

Written evidence submitted by the Clinical Pharmacology Skills Alliance to the Health and Social Care Committee inquiry on Budget and NHS long-term plan

The Clinical Pharmacology Skills Alliance

The Clinical Pharmacology Skills Alliance (CPSA) is a partnership formed by the Association of the British Pharmaceutical Industry (ABPI), the British Pharmacological Society (BPS), the Faculty of Pharmaceutical Medicine (FPM) and Health Education England (HEE). The purpose of the CPSA is to develop and support a long-term, cross-sector action plan for clinical pharmacology and knowledge of medicines discovery and development. We aim to improve the clinical pharmacology skills pipeline to support both healthcare and life sciences sectors for the benefit of patients and the UK economy alike.

1. We welcome the opportunity to input into this inquiry. Of the four areas under review, we have focused our response on the need for significant investment in education and training, specifically in high priority areas that clinical pharmacology is well-placed to support. Upskilling, recruitment and retention of a skilled workforce will be a key enabler when it comes to successful delivery of the NHS Long-Term Plan. Conversely, failure to sufficiently fund the NHS People Plan will likely result in failure to deliver the ambitions of the Long-Term Plan. Our response recommends investment in three high priority areas of education and training: the use of medicines; pharmacogenomics and genomic testing; and research. The CPSA would be happy to support the inquiry going forward. For further input, please contact: Natalie Harrison, Education, Engagement and Policy Officer, British Pharmacological Society: e. natalie.harrison@bps.ac.uk, t. +44 (0)20 7843 0493.
2. In summary, we recognise the need to prioritise funding allocation to areas of critical pressure. Additionally, we are concerned that a failure to invest adequately in future-proofing the skills of the whole workforce will mean that it will be extremely difficult to realise the potential and the ambitions of the Long-Term Plan. Therefore, **we recommend investment in three high priority areas of education and training** to support both these aims. In turn, we recommend investment in the clinical pharmacology workforce that can help deliver them. The areas we recommend focusing on are:
 - Upskilling the whole workforce in the safe and effective use of medicines, as part of a systems approach to improved efficiency and patient outcomes
 - Implementation of genomic testing and pharmacogenomics across the NHS
 - Building research capacity in the NHS, to ensure a 'research ready' and 'research active' workforce which benefits patient outcomes and the UK economy
3. We fully support the need to address immediate and critical pressures on the NHS, including the need to prioritise funding to increase the number of doctors, nurses and allied healthcare professionals. We also recommend a high priority focus on skills in the use of medicines as another way of relieving pressure on the NHS. Over 1.1 billion prescription items are dispensed in the community every year¹, and the NHS Long-Term Plan recognises the growing challenge of multimorbidity for which prescription of multiple medicines is required. Although medicines have many proven benefits, 6.5% of all hospital admissions are caused by adverse drug reactions, and 237 million medication errors are made in the NHS each year^{2,3}. We welcome the planned investment in clinical pharmacy and are currently working with the profession to develop new ways of working between pharmacy and clinical pharmacology. Pharmacists already provide leadership

¹ NHS Digital (2017). Prescriptions Dispensed in the Community, Statistics for England – 2006-2016 [PAS]. Available at: <https://digital.nhs.uk/catalogue/PUB30014> (last accessed 9 August, 2019).

² British Pharmacological Society (2016). Clinical Pharmacology and Therapeutics: The case for savings in the NHS. Available at: <https://www.bps.ac.uk/BPSMemberPortal/media/BPSWebsite/Assets/CPT-case-for-savings-in-the-NHS.pdf> (last accessed 9 August, 2019).

³ Policy Research Unit in Economic Evaluation of Health & Care Interventions (2018). Prevalence and Economic Burden of Medication Errors in the NHS in England. Available at: www.eepru.org.uk/wp-content/uploads/2018/02/medication-error-report-revised-final.2-22022018.pdf (last accessed 9 August, 2019).

in medicines optimisation⁴ and a parallel investment in clinical pharmacology would help derive the maximum benefit from such a partnership for the NHS, enabling the complementary skills of these healthcare professionals to be brought together to tackle multimorbidity and other healthcare challenges. For example, the Long-Term Plan will also be delivered alongside the Government's strategy for tackling antimicrobial resistance. The Implementation Framework⁵ states that there will be "targeted support available to regions to drive progress in implementing the Government's 5-year national action plan, tackling Antimicrobial Resistance, to reduce overall antibiotic use and drug-resistant infections." Since clinical pharmacologists are experts in the safe, effective and cost-effective use of medicines, they provide cost savings, with cost-benefit modelling demonstrating that nearly £6 is saved for every £1 invested through decreasing adverse drug reactions, prescribing errors and improved management of poisoning. However, to have the greatest impact across the NHS, **the whole workforce must be skilled in the use of medicines**. These skills must be acquired by all the staff through detailed training in use of medicines. Clinical pharmacologists have led on a national prescribing safety assessment (PSA), which now has to be passed by all newly-qualified doctors at entry to foundation training⁶. Therefore, clinical pharmacologists, in partnership with pharmacy, are well-placed to lead on skills in the use of medicines and models of practice as part of a systems-approach to efficiencies and improved patient outcomes. It has been estimated that investing £10.8 million per year in additional clinical pharmacologists would help double this workforce by 2025², in support of these aims.

