

The O'Neill Report 2010

The contribution of dental services to the health and economy of Ireland



Introduction

THE PUBLICATION OF THIS REPORT IS VERY WELCOME AND extremely timely. Regrettably, its timeliness is only reinforced because of the latest cuts by the State to the minimal level of support it offers to dental care.

On behalf of the Association, I contacted Professor Ciaran O'Neill and asked him, within very broad terms of reference, to prepare a report on the contribution of dentistry to the health and economy of Ireland. The Association recognises and values its responsibility to advocate for better oral health. Not only is this a responsibility but it is also a necessity because of the relatively few publications of this type.

We hope that this report serves to generate further research and in the first instance we will be presenting copies to key decision makers and opinion formers.

The report shows the huge advances that have been made in the oral health of the nation, thanks in large measure to the expertise and commitment of dentists in Ireland in all settings – general and limited practice, private and public sector. These improvements have been achieved in spite of rather than because of support from the state. This is graphically illustrated in Professor O'Neill's research, where he contrasts the funding available to dentists in Northern Ireland, and doctors in general practice here in the Republic of Ireland, with the complete lack of funding available to dentists. However, there are so many other examples of the failure of the State to support and promote better oral health, above and beyond financial assistance.

Regrettably, the series of decisions in recent times – halving tax relief for patients' dental treatments, the gradual erosion of the public dental services for children and patients with special needs, cuts in professional fees and the complete annihilation of the PRSI and medical card schemes – combine to threaten the viability of many dental practices but also threaten to cause the greatest deterioration in the oral health of the nation in the history of the State.

To counter such ongoing neglect, the Association has a duty, and is committed, to engaging in greater advocacy on the part of patients and dentists. We hope that this report can serve as a springboard to those efforts and on behalf of the Association I wish to thank Professor O'Neill and all those who assisted him in the production of this report.



Fintan Hourihan
Chief Executive
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THE CONTEXT WITHIN WHICH ORAL HEALTHCARE IS PROVIDED IN Ireland has changed markedly in recent months. At a time of rapid and ongoing change it is important that the contribution of dentistry to the health and economy of Ireland figures in discussions in this area. This report seeks to review evidence relating to oral health and healthcare in Ireland, as well as to stimulate further work.

The report reviews evidence indicating that the oral health of the Irish population has increased significantly over the past 30 years, and that health inequalities have narrowed. It argues that dentistry, together with other measures, has contributed to these improvements, which have also seen Ireland's relative position within the EU-15 improve. The report demonstrates that dentistry makes a small but significant contribution to the economy of Ireland in terms of employment, and uses information available for the first time to examine the incomes of a sample of dentists and compare these with those in Northern Ireland. This data indicates that while, on average, gross incomes might be higher among dentists who own their own practice in the Republic of Ireland, net income might actually be lower. Differences between dentists related to gender, the proportion of the practice devoted to publicly funded patients and whether the dentist owns or works in the practice are highlighted. Differences in government support for dentistry between Northern Ireland and the Republic of Ireland are discussed, as are some of the implications of the needs-based approach in the provision of care to children by the Public Dental Service compared to the more demand-led approach evident in the North.

A report of this type cannot hope to examine all the issues in this area or examine those it presents in any great depth. It is, however, hoped that it will be of use in stimulating discussion and further work.



Professor Ciaran O'Neill

BIOGRAPHY

Ciaran O'Neill is Professor of Health Technology Assessment at NUI Galway. He has researched across a range of subjects including service utilisation, health technology assessment and cost of illness. He has held lectureships at the Department of Economics, Queens University Belfast, and the School of Economics and the School of Medicine, University of Nottingham, as well as Chairs in Health Economics and Policy at the University of Ulster and Oral Health Research at Queens University Belfast. He has held visiting positions at the University of Michigan's

Institute of Gerontology, the RAND Corporation and the University of Nottingham. He has published widely in leading international journals on health economics and policy. He was a founding member and Chairman of the Health Economics Association of Ireland, and until 2008 was Chairman of the Northern Ireland Health Economics Group. He has acted in an advisory capacity to the Northern Ireland Assembly's health committee, as well as a range of bodies and committees in the Republic of Ireland.

Executive summary

ORAL DISEASES AND THE COSTS ASSOCIATED WITH THEIR TREATMENT present a significant burden for society both in terms of morbidity and financial cost. In the Republic of Ireland evidence exists to support the contention that there have been significant improvements in oral health over time as well as reductions in health inequalities for adults and children. While this has been the result of a number of factors, including water fluoridation and self care, evidence supports the contention that dentistry has made a contribution to this. Debate has emerged regarding the competitive environment in and value for money of dentistry in the Republic of Ireland, as well as the governance arrangements around publicly funded care. These debates have been given added impetus by the economic downturn and reported reduction in public funding for adult services.

Prior to the policy response to the economic downturn, evidence from European-wide surveys indicated that from a patient perspective access to care in Ireland compared favourably with that in other European countries. The percentage of patients reporting cost as a barrier to care was comparable to that elsewhere in the EU-15, including the UK. Evidence from data made available for this study indicates that while gross income among dentists who owned their practice (principals) was higher than that of their counterparts in the North of Ireland, they also faced significantly higher costs. When costs were taken into consideration, net incomes were lower among principal general dental practitioners (GDPs) in the Republic compared to their counterparts in the North. Differences in net income related to gender (males earning more) and the proportion of practice work devoted to the publicly funded patients (those with larger private practices earning more) were also evident. A more nuanced picture of

dental incomes emerges from this analysis than is sometimes reported. Differences in the extent of government support for general dental practitioners in the North compared to the Republic were apparent. While on average NHS “committed” practices received approximately €37,000 in practice allowance grants alone, no such support was available in the Republic of Ireland. Such support could impact on the relative competitiveness of GDPs in the two parts of the island and have implications for dental tourism.

In respect of the Public Dental Service (PDS), the needs-based approach adopted in Ireland contrasts with that in other parts of Europe. The narrower health inequalities observed in Ireland compared to other parts of Europe have been in part attributed to this needs-based approach. While a targeted approach to assessment and treatment is common at some ages, variations in the availability of resources translate into variations across the 32 distinct geographic PDS regions in how care is offered. This geographic fragmentation of the service may also inhibit the emergence of consistent patterns of care delivery. The report has identified a number of areas that warrant further investigation. These include:

- a more robust analysis of cost and incomes using a larger sample than was available here;
- a closer examination of the role of the PDS in narrowing health inequalities; and,
- a detailed analysis of the use of services and barriers to care experienced by different groups.

As economic circumstances change the environment in which care is sought and provided, it is important that public opinion and policy responses are kept informed on such matters.

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All opinions and any remaining errors are solely those of the author.

