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Produced by the Knowledge Management team Evidence Briefs offer an overview of the published reports, research, and evidence on a workforce-related topic.

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There may have been an update to this Evidence Brief - to check you are reading the most current version please see the links below:

- Complete Evidence Brief list link for Workforce, Training and Education staff
- Complete Evidence Brief list link for External staff

### **Key publications – the big picture**

#### NHS Long Term Workforce Plan

NHS England, 2023 (updated 2024)

Education and training places for the AHP workforce are estimated to need to grow by 19–25% by 2030/31. This Plan sets out an ambition to increase AHP training places by 25% to over 18,800 by 2031/32. To support this level of ambition and work towards this level of expansion, AHP training places will increase by 13% to 17,000 by 2028/29, with an increase of 8% by 2024/25. [...] 25–50% for paramedics, diagnostic radiographers, occupational therapists, dietetics, prosthetists and orthotists. (Page 45)

#### Revised standards of conduct, performance and ethics

Health & Care Professions Council, 2024

The revised standards of conduct, performance and ethics came into effect on 1 September 2024. Our <u>guidance on social media</u>, which sits alongside the standards, has also been revised.

#### Approved programmes

Health & Care Professions Council, 2024

A database of approved education programmes for Allied Health Professionals.

#### Recruitment of overseas allied health professionals

NHS Employers, 2024

How overseas allied health professionals (AHPs) can enter the UK for work.

### Innovation and collaboration: supporting Allied Health Professions Return to Practice

NHS England, 2023

It is well recognised that there are significant challenges in AHP workforce supply, retention, and growth across all sectors of

health and care. Returning Allied Health Professions are a vital element of the Health Education England (HEE) workforce plan and are essential in re-directing knowledge, skills and experience back into health and care sectors.

#### **AHP Educator Career Framework**

Council of Deans of Health, 2023

The AHP Educator Career Framework is an outcomebased career framework that describes the knowledge, skills and behaviours required to be an effective teacher, learning facilitator, supervisor and role model in AHP education in practice and formal education settings. First and foremost, it promotes the education pillar of AHP professional practice, recognising that education is everyone's responsibility.

#### Genomics for allied health professionals: Survey results

NHS England WT&E, Genomics Education Programme, 2023 Overall, your responses showed that a good majority of you feel you don't have a good understanding of genomics.

#### Your future allied health professionals

NHS Employers, 2023

This infographic sets out the different routes available for organisations to train allied health professionals.

#### A guide to ESR coding for Advanced Practitioner roles

NHS England WT&E, 2022

To ensure that advanced practitioners' skills are consistently recognised, and better enable those skills to be deployed across healthcare settings we must now ensure that the NHS workforce accurately reflects the breadth of the modern clinical workforce.

The Allied Health Professions (AHP) for England: 2022 to 2027 NHS England, 2022

This strategy is a catalyst for change. Wherever you work, every member of our AHP community has a part in realising our collective ambitions through its delivery. I therefore encourage you to take a moment to consider how the AHP community can enable the change required to deliver future care today.

### Allied Health Professions' Research and Innovation Strategy for England

NHS England WT&E, 2022

This Strategy comprises a definitive collective national reference statement that encompasses and supports the existing research and innovation strategies of all the Allied Health professional associations.

### How has the COVID-19 pandemic affected orthotic services in the United Kingdom?, Abstract only\*

Prosthetics and Orthotics International 45(5), 2021

The pandemic has had a significant impact on orthotic services with face-to-face appointments largely reserved for urgent patients and inpatients, and services going through stages of closing and reopening, alongside the introduction of telehealth to ensure less urgent patients could continue to access orthotic care.

#### What can AHPs offer in mental health settings?

Health Education England, 2021

AHPs are the key to transforming health, care, and wellbeing. Working at the top of their competencies and skills, AHPs lead mental health teams to new ways of working. Their expertise in rehabilitation and enablement is vital to move away from over-reliance on hospitals and towards professional interventions across health and social care settings.

