An exploration of the skills required for the 21st-century prosthetist and orthotist

Eddison N, Healy A, Leone E, Jackson C, Cassidy G, Pluckrose B, and Chockalingam N

Introduction

Prosthetists and orthotists (POs) are integral to modern healthcare, yet the specific competencies required for evolving clinical demands are not well-documented. As healthcare systems face new public health challenges and integrate emerging technologies, it becomes increasingly important to identify skill gaps within the prosthetic and orthotic (P&O) workforce to ensure future readiness.

Method

A national survey was distributed to UK-based POs between September and December 2022. It was created using Qualtrics (Qualtrics International, USA) and distributed via social media and prosthetic and orthotics networks. The survey captured data on existing competencies and areas requiring further development. Descriptive statistics were used for analysis. The data forms part of a broader initiative to profile and future-proof the UK P&O workforce[1,2].

Aim

This study maps the current skill set of the UK P&O workforce through a national survey, identifying potential gaps and exploring the capabilities required to meet future healthcare needs in relation to public health, technology, and professional development.

Results

A total of 641 responses were collected, comprising 419 orthotists, 177 prosthetists, and 45 dual practitioners—representing 54% of the 1,164 HCPC-registered POs.

Respondents identified their strongest competencies as person-centred care (83%), communication and behaviour change strategies (79%), and material science (71%). Among prosthetists, confidence was highest in microprocessor componentry (78%) and liner technology (74%). However, major skill deficits were reported in mental health and wellbeing assessments (71%), trauma-informed care (51%), and public health knowledge (36%). Additionally, only 32% reported having research skills, and just over half (52%) had leadership and management competencies.

Looking ahead, respondents identified the most critical future skills as communication and behaviour change strategies (82%), person-centred care (81%), and 3D imaging for body segment capture (76%). Other high-priority areas included technological/digital literacy, innovative materials for design, public health awareness, CAD (72%), motion analysis (70%), and leadership/management (69%).

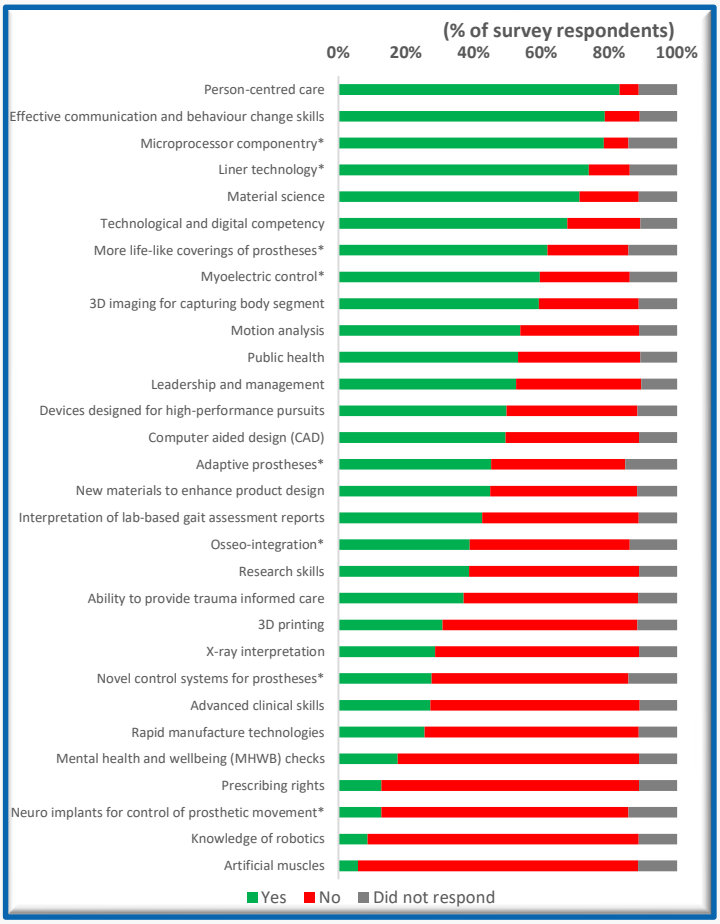

Figure 1: Survey responses for current skills/knowledge of prosthetists and orthotists. *prosthetic-specific skills

Discussion

This study presents the first comprehensive mapping of the UK P&O workforce's skills, revealing both strengths and critical areas for development. While POs demonstrate solid foundations in communication, patient-centred care, and material science, gaps exist in leadership, mental health and wellbeing, public health, research, and digital competencies.

Addressing these gaps is vital. Strategic investments in education, interdisciplinary collaboration, and continuous professional development, particularly in leadership, emerging technologies, and public health, will be crucial for preparing a future-ready and resilient P&O workforce.

References

1.Eddison, Healy, Leone, Jackson, Pluckrose. The UK prosthetic and orthotic workforce: current status and implications for the future. Hum Resour Health. 2024;22(3):1-9.

2. Leone, Eddison, Healy. The national profile of the prosthetic and orthotic workforce in the UK : Sociodemographic and employment characteristics. Prosthet Orthot Int. 2024:1-10.