ORAL DISEASES AND THE COSTS ASSOCIATED WITH THEIR TREATMENT present a significant burden for society both in terms of morbidity and financial cost. While significant improvements in the oral health of the population of Ireland have occurred over the last 40 years – evidenced, for example, in a fall of almost 80%¹ in the average number of decayed, missing or filled teeth (DMFT) among 12 year olds – concerns regarding population health and the provision of oral healthcare in Ireland remain. In 2002, for example, even in fluoridated areas, roughly one-third of five year olds, half of 12 year olds and three-quarters of 15 year olds continued to experience decay (known by dentists as caries) (Whelton *et al*, 2006). By comparison, in the UK, not only were fewer children likely to experience decay (43% of 12 year olds and 57% of 15 year olds exhibited any obvious decay in permanent teeth in 2003 [Children’s Dental Health in England, 2003]), but the UK had overtaken Ireland in terms of child oral health compared to their relative positions in 1984. Among adults a similar picture is evident. While, for example, in Ireland the percentage of those aged 65 and over who have no natural teeth – are edentulous – fell by over 43% between 1979 and 2002 (Whelton *et al*, 2007), in 2002 the percentage who had none of their own teeth still remained at over 40% – a similar figure to that in the UK (UK Adult Dental Health Survey, 1998).

With respect to the provision of care, issues are also evident. In 2007, for example, the Competition Authority (2007) detailed a series of deficiencies in the competitive environment among dentists in Ireland that could restrict access and inflate fee levels. The Authority noted, for example, that despite the substantial increase in demand for services over the past 15 years, the number of training places in the nation’s universities had remained static; a factor, it argued, that “could lead to a serious shortage of dentists in the future and put further upward pressure on prices” (Competition Authority, *op. cit.*). Beyond government reports, a perception that dentists may not deliver value for money is evident in: some reports comparing the cost of dental care in the Republic of Ireland with that in the North (*Consumer Choice*, July 2009); in reports regarding the amount of publicly funded fee income enjoyed by some dentists (*Irish Independent*, September 2009; *Irish Independent*, October 2009); and, in reports that have criticised governance arrangements around publicly funded dental activity in Ireland (Competition Authority, *op.cit.*; *Irish Times*, October 2009).

For their part, dentists have expressed dissatisfaction with the level of fees paid under at least one of the publicly funded schemes – the Dental Treatment Services Scheme (DTSS) – as well as with arrangements under which reimbursements are made in this scheme. This dissatisfaction is reflected in the reluctance of many dentists to participate in the scheme, which in turn has implications for access among those eligible for care

under it – typically those on lower incomes. Of an estimated 1,400 GPs active in Ireland in 2008 (Council of European Dentists, 2008), for example, just 805 (*Irish Times*, October 2009, *op. cit.*) are thought to participate in the DTSS scheme. Concern among dentists regarding publicly funded schemes has grown as government measures designed to contain public spending have increased. In February 2010, for example, the Irish Dental Association (IDA) noted the reduction in budgeted activity for both above and below the line treatments funded under the DTSS of around 23%, despite an increase in the number eligible for treatment of around 140,000 (IDA circular, February 11, 2010). Other measures have included a limitation in the financial support available under the Dental Treatment Benefits Scheme (DTBS) to an examination only, reduced tax relief available to those paying for care privately, and a cut in public sector pay, including that in the PDS (IDA, January 2010).

Against this backdrop of rapid and significant change, an appraisal of the contribution of oral healthcare to the health and economy of Ireland would seem timely. This report sets out to provide an overview of key issues in this area. It is not intended to provide a comprehensive discussion of the challenges facing oral healthcare in Ireland, of all outcomes related to care, or an analysis of the interplay between these across different groups. Rather it is intended to provide an overview and analysis of some key features within what is a rapidly changing environment. For context, comparisons between the Republic of Ireland, Northern Ireland, Great Britain and other healthcare systems are made where appropriate. Areas wherein further research would be useful are also identified.

The remainder of the report is set out in four sections. In section two, an examination of oral health and use of oral healthcare in Ireland is presented together with changes in these over time. Changes in need, in behaviours and in use are used to gain insight into the contribution of oral healthcare to health and well-being. Changes in aspects of oral health in Ireland are compared with those in other contexts over time to gain further insight into the role of care. In section three, the contribution of oral healthcare to the Irish economy, in terms of employment as well as the gross and net income generated by dentistry, is presented. Again, to set the Irish experience in context, income and costs associated with the provision of dental services in the Republic of Ireland are compared with those in other jurisdictions – specifically, Northern Ireland – as well as in respect of other providers of care. In section four the contribution of public dental services in Ireland to oral health is reviewed together with specific challenges facing this. Finally, in section five, key findings and conclusions are presented together with an assessment of the challenges facing oral healthcare in the coming decade.

¹ The average number of decayed, missing or filled teeth among 12 year olds in 1972 was 5.4, which compares with 1.1 in 2002 (WHO, Oral Health Profiles).

SECTION 2

The oral health, need for and use of oral healthcare in Ireland

THE MOST RECENT COMPREHENSIVE SURVEY OF ADULT ORAL HEALTH in Ireland is that contained in the report 'Oral Health of Irish Adults 2000-2002' (Whelton *et al*, 2007 *op. cit.*). This sets out various measures of health, including the percentage of the population who retained none of their natural teeth (were edentulous), and the mean number of natural teeth retained by adults, together with a range of other measures including DMFT, periodontal disease and need for treatment. Significantly, the authors of the report provide comparisons of oral health over time in respect of edentulousness and DMFT, as well as differentiating between those with and without medical cards and those who lived in and outside fluoridated areas. The breakdown of figures on these latter characteristics over time is useful in that it permits insight into the role factors other than fluoridation (such as care) have on health status, as well as the contribution of care in addressing health inequalities related to social class.

*Oral health among adults*²

In **Table 1** the percentage of the population across three age groups that were edentulous at different time points (1979, 1989/'90, 2000/'02) is reported, together with a breakdown of these figures by medical card status. As can be seen from the table, the percentage who retained none of their own teeth fell markedly over the study period indicating a clear improvement in oral health. Among those aged 65+ for example, where the prevalence of edentulousness was highest, the percentage fell from 72% to 41%. Also evident from the table is the fact that not only was this decline evident among more affluent individuals (those who did not qualify for medical cards), but among the less well off also (those with medical cards). Indeed, the fall in edentulousness among those aged 65+ who held medical cards (the less affluent) was greater (62.2-45.6%) than among those who did not hold medical cards, where it fell from 30.8% to 29.4%, suggesting a relative narrowing of health inequalities. (Interestingly, these improvements indicate that government targets set in 1994 for the year 2000 that no more than 42% of the adult population should be edentulous (Dental Health Action Plan, 1994) were met.)

In **Table 2** the percentage of persons who were edentulous by the fluoridation status of the area in which they resided is presented. The data relate to only two time periods – 1989/'90 and 2000/'02 – data by fluoridation status being unavailable for 1979. As noted, this may be significant in the sense that the conservation of teeth by means other than water fluoridation implies a role for other factors such as lifestyle and self care (issues returned to below), as well as dentistry in the preservation of teeth that would otherwise have been lost. As can be seen from the table, among both those in fluoridated and non-

Age group	1979	1989/'90	2000/'2002
35-44	12.0	4.0	0.9
65+	72.0	48.8	40.9
Medical card			
35-44		6.3	1.4
65+		62.2	45.6
Non-medical card			
35-44		3.4	0.4
65+		30.8	29.4

Age group	Non-fluoridated		Fluoridated	
	1989/'90	2000/'02	1989/'90	2000/'02
35-44	6.1	1.2	2.4	0.3
65+	54.2	41.5	42.3	41.8

fluoridated areas the prevalence of edentulousness fell over the time period studied. That the fall in prevalence is most marked among those in non-fluoridated areas does perhaps shed some light on the relative importance in an adult population of water fluoridation compared to lifestyle, self care and the role of the dentist in the preservation of natural teeth. While, for example, among those aged 65+ in fluoridated areas the prevalence of edentulousness fell from 42.3% to 41.8%, (i.e., by 0.5 percentage points), among those in non-fluoridated areas it fell more markedly from 54.2 to 41.5 (i.e., 12.7 percentage points).

