

## BRIEF REPORT



# The challenge of service planning and development without adequate data: The case for orthotic services

Nicola Eddison PhD<sup>1,2</sup> | David A. Scott MSc<sup>3,4</sup> | Christian Pankhurst MSc<sup>5</sup> |  
Nachiappan Chockalingam PhD<sup>1,4</sup>

<sup>1</sup>Centre for Biomechanics and Rehabilitation Technologies, Staffordshire University, Stoke on Trent, UK

<sup>2</sup>Royal Wolverhampton NHS Trust, Wolverhampton, UK

<sup>3</sup>Southampton Health Technology Assessments Centre, University of Southampton, Southampton, UK

<sup>4</sup>Exceed Research Network, Exceed Worldwide, London, UK

<sup>5</sup>Guy's and St Thomas' NHS Foundation Trust, London, UK

## Correspondence

Nachiappan Chockalingam, Centre for Biomechanics and Rehabilitation Technologies, Staffordshire University, Leek Rd, Stoke-on-Trent ST4 2DF, UK.  
Email: [N.Chockalingam@staffs.ac.uk](mailto:N.Chockalingam@staffs.ac.uk)

## Abstract

The UK National Health Service (NHS) employs a group of 14 separate allied health professions. Prosthetics and orthotics are the smallest of these professions. Although small, orthotics is integral to many clinical care pathways and has shown to provide an essential impact on a range of clinical conditions in the health service priority lists. Previous reports acknowledged the lack of data on the UK prosthetic and orthotic workforce, appointment outcomes and cost and the service users accessing such services and thus the challenges that it poses for effective service delivery. There is still a paucity of relevant data or initiatives to support the service provision. The work within this paper has taken the first step to address this gap, presenting a summary of the information relating to appointments and costs, and provides a discussion on the implications of variations across the NHS orthotic services within England in terms of spend, staffing and skill mix for orthotic services and service users and the need for further data on service users and the UK prosthetic and orthotic workforce.

## KEYWORDS

health economics, NHS, orthotic services

## 1 | INTRODUCTION

The allied health professions in the United Kingdom are made up of a group of 14 separate professions, of which prosthetics and orthotics are the smallest.<sup>1</sup> Although small, orthotics has a beneficial impact on a range of clinical conditions and is integral to many clinical pathways, including chronic diseases, trauma, neurological, musculoskeletal and congenital conditions.<sup>2</sup> Many of these are policy priorities for the government and the National Health Service (NHS).<sup>2</sup>

In 2014, NHS England commissioned a national review of orthotic services, concluding there was minimal routine, quantitative data

available to review the quality of orthotic services and understand how they were delivered. Significant variation in provision between orthotic services nationally was reported, concluding that the lack of quality measures and data hindered effective commissioning.<sup>2</sup> Since then, research has highlighted further national variation of orthotic services.<sup>3</sup>

Although the report acknowledged the significant challenge, which the lack of data poses for commissioners, it recommended introducing local tariffs and stated that NHS England will develop a national minimum data set for orthotic services.<sup>2</sup> There is no definitive data on the number of orthotic services operating

Joint First Authors

This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

© 2022 The Authors. *Journal of Evaluation in Clinical Practice* published by John Wiley & Sons Ltd.

nationally. The most comprehensive exploration of orthotic services in the United Kingdom since the 2014 NHS England review describes the commissioning arrangements for 119 out of 196 Trust/Health Boards in the United Kingdom. Of these, 32% of Trusts/HBs reported that their orthotic service was an "in-house" service and 68% reported the service was contracted to an external provider.<sup>3</sup>

To the authors' knowledge, there has been no further publication of data exploring orthotic services in the United Kingdom. Without the necessary data being available, it is extremely difficult to plan, protect, commission and develop services.

## 2 | METHOD

To explore several aspects of orthotic service provision nationally, a Freedom of Information (FOI)<sup>4</sup> request was sent to a convenience sample of 15 NHS orthotic services in England (as part of a working group from the National Orthotic Managers' Association Group [NOMAG]) between March and July 2021, to request information on the following: (1) the number of appointments in each service between March 2018 and March 2020; (2) the age range of patients attending appointments; (3) orthotic nonpay spend in the same period; (4) staffing for each of the orthotic services during the same period and (5) the staff job titles within each orthotic service. As this study utilized data from an FOI request and as all data are available in the public domain, specific ethical approval was not required.

## 2.1 | Analysis

A range of descriptive statistics was used to analyse patient numbers and resource use data. Cost data were obtained from published sources.

We present a summary of the information received from the FOI and discuss the implications of the findings and the ramifications for orthotic services and service users.

