Assessment of Complex Restorative Dentistry need, demand and capacity in Wessex.

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1 Executive Summary

1.1 Background

Currently, complex restorative care in Wessex is provided in the secondary sector and through the Independent Funding Referral System in primary care. Some complex care is provided under the primary care contract but this is very limited. This Restorative Service Needs Assessment highlights the variations with regard to treatment numbers and spend between the three monospecialties (endodontics, periodontics and prosthetics) and between providers. As some general practitioners have difficulty providing complex restorative care a more equitable, efficient and effective service is needed, so that patients are treated by a clinician with the appropriate skills and knowledge, to manage their restorative need.

There are increasing numbers of older patients who retain at least some of their teeth and have complex restorations in place which will need management. This will be complicated by potential co-morbidities which make dental care more difficult for practitioners to provide and patients to tolerate. Rising obesity rates which may result in increased levels of diabetes; smoking and high levels of alcohol consumption, will add to the burden of oral disease. Diabetes has a bi- directional relationship with periodontal disease and smoking and alcohol also increase the risk of oral cancer. Local challenges include a low level of specialist restorative expertise, particularly at consultant level, coupled with rising demand for complex care within primary and secondary care.

1.2 Recommendations

- Establish an MCN in Restorative Dentistry
- Establish a local model utilising Level 2 and Level 3a Care Complexity Services (being mindful of the imminent national guidance), to address local restorative needs and gather additional local intelligence.
- Make use of the documentation currently being produced by NHS England and other regional areas to procure the Level 2 service and providers.
- Develop service standards and a fee structure for the delivery of Level 3a Complexity Care, utilising an “any qualified provider” approach for each restorative monospecialty.
- Expand the restorative consultant resource in Wessex, to increase capacity for treatment planning and advice for other parts of the local system and to support multidisciplinary treatment services.
- Encourage local Trusts who are currently providing dental services, to combine financial resources to support service development and expansion.
- Develop and embed training and development into the model to transform the current network of individually functioning providers into a “commissioned team” working within a tiered service model which provides mutual support and peer-review.
- Include a governance process to provide quality assurance, including a requirement for regular audits to maintain quality of care for patients, and value-for-money for commissioners.
- To be involved in the development and implementation of a dental electronic system with associated templates for ongoing service monitoring.
- Plan for a full-service evaluation after 2 years, with an interim review if needed to inform future commissioning.
- Reinforce a preventative approach throughout all levels of the model, linking to local social care services to facilitate equity of care.

1.3 Next steps

The next step is for NHS England to establish a Working Group which includes representation from commissioning, finance, general dental practice, specialist restorative practice and public health. A local Restorative Managed Clinical Network (MCN) is needed to provide clinical leadership for the transformation of restorative service delivery within Wessex.

2 Introduction

Wessex is composed of the following:

Dorset (which includes the cities of Bournemouth and Poole)

Hampshire (which includes the cities of Southampton and Portsmouth)

The Isle of Wight

This large area of around 2.6m people, is complicated by the diversity and social economic differences present across it. As well as the providers within the Wessex region, contracting relationships also exist with bordering counties such as Wiltshire and Surrey which contribute to the restorative care of local populations. These relationships need to be considered when assessing the Restorative needs of the Wessex population and formulating solutions for the delivery of care. Currently there is no patient and provider feedback data from the primary sector regarding the restorative service that is currently in place. Future solutions will need to include processes to capture information on local experiences to ensure that they work well for both patients and providers.

2.1 Restorative Dentistry

Restorative dentistry is a poorly understood specialty by both Trust Managers and to a lesser extent the commissioner. As a consequence, it is necessary within this needs assessment to address the deficiency by outlining the scope and nature of restorative dentistry.

Restorative dentistry is the study, examination and treatment of diseases of the oral cavity, the teeth and their supporting structures.

It comprises 3 monospecialties:

- Periodontics i.e. the study and treatment of pathological inflammatory conditions of the gum and bone support surrounding the teeth. A healthy periodontium is the foundation for dental health
- Endodontics i.e. the study and treatment of the dental pulp (i.e. the tissue inside the tooth comprising the neve and blood supply)
- Prosthodontics is the branch of dentistry that deals with the replacement of missing teeth, tooth structure and other oral structures utilising artificial devices. It is sub divided into Fixed Prosthodontics, which uses appliances and materials that cannot be removed by the patient and Removable Prosthodontics (utilises appliances that the patient can remove).

It also includes the placement and the restoration of dental implants which are used to retain the fixed or removable appliances.

Restorative dentistry is centred on how these disciplines interact during patient management and it is particularly relevant for patients that require multifaceted care. Dentists are trained at undergraduate level in all aspects of restorative dentistry. They undertake a further post graduate year as a Foundation Trainee (in recognised training practices) to prepare themselves for working within the NHS. All dental graduates should, therefore, be able to provide routine restorative care.

It is possible to specialise in one of the monospecialties by undertaking a recognised postgraduate training pathway.

Consultants in Restorative Dentistry have usually specialised in all of the monospecialties or have undertaken extended training covering all 3 disciplines. This broad knowledge and experience means that they have additional expertise over the mono-specialist, in terms of diagnosis and the planning of cases that involve more than one of the restorative disciplines and in managing multidisciplinary cases such as oral malignancy and hypodontia. Their additional expertise and clinical management skills are critical for the strategic development and coordination of restorative care and care pathways.

2.2 What is complex restorative dentistry

Complex restorative dentistry may be considered as any dental treatment that involves one or more of the elements of restorative dentistry. In addition, when treatment replaces or is undertaken on a significant number of teeth, the complexity increases. Routine restorative dentistry may also become complex because of patient related management factors, e.g. the medical history. Sometimes the technical difficulties are much less of an issue, but the planning, co-ordinating and sequencing of the different elements provides the complexity.

2.2.1 Complex restorative dentistry and levels of care complexity

Most of the dentistry that is provided in dental practices could reasonably be classed as *restorative dentistry*. Thus, the majority of routine restorative dentistry is actually provided in general dental practice under general dental services contracts (GDS) held by NHS England, using a system of Units of Dental Activity (UDAs). Most restorative care performed in GDS, for example, would attract a total of 1 to 3 UDAs.

The level of skill and knowledge required to provide treatment varies according to the procedures undertaken. Performers working under the GDS contract may be more skilled and experienced in some aspects of restorative care than others. Consequently, not every performer will want to undertake all procedures without gaining additional experience and training. In general, complex dental treatment is currently recognised under the GDS contract as a 12 UDA activity. Thus, some technically challenging treatments are currently provided under GDS contracts. Occasionally practitioners will opt to carry out this work under a private contract with the consent of the patient. This is allowable under regulations provided the patient fully understands the nature of the arrangement.

When the experience, training or the technical skills are out with the practitioner's expertise, an NHS referral to the secondary sector or a private referral to a specialist practitioner may be undertaken. Failure to refer means that the treatment need remains unmet. This usually results in an increase in the complexity of treatment required if, and when, care is eventually undertaken, as there will have been further deterioration of the oral condition.

The draft national Restorative Commissioning Document [(Ref 1)], describes 3 levels of care complexity, (listed for each monospecialty in Appendix A,1-3).

- Level 1 care complexity

Level 1 requires the skill set and competencies that a dentist gains on completion of undergraduate and dental foundation training. This level of competence is a 'minimum' standard for performers on the NHS performer list. All GDS dentists should be able to deliver this competently.

- Level 2 care complexity

  Level 2 is defined by procedural and/or patient complexity requiring a clinician with enhanced skills and experience who may or may not be on a specialist register. This care may require additional equipment or environment standards but could be provided within a primary care contract as part of the continuing care of a patient or may require onward referral.

  It is important to note that level 2 care complexity can be treated by any dentist who feels that the treatment comfortably lies within their skill set. This can be done within their normal GDS contract and is currently undertaken by many GDP's. It is only if care is to be provided on referral, that the validation of the skill set is required.

- Level 3 care complexity

  Level 3a procedures will be performed or managed by a clinician recognised as a specialist who is on a GDC specialist list or by a consultant. It may often need a secondary care setting at some stage in the process, either to provide treatment, or for investigations that are required for diagnostic and treatment planning purposes.

  Multidisciplinary care, requiring input from a number of consultants from different specialties outside restorative dentistry is classified as Level 3b. The secondary sector is the natural environment for this care. There is potential for some multidisciplinary care to be provided in primary care, if all the specialists are accessible for discussion.

  Currently there are no general dental practitioners with commissioner recognised enhanced skills in restorative dentistry, working in Wessex. Wessex commissioners are awaiting publication of the national guidance on the commissioning of Restorative Dentistry as well as the recommendations for the accreditation of providers of Level 2 care. Once this has been received, a local process to accredit and contract with local providers can be agreed.

  For completeness, some complex restorative care is also provided within the Community Dental Services/Special Care Dental Services, to adults with additional needs and within Paediatric Dentistry for children and young adults. It is not within the remit of this Needs Assessment to address these areas but reference to them is made where appropriate.

2.2.2 Complex restorative dentistry in specialist primary care services

There is a skills and resource gap within the NHS when delivering more complex restorative dentistry. Some patients seek treatment privately as they are unable to access the advanced restorative care they require within the NHS. They may also seek cheaper private treatment options by travelling abroad.

Within Wessex, additional capacity has been made available through an Independent Funding Request (IFR) process. Care under an IFR contracts is undertaken after administrative triage or following a consultant assessment. Specialist practitioners are paid to provide clinical assessments and deliver care which includes Level 2 and 3a care complexity.

The costs of these IFR treatments to Wessex, are shown below in figure 1. There appears to be a differential spend on Endodontic treatments in relation to Periodontics and Prosthodontics. This may reflect issues around demand and unmet need. This is discussed further in section 2.5.

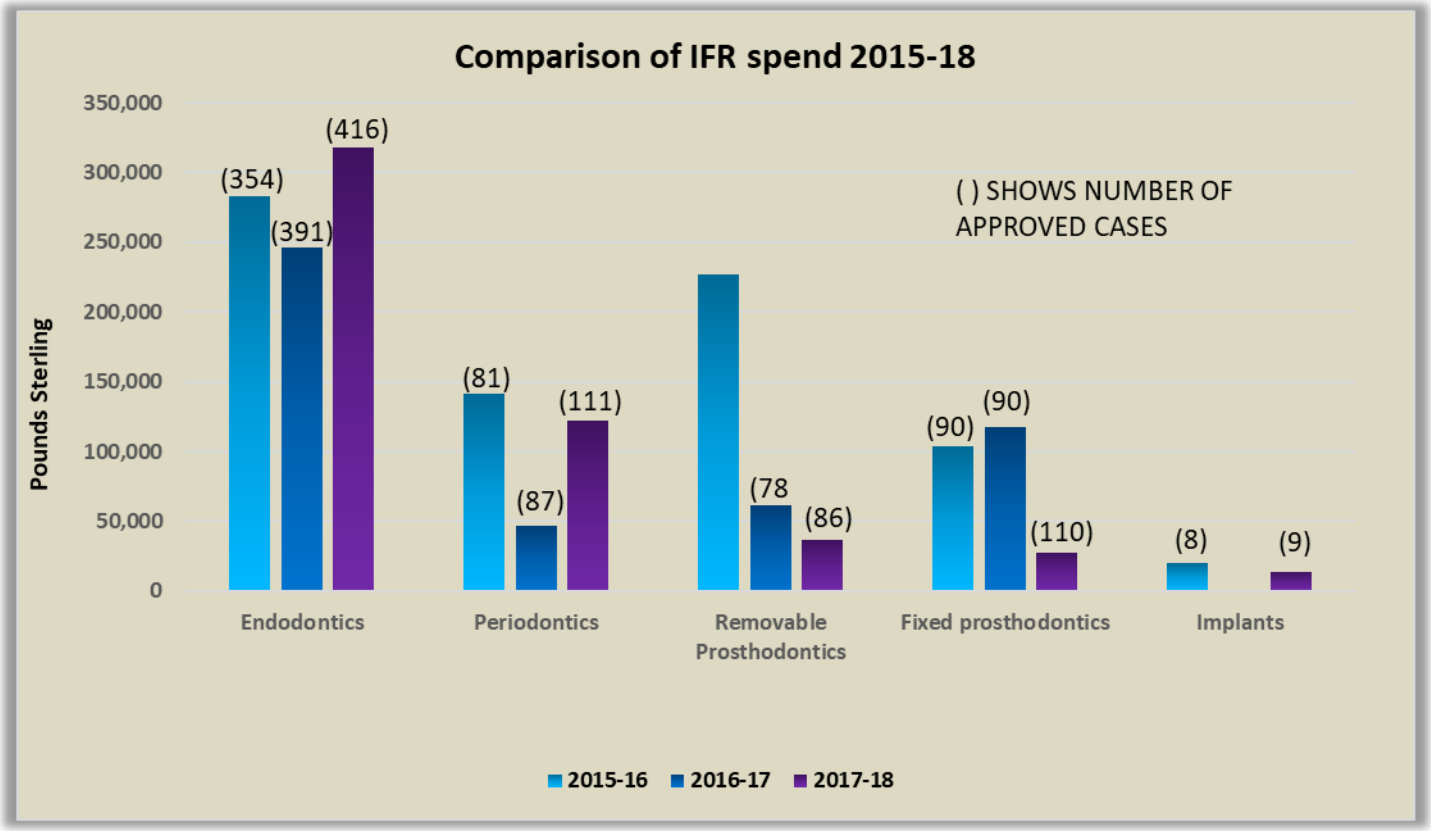


Figure 1: Source of data NHS England (Wessex)

2.2.3 Complex restorative dentistry in secondary sector services

The proportion of patients who access specialist restorative NHS dental services nationally in any year is relatively small. Patients accessing these services are expected to be under the continuing preventive care of a primary care practitioner. Patients are usually referred to Restorative Dentistry Units in local hospitals and/or dental teaching hospitals.

In Wessex, a referral for specialist care or treatment is managed by the NHS South, Central and West Commissioning Support Unit. The Dental Clinical Commissioning Lead will assess whether an assessment by a consultant in Restorative Dentistry is required or if treatment by a specialist is required via an IFR.

In the former instance the patient is returned to the practitioner with a detailed treatment plan if the consultant feels that it is appropriate for primary care. If inappropriate for primary care, the care is undertaken within the secondary sector, providing there is sufficient capacity. Otherwise the care is commissioned from a private specialist under an IFR contract.

In Hospital Dental units where training is part of the service provision, some cases which could be undertaken in the primary sector are undertaken in the secondary sector in order to support the training. This is an important component of local restorative care delivery and it supports development of the dental workforce. Future commissioning strategies should include a process to facilitate continuation of this training.

2.3 Multi-disciplinary restorative services

There are a few areas of highly specialised restorative dentistry. Examples include:

- oncology services for the rehabilitation of post-surgical head and neck cancer patients
- services for developmental disorders such as Cleft Lip and Palate
- the management of hypodontia (a congenital reduction in the number of teeth).

The dental management of these groups often requires a multidisciplinary approach usually involving consultant orthodontists, a restorative consultant and maxillo-facial surgeons.

Many Maxillo-facial Units do not have a restorative component and are therefore unable to undertake the more diverse range of treatments that comprise Level 3b Care Complexity.

2.4 Implant treatment

Within the NHS, implant treatment is restricted to certain priority groups and is usually provided in secondary care. The London and South Treatment Funding Requests Assurance Pilot Scheme was initiated in November 2017 in order to monitor 3 treatment categories:

- Implant treatment undertaken on non-cancer rehabilitation patients
- Orthognathic surgery
- Temporomandibular joint surgery

The results of the pilot will be assessed after a year and will inform a new policy structure.

Recent NHS England policy changes, state that remedial work on dental implants will only be undertaken within the NHS if the implant treatment was initially provided under an NHS contract.

The funding of implants used in the oral reconstruction of oncology patients is not funded within the dental budget and therefore not part of the London and South Pilot.

2.5 Who currently pays for complex restorative dentistry

The NHS makes a substantial contribution to the provision of restorative dental services through contracts with primary care dentists. They also have contracts for treatments which need to be provided in secondary care.

In primary care settings, most patients make a financial contribution to their own care through patient charges. The highest patient charge is currently around £256.50 (in England). A charge is not collected from patients treated under an IFR Contract. This represents a potential source of income.

The funding arrangements for secondary sector restorative dentistry services are determined by local agreement with the commissioners and Trust managers, as Restorative Dentistry sits out with the Payment by Results System. The number of patients seen, the type and extent of treatment that can be provided, is determined by the funding agreement. Patient charges are not collected for NHS restorative treatment, when provided within a hospital setting.

The funding for Restorative Dentistry within the secondary sector has increased slightly during 2017/18. Figure 2 shows the budget for the Secondary sector providers (including London).

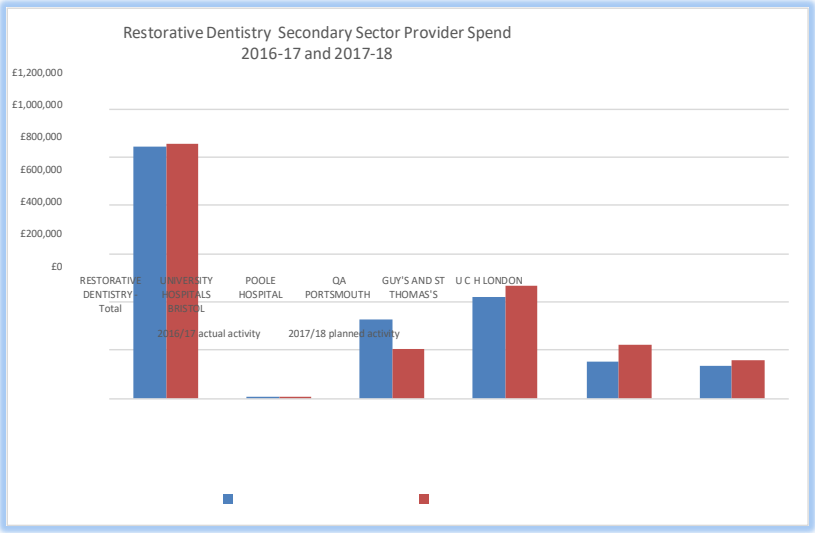


Figure 2: Source of data NHS England (Wessex)

The need to access Restorative Services outside Wessex is a reflection of the limited local Consultant in Restorative Dentistry resource. The spend for activity in Bristol is low compared to other providers because:

a) coding issues mean that cases sent for an Ortho-Restorative opinion are often included in their Orthodontic spend and

b) Bristol's lack of capacity means that as of 2015/16, they no longer able to accept referrals for restorative treatment.

There is a slight reduction in the projected spend at Poole for 2017/18. However, as a consequence of the limited ability for Bristol to provide access to consultant restorative services, Poole ran a number of waiting list initiatives. It was anticipated that this would not be required in 2018, however the current data from Poole (section 3.4) indicates that there is still a secondary sector demand-resource issue in Dorset.

The projected spend for Guys/Kings has increased by approximately 50% during 2017/18 in order to address the issues around Bristol's service provision. For similar reasons the budget for UCH has been increased by £23,000. In view of the demand in Dorset, it may appear to be more appropriate to try and increase local resource by funding providers within the Wessex region. This would enhance and build local services, reducing the need for patients to travel excessive distances. It would also help alleviate the resource - demand issues which the London and Bristol providers currently experience.

The budget spent on IFR specialist providers during the period 2015-2018 is shown in figure 1. The Total IRF spend is shown in figure 3.

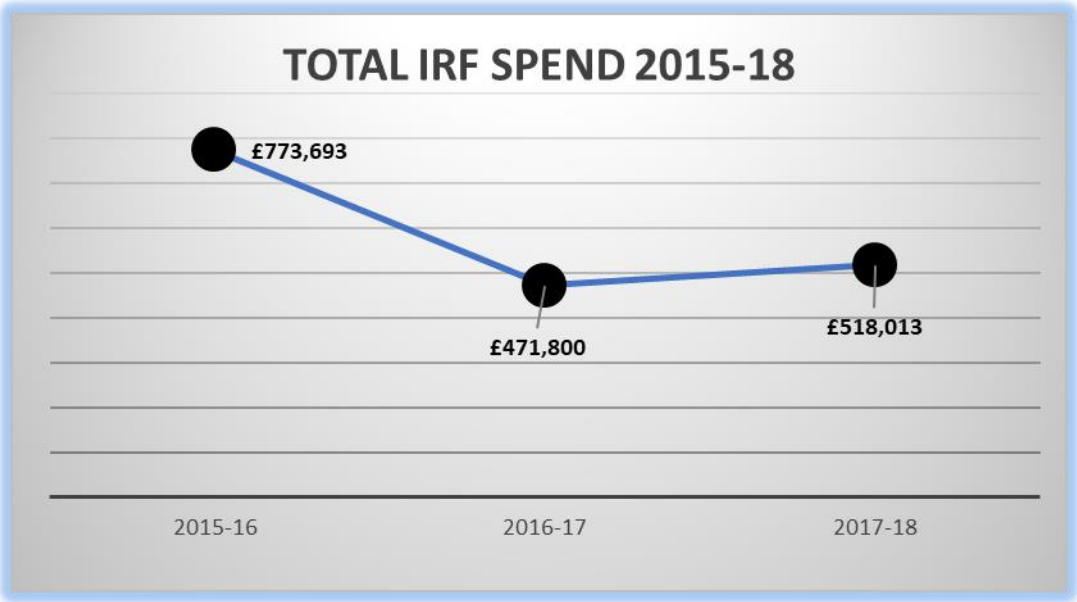


Figure 3: Source of data NHS England (Wessex)

There has been a considerable reduction in spend for 2016 -18. This is particularly evident in prosthodontics and periodontics. This confirms the concerns raised in section 1.2.1 regarding unmet need. However, this data does not distinguish clearly between an assessment appointment and treatment provision and in addition some of the prosthodontic care has been transferred to secondary care. A more detailed analysis of data which separates these factors is required.

Over the 2015-18 time period the number of cases approved for endodontic treatment has risen, with 354 cases treated in 2015/16 and 416 cases in 2017/18. It is however relevant to point out that the Commissioners have been obtained value for money as the average cost per case during the period has decreased from £798 (2015/16) to £764 (2016/17) and £629 in 2017/18.

In 2016/17 there was a considerable reduction in the periodontal spend for approximately the same number of patients treated. In 2017/18 there was a 27% increase in the number of periodontal patients treated at a lower cost than the spend for 2015/16. The number of patients seen in 2017/18 was 111, which is approximately a quarter of the endodontic cases (416) treated for the same year. The average cost per periodontal case is £1,096 in 2017/18, considerably more than the endodontic treatment. This can be partially explained by the fact that endodontic treatment is usually completed in 1-3 visits and periodontal treatment will require considerably more visits over a considerably longer time frame. There is however scope to reduce the cost for a course of periodontal care.