The report also provides information on risk factors associated with oral health such as snacking and tooth brushing. Adult oral health is a function of lifetime exposure to such factors as well as use of dental care. While it is unwise to read too much into the snapshots provided by the survey, it is noteworthy that the age gradient evident in respect of the frequency of tooth brushing – older persons being less likely to brush their teeth frequently – was also evident in respect of improvements over time in tooth brushing habits. For example, in 1989/'90 59%, 63% and 48% of 16-24, 35-44 and 65+ year olds, respectively, brushed their teeth at least twice a day. In 2000/'02 the respective figures were 68.5%, 71% and 52%. In both time periods, in other words, over 65s displayed the poorest self care and over time displayed the lowest improvement in self care; nevertheless, this was the age group that experienced the greatest improvement in oral health as measured by edentulousness. While the figures could reflect

² Health, outcomes and process can be measured in a variety of ways, including oral health-related quality of life and patient satisfaction with the service provided. Discussion of these is contained among the references used in this report but in the interest of brevity they are not discussed here.

³ All data is taken from 'Oral Health of Irish Adults 2000-2002'.

The oral health, need for and use of oral healthcare in Ireland

TABLE 3: Mean DMFT

Age	MEDICAL CARD				NON-MEDICAL CARD	
	1989/'90	2000/'02	1989/'90	2000/'02	1989/'90	2000/'02
16-24	7.4	4.9	7.5	4.8	7.4	5.0
35-44	19.0	15.0	18.0	15.2	19.2	14.9
65+	27.3	25.9	28.3	26.7	25.9	24.2

	FLUORIDATED		NON-FLUORIDATED	
	1989/'90	2000/'02	1989/'90	2000/'02
16-24	7.2	4.6	7.6	5.2
35-44	18.9	13.3	19.0	16.0
65+	26.5	25.9	27.9	26.7

a decline in the readiness of over 65s to visit the dentist – improvements in edentulousness reflecting an increase in unhealthy teeth retained rather than extracted – this is not supported by evidence regarding DMFT (see Table 3), which declined in this age group over time.

Indeed, a comparison between 1989/'90 and 2000/'02 in the percentage of DMFT attributable to “F” (filled) as opposed to “D” and “M” (decay and missing) reveals that among both medical and non-medical card holders, and in both fluoridated and non-fluoridated areas (with the exception of those aged 65+ in fluoridated areas), all age groups experienced an increase in the percentage of DMFT attributable to “F” as opposed to “D” and “M”. Examining all in the age group regardless of fluoridation or medical card status, for example, among the 16-24, 35-44 and 65+ age groups, the percentage of DMFT attributable to filling rose from 46% to 54%, 38% to 55% and 6% to 10%, respectively, from 1989/'90 to 2000/'02.

In relation to dentures, similar evidence of an increase in activity on the part of dentists is evident. Thus, while the percentage of people wearing dentures fell among those aged 16-24 and 35-44, among those aged 65+ (the group among whom edentulousness is most prevalent) the percentage wearing dentures rose between 1989/'90 and 2000/'02. Among those who were edentulous (i.e., who clearly needed dentures), the percentage wearing dentures rose among both medical card and non-medical card holders. Moreover, the age of the dentures worn fell – newer dentures being more likely to be fit for purpose. Among those aged 65+ that were edentulous, in 2000/'02 for example, 47% were judged to have dentures that were “too old”, which compares with 73% among this group whose dentures were judged to be too old in 1989/'90.

Thus, among adults over time we see improvements in health indicative of improvements in care. Comparison of improvements in health across socio-economic groups, measured in terms of eligibility for medical cards, indicates that improvements in health were accompanied by reductions in health inequalities. For example, if we examine the mean number of teeth retained across the various age groups between 1989/'90 and 2000/'02, as with edentulousness, the increase in the average number of teeth retained was more evident among those with medical cards. The reduction in inequalities was evident among those in fluoridated and non-fluoridated areas, a trend again repeated in respect of DMFT, as seen in Table 3.

Oral health among children

Among children, improvements in oral health are also evident over time. Data from the World Health Organisation (see WHO Oral Health Profiles) indicate that not only did oral health improve among children aged 12 (average DMFT falling from 5.4 in 1972 to 1.1 in 2002), but that this improvement outstripped that attained on average by other countries among the EU-15. While, for example, the average reduction in DMFT across the EU-15 during this period was 3.76, in Ireland the figure was 4.3. That is, oral health among this age group by this measure improved at above the EU average.⁴ In terms of its rank Ireland began the period ninth out of 14 in terms of average DMFT among 12 year olds and finished the period eighth out of 14, which, while a modest improvement, is nonetheless still an improvement in relative terms. Reductions in DMFT are also recorded at age five and 15 between 1984 and 2002 in both fluoridated and non-fluoridated areas in Ireland. Between 1984 and 2002, for example, the mean number of DMFT among 15 year olds fell from 4.1 to 2.1 in fluoridated

⁴ Some caution is warranted here given that Luxemburg was excluded among the EU-15 as no survey was available in the 1970s for Luxemburg, and the duration between the two time points at which the measures were taken for others varies, as did their starting point in terms of DMFT creating potential ceiling effects.

The oral health, need for and use of oral healthcare in Ireland

TABLE 4: Average DMFT by age group in fluoridated and non-fluoridated areas over time.

Age	Fluoridated		Non-fluoridated	
	Average DMFT		Average DMFT	
	1984	2002	1984	2002
5	1.8	1.0	3.0	1.7
12	2.6	1.1	3.3	1.3
15	4.1	2.1	5.4	3.2

1. Source: *Whelton, H., Crowley, E., O Mullane, D., Cronin, M., Kelleher, V., Guiney, H., Flannery, E. North South Survey of Children's Oral Health 2002 – Final Report. Dublin, Department of Health and Children, 2006.*

areas, and from 5.4 to 3.2 in non-fluoridated areas, as can be seen in Table 4 (Whelton *et al*, 2006). While the fall in caries over time has been dramatic and, as noted for 12 year olds, outstripped that of the EU-15, as noted by Whelton *et al* (2006) among those aged eight, 12 and 15, the fall exhibited in Ireland did not match that attained in the UK. While, for example, in fluoridated areas in 1984 average DMFT among eight, 12 and 15 year olds in Ireland was, respectively, 0.6, 2.6 and 4.1, and in the UK was 0.8, 3.1 and 5.9 (in 1983), by 2002 in Ireland it had fallen to 0.3, 1.2 and 2.1, but in the UK (2003) to 0.2, 0.8 and 1.6; the UK overtaking Ireland in terms of DMFT status among children/adolescents. This is an issue that is returned to in the discussion of public health dentistry in Ireland.