4. We welcome that the Long-Term Plan is also ambitious and innovative, aiming to integrate digital healthcare technologies as part of a wider digital transformation. The Topol review⁷ recommended that "all healthcare professionals should receive core training in genomic literacy" and that a comprehensive educational programme for the workforce (including building a core of educators and trainers) should be developed over the next 5 years. The Interim People Plan⁸ also recognises the opportunities for genomic medicine and its impact on the workforce, highlighting the need for "further workforce development and new education and training approaches to help embed genomics and the more detailed understanding of the influence of the genome". Investment to meet the needs of the People plan needs to be focused through existing initiatives such as the Health Education England's Genomics Education Programme⁹. With regard to how clinical pharmacology can support, we would like to specifically highlight the area of pharmacogenomics, aspects of which are ready for implementation within the NHS and would be consistent with the aims of the NHS long term plan and the drive of the NHS towards personalised medicine. Pharmacogenomics requires consideration of both genomic aspects which drive variability in drug responses, and a knowledge of clinical pharmacology and prescribing. **The workforce must be ready to implement pharmacogenomics testing**, including taking into account the complexities of prescribing including age, renal function, hepatic function and drug-drug interactions. Clinical pharmacologists are already playing a leading role in developing the plans for implementation of pharmacogenomics in the NHS working with NHS England and Genomics England. This must continue because clinical pharmacologists are well-placed to help address the workforce implications of population-wide roll out of pharmacogenomics, however, as the total number of clinical pharmacologists is small, there needs to be an increase in the clinical pharmacology workforce. This is important not only for the next 5-10 years, but also beyond as the knowledge of how the genome affects drug response, and how genomics can help deliver new drugs, is set to increase. Therefore, funding to embed training in this area as an important part of Continuing Professional Development is essential.
5. We support the commitments in the Long-Term Plan to recognise the "critical importance" of research and innovation. The Plan commits the NHS to playing "its full part" in helping patients and the UK economy realise the benefits of research as part of the Life Sciences Industrial Strategy,

⁴ Health Education England. The school of medicines optimisation. Available at: <https://hee.nhs.uk/our-work/medicines-optimisation> (last accessed 21 August, 2019).

⁵ NHS (2019). Long Term Plan Implementation Framework. Available at: <https://www.longtermplan.nhs.uk/implementation-framework/> (last accessed 30 July, 2019).

⁶ Maxwell SRJ, Coleman JJ, Bollington L, Taylor C, Webb DJ. (2017) Prescribing Safety Assessment 2016: Delivery of a national prescribing assessment to 7343 UK final-year medical students. *Br J Clin Pharmacol* 83(10): 2249–58.

⁷ The NHS Constitution (2019). The Topol Review. Preparing the healthcare workforce to deliver the digital future. Available at: <https://topol.hee.nhs.uk/wp-content/uploads/HEE-Topol-Review-2019.pdf> (last accessed 9 August, 2019).

⁸ NHS Improvement. Interim NHS People Plan. Available at: <https://improvement.nhs.uk/resources/interim-nhs-people-plan/> (last accessed 9 August, 2019).

⁹ Health Education England. HEE Genomics Education Programme. Available at: <https://www.genomicseducation.hee.nhs.uk/> (last accessed 9 August, 2019).

noting that “research-active hospitals have lower mortality rates, with benefits not limited to those patients who participate in research”. Such efforts also require continued funding of the National Institute for Health Research to catalyse research that is important for NHS patients. Arguably, there also needs to be increased funding for developing and testing innovations within the NHS. The field of drug development and clinical trials is an important part of the UK’s success in health-related innovations, both in industry and in the NHS. The CPSA is working with a cross-sector Trailblazer Group to develop a new, level 7 Clinical Pharmacology Scientist apprenticeship that will be a training route for scientists and healthcare professionals. To fully realise the benefits of research, the workforce must be **‘research ready’** (meaning healthcare professionals must be familiar with, and have some exposure to, clinical trial designs, the disciplines and ethics of clinical research and structured data gathering) and **‘research active’** (meaning that they have the time, training and support to engage with research). The Interim People Plan notes that engagement with research is a way of improving the experience of senior doctors. However, we believe the opportunity to engage with research and enjoy a diverse, flexible career, is of value to healthcare professionals across the workforce. We support the Royal College of Physicians’ statement on “delivering research for all”¹⁰. Collaborative work on prioritisation of research activities as a key activity across all NHS organisations is needed to improve the lives of patients in the short and longer term. As noted in the Royal College of Physicians’ 2016 report Research for All¹¹, patients in research-active institutions have better outcomes than those in other institutions and are more likely to benefit from earlier access to new treatments, technologies and approaches. Encouraging the wider workforce to develop expertise in these areas would broaden career paths, be attractive to global talent, enhance retention, and increase productivity, whilst bringing direct benefits to patients. To facilitate this, it is essential that time for research, and time for research training, is included in job plans; enabling this will also require investment in workforce capacity. Healthcare professionals must have access to education and training structures to support research, and research should be embedded in the culture of the NHS workforce.

6. Clinical pharmacology is a discipline focussed on the development and use of medicines through education, research, policy and practice. It is well-placed to support the development of education and training in high priority areas of training and practice. We recommend investing strategically in the clinical pharmacology workforce with the aim of reaching 150 consultants by 2025. This could cost as little as £10.8 million per year, saving the NHS nearly £6 for every £1 invested.

¹⁰ Royal College of Physicians (2019). Delivering research for all: expectations and aspirations for the NHS in England. Available at: <https://www.rcplondon.ac.uk/guidelines-policy/delivering-research-all-expectations-and-aspirations-nhs-england> (last accessed 9 August, 2019).

¹¹ Royal College of Physicians (2016). Research for All. Available at: <https://www.rcplondon.ac.uk/projects/outputs/research-all> (last accessed 21 August, 2019).