Of note is the spend related to prosthodontic treatment. This has considerably reduced in 2017/18. The total cost for Fixed and Removeable Prosthodontics totalled £63,744, from a total of £329,915 in 2015/16. Due to the complexity and costs of Prosthodontic care the commissioner's preference was for the secondary sector to manage these cases. Therefore, access to a Prosthodontic IFR was restricted. However, at the time and currently, there is very limited capacity in the secondary sector to handle complex patients that require multiple appointments. This has led to the capacity issues that the restorative consultants in the secondary sector are currently experiencing (see section 4). Average cost per case in 2015/16 was £1813, £782 (2016/17) and £427 in 2017/18.

The cost per case in 2105/16 reflects the costs of the materials used, the cost of the associated laboratory fees and the number of visits required to deliver the care. It would appear that more simplistic treatment was undertaken 2016-18 however the detail is not available.

Figure 1 shows the IRF case numbers and costs, Table 1 shows the IFR cases accepted for treatment expressed as a percentage of the total applications for each specialty.

Percentage of IRF Case Accepted for Treatment						
Year	Endodontics	Periodontics	Removable Prosthodontics	Fixed prosthodontics	Implants	All categories
2015-16	47	42	86	88	100	55
2016-17	57	46	85	77	N/A	60
2017-18	59	47	82	78	100	61

Table 1: Source of data NHS England (Wessex)

Around 45% of periodontal and 55% of endodontic IRF requests are accepted for specialist treatment. However, the conversion rate for prosthodontics is considerably higher at above 80%. So, in spite of a commissioning preference for prosthodontic care in the secondary sector during 2017-18, there was still a need to provide specialist care in the primary sector.

When assessing the costs per treatment for the individual providers of specialist endodontic and periodontal care, there is a considerable range. Figures 4 and 5 show the costs for the specialist periodontal providers. The information is useful when considering the fees that one would apply to Level 2 practitioner service provision. However more analysis is required regarding the nature of the treatments provided as the data only shows the average cost rather than an exact comparison of like for like.

The upper range of the average costs, for some endodontic providers, is very close to what a patient would expect to pay following a private referral. The periodontal costs are more difficult to assess as unlike the endodontic treatment, which is complete in 1-3 visits often within the same month, periodontal treatment occurs over long time periods. Treatment costs can therefore extend over successive financial years. The data represents the finances for 2017 and some of the single cases may represent the fee for an initial assessment only.

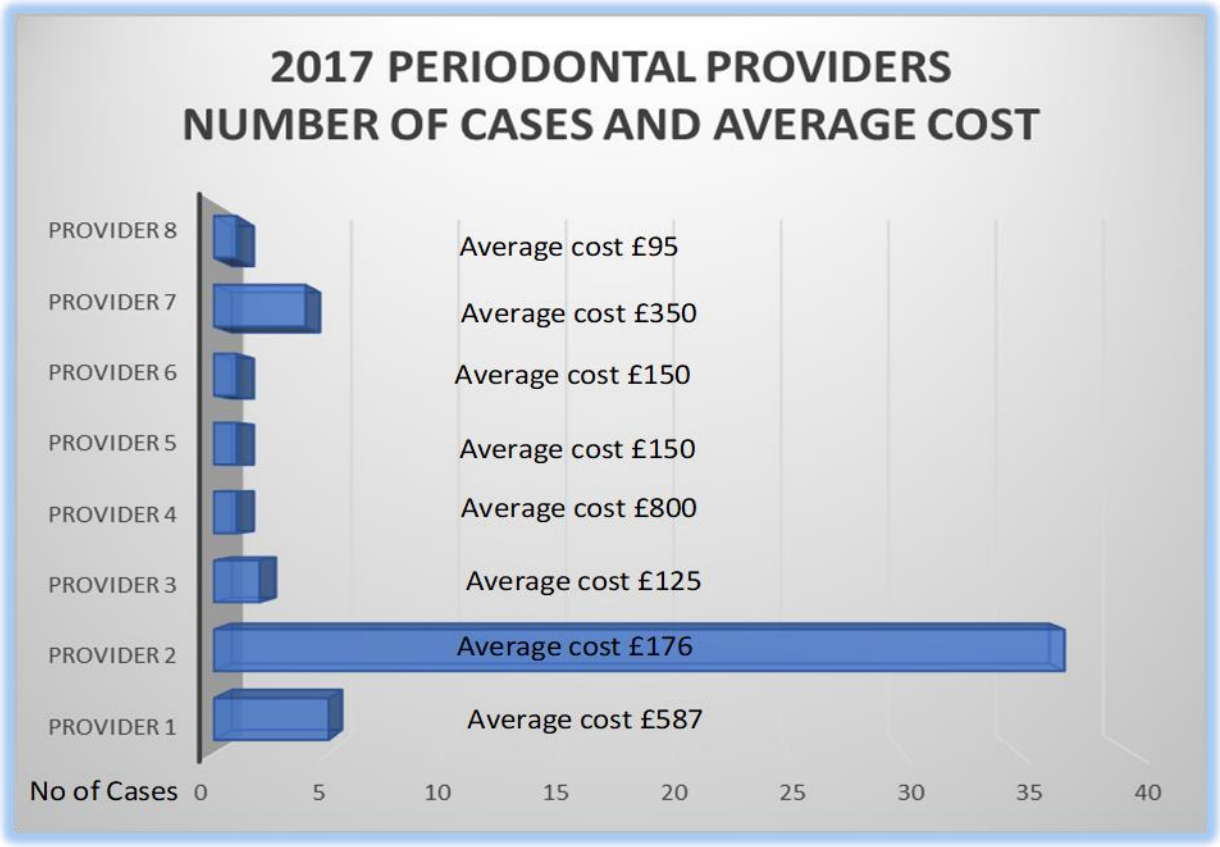


Figure 4. Source NHS Eng (Wessex) IFR Periodontal Specialist providers

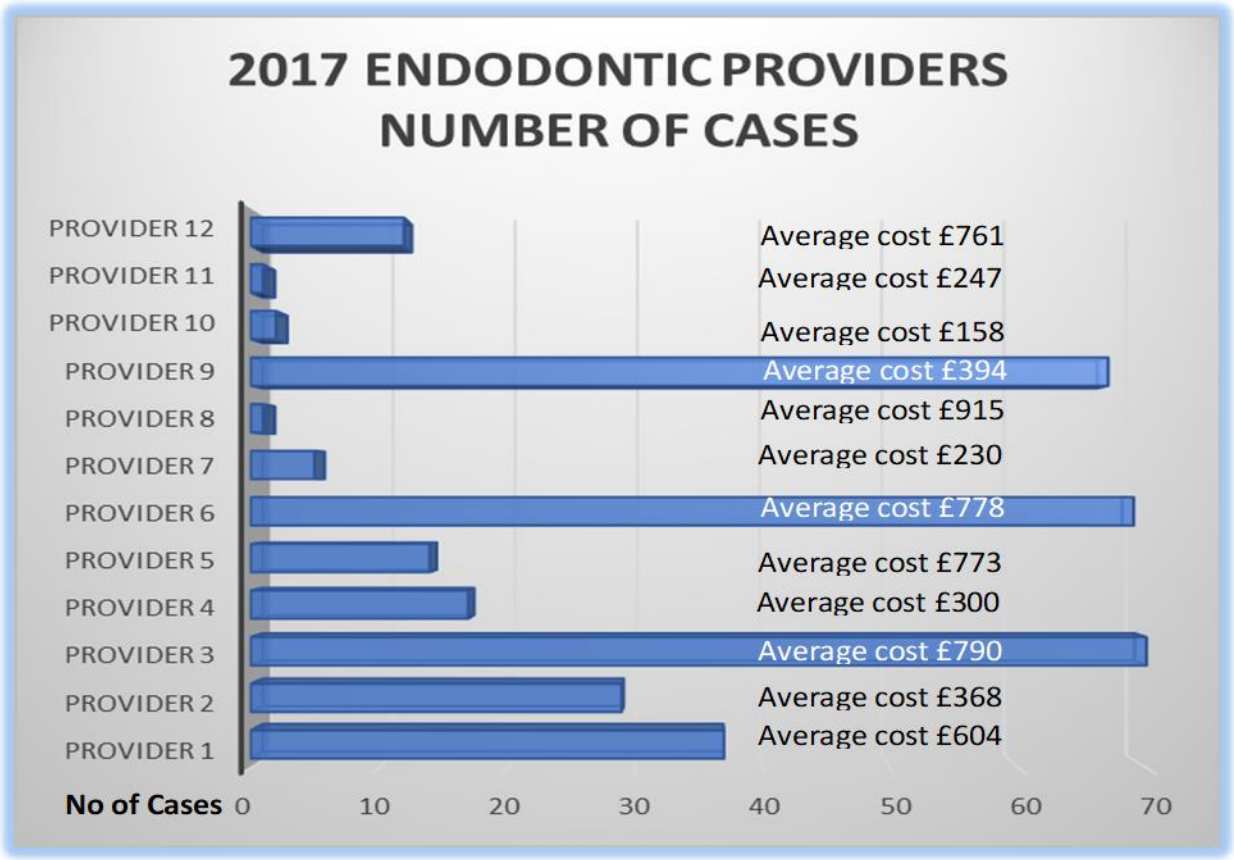


Figure 5. Source NHS Eng (Wessex) IFR Endodontic Specialist providers

3 Epidemiology of dental disease and characteristics of Wessex oral health determinants

3.1 Periodontal Disease

There is no epidemiological data specific to Wessex. The Adult Dental Health Survey 2009[Ref 2] (ADHS), has shown that the national variation is minimal, so the national data should be broadly reflective of the Wessex population. Periodontal diseases are a major public health problem, causing tooth loss, masticatory dysfunction and poor nutritional status.

The ADHS 2009 revealed:

- That only 17% of British adults had a very healthy periodontal status
- 9% of adults had severe periodontal disease (this had increased from 6% in 1999).

Consequently, 72% of the population have signs of this preventable condition. 60% of those are over 65 years.

In general, if untreated, severe periodontal disease first becomes apparent in early middle age. Consequently, many periodontal patients are in their 40's or older. Between 6-10% of the population have an increased susceptibility to periodontal disease. This more aggressive disease form is more difficult to treat and will first manifest itself (in affected patients), in the mid to late teens. If untreated, due to its aggressive nature, significant tooth loss will occur in these patients by the forth decade of life.

Moderate periodontal disease has reduced in the last decade. Evidence suggests that periodontal patients are more likely to be those in a lower socioeconomic group and that they exhibit low dental attendance. Figure 4 below, highlights how the prevalence of periodontal disease increases with age.

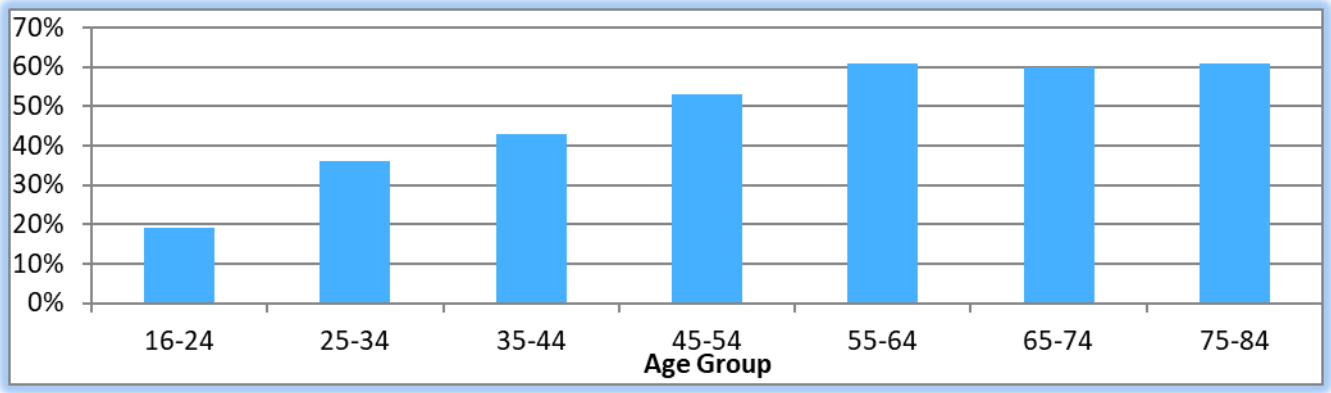


Figure 6. Proportion of adults with moderate or severe periodontal disease by age (ADHS 2009)

The levelling of the disease prevalence in the 65-84 age groups reflects the extraction of poor prognosis teeth in patients with advanced disease. As a consequence, there is an increasing number of patients without their own teeth (edentate/edentulous) who will require prosthetic replacement but will no longer require periodontal treatment.

28% of the Dorset population is aged 65 or more. Over the next ten years, the percentage of Dorset residents aged 65+ is expected to grow by 1.7% per annum. That's an increase of 21,800 people - and almost a quarter of these (5,100) will be aged 85+ (Ref 3). In Hampshire the figures are not up to date, but 17.1% of the population are 65 and over. This equates to 300,000 people (Ref4).

Patients with moderate periodontal disease can be managed relatively easily in primary care. It is the 6-10% with severe disease due to increased susceptibility and more widespread advance periodontitis, who present the commissioning challenge. They are more likely to need specialist input or a combined approach utilising a network of Level 2 primary care practitioners. Advanced periodontal disease seldom occurs in isolation. Patients often present with combined periodontal-endodontic problems, or require decisions to be made regarding the suitability to retain or extract affected teeth prior to prosthodontic treatment. In these cases, input from a restorative specialist/consultant is an advantage.

As well as a clear socioeconomic gradient; diabetes and smoking are significant risk factors for periodontal disease. In diabetics the relationship is bi-directional; so, diabetes can increase the severity of the periodontal disease and the presence of periodontal disease, impacts on the regulation of the diabetic blood sugar level. This relationship must be considered when planning both preventive periodontal and diabetic programmes. The evidence behind the link is of sufficient concern that the British Society of Periodontology has stated the ambition to implement routine diabetic blood screening, for patients presenting with moderate to advanced periodontal disease and who have diabetes risk factors. This assessment will be made in the dental practice.

There is also emerging evidence implicating relationships between obesity, heart disease and periodontal disease. The growing concerns nationally around obesity and diabetes will inevitably impact on dental services and a combined strategy involving local dental, diabetic, cardiac and social health services will be needed.

Dentate adults who had never smoked are more likely to have better oral health than current or ex-smokers. Smoking cessation should also be incorporated into any periodontal treatment pathway.

	England	Hants	I.O.W	Portsmouth	Bournemouth	Dorset
Diabetes prevalence for adults (17+): 2016/17	6.7%	6.2%	7%	5.1%	5.3%	6.7%
Percentage of 16+ classified as overweight	64.8%	65.8%	67.4%	63%	61.2%	65.7%
Smoking prevalence in adults (2016)	15.5%	13.6%	15.3%	20.1%	17.3%	12.6%

Key:	Worse than rest of England		Similar to England	

Table 2: Source of data: Public Dental Health

The importance of periodontal disease and its prevention should not be overlooked. From the data in Table 1; it is clear that Portsmouth, the Isle of Wight, Bournemouth and Dorset are areas of particular concern. The table has been compiled to highlight the worst areas in Wessex.

The information needs to be seen in context with the social deprivation seen across Wessex.

- There are twelve areas (out of a total of 249) in Dorset within the top 20% most deprived nationally for multiple deprivation.
- Nine of these areas are within the urban borough of Weymouth and Portland and two are in Christchurch and one in West Dorset.
  Nine neighbourhoods in Dorset fall into the top 20% nationally for income deprivation, seven of these are in Weymouth and Portland

  Portsmouth is the most densely populated City in the UK outside of London. Poor health and living conditions in Portsmouth, is generally worse than the England average. Portsmouth was ranked 83rd out of the 326 Local Authorities in England in 2015, in terms of deprivation (1 is most deprived). Alcohol attributable hospital admissions are higher than the average. Obesity rates are high in the city, with 22% of children in Year 6 classified as obese. Portsmouth is also worse than the England average for diabetes related amputations (Ref 5).

  In the Isle of Wight deprivation is lower than average, however about 21.1% (4,700) children live in poverty. The most deprived areas parts are Ryde, East Cowes, Shanklin, Sandown, Lake, Ventnor and Newport. A significant proportion of the growth among over 65s will be among the very elderly (85 years and over)(Ref 6 +7).

  It should be noted that Southampton which was previously ranked 81st out of the 326 Local Authorities in England on the overall IMD 2010 (1 equals the most deprived), is ranked 67th in IMD 2105. It has therefore become relatively more deprived.
  The following remain in the most deprived areas in Southampton:
  - Weston (International Way),
  - Thornhill (Lydgate Road),
  - Northam (housing estate).

3.2 Endodontic disease

Infection in the tooth usually arises from tooth decay or the dental treatment undertaken to manage decay. A significant proportion of cases involving anterior teeth, are also the result of trauma.

Untreated teeth with pulpal infection, typically gives rise to a dental abscess and pain, burdening dental and medical emergency services. The objective of endodontic treatment is to retain the tooth as a functioning unit in the mouth. The majority of endodontic treatment is undertaken in the general practice. It is a complex process and outcomes are variable. It can be technically demanding and time consuming.

Specialist endodontic care is required for the most complex of tooth anatomy and for complicated cases where the root treatment needs to be repeated due to technical inadequacies during the initial procedure. Some cases require surgery if a conventional approach is not feasible.

The IFR data in Figures 1 and 3, indicate that there is a high demand and cost for complex endodontic care in Wessex and this is currently being met by specialist private practitioners.

There is scope to involve practitioners with Level 2 skills to treat intermediate complexity cases with a consequent reduction in costs.

It is normally advised that root filled teeth are crowned following treatment. This care should be provided by the referring GDP. However, there will need to be excellent co-ordination between the practitioner and the endodontist as there is potential for bacterial re-contamination during the period of temporisation before the crown is provided.

Consultants in Restorative Dentistry have an important role in assessing the suitability of a tooth for complex intervention so that resources are used to best clinical effect. However, in most cases due to capacity issues, endodontic patients are not assessed or treated in secondary care, so the decision is made by the specialist endodontist.

3.3 Edentulism (Absence of any natural teeth)

The consequences for those aged over 45, with a legacy of higher dental disease earlier in their life, is a dentition with fewer teeth. In 2009, nearly one in five adults wore removable dentures of some description (partial or complete). 6% of the populations of England, Wales and Northern Ireland were edentulous in 2009. Although the percentage of people who have no teeth is small, it still accounts for approximately 192,000 people in Wessex.

There is a strong relationship between increasing age and total tooth loss. Less than 0.5 per cent of adults aged 25 to 34 years were edentulous in 2009, compared with 5 per cent of 55 to 64-year olds and 47 per cent of adults over 85. The proportion of dentate adults with teeth in both arches falls dramatically above 75 years.

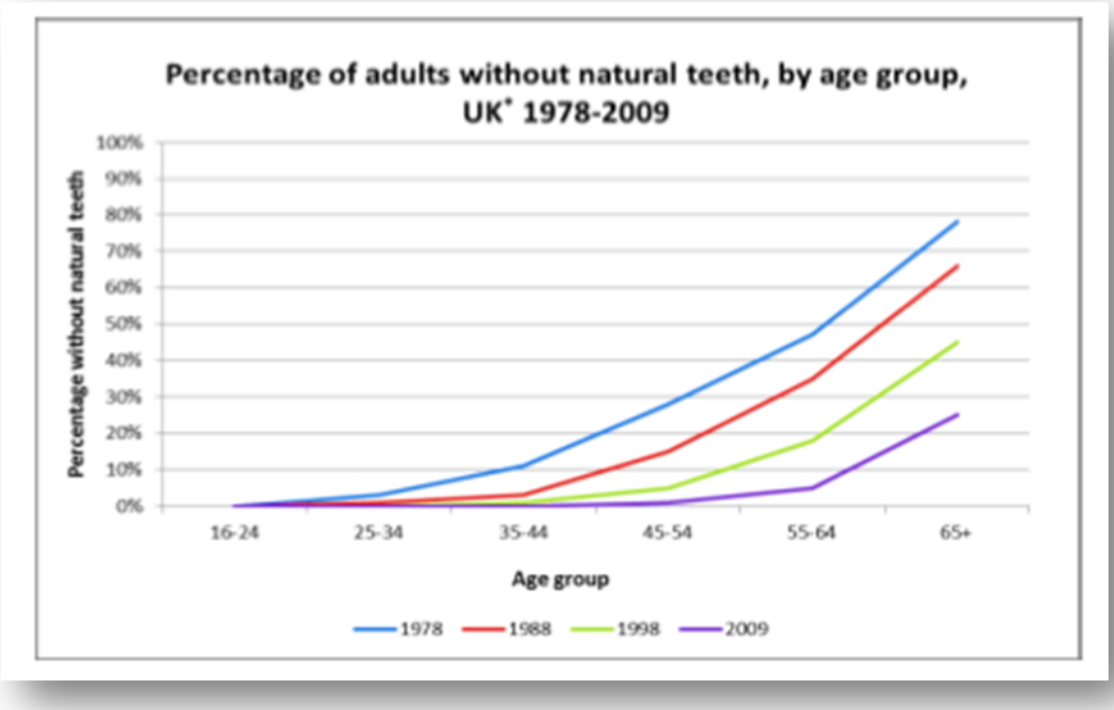


Figure **7** Source: NHS England Improving Dentistry February 2013/14

The fact that approximately half of the very old have retained some natural teeth has important implications in terms of the potential for good oral function, as well as the service implications related to the continuing maintenance of natural teeth.

The increasing incapacity of the elderly to maintain their own dentition, the rising levels of dementia (which results in a declined capacity to clean their teeth and consent to care) and the reluctance of carers to perform dental hygiene, means that there is an oral health “time bomb” waiting to impact on all dental services, but in particular Primary Care and Special Care Dental services.

In the ADHS; the highest proportion of adults with some natural teeth (98 per cent) is the South-Central SHA area (which includes the county of Hampshire and the Isle of Wight. Ninety-eight percent of adults from managerial and professional occupation households were dentate compared to 90% of adults from the lowest socio-economic occupational classification. The difference in the average number of teeth between dentate men and women was small.

The retention of 10 or more natural occluding pairs of teeth is widely used to define the minimum number of teeth consistent with a functional dentition. In certain circumstances fewer teeth may be compatible with health, aesthetics and function. 4 symmetrically sited occlusal pairs are considered to be the acceptable minimum (Ref 9). The evidence base (Ref 10) shows 10 occluding pairs to be a cost effective, particularly in the elderly and this has been described as a goal for oral health by the WHO in 1992. However functional or aesthetic considerations may dictate that the provision of a prosthesis is required.