Drawing together the key points it is clear that:

- across the various measures of health available – edentulousness, mean number of natural teeth present and DMFT – improvements in oral health are evident;
- over time among adults the improvements in oral health are associated with a reduction in health inequalities related to social class;
- the improvements in oral health are evident in both fluoridated and non-fluoridated areas, indicating a role for factors other than water fluoridation;
- among adults the increase in the relative contribution to DMFT of filling indicates an increase in the proportion of dentist activity related to restoration as opposed, for example, to extraction; and,
- among adults the increase in the percentage of those with dentures in the 65+ age group, as well as the reduction in the age of the dentures over time, again suggests an increase in the provision of appropriate care by dentists.

TABLE 5: Percentage of respondents by age group and eligibility who "never" visit the dentist.

Age	DTBS	DTSS	Neither
16-24	22.7	25.6	13.0
35-44	12.7	26.8	7.8
65+	15.3	27.5	14.7

Collectively these findings, and in particular the last two, suggest that care providers have been active in improving the oral health of the population, treating decay and preserving teeth. As noted, while it would be dangerous to assume that all improvements were attributable to dentistry, it would be difficult to sustain an argument that dental services had not played a significant role in improving oral health and in reducing health inequalities.

Need

Turning to need, as one might imagine given the increase in the percentage of adults retaining teeth and the mean number of teeth retained, there has been an increase in the percentage of adults who were judged to require dental care between 1989/'90 and 2000/'02. While the increase in the percentage requiring care across the three age groups overall was modest – among those aged 16-24 rising from 60.6% to 60.9%, among those aged 35-44 falling from 68.6% to 66.5% – among those aged 65+ the increase was more marked – 65% to 69.5%. What is perhaps most striking about the figures is the high percentage of adults that required care – in excess of 60% for all age groups. Differences were evident in respect of need related to eligibility for publicly funded support for oral healthcare. Among those aged 35-44 and 65+, those with medical cards – those entitled to access aspects of care free under the DTSS – had the highest percentage of persons exhibiting need – 87.5% and 87.2%, respectively. This compares with 61.3% and 69.7% in these age groups, respectively, among those eligible under the DTBS and 61.9% and 81% of those eligible under neither scheme. This is perhaps notable given the changes announced in the December 2009 Budget, which reduced DTBS entitlements to an examination only.

The oral health, need for and use of oral healthcare in Ireland

Use

In respect of use, differences are also evident across the schemes in terms of the likelihood of a person visiting the dentist and in terms of the frequency with which visits are made. In respect of dentate individuals, across the three age groups a clear social gradient is evident in terms of use patterns. The percentage who never visited the dentist was highest among medical card holders (DTSS eligible) followed by those eligible under the DTBS scheme, followed by those eligible under neither scheme – as seen in **Table 5**. That the ordering is similar to that observed in respect of need (especially in respect of the DTSS and DTBS schemes) is notable – less frequent visitors being more likely to exhibit need. The observations here in respect of utilisation patterns are supported by findings from other surveys such as the ‘Living in Ireland Survey’, which show an increase in the average number of visits to the dentist from 1995-2001 (0.7-0.8; 1995-2001), and in the percentage visiting the dentist (34.9-43.6%), but a higher proportion of those without medical cards visiting the dentist in 2001 than those with medical cards (49.6% compared with 30.6%) (Layte, Nolan and Nolan, 2007). More recent figures for 2009 (Eurobarometer, 2010) indicate a similar visitation rate to that reported in 2001 (1.8 visits on average per year among those who visited the dentist in the past year), a figure similar to the European and UK averages (2.2 and 2.0, respectively). In the ‘Oral Health of Irish Adults’ report, those classed as infrequent users of dental services were questioned as to the reasons for their visitation pattern. It is noteworthy that less than 20% of all users cited cost as a barrier to care. While the percentage varied across groups in terms of eligibility for support – 21.5% who were not eligible for support, 15.1% who were eligible for the DTBS and 10.6% of those eligible for the DTSS reporting cost as a barrier – a majority in every group reported a lack of perceived need as the main reason for their not visiting the dentist more frequently (more recent figures from the Eurobarometer of around 15% overall not visiting because of expense are on a par with these). This was followed by fear as the principal reason cited. Again, whether these patterns will remain given changes in entitlements in the Budget remains to be seen. Respondents to the Eurobarometer survey (op. cit.) provide some insight into the purpose of visits among adults among those who do go. Thus, 62% visited the dentist for check-ups, examination or cleaning, 25% for routine treatment and 12% for emergency care. These figures compare with EU averages, respectively, of 50%, 33% and 17%. If one interprets check-ups, examination and cleaning as indicative of preventive services, the figures suggest that Ireland may perform somewhat better than other EU countries in this regard and mirror that relating to children. This echoes findings of Whelton *et al* (2006), for example, who noted a greater use of fissure sealants in the Republic of Ireland compared to Northern Ireland.

Conclusions

The key findings of this section are that oral health has improved in Ireland in recent years and health inequalities have declined. There is evidence of oral health in children having improved relative to that in other countries, albeit the improvement is modest and dependent upon the choice of comparator. That oral health has improved in fluoridated and non-fluoridated areas, that the percentage of DMFT comprised of fillings as opposed to decayed and missing has improved, that the percentage of those aged 65+ with dentures and the age of their dentures has improved, are all indicative of a role played by dentistry in improving oral health. While levels of need remain high – over 25% of 12 year olds, 40% of 15 year olds and 60% of adults being found to be in need – and around one-fifth of those who are infrequent users of dental services cited cost as a barrier to use, the percentage of adults who reported having visited the dentist in the past year increased between 1995 and 2001, as did the average number of dentist visits made.

SECTION 3

The contribution of dentists to the Irish economy

IN SECTION 2 IMPROVEMENTS IN THE ORAL HEALTH STATUS OF IRISH citizens were presented together with details of reductions in health inequalities. Along with changes in tooth brushing habits, the argument was made that dentistry had contributed significantly to these improvements. In this section the contribution of dentistry to economic activity in Ireland is examined with reference to employment and income. Data on income and costs among dentists are presented and compared with those of counterparts in Northern Ireland and, together with responses to public surveys on attitudes to expense, used to evaluate concerns expressed in some quarters regarding the value for money of Irish dentistry.

Dentists employed and visits made

Details on the number of active dentists and other oral healthcare workers (hygienists, assistants and technicians) employed in Ireland are presented in **Table 6**, together with details of the population to dentist ratio across the EU-15. (The figures are derived from the Council of European Dentists Manual [op. cit.]). As can be seen, Ireland has approximately 2,000 active dentists, as well as 350 technicians, 338 hygienists and 1,800 dental assistants employed in the delivery of care. To these should be added cleaners, managers and those whose work depends in whole or in part on dentistry, such as dental suppliers, lawyers and accountants (though it is unclear exactly what whole time equivalent workforce this would constitute). To put these figures in context, it was estimated that in 2005 there were 2,500 (Layte, 2009) GPs in Ireland, a broadly comparable figure, given that both provide

primary care. While dentistry represents a small but significant sector of the economy, it is interesting to note, as shown in the table, that the population to dentist ratio in Ireland is the highest observed in the EU-15 and that, as noted, the Competition Authority (op. cit.) has expressed concern regarding the supply of dentists and the possible impact this might have on prices.