## 3 | RESULTS

Of the 15 NHS orthotic services sampled, 13/15 provided the number of appointments by age category over the period, 14/15 provided staffing by grade of staff and 10/15 provided total orthosis costs over the period. A total of 208,232 orthotics appointments were reported. The staffing mix was heterogeneous across services, clinical staff ranged from 1 to 13 full-time equivalent (FTE), while administration, support and technical staff ranged from 0.6 to 18 FTE. We estimated the total spend on staffing including oncosts and overheads over the 2 years by applying costs from Jones and Burns 2021<sup>5</sup> (for pay bands 4–8b) and NHS 2021<sup>6</sup> (for pay bands 2–3) to staffing levels provided for each orthotic service. Grades for each staff member were attributed based on our experience. We calculated the spending on orthoses per appointment, staffing costs per appointment and total cost per appointment for each orthotic service.

**TABLE 1** Costs per orthotics appointment by NHS Orthotics Service

Trust	Total appointments	Orthoses cost (£)	Staffing cost (£)	Total cost (£)	Orthoses cost per appointment (£)	Staff cost per appointment (£)	Total cost per appointment (£)
Berkshire	11,618	838,915	809,967	1,648,882	72	70	142
Bradford	16,243	975,664	772,832	1,748,496	60	48	108
East Lancashire	17,051	1,815,247	1,696,604	3,511,851	106	100	206
East Sussex	NR	1,007,375	841,212	1,848,587	NR	NR	NR
Guy's & St Thomas	16,158	NR	NR	NR	NR	NR	NR
Isle of Wight	11,556	NR	1,103,157	NR	NR	95	NR
Leeds	NR	NR	2,294,551	NR	NR	NR	NR
Nottingham	23,826	NR	2,819,542	NR	NR	118	NR
Oxford	20,022	1,125,325	3,358,512	4,483,837	56	168	224
Rotherham	5895	493,000	1,211,340	1,704,340	84	205	289
RJAH, Oswestry	26,118	2,270,000	3,789,399	6,059,399	87	145	232
RNOH	16,748	NR	3,996,548	NR	NR	239	NR
Sherwood Forest	13,409	1,234,851	1,448,233	2,683,084	92	108	200
Wolverhampton	25,473	2,024,098	1,680,615	3,704,713	79	66	145
Yeovil	4115	408,588	455,144	863,732	99	111	210

Abbreviations: NHS, National Health Service; NR, not reported.

Costs varied markedly across each endpoint (Table 1). The spending for orthoses for each appointment varied between £56 (Oxford) and £106 (East Lancashire) per orthotic service. Staffing costs for every appointment varied between £48 (Bradford) and £239 (Royal National Orthopaedic Hospital) per orthotic service, and the total cost per appointment for each orthotic service varied between £108 (Bradford) and £289 (Rotherham) per orthotic service.

## 4 | DISCUSSION

The data collected via the FOI are heterogeneous both in terms of observed and unobserved variables. While the Isle of Wight NHS Orthotic service had the highest proportion of older patients, Bradford NHS Orthotic services had the highest proportion of young children (Figure 1). These differences could potentially impact the costs of orthoses, whilst hospital status (e.g., teaching hospital or general hospital) could impact costs with a specialist orthotic facility or teaching hospitals attracting more complex referrals and thus requiring a higher level of expertise. From the data available, it is not possible to determine how many of the appointments were repeat visits nor the type of orthotic prescription provided, both of which might impact the overall costs.

The data shown in this report confirms that there are differences across the NHS orthotic services within England explored in terms of spending, staffing and skill mix. To successfully plan and develop orthotic services to meet the needs of service users, an understanding of the current model of orthotic services is required. Identifying the existence of variations across services is not enough. It is also vital to understand the sources of these variations.<sup>7</sup> It is essential that the number of service users accessing orthotic services is known and an understanding of their

met and unmet needs are ascertained. The data presented in this paper highlights that 41.7% of service users accessing the orthotic services reviewed in this study were 60 years old and over. This is important information, there is no other data available that gives information on the demographics of service users accessing such services. Orthotists treat people from birth to end of life. Knowing the demographics of the service users is important, not just in terms of which age groups have health conditions, which require orthotic input, but also which service users are accessing the service. This may indicate inequities of access for certain populations and/or undesirable orthotic treatment options for certain populations. For example, orthotic services have a dearth of service users accessing the service between the ages of 18–30 years. As such, we do not have any data as to why this is, but clinicians often say it is because the orthoses do not meet the aesthetic needs of this age group. It begs the question of how the NHS can begin to plan, develop and redesign orthotic services if this information remains unknown.

Similarly, if, as the NHS orthotic review recommends,<sup>2</sup> commissioners fund orthotic services using a “local tariff,” which means a service will receive payment based on the cost of the orthotic devices prescribed and the volume used, how can this tariff be devised if the cost per orthoses and the cost per appointment vary so significantly across services?

To understand how orthotic services operate, the demographics of the service users who access the services, and the cost and skill mix required to ensure safe and efficient services, a large-scale data review is required. Ultimately, more data are needed to determine the most effective model of orthotic service provision and the impact which orthotic services have in terms of improvement in service users' quality of life and cost-effectiveness.

