1.0 **Background**

Northern Ireland (NI), like the rest of the UK and Europe has an ageing population. People are living longer than ever and according to the NI Statistics and Research Agency (NISRA), NI has the fastest-growing population of any country within the UK. NISRA has projected that the number of adults aged 65 and over is to increase by 12.1% between 2013 and 2018 and by 63.3% between 2013 and 2033. Between 2013 and 2018, the very elderly population (those aged 85 and over) is projected to increase by 22.2% and more than double between 2013 and 2033 from 1.8% to 4%.

The changing demographics within NI (figure 1 below) will continue to drive change in the provision of general health care and the impacts of this trend are becoming increasingly apparent in oral health care.

This demographic shift, while not unique to NI, has already been felt more strongly here than in any other part of the UK (figure 2).
The oral disease profile in the elderly population is not the same as that in the younger population. Dental decay is still prevalent, however it often affects the root surface of the tooth as opposed to the crown. This reflects the fact that root surfaces become exposed in the elderly and are more susceptible to decay. Although increasing age brings with it a higher probability of tooth loss, more elderly patients are now retaining their teeth into later life. In 1979, 33% of all adults in Northern Ireland were edentate (had no teeth); this fell to 7% in 2009 and is likely to be around 4% today. In 1979, 74% of adults aged 75 and over were edentate, this fell to 50% in 2009 and is estimated to be around 40% today.

At the same time that the size of the elderly population Northern Ireland has increased, the proportion of older adults with at least some natural teeth has also risen significantly. Taken together, these changes mean that there are now considerable numbers of dentate seniors in our population who are at risk of dental disease but for whom it may be difficult to provide dental care.

Poor oral health, including dental caries and periodontal disease, is a problem for older adults residing in care homes. Amongst older adults in general, 40% of the 75-84 age group and 33% of the 85+ age group have active dental caries, whilst periodontal disease affects 69% of those over 65 years of age. The oral health of care home residents is worse than their community living peers. Among care home residents aged 75-84 decay prevalence is 73% compared to 40% for those living in their own home. Furthermore, about half of all care home residents now retain some of their natural teeth. With increasing age, the ability for self-care deteriorates, polypharmacy leads to dry mouth and diets become rich in sugars. These factors lead to a considerably increased risk of tooth decay and gum disease.

Oral conditions can impact on the quality of life of care home residents, their general health and diet. The ability to speak, eat, laugh and even in some cases
swallow may be compromised leading to a loss of self-esteem and confidence. Poor oral health may also exacerbate a range of medical conditions including pneumonia and delirium, increasing healthcare costs and leading to poorer outcomes.\textsuperscript{viii} Income-related inequality in oral health of older adults is also a major issue\textsuperscript{ix,x} across the UK.

A recent NI review on choking has highlighted the role of dental professionals in the management of precipitating conditions such as dysphagia (Appendix1).

2.0 **Dental Services for the Elderly Population of NI**

Depending on the circumstances of the older person, oral health treatment and mouth care may be provided by one or more of the following:

- General Dental Services.
- Community Dental Services.
- Carers/Care home staff.
- Self-care.

2.1 **General Dental Services (GDS)**

It is a contractual obligation of General Dental Practitioners (GDPs) to provide domiciliary care or make appropriate arrangements for any *registered* patient who is unable to attend a dental surgery. The current contracting arrangements have been in place since 1990 and reflect the numbers of elderly, the levels of edentulousness and the regulatory environment of that time. The barriers cited by GDPs in relation to the provision of domiciliary care for the elderly are:

- Increased requirements in terms of decontamination, safeguarding and medical emergency management.
- Difficulty with providing care in a non-clinical environment.
- Increasingly complex comorbidities and drug regimens.
- GDPs are self-employed and argue that current GDS fees for domiciliary care are not sufficient to compensate them for the clinical and non-clinical time required.
- Indemnity concerns.

GDPs and their teams play a vital role in providing tailored preventative advice and interventions for those who are able to attend High Street surgeries. Registration rates by age for the NI population are shown in figure 3.

*Figure 3: NI dental registration rates by age.*
2.2 Community Dental Services (CDS)

The CDS in NI is a relatively small service of 90 dentists (66 whole time equivalents) based within the five Health and Social Care (HSC) Trusts. The CDS primarily provides dental care for adults and children with special needs such as those with learning disabilities and physical disabilities. Also included in the remit of the CDS is the provision of oral healthcare to those unable or unwilling to attend a GDP for example dental phobics, the medically compromised, the housebound and residents of care homes. The CDS have other priority work areas such as the coordination of oral health improvement programmes and are required to manage their resources across these areas. CDS clinical directors cite inadequate staffing as a significant limitation in the provision of comprehensive care for the elderly in care homes. The change in disease patterns outlined earlier is also an additional pressure on resources in this area. There are other challenges to the effective provision of domiciliary care by CDS teams:

- Obtaining valid consent
- Safeguarding regulations.
- The increasing need for prevention in an increasingly dentate aging population.
- The requirement to educate and train care home staff where possible.
- The physical and medical condition of domiciliary patients often lengthens treatment times and the need to transport often heavy equipment further increases time out of the clinic.