Some people have retained teeth, but in one jaw only. These adults are still considered to be dentate. However, they are usually required to wear a complete denture in one arch, to function. They often show functional problems related to wearing a denture (including difficulties with speaking, eating, and self-esteem) with more severe impact on older age-groups, including contributing to frailty, mental health and loneliness through avoidance of social situations. For both the patient and clinician this is an important and often challenging condition to manage. The situation is not helped as many undergraduate schools have stopped actively teaching complete dentures, creating a skill deficiency which will compound with time (Ref 8). This is particularly relevant as the role of Clinical Dental Technicians (who can now work directly with patients to provide dentures), which was portrayed as a solution to the skill deficiency, is currently being reviewed. Secondary sector providers report increasing referrals for complete dentures reducing their capacity to treat other patients. Addressing this skill gap will require education of the GDP’s and recruitment of experienced clinical dental technicians.

3.4 Non-cariogenic tooth surface loss

Tooth decay, tooth wear and trauma to the teeth all cause irreversible damage to tooth structure. The dental treatment required to manage these conditions also affects the quality of the tooth structure and these factors carry a lifetime dental challenge.

Severe tooth wear is a condition that restorative consultants see very frequently as it is challenging and expensive to manage. Wear of the dentition occurs in 3 main ways:

- Attrition (as a result of teeth to tooth contact)
- Erosion (chemical dissolution of the tooth as result of high consumption of acidic food and drink, or gastric reflux)
- Abrasion (as a consequence of wear against more durable dental materials used to restore teeth or as a result of incorrect toothbrushing)

Typically, they occur in combination.

Whilst tooth wear is a natural physiological process there is concern that the rate of wear is increasing in the modern dentition, to a degree that it is considered as pathological. The prevalence of tooth wear in England has increased since the 1998 survey. 66 per cent of the dentate population showed signs of wear in 1998, compared with over three quarters (76 per cent) in this 2009. This is probably due to changes in diet, particularly increased consumption of acidic fruit juices and carbonated drinks, which have a detrimental impact on enamel.

Overall, the prevalence of wear extending through the outer enamel into dentine was high, with over three quarters (77 per cent) of dentate adults showing some tooth wear in their anterior teeth. Moderate tooth wear has increased from 11 per cent in 1998 to 15 per cent in 2009. The greatest increase was seen in the youngest three age groups; 16 to 24, 25 to 34 and 35 to 44 years. It is suggestive of rapid tooth wear and it will impact on the 2019 survey results, with a likely increase in patients exhibiting moderate and severe wear.

10% of the population are more prone to tooth grinding. They are known as Bruxists (Ref 11). The aetiology of bruxism is associated with psycho-social factors and sleep disorders. Bruxists place considerable forces on their dentition and restorations, leading to tooth destruction and the failure of the materials that are used to restore the worn teeth. They present a considerable challenge in respect to the durability and longevity of the restored dentition. Their dental management falls into the category of complex dental care.

3.5 Dental caries

In the ADHS 2009, just under one third of adults (31 per cent) had obvious tooth decay in either the crowns or roots of their teeth. For those adults who had some decay, the average number of teeth affected was 2.7. Adults from manual occupation households are more likely to have decay than those from managerial and professional occupational households (37 per cent compared with 26 per cent). The highest prevalence of decay in the crowns of the teeth is in adults aged 25 to 34 (36 per cent). Seven per cent of adults had active root decay. This proportion varied by age; with the 75-84, year-old, age group experiencing the highest occurrence (20%). It is associated with dietary changes and failing oral hygiene and again presents a management issue for Special Care and Primary Care Services.

In 2009, 37 per cent of dentate adults had artificial crowns. There was significant variation with age. Only 5 per cent of the 16 to 24-year olds had crowns compared to between 55 and 59 per cent of those aged 45 to 74.

3.6 Head and Neck Cancer

Patients who have had surgery for oral malignancy often require restorative care in order to restore their oral function, (either chewing, speech or swallowing or most likely a combination). Incidence rates for head and neck cancer in the UK, are highest in people aged 70 to 74. Most cancers occur in the age group 50-74 with only 12% of cases occurring those less than age 50.

Since the early 1990s, head and neck cancer incidence rates have increased by 31% in the UK. More significantly over the last decade, the incidence has increased by 24% and the rates for oral cancer are projected to rise by 33% by 2035.

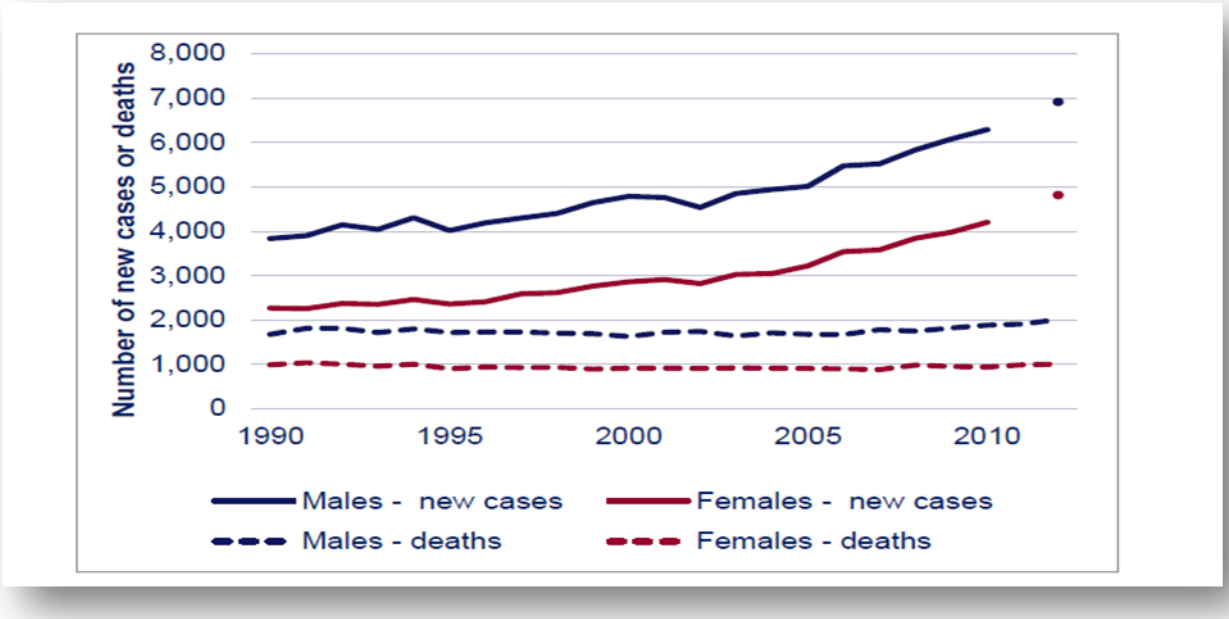


Figure 8 Incidence and mortality trends for oral head and neck cancer England 1990-2010
Source: National cancer intelligence network

Risk factors have been identified as the combined effects of smoking and alcohol; and HPV in the young. Head and neck cancer in England is more common in people living in areas of deprivation and amongst population subsets with a connection to the Indian sub-continent (Ref 12).

	England	Hants	I.O.W	Portsmouth	Bournemouth	Dorset
Smoking prevalence in adults (2016)	15.5%	13.6%	15.3%	20.1%	17.3%	12.6%
Oral cancer mortality per 100,000 population (2014/15)	4.6	3.9	4.9	4.7	5.2	3.5

Key:	Worse than England		Similar to England	

Table 3: Source of data: Public Dental Health

This higher than average smoking prevalence, may create a need for increased Restorative care across Wessex, particularly in Bournemouth, Portsmouth and the Isle of Wight. Both from a periodontal point of view and post cancer rehabilitation.

Post cancer oral rehabilitation will be performed by hospital based multi-disciplinary teams. The restorative work is designated as Level 3b in the Draft Restorative Commissioning document and will be undertaken by consultants in Restorative Dentistry. In view of the prevalence data, it is appropriate that the Consultant services are based in Portsmouth and around Bournemouth.

It is likely that there will be an increased demand on the existing services and a consequent need to increase consultant resource. Creating a Level 2 prosthodontic work force will allow

the devolution of some of this care to GDP's and to the Special Care Dental Service. The dental maintenance of these patients will be also devolved to the primary sector following completion of treatment, thereby impacting GDP and Special Care Dental Services.

3.7 Hypodontia

The congenital absence of teeth in primary and permanent dentition has a prevalence of 6.0-8.0% in the UK population [(Ref 13)]. There is no specific data for the prevalence across Wessex. It is now a mandatory requirement for these patients to be treatment planned by a multi-disciplinary team (MDT). This group of patients represents a significant part of the caseload of secondary orthodontic and restorative consultant services.

Treatment also requires frequent interaction between the consultants during treatment progression. Following the orthodontic phase, restorative care, in the form of fixed or removable prosthodontics, or implant treatment, is carried out either in the primary sector by the referring practitioner or the secondary sector centre, according to its complexity.

There is a significant problem around the delivery of MDT care across Wessex. This is discussed in section 4 Secondary sector services.

3.8 Cleft lip and palate

The cleft services for Wessex have a Salisbury-Oxford axis. Information from the Hampshire Orthodontic MCN indicates that there are approximately 100 cleft babies per year. Salisbury has about 50 new cleft births annually. About 25 will potentially need restorative input. Of these 25 cases, about 5 might need advice only, with the local primary sector providers undertaking composite build ups, veneers or adhesive bridges. The other 20 will need advice and treatment within the secondary sector. The Cleft Lip and Palate Service is funded by specialist commissioning. However, the dentistry is not being fully funded at the Salisbury centre.

The QA Hospital Portsmouth is recognised as the regional centre, but London Dental Schools and occasionally Bristol, undertake the restorative care. Very few cases from Wessex go to Oxford for Restorative care. Poole does not have a contractual agreement to provide this restorative support.

This patient group, although requiring specialist multidisciplinary care, does not produce a high restorative demand because of the modern approach to surgical repair and cleft management. There is a small residual population of cleft lip and palate patients whose management is shared between the primary and secondary sectors according to the complexity of need.

4 Measuring Restorative Dentistry treatment need and demand in Wessex

4.1 Periodontal treatment

The IFR Periodontal Treatment spend in Figure 3, suggested that there was an unmet need for complex periodontal and prosthodontic treatment in Wessex in 2017. Data from the Band 2 treatments claimed within the primary sector (Figure 8 below), suggests that a significant amount of what would be considered Level 2 Periodontal care is already being
undertaken in primary care. This mostly takes the form of scaling and polishing of the dentition as part of a Band 2 treatment.

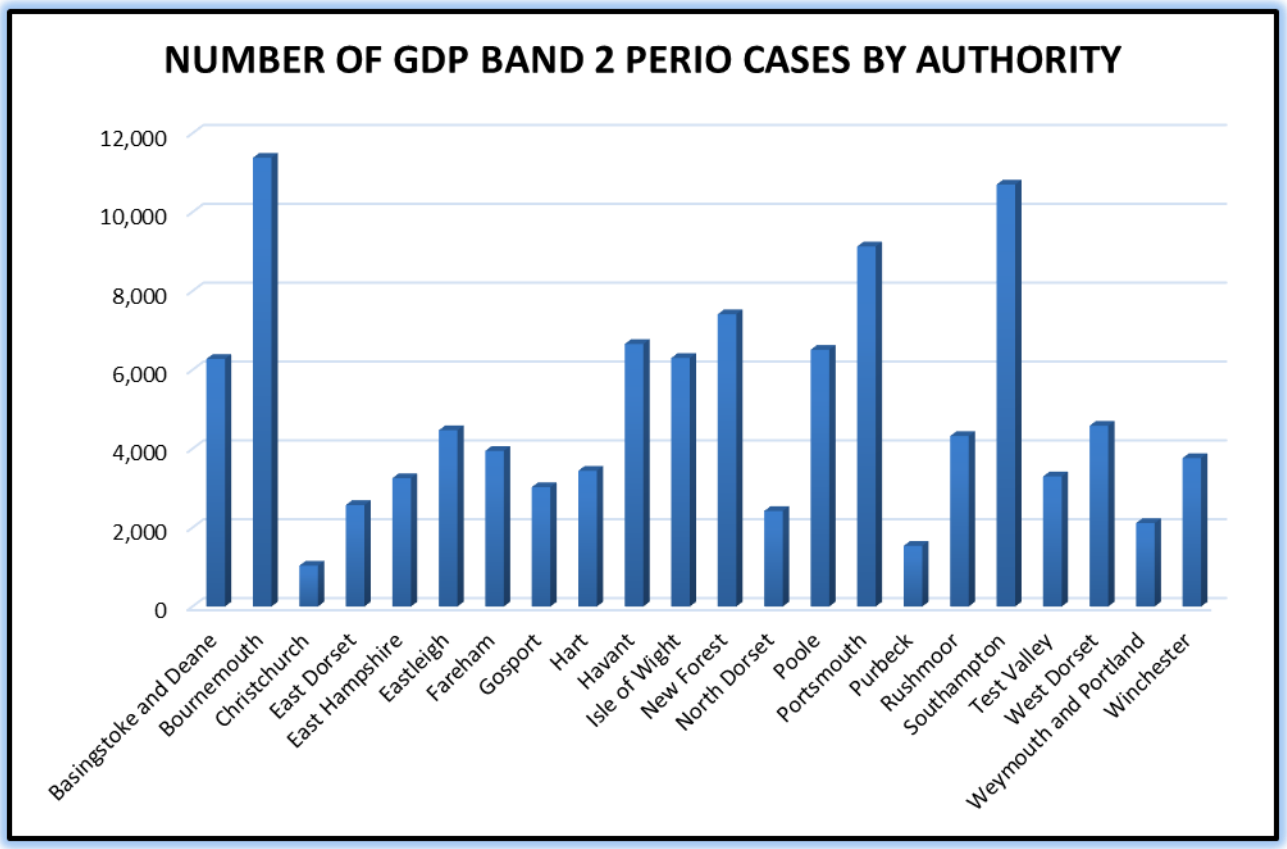


Figure 9: Source of data: South Region (Wessex) NHS England

The higher than average NHS Band 2 Periodontal treatments by area is potentially explained by the relative density of dental practices, but may also reflect disease prevalence across the region. There is a high practice density in Bournemouth, Portsmouth and Southampton with low density of practices in Christchurch and Purbeck (see figure 10 and 11). One should not ignore the potential influence of a practice's proximity to the local specialist periodontal services, which are based in Winchester, Basingstoke, Poole and Bournemouth. If this last factor was an influence one may expect fewer NHS treatments in these areas. This is not entirely reflected in the data.

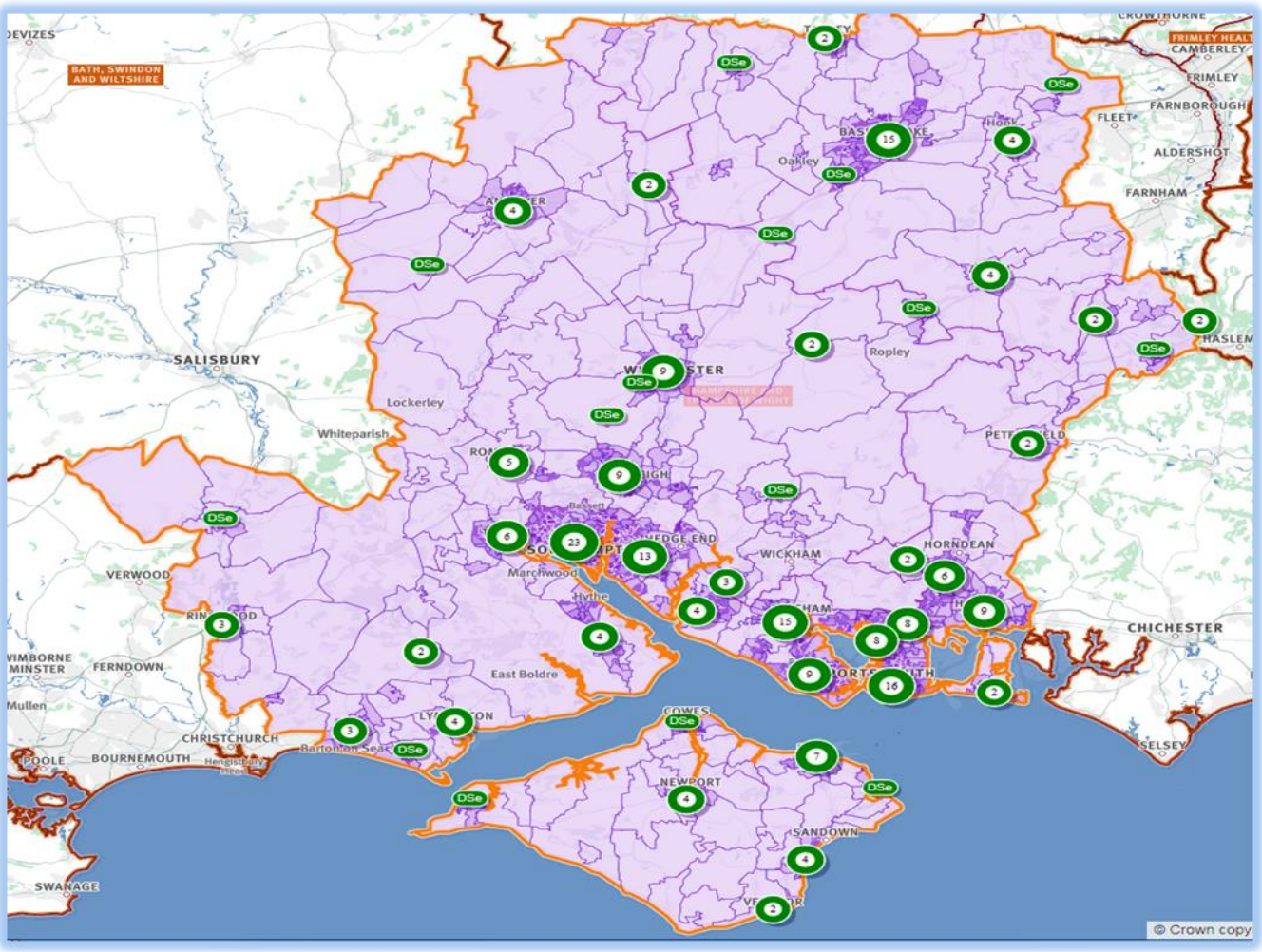


Figure 10: Distribution of practices in the Portsmouth area illustrating practice density.

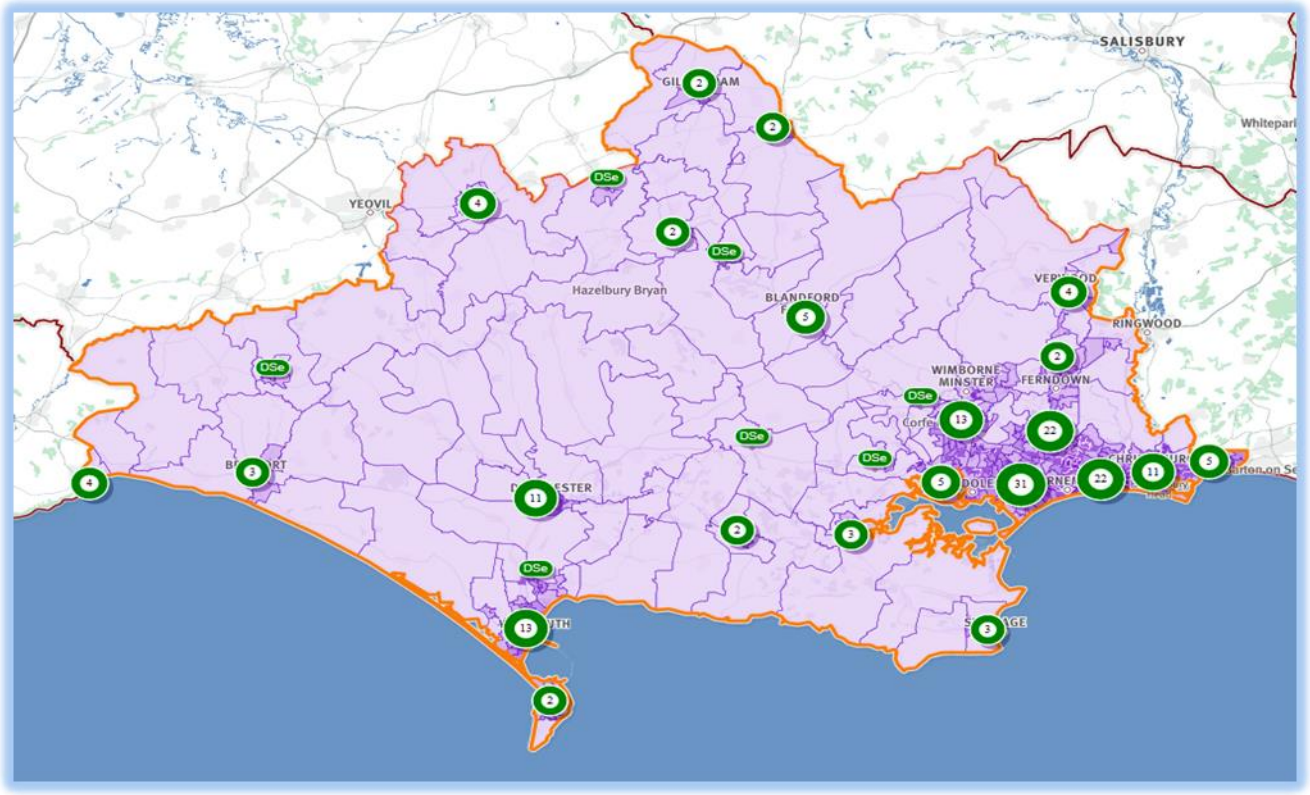


Figure 11: Distribution of practices in Dorset illustrating practice density.

The modern approach to the management of periodontal disease is for the patient to take responsibility for improving and maintaining their oral hygiene. The management emphasis is on behavioural change, so that the patient accepts responsibility for the daily effective cleaning of the dentition. The daily removal of the plaque biofilm is critical for disease control. If this behaviour is acquired by the patient, the patient becomes less reliant on regular visits to the hygienist.

This approach is now well established and has been shown to be more effective in the management of periodontal disease. However, the approach requires time spent explaining to the patient the nature of periodontal disease and teaching them how they can effectively remove plaque. This time is not recognised or remunerated under the current UDA system. It is therefore difficult to break the reliance on regular hygienist support.