Despite this, the levels of need reported in section 2, and the concerns of the Competition Authority (op. cit.), data from the Eurobarometer (2010) do not suggest that most Irish citizens have difficulty accessing a dentist. (96% reported that if in need they usually have access to a dentist compared with an EU-27 average of 92% and a UK figure of 87%). The number of visits per annum, as noted, was on par with that in other EU states, and the percentage who cited expense as the reason they had not visited in the past two years was on a par with that in other EU states (15%, compared with an EU-27 average of 15% and a UK figure of 15% also).

In terms of the number of visits made to the dentist, data from the 'Living in Ireland Survey' from 2001 suggest that on average adults made 0.8 visits per annum (Layte, Nolan and Nolan op. cit.). This survey related to individuals aged 16 and over, which – using CSO population estimates for 2006 for persons aged 15 and over of 3,375,399 (CSO, 2006) – would suggest a total of approximately 2.7 million visits per annum. (Note LIIS does not distinguish between types of dentist, whether these are GPs – high street dentists – hospital dentists or from the public dental service operating in schools or clinics.)

TABLE 6: Dentist workforce in the EU-15.⁵

Country	No of active dentists	% female	Number of hygienists	Number of technicians	Number of assistants	Ratio of population to dentists
Austria	4,206	39	350	550	7,100	1,981
Belgium	7,576	48	0	2,250	1,500	1,408
Denmark	4,800	83	800	1,100	4,400	1,141
Finland	4,500	69	1,575	507	6,168	1,178
France	40,968	37	0	19,500	15,000	1,556
Germany	65,929	39	350	58,000	170,000	1,247
Greece	14,126	46	0	5,000	0	794
Ireland	1,990	33	338	350	1,800	2,221
Italy	48,000	34	4,000	11,520	52,000	1,242
Luxembourg	360	30	0	75	330	1,344
Netherlands	8,791	28	2,260	5,000	16,400	1,866
Portugal	7,064	53	500	546	3,400	1,503
Spain	24,000	53	9,000	7,500	25,000	1,887
Sweden	7,414	49	3,194	1,200	11,274	1,239
UK	31,000	40	5,340	7,094	40,665	1,974

⁵ All data taken from Council of European Dentists Manual 2008 (op. cit.).

The contribution of dentists to the Irish economy

Income in dentistry

In **Table 7** average revenue (gross income), cost and net income among principal and associate general dental practitioners in the Republic of Ireland, together with estimates of these for Northern Ireland, are presented. “Principal dentist” here refers to the dentist who owns in whole or part the dental practice and “associate” to a dentist who works in the practice but is not an owner. Gross income in the Republic of Ireland is comprised of fees from private patients as well as those generated under the DTSS and DTBS. Costs among principals include fees paid to associates, wages to staff, materials and laboratory fees, as well as the various costs associated with operating a business, such as the cost of premises, repairs, insurance indemnity and interest payments. Among associates costs include laboratory fees, materials and insurance indemnity, costs associated with premises, with employment of dental nurses used to assist in delivery of care, etc., falling on the principal.

Data for the Republic of Ireland were supplied by a single accountancy firm specialising in the provision of services to the medical and dental professions. While data were anonymised, details on the location, age and gender of the principal were provided together with details of location for associates. The sample represents 41 dentists in total, (31 principals in 30 practices and 10 associates) for the calendar year 2007. It comprises approximately 2% of the dentists operating in the Republic of Ireland at this time, approximately 3% of those in private practice.

Figures for Northern Ireland are derived from the Dental Earnings and Expenses Report published in August 2009 (Health and Social Care Information Centre, 2009). In respect of cost, similar elements are referred to in this report – materials, laboratory, premises, employee costs – as are referred to for the Republic of Ireland. The figures reported have been adjusted using the average exchange rate for 2008 as calculated by the Central Bank of Ireland at £1 = €1.2558 (CBI, 2010). The figures for Northern Ireland are described as “experimental” in the report. This nomenclature is the convention of the UK Statistics Authority’s Code of Practice when referring to statistics produced for the first time.

Before discussing the figures, three issues regarding them warrant comment: first, the extent to which the sample for the Republic of Ireland is representative of the population of dentists in this jurisdiction; second, the extent to which the income and cost figures quoted for the two jurisdictions are comparable; and, third, the extent to which tax returns in either jurisdiction provide an accurate picture of actual income and cost.

In relation to the first, the figures are derived from a single

accountancy firm and as such may not be representative of dentists generally in Ireland. The sample, for example, contains no dentists from the three border counties – Cavan, Monaghan and Donegal – who, given their proximity to Northern Ireland, may experience particular revenue pressures as a result of competition from dentists there. Details of the sample in terms of age, gender and location are reported in **Appendix 1**. These demonstrate that the sample over-represents female dentists relative to the population at large. While it is possible to weight the sample to take account of this (as was in fact done), in respect of other characteristics, for example age or location, similar adjustments could not be made given the data available. In the absence of a formal sampling exercise (which was not possible given the resources available) and detailed knowledge of the population from which the sample is drawn (in terms of age, location etc., which again were not available), it was not possible to refine estimates further. While the sample is somewhat larger than that used by some commentators (*Consumer Choice*, op. cit.) and does have representation (with the exception of border counties) from across Ireland, and from dentists of different ages, genders, practice sizes (as measured by gross income) and mixes in terms of income generated from public and private patients, it remains small and is drawn from a single source. How representative it is, is open to debate, a limitation that is conceded. That gross income figures are similar to those reported in the ‘Competition in Professional Services Report’ when adjusted for inflation (Competition Authority 2007, op. cit.), which used a larger random sample, is, however, reassuring.⁶

Second, while figures for both samples were compiled for the same reason – tax returns – and make reference to the same items (materials, laboratory, premises, employee costs, etc.), it is not possible to say with complete confidence that they have been generated in an identical fashion. For example, it is possible that allowances for depreciation are handled differently by accountants in the two jurisdictions in respect of specific items. A more detailed analysis, however, would require not just access to raw data (which would be unlikely to be granted) but to a skill set akin to that of a forensic accountant in the deconstruction of tax returns. For these reasons the bases of comparisons have been kept deliberately broad, concentrating on headline cost and income figures rather than focusing on specific elements such as depreciation. This does limit the extent to which specific items can be compared across the two jurisdictions but it is not thought to present a significant obstacle to the comparison of gross income, cost and net income figures, which are the main focus of attention here.

Third, dentists like others have an incentive to generate net income in

⁶ Average dentist earnings are reported as €116,995 in 2002, which, in adjusting for inflation to 2007 at 20.39% compound, suggests a comparable figure of approximately €141,000.