Whilst there is a regional CDS scope of service specification issued by the Department of Health (DoH) (Appendix 4), Trusts take a variety of approaches in relation to oral disease screening of care home residents. This is partly influenced by variations in the number of care homes and number of residents per Trust (figures 4 and 5).
All CDS teams operate screening programmes for residents of care homes, prioritise treatment for those most in need and also offer training and advice for care homes staff. Figure 6 sets out the screening activity in the five HSC Trusts in 2017/18.
CDS teams will respond to acute care issues for elderly residents when dental treatment is urgently required, however, CDS teams struggle to provide comprehensive dental care for all care home residents. Clinical directors report a rise in staff attending acute and non-acute hospital wards to assess elderly patients who are reporting dental pain.

In addition to dentists, some Trusts employ dental hygienists and therapists in their CDS teams to provide a restricted range of dental treatment in clinics or on a domiciliary basis to older adults in care homes, under the direction of the dentist. In recent years the General Dental Council (GDC) have allowed extension to the scope of practice for dental nurses so that, with additional training, they are now able to apply fluoride varnish to teeth. This intervention has strong evidence to support its effectiveness as a preventative measure for dental caries in the elderly.

There are areas of best practice in pockets throughout NI where CDS teams have been innovative. Examples include research which has been carried out into preventative measures (including fluoride varnish application) in the WHSCT. In addition, CDS staff in SEHSCT has undertaken a Quality Improvement project (http://qi.hscni.net/2018/12/04/keep-it-clean/) specifically to address poor oral care in homes. This important piece of work involved intensive collaboration with a Trust-
owned care home. Each resident was screened and provided with an individual oral care plan specific to their needs. Engagement with care home staff formed a large part of the work and listening to their feedback allowed the dental staff to modify the training and record daily mouth care in a meaningful way. This project has been extremely successful, resulting in recognition at both regional and national level, winning Best Community Initiative in the UK Oral Health Awards 2018. However, to get this level of co-operation and collaborative work requires additional costs in equipment (denture boxes, naming kits etc.), additional staff time and on-going checks at the home to ensure continued compliance.

2.3 Staff in residential care homes

Department of Health statistics on care packages in NI and the nature of these packages are set out in figure 7. Over four fifths (81%) of care packages were provided from the Elderly Programme of Care meaning that the majority of packages were provided to people aged 65 and over.

![Figure 7: Statistics on Community Care for Adults in Northern Ireland 2016 – 2017.](image)

The number of older adults in care facilities who have at least some natural teeth has changed dramatically over the last 20 years. Historically, provision of oral care for residents was straightforward, largely limited to cleaning dentures and mouths without teeth. This meant that promoting good oral hygiene practices and associated training for care staff was usually low on the list of priorities for care homes. In contrast, care staff are now required to support dentate patients with their oral hygiene and assist them in maintaining good oral health.

Irrespective of age or domicile, the same basic approach to maintaining oral health applies: good daily oral hygiene and mouth care, limited use of sugary foods and drinks, and regular dental check-ups. By using this approach the potential for unwanted consequences like dental pain, dental decay, gum disease and infection is minimised and the benefits of a functional dentition (nutrition, quality of life and self-esteem) are optimised.

Barriers to care home staff provided mouth care/oral hygiene measures for elderly care home residents are:

- Little or infrequent oral health care training for staff.
- High staff turnover.
- Some care home staff are reluctant to clean residents’ teeth.
- Staff shortages make it difficult to facilitate appropriate training.
In 2012 GAIN produced guidelines for the oral care of elderly care home residents in NI (Appendix 2) and in 2016 a NICE guideline was also published on this topic area. The latter delineates the responsibilities of all parties involved in the care of elderly patients in the residential care setting including recommendations on home policies and mouth care plans as well as medication and dietary management. This guideline was updated in 2018 and the interactive flow chart of NG 48 (Oral Health for Adults in Care Homes) is included in Appendix 3.

2.4 Self-care

Reduced self-care in the elderly generally reflects a loss of dexterity and is frequently further complicated by age related illness such as dementia and stroke and by the effects of polypharmacy such as dry mouth and ulceration. As previously outlined, self-care among the frail elderly is often less than ideal so there is usually a need for support from carers, care home staff and dental professionals.

3.0 Dental Public Health Initiatives

Disease prevention is particularly important in the frail elderly as dental treatment in this group is challenging, time consuming and occasionally less effective than would be the case for a younger, healthier individual. The evidence base suggests that twice yearly application of fluoride varnish is effective in preventing dental decay in older adults. Furthermore, cost effectiveness is increased when dental nurses rather than dentists apply the fluoride varnish.

