

The dental workforce recruitment and retention crisis in the UK

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Key points

Dentists are leaving the NHS and it is important to fully understand the factors which are influencing their decisions.

The recruitment and retention of dentists is a major concern in many locations and this is contributing to a further deterioration in access to NHS dental care, in turn reinforcing geographical imbalances and growing oral health inequalities.

The lack of clear and robust data is undermining our ability to address the current dental workforce issues and compromises long-term strategic planning.

There is an urgent need for immediate action at local, regional and national levels to ensure recovery from the current crisis and safeguard the future of primary care NHS dentistry and general dental practice.

Abstract

The precarious state of NHS dentistry is widely acknowledged, yet there is limited progress in addressing the underlying issues. Further delays will undoubtedly impact patient care, leading to oral health deterioration and unnecessary suffering. This will predominantly affect the most vulnerable in society, resulting in greater oral health inequalities.

The underlying issues contributing to the current NHS dental crisis are many, and they include: prolonged delays in contract reform; long-term underinvestment; private sector growth; and fewer dentists working full-time and/or in the NHS. In England, an NHS dental contract that fails to promote prevention or equality of access continues to have a deep and pernicious impact on the future of NHS dentistry. The devastating impact of the COVID-19 pandemic on access cannot be underestimated and neither should the effect of Brexit on the availability of workforce.

The recruitment and retention of dentists, and other members of the dental team, is undoubtedly a major issue in terms of capacity and access to NHS dental care. These problems, seen across the UK, are a particular issue in England, with acute challenges within rural and coastal areas.

There is an urgent necessity to develop coherent, multifaceted strategies, aided by the collection of clear and accurate workforce data, to tackle these issues.

Introduction

The NHS dental crisis has been widely reported throughout the media, both dental and mainstream, as the dental profession, patient groups, Members of Parliament and patients have become increasingly frustrated with the apparent lack of progress in addressing the underlying issues. In England, there is widespread acknowledgement that the current NHS dental contract is one of the key issues affecting access to care and creating inequality of provision.^{1,2,3} Despite universal criticism of

the contract and many years of discussions, negotiations, and the piloting of alternatives, the profession has little confidence that there will be any profound change in the near future.

This lack of confidence is undoubtedly impacting on the views and aspirations of the dental profession, which appears to be translating into challenges around workforce recruitment and retention (R&R). Until now, R&R of dentists within NHS primary care was ostensibly a geographical issue, with rural and coastal areas struggling to recruit,^{4,5} while urban dental practices experienced less of an issue.⁶ There are now a growing number of reports that problems of recruitment are more widespread, with both urban and rural practices affected.^{7,8} In rural areas, recruitment problems have also been reported within the private sector.^{7,9}

The most recent data from the General Dental Council (GDC) indicate that dentist registration numbers are relatively stable¹⁰

and over the last ten years we have seen an increase from 34,700 in 2011 to 43,292 in 2021.¹¹ In contrast, according to data provided by the Department of Health and Social Care, more than 2,500 dentists across England and Wales ended their NHS roles in 2021.¹² This would seem to imply that we do not have a recruitment crisis in UK dentistry, but a crisis within the NHS, with increasing numbers of graduates investing their future in the private sector.¹³ This was a message promoted by the British Dental Association (BDA),¹⁴ but seems to contrast sharply with the everyday experience of practices, particularly in rural locations.^{15,16}

Access to NHS dentistry

Despite a record number of dentists on the dental register,¹⁰ the National Audit Office reported that the UK has the lowest number of dentists *per capita* in Europe, with England

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having the fewest NHS primary care dentists per person across the Four Home Nations.¹⁷ From 2020–2021, there was a fall in the number of dentists within the general dental services (GDS) in all regions of England,² taking the headcount of NHS primary care dentists to its lowest level since 2013–2014.⁹ This has coincided with unprecedented demand from patients wishing to access NHS dental services, with need vastly outstripping capacity across the UK, particularly in England.¹⁷

Underfunding has been a long-standing issue in dentistry.¹⁸ In 2019, the BDA urged the Government to factor dentistry into its NHS plan and attend to the escalating problems.¹⁹ They warned that NHS dentistry was ‘hanging by a thread’, aware that patients across the UK were struggling to access care.²⁰ Assurances have been given that progress is being made, but unfortunately this has not translated into effective change.