SECTION 3

The contribution of dentists to the Irish economy

TABLE 7: Average revenue, costs and net income among principal and associate dentists in the Republic of Ireland and Northern Ireland in euro.

	Principals ROI	Associates ROI	Principals NI	Associates NI
Average gross income	477,410	128,900	390,839	130,095
Average total costs	340,701	17,400	238,669	47,045
Average taxable income	136,709	111,500	152,170	83,051
Average cost as a percentage of average gross revenue	71.3%		61.1%	

Note some figures need not sum due to rounding.

a tax-efficient manner. This may give rise to a suspicion that the figures reported do not accurately reflect the actual cost and revenue positions of dentists. While this may be the case, limitations exist on the extent to which dentists can inflate costs or conceal income in accounts that are not only professionally audited but subject to scrutiny by revenue commissioners. Similarly, while some costs may generate assets through, for example, investment in premises, any income here will be liable to tax when sold. Importantly, it is unclear why dentists in the Republic should have greater latitude in regard to tax evasion than those in the North, and it is the comparison among dentists in the Republic and between dentists North and South that is the focus here, rather than the absolute levels of income.

As noted, figures for the Republic of Ireland have been adjusted to take account of the higher representation in the sample of females relative to that among the population of active dentists at large. It was not possible from the information available to make further adjustments (for example for age or location).⁷ As details of associates' gender was not among the data provided, it was not possible to adjust for gender among this group and the distribution for the sample was therefore assumed to reflect that which pertained in the population at large. (No weights were applied to any figures for associates, in other words.) Data for Northern Ireland relate to the financial year 2007/'08 while, as noted, data for the Republic of Ireland relate to the calendar year 2007. No adjustments were made to take account of the slight difference in timing between the two periods but it is not thought that this would materially alter results. Figures for Northern Ireland, as noted, have been adjusted to express them in terms of their euro equivalent using average exchange rates for 2008.

As can be seen from **Table 7**, average gross earnings for principals in the Republic of Ireland are somewhat higher than is the case in Northern Ireland. Thus, average gross income is close to €86,600

higher in the Republic than in the North. By contrast, in respect of associates, the difference in gross income favours those in the North, though the difference is much smaller at almost €1,200. Based on these crude comparisons one would be forgiven for assuming that principal dentists in the Republic of Ireland fared well not just in relation to associates but in relation to their counterparts in the North. However, an examination of costs and the difference in these between the two jurisdictions presents a somewhat different picture.

Operating costs for principals in the Republic of Ireland exceed those of associates, as one would expect given the formers' wider responsibilities, for example, in regard to premises. Comparing principals in the Republic with those in the North, however, it is evident that average costs among principals in the Republic are higher, exceeding those in Northern Ireland by just over €102,000 per annum. This amount more than offsets the difference in revenues between principals in the two jurisdictions, leaving principals in the Republic of Ireland with a net income of almost €15,500 less than their counterparts in the North. By contrast, associates in the Republic, while earning only slightly lower incomes than their counterparts in the North, face lower costs (over €29,600 lower). The net result in respect of associates is that their net earnings are almost €28,500 higher than those in the North.

Particular care is perhaps warranted in drawing inferences in relation to the figures for associates given the sample size and the possibility of its being unrepresentative of dentists in the Republic. (It is worth restating that the sample here comprised just 10 dentists with no information that would allow adjustments to be made in respect of, for example, gender in the sample.) This said, the comparison suggests that in respect of net incomes the picture is somewhat more nuanced than one of all dentists in one jurisdiction earning more than those in another.

⁷ Just over 50% of the sample of principals was female compared to 33% as reported in the Council of European Dentists Manual of Dental Practice (op. cit.). The same breakdown of females to males is assumed for principals and associates – 33% to 67% in the absence of other data.

The contribution of dentists to the Irish economy

If we examine average net income by gender, in the sample of principals for the Republic, males are seen to earn more on average than females (see **Table 8**) both in gross and net terms.⁸ (This underscores the importance of weighting the sample to reflect the relative preponderance of females in it when making comparison with the North.) The higher costs evident among male principals substantially narrows the income gap in net terms between males and females, but males continue to earn approximately €22,600 more than their female counterparts. These results mirror those in Northern Ireland where again males earn more in both gross and net terms, but again the income gap is narrower when examined in terms of net income. Interestingly perhaps, the gender gap in the Republic of Ireland is almost half that in Northern Ireland, where male net income is approximately €44,600 higher than that for females. One can speculate as to whether these differences reflect differences in the types of dental work engaged in by male and female dentists (males might focus on procedures that are more lucrative), differences in the number of hours worked between the genders, and/or differences in the geographical location. In the absence of information within the sample for both jurisdictions on such matters, however, such speculation would be idle.⁹

If we confine our examination to principals in the Republic of Ireland, an examination of earnings by the proportion of income generated from public as opposed to private sources reveals some interesting patterns.¹⁰ In **Table 9**, the sample is divided into three categories: those who earn less than 10% of their total revenues through DTSS and DTBS schemes (combined); those who earn between 10% and 40%; and, those who earn more than 40% of their income through these two schemes.¹¹ Figures on gross income, costs and net income are again presented. As can be seen, those whose work focuses on private sector patients as a revenue source have the highest gross and net income of the three groups, while those with the lowest gross and net income are those whose work is relatively more focused on the DTSS and DTBS schemes. The results again mirror those for Northern Ireland, where net income also fell as the proportion of work that was publicly funded increased.¹²

The difference in the cost of providing care in the two jurisdictions does perhaps warrant some further comment. Adjusting for exchange rates, principals in the Republic of Ireland, as noted, face costs that are over €100,000 higher per annum compared to their counterparts in Northern Ireland. While in part this can be explained by higher staff costs (the Republic being a relatively higher wage economy [*Belfast Telegraph*, December 2009]), in part it may also reflect differences in property costs and the cost of operating premises. This is possibly significant given that a downward adjustment in respect of these overheads may take a longer time to effect than adjustment to staff costs within an economic downturn.

That state support for capital differs between the two jurisdictions is also noteworthy. For example, in Northern Ireland in 2007/'08 practices received between them £3 million (€3.77 million) in decontamination grants¹³ (DHSSPSNI, 2007) and almost £4 million (€5.023 million) in practice allowance grants.¹⁴ These grants are normally paid to practice owners (principals) and in terms of the practice allowance grant alone are reported to translate to an average of £29,600 (€37,172) for "committed" practices and £8,634 (€10,843) for uncommitted practices (DHSSPSNI, op. cit.).¹⁵ While these would be reflected in revenue figures – and have thus been accounted for in the comparisons – they represent an income source less susceptible to changes in care provided and thus in the demand for care. In the Republic of Ireland no such support is offered, principals funding capital projects ultimately from the revenue they generate.

This is similarly the case in respect of the capitation payments made in respect of adults and children in Northern Ireland. In effect, dentists in Northern Ireland not only have to generate less income than their colleagues in the South but effectively may have a greater degree of certainty regarding their income stream. This in turn may bring advantages not just when planning investments but in terms of obtaining loans or insurance given the lower level of risk for the investor/creditor. This is an area that warrants further analysis.