When one looks at the low IFR spend on periodontal disease (Figure 3), there does appear to be a disparity between the delivery of complex periodontal treatment and the actual ADHS disease prevalence. Whilst not ignoring the periodontal treatment that is delivered by general dental practitioners, this may reflect a lack of demand for treatment from patients, or a reluctance/difficulty, around referring for specialist NHS services. Only 16 percent of the referrals seen in Q A Hospital, Portsmouth are classified as periodontal.

The concerns are that there is still a high prevalence of disease in the population and that the various providers may be undertaking different treatment regimes. There is also a lack of data to support the outcomes that are achieved.

4.2 Endodontic treatment

The Band 2 and IFR endodontic treatment data indicates a considerable demand for endodontic treatment within Wessex. The demand management is therefore occurring within the primary sector utilising specialist practitioners in addition to the GDP treatments. There is a low level of treatment in the secondary sector (see section 3.4). The key areas for GDP treatment are around

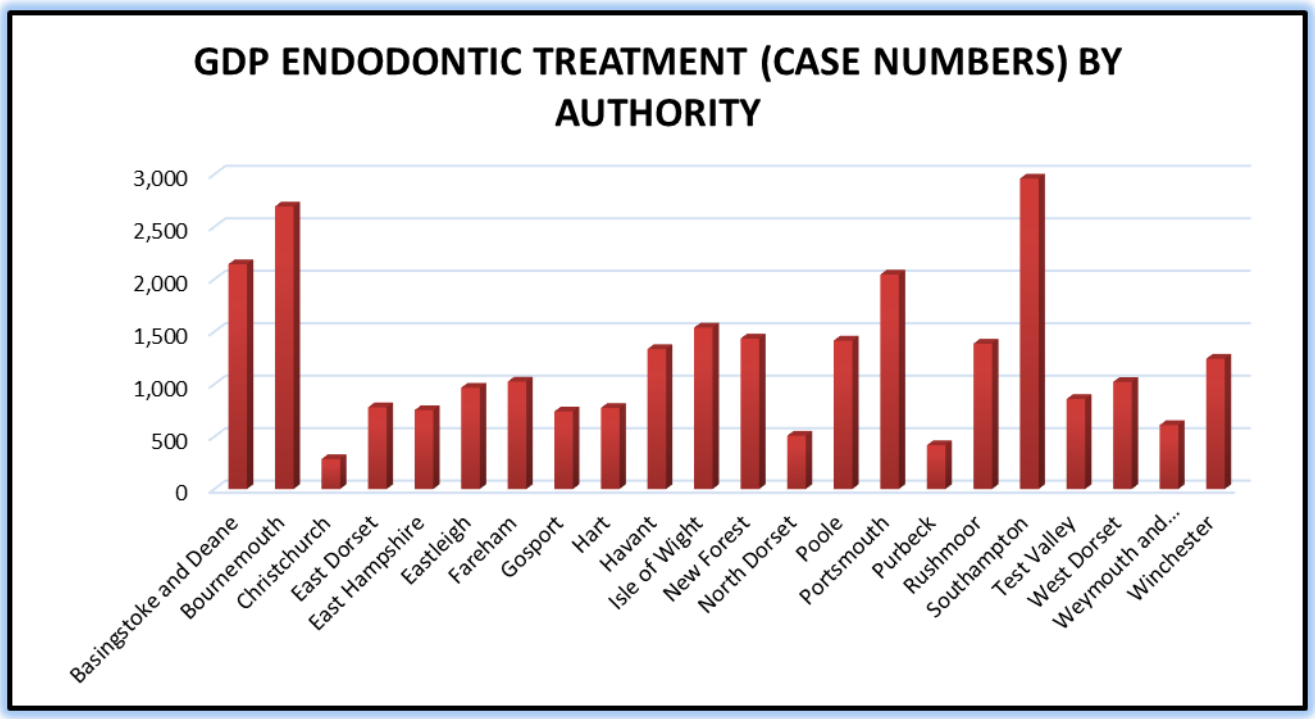


Figure 12: Source NHS Wessex GDP Band 2 endodontic treatment

Southampton, Bournemouth, Basingstoke and Deane, and Portsmouth; i.e. across Dorset and Hampshire. As with the Periodontal data this is probably a reflection of the practice density although these areas are recognised as having components of social and medical deprivation.

4.3 Removable prosthodontic (Denture) treatment

The number of treatments provided for removable prosthodontics by general dental practitioners is shown in figure 13, distinction has been made between dentures made for the upper arch and those made for the lower arch. Most dentures have been made for the upper arch. This probably reflects that the upper denture is easier for patients to adapt to and because in general there is a greater aesthetic benefit to replacing the upper teeth.

The provision, as with sections 3.1 and 3.2, probably reflects the practitioner density and areas of deprivation. The majority of dentures have been made in acrylic. This is a reflection of the fact that acrylic dentures are simpler to fabricate, they can be repaired and added to easily and the laboratory bills associated with their fabrication are lower. It is therefore possible for the practitioner to make their provision economically viable.

Partial metal dentures are more complicated to make. They can be more easily designed so that the load on the denture is supported by the teeth, making it more comfortable for the patient. The most effective partial dentures are metal dentures that are tooth supported and provided in a dentition which has optimal periodontal health. The cost of their fabrication to the clinician, is greater than for an acrylic partial denture because of the cost of the laboratory materials and the technicians fee. Their production means that the GDP often makes a financial loss. It is probably for this reason, that the number of metal partial dentures is so low.

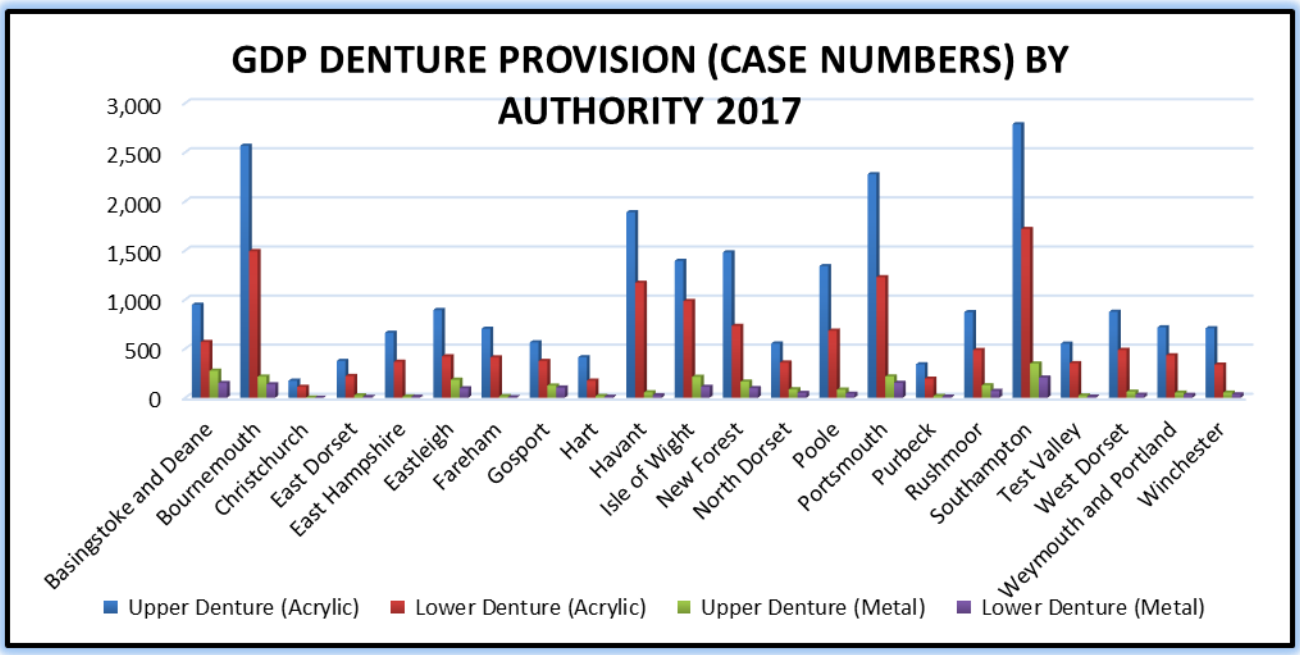


Figure 13: Source NHS Wessex GDP Band 3 removable prosthodontic treatment

However, there is no data for Wessex regarding this. A significant number of dentures were provided in 2017 reflecting the levels of primary disease (periodontal disease and caries) present in the population and the need for tooth replacement.

The data that distinguishes between complete dentures and partial dentures is not available. Feedback from the IFR process and the secondary sector consultants indicate significant issues around the fabrication of functioning complete dentures, particularly in patients where there has been significant bone resorption in the tissues supporting the denture.

Concerns were raised in section 1.4, that there is an unmet need in relation to the management of difficult complete dentures and moderate and severe tooth surface loss. These complex cases represent the most time-consuming dental treatments and generate highest lab fees and it is understandable why there may be a reluctance to undertake the treatment in practice and an increased drive to undertake this care in the secondary sector in 2017.

The IRF data for prosthodontic treatment appears in section 1.2.2 and 1.3.4. It does not detail the kind of prosthodontic treatment that is provided and does not distinguish between fixed and removeable prosthodontic treatment. As such it is likely to include some funding of crowns and fixed bridgework.

4.4 Secondary sector services

Consultant Restorative services are currently available in Poole Hospital NHS Foundation Trust and Portsmouth Hospital NHS Trust. There is also a Restorative Service in Surrey, at The Royal Surrey County Hospital, Guildford which provides some care for Wessex patients. The historic referral patterns and the difficulties disrupting referrals to London and Bristol were described in section2.5. Despite commissioning attempts to address this, there is a fundamental issue regarding capacity. An expansion in local capacity, both in primary and secondary sector services would address this.

- Poole Hospital

Figure 14: Source Poole Trust Non-Oncology patient numbers

- Data from Poole indicates an increase in oncology patients, particularly since 2015. The increase is significant. The service at Poole is summarised in Appendix B. The priority for the

service is oncology. However, over the last 2 years the Commissioners have requested that the service undertakes waiting list initiatives to support the primary sector, by undertaking restorative treatment planning and a very limited amount of treatment.

Whilst oncology work and multidisciplinary treatment at Level 3b is the priority, it is recognised that there is a need to increase consultant resource to support Ortho - Restorative treatment and the planning of general dental practice patients.

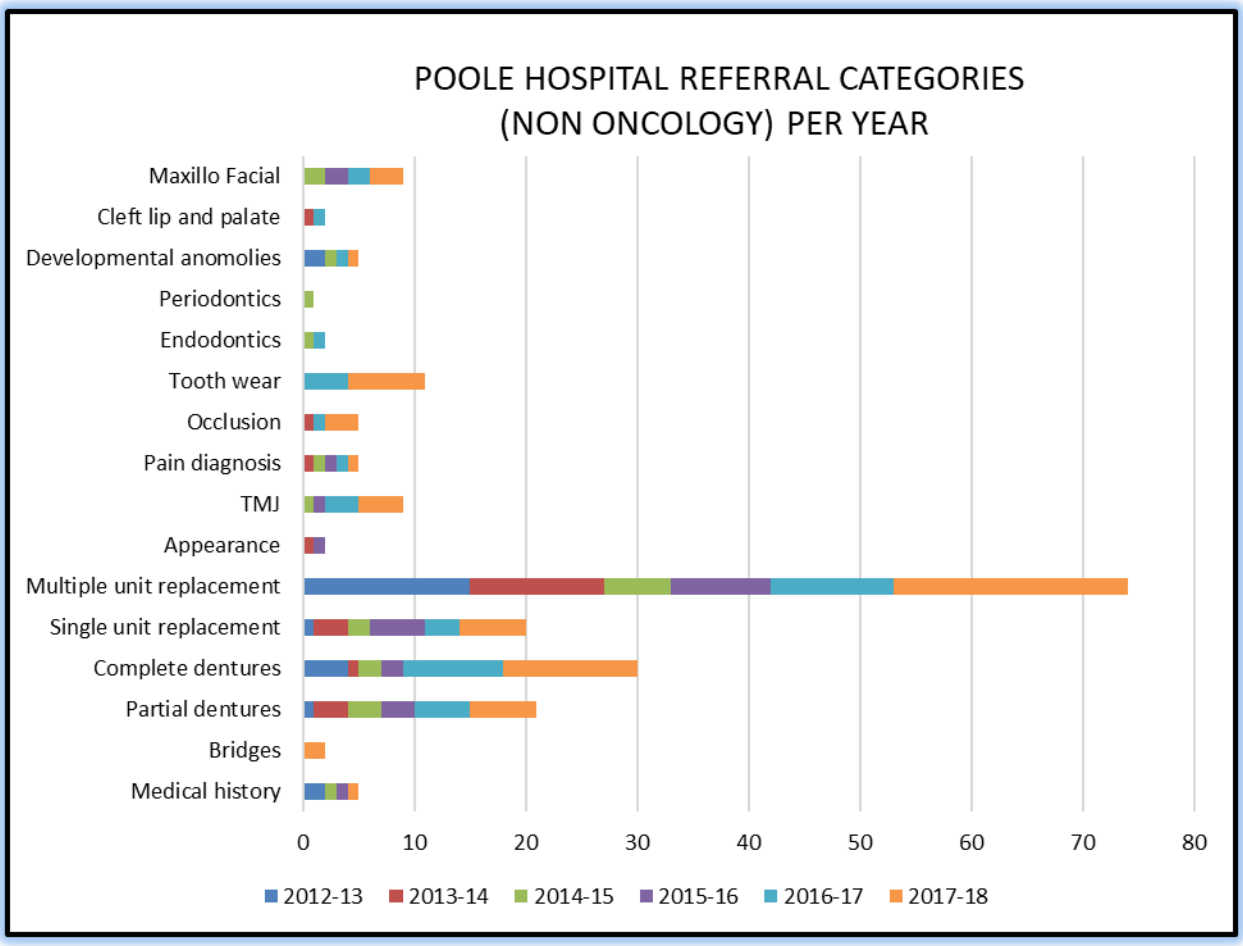


Figure 15: Source: Poole Trust. Non Oncology Referral Categories

The greatest non oncological referrals are for Tooth surface loss, and fixed and removeable prosthodontics. Overall, the second highest referral is for complete dentures and the numbers have increased in 2018. It is recognised by the consultant that with the existing resource, there is an inability to undertake non oncological Level 3b work. If this work is to be undertaken it will require an expansion of clinical resource.

Level 2 treatment provision is not seen as part of the service at Poole and will require the identification of another workforce to address the need.

- Q A Hospital Portsmouth

The resource at QA is identified in Appendix C. QA offers a more comprehensive service within its Maxillofacial Unit. The presence of orthodontics, restorative dentistry and maxilla-facial surgery

means that the MFU effectively acts as the regional hub for Wessex. The orthodontic service provided by Southampton Hospital is terminating in January 2019. A replacement service will be provided in Southampton (site tbc), most likely utilising consultants from Portsmouth and/or Salisbury Trusts orthodontic services.

The re-organisation will generate an increase in Ortho-Restorative work at Portsmouth as previously the referrals that were sent to London will be managed within the unit. This will impact on the ability to provide restorative treatment planning and Level 2/3 treatment. The restorative service is already committed to provision of Level 3b multidisciplinary treatment. However, the staffing within the Portsmouth Restorative unit has reduced over the last 12 months which is putting further pressure on the service.

A recent evaluation of the Restorative Service profile (see Appendix C) shows that the service is already delivering a Level 3 b service for Oncology and Hypodontia. Of cases referred for treatment planning advice, the major primary referral is the difficult denture. This category of care exceeds the post oncology referrals. 77% of the cases undertaken for treatment, involved prosthodontics. Half of these were for post cancer rehabilitation or for hypodontia patients.

Over a 2-year period (2016-17), 637 patients were seen and 68% were taken on for treatment. This is much higher than would be expected. Level 2/3 endodontic and periodontal treatment referral levels were low. The endodontic numbers are less than the periodontal referrals, supporting the IFR data.

- Royal Surrey County Hospital, Guildford

There is a limited service at Guildford (see Appendix D) which is focused on a post oncology rehabilitation service for Surrey residents. There is the likelihood of appointing a fourth head and neck OMFS in the next 12 months and Head and Neck referrals are expected to increase in the next 12 months due to regional changes in OMF Services.

The Wessex commissioners in an attempt to increase local consultant restorative access for treatment planning advice, have approached RSCH. The orthodontic service at Basingstoke Hospital has also approached Guildford and both Trusts are looking to consolidate the “informal” Ortho-Restorative service for both Sussex and Wessex patients.

A restorative consultation service has not been commissioned by KSS Commissioners. In order to support a significant restorative advice service for Wessex patients, there would be a requirement to increase the current part-time consultant contract. Facilities at Guildford will not support a treatment service but there is a willingness from the consultant to support a Wessex Level 2 service by providing treatment planning advice.

4.5 Ortho Restorative Services

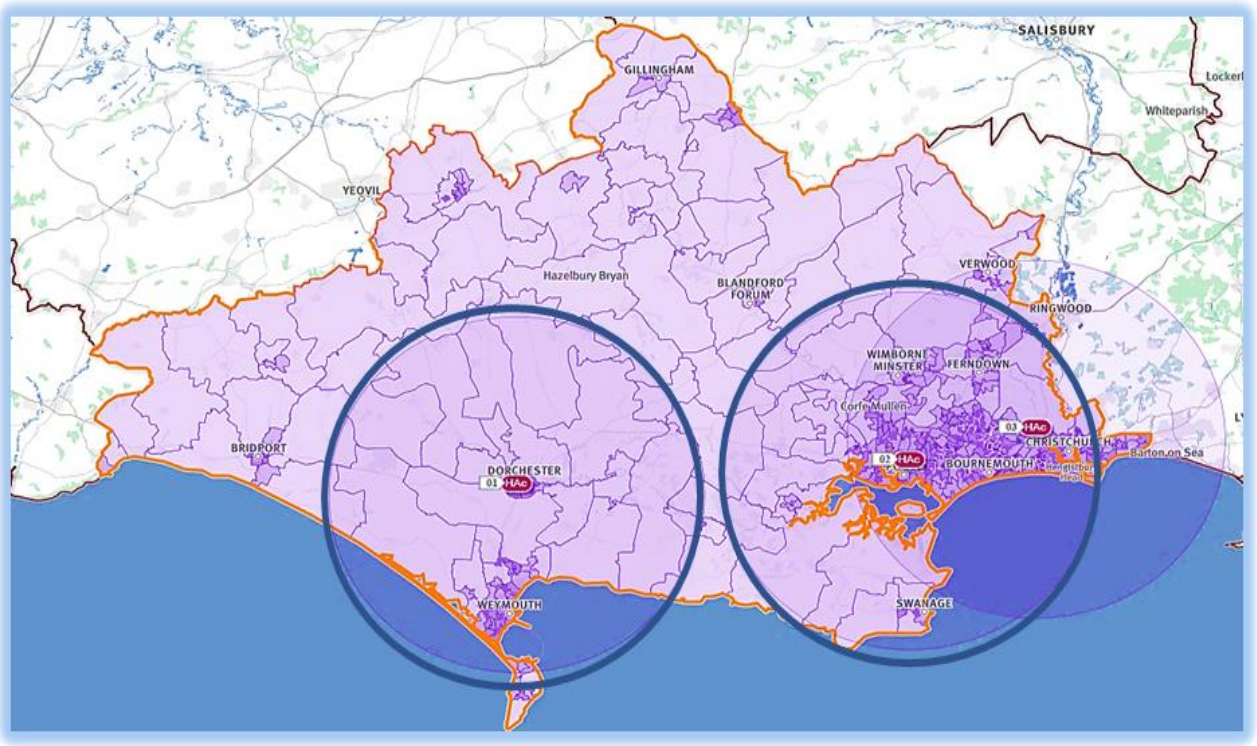


Figure 16: Dorset Orthodontic services

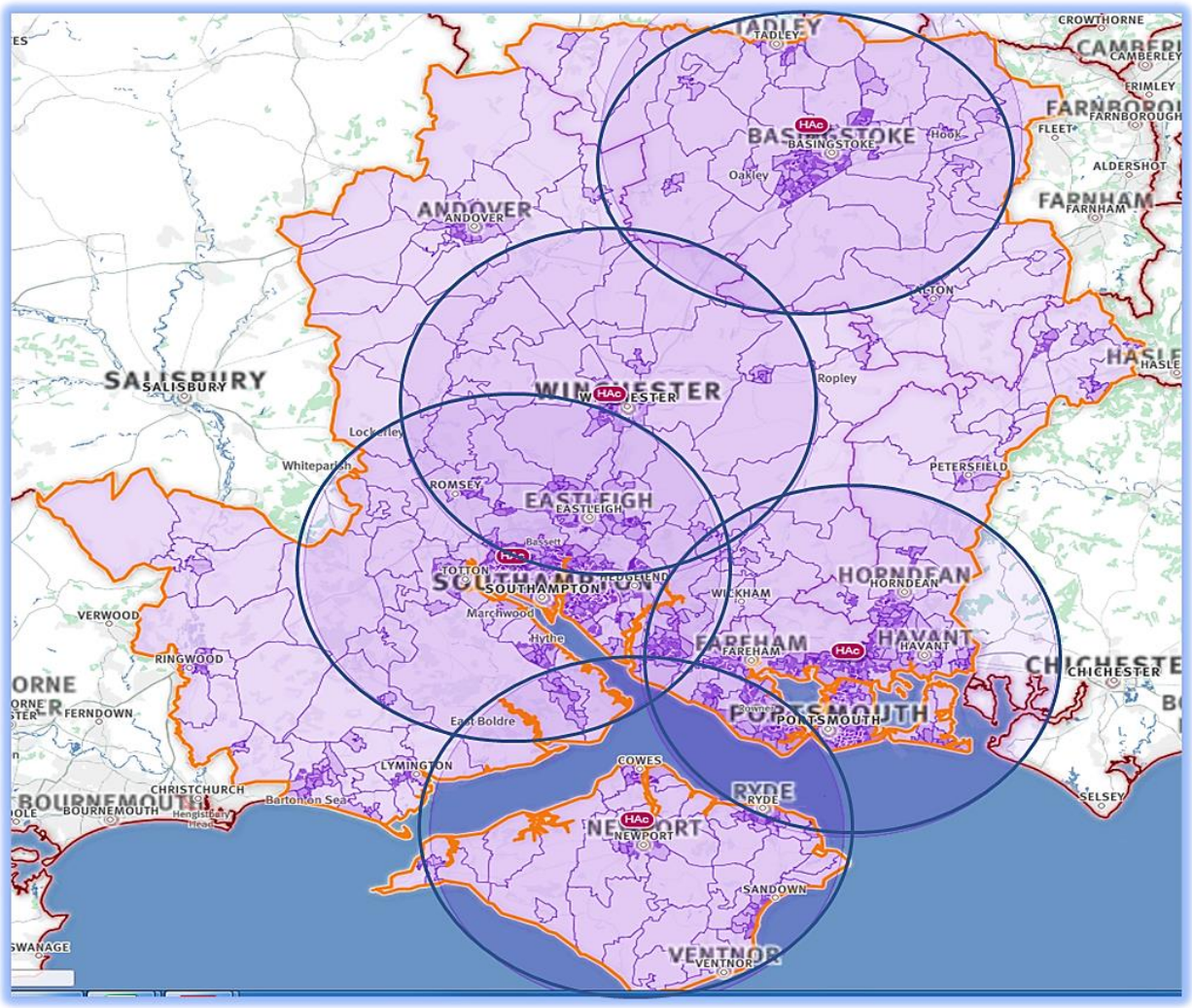


Figure 17: Hampshire orthodontic services (Pre-2018)

Secondary sector Orthodontic services are based in the locations illustrated in Figures 16 and 17. Appendix E outlines the feedback from Wessex Orthodontic consultants regarding the issues around providing the “gold standard” of care for their ortho-restorative patients.