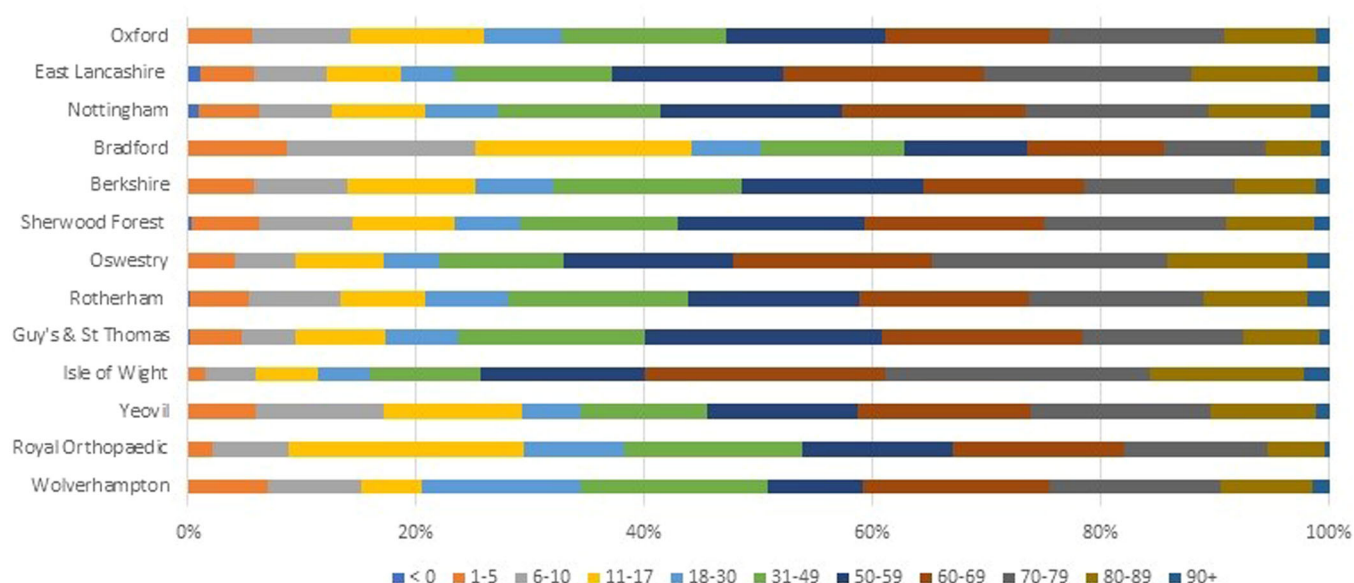


FIGURE 1 Patient age distribution by National Health Service Orthotics Service



## ACKNOWLEDGEMENTS

We would like to acknowledge the National Orthotic Managers' Association Group (NOMAG) for their assistance with this project.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

## ORCID

Nicola Eddison  <http://orcid.org/0000-0003-1428-6225>

David A. Scott  <http://orcid.org/0000-0001-6475-8046>

Nachiappan Chockalingam  <http://orcid.org/0000-0002-7072-1271>

## REFERENCES

1. Registrant snapshot. The Health and Care Professions Council. December 1, 2021. Accessed July 7, 2022. <https://www.hcpc-uk.org/about-us/insights-and-data/the-register/registrant-snapshot-2021/>
2. NHS England. *Improving the Quality of Orthotics Services in England*. NHS England; 2015. <https://www.england.nhs.uk/commissioning/wpcontent/uploads/sites/12/2015/11/orthcs-final-rep.pdf>
3. Chockalingam N, Eddison N, Healy A. Cross-sectional survey of orthotic service provision in the UK: does where you live affect the service you receive? *BMJ Open*. 2019;9(10):e028186. doi:10.1136/bmjopen-2018-028186
4. Freedom of Information Act 2000. UK public general acts 2000. Accessed February 14, 2022. <https://www.legislation.gov.uk/ukpga/2000/36/contents>
5. Jones KBA. *Unit Costs of Health & Social Care*. Personal Social Services Research Unit; 2021.
6. Agenda for change—pay rates. 2021. The National Health Service. Accessed June 17, 2022. <https://www.healthcareers.nhs.uk/working-health/working-nhs/nhs-pay-and-benefits/agenda-change-pay-rates/agenda-change-pay-rates>
7. Mercuri M, Gafni A. Medical practice variations: what the literature tells us (or does not) about what are warranted and unwarranted variations? *J Eval Clin Pract*. 2011;17(4):671-677. doi:10.1111/j.1365-2753.2011.01689.x

**How to cite this article:** Eddison N, Scott DA, Pankhurst C, Chockalingam N. The challenge of service planning and development without adequate data: the case for orthotic services. *J Eval Clin Pract*. 2023;29:525-528. doi:10.1111/jep.13801