The ‘quick wins’ promised in England in 2021 finally materialised in July 2022, and while certain aspects of the changes were welcomed²¹ (such as contractual changes to support more effective use of skill mix), the profession appear to have little confidence that this will improve access for patients, address oral health inequalities, or arrest the haemorrhage of dentists from the NHS. Increasing numbers of dentists are looking to the private sector for long-term security,²² while other members of the dental team are reconsidering their career choices.¹

Recruitment and retention crisis

R&R of dentists appears to be a major contributory factor within the current NHS dental crisis. There are a range of factors reported to influence this and more research is required to better understand the situation.

UK graduate recruitment

An increasing number of students and young dentists report seeing little future in the NHS and instead envisage a career in private practice.¹³ We are now witnessing the direct consequence of this, with new graduates migrating earlier in their careers to the private sector.¹³ The COVID-19 pandemic, in addition to previous NHS pension restrictions, have been the catalyst for many older colleagues to re-evaluate their own position. For many, this has led to a reduction in NHS commitment, private sector shifts, increased practice sales and early retirement,²³ increasing the number

of opportunities within the private sector for younger colleagues.

The influence of social media on career aspirations would also appear to be highly impactful, particularly with early career dentists. Social media is saturated with promoting the benefits and rewards of cosmetic dentistry but it is rare to find a similar level of interest in oral health promotion, or care of vulnerable groups, particularly related to the NHS. Our young colleagues are being bombarded with positive images of private dentistry and negative messages relating to the NHS. It is little wonder that so few see their future in the NHS.¹³

International recruitment

Like many other areas of the UK healthcare system, the dental workforce has relied on a considerable number of internationally qualified dentists (IQDs).²⁴ In December 2019, 28% of the dentists on the GDC register were IQDs, with 23% of new registrants graduating from the European Economic Area.²⁴ The combined effects of Brexit and the COVID-19 pandemic have had a profound impact on the number of new international registrants, with only 357 overseas applicants added to the register in 2020²⁵ compared to 1,249 in 2017.²⁶

Uncertainty around the consequences of Brexit, including issues around legislation, work permits and the financial aspects of the Pound against the Euro, have further negatively impacted overseas recruitment.²⁶

An additional challenge impacting the recruitment of dentists from outside Europe is the timely completion of the Overseas Registration Examination (ORE).²⁷ There is inflexible legislation that binds the ORE to strict time limits and as of February 2022, there were over 2,000 dentists waiting to complete their exam.²⁸ With a limited capacity of 500 examinations each year,²⁹ the pandemic backlog is going to take considerable time to clear, without additional resources or increasing the range of ORE providers.²⁹ These issues clearly impact on the ability of overseas dentists practising in the UK and is contributing directly to the NHS workforce shortage.³⁰

Geographical recruitment issues

Issues with recruitment were previously related to geographical location²⁹ and the level of NHS commitment.¹² This is still the case, but many areas not previously affected are now also struggling to attract dentists and other

members of the dental team.⁹ The challenge of recruiting to rural NHS practices is well-documented;^{12,31,32} however, there is growing evidence that private practices are now facing similar problems.^{8,17} It would be naive not to recognise the impact which this could have across primary dental care as a whole.

