IPEM
Institute of Physics and Engineering in Medicine

Official IPEM statement on the current state of the Medical Physics and Clinical Engineering healthcare workforce in the UK

This statement sets out the current state of the Medical Physics and Clinical Engineering (MPCE) workforce in the UK to provide official statistics and key messages to influential budget holders in an effort to redress the MPCE workforce shortfall.

Clinical Scientists, technologists and engineers working in MPCE are a subgroup of the Healthcare Science workforce and play vital roles in the delivery of modern healthcare.

After a decade of underfunding, the MPCE workforce in the NHS is at risk of being unable to deliver safe and effective services unless urgent action is taken.

Training numbers have consistently failed to keep pace with workforce turnover and the difficulty in meeting statutory Medical Physics Expert (MPE) requirements illustrate significant challenges relating to career progression within MPCE. Previous attempts to boost recruitment by attracting staff from overseas reflect the failure to plan and develop the workforce from within the UK.

IPEM's Workforce Intelligence Unit (WIU) has routinely surveyed and evaluated information relating to staffing levels within the MPCE workforce since 2013. Significant amounts of data have been gathered and analysed amongst all MPCE specialisms to gain a valuable insight into the current state of the workforce as a whole. From these data, the WIU and IPEM volunteers have developed workforce models for multiple specialisms within MPCE to provide guidance outlining the essential requirements for a safe and effective workforce. These models have been critical in determining the established workforce shortfall in several areas of MPCE and emphasised the need for further funding dedicated to increasing the workforce establishment.

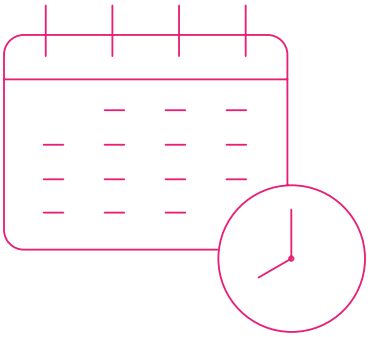
Across all MPCE specialisms surveyed in recent years we have identified an average 10% vacancy rate, ranging from 6–22% across the specialisms[1–7]. When surveyed, an average of 71% of respondents felt that their staffing provision is insufficient[1][2][4–7]. On average across the IPEM member workforce, 24% are known to be approaching retirement age[1], which is notably higher than other professionally qualified clinical healthcare professionals within the NHS (15%)[8]. In some MPCE professions, this figure is considerably higher at over 30%[1][5][6].

10%

average vacancy rate

24%

approaching retirement age



According to the established workforce models and staff requirements within the workforce, to allow the current workforce to function and expand effectively, the current workforce establishment needs to increase by 44% on average[2–5][7][9–11]. This will enable the performance of routine duties, as well as supporting training, innovation and development to maintain and grow a modernised workforce.

There are established training pathways for trainee Clinical Scientists, technologists and engineers across many MPCE specialisms. However, some smaller specialisms have difficulty recruiting trainees due to a lack of training routes and awareness of the specialism, in addition to having limited capacity to be able to teach and train.

Of the specialisms that have a regular recruitment of trainees, IPEM data has shown the number of trainees entering the workforce is not sufficient to maintain it. Based on the workforce models developed by IPEM's WIU and IPEM volunteers, in addition to the existing number of trainees entering the workforce per annum, this must increase on average by a further 30% for Clinical Scientists and 50% for clinical technologists to meet IPEM recommended staffing levels[4][7][9–11]. These figures are based on the current demand on the MPCE workforce, which is likely to increase even further year-on-year. However, increasing the number of training posts creates further pressure on the already strained workforce, as a considerable proportion of the workforce does not have sufficient capacity to enable training.

This data illustrates a grim reality:

> The current workforce is not sustainable without effective action. An unsustainable MPCE workforce will compromise patient care and safety.

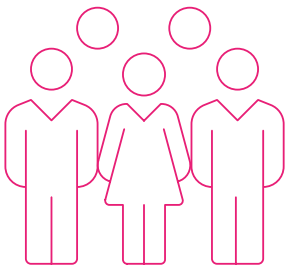
In previous years, recruitment from overseas may have been somewhat viable to aid the workforce shortage. For more than 10 years[12], four MPCE occupations have been placed on the National Shortage Occupation list (NSOL)[13], listed under generic titles such as Medical Radiographer. In 2020, the UK Government launched the Health and Care Worker Visa to further incentivise recruitment from overseas to improve the national shortage of healthcare staff. Overseas workers applying for UK occupations listed on the NSOL are subject to broader eligibility criteria to incentivise recruitment to the UK. Medical physicists and technologists are included in both the NSOL and the list of eligible occupations to apply for the Health and Care Worker Visa, meaning that medical physicists and technologists overseas can apply to work in the UK more easily than before. However, despite clinical engineers also being listed on the NSOL, they are not included on the list of eligible occupations for the Health and Care Worker Visa. This appears to be due to a lack of recognition of clinical engineers working in healthcare as an established occupation.

In an effort to improve retention and recruitment from abroad, IPEM strongly recommends that specific MPCE roles are clearly stated on the NSOL to further encourage recruitment in these occupations.

We need to grow the number of trainee Clinical Scientists by

30%

to meet IPEM recommended staffing levels



Clinical engineers should be added to the list of eligible occupations for the Health and Care Worker Visa as a matter of urgency.