My role in tackling health inequalities: a framework for allied health professionals

The King's Fund, 2021

This framework builds on our commitments in the UK allied health professions public health strategic framework 2019–2024 (Allied Health Professions Federation 2019) and we hope AHPs across the UK will find it useful. It aims to help you to consider your own unique contribution to tackling health inequalities and to help maximise this through a series of lenses and questions.

#### What is advanced clinical practice?

NHS England WT&E, no date (estimated post-2020)
Advanced clinical practitioners come from a range of professional backgrounds such as nursing, pharmacy, paramedics and occupational therapy. They are healthcare professionals educated to Master's level and have developed the skills and knowledge to allow them to take on expanded roles and scope of practice caring for patients.

#### Standards of education and training

Health & Care Professions Council, 2017 In line with the way our education quality assurance model functions, we have split our standards of education and training along institution and programme levels.

See also: Review of the standards of education and training (2024)

## The British Association of Prosthetists and Orthotists (BAPO)

<u>Career Development Framework for Prosthetists and Orthotists</u> BAPO. 2024

This framework is written for the prosthetic and orthotic workforce, both the regulated and non-regulated sectors, from support workers and technicians to consultants and Advanced

Clinical Practitioners (ACP). Funding to develop this resource has been provided to support the NHS and its workforce.

#### 2024/2025 projects funded by NHSE

BAPO, 2024

BAPO is currently working on a large programme of work across the spectrum of prosthetics and orthotics. All updates on the work will be added to this page throughout the next 12 months. BAPO will be working alongside the Creative Health Alliance.

### Profile of the UK prosthetic and orthotic workforce and mapping of the workforce for the 21st century

BAPO, 2023

This workforce review is the first study to explore the entire UK P&O workforce across all sectors and present findings on staff numbers, geographics, demographics, employment, career plans, satisfaction, skills, and education.

See also: <u>Landmark Study Reveals Critical Shortage in UK</u> Prosthetic and Orthotic Workforce

#### BAPO Strategic Plan (2022-2024)

The British Association of Prosthetists and Orthotists, 2021 The British Association of Prosthetists and Orthotists' (BAPO) purpose is to advance the profession, support the interests of its members and ensure the UK population benefit from prosthetic and orthotic care, which is effective, safe and timely.

#### **BAPO Simulation**

The British Association of Prosthetists and Orthotists
The British Association of Prosthetists and Orthotists (BAPO), in
collaboration with the Simulation Crew, is thrilled to announce
the development of a simulation learning project called the
BAPO Sim. A prototype app will be available for testing on
mobile devices later this year.

### The Star for workforce redesign

More resources and tools are available in the AHP Quick Reference Guides Upskilling section of the <u>Star</u>. Alternatively, search for 'Allied Health' in the search bar.

#### **Statistics**

You can find relevant statistics on the <u>Health and Care Statistics</u> <u>Landscape</u>.

#### Registrant data and statistics

Health & Care Professions Council, 2024 These factsheets provide a breakdown for each of the professions we regulate.

#### Key statistics on education and training for HCPC professions

Health & Care Professions Council, 2024

We have provided key statistics as a summary of the picture of education and training for the professions we regulate, and how that picture is changing.

#### Retention rates of first time HCPC registrants, 2013 to 2018

Health & Care Professions Council, 2023

The HCPC embarked upon this analysis to inform our work on preceptorship. We consider that the findings are of wider value. They have particularly important implications for providers and funders of training, and for workforce planners. They are also likely to be of great interest to other stakeholders including professional bodies.

#### Diversity data: prosthetists / orthotists - November 2023

Health & Care Professions Council, 2023

This factsheet provides key EDI information for prosthetists / orthotists and how the demographics of this group compare to the demographics of HCPC registrants overall.