Issues with retention

The impact of the COVID-19 pandemic has contributed to the problem, through the increased number leaving the profession due to stress and burnout,¹ early retirement, or a change in career.²³ In 2021, 58% of NHS general dental practitioners reported their intentions to leave or reduce their NHS commitment in the next five years.³

The major factor affecting the retention of dentists within the NHS in England is recognised as the NHS dental contract^{1,2,3} and associated workload.³³ Stress and burnout commonly affect dentists across the UK³⁴ and the link between the current NHS system and stress is widely acknowledged.^{1,33} These areas are highlighted as a major risk in the future retention of the NHS dental workforce.^{23,35}

Financial factors, including the increase in the cost of fees and indemnity³⁰ and the long-term reduction in income,³² are taking their toll on those working for NHS GDS. Many are keen to upskill but are demotivated,³⁶ due to the limited opportunities for progression under the current NHS contract, with little or no financial incentives or recognition for post-graduate training.²²

Stemming the flow

A diffusion gradient exists between the NHS and private sectors, with rising numbers of dentists leaving the NHS and doing so at an earlier stage of their career. Various push, pull and stay factors influence such decisions and they need to be addressed if we wish to arrest this process and slow the rate of diffusion.

The challenges of working within NHS primary care dentistry are well-documented, with chronic underfunding and the units of dental activity (UDA) in England providing strong drivers to push dentists towards the private sector. The pull factors towards private dentistry are increasingly powerful and are likely to include: a focus on quality rather than quantity; a release from UDA-centred care; freedom from NHS bureaucracy; financial autonomy; and business security, with greater potential to invest in staff, practice and self.

The factors, forming a semi-permeable membrane which encourage us to stay within the NHS, have recently become more permeable. Financial stability, NHS pensions and long-term security have been eroded, and the fear of making the leap into the private sector reduced.

The question of how to retain dentists in the NHS is frequently posed, with some advocating coercion, conscription or servitude as a means of shoring up the leaky membrane. We should instead focus on how we can make the NHS more attractive and increase the pull of the NHS to reduce the gradient, rather than blocking up the holes. We want a workforce which feels valued and motivated to deliver the highest standard of care, not one which feels resentful and undervalued, as this will do little for patient care or the retention of dentists.

Informed decision-making

There would appear to be a considerable lack of robust and clear workforce data, which could be a contributory factor in the dissonance between the political rhetoric and the reality of workforce R&R in NHS GDS. Discordance between data sources can be seen, particularly in relation to GDC registration figures. GDC registration statistics are widely referenced in discussions about workforce, with the raw data indicating a continual increase in the number of dentist registrants.¹⁰

GDC longitudinal data fail to acknowledge changes in working patterns and how this may impact on whole time equivalence (WTE). Increased part-time working, career breaks, the shift from NHS to private (wholly or in part) and an increase in non-clinical roles all impact on WTE. It is important to recognise the changing work patterns of the profession and understand how this may impact on the workforce.^{16,37,38}

Holmes *et al.* (2020) highlighted major changes in the composition and work patterns of the primary care dental workforce during the prior decade.³⁷ Previous workforce assumptions about skill mix utilisation to compensate for any relative reduction in WTE number of dentists had not been realised, and the authors highlighted the impact which this had on NHS access. The lack of granularity around workforce data was identified as a factor which needed to be addressed in order to make informed decisions, and this would seem to reinforce the naivety of simply relying on registration data.

Moving forward

Workforce data are collected by various organisations, including NHS commissioners and academic institutions. While these data are useful, they generally rely on self-reporting, and in the situation of the NHS workforce returns, they do not include independent sector information. The GDC may be in a position to collect workforce data, and from an academic perspective, this would be very useful. However, the GDC may not be interested or feel it is within their remit to collect data on working patterns or what governance arrangements their registrants work under. Equally, registrants may be resistant in declaring such information to their regulator. An alternative could be to track the data already collected by the medical defence organisations on working patterns; although self-reported, it is likely to be highly accurate, as it relates directly to practitioners' indemnity.