The main centres for the treatment of Hypodontia are Portsmouth, Dorset County Hospital (DCH), Southampton and to a lesser extent Bournemouth. However, Bournemouth and DCH do not have a restorative service. Both use the Orthodontic services at Bristol as their MDT, but Bristol no longer provides Restorative support. As previously indicated, the orthodontic service at Southampton is in the process of re-organisation and from January 2019 will no longer be provided by University Hospitals of Southampton. The hypodontia service has largely moved to Portsmouth but there will still need to be a service in Dorset.

There is no local access to restorative consultants in many Wessex Hospital Trusts. Poole restorative service can only provide a limited advice service for Bournemouth as Poole’s priority is oncology.

Only Portsmouth provides a fully comprehensive service. The Royal Surrey County Hospital (RSCH) receives 50% of their hypodontia referrals from Hampshire, mainly from Basingstoke. The RSCH is keen to continue this service.

The Orthodontic consultant based on the Isle of Wight (IOW) and Portsmouth expressed the wish to develop an Ortho-Restorative service on the island in order to avoid IOW patients having to travel to Portsmouth either for a consultation or for treatment. This would require more restorative consultant support at Portsmouth and some development of the facilities at St Marys (IOW) but it should be seen as a long-term aim to support patients on the island.

Appendix E illustrates the desire amongst all the consultant orthodontic providers in Wessex for a more co-ordinated Ortho-Restorative Service Network. It is a requirement that the management of hypodontia is carried out within a MDT environment, with the presence of a consultant orthodontist and a consultant in restorative dentistry. There is a clear need to increase Consultant Restorative resource particularly in the West of Wessex to facilitate this ambition and to ensure best practice not only for their hypodontia patients but also the cleft lip and palate cases.

The Orthodontic MCN’s will need to work with restorative services to provide a co-ordinated solution. This solution may involve co-operation between Trusts to develop a combined approach and to share restorative resource between Trusts.

5 Issues around the delivery of complex restorative dentistry nationally and in Wessex

There is a resource – demand gap for restorative dentistry in Wessex. This is not unique to Wessex and is a common issue nationally, particularly in areas not served by a dental teaching hospital. There is also an increasing demand from patients for the delivery of complex dentistry. The challenge for Wessex, is to turn the existing restorative skill mix into a more efficient and effective service, so that patients are treated by a clinician with the appropriate skills and the knowledge to manage their restorative need.

5.1 National directives

The Draft NHS England Restorative Commissioning Document, proposes the creation of Level 2 practitioners who will receive referrals and utilise their skills and knowledge to manage patients of intermediate complexity, thereby contributing to a reduction in the resource gap.

The development of Level 2 practitioners is in line with the NHS England Five Year Forward View (Ref 14), which aims to dissolve the artificial divide between primary dental care and hospital services. The Commissioning Document proposes that the entire workforce should be combined into a managed clinical network (MCN). The MCN will not have a rigid framework and it will allow patients to migrate through the different complexity levels to find the clinician who can manage their need. At the centre of the network will be the consultant in restorative dentistry who will lead the MCN.

The MNC in Restorative Dentistry will effectively comprise 3 MCNs, (one for each of the monospecialties). This is entirely appropriate as restorative dentistry is about whole patient care, not fragmented care. The formation of an MCN will start to address the inequalities around the delivery of restorative care throughout Wessex.

Unlike orthodontics, which has always had non-specialist practitioners providing orthodontic services, restorative dentistry is mainly composed of general dental practitioners and private specialist practitioners working in the primary sector, with consultants and trainees working in the secondary sector. At present there is no recognition of enhanced practitioners in restorative dentistry, although monospecialty services have been previously successfully piloted (Ref 15).

A recent survey by Jones et al (Ref 16) indicates that these services are now becoming common place, even before publication of the Commissioning Document. Some of these services are functioning independently of the secondary sector and in the absence of an MCN.

5.2 Issues around the delivery of complex restorative dentistry in Wessex

5.2.1 Capacity

Practitioners in Dorset (*Communications from Dorset LDC)*), have expressed the difficulty they experience in accessing local consultant advice or treatment, for their patients. The contract at Poole is predominantly for Cancer rehabilitation, but over the last 18 months NHS England (Wessex) have commissioned 1 extra session per week of restorative services to support the

GDP's. Whilst welcomed by GDP's, this is still considered to be inadequate. This perception is supported by the demand data and is echoed by the consultants at Poole and QA.

The commissioners have also tried to address the deficiency in local consultant resource by funding referrals to London and Bristol. Apart from the difficulties that this presents for patients traveling to these destinations, the Dental Hospitals themselves do not always have capacity. Additionally, they may only take on cases that serve their needs, for example for training. The finance from commissioning the distant services could be utilised to develop local services which will be more responsive to patient needs.

5.2.2 Referrals criteria

There are concerns that the current referral system facilitates some inappropriate referrals. The referral management centre (RMC) triage patients using clinical advisors before allocating the patients to the providers. The triage criteria are loosely based on the NHS draft Commissioning document. However, as in all information systems, the efficiency is always dependant on the quality of the input data. The discrepancy between what is input by the practitioner and the actual situation will often only become apparent at the point of the clinical examination.

What is clear is that if the triage was not present the secondary sector service would be inundated because there is simply a demand – resource imbalance. This needs to be addressed by expanding the work force both at the consultant level and at the practitioner provider level.

The Wessex Commissioners are in the process of commissioning a dental electronic referral system. If the system is aligned to the Commissioning Document, it will facilitate triage and also facilitate much better service data capture, analysis and audit. There is a wealth of valuable experience within the RMC staff and it is desirable that this experience should be retained for some time during the implementation of an electronic system.

5.2.3 Workforce

Current referral pathways utilise specialist providers working in the primary sector to provide the complex restorative care that cannot be undertaken in the secondary sector. The providers are on the Specialist Register for the care that they are commissioned to deliver. The pathway does not include the experienced and talented general dental practitioners who could also contribute to the workforce. Analysis of the IRF data and costs for providing the specialist services, indicate that there is scope for cost savings by commissioning a non-specialist workforce with the appropriate skills to contribute to this service. If patient revenue is collected from this GDP service further cost saving is possible.

Development of a Level 2 provider service would enable the Commissioners to define service standards, facilitate audit and assure quality outcomes and address some of the issues around referral input data. It would also reduce the reliance on the specialist private practitioner IFR service although an element of this workforce would need to be retained to support Level 3 care provision (see section 4.1.5). The "*spirit* "of the Draft Restorative Commissioning document is to allow the non-specialist workforce to contribute more to advanced care. This philosophy should be central to the recruitment of the Level 2 workforce. The indication from pilot services elsewhere in the country is that a limited number of Level 2 practitioners is required depending on the areas to be covered and the referral numbers.

As previously indicated, the feedback from Orthodontic consultants clearly indicates a resource deficit around the delivery of multi-disciplinary care (see appendix E). This has been complicated by withdrawal of Orthodontic Services from Southampton General. The limited number of Restorative Consultants nationally means that there is a lack of consultants outside Teaching Dental Hospitals.

There is often concern amongst Trust managers that a service expansion will not be funded by commissioners and that if funding is available, the demand will be insufficient to be able to support recruitment of full-time staff. There is an argument that Hypodontia treatment should be centralised to specific centres but undertaking this could undermine the existing individual orthodontic services and mean that patients will still need to travel significant distances. A potential approach would be for the Trusts with Orthodontic Services requiring better access to restorative services, to jointly fund the restorative support. There is a clear need for the Orthodontic MCNs to work with the Restorative MCN (when in place), to address this deficit.

5.2.4 Selection, procurement, recruitment and accreditation for Level 2 services

NHS England is currently developing the frame work for the selection and identification of Level 2 practitioners. When complete it can be used to develop a local pilot service. It is only if care is to be provided on referral, that the validation of the Level 2 Care Complexity competency is required. The majority of restorative care is provided in general dental practice by anybody who feels that the treatment lies within their competence.

5.2.5 Education of the new workforce

There will be an education component to the formation of the local network. Practitioners will be commissioned to provide a service that will have defined service standards and specifications. The education will require a focus on the delivery of service protocols as well as validation and attainment of the prerequisite skills. This would ensure that audit of the service and its providers is comparing “like with like”, rather than “apples with pears”.

The costs associated with this training should not be overlooked when financing the service. In Wessex the facilities at Portsmouth University seem to be an obvious choice to facilitate this training need. Although this would require additional travel for the Dorset practitioners, communication with Dorset LDC indicate that this would not be a major disadvantage. Alternatively, a Dorset based multi-clinic practice would need to be identified as a venue. Ideally any education programme should be endorsed and validated by Health Education England.

5.3 Transformation of care pathways in Wessex

The majority of restorative care is provided in general dental practice and GDP’s are already undertaking complex dentistry within their GDP contract. The UDA system does not fully support the delivery of complex care particularly when treatment involves high laboratory fees. This invariably generates referrals for “economic need” as well as for complexity. New graduates undertake fewer procedures during their training and in conjunction the fear of medico legal litigation there is a reluctance for these practitioners to undertake complex procedures even when they may fall within their competence.

The primary sector, specialist practitioners and secondary sector providers work alongside each other in a largely uncoordinated way. The advantage of MCN led service is the support that a network offers. This is enhanced by the presence of a consultant working alongside the

practitioners [Ref 17]. It has been shown to be an important vehicle for teaching and training and has been shown to help raise the competence and confidence of the primary sector clinicians.

The most significant element of the workforce change will be to be to meet the needs of Level 2 case complexity. The requirements for the delivery of complex dental care are:

1) An integrated consultant led network interfacing between the primary and secondary sectors, centred on an MCN.
2) Referral guidelines which are fair, robust and evidence based and which allow commissioners to identify patients that require complex care as well as the most appropriate environment for the delivery of that care.
3) Performance indicators, service audit and PROMs and PREMs. Appropriate use of the data could be used for benchmarking and annual review of services.
4) Identification of providers with appropriate skills, knowledge and experience would be based on the Competency Frame-Work document

Access to the Level 2 work force would be via the RMC or the Dental Electronic Referral System once in place. If the referral criteria are designed matched to the Level of Complexity Criteria, the patient will be directed to the appropriate provider. Level 2 services will therefore be accessed directly.

Referrals to the Level 2 Complexity Service will also be made following a consultant assessment if the GDP does not want to undertake the treatment. A consultation may indicate that the complex treatment provision contains an element of Level 3 care. In these cases, the care delivery will be co-ordinated so that it is shared between the specialist services and the Level 2 practitioner service.

In a similar way a case that is assessed at Level 2, but is in fact more complex, will be referred onto a more appropriate clinician to complete the care, or to complete the difficult element, before returning the patient back to the Level 2 practitioner. This flexibility will make best use of the available resource. The pathways are shown in Figure 18.

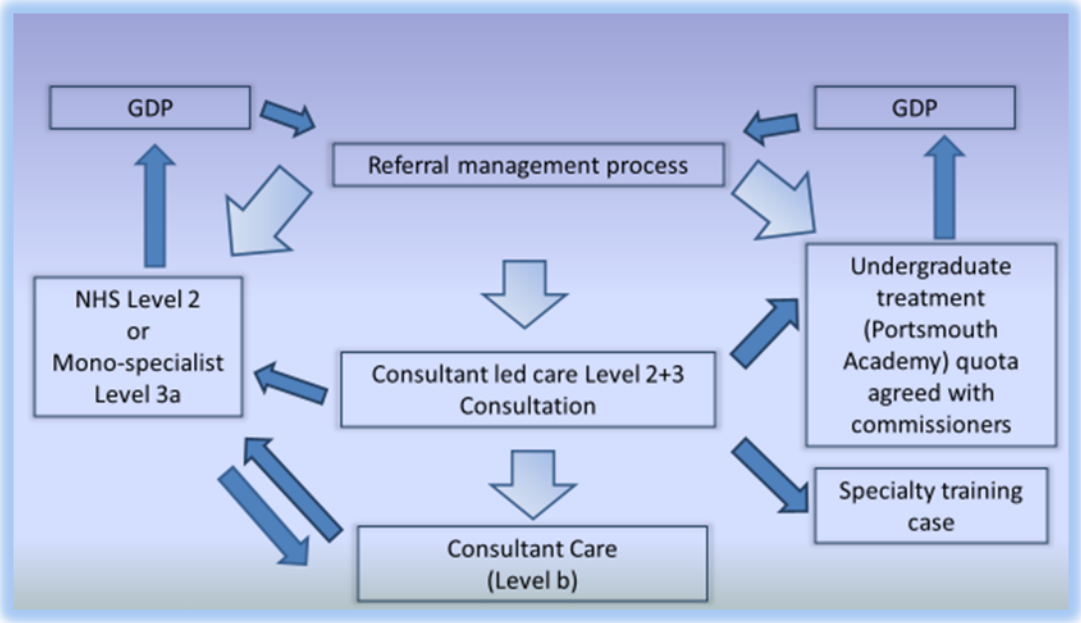


Figure 18: Schematic of the potential integration of Level 2 service in to referral pathways

The referring GDP will be responsible for ongoing maintenance and for ensuring that the patient is suitable for the initial referral.

As the presence of a consultant has consistently been shown to be valuable (Appendix F).
A more innovative solution to service transformation would be the creation of a consultant in restorative dentistry based within the primary sector. This consultant would chair the MCN and also support the primary sector providers in the form of outreach.

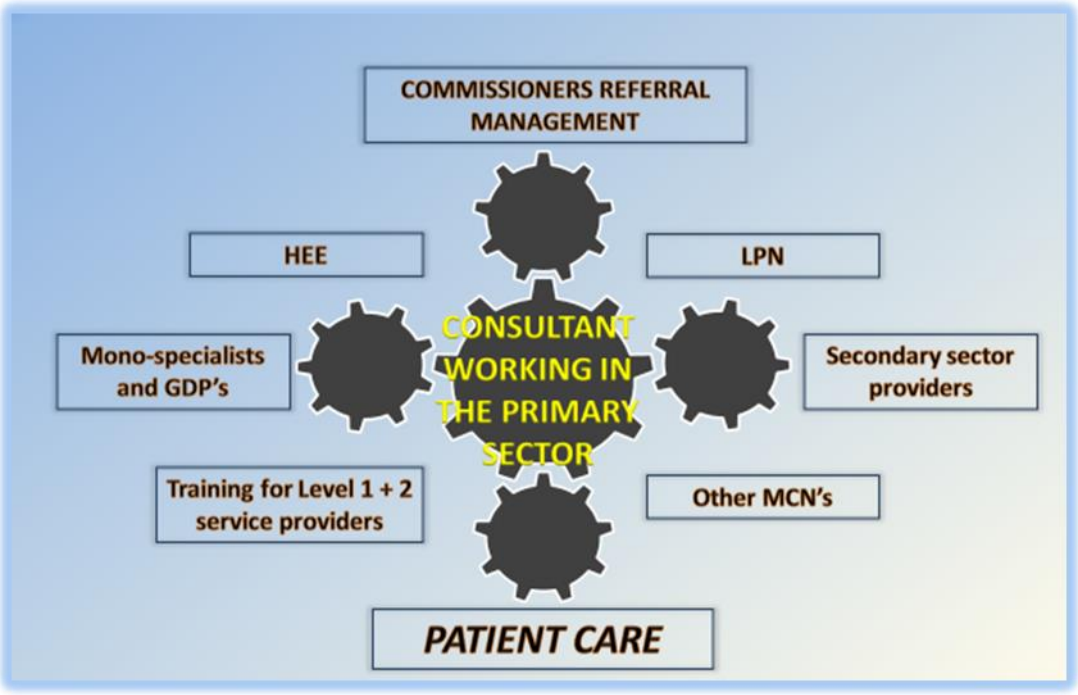


Figure 19: Schematic illustrating the role of the Consultant in the primary sector.

In situations where the primary sector provider required support during treatment provision, they would access the consultant through the outreach programme. This access option would also extend to specialist services if required, see figure 18. This model disseminates knowledge and experience to the primary sector increasing the competence within the sector.

5.4 Risk associated with a Level 2 service

The biggest issue around the delivery of this transformed service is how it will be funded. There are clear cost savings to be made by reducing the fees currently paid to specialist practitioners who are in effect providing both Level 2 and 3a services. Better use of the available resource would be for GDP's to provide the Level 2 service. The Level 2 fees however need to reflect the increased complexity and should be intermediate between GDP and the private practice costs. It will also be possible to collect patients' fees for the care provided by the Level 2 practitioners under existing NHS regulations which will mitigate some of the risk.

In some areas where pilots have been undertaken utilising practitioners to provide the enhanced care, a separate contract for the delivery of this care is agreed. The fees are usually at an enhanced UDA rate. This may be more appropriate for a service which involves several patient visits (such as periodontics) and could be linked to a sessional rate.

There needs to be some recognition that prosthodontic Level 2 care, involves increased laboratory fees and requires more clinical time. In order to obtain value, technicians could be approached as preferred providers; providing them with a guaranteed income stream and the commissioners with preferential terms and additionally providing the network with a standardised service.

As a significant amount of Level 2 care is already provided under the current contract, creating a Level 2 workforce which is paid more, may discourage GDP's from continuing to provide this care resulting in an increase in referrals. Following this to its long-term conclusion, the primary care workforce will eventually de-skill and demand may exceed the enhanced practitioners' workforce, requiring an increase in Level 2 performers and an increase in costs.

Most experienced practitioners undertake a mix of private and NHS care. If they declare that they do not have the competence to delivery GDS Level 2 care this will impact on their private practice particularly if litigation is involved. It should be part of the audit of the service to assess the impact on GDS productivity and individual service providers.

5.5 Considerations for delivering integrated prevention services

When considering a strategy to deal with what is a largely preventable disease it should be considered from 3 aspects:

1. A population strategy for altering life practices, e.g. determining smoking behaviour and oral self-care (plaque removal), diabetic, management in the community;
2. A secondary prevention strategy to detect and treat people with destructive disease;
3. A strategy for treating existing disease and preventing further disease in those at special risk.

This approach is particularly relevant to the management of periodontal disease, caries and tooth surface loss. The GDS workforce will play a critical role in addressing points (1) and (2). The strong evidence base linking diabetes and periodontal disease along with the link with smoking, indicates that there is an argument for a wider approach involving medical and social services. The disease levels in the elderly should be addressed utilising this combined approach otherwise there is a "dental disease time bomb" waiting to devastate primary care and Special Care Dental Services.

> "*The public health problem lies more in the failure in design of a contract between dental professionals and the state. Such a contract needs to recognise both the wider determinants of disease and the role that dental professionals could play: a contract that concentrated on rewarding outcomes, namely a diminution in treatment need, as opposed to one based simply on the number of interventions would be a major step forward."* (REF18)

It is important to draw attention to these issues and emphasise that dental disease is equally deserving of consideration when utilising local social service resource. Medical strategies need to embed oral health as part of the goals of Medical Health and Well Being.

6 Recommendations

- There is paucity of data specifically pertaining to Wessex dental disease levels and activity. The current evolution to an electronic referral system will help to address service data capture, but there is a need for targeted research to facilitate future commissioning decisions.
- Wessex commissioners should pilot the implementation of a Level 2 Care Complexity Service ahead of the national Commissioning Guideline Document to address the demand and need for a complex restorative dentistry service. This approach would allow some control over terms and conditions for the workforce.
- Collect patient revenue from the Pilot Service in line with the current arrangements associated with the delivery general practice services
- Establish a Restorative MCN to lead the transformation of service delivery in Wessex.
- Consideration to expanding the role of the Restorative MCN chair to include consultant outreach.
- Make use of the documentation currently being produced by NHS England to procure the Pilot Level 2 service and providers.
- Development of a training strategy to support the delivery of treatment protocols and audit and transformation of the providers into a “commissioned team”, rather than individually functioning practitioners
- The Pilot service must address the imbalance in the monospecialty treatment that is currently provided in Wessex.
- Development of service standards and a fee structure for the delivery of Level 3a Complexity Care, utilising an any qualified provider service specification for each restorative monospecialty. Reduction in the number of Level 3a Specialist providers
- Full service evaluation of the Complexity Care pilot after 2 years
- Funding that is currently diverted to London and Bristol dental hospital providers, should be utilised to develop and enhance the local secondary care restorative services
- Expand the restorative consultant resource in Wessex, to address restorative treatment planning capacity and the inability to support multidisciplinary services, in particular Ortho – Restorative services
- Encourage local Trusts providing dental services, to combine financial resource in order to support service expansion
- Through the MCN re-enforce the development of a preventative approach to restorative care throughout all the levels of the dental service and link this with local social services.

Appendices

Appendix A: 1 Levels of periodontal care complexity

ASSESSMENT

Comprehensive interpretation of medical, social, behavioural factors

Patients with Aggressive Periodontitis should be referred after initial preventive advice on risk factor management and oral hygiene instruction.

All cases of chronic periodontitis should have initial care (including treatment) and if unsuccessful referral may then be indicated (see section 6).

Level 1 Complexity

Diagnosis and management of patients with uncomplicated periodontal diseases including but not limited to:

- Evaluation of periodontal risk, diagnosis of periodontal condition & design of initial care plan within the context of overall oral health needs.
- Measurement & accurate recording of periodontal indices (see the care pathway in the appendix)
- Communication of nature of condition, clinical findings, risks & outcomes.
- Designing care plan and providing treatment.
- Assessment of patient understanding, willingness & capacity to adhere to advice & care plan.
- Evaluation of outcome of periodontal care and provision of supportive periodontal care programme.
- On-going motivation & risk factor management including plaque biofilm control.
- Avoidance of antibiotic use except in specific conditions (necrotising periodontal diseases or acute abscess with systemic complications) unless recommended by specialist as part of comprehensive care plan.
- Preventive & supportive care for patients with implants.
- Palliative periodontal care and periodontal maintenance

Level 2 Complexity

Management of patients:

- Who **following primary care periodontal therapy** have residual chronic moderate (30-50% horizontal bone loss) periodontitis and residual true pocketing of 6mm and less.
- With certain non-plaque-induced periodontal diseases e.g. virally induced diseases, auto-immune diseases, abnormal pigmentation, vesiculo-bullous disease, periodontal manifestations of gastrointestinal & other systemic diseases and syndromes, under specialist guidance.
- With aggressive periodontitis as determined by a specialist at referral.
- With furcation defects and other complex root morphologies when strategically important and, realistic and delegated by a specialist.
- With gingival enlargement non-surgically, in collaboration with medical colleagues.
- Who require pocket reduction surgery when delegated by a specialist.
- With peri-implant mucositis where implants have been placed under NHS contract.

