EXECUTIVE SUMMARY

An Analysis of the Dental Workforce in Wales
Recommendations

- The Welsh Government (WG) should commission the development of an all-Wales approach to capture data on dentist and Dental Care Professional (DCP) numbers and ensure that accurate full time equivalent (FTE) figures can be calculated for both primary and secondary dental care services. Data capture should be on a regular and ongoing basis.

- WG should consider the establishment of an all-Wales Dental Workforce Data Implementation Group to take this work forward by developing a Dental Workforce Common Minimum Data Set.

- WG should ensure that liaison with all Welsh workforce and training stakeholders/partners (PGMDE, HEFCW, Welsh Medical and Academic Board and organisations that in the future take on the current functions of NLIAH) is maintained, and that information is provided to enable effective decision making regarding the training of both dentists and DCPs.

- WG should continue to liaise with UK wide dental workforce reviews/programmes to identify and address clinical specialities where undersupply or over oversupply is of concern.

- WG should encourage and facilitate research into:
  - developing existing and new sources of information on the employment, activity and career patterns of DCPs in all sectors of the market for dental services.
  - dentist/DCP ratios and skill mix to support effective service delivery and team working.
  - the factors that influence decisions by Dental Foundation trainees to stay in Wales or to leave.
  - dentists and DCPs working in the Private Sector.

- As part of the National Oral Health Plan, Health Boards (LHBs) will develop Local Oral Health Plans. These should include regular review of the local dental workforce in the context of any national review and workforce strategies. This should include the need to review provision of specialist dental services to ensure populations have appropriate and timely access to such care. This will require Heath Boards to work together on provision of cross-boundary services.

- Health Boards should ensure the delivery of the four workforce and organisational development objectives in respect of the dental workforce and outlined in the WG document “Working Differently - Working Together”

- Cardiff University (School of Dentistry [UG] and PGMDE) should work with LHBs across Wales to establish how their specialist workforce – particularly those in secondary and tertiary care services – can most appropriately deliver specialist services for patients across Wales.
Conclusions

If the rate of growth in dentist numbers continues at historical rates, Wales is likely to have a broad balance between supply and demand during the next decade. If there are increases in retirement age (dentists choose to retire in their mid-60s or later), or if the rate of growth in demand for treatments slows (e.g. due to economic factors), the supply of dentists is likely to outstrip demand. **Over the past 7-20 years, the average rate of growth in total dentist numbers (c.1.6%-3.5%p.a.) appears to have been significantly higher than the rate of growth in Wales’ population (0.5%p.a.).**

The modelling described in the full report suggests that Wales is unlikely to face a Wales-wide shortfall of dentists during 2012-2020.

A key objective of this analysis is to consider whether we have an appropriate number of dentists working in Wales. Whilst the forecasts reported there provide useful information around the expected future direction of the demand for and supply of dentists it is important to recognise, the forecasts have limitations because they do not capture the full complexity that affect the dental marketplace. Therefore, any decisions about the supply of dentists should be informed by both the forecasts and additional evidence. **This evidence is based on a number of factors and should be taken into consideration when considering dental workforce planning in the future.**

The Medical England report (2011) noted that there should be broader considerations for workforce feminisation “……Legislation introduced in April 2011 will enable fathers to share 50% of maternity leave. For this reason, the effects of part time working and career breaks may not continue to be isolated to women. Fathers have for some time, been able to request flexible working yet the data indicate that there are still differences between male and female working patterns. If the right to share maternity leave is taken up, the differences in working patterns between the gender groups may decrease, as they have in some Scandinavian countries”

Recent research however indicates that changes in working patterns may mitigate this effect: Tomson et al (2012) found:

- 15% of a graduate cohort (qualifying 25 years previously) had been lost from the GDC register
- A significant rise in the number of young dentists enrolling in postgraduate training soon after qualifying
- Young graduates work fewer hours than older dentists did at similar times in their careers
- Over time dentists reduce the number of sessions they work

There are a number of research reports that indicate a growing trend for part-time working. A Scottish workforce study (2010) showed that 62% of the workforce worked full-time, however Gallagher et al (2009) demonstrated that only 60% of her final year students anticipated working full time in the future.

The introduction of specialisation into primary care may also affect the number of graduates attracted to full time careers in general dental practice. Research at a London Dental School indicated over 30% of the final year students expected becoming a dentist with a special interest (DwSI). Additionally foundation dentists have also indicated that there is an increasing desire to
specialise, because this may enable them to avoid the boredom of repetitive generalist work (Gallagher 2007). A shift towards specialist services could alter the pattern of dental service delivery and capacity of dentists may be reduced.