A substantial amount of data are held by the NHS Business Services Authority, and although they may not have the granularity which was available pre-2006, the data could, and should, be used more effectively to understand changes in NHS activity, performer list fluctuations and longitudinal work patterns. Such data could be extremely useful in understanding changes within the workforce at a local, regional and national level, and it is important that stakeholders share knowledge and work together to find solutions.

Collaboration across multiple stakeholders is key to the development of a strong evidence base to support short- and long-term strategies to address R&R within dentistry. Well-informed, evidence-based decisions are essential in mapping out future strategies, but this must not delay immediate action.

The multidisciplinary dental team

It is important to acknowledge that, although this paper primarily focuses on R&R of dentists, the entire dental workforce is affected. The challenges facing R&R of all dental professionals is impacting the delivery of care and this needs to be addressed urgently.

There is a necessity to utilise the full scope of skills within the dental team to help improve access to oral health services. The NHS contract reforms in England have placed substantial store on utilising the skills of therapists, hygienists, nurses and oral health educators in delivering a modern and efficient service.

The wake of the COVID-19 pandemic would have been an opportune time to deliver such change and remove some of the barriers within the NHS, which obstruct dental professionals from delivering the care which they have been trained to provide. It is a travesty that almost three years since dental practices reopened,⁴² the majority of dental therapists continue to work as dental hygienists in the private sector, rather than utilising their full range of skills within the NHS.³⁵ The recent announcement by the Chief Dental Officer for England regarding 'more effective use of skill mix' is to be welcomed and it is hoped that this will, in part, address the issue.³⁹

The future dental professionals

In 2013, undergraduate dental training places were reduced by 10%, to reflect 'projected workforce demands'.⁴⁰ In light of the current issues with NHS access and R&R of dentists, it would seem that a reassessment of this decision would be appropriate. In the past, increased numbers of dental school training places have reflected the local or regional workforce need in an attempt to improve NHS access in specific areas.²⁹ This would seem to be a sensible strategy but is only effective if the majority of students remain in the area following graduation. Most graduates return to their home towns after graduating.⁴¹ Improving the number of graduates wanting to work within hard-to-recruit areas will be dependent on a number of factors, including local student recruitment, positive undergraduate experiences and postgraduate training opportunities, including dental foundation training.

This is a particular issue for rural and coastal areas, where there are already long-standing challenges attracting and retaining the dental workforce.^{12,31,32} The rise in university fees has resulted in concerns about reduced numbers of dental school applicants from disadvantaged backgrounds.⁴² There is also a reduced prominence of dental schools, teaching hospitals and training opportunities in rural communities.³⁰ These contributing factors result in fewer dental profession applicants from areas suffering oral health inequalities.⁴² A number of widening participation strategies suggest that some of these problems could be mitigated using apprenticeship-style training methods;³⁰ however, this would require appropriate funding.

Widening participation and access to dentistry initiatives is required but will need an increase in funding for new and

established dental schools. This is necessary to prevent a further decline in workforce numbers and to ensure improved reach and training in underserved areas.³³ Widening participation must be seen as a long-term strategy, but this is surely a worthwhile investment if we wish to address the current geographic inequalities.

Conclusion

Urgent action is required to address the R&R issues set out in this paper, and further delay could have disastrous consequences for NHS dentistry. In England, any improvement is inextricably linked to dental contract reform⁴³ and substantial changes are necessary to have any hope of attracting and retaining dentists within the NHS.

In addressing these workforce shortages, we must reflect on whether we are utilising the skills of our existing workforce effectively enough, and if not, why not. As previously stated, one of the main barriers within the NHS is the contract, and this needs to be changed to allow a greater focus on prevention and enable the dental team to work to capacity. This could potentially be a quick fix, and although it may not fully compensate for any workforce shortages, it may go some way to ease the immediate patient access issues, while allowing therapists, hygienists and nurses to undertake a more fulfilling role in delivering oral health care services.⁴⁴

Our workforce needs to feel valued and supported through their career¹³ and this has become increasingly challenging within the NHS.^{1,45} Financial remuneration is important, but there needs to be personal and professional fulfilment to maintain motivation and commitment. The private sector often has greater flexibility in terms of staff investment and any changes in the NHS contract must take this into consideration, or practices will continue to lose experienced and valuable staff. The *Advancing Dental Care Review* published by Health Education England makes a number of recommendations on dental training, which have the potential to have a real impact on the dental team.⁴⁶ However, the impact will be negligible if we do not have a credible contract in place to retain dental professionals.