However, whilst the implementation of the Health and Care Worker Visa has the potential to encourage competent staff from overseas to join the declining workforce, the impact of the UK leaving the European Union is likely to have had a detrimental effect on increased recruitment from overseas[14] and may not be a viable option to improve the workforce shortage.

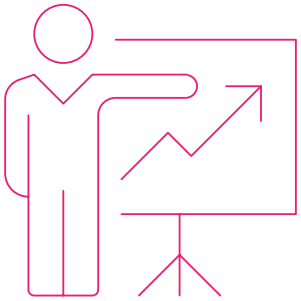
"The primary solution to redress the MPCE shortage is to allocate an increased amount of funding to this workforce"

This funding would be allocated to:

- **Create new established staff posts**
- **Expand the number of MPCE training posts both in-service and supernumerary**

The current workforce establishment needs to increase by

44%



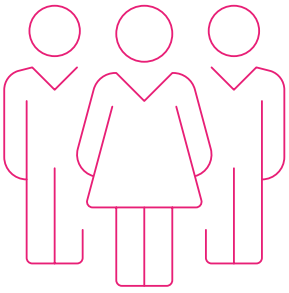
To support the case for further funding, training throughput and capacity must be considered as an essential aspect of all future MPCE workforce planning. This includes promoting awareness of all available training routes, including (but not limited to):

- **Association of Clinical Scientists Route 2**[15]
- **Modernising Scientific Careers, Scientist Training Programme**[16]
- **Scottish Medical Physics and Clinical Engineering Training Scheme**[17]
- **Academy of Healthcare Science, Scientist Training Programme Equivalence**[18]
- **IPEM Clinical Scientist Guided Training Scheme**[19]
- **IPEM Clinical Technologist Training Scheme**[20]
- **Healthcare Science Practitioner Degree Apprenticeships**[21]

When surveyed, an average of

71%

of respondents felt that their staffing provision is insufficient



The reality is clear: this issue cannot be ignored. The MPCE workforce shortage must be addressed immediately in order to preserve our valuable and integral health service and keep patients safe.

[1] Summary of the current state of the Clinical Engineering workforce (2021), *Institute of Physics and Engineering in Medicine*.

[2] IPEM Report on the 2021 Survey of the Diagnostic Radiology and Radiation Protection Workforce (2021), *Institute of Physics and Engineering in Medicine*.

[3] IPEM Magnetic Resonance Workforce Survey Summary Report 2022 (unpublished), *Institute of Physics and Engineering in Medicine*.

[4] Nuclear Medicine Workforce Summary 2021 (2021), *Institute of Physics and Engineering in Medicine*.

[5] IPEM Radiotherapy Workforce Census Summary Report (2021), *Institute of Physics and Engineering in Medicine*.

[6] Rehabilitation Engineering Workforce Summary Report 2022 (unpublished), *Institute of Physics and Engineering in Medicine*.

[7] Ultrasound Workforce Summary Report 2023 (unpublished), *Institute of Physics and Engineering in Medicine*.

[8] Equality and Diversity in NHS Trusts and CCGs December 2020 (2020), *NHS Digital*.

[9] IPEM Recommendations for the Provision of a Physics Service to Radiotherapy. (2017), *Institute of Physics and Engineering in Medicine*.

[10] The European Federation of Organisations for Medical Physicists Policy Statement (1997), *EFOMP*.

[11] IPEM MRI minimum provision guidance. (2023), *Institute of Physics and Engineering in Medicine*.

[12] Full review of the recommended shortage occupation lists for the UK and Scotland (2013), *Migration Advisory Committee*.

[13] National Shortage Occupation List Guidance (2021), *Institute of Physics and Engineering in Medicine*.

[14] Report on the contribution of EEA and other overseas workers to the UK Medical Physics and Clinical Engineering Workforce (2018), *Institute of Physics and Engineering in Medicine*.

[15] "What is Route 2?" (Accessed: Apr 2023), *Institute of Physics and Engineering in Medicine*, https://www.ipem.ac.uk/learn/clinical-scientist-training/clinical-scientist-guided-training-scheme/what-is-route-2/

[16] Scientist Training Programme (Accessed: Apr 2023), *National School of Healthcare Science*, Health Education England, https://nshcs.hee.nhs.uk/programmes/stp/

[17] Scottish Medical Physics & Clinical Engineering Training Scheme (Accessed: Apr 2023), *SMPCETS*, NHS Scotland, https://www.smpcets.scot.nhs.uk/

[18] AHCS Equivalence (Accessed: Apr 2023), Academy for Healthcare Science, https://www.ahcs.ac.uk/equivalence/

[19] Clinical Scientist Guided Training Scheme (Accessed: Apr 2023), *Institute of Physics and Engineering in Medicine*, https://www.ipem.ac.uk/learn/clinical-scientist-training/clinical-scientist-guided-training-scheme/

[20] Clinical Technologist Training Scheme (Accessed: Apr 2023), *Institute of Physics and Engineering in Medicine*, https://www.ipem.ac.uk/learn/ipem-clinical-technologist-training-scheme/

[21] How to become a healthcare science apprentice (Accessed: Apr 2023), *National School of Healthcare Science*, Health Education England, https://nshcs.hee.nhs.uk/programmes/apprenticeships/how-to-become-a-healthcare-science-apprentice/

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