health ("mental illness" Pre /4/96)	Learning Disability ("mental handicap") pre 1/4/96)	Physical Disability ("physical handicap" pre 1/4/96)	Psycho geriatric	Geriatric	Adult Safety Net	Anxiety/ Phobia	Medically Compromised	Special Needs Total	%	Other	Total
1990	1,718	7,695	2,932	1,672	6,189	1,083	---	---	21,289	10.3	182,088	203,377
1991	2,112	8,341	3,195	1,792	10,474	3,226	---	---	29,140	17.5	137,603	166,743
1992	2,302	8,329	2,753	2,457	11,218	3,672	---	---	30,731	19.1	130,561	161,292
1993	2,786	10,088	3,118	2,515	11,807	3,893	---	---	34,207	20.8	129,790	163,997
1994	3,007	10,624	3,623	3,776	13,148	2,764	---	---	37,942	22.0	134,324	172,266
1995	2,764	11,202	3,707	3,246	14,168	4,168	---	---	39,255	23.6	127,390	166,645
1996/97	3,856	10,186	3,743	3,308	13,087	1,271	2,741	3,084	41,276	24.7	125,496	166,772
1997/98	3,750	10,363	3,486	3,523	12,654	1,679	3,416	3,529	42,400	25.6	123,327	165,727
1998/99	3,436	10,559	3,605	3,709	14,104	1,655	3,931	4,280	45,279	27.6	118,95	164,231

\*\* Years ended 31/12/1990-1995 and 31/3/97-1999 - Other includes children, maternity and neo-natal, and unknown patient categories.

In 1998/99, 23,316 courses of treatment were provided for special needs patients (mental health, learning disabilities, physical disabilities, psychogeriatric and geriatric patients only). Of these treatments 43.5% involved periodontal and gum treatment, 73% included preventive items of treatment including fluoride applications and fissure sealants, 39.4% involved fillings, 20.8% extractions and 8.5% with the provision of either full or partial dentures in one or both dental arches.

**APPENDIX 11**  
**Scotland**

**Trends in Domiciliary Visits by the Community Dental Service in**

<b>Year</b>	<b>Completed domiciliary Courses of Treatment</b>	<b>Total Number of domiciliary Visits</b>
<b>1990/91</b>	<b>2,242</b>	<b>5,824</b>
1991/92	2,974	7,657
1992/93	3,832	10,147
1993/94	4,827	12,306
1994/95	6,479	15,080
1995/96	7,994	19,454
1996/97	10,582	23,802
1997/98	9,417	21,301
<b>1998/99</b>	<b>12,093</b>	<b>25,493</b>

## APPENDIX 12

### **GENERAL AND COMMUNITY DENTAL SERVICE WORKFORCE LEVELS 1980-1998** **(Whole Time Equivalents except for General Dental Practitioners)**

	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1995</b>	<b>1997</b>	<b>1998</b>
General Dental Practitioners	1,277	1,407	1,694	1,920	1,941	2,016
CADO + ACADO	43.0	39.0	28.0	13.0	13.0	12.0
Senior Dental Officer	6.5	10.0	19.4	31.4	29.5	30.9
Dental Officer	278.4	278.7	222.0	181.3	164.3	181.9

**APPENDIX 13****Current and Projected Population Figures for Those Aged 65 and Over by NHS Board Area in Scotland (Souce ISD)**

<b>Health Board</b>	<b>1998</b>	<b>(%)</b>	<b>2003</b>	<b>(%)</b>	<b>2008</b>	<b>(%)</b>
<b>Argyll &amp; Clyde</b>	65727	15.37	66683	15.88	68343	16.59
<b>Ayrshire &amp; Arran</b>	61420	16.37	63296	17.04	65902	17.96
<b>Borders</b>	20122	18.95	20519	19.16	21255	19.73
<b>Dumfries &amp; Galloway</b>	27432	18.63	28437	19.35	29799	20.39
<b>Fife</b>	55181	15.88	56662	16.25	58549	16.77
<b>Forth Valley</b>	41277	14.98	42888	15.49	44713	16.09
<b>Grampian</b>	75577	14.23	78141	14.58	81372	15.06
<b>Greater Glasgow</b>	136006	15.08	129994	14.77	125197	14.54
<b>Highland</b>	33002	15.73	35013	16.46	37878	17.64
<b>Lanarkshire</b>	76184	13.60	79966	14.41	83991	15.32
<b>Lothian</b>	111605	14.44	112167	14.34	113864	14.38
<b>Orkney</b>	3178	16.09	3297	16.54	3614	17.99
<b>Shetland</b>	2942	12.84	2957	13.08	3195	14.39
<b>Tayside</b>	68273	17.43	68884	17.66	69937	18
<b>Western Isles</b>	5159	18.03	5066	18.13	5128	18.79
<b>Scotland</b>	<b>783085</b>	<b>15.30</b>	<b>793970</b>	<b>15.58</b>	<b>812737</b>	<b>16.02</b>

**APPENDIX 14****Costs of Current GDS Domiciliary Visits Based on Different Sessional Payments**

<b>NHS Board</b>	<b>98/99 Total Number of visits</b>	<b>Current Cost</b>	<b>Cost at higher dom. Rate</b>	<b>Cost GDS Sessional Payment</b>	<b>Cost EDS Sessional Payment</b>	<b>Cost British Dental Guild Rate</b>
			<b>£49.75</b>	<b>£65.05</b>	<b>£91.95</b>	<b>£183</b>
<b>Argyll &amp; Clyde</b>	3452	92375	171737	224552.6	317411.4	631716
<b>Ayrshire &amp; Arran</b>	2890	79214	143777.5	187994.5	265735.5	528870
<b>Borders</b>	404	10911	20099	26280.2	37147.8	73932
<b>Dumfries &amp; Galloway</b>	622	17765	30944.5	40461.1	57192.9	113826
<b>Fife</b>	2442	62663	121489.5	158852.1	224541.9	446886
<b>Forth Valley</b>	1650	46302	82087.5	107332.5	151717.5	301950
<b>Grampian</b>	1505	41698	74873.75	97900.25	138384.75	275415
<b>Greater Glasgow</b>	7779	204310	387005.25	506023.95	715279.05	1423557
<b>Highland</b>	385	10422	19153.75	25044.25	35400.75	70455
<b>Lanarkshire</b>	3745	99260	186313.75	243612.25	344352.75	685335
<b>Lothian</b>	3925	104098	195268.75	255321.25	360903.75	718275
<b>Orkney</b>	60	1573	2985	3903	5517	10980
<b>Shetland</b>	16	382	796	1040.8	1471.2	2928
<b>Tayside</b>	2562	69383	127459.5	166658.1	235575.9	468846
<b>Western Isles</b>	68	2327	3383	4423.4	6252.6	12444
<b>Scotland</b>	31505	842683	1567373.75	2049400.25	2896884.75	5765415