Workforce planning decisions must be evidence-based, and there is a need for reliable workforce data that more accurately explains the current dental crisis.⁴⁶ We need

greater granularity and more detail to enable better-informed decisions regarding future workforce needs.

Investment of time and resources on research is key. It is particularly important moving forward to understand the influences on graduates' choices, in particular the barriers, drivers and facilitators which inform their career decisions. This is particularly relevant in addressing the challenges of R&R within certain geographic locations.⁴⁷

R&R of the dental workforce is a key factor in improving access to oral healthcare services in the UK. There is clearly an issue at the present time and failure to act quickly and decisively will cause irreversible damage to NHS dentistry.⁴⁸ This will lead to unnecessary suffering for many, and serious consequences for practices and the dental workforce, who are already under intolerable pressure maintaining an NHS service.

Ethics declaration

The authors declare no conflicts of interest.

This study was deemed not to require ethical review by the University of Plymouth Faculty of Health Research Ethics and Integrity Committee on the grounds that it involved only the access to data obtained from/about human subjects already in the public domain through previous publication.

Author contributions

Deborah Evans: writing the manuscript, writing the abstract, referencing, revising and proofreading; Ian Mills: co-writing the manuscript and abstract, developing themes, language editing, revising and proofreading; Lorna Burns, Marie Bryce and Sally Hanks: contributed to writing text, language editing, revising and proofreading.

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References

- Witton R, Plessas A, Wheat H *et al*. The future of dentistry post-COVID-19: perspectives from Urgent Dental Care centre staff in England. *Br Dent J* 2021; DOI: 10.1038/s41415-021-3405-1.
- Association of Dental Groups. New figures show workforce crisis as number of NHS dentists fall across the whole of England. 2021. Available at <https://www.theadg.co.uk/new-figures-show-workforce-crisis-as-number-of-nhs-dentists-fall-across-the-whole-of-england/> (accessed April 2022).