These developments, however, should be viewed as opportunities for change. It has been well documented by a plethora of commentators about the need to use the DCP workforce more effectively. Interim results from the Welsh Dental Pilot Programme have highlighted the advantages of a well balanced dental team delivering preventive based approaches in general dental services. In addition the GDC is embarking on a consultation regarding the Direct Access to DCPs. This may affect both the composition and relative numbers of dentists and DCPs required to deliver services in the future.

Some rural areas in Wales (and in other parts of the UK) have found it harder than others to recruit and retain dentists. Training additional dentists does not guarantee that they will choose to apply for posts (or establish practices) in these particular areas. Social, cultural and professional opportunities afforded by life in a big city have been shown to be important factors in the decision making process of dental graduates about where they work. If these difficulties remain, government and health service planners will need to develop new and innovative solutions to meet the oral health needs of the local populations. Solutions developed in other parts of the UK; in particular, Scotland should be investigated. **The dental workforce in Wales cannot be considered in isolation from the workforces in other parts of the UK and the wider EEA.**
Supporting Information

Overview
This Review was undertaken by the National Leadership and Innovation Agency for Healthcare (NLIAH) during October 2011 – June 2012 at the request of the Chief Dental Officer for Wales. The aim of the review was to compare the anticipated future supply of dental staff against possible future demand, and make recommendations on planning for a sustainable dental workforce.

Methodology
The Review was divided into two main parts:

a) Building a profile of Wales’ dental workforce

Data was gathered from as many available data sources as possible (see Table A below). Where possible data was compared and validated to obtain an accurate picture of Wales’ dental workforce.

Table A: The main data sources used

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Data provided by each source</th>
<th>Main date of data captured</th>
</tr>
</thead>
<tbody>
<tr>
<td>The NHS’ Electronic Staff Register (ESR)</td>
<td>Initial data for the dental workforce directly employed by NHS organisations</td>
<td>September 2011 (updates from Clinical Directors November 2011-February 2012)</td>
</tr>
<tr>
<td>Clinical Directors and Dental Review Reference group</td>
<td>These stakeholders verified and improved the quality of the original ESR data.</td>
<td>November 2011 – April 2012</td>
</tr>
<tr>
<td>Wales Deanery's Dental Postgraduate Department</td>
<td>Data on dentists in Dental Foundation training (Dental Foundation Register) and Speciality Training posts</td>
<td>January 2012</td>
</tr>
<tr>
<td>Cardiff University / Wales Dental School</td>
<td>Data on undergraduate dentists, as well as dental therapists and hygienists in training.</td>
<td>January 2012</td>
</tr>
<tr>
<td></td>
<td>Data on the Dental Clinical Academic workforce employed / based at least partly in the Dental School</td>
<td>January 2012</td>
</tr>
<tr>
<td>NHS Wales Shared Services Partnership – Contractor Services (NHSWSSP)</td>
<td>Supplied NHS dental activity data</td>
<td>2010/11 Financial Year</td>
</tr>
<tr>
<td>General Dental Council (GDC)</td>
<td>Welsh Dental registration list</td>
<td>December 2011</td>
</tr>
<tr>
<td>Health Inspectorate Wales</td>
<td>Workforce data on dentists in the private and NHS sectors.</td>
<td>December 2011</td>
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<tr>
<td>Stats Wales</td>
<td>Official ONS/Welsh Government workforce statistics</td>
<td>December 2011</td>
</tr>
<tr>
<td>Dental Nurse training providers</td>
<td>Data showing number of Dental nurses on training course in Wales</td>
<td>March 2012</td>
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</tbody>
</table>
b) Forecasting Wales’ anticipated supply & demand for newly-trained dental staff

Several different methods of forecasting this “supply” were used, depending on their suitability and the availability of data. The two main methods used were:

- Extrapolating historical staffing, attrition and/or migration trends forwards into the future
- Comparing historical data against “current” workforce data to establish how many of the dental staff trained in Wales typically remain in the Welsh workforce after qualification. These “retention” rates were then applied to the forecasted output of dental staff in training.

The following “demand scenarios” were also produced to assess the variation in the potential levels of future demand for dental staff.

- The number of new dental staff that Wales’ Health Boards anticipate they will require (as set out in their respective Workforce Plans).
- Continuing historical trends in dental workforce size.
- Maintaining current workforce levels (proportional to an increasing population).

Other factors (such as an increasing population and the varying dental need of different age groups) were also taken into account.

“Supply” forecasts were also created to show how many dentists are likely to be available to Wales in each “supply” scenario. The “supply” was calculated as follows:

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\text{No. of newly-trained dentists produced in Wales} + \text{No. of dentists migrating into Wales} - \text{Number of dentists retiring} + \text{No. of dentists leaving Wales for other reasons}
\]

The “supply” forecasts were then compared against the “demand” forecasts to assess whether Wales is likely to face a shortage or surplus of newly-trained dentists (and/or more experienced dentists migrating into Wales).