Level 3 Complexity

Triage & Management of patients:

- With severe (> 50% horizontal bone loss) periodontitis, aggressive periodontitis & true pocketing of 6mm or more
- Requiring periodontal surgery
- Furcation defects and other complex root morphologies not suitable for delegation
- With non-plaque induced periodontal diseases not suitable for delegation to a practitioner with enhanced skills.
- Peri-implantitis where it is the responsibility of the NHS to manage the disease when implants have been placed under an NHS Contract
- Patients who require multi-disciplinary specialist care (Level 3).
- Where patients of level 2 complexity do not respond to treatment
- Non-plaque induced periodontal diseases including periodontal manifestations of systemic diseases, in order to establish a differential diagnosis, joint care pathways with relevant medical colleagues & where necessary, manage conditions collaboratively with practitioners with enhanced skills if appropriate & provide advice and treatment planning to colleagues

Appendix A 2 Complexity assessment: Levels of endodontic care

ASSESSMENT

Risk screening &

entry criteria

- **Stable oral environment should have been achieved and all caries managed (there should be no active caries present)**
- **Teeth should be able to be restored and made functional after removal of disease with sound coronal tooth tissue above the alveolar crest, 2mm high and 1 mm width**
- **Endodontic treatment not precluded by either patient cooperation or medical history**

Level 1 Complexity

Diagnosis and management of patients with uncomplicated endodontic treatment need including but not limited to:

Root canals with a curvature <30 degrees to root axis and considered negotiable, from radiographic evidence, through their entire length

No root canal obstruction or damaged access, e.g. perforation

•Previously treated teeth with a poorly condensed root filling short of ideal working length where there is evidence of likely canal patency beyond the existing root filling

•Routine dismantling of plastic restorations, crowns and bridges to assess restorability

•Pulp extirpation as an emergency treatment

•Incision and drainage as an emergency treatment

Straightforward retreatment

This also includes any endodontic treatment not covered in level 2 or 3 procedural complexity

Level 2 Complexity

The management of patients with teeth requiring endodontic treatment or retreatment where:

- Root canal curvature >30odegreesbut <45degrees
- Locating and negotiating canals NOT considered negotiable in the coronal 1/3 but patent thereafter, based on radiographic and clinical evidence
- Difficulties with local analgesia that cannot be resolved by routine measures

locating and negotiating where the referring GDP has

Attempted but experienced problems with location,

Instrumentation or obturation of the root canals

- Teeth > 25mm in length
- Incomplete root development
- Limitation of mouth opening (between 25mm and 35mm inter-incisal opening).
- Removal of fractured posts, less than 8mm in length?
- Well condensed root fillings short of ideal working length with evidence of likely patency beyond existing root filling where previous treatment did not involve complicating factors

Level 3 Complexity

The management of patients with teeth requiring endodontic treatment or retreatment where:

- Root canals curvature >45odegrees
- Recurved (S-shaped) root canals
- Canals are NOT considered negotiable through their entire length based on radiographic and clinical evidence
- Developmental tooth anomalies present, e.g. bifid apex, complex branching of root canal(s*), dens in dente*, gemination, and C-shaped canals).
- Assessment and planning the long term management of severely traumatised teeth where severity extends beyond enamel & dentine; usually involving multiple teeth
- The management of teeth with iatrogenic damage or pathological resorption.
- Severe limitation of mouth opening. (inter-incisal opening less than 25mm)
- Complicated retreatments are required (e.g. well-fitting posts longer than 8mm; posts thought to be associated with a perforation; carrier-based obturations; silver points; fractured instruments; well condensed root fillings to length; overfilled roots with apical lesions).
- Major iatrogenic errors e.g. large ledges, blocked canals, perforations where these can be rectified

Appendix A 3 Complexity assessment: Levels of Prosthodontics care

ASSESSMENT

Risk screening &

entry criteria

- Stable oral environment (good hygiene, caries risk managed, active caries treated and periodontal disease stable)
- Patient's medical history does not preclude care

Level 1 Complexity

Diagnosis and management of patients with uncomplicated prosthodontic treatment needs including but not limited to:

Straightforward patient factors

- Patient factors and medical history represent commonly encountered conditions and a wide range of less common conditions that have no significant implications for routine dentistry

AND

Technical treatment delivery at routine level of complexity

- All routine plastic, fixed and partial removable restorations where conforming to existing occlusion.
- Fixed restorations where aesthetic, functional and occlusal stability and control can be maintained
- All removable restorations where the hard and soft tissue anatomy is healthy and reasonably well formed

Any prosthodontics care not covered in level 2 or 3 complexity

Level 2 Complexity

The management of patients with prosthodontic needs:

Patient with moderately difficult complicating factors where:

- Technical excellence essential to minimise risk of re-intervention, extraction or loss of vitality (eg for patients undergoing bisphosphonate therapy, radiotherapy, haemophilia management).
- Factor or factors that increase complexity (eg previous poor management, analgesia concerns or in some cases a complex medical history)
- A motivated patient in whom behaviour change or risk factor management is challenging.

Moderately difficult technical treatment needs and/or environment:

- Pre-prosthetic procedures or optimisation (optimisation of abutments, occlusal adjustments, and minor surgical procedures) required
- Occlusal reorganisation is needed and medium term stability can be achieved with plastic restorations, a removable appliance or both
- Aspects of occlusion need careful management to avoid premature failure of restorations (e.g. guidance where multiple restorations)
- Replacement and temporisation of multiple fixed restorations is required and the stability or control of the oral condition may be at risk
- There are anatomical difficulties related to soft tissues
- There is compromised health of denture-bearing soft tissue
- Manageable access difficulties, including minor gagging problems
- Raised or critical aesthetic or functional expectations/needs
- Some cases following minor orthodontic treatment
- The provision of simple implant retained prostheses (single tooth, simple overdenture) that meet NHS criteria.

Level 3 Complexity

Triage and management of Patients where:

Patients with complex patient complicating factors:

- Case involves a Multi-Disciplinary Team (MDT) (oncology, hypodontia, clefts etc), these will normally be restorative consultant led **(Level 3a)**
- Decision making associated with treatment planning is required
- Complex patient complicating factors (e.g. facial pain,)
- A factor or factors that increase complexity e,g ASA medical condition of 3-4.
- A motivated patient with systemic risk factors or behaviour change challenges

Patients with complex diagnostic or planning needs (advice only) where treatment can be provided by others

- Undiagnosed pain or temporomandibular disorders
- Long term treatment strategy development where many teeth are affected or multiple stages are involved.
- Care involving the management of failed restorations that involve many teeth.

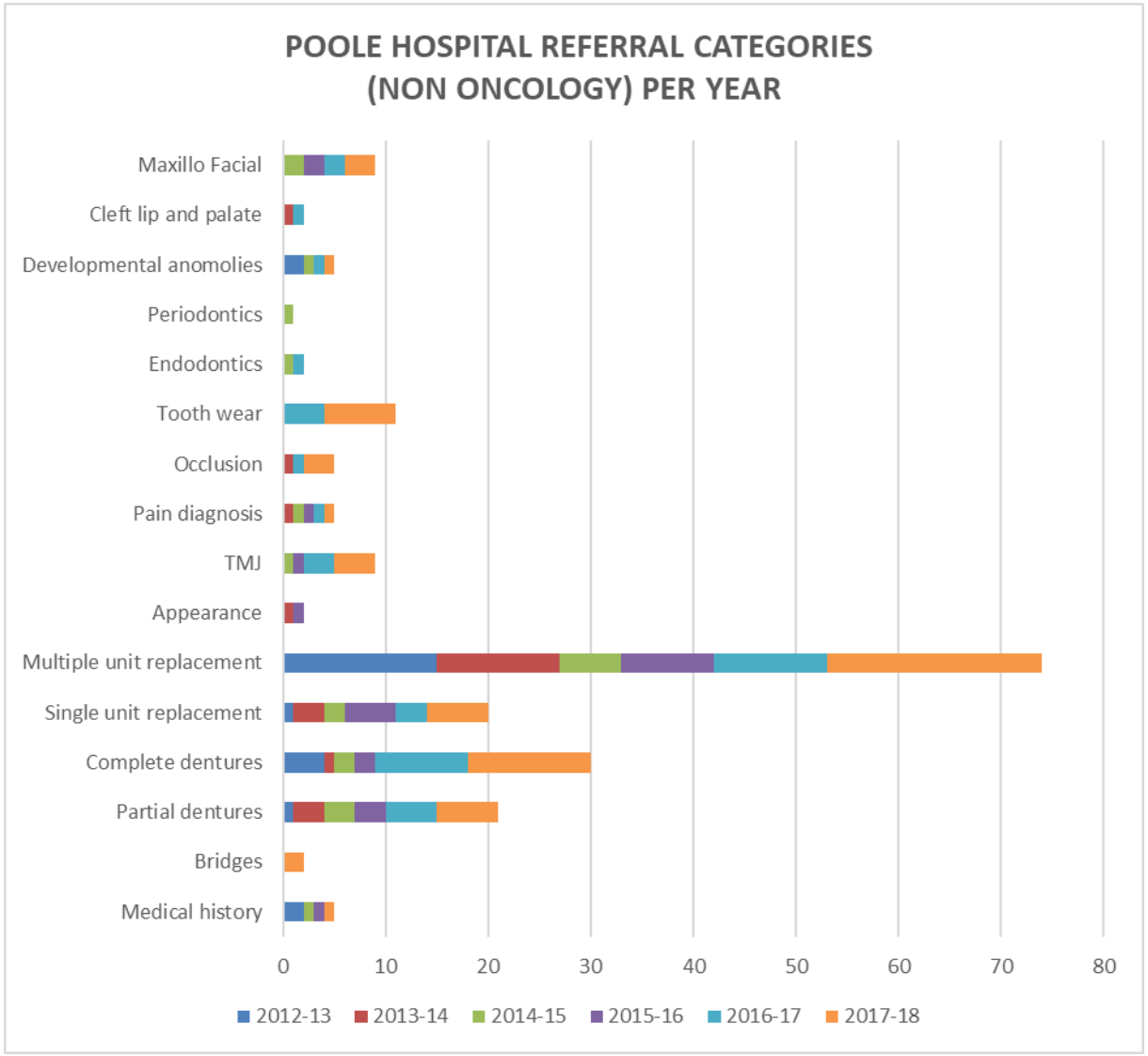
Complex technical treatment needs or intraoral environment (not with Multi-Disciplinary Team)

- Major occlusal reorganisation is required and stability cannot be achieved easily without multiple fixed restorations or where there are problematic patient factors (e.g. parafunction)
- Complex local oral circumstances e.g. severe gagging reflex, profound dry mouth, limited access etc.
- Extensive anatomical resorption of edentulous sites in patients requiring complete dentures
- Need for pre-prosthodontic surgery, periodontal surgery, endodontic surgery, other complex periodontal or endodontic management or implants
- Significant TMJ/TMD concerns
- Need for assessment for benefits of dental implants and implant planning to agreed NHS criteria
- Combined prosthodontic, periodontal and endodontic problems in association with strategic teeth **(Level 3)**

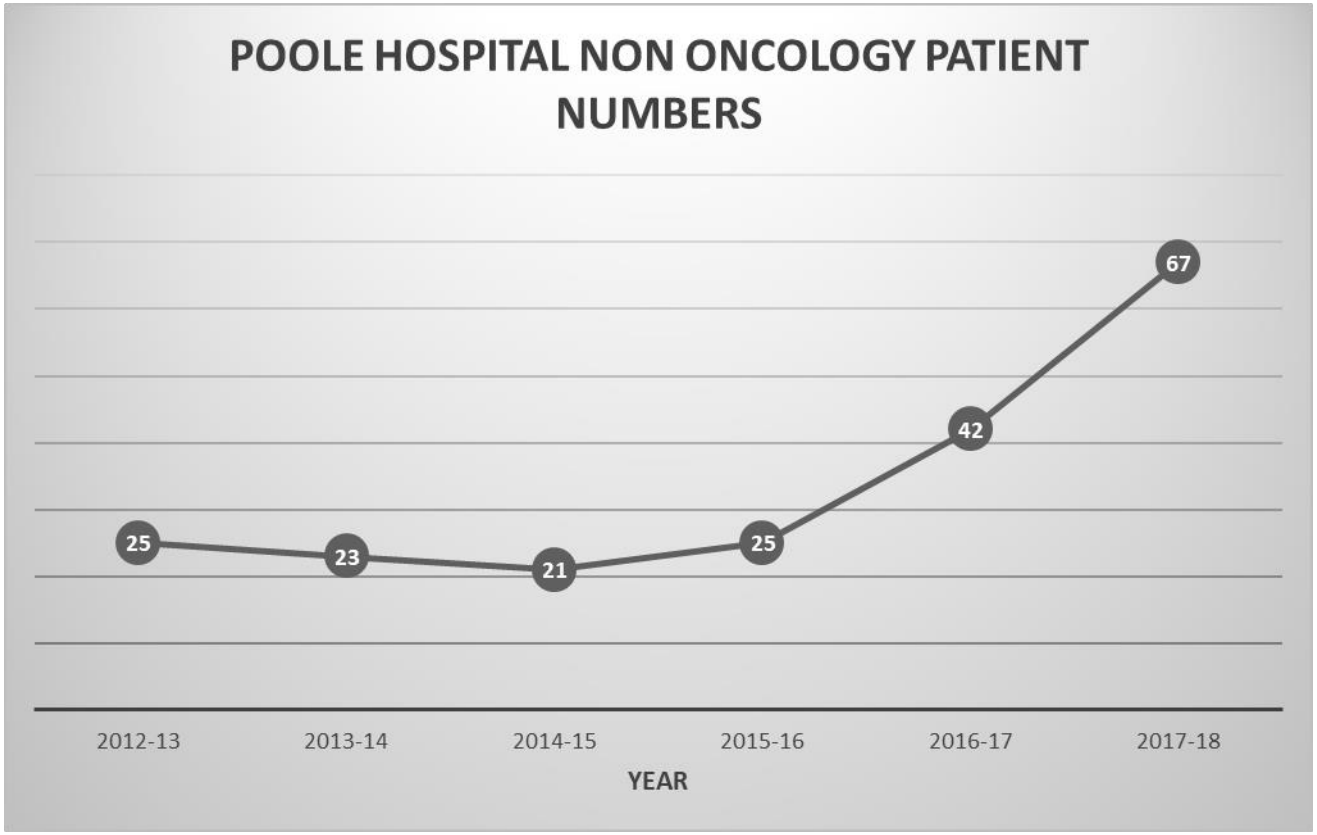
APPENDIX B: RESTORATIVE DATA FROM POOLE HOSPITAL

POOLE HOSPITAL DATA FOR RESTORATIVE DENTISTRY FOR NON OCOLOGY

CATEGORY	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Medical history	2	0	1	1	0	1
Bridges	0	0	0	0	0	2
Partial dentures	1	3	3	3	5	6
Complete dentures	4	1	2	2	9	12
Single unit replacement	1	3	2	5	3	6
Multiple unit replacement	15	12	6	9	11	21
Appearance	0	1	0	1	0	0
TMJ	0	0	1	1	3	4
Pain diagnosis	0	1	1	1	1	1
Occlusion	0	1	0	0	1	3
Tooth wear	0	0	0	0	4	7
Endodontics		0	1	0	1	0
Periodontics	0	0	1	0	0	0
Developmental anomalies	2	0	1	0	1	1
Cleft lip and palate	0	1	0	0	1	
Maxillo Facial	0	0	2	2	2	3
TOTAL	**25**	**23**	**21**	**25**	**42**	**67**



YEAR	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
TOAL PATIENT NUMBER	25	23	21	25	42	67


POOLE HOSPITAL NON ONCOLOGY PATIENT NUMBERS
25
23
21
25
42
67
2012-13
2013-14
2014-15
2015-16
2016-17
2017-18
YEAR

Data for Restorative Dentistry Non-oncology Wednesday service

OPERATIONAL STATUS - UPDATE May 2018

1. Wednesday AM Oct 2012 to March 2017 (2 sessions per month). The service started in October 2012.
2. New service from 1st April 2017 increased to 4 sessions/month

This data represents annual summaries formatted for the Year "1st April – 31st March" taken from database report "Procedure Code Summaries". These procedure codes represent the specific area of concern for a "new patient referral" and is the first/assessment appointment only. The database can also provide reports for follow up/ treatment specifics. Data shows:

- Average referrals = 24 / year initially with increasing demand from 2012-2015.
- 2016 had a lot of extra sessions undertake to deal with inceased deman from IFR
- 2017-2018 unprecedented referrals (inc some direct ortho/orthognathic/trauma MDT graded)

1st April 2012-13; total referrals seen = **25**

Non-Oncology Patients

Procedure Code	Description	Count
1	Medical History	2
6	Partial dentures	1
7	Complete dentures	4
10	Developmental anomalies	2
11	Single-unit replacement	1
12	Multi-unit replacement	15

1st April 2013-14; total referrals seen = **23**

Procedure Code	Description	Count
2	Appearance	1
3	Pain diagnosis	1
6	Partial dentures	3
7	Complete dentures	1
8	Occlusion	1
11	Single-unit replacement	3
12	Multi-unit replacement	12
17	Cleft lip and palate	1

1st April 2014-15 ; total referrals seen = **21**

Procedure Code	Description	Count
1	Medical History	1
3	Pain diagnosis	1
6	Partial dentures	3
7	Complete dentures	2
10	Developmental anomalies	1
11	Single-unit replacement	2
12	Multi-unit replacement	6
14	TMJ disorders	1
15	Endodontics	1
16	Periodontics	1
18	Other Maxillofacial defects	2

1st April 2015-16 ; total referrals seen = **25** (i was off work for 4 months ; October 2015 – Jan 2016 inclusive)

Procedure Code	Description	Count
1	Medical History	1
2	Appearance	1
3	Pain diagnosis	1
6	Partial dentures	3
7	Complete dentures	2
11	Single-unit replacement	5
12	Multi-unit replacement	9
14	TMJ disorders	1
18	Other Maxillofacial defects	2

1st April 2016-17 ; total referrals = **42** (running some extra sessions to deal with demand)

Procedure Code	Description	Count
3	Pain diagnosis	1
6	Partial dentures	5
7	Complete dentures	9
8	Occlusion	1
10	Developmental anomalies	1
11	Single-unit replacement	3
12	Multi-unit replacement	11
13	Tooth surface loss / tooothwear	4
14	TMJ disorders	3
15	Endodontics	1
17	Cleft lip and palate	1
18	Other Maxillofacial defects	2

1st April 2017-2018 : total = **67** (running 4 session per month)

Non-Oncology Patients

Procedure Code	Description	Count
1	Medical History	1
3	Pain diagnosis	1
5	Bridges	2
6	Partial dentures	6
7	Complete dentures	12
8	Occlusion	3
10	Developmental anomalies	1
11	Single-unit replacement	6
12	Multi-unit replacement	21
13	Tooth surface loss / tooothwear	7
14	TMJ disorders	4
18	Other Maxillofacial defects	3

NHS England

RD Service Activity

482 Patients seen between 01/04/2017 and 01/04/2018

383 Oncology patients

98 Non-Oncology patients

1204 Procedures between 01/04/2017 and 01/04/2018

988 Oncology procedures

215 Non-Oncology procedures

The database records all 'restorative dentistry patients' seen by SGSE for the oncology and non-oncology services.

This "Restorative Dentistry Service Activity" Report shows that during this time period that 98 different non-oncology patients were seen for either/or/as both new patients and follow-up/treatment appointments. Sessions occur all day on 2nd and 4th Wednesday. There were 215 separate appointments for these 98 patients of which 67 of these were as new/first patient appointment (taken from procedure code table above).

SGSE 14th May 2018

APPENDIX C RESTORATIVE DATA FROM QUEEN ALEXANDER HOSPITAL, PORTSMOUTH

No. of Restorative clinics run between *01/10/17 - 30/04/18*

Count of Patients Row Labels	Month OCT	NOV	DEC	JAN	FEB	MAR	APR	Grand Total
MR A ALI-MORHIBY		**5**	**8**	**10**	**13**	**12**	**12**	**60**
SR3QAF4A		5	8	8	8	8	8	45
SR3QAN4A				2	5	4	4	15
MR Y WALID		**5**	**3**	**4**	**4**	**4**	**4**	**24**
SR3QAF4B		5	3	4	4	4	4	24
RESTORATIVE	**19**	**31**	**23**	**26**	**22**	**26**	**22**	**169**
SR3QAF	14	18	14	17	16	17	16	112
SR3QAN	5	13	9	9	6	9	6	57
SHIHAB ROMEED	**14**	**18**	**10**	**16**	**14**	**16**	**13**	**101**
RDCTQAF	14	18	10	16	14	16	13	101
Grand Total	**33**	**59**	**44**	**56**	**53**	**58**	**51**	**354**

No. of Appointments in Restorative clinics - *01/10/17 - 30/04/18*

Count of Patients Row Labels	Month OCT	NOV	DEC	JAN	FEB	MAR	APR	Grand Total
MR A ALI-MORHIBY		**26**	**42**	**47**	**59**	**54**	**61**	**289**
SR3QAF4A		26	42	37	45	38	42	230
SR3QAN4A				10	14	16	19	59
MR Y WALID		**33**	**18**	**22**	**24**	**21**	**20**	**138**
SR3QAF4B		33	18	22	24	21	20	138
RESTORATIVE	**89**	**183**	**134**	**150**	**111**	**148**	**115**	**930**
SR3QAF	70	127	90	110	77	99	90	663
SR3QAN	19	56	44	40	34	49	25	267
SHIHAB ROMEED	**48**	**68**	**51**	**71**	**65**	**70**	**57**	**430**
RDCTQAF	48	68	51	71	65	70	57	430
Grand Total	**137**	**310**	**245**	**290**	**259**	**293**	**253**	**1787**

An Evaluation of Service Provision in a District General Restorative Department

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Introduction

- Restorative Dentistry comprises Prosthodontics, Periodontics and Endodontics and their integration together.
- The Restorative Department at Queen Alexandra Hospital is formed of two Consultants and one Core Trainee, offering a secondary care referral centre for Restorative services within Hampshire.
- Referrals are received both from primary care and internally from within the hospital from the Orthodontists, Oral Surgeons and Maxillo-Facial teams.
- Referrals from primary care need an Individual Funding Request (IFR) approved before the patient is seen within the department.
- Due to a high demand for restorative dental care and the high complexity of cases, there can often be a long period of waiting before a patient starts their treatment.
- The aim of this service evaluation was to assess referrals received and assess treatments provided in the department. This would allow recommendations to be made for service development and recruitment within the department.