⁸ As gender was not provided in respect of associates a similar analysis for this group was not possible.

⁹ One reason for the difference between males and females might be the extent to which they work in public as opposed to State operated schemes. An examination of both groups within the sample, however, revealed that females were almost equally represented among the different categories of groups drawing their income from public and private work.

¹⁰ Disaggregating figures for associates by proportion of income from public sources given a sample of just 10 would not be particularly meaningful and these figures have not therefore been presented. Care moreover is warranted in the disaggregation of principals by group given the reduced sample size and the possibility of its being unrepresentative.

¹¹ The categories in terms of proportion of revenue earned from schemes were chosen arbitrarily.

¹² Different cutoff points are used in Northern Ireland to those reported here. The cutoff used in Northern Ireland would not have been useful here, none within the sample exhibiting a degree of dependence on the public sector evident among the highest dependency group in the North (over 75%).

¹³ A decontamination grant is available where practices meet certain eligibility criteria to enable them to improve instrument sterilisation and storage facilities. The quality improvement grant (decontamination grant) paid is proportional to the number of patients registered under the health service with the practice.

¹⁴ The practice allowance grant paid is proportional to gross earnings from the health service.

¹⁵ Further grants in various forms were paid in Northern Ireland during this year in support of government oral health policies totalling €7.2 million.¹⁵

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TABLE 8: Average income and cost by gender and jurisdiction.

	Republic of Ireland		Northern Ireland	
	Male	Female	Male	Female
Gross income	530,107	372,000	420,677	319,229
Costs	385,857	250,375	255,382	198,557
Net income	144,250	121,625	165,295	120,672

Figures have been corrected in NI for exchange rates.
(Note values need not sum due to rounding.)

It is perhaps also interesting to compare support offered to general medical practitioners in the Republic of Ireland with that of GPs, which reveals a similar picture. While, as noted, GPs are not eligible for support in the form of practice support grants, rurality payments, locum cover during periods of sickness, holiday, maternity/paternity, etc., in respect of medical practitioners such support is available. For example, under the GMS Capitation Agreement, eligible practices can claim annually between €21,936 and €25,592 for secretarial support, between €32,904 and €40,216 for nursing support and €32,904 in practice management support. In addition, eligible practices can claim up to €19,055 per annum if they operate in a rural area (Statutory Order 262, 2009). While it must be noted that not all practices will be eligible for such support (nor among those that are may such amounts be paid), nor is there any suggestion that such support is not wholly appropriate, the difference in public funding between general and oral health is evident.

Conclusions

Three key findings emerge from this comparison. First, dentistry makes a small but significant contribution to employment in Ireland, being directly responsible for 1,990 jobs – a figure not dissimilar to the number of GPs employed. An additional 2,488 support jobs among hygienists, technicians and assistants are directly supported by dentistry – without public subsidy – with an unknown number of other jobs among support professions such as managers, cleaners, etc., also being supported by dentistry.

Second, from a payer's perspective, the cost of dentistry as reflected in average gross expenditure (income) for principal dentists is higher in the Republic of Ireland than Northern Ireland. This may in part explain perceptions of dentistry being more expensive in the Republic of Ireland compared to Northern Ireland and media reports questioning the relative value for money of dentistry in the two jurisdictions (*Consumer Choice*, op. cit.). From the perspective of principal dentists (those who run practices), however, it is evident that the cost of providing care is substantially higher in the Republic of Ireland than in

TABLE 9: Average income and cost by degree of involvement in publicly funded care.

	Percentage of total income generated through DTSS and DTBS		
	<10	10-40	40+
Gross income	575,571	409,139	396,000
Costs	399,429	274,833	333,000
Net income	176,143	134,306	63,000

Northern Ireland. The net result is that principals appear to operate on tighter margins in the Republic of Ireland than their counterparts in the North, enjoy less government aid in the form of grants and may incur additional costs associated with a less certain income stream. That a similar percentage of users reported cost as a barrier to care suggests that residents in the two jurisdictions may view dentistry relative to other services as expensive, though this situation may change given the substantial reduction in funding under the DTSS at a time when demand is projected to simultaneously increase by 30% (*Irish Independent*, March 24, 2010), and the changes to the DTBS.

While the small sample size suggests that caution is warranted in drawing inferences for associates in the Republic, relative to their counterparts in the North their position appears somewhat different. This underscores the importance of not assuming that all dentists are the same with respect to net income. The same would apply with respect to comparisons between male and female dentists and those whose work depends to a greater extent on publicly funded service provision. Whether dentistry provides relatively better value for money in the Republic of Ireland compared with the North would require a more detailed investigation than is possible here and reference also to issues of service quality – an exercise beyond the scope of this report. To the extent that net income reflects excessive profits, however, principal dentists in the Republic do not appear to enjoy a position superior to their Northern counterparts.

Third, as the proportion of revenue generated from publicly funded care increases, so the margins on which principals operate narrow (as seen in Table 9). This may reflect differences in the type of work done privately compared with that funded under public schemes and/or differences in the fee schedule in the private and public sectors. The corollary of this is that dentists have a financial incentive to provide care privately where possible. This incentive will have been increased following the Budget in December 2009 and subsequent announcements that effectively reduced public funding for dental services – interestingly, at a time when some commentators were calling for this to be expanded (Woods *et al*, 2009).

THE PUBLIC DENTAL SERVICE (PDS) IN IRELAND IS RESPONSIBLE FOR improving the oral health of the population. The direct dental services that it provides are focused primarily on children under the age of 16, as well as those (both adults and children) with special care needs of various types. It also plays an essential role in epidemiology and monitoring of oral health. Needs assessment and care delivery aimed at schoolchildren is targeted at particular age groups – dental assessments being offered to children in first or second class (age seven or eight), and fourth and sixth class (age 10 and 12), respectively, in primary school. In areas with available resources targeted assessments continue, for example at age 14 in some areas, while children remain eligible for emergency care up to age 16 at PDS clinics. In 2008, 360 were employed as “public clinic” dentists – approximately 18% of the active workforce (Council of European Dentists, *op. cit.*). To put these figures in perspective, in Norway, where children’s services are similarly delivered through a community dental service, 25% of active dentists are employed in public clinics while in the UK, where children’s services are largely delivered through private general dental practitioners, approximately 6% of active dentists were employed in public clinics. In addition to dentists employed in the PDS, it is estimated that an additional 60 hygienists and 500 nurses are employed. As with dentists generally, it is clear that the PDS makes a small but important contribution to employment.

In addition to being the only provider of free dental services for children, the PDS also focuses on the provision of care to particular groups in the population who may have difficulty accessing mainstream dental services. These are groups that GPs may not have the expertise or (under current funding arrangements and levels) the financial incentive to provide care to. By contrast to public dental practitioners who are salaried, for example, GPs operate largely on a fee for service basis. The additional time involved in providing care to children and/or those with special care needs relative to ‘ordinary’ members of the public effectively raises the cost of catering for the former groups in terms of opportunities forgone. (Within a context of fixed fees per item of service, GPs would face financial disincentives in providing care to such groups. In essence they would receive the same fee but incur additional costs in terms of effort/time and equipment.) In the absence of other provisions such as differential reimbursement, access to care by and, by extension, the oral health of children and special needs groups would in all likelihood suffer in the absence of the PDS. For example, in 2007 it was reported (McCaffrey, 2007) that a typical examination might take on average 20 minutes, generating a fee with private patients of €60 and costs of €51, and yielding a net revenue of €9. If a child or person with special needs required an additional 10 minutes (for example) to deal with, the overhead would rise to

approximately €76, yielding a net loss of €16. (Indeed, as public fees in 2007 were somewhat less than private fees the net loss would be greater for public patients.)