- Gallagher J E, Colonio-Salazar F B, White S. Supporting dentists' health and wellbeing – workforce assets under stress: a qualitative study in England. *Br Dent J* 2021; DOI: 10.1038/s41415-021-3130-9.
- Jo O, Kruger E, Tennant M. Disparities in the geographic distribution of NHS general dental care services in England. *Br Dent J* 2021; DOI: 10.1038/s41415-021-3005-0.
- Puryer J, Sidhu G, Sritharan R. The career intentions, work-life balance and retirement plans of UK dental undergraduates. *Br Dent J* 2018; **224**: 536–540.
- Jo O, Kruger E, Tennant M. Dental specialist workforce and distribution in the United Kingdom: a specialist map. *Br Dent J* 2021; DOI: 10.1038/s41415-021-3167-9.
- Hussain I, Thomson A, Norfolk T. Recruitment and retention. *Br Dent J* 2020; **228**: 59.
- Association of Dental Groups. Oral health in our coastal communities. 2021. Available at <https://www.theadg.co.uk/oral-health-in-our-coastal-communities/> (accessed April 2022).
- King T. Problems recruiting associates are now endemic. *Br Dent J* 2022; **232**: 7.
- General Dental Council. Registration report – January 2022. 2022. Available at https://www.gdc-uk.org/docs/default-source/registration-reports/registration-report_january-2022.pdf?sfvrsn=bd140c06_5 (accessed May 2022).
- General Dental Council. Registration Statistical Report 2021. 2022. Available at https://www.gdc-uk.org/docs/default-source/annual-reports/gdc_registration-statistical-report-2021-22-final-accessible.pdf?sfvrsn=78d3f4e_3/GDC_Registration-Statistical-report-2021-22-FINAL-accessible.pdf (accessed August 2022).
- British Dental Association. Written evidence submitted by The British Dental Association (RTR0101). 2022. Available at <https://committees.parliament.uk/writtenevidence/42795/pdf/> (accessed April 2022).
- Patel K. Young dentists: Breaking the silence. *Br Dent J* 2018; **224**: 767–768.
- British Dental Association. BBC London Politics Show: Dental Crisis. 2022. Available at <https://twitter.com/TheBDA/status/1528307851504103426> (accessed July 2022).
- Lewis J. Rural recruitment issues: A Cumbrian perspective. *BDJ In Pract* 2021; **34**: 12–13.
- King T. NHS recruitment crisis. *Br Dent J* 2019; **227**: 759.
- National Audit Office. Dentistry in England: A National Audit Office memorandum to support a Health and Social Care Committee inquiry. 2020. Available at <https://www.nao.org.uk/wp-content/uploads/2020/03/Dentistry-in-England.pdf> (accessed April 2022).
- College of General Dentistry. College response to NHS England announcement of additional dentistry funding. 2022. Available at <https://cgdent.uk/2022/01/25/college-response-to-nhs-england-announcement-of-additional-dentistry-funding/> (accessed April 2022).
- British Dental Association. Dentists urge government to act as NHS access hotspots go Blue in election. 2019. Available at <https://bda.org/news-centre/press-releases/Pages/Dentists-urge-government-to-act-as-NHS-access-hotspots-go-Blue-in-election.aspx> (accessed April 2022).
- Charlwood S. NHS dentistry: How to stop an exodus. 2022. Available at <https://bda.org/news-centre/blog/Pages/how-to-stop-an-exodus-from-NHS-dentistry.aspx> (accessed May 2022).
- Association of Dental Groups. This must be the beginning of the journey to reform of NHS dental contracts. 2022. Available at <https://www.theadg.co.uk/this-must-be-the-beginning-of-the-journey-to-reform-of-nhs-dental-contracts/> (accessed July 2022).
- Anonymous. NHS dentistry: I don't want to leave, but I feel there is no choice. 2022. Available at <https://bda.org/news-centre/blog/Pages/NHS-dentistry-I-don%E2%80%99t-want-to-leave-but-I-feel-there-is-no-choice.aspx> (accessed April 2022).
- General Dental Council. Responding to the changing strategic context. 2020. Available at https://www.gdc-uk.org/docs/default-source/corporate-strategy/responding-to-the-changing-strategic-context.pdf?sfvrsn=fe91126e_12 (accessed April 2022).