HCPC Diversity Data Report 2021: prosthetists / orthotists Health & Care Professions Council, 2021 Key findings

- Prosthetists / orthotists was the profession with the lowest proportion of registrants based in England (73%).
- While the average proportion of a profession based in Scotland was 7%, the proportion of prosthetists / orthotists based in Scotland was double that (14%).
- Prosthetist / orthotists were the most likely to have a parent with a higher level qualification than them (46%).
- A relatively high proportion of prosthetists / orthotists work in NHS Acute/ hospital/ secondary care (61%).

### **National Data Programme**

Workforce, Training and Education staff can look at the <u>WT&E</u> <u>Data and Analytics Service</u> resources including the National Data Warehouse SharePoint site to find out more about datasets and Tableau products.

#### **Published Peer Reviewed Research**

#### **Digital**

Use of machine learning in the field of prosthetics and orthotics:

A systematic narrative review Abstract only\*

Prosthetics and Orthotics International 47(3), 2023

In the field of orthotics, machine learning was used to control real-time movement while wearing an orthosis and predict the

need for an orthosis. The studies included in this systematic review are limited to the algorithm development stage. However, if the developed algorithms are actually applied to clinical practice, it is expected that it will be useful for medical staff and users to handle prosthesis and orthosis.

### The emergence of telehealth in orthotic services across the United Kingdom

Assistive Technology: The Official Journal of RESNA 35(2), 2021 For telehealth to be effective orthotists must have access to appropriate technology and training on how to use telehealth platforms, be provided with appropriate guidance on which patients are appropriate for telehealth consultations and given appropriate appointment times to enable safe and effective care.

How has the COVID-19 pandemic affected orthotic services in the United Kingdom? Abstract only\*

Prosthetics and Orthotics International 45(5), 2021
The pandemic has had a significant impact on orthotic services with face-to-face appointments largely reserved for urgent patients and inpatients, and services going through stages of closing and reopening, alongside the introduction of telehealth to ensure less urgent patients could continue to access orthotic care. Future service evaluation studies are required to further assess how orthotic services have been affected by the pandemic and the effectiveness of recovery plans.

#### **Diversity and inclusion**

"Raising the curtain on the equality theatre": a study of recruitment to first healthcare job post-qualification in the UK National Health Service

Human Resources for Health 20, 2022

The Healthcare Workforce Equity + Diversity Lens we have developed can help to 'raise the curtain on the equality theatre'

and inform more inclusive approaches to recruitment such as contextualised recruitment or effective allyship between employers and universities.

#### Prosthetic orthotic missions: Ethics and efficacy

Prosthetics and Orthotics International 46(5), 2022
Joining a "mission" to serve amputees or other physically impaired persons, in a low-income country, especially in the wake of a natural disaster or conflict, may seem like a laudable and altruistic thing to do. However, not all missions are helpful, not all missions have good outcomes, and short-term missions may undermine existing services. There are a number of issues that should be thought about and considered. One should consider what services may already exist. Is there a cadre of professionals already in the country?

### Exploring the perspectives of prosthetic and orthotic users: past and present experiences and insights for the future

Disability and Rehabilitation 44(18), 2021

Prosthetic and orthotic users identified that there had been vast changes in disability perception, disability rights, and their role in the health care system, along with the variety of technology and materials available. Key findings were that prosthetic and orthotic users want to be listened to, considered central to the health care team, and had a deep understanding of their own health care needs.

### Affirming LGBTQ+ identities in orthotics and prosthetics education, practice, and research

Prosthetics and Orthotics International 44(5), 2020 Results of the survey indicated that more than a quarter of transgender or gender non-conforming individuals have been subjected to harassment in a medical facility, including doctors' offices, emergency rooms, and other healthcare settings.6 The report also indicated that 41% of transgender or gender nonconforming individuals had attempted suicide at least once.

#### The challenge of diversity in the allied health professionals

Royal Wolverhampton NHS Trust, 2020

Although the Allied Health Professions (AHPs) are a diverse range of professions in terms of their skill set. The workforce which makes up the professions lacks diversity, having been shaped by a set of distinct social forces, relics of a post-industrial era.