One Transformation Funded project currently underway provides training for dental nurses from CDS teams to safely apply fluoride varnish to the susceptible root surfaces of the teeth of care home residents. This is an extension to their core scope of practice and may lead to improved CDS productivity. The project will be evaluated for its effectiveness and cost effectiveness and may act as a pathfinder for other possible preventative initiatives in dentistry which are based on a skill mix approach. Linked to this project is second Transformation Funded pilot scheme which utilises appropriately trained dental nurses to apply fluoride varnish in care homes. It is anticipated that in 2018/19 approximately 200 care home residents will benefit from the scheme with a further 400 involved next year.

NI is also currently involved in a National Institute of Health Research (NIHR) funded study (the REFLECT trial) which is examining the effectiveness of high-strength fluoride toothpaste in preventing caries in older adults attending GDPs. Fifteen Northern Ireland practices and around 400 patients are currently involved in the study.

4.0 Innovative Approaches in Other UK Countries

The other UK countries have begun to address their elderly oral health challenges by involving other health professionals and workers from outside dentistry in the management and support of elderly oral health care and mouth care. Increased awareness through training and education packages, a strong emphasis on prevention and the use of skill mix within dental teams are core elements in the GB schemes.
4.1 Wales

The Welsh Government has commissioned a report into improving oral health for older people living in care homes for the third consecutive year. [https://gov.wales/docs/phhs/publications/improving-oral-health-for-older-people-living-in-care-homes-in-wales.pdf](https://gov.wales/docs/phhs/publications/improving-oral-health-for-older-people-living-in-care-homes-in-wales.pdf). The key aim of the programme is to improve oral hygiene and mouth care for older people living in care homes through the development of a consistent all-Wales approach. The focus of the programme is on supporting care home staff through training, policy development and individual patient-centred oral care planning. The program relies upon annual recurrent funding of £249,750.

4.2 Scotland

“Caring for Smiles” is Scotland's national oral health promotion, training and support programme, which aims to improve the oral health of older people, particularly those living in care homes.

The training has been developed for:

- Care Staff.
- Nursing Staff.
- Oral Health Champions.
- Care Home Managers.

Scotland has adopted a two-pronged approach which includes changes to GDS provision. The scheme which is currently being developed allows dental practices to opt to increase their domiciliary care provision to allocated care homes so that they deliver similar services to those provided by the CDS. The training package has been commissioned to be developed by NHS Education for Scotland (NES). It is intended that all necessary training and equipment will be provided for participating practices to overcome barriers and risks relating to care outside of a dental surgery setting. It is understood that the Scottish Department of Health is developing a remuneration package to support participating practices.

4.3 England

“Mouth Care Matters” programme responds to the fact that evidence suggests that oral health can quickly deteriorate when people are in hospital. Many health care professionals may have had no previous training on how to support patients with cleaning mouths and dentures. “Mouth Care Matters” seeks to address this by funding and promoting the role of mouth care champions embedded within acute sites, focusing on four core principles:

- Knowledge – provide staff/carers with knowledge of why mouth care is so important.
- Skills – ensure staff/carers are skilled to provide good mouth care.
• Access – patients have access to effective mouth care products.
• Support – Staff/carers/patients have support from staff with enhanced oral health skills.

http://www.mouthcarematters.hee.nhs.uk/?page_id=1488

5.0 Conclusions

CDS dentists make up approximately 7% of all dentists in NI. They are currently struggling to provide a comprehensive screening and treatment service for elderly care home residents. Given the predicted demographic and oral health changes over the next 10 years, significant investment is required in the CDS if they are to adequately meet future needs not just for the elderly but also for other special needs groups. Ideally, a demand capacity analysis of the CDS should be undertaken.

GDS dentists account for approximately 90% of all dentists in NI but currently, for a variety of reasons, provide little dental care for elderly care home residents. Given the relative size of the GDS, it seems reasonable to expect this branch of dentistry to shoulder a heavier burden of elderly dental care than is currently the case. This would require changes to the GDS contract or the establishment of a new Personal Dental Services (PDS) contract both of which would necessitate additional funding.

Education and training packages for care home staff could be developed regionally (adapted from resources already available in other parts the UK) which would enhance the potential support provided by carers and improve disease prevention and early intervention. This training could be delivered by the CDS in the first instance.

Integrating dental elements with other projects focused on the general health of the frail elderly could promote a collaborative and collective approach to oral health and “put the mouth back in the body”. Preliminary conversations with representatives of the Integrated Care Partnership network on frail elderly pathways suggest a willingness for partnership working on this front. Links have also been made with the joint HSC/PHA project “Care Home Transformation / Nursing Home in-Reach”.

A number of the various elements set out above require action to be taken by DoH. Ideally, a strategy setting out a crosscutting and multidisciplinary approach to oral health improvement and oral healthcare for the elderly should be produced. This would lead to more effective coordination of the various elements which are already in place and describe how they could be modernised and new, complementary initiatives established. Furthermore, such a document would add weight to the business cases which ultimately would need to be developed.

Appendix 1

Appendix 2


Appendix 4

http://www.belfasttrust.hscni.net/pdf//CommunityDental-referralCriteria.pdf

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