Oral Health Needs in Wales

- The oral health of the people of Wales is generally poorer than that in England. There are more decayed teeth per person, and of particular concern is the comparatively poor dental health of our children. In the UK the incidence of oral cancer is rising and survival rates have not improved.
- Oral disease is also strongly related to social deprivation. These health inequities can lead to marked differences in how dental treatment is sought and provided.

Increasing population and a particular rise in the number of older people will be a major challenge to the dental profession and Welsh Government to meet the changing need and demand for dental care.
Description of the Current Dental Workforce in Wales

Dentists

- There is an overall total of 1801 dentists working within in Wales* (as at autumn 2011)
- Almost three-quarters of Wales’ dentists who perform NHS work (“NHS dentists”) work predominantly in the General Dental Service (GDS) providing primary care dentistry
- Approximately half of Wales’ NHS dentists are aged below 40, while around one-quarter are aged 50 or above
- Almost 60% Wales’ NHS dentists are male
- In broad terms a higher proportion of older dentists are male, while amongst younger dentists (and dental undergraduates) the gender ratio is close to 50:50
- The Community Dental Service (CDS) has the highest proportion of female dentists (67%), while the GDS has the highest proportion of male dentists (60%)

*D 105 of these dentists work entirely in the Private sector. However, due to data availability issues, they are excluded from the figures in this document unless stated otherwise.

Dental Care Professionals (DCPs)

- Wales has a total of 2842 registered DCPs (as at September 2011).
- 80% of DCPs are Dental Nurses, 10% are Dental Technicians, and 9% are Dental Hygienists and/or Therapists, while Orthodontic Therapists and Clinical Dental Technicians make up the remaining 1%.
- 91% of registered DCPs are female.

Forecast of Future Supply of Dental Workforce in Wales: Trends identified

Dentists

Undergraduates and Foundation Dentists

- During the period 2000/1-2011/12 the number of undergraduates entering the Cardiff Dental School increased each year.
- The percentage of Welsh-domiciled students broadly stayed the same since 2000/01 (c. 35%).
- Since 2006, an average of 64% of dental graduates undertook Dental Foundation Year 1 (DF1) training in Wales. The development of a central recruitment process and changes to pre and post registration mechanisms may affect these numbers.
- During the period 2007-10, an average of 58% of Cardiff trained dental graduates entered the Welsh workforce after completing DF1.

Future Supply of Dentists working in Wales

- 59% (n=1007) of dentists currently working in Wales did not graduate in Wales.
- Of these non-Welsh trained dentists, most of them (57%) obtained their dental degree in England (34% of Wales’ total number of dentists).
• The future supply of English-trained dentists is likely to significantly affect the future supply of dentists migrating into Wales.
• 15% of Wales’ dentists graduated elsewhere in the European Economic Area (EEA), while a further 5% graduated outside the EEA.
• The number of dentists in Wales increased by an average of c.3.5% per year during 2008-2011*

*Changes introduced by the most recent Dental Contract mean that it is difficult to compare workforce figures from before 2006-2008.

Supply of DCPs

• Wales has approximate annual intake of 180 DCPs in training
• If historical commissioning levels continue, Wales is likely to produce 20-23 new Dental Hygienist/Therapists, and 20 new Dental Technicians per year

Utilisation of the Dental Workforce

This Review aims to broadly quantify the potential range of future demand based on modelling the likely effects of a group of “key factors” identified from the available literature and discussions with the Review’s Reference Group.

• Due to the structure of the current GDS contractual arrangements it is difficult to assess the “Full Time Equivalent” (FTE) number of GDS dentists. A proxy for the utilisation of dental services has therefore been used, based on data for the Units of Dental Activity (UDAs) carried out in Wales.
• There is the possibility of changes to the dental contract for primary care dentistry being introduced within the next few years, and this further complicates forecasting.
• The 2011 NHS Workforce Plans suggest that both the Hospital Dental Service (HDS) and CDS dental workforces could remain at their 2011 levels during 2012-2017. However, it is difficult to assess the robustness of the NHS organisations’ forecasts until detailed medium-long term service plans are developed.
• Of concern is the inequity in distribution of certain Dental Specialties and the complete dearth of provision of some across large areas of Wales e.g. Paediatric Dentistry.

There is insufficient data available to create robust demand trends for DCPs. However, the available evidence suggests that:

• The use of skill mix in dentistry is not yet fully developed
• There is scope to make greater use of DCPs to perform some tasks currently undertaken mainly by dentists
• There is also insufficient information on what constitutes optimal dentist to DCP ratio to support effective team working and service delivery.

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i Medical Education England – Modelling the dental workforce supply in England (2010)