#### **Community and Primary Care**

Development of a resource-use measure to capture costs of diabetic foot ulcers to the United Kingdom National Health Service, patients and society

Journal of Research in Nursing 28(8), 2023

Primary care consultations with a podiatrist or orthotist, district nurse visits, out-of-hours and emergency care, scans and investigations, and consumables provided in clinics were rated as the most important resource use items.

#### **Education and curriculum**

<u>Determining educational assessment criteria for patellar-tendon-bearing impressions for transtibial prosthetic sockets: A Delphi study Abstract only\*</u>

Prosthetics and Orthotics International 46(6), 2022

A high level of consensus was achieved in two survey rounds. Lower levels of consensus were reached on specific objective criteria, such as use of measurement thresholds when evaluating student impressions. Standardized assessment of student performance on PTB impression-taking instead relies primarily on qualitative assessments based on instructor expertise.

### A qualitative study exploring experiences and challenges of combining clinical academic training with family life

BMC Medical Education 21, 2021

Although people manage to find ways to successfully combine clinical academic roles with family life, findings highlight a need to identify ways of supporting and encouraging trainees with caring responsibilities to ensure that they remain on the clinical academic pathway.

### A systematic review in prosthetics and orthotics education research

Prosthetics and Orthotics International 44(3), 2020 This systematic review suggests that prosthetic/orthotic education research is only being conducted at a limited level. There is a strong need for high quality, collaborative education research to be conducted and published in peer-reviewed journals to improve prosthetic/orthotic education and build a global conversation.

### Education in prosthetic and orthotic training: Looking back 50 years and moving forward

Prosthetics and Orthotics International 44(6), 2020
Three areas of change in prosthetics and orthotics education over the past 50 years: (1) prosthetic/orthotic curriculum content, (2) pedagogy and course delivery, and (3) internships/residencies.

#### Entrustment trends in orthotic and prosthetic residencies

Prosthetics and Orthotics International 44(2), 2020
This study presents information which can inform clinical preceptors and residents on what factors contribute to the decision to progress a resident from observation to independent patient care. These findings may influence clinical education standards which aim to promote both resident training and patient access to quality care.

#### Leadership, coaching and supervision

<u>Inequitable barriers and opportunities for leadership and professional development, identified by early-career to midcareer allied health professionals</u>

BMJ Leader 8(3), 2024

Thematic analysis (TA) generated four themes, including the barriers and opportunities for AHP leadership development and career progression. Further TA identified three overarching themes: equitable and interprofessional leadership development; an equitable and structured AHP career pathway; and having AHP leaders at a strategical and/or very senior level. These overarching themes were subsumed under the umbrella category: equity of opportunity and voice. The AHPs, who were interviewed, reported inequitable access to both career and leadership development, compared with other professions, such as nurses, doctors and pharmacists.

### <u>Professional diversity in leadership – Inclusion of the smaller</u> professions

The Royal Wolverhampton NHS Trust, 2022
There are 14 Allied Health Professions (AHPs) in England with approximately 170,000 AHPs working within the NHS.
Physiotherapists represent the largest group of AHPs with approximately 61,000 registered with the Health and Care Professions Council, whilst Prosthetics and Orthotics represent the smallest profession with approximately 1000 registrants.

### Who Coaches the Coaches? The Development of a Coaching Model for Experiential Learning

Innovative Higher Education 46, 2021

We recommend practices for coaching that can support gains for students and faculty in experiential, project-based, interdisciplinary courses.

#### Role progression and development

The national profile of the prosthetic and orthotic workforce in the UK: Sociodemographics and employment characteristics

Prosthetics and Orthotics International 48(3), 2024

The national UK prosthetist and orthotist ratio falls below the recommended international standards. The versatility and broad skill set of POs highlight their crucial role in multidisciplinary teams. Establishing a centralized prosthetist and orthotist workforce database system is recommended for data-driven strategic planning.