24. Davada L S, Radford D R, Scambler S, Gallagher J E. Profiles of registrant dentists and policy directions from 2000 to 2020. *BDJ Open* 2020; **6**: 26.
25. General Dental Council. Registration Statistical Report 2020. 2020. Available at https://www.gdc-uk.org/docs/default-source/registration-reports/gdc-registration-statistical-report-2020---final311fef86-9e9f-44bb-81d8-68b3a44cae39.pdf?sfvrsn=918f77ec_5 (accessed May 2022).
26. O'Dowd A. Brexit delay is hurting dentistry recruitment. *Br Dent J* 2019; **227**: 179–182.
27. Czerniawski S. The ORE: a flawed system made worse by the pandemic with further challenges ahead. 2021. Available at <https://www.gdc-uk.org/news-blogs/blog/detail/blogs/2021/12/17/the-ore-a-flawed-system-made-worse-by-the-pandemic-with-further-challenges-ahead> (accessed April 2022).
28. Westgarth D. The dental workforce: An assessment of the recruitment market. *BDJ In Pract* 2022; **35**: 14–18.
29. Association of Dental Groups. 30 years of hurt: The urgent need to rebuild our dentistry workforce. 2020. Available at https://www.theadg.co.uk/wp-content/uploads/2020/12/30-Years-of-Hurt-Report.FINAL_Dec20.pdf (accessed April 2022).
30. Bupa Global & UK. Written evidence submitted by Bupa Global & UK (RTR0130). 2022. Available at <https://committees.parliament.uk/writtenevidence/42978/pdf/> (accessed April 2022).
31. Jo O, Kruger E, Tennant M. Geospatial analysis of the urban and rural/remote distribution of dental services in Scotland, Wales and Northern Ireland. *Int Dent J* 2020; **70**: 444–454.
32. Sellars S. Workforce. *Br Dent J* 2021; **231**: 321.
33. Dental Schools Council. Written evidence submitted by the Dental Schools Council (RTR0030). 2022. Available at <https://committees.parliament.uk/writtenevidence/42610/pdf/> (accessed April 2022).
34. Stagnell S, Patel N, Shah S. Is less-than-full-time training in dentistry swimming against the tide? *Br Dent J* 2019; **227**: 347–351.
35. Association of Dental Groups. Written evidence submitted by the Association of Dental Groups (RTR0010). 2022. Available at <https://committees.parliament.uk/writtenevidence/42289/pdf/> (accessed April 2022).
36. Gallagher J E, Colonio-Salazar F B, White S. Supporting dentists' health and wellbeing – a qualitative study of coping strategies in 'normal times'. *Br Dent J* 2021; DOI: 10.1038/s41415-021-3205-7.
37. Holmes R D, Burford B, Vance G. Development and retention of the dental workforce: Findings from a regional workforce survey and symposium in England. *BMC Health Serv Res* 2020; **20**: 255.
38. Newton J T, Thorogood N, Gibbons D E. A study of the career development of male and female dental practitioners. *Br Dent J* 2000; **180**: 90–94.
39. NHS England. First stage of dental reform. 2022. Available at <https://www.england.nhs.uk/publication/first-stage-of-dental-reform/> (accessed July 2022).
40. NHS England. Facing the Facts, Shaping the Future: A draft health and care workforce strategy for England to 2027. 2017. Available at <https://www.england.nhs.uk/wp-content/uploads/2019/08/Paper-1-Draft-HC-Workforce-Strategy-for-England-to-2027.pdf> (accessed April 2022).
41. Thomson F, Macey R, O'Malley L, Tickle M. Factors influencing dental trainees' choice of training programme and working patterns: a mixed-methods study. *Br Dent J* 2021; **230**: 363–368.
42. Gallagher J E, Calvert A, Niven V, Cabot L. Do high tuition fees make a difference? Characteristics of applicants to UK medical and dental schools before and after the introduction of high tuition fees in 2012. *Br Dent J* 2017; **222**: 181–190.
43. House of Commons. Health and Social Care Committee (ed) **Vol HC 115**. 27. 2022..
44. Awojobi O, Movahedi S, Jones E, Gallagher J E. The evaluation of an innovative dental nurse training pilot scheme. *Br Dent J* 2018; **224**: 875–880.
45. Thomson A, Dickenson A J, Ross-Russell M. Integrated care: a new model for dental education. *Br Dent J* 2021; **231**: 187–190.
46. Health Education England. Advancing Dental Care Review: Final Report. 2021. Available at <https://www.hee.nhs.uk/our-work/advancing-dental-care> (accessed April 2022).
47. Godwin D M, Hoang H, Crocombe L A, Bell E. Dental practitioner rural work movements: a systematic review. *Rural Remote Health* 2014; **14**: 2825.
48. Cann R. The recruitment crisis in NHS dentistry needs to be addressed. 2019. Available at <https://bda.org/news-centre/blog/Pages/The-recruitment-crisis-in-NHS-dentistry-needs-to-be-addressed.aspx> (accessed April 2022).