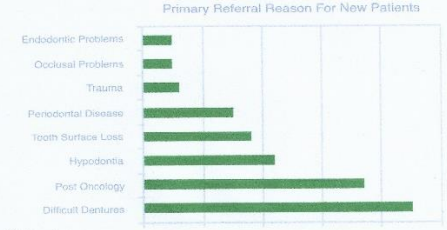
Methodology

- A random sample of new patient referrals between April 2015 and April 2017 were assessed to identify:

1 - Patient waiting times for start of treatment.
2 - Reason for primary referral of the patient.
3 - Restorative specialties involved in the treatment of the referred patient.

Results

- The average waiting time from referral to start of treatment was 7.5 weeks. National guidelines state that patients should be seen within 18 weeks for start of first treatment.
- Over the 2 year period, a total of 673 new patients were seen. 68% of these were taken on for treatment and 32% were referred back either for disease stabilisation, inappropriate referral or with treatment planning advice.
- The chart below shows the primary reason for referral of the patient sample:



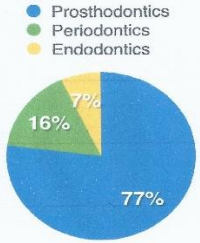
Referrals

- The most common reason for referral was regarding 'difficult dentures'. The majority of these cases were challenging complete dentures.
- There were comparatively less referrals for endodontic problems, as many Endodontic referrals were seen by specialists in Hampshire.

Results cont.

Service Provision

- Prosthodontics formed the majority of treatment plans that were provided. This included fixed, removable and implant retained.
- All prosthodontic cases involved the onsite laboratory to a greater or lesser extent.
- Half of all cases involved rehabilitation of head and neck oncology patients or hypodontia patients.

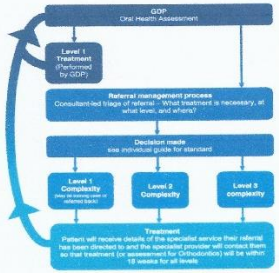


Recommendations

- This evaluation was the first time that referrals and treatment provision have been looked at within the department.
- A large proportion of the services are being used for head and neck cancer and hypodontia patients. This should continue.
- In terms of recruitment, the following recommendations were made:
  - a monospecialist could be considered to provide the more 'routine' prosthodontic work in the department. This would free up time for the consultants to see the complex multidisciplinary cases.
  - a therapist could be considered to help provide disease prevention and stabilisation to head and neck oncology patients as part of their care pathway.

Discussion

- A Managed Clinical Network (MCN) is a "a linked group of health professionals and organisations from primary, secondary and tertiary care working in a coordinated manner to ensure provision of high quality, clinically effective services".
- This can be arranged into 3 tiers/levels of case complexity as outlined below:



- Level 1 complexity is what is expected of a GDP in primary care.
- Level 2 complexity requires clinicians with enhanced skills, primary care still.
- Level 3a & 3b complexity requires specialist or consultant led treatment.
- A true MCN has not yet been established for Restorative Dentistry in the area. Many referrals that are received could well be treated by Level 2 or Level 3a practitioners, freeing up time for consultants to be treating the more complex cases.
- The challenge is now to determine how to provide the tier 2/3a service.

References

- Role of Consultants and Specialists in Restorative Dentistry.
- Introductory Guide for Commissioning Dental Specialties, NHS England.
- http://www.fundingrequests.cscsu.nhs.uk/policies-and-guidance-for-dental-in-the-wessex-area/

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NHS Trust

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Service Evaluation Results

Figure 4 (below) highlights the primary reason for referral of patients both internally and externally.

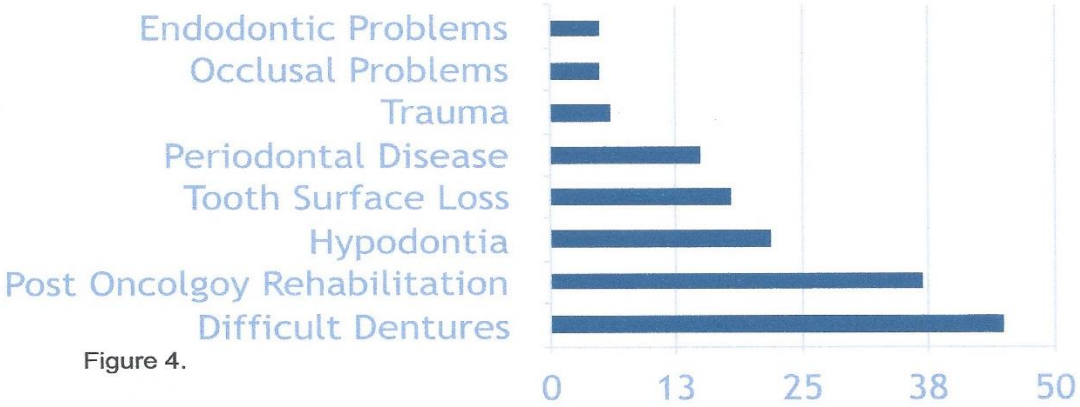


Figure 4.

As we can see from the data, the most common reason for referral of patients from an external source was difficulty with making them a denture. And from an internal source, oral rehabilitation post head and neck oncology treatment was the most common.

When we look further into the data, the majority of the 'difficult dentures' were with complete dentures rather than with partial dentures, and these were mostly complete lower denture.

The table (figure 5) below shows the sub specialties of restorative dentistry that were involved with the cases in the sample. The overwhelming majority of cases involved an aspect of prosthodontics to it. 80% of the cases seen were monospecialist and involved just one of the above specialties, and 20% involved two or three of the above specialties. These are often the more complex cases.

Prosthodontics	Periodontics	Endodontics
91%	19%	8%

Figure 5. Overview of Restorative specialties involved in patients cases.

Looking at the service provision in more detail revealed the following figures:

- 91% of treatment plans involved a prosthodontic aspect - either fixed or removable, and would involve the laboratory to some extent.

- 37% of cases involved rehabilitation of patients after oncology treatment and would often involve dentures or implants. Basic dental care is referred back to their general dental practitioner.
- 26% of treatment plans involved implants; either planning, placement or restoration.
- 12% of cases were joint Orthodontic-Restorative cases and involved treatment of periodontal disease for patients or managing patients with hypodontia (missing teeth). Again, this often involved fixed bridge work, implants or dentures.
- 68% of all patients over the last 2 years were taken on for treatment in the department and 32% were discharged back to primary care after initial consultation. This was due to either being an inappropriate referral and the treatment is suitable for primary care, or if the dentist had only asked for treatment planning advice.

Dear David
Hop are you are well
I have not ignored your email but as you know, it is hard to find time and respond my emails on time. With regard to restorative services the situation has not changed that much we are still experiencing increased needs and demands. Head and neck and other MDT services are taking a lot of our time .
I am still doing the same DCCs:-
2 MDT clinics 1 cancer a week and 1 Hypodontia a month (and will do extra one hypodontia with SP every 3 months)
I have got 1 monospecialist (Pros) doing 1 day a week and another "enhanced" GDP one day a week, but most likely he will be leaving to do his specialist training in Sept 2018. I am hope to replace him with another monospecialist 1 day a week.

Hygiene therapist started last year, she is helping with Cancer patients but also getting referrals from other departments.

DCT taking a lot of my time in supervision and teaching which is another problem for appropriate time allocation for teaching.

MCN not functioning as yet and no link with any outside sources ie specialists or enhanced GDPs for some carefully selected cases.
Waiting times quite high for both New pts and treatments almost 5 months for Follow up and new pts are currently being triaged to avoid breach.

I have to focus more on MDT and head and neck, hypodontia and trauma as these pts been ignored at the expense of those routine pts like tooth wear, implants overdentures, perio and endo which could be treated in primary care sector???

Appendix D RESTORATIVE DATA FROM ROYAL COUNTY HOSPITAL, GUILDFORD

It is difficult to get exact numbers as much of my current work is embedded in MDT work that goes under OMFS/ Ortho. Guildford does not have PBR tariffs for Restorative given historical absence of consultant there.

I have no current GDP referrals unless a H+N cancer case as my role was set up as purely MDT/ H+N. I am currently predominately doing head and neck and mixed MDT work with implants / ortho cases (comps/ RRB's for hypo and occ cleft cases). I don't have any input for MDT cleft as this is agreed to go into GKT

I do a monthly MDT for hypo / rest-ortho cases for internal patients which works very well. Ortho have been hugely supportive.

I do a fortnightly implant MDT and I have set up a formal application process to log and audit our implant works which has also worked very well.

When we look West to Wessex we have found them to be very approachable, Chris Ashdown has been very helpful and also very pragmatic and reasonable

We have scope and full support from management to move forward to try and set up secondary care support for GDP cases.

Summary of my current role:

I currently am based solely at RSCH Guildford and work 2 days (5 PAs with SPA). With regard to other RSCH staff in Restorative I am a one-man band - it is me, myself and I! I do have a CDS dentist who attends an MDT on a Thursday morning who is excellent and very supportive for head and neck dental assessments as well as for cover for MDT (to ensure quorate meeting for Restorative)

My current set up:
Tues am
Clinical treatment
Tues pm
Alternate weeks i) Joint implant assessment clinic with OMFS. ii) Day case surgery list in minor ops (implants)
Thurs am
Cancer MDT and joint head and neck clinic
Thurs pm
Clinical treatment
Fri am - once a month joint MDT for ortho-restorative (hypo / some cleft) with Nigel Taylor, consultant Orthodontist

We also have an ad hoc joint clinic with OMFS/ Ortho for orth-gnathic cases and where I can input when needed for restorative (tooth wear cases, partially dentate cases etc.). This runs concurrently with my implant clinic.

Other support within the Unit:
We have 3 head and neck surgeons and another 4 OMFS Consultant staff (facial deformity / general OMFS)
1 OMFS Assoc Specialist -
5 Part Time Speciality Doctors in OMFS (one has also done the FGDP Diploma in Implants)

Ortho - 2 Ortho consultants, 2 Part Time FTTA, 2 Ortho StR's

Technical support in Restorative - 2 full time technicians for Restorative/ OMFS - 1 x band 6 (about to start MSc at Kings PT in Maxillofacial Prosthetics), 1 Band 7 OMFS/ MaxFac Prosthetics (eyes, ears, noses, plates etc.). We also have FT orthodox technician (Band 7) and are currently recruiting for an additional Band 6 technician role.

We complete all removable work in house (including implant cases), all oncology work/ obturators in house (nearly all of my head and neck work is removable)
Fixed implant work (hypo cases) for me sent out to private lab - good quality and works well

We have links for local CDS who can offer some help for some cases (the visiting CDS has done the EDH Endo MSc with Kish). Otherwise we liaise on a shared care basis with local GDP's. We do have some informal links with Ashford who also have Special Care specialist and Paediatric Dentistry Consultant.

3 of the OMFS and 1 of the Ortho Consultants (Gursharan Minhas) also do days at Basingstoke (both OP clinics and operating).

Future vision:

Workload at RSCH has already increased since I started 2 years ago - my role is primarily for head and neck and good integration of restorative in head and neck with excellent support from ENT, OMFS, CNS and allied staff (SALT, Dieticians etc).
I have full support from clinical directors to develop an advice service for more general restorative cases from Wessex area if required (Chris Ashdown, as you know, is aware of this). Currently some Basingstoke Head and neck cases see me at RSCH for some parts of their dental rehab when required. It is acknowledged that more time commitment would be needed for my current role to expand. I feel the general support at RSCH is excellent with optimal admin and IT support and a functional and open-minded team. We expect the head and neck work to increase in the next 12 months due to regional changes in OMFS and we are likely to appoint a fourth head and neck OMFS in the next 12 months to support this but this will inevitably increase my workload. Currently OMFS give me access for GA for implants when required and I do all obturator changes under GA when required for working imps of defects. **RSCH is committed to its ongoing links with Basingstoke and further development of this current relationship.**

My role is currently 5 PA's

- Predominantly head and neck role in MDT clinic
- Fortnightly Implant clinic (internal referrals)
- Monthly MDT Rest-Ortho (internal referrals)
- 2-3 treatment sessions per week

Nick Lewis (RSCH, Guildford) items to raise at Secondary Sector Consultant Meeting:

- Current commissioning situation – Wessex
- Scope of current Restorative Provision at RSCH
- Current
    - Head and Neck
    - Restorative – Ortho interface (Hypodontia and cleft)
    - Implants (inc. IFR's)
    - General Restorative Referrals
- Future aims for Restorative Provision at RSCH
    - General Restorative Referrals

Current issues/ plans:

- Development of secondary care advisory service at RSCH for Wessex patients

Appendix E Summary of Secondary Sector Orthodontic Consultants feedback regarding the Ortho-Restorative Network

Hospital	Responder	Current situation	Perceived problems	O-R work	MDT Cover	Future vision
Southampton GH	N Smith	No Rest Dent input. Hypodontia sent to London but recently QA Portsmouth. Commissioners have served 12 months' notice on orthodontic contract. Lack of ortho consultants	No future in unit ortho service	no	no	**Service development in Ortho outside the secondary sector (+ Rest Dent support)** **More cohesive "Dental" services in Wessex**
Dorset County Hospital	Hugh Bellis	Hypodontia patients that require restorative input sent to the Bristol hypodontia clinic, (30-40 per year). Lack of local restorative treatment, even for adhesive work, as it is not undertaken by GDP's. Implants need IFR either for hospital placement or by a specialist. Planning needed early. <u>Perio Cases:</u> We do not have many of these cases always proves extremely difficult to manage the patients. Bristol no longer accepts referrals for perio. Only alternative is for IFR to a local specialist. <u>Dental Trauma</u> Complex dental trauma accepted by Bristol but distances complicates the management. Much of the work falls between GDP and Bristol and a second-class service and result is often achieved. <u>Complex adult malocclusion</u> May require combined Ortho/Surgery	**Experiencing lengthy delays both for initial consultation and provision of restorations.** 9 months for their initial consultation, review/ pre ortho debond check, and for restorations. **No facility locally for restorative consultation if ortho treatment does not proceed as planned.**	yes	No, referred to Bristol	**It would be ideal if Poole service could be expanded to deliver an overall provision for Dorset patients.**

		and Restorative care and often require a restorative input in the planning stage which at the present time is very difficult to achieve. <u>Cleft Lip and Palate</u> Require access to joint restorative care. Salisbury do not have access to a Consultant Restorative care. Only Portsmouth has access to restorative support. We send the children to Bristol.				
HOSPITAL	RESPONDER	CURRENT SITUATION	PERCEIVED PROBLEMS	0-R WORK	MTD COVER	FUTURE VISION
Royal Surrey	Gursham Minhas	Problem with access to Rest Dent Consultant services Occasional adhoc advice from Nick Lewis Otherwise treatment in primary sector Unsympathetic KSS commissioners	**Restorative treatment**	?	?	**Increase ortho service with integrated Restorative input**
Royal Surrey County Hospital	Nigel Taylor	Officially KSS decommissioned Rest Dent input at East Surrey after death of Graham Gilmore With appointment of Nick Lewis now Ortho-Rest Clinic in primary sector 1 session per month Also, requires restorative input for Cancer MTD and Orthognathic Limited Lab support for restorative in house. Work mostly sent out	**50% referrals from Hants so would wish additional support from Hants Commissioners** Cancer work seen as priority for Restorative 600 cleft cases aprox 3 new cases /month. Rest Dent work done in London	Yes	Yes, for Cancer but Ortho - Rest not based in RSCH	**Fully imbedded cancer and ortho-rest MTD's** **Develop advice only service for Rest Dent support GDP's**

Bournemouth RBCH	Eleanor Thickett Susan Power	Limited consultant restorative input locally – merely advice. All of our hypodontia who require possible implants / bridges to Guys or Bristol lengthening the pathway. Problems with support from primary sector providers (problematical as even with assurance from GDPs there is such a turnover)	**Not enough provision of consultant restorative service** contract at Poole as the funding is cancer Strict guidance on implants TX provision. No access to specialist practice implant tx	Yes but **no consultant locally.** Recent audit: 92 hypodontia patients mainly referred by GDP average of 2-3 missing teeth. One patient received an implant, over 50% had RBB's bridges placed by their GDPs.	No. **Work sent to London or Bristol**	**Access restorative treatment locally from a consultant led service for all aspects care** **Establish a hypodontia/restorative MDT with the local restorative consultant**
HOSPITAL	RESPONDER	CURRENT SITUATION	PERCEIVED PROBLEMS	0-R WORK	MTD COVER	FUTURE VISION
East Surrey	Alison Newlyn					
North Hants Hospital, Basingstoke	Mairead Hayes	No access to a restorative consultant at HHFT. Refers complex orthodontic/restorative to London usually The Eastman, for assessment. Then apply for IFR funding using MDT report for evidence.	**No local MDT** **No local access to Restorative Services**	Yes	Access London	**Strongly support the development of a robust Ortho-Rest services across the region to improve access for patients.**

		This set-up is less than ideal for patients **There is no seamless referral pathway locally**				
Salisbury	Annalise McNair	Currently a single-handed consultant. Cleft orthodontic colleague is due take up post in June 2018. Alistair Morton runs the Implant MDT and clinic with myself and Charlie Killick, (specialist list for endodontics + prosthodontics) 1session/month. Alistair and Charlie are working together to restore Problems with implant /rest funding due to lack consultant. This clinic also captures oncology patients from Wiltshire who have had surgical treatment at UHS plus cleft patients	Loosing Rest support, (sabbatical from April – October 2018). Therefore, no restorative cover for our MDTs and Clinics. Bristol Dental Hospital are closed to all referrals. Plans to link to QA to cover our MDT plus have some input into the Cleft Team. Our management team have agreed to fund this. Orthodontic services at UHS under threat. Lack of Orthodontic Consultant at Winchester.	Limited, non-consultant Restorative service	No	**Continuation of the service currently provided at SDH to a wider catchment of patients.** **Improved with Restorative Consultant support** Improve collaboration with the H&N Oncology Team at UHS to plan reconstruction with resection
HOSPITAL	RESPONDER	CURRENT SITUATION	PERCEIVED PROBLEMS	ORTHO-REST WORK	MDT COVER	FUTURE VISION

St Marys Isle of Wight	Ross McDowell	1 Consultant 2 days per week. 100 Case starts a year. 3 primary care providers. Equivalent to 2.5 full time orthodontists Totalling 500 Case starts a year On average refer up to 3 complex ortho/rest cases per month to QAH. MFU department has 4 surgeries Only 2 set up as dental surgeries with adequate suction and dental carts etc CDS /SCD access aprox one day a week for general dental care.	Local access to the Rest Dent services	Yes, co-ordinated by QA MDT	Yes, at QA	**I would like a joint ortho-rest clinic x6 a year, every 2 months on the IOW.** **I would like my ortho-rest patients not to have to travel across to QAH for their restorative work,** with a **commitment for a visiting Restorative Consultant to do treatment within the department at SMH.** To serve the department & primary care this may be 1 day a week?
HOSPITAL	**RESPONDER**	**CURRENT SITUATION**	**PERCEIVED PROBLEMS**	**0-R WORK**	**MTD COVER**	**FUTURE VISION**
Q A Hospital Portsmouth	**Steve Robinson**	3 Ortho consultants I orthodontic FTTA, 1 orthodontic SPR **1** Restorative SHO, 1 Oral Surgical SPR **2**SPRs in OFMS. 2 Hypodontia clinics / month 4 Orthognathic /month (every Wednesday pm) Laboratory work: • Removable restorative laboratory work done in house • Fixed laboratory work sent to external laboratories	Problematic to get GDP's to do simple restorative work **so s**cope of work carried out by GDP is limited We have already picked up some work from Southampton. There is the potential to increase work load by 25-30% depending on	Yes, at QA	**Yes,** at QA	To match staffing to workload Continue to improve MDT care and outcomes Explore links with potential new dental school in Portsmouth Improve links with restorative specialist practice and with GDPs

			current discussions with NHS England.			

Cleft Lip & Palate:

The cleft centre is a joint Salisbury-Oxford network with 100 cleft babies/yr.

Salisbury has about 50 new cleft births annually. About 25 will potentially need restorative input (25 palate only). At present the 25 are receiving treatment in Portsmouth, London Dental Schools and the occasional one in Bristol. Very few go to Oxford and Poole provides no restorative input from Simon Ellis for clefts

If you assume of the 25 about 5 might need advice only with the local dentist providing composite build ups, veneers or adhesive bridges. The other 20 will need advice and treatment.

If this is a minimum of 5 visits there is a need for 100+ restorative appointments which will vary from 30-90 minutes. This would be a minimum of 3-4 weeks/42 for a full-time consultant. This is a guess but I wouldn't think it was that far out. Its potentially up to 10% of somebody's workload.

Appendix F: Examples of DwSI/Enhanced Practitioner/Level 2 Services.

Greater Manchester Periodontal Care

Brief overview of scheme

The Healthy Gums Do Matter project was developed to improve the standards and quality of periodontal care provided in NHS general practice. A sub-group of the Greater Manchester Local Dental Network (GM LDN) have developed a primary care led "Practitioner's Toolkit" which encompasses a preventive "care pathway". The pathway was designed to address some of the difficulties faced by GDPs nationally when trying to provide periodontal care and to develop a more pragmatic approach to managing this common lifelong condition.

The group worked with clinical, public health and legal specialists to produce, practical, evidence-informed guidance, with supporting toolkits for practices to improve outcomes for patients and reduce ineffective and thus non-cost-effective treatments. At the philosophical core of the pathways is the recognition that periodontitis is a lifelong challenge that requires a daily patient commitment alongside professional support. The Toolkit contained educational and behaviour change resources for GDP teams, technical skills updates, modified clinical indices and clear care pathways to improve effectiveness of periodontal therapy. They embed a practitioner-patient care contract and detail when it is appropriate to refer for secondary care, minimising inappropriate referrals.

The toolkit is being piloted in GM across 10 dental practices and outcome data collected on clinical outcomes and treatment need. The LDN is also working with the commissioning team to try and assess the periodontal need in GM and to develop an appropriate managed clinical network to manage referrals into secondary care for patients of level 2 and 3 complexities.