Orthotist involvement in early gait rehabilitation following stroke: a cross sectional survey of orthotists in the United Kingdom

Prosthetics and Orthotics International, 2024

UK Orthotists surveyed in this study report that orthotic treatment is an important aspect of early gait rehabilitation following stroke. Respondents report barriers to multidisciplinary working which may affect outcomes in this patient group.

### The UK prosthetic and orthotic workforce: current status and implications for the future

Human Resources for Health 22(1), 2024

Prosthetists and orthotists (POs) are the smallest of the 14 allied health profession (AHP) workforces within NHS England. Obtaining data on the workforce has always been challenging due to this information being held across different organisations. An understanding of the prosthetic and orthotic (P&O) workforce is essential to ensure that it is adequately equipped to meet the evolving needs of users of P&O services. The study aims to estimate the size and composition, for the first time, of the UK P&O workforce and P&O service provision.

Strengthening regulation of the orthotic/prosthetic profession to address global challenges and improve access to safe and effective care

Prosthetics and Orthotics International 47(7), 2023 (editorial) After the 19th World Congress of the International Society for Prosthetics and Orthotics (ISPO) in Guadalajara, Mexico, we have been encouraged to publish a commentary summarizing the O&P Global symposium. 1 In that symposium, and in this commentary, we reflect on some of the shared challenges facing the orthotist/prosthetist profession globally, such as lack of professional recognition or the inability to provide autonomous clinical services.

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

Journal of Evaluation in Clinical Practice 29(3), 2022
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.

Towards Co-Design in Delivering Assistive Technology
Interventions: Reconsidering Roles for Consumers, Allied Health
Practitioners, and the Support Workforce

International Journal of Environmental Research and Public Health 19(21), 2022

This research aimed to develop and pilot an AT collaboration tool which enables AHPs, consumers, their support networks and the support workforce, to navigate policy redesign toward ethical consumer-directed implementation of AT interventions.

Allied health professionals' perceptions of research in the United Kingdom national health service: a survey of research capacity and culture

BMC Health Services Research 22, 2022

In the UK, AHPs working in NHS health and social care perceive individual and organisational level research skill/success to be adequate. In contrast, inadequacies in research skill/support at team level were exposed, which may hinder successful integration of allied health research into everyday health and social care practice. Recommendations are made with reference to the HEE AHP research strategy.

Regulation of the global orthotist/prosthetist workforce, and what we might learn from allied health professions with international-level regulatory support: a narrative review

Human Resources for Health 19, 2021

We recommend the establishment of an international professional body with the express purpose to support national-level regulation of orthotist/prosthetists, and thereby build the regulatory capacity of national orthotic/prosthetic associations.

Capitalising on the transformational opportunities of early clinical academic career training for nurses, midwives and allied health professionals

BMC Medical Education 20, 2020

The findings suggest that individuals, funders, and organisations may need to relinquish the notion that training is purely or largely a transactional exchange in order to establish collaborative initiatives.

Relationship between labour force satisfaction, wages and retention within the UK National Health Service: a systematic review of the literature

BMJ Open 10, 2020

Pay was found to influence satisfaction, which in turn affected retention. An increase in wages alone is unlikely to be sufficient to ameliorate the concerns of NHS workers.

<u>Developing a consolidated research framework for clinical allied</u> health professionals practising in the UK

BMC Health Services 20, 2020

The consolidated framework was entitled 'Shaping Better Practice Through Research: A Practitioner Framework' by stakeholders, thus emphasising its ambition to embed research activity into practice.

#### Secondary and tertiary care

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

Journal of Evaluation in Clinical Practice 29(3), 2022
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.

Comparison of patient-reported and functional outcomes after transition from traditional upper limb prosthetics to multiarticulating hands in the user with a unilateral transradial amputation Abstract only\*

Prosthetics and Orthotics International 47(2), 2022

This study aimed to compare patient-reported and functional measures in unilateral transradial prosthetic users transitioning from a body-powered or traditional myoelectric prosthesis to a MAH.