While perhaps similar in many respects to salaried services operated in other jurisdictions in respect of special needs groups, the public service system operated in the Republic of Ireland differs to that in the UK in respect of its arrangements for children generally. The Irish system has been characterised as a “needs-based system” in terms of how care is accessed. Child needs are identified as noted through targeted assessments with care being provided thereafter. Dentists are salaried and as such have little incentive to exaggerate the need identified. By contrast in the UK (including Northern Ireland) system – while care is publicly funded – care services can be characterised as “demand-led” in the sense that parents can choose to bring children to the dentist where care, if deemed necessary, is delivered free at the point of use. The difference may seem subtle but is fundamentally different in terms of its characterisation of dentistry in the Irish context as a merit good (one in which the notion of consumer sovereignty is not deemed to provide an appropriate model) compared with the UK system, in which dentistry is viewed to a greater extent as a normal economic good (wherein the choices of the consumer – the parent in this case – are paramount). More important, perhaps, than the political economy underlying the differing positions on the conceptualisation of care, are the outcomes that arise from them.

As noted in Section 1, the oral health of Irish children does not (in regard to caries) compare favourably with that in the UK. This likely reflects the interplay of a number of factors including oral hygiene habits and sugar consumption (Whelton *et al*, 2006 North South Survey of Children’s Oral Health), as well as the level of public funding for care provision. Currently, as noted, in the Republic assessments are largely provided at two time points for children rather than on a more frequent basis, which may be more effective. Similarly, under current arrangements under which care delivery is organised in 32 distinct geographic areas under 32 different principal dentists and LHMs, significant diversity in how the system operates can emerge. This may undermine the implementation of co-ordinated responses to care needs. However, while the level of caries would appear to be worse in Ireland, evidence does exist to support the contention that the targeted needs-based approach to managing child care needs adopted in the Republic of Ireland is superior in regard to the attainment of equity goals to the demand-led approach used in other jurisdictions. Sagheri *et al* (2009), for example, measuring oral health in terms of DMFT among 12 year olds, found that while a social gradient was evident in both Dublin and Freiburg, Germany (where a demand-led system also operates), the extent of the gradient was lower in Ireland than in Germany when a common

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definition of social class was used. These findings echo those of the North South Survey of Children's Oral Health (Table 2.13, op. cit.), in respect of five, eight and 15 year olds (though it is true that the reverse holds in respect of 12 year olds, inequality being lower in the North).

Other than providing dental services for children, the key contribution of the PDS is in providing care to groups for whom for-profit private dentists would be unlikely to emerge as care providers.

THIS REPORT HAS DEMONSTRATED THE IMPROVEMENTS THAT HAVE occurred in the oral health of Irish citizens over time and the reductions in oral health inequalities they experience. It has argued that these are, in part at least, attributable to oral public health measures, to dentistry and, with regard to children specifically, to the work of the PDS. It has demonstrated that dentistry makes a small but significant contribution to the economy in terms of employment and income generation. It has demonstrated that in respect of the financial position of private GDPs significant heterogeneity exists. While it has provided evidence to support the position that gross income is on average higher among principal dentists in the Republic of Ireland compared with those in Northern Ireland, it has demonstrated that, on average, net income is lower among principal GDPs in the Republic than in the North. In respect of associate GDPs – for whom the overheads are significantly lower – by contrast, higher net incomes are enjoyed in the Republic compared to the North, though the extremely low sample size here suggests that caution is warranted with respect to this result.

Other variations between GDPs in terms of net income are evident related to gender (men earning more than women) and in relation to the proportion of the work they undertook that was publicly funded. Thus, net income is inversely related to the proportion of total revenue generated through the publicly funded DTSS and DTBS schemes. This may serve as a deterrent for dentists to engage in such schemes, an influence that will likely have been given added impetus by budgetary changes in December 2009.

Media coverage of dentists in the Republic of Ireland understandably perhaps paints a perhaps less nuanced picture at times than that which appears from this study. This is, however, not unique to the Irish context (*The Independent*, August 4, 2009).

In relation to the PDS, it has highlighted the contribution of the service to improving health, and significantly of the needs-based system in the Republic of Ireland to reducing health inequalities relative to a demand-led service such as that operated in other jurisdictions.

The study represents a brief review of some key issues in what is a rapidly changing environment. Time and space have required the author to be selective in the choice of issues examined and prevent a more detailed analysis of the admittedly few issues examined. A range of important issues has not been touched on here. These include morale in the dental profession, the impact of an ageing profession on service capacity, the role of private insurance on service use and the potential of social insurance, the implications of medical tourism for health, governance arrangements around use of public funds, the competitive environment and the impact of the economic downturn on all these matters. All these issues warrant investigation, and it is a matter of opinion as to which is the more pressing in terms of research priorities.

Areas that this report suggests might usefully be explored further also exist. First, a more robust analysis of dentist income and costs including variations in these related to age, gender, location and degree of public sector commitment may serve to inform the development of policy regarding general practice dentistry in Ireland in terms of aligning incentives more clearly with policy goals. Such data may also serve to address public concerns regarding value for money. Work in this area has begun in the North and may allow a comparative analysis from which the impact of policy on the profession might be more readily discerned. It is not inconceivable that this would shed light on the extent to which dental tourism is facilitated by state support of GDPs in the North, support some might view as providing a competitive advantage. As the analysis here shows, the use of tax returns (which should be available to government) may prove useful in such an analysis.

Second, the contribution of the PDS, the way in which it is funded and care accessed, is an issue worthy of greater attention. While some commentators have attributed the needs-based approach of this service to a relative reduction in health inequalities, this claim does warrant further investigation. At a time when the State would appear to be withdrawing support for adult care, how it engages with children is perhaps of particular importance for future oral health and health inequalities.

Third, a more detailed analysis of how services are used by different groups in society, what barriers they encounter (financial or otherwise) and what impact these have may prove useful in understanding how policy changes may impact upon different groups. Such an analysis is currently underway in the North and again may provide an opportunity to gain insights into the impact of the system on such relationships through comparative analysis.

At a time of increasing financial stringency and changing policy, dentistry provides perhaps a microcosm of what might occur elsewhere. For this reason, as well as in its own right, detailed multidisciplinary examination of this sector is important.

SAMPLE CHARACTERISTICS

	Principals	Associates
Percentage female	51.61	Unknown

PERCENTAGE AGED

Under 35	19.35	Unknown
35-45	32.26	Unknown
45+	48.39	Unknown

PERCENTAGE LOCATED IN

Dublin	16.13	10
Leinster	38.71	50
Munster	22.58	40
Connacht	22.58	0

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