Benefits to patients

This project aims to provide more effective and personalised preventive care at a primary care level. The aim is to retain teeth for life and improve quality of life. To date the appropriateness of specialist referrals has improved, enhancing the use of limited specialist resource in GM. Better patient outcomes are being demonstrated. More time is being spent on education, prevention and behaviour change for patient self-care. The toolkit provides a more consistent approach to managing periodontal diseases and aims to reduces the need for constant cycles of re-treatment. The toolkit also embraces the general health consequences of periodontitis, links with diabetes and the role of the dental team in early identification of diabetes risk and selection criteria for referral for screening.

What lessons have been learned?

- That supporting and nurturing clinical leadership is essential to redesign services and improve the effectiveness of care.
- Practitioners enjoy working with specialists and this joined-up approach is breaking down artificial barriers between sectors to benefit patients and use resources more effectively.
- Patients value the focus on communication and behaviour change.
- The clear division of responsibility for home care and clinical care and the medico-legal protection offered by clearly recording advice and diagnoses is valued by all clinicians.
- The work has also highlighted the importance of structural and social determinants of health that are outside the clinician's control and the impact of improving periodontal health on conditions like diabetes.

Local Managed Clinical Network in Endodontics as based in South West London since 2010

Brief overview of scheme

AIM To increase treatment capacity for patients referred by their dentists for endodontic therapy in South West London. To utilise primary care expertise and infrastructure and to better 'police' inappropriate referrals.

2 dentists with enhanced skills were trained to provide level 2 work. These dentists were formally assessed and approved by the network lead and the area team to provide enhanced skills within the network. The area commissioning team supported the set-up of a local network in endodontics in 2010, to include:

- agreed treatment criteria,
- agreed triaging model where secondary care team (Consultant in Restorative Dentistry) assess all referrals for endodontic therapy.
- After clinical assessments - level two offered treatment with Dentist with enhanced endodontic skills (matching best geography of patient to DwESs)
- level three complexity – treatment offered in secondary care

Benefits to patients

Timely assessment of patient by hospital specialist within Nationally agreed time frame.

Formal triage and advice offered on both the endodontic and restorative implication of treatment needs Secondary care assessment allows broad assessment of the 'bigger clinical dental picture' e.g. Balance of the implications of other dental problems and treatment needs that the patient may require and how these fit with the request for endodontic treatment by referring dentist (particularly tooth restorability and long term strategic worth)

Matching clinical complexity to the skills of a clinician within the local managed clinical network

Close connection of the Consultant Specialist with both the enhanced practitioner and referring practitioner – high quality communication between all members of the team. This makes 'shared care' patient flow arrangements very straightforward.

Clear understanding for the patient of the individual who will undertake the endodontic treatment (Specialist /DwES /GDP) and who will provide post-endodontic restorative treatment

Clear understanding by the patient that the network is provided under the NHS and that the UDA model applies in both primary care environments (DwES & GDP).

Audit of radiographic outcome shared with the Hospital and enhanced practitioner

What lessons have been learnt?

- Audits have confirmed that the local managed clinical network is much appreciated by patients
- It has released secondary sector resource to treat patients of level 2 complexity – rather than have to say 'no' after assessment
- Integration of primary and secondary care clinicians
- Equity of patient access to endodontic assessment/treatment in South West London
- DwES practitioners have been used successfully to teach and train DFs, DCTs and GDPs
- It was necessary to include a core 'build-up' fee for difficult level 2 teeth for the enhanced

practitioners – to enhance outcome.

Dental Restorative pathway – Thames Valley

Brief overview of scheme

AIM Provide a restorative pathway for treatments that fall outside the expertise of primary care, but do not require referral to hospital. The pathway is underpinned by policy statements confirming eligibility for funding of Endodontic, Prosthodontic and Periodontal treatment. There is Consultant led triage and a treatment planning service. The triage and treatment planning service ensure compliance with the policy statements. The triage service also provides an advisory service to GDPs to support delivery of Restorative treatments in primary care. Treatments are delivered by Any Qualified Providers and Dentists with Special Interest in Endodontics across the Thames Valley.

AQP services funded on the basis of agreed local tariff.

Referrals for Restorative treatment for cancer, cleft and hypodontia patients are made to hospital**.**

Benefits to patients

- Access to more complex Restorative treatments on the NHS.
- Local access to these services
- Allows for teeth to be restored rather than extracted
- Consultant assessment of patients' needs with treatment in line with the plan.
- Advisory service to GDPs which can assist their treatments

What lessons have been learnt?

The pathway should be underpinned by clear criteria

The process between referral, decision, treatment planning and treatment needs to be as smooth as possible

The pricing arrangements need to be clear

The service needs to be comply with NHS Regulations in terms of patient charging

The service needs to have critical mass of patients and clinicians to ensure sustainability

There should be similar levels of capacity in each county

The pathway needs to be integrated with secondary care to ensure Consultant input to treatment as appropriate

The training pathway needs to be built into the treatment pathway in the design of the service

The pathway needs to take account of the requirements of secondary care in meeting standards required of it (e.g. waiting times; support for cancer care)

The pathway needs to be underpinned by good communications to patients and GDPs about how it works

The pathway should be underpinned by modern referral arrangements, which also provide advice on criteria as referrals are submitted (probably electronic)

GDPs should be able to seek feedback and advice to support delivery of treatment in primary care

The pathway should provide feedback about use of the services by GDPs to highlight any training or development needs

There should be clinical support for the pathway design

Local Managed Clinical Network in Endodontics and Periodontics in Bradford and Airedale (2010)

Brief overview of scheme

In 2010, working jointly with the LDC, Bradford and Airedale PCT commissioned a survey of local GDPs. It identified a significant gap between what was available versus what was required. As a consequence, a service specification designed for the referral of patients requiring advanced periodontal and endodontic care was initiated. Using the AWP model for tendering, three practitioners were identified as being suitable to provide services, and were accredited by the PCT. One of the practitioners was accredited to provide both perio and endo services, and the other two were accredited as single speciality providers (both of these individuals worked in the same practice). Prof Paul Brunton agreed to act as Consultant cover for the service.

To access the service patients should require RIOTN complexity 3 periodontal or endodontic treatment, although periodontal surgery is excluded from the specification. Referrals are sent directly to the practitioner and triaged by them. If they feel that Consultant input / advice is needed then a direct referral system is in place to ensure this can happen promptly. A rolling system of audit is in place to ensure that treatment outcome, quality and patient experience is monitored; there are quarterly meetings between members of the network and an annual appraisal system is in place. The service has been operational since June 2011.

Benefits to patients

- The ability to access advanced restorative care locally, where no service had existed previously.
- The treatment provided is subject to audit, peer review and quality monitoring by those in the network, ensuring patients received high quality care appropriate to their needs.
- Waiting times are well within national guidelines.
- Since the inception of the scheme over 2000 patients have accessed care through the scheme and patient feedback is overwhelmingly positive, as is referring practitioner feedback.
- By ensuring that treatment is undertaken by those qualified to do it, within a supportive network and closely audited, treatment quality and outcomes have been demonstrated to be extremely high and have reduced the need for repeated costly treatment interventions or the avoidable loss of teeth.

What lessons have been learnt?

- One of the keys to the success of the service was a two learning events prior to service inception attended by any practice wishing to refer.
- Practices also had to sign up to a 'code of conduct' stating that they understood the parameters of the service and would endeavour to refer within the specification.
- As a result, 'inappropriate' referrals at the outset were very low.
- It is however very telling that as the scheme enters its 5th year the numbers of such referrals are creeping up, likely to be due to dentists new to the area who did not attend the original meetings. The main reasons for referrals being rejected for treatment are insufficient complexity, poor oral hygiene or, in the case of endodontics, non-restorable teeth.
- Unlike other schemes patients are referred directly to the practitioners, rather than a central hub. This allows patients to receive treatment where they wish to access it and given the large numbers of patients seen significantly reduces the administrative burden on the Consultant.
- Audits are in place to ensure the scheme is not abused
- Consultant support available ensures that patients receive treatment from the person best placed to undertake it.

Endodontic Service in South Cumbria (2013-14)

Brief overview of scheme

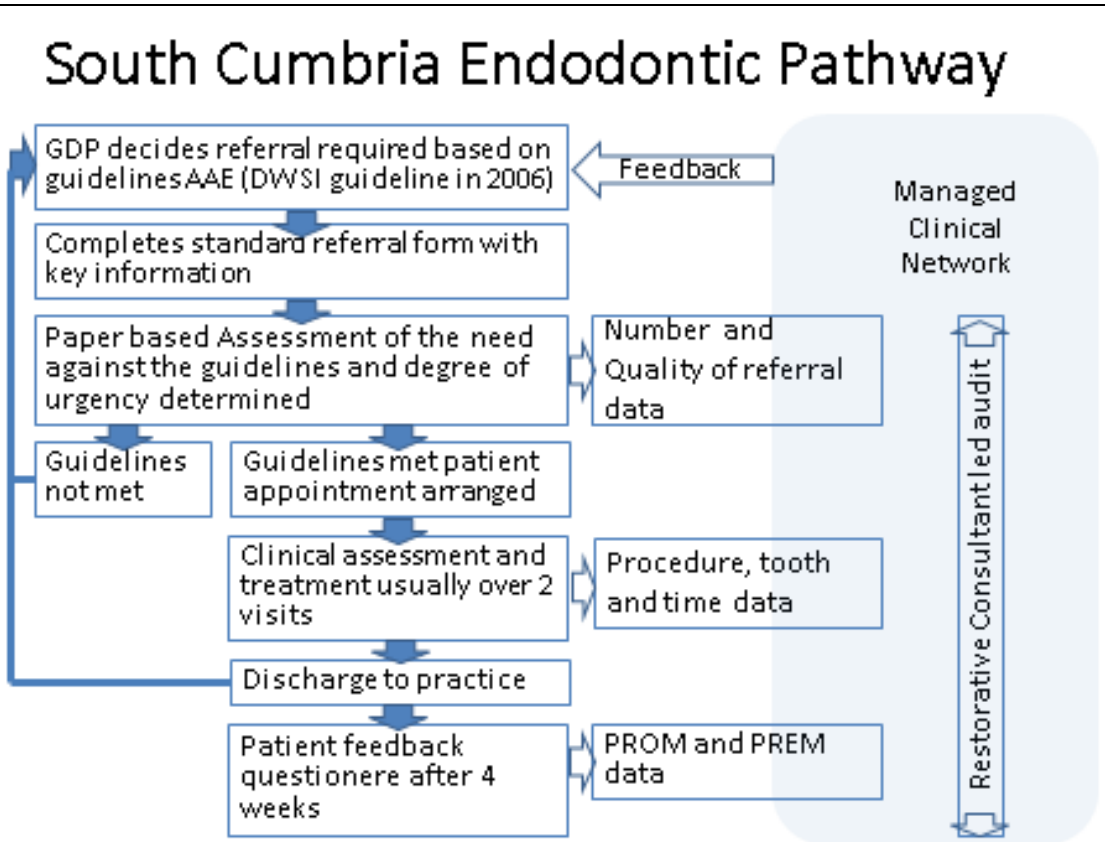
AIM Improve access to restorative services "closer to home".

There were no NHS services for endodontics above a care complexity greater than level 1. Patients needed to be referred to Manchester or Liverpool where there were NHS endodontic services in Dental Hospitals. The only other option was to refer to private providers. The hospital-based Consultant service to GDPs was for advice only, concentrating on level 3b multi-disciplinary complex care.

It was agreed to pilot the establishment of a DwSI in endodontics, under the supervision and guidance of the Restorative consultant. The DwSI was assessed according to the suggested mechanism in the Guidance for the appointment of DwSIs in Endodontics. This included a review of his endodontic, skills, case notes and recognition of his part completion of an MSc in Endodontics now since complete.

Guidelines for referral to the new service were agreed using the AEE guidelines for Level 2 and the DwSI guide. Initially, all referrals were sent via the Consultant in Restorative Dentistry to ensure the appropriate cases were being treated and the outcomes being monitored. Following continual monitoring and evaluation through the Clinical Network, the system has evolved with GDPs now refer directly using a referral pathway.

The system can be described in the following schematic: -



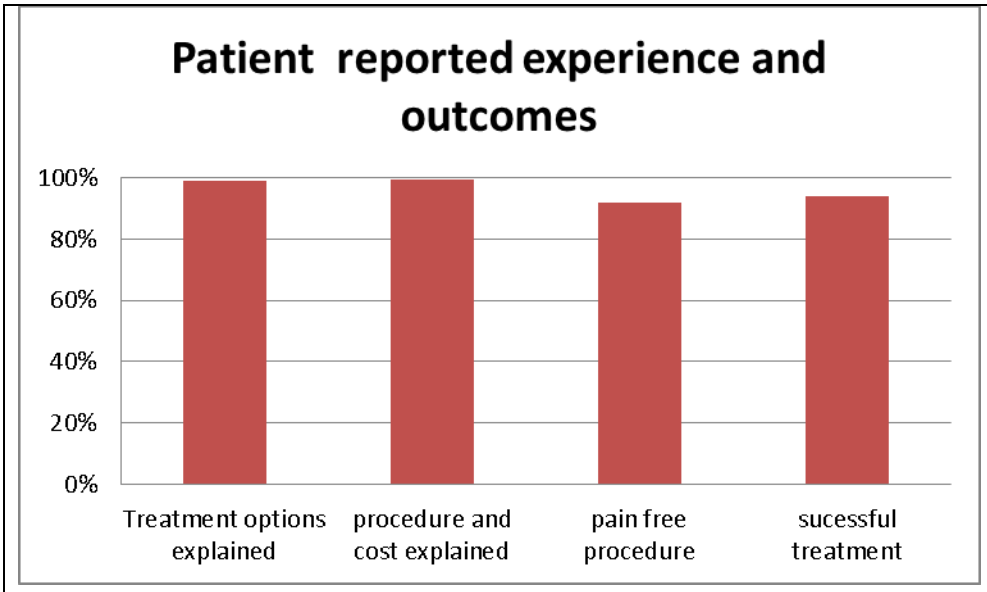
Benefits to patients

Patients are routinely sent a follow up questionnaire by the provider 4 weeks after completion of the DwSI intervention. Data from this source was analysed for the period August 2013 and January 2014.

Fifty five patients responded to the survey, the questions covering waiting times; patient experience and overall satisfaction with the service. The questionnaire has been modified over time and now includes the Friends and Family Test (FFT) question.

In summary the survey showed:

- waiting time from referral to treatment had significantly reduced
- high levels of satisfaction in relation to the clinical care provided
- high levels of satisfaction with the clinical outcome achieved
- high levels of satisfaction with the overall patient experience



What lessons have been learnt?

Consultant view point

- The service has improved over time as we have adjusted and reviewed clinical pathway.
- Regular audit has reviewed quality, which has been consistently good. It has also identified inappropriate referrals and practices/GDPs that have over referred. However, this has now appeared to have settled.
- Consistently good outcomes particularly patient experience
- Enabled patients who would otherwise have to have private treatment access NHS treatment.

DWSI Provider view point

- Initial triage through the Consultant, time consuming and unnecessary once criteria set
- Initial appointment set to allow enough time to start treatment as well as Consultation
- Make some time monthly to provide time for referrals of trauma and pain
- Current 4 sessions per week is struggling to cope with patient demand. Further restrictions on referrals, (above level 2) or expansion of the service would resolve this. However, restrictions on what is already a rigorously set referral criteria have proven difficult to make.
- Standardisation of data collection to be developed and recorded

Commissioner view point

- Introduction of paper triage on receipt of referral ensures that the patients treated are of level 2 complexity or above and that patients not meeting this criterion are sent back to the referring GDP
- Continual evaluation and evolution by MCN under governance of Consultant in Restorative Dentistry is important
- Whilst the clinical evaluation undertaken demonstrates the clinical and cost effectiveness of the service, the current manual data monitoring system made it difficult to analyse. A more robust electronic data collection template is therefore being developed under the remit of

the MCN to facilitate robust monitoring

West Sussex DwSI Periodontal scheme (2006)

Brief overview of scheme

After an approach from Mid Sussex PCT (the Commissioners) a DwSI Pilot Service in Periodontics was established FOR West Sussex. The service functioned as a clinical network between the primary and secondary sectors and featured consultant outreach. It was anon surgical service and emphasised patient self-efficacy and behaviour change. Instrumentation was delayed until patient adherence to oral hygiene was noted. Data capture, audit and clinical governance were an essential part of the service.

A clear service framework was defined and conveyed to practitioners via a series of information meetings and also via information leaflets. Referrals were process through an Referral Management Centre. The local consultant in Restorative Dentistry was asked to lead the service.

Between June 2006 and May 2007, it experienced 428 referrals in the first 12 months. The BPE was used to identify patients suitable for Level 2 periodontal care.

5 DwSI's were selected using the RCS(Eng) and FGDP(UK) guidelines. The selection was via an interview process and was dependant on successful completion of a week-long induction training programme. The training programme was validated by KSS Deanery.

The DwSI's were contracted to provide 2 half day sessions per month. A strict clinical regime was utilised by all participants to facilitate analysis and ensure equality of care. Monthly figures for the service were presented to the director of the service. The first 50 patients were audited on their experience and this was also matched to outcomes. A 100% return for the questionnaires.

The DwSI's meet monthly with the consultant in the evenings to discuss progress, their cases, new relevant literature and improvements to the process.

Benefits to patients, GDP's and commissioners

- It produced highly effective outcomes
- It was well accepted by patients and referring practitioners
- 83% of patients rated care as very good
- 97% felt that their problems were addressed
- 94% rated the DwSI communication as good or very good
- 53% were diagnosed as having chronic generalised periodontitis, 30% had localised periodontitis and 17% had aggressive periodontitis
- 90% of patients were seen within the 4-7 visit treatment protocol
- Over 50% had 80% of their 5.5mm pockets moved into a lower BPE category making them

suitable for maintenance

- 87% of patients were discharged back to their GDP for maintenance
- Practitioners value the outreach and improved communication between the primary and secondary sector

What lessons have been learned?

- It did not replace the need for a consultant led service in the eyes of the practitioners
- Comprehensive audit of the service indicated that the was a tendency for GDP's to underscore the level of periodontal disease
- The audit data validated the self-efficacy approach
- There was great merit in developing a team ethic amongst the DwSI's to further self-directed continuing professional development

Appendix G Summary Document of Wessex/ Surrey Secondary Sector Restorative Services.

Hospital	Time table	Current situation	Perceived problems	O-R work	MDT Cover	Future vision
RSCH Guildford Nick Lewis	Nick Lewis 2 days (5 PAs with SPA). Tues am Clinical tx Tues pm Alternate weeks i)Joint implant clinic with OMFS. ii) Day case surgery) Thurs am Cancer MDT Thurs pm Clinical tx	Role is primarily for head and neck Excellent support from ENT, OMFS, CNS and allied staff (SALT, Dieticians etc). Support to develop an advice service for general restorative cases (from Wessex). Some Basingstoke Head and neck cases seen at RSCH for some parts of their dental rehab. Access for GA for implants/obturator changes etc. Fri am - once a month joint MDT for ortho-restorative (hypo / some cleft) with Nigel Taylor **Staff** 1 Consult Rest Dent + CDS dentist attends MDT **OMFS** 3 head and neck surgeons 4 OMFS Consultant (facial deformity / general OMFS) 1 Associate Specialist 5 P/T Spec Doctors **Ortho** 2 Ortho consultants, 2 P/T FTTA, 2 Ortho StR's	**Workload at RSCH has already increased since I started 2 years ago**	Yes 1 session per month	yes	Acknowledged **more time commitment required to expand Tx provision.** Head and neck expected to increase in the next 12 months due to regional changes in OMFS. Likelihood of appointing a fourth head and neck OMFS in the next 12 months **RSCH is committed to ongoing links with Basingstoke and further development of relationship**.

		Technical support Restorative - 2 full time technicians for Restorative/ OMFS - 1 x band 6, 1 Band 7 OMFS/MaxFac Prosthetics F/T orthodox technician (Band 7) currently recruiting for Band 6. **In house** All removable work in house (including implant cases), All oncology work/ obturators in house (**Work sent out** Fixed implant work (hypo cases) to private lab – Links to CDS who can offer limited help We do have some informal links with Ashford who also have Special Care specialist and Paediatric Dentistry Consultant. 3 of the OMFS (Mike Bater, Carrie Newlands and James Sloane) and 1 of the Ortho Consultants (Gursharan Minhas) also do days at Basingstoke (both OP clinics and operating)				
Poole Hospital	6PAs/week	No specialists 1 PA- clinical assistant		**Limited Ortho -**	1 PA	**CRUCIAL TO MAINTAIN THE ONCOLOGY SERVICE**

Simon Ellis	5PAs clinical treatment (MDT -1 PA but part of 5 above) 1 admin	3 hygienist sessions In house MaxFac lab for dentures and implant dentures Outside lab for fixed pros and denture bars NO direct links with practice-based specialists some ortho-restorative at Poole with the Bournemouth Ortho dept but no joint MDT clinic with them though I do mini MDT with OMFS for these patients (implants/orthognathic/occlusion implications)		**Rest Work** (SEE CURRENT SITUATION)		**AS PART OF MDT;** **BE INVOLVED IN HYPODONTIA AND RESTORATIVE SERVICE;** CLEFT ALREADY MANAGED VIA OXFORD/SALISBURY (ALTHOUGH I UNDERSTAND NOT IDEAL). I AM TRYING TO GET SPECIALIST TRAINEE TO ATTEND
CENTRE		**TIME TABLE**	**PROBLEMS**	**O-R WORK**	**MDT**	**FUTURE VISION**
Q.A. Portsmouth Shihab Romeed		I am still doing same DCCs 1 monospecialist (Pros) 1 day a week Enhanced GDP one day a week, (but most likely he will be leaving to do his specialist training in sept 2018). Hygiene therapist started as a fresh late last year, she is helping with Cancer patients but also getting referrals from other departments.	**We are still experiencing increased needs and demands** Head and neck and other MDT services are taking a lot of our time. DCT taking a lot of my time	1 hypodontia per month plus addition 1 clinic every 3/12	1 cancer per week	I am hope to replace Enhanced practitioner with another monospecialist 1 day a week **Focus more on MDT and head and neck, hypodontia and trauma** as these pts been ignored at the expense of those routine pts like tooth wear, implants

		No link with any outside sources ie specialists or enhanced GDPs Waiting times quite high for both New pts and treatments almost 5 months	in supervision and teaching Lab is short staffed, Follow up and new pts are currently being triaged to avoid breach.			overdentures, perio and endo which could be treated in primary care sector
Hospital	Time table	Current situation	Perceived problems	O-R work	MDT Cover	Future vision

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