Developing a paediatric healthcare research network: key learnings from the 'starworks' child prosthetics project

Journal of Medical Engineering & Technology 46(6), 2022

Since 2016, the Starworks Child Prosthetics Research Network has been exploring this space, bringing children and their families together with key opinion leaders from the NHS, clinical Academia and leading National Research Centres with capabilities in child prosthetics with the aim of increasing research across the system.

#### Workforce perspectives and mental health

Working with partial hand prostheses: An investigation into experiences of clinicians Abstract only\*

Prosthetics and Orthotics International, 2023

Thirty-seven clinicians from various occupations participated. The majority agreed that outcome measures are useful for assessing partial hand prosthetics but suggested room for improvement. Although clinicians use various outcome measurement tools, there is a lack of tools specifically tailored to this population. Factors such as existing function, occupation, and hobbies were identified as important when selecting prosthetic devices for users. Funding influenced the range of partial hand devices available for prescription.

Evidencing the effectiveness of upper limb prostheses: a multistakeholder perspective on study requirements

Frontiers in Health Services 3, 2023

The workshop discussions focused on the research questions that NHS England identified in the policy evidence review: (1)

Clinical Effectiveness; (2) Cost Effectiveness; (3) Safety; and (4) Patient Subgroups. The recommendations based on stakeholder discussions included the need to gather qualitative and quantitative research evidence, use goal-based outcome measures, and conduct longitudinal studies.

Transtibial prosthetic socket fitting: Australian prosthetist perspectives on primary challenges, management strategies, and opportunities for workflow and technological innovation Abstract only\*

Prosthetics and Orthotics International 47(2), 2023
Twenty-three respondents with a range of experience completed the survey. Seven of eight major Australian states/territories were represented. Primary workflow stages presenting challenges with limited strategies/solutions available to the prosthetists were roll-on liner selection, mold or cast modifications, communication with the client, and check socket fitting. Suggested solutions included improved socket—limb interface monitoring technology.

Prosthetic and orthotic students' perceptions on online courses during the COVID-19 pandemic in Japan Abstract only\*
Prosthetics and Orthotics International 46(3), 2022
The event of the COVID-19 pandemic has proved necessary to renew the traditional teaching and learning model in colleges worldwide. Most students have been affected by clinical placements and career preparation. Therefore, promoting telehealth in the existing rehabilitation facilities and P&O industries to provide services might be an alternative method to address students' clinical placements in similar life condition events.

Joining the workforce during the COVID-19 pandemic: views of Allied Health Profession students

Journal of Interprofessional Care 36(5), 2022

Although the transition from student to practitioner continues to be a stressful period, only a minority of participants reported COVID-19 as an explicit stressor.

Wellbeing and coping of UK nurses, midwives and allied health professionals during COVID-19-a cross-sectional study PLoS One 17(9), 2022

This workforce would benefit from additional support/services to prevent further deterioration in mental health and wellbeing and optimise workforce retention.

Fostering integration among students with different backgrounds using an orthotic community service program. Abstract only\* Prosthetics and Orthotics International 47(4), 2022 This study demonstrated that an international community service program could initiate positive changes in students' intercultural communication capability and interest to work with culturally different people.

Work-related musculoskeletal pain in prosthetists and orthotists: a comparison between Australia and other countries Abstract only\*

Prosthetics and Orthotics International 45(6), 2021 Three-quarters of all respondents reported having MSP. Differences in associations between MSP and other factors by respondents' geographical location suggest the need for context-specific identification of hazards to enable the development of targeted and contextually appropriate prevention strategies.

### **Competency Frameworks**

The standards of proficiency for prosthetists / orthotists Health & Care Professions Council, 2023

These standards set out safe and effective practice in the professions we regulate. They are the threshold standards we consider necessary to protect members of the public.

### \*Help accessing articles or papers

Where a report/ journal article or resource is freely available the link has been provided. If an NHS OpenAthens account is required this has been indicated. It has also been highlighted if only the abstract is available. If you do not have an OpenAthens account you can <u>self-register here</u>.

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