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Abstract:
This study critically evaluates the perceptions of medical students, junior doctors, consultants, and the public on the integration of Medical Associate Professionals (MAPs) into the United Kingdom's National Health Service (NHS). MAPs, encompassing physician associates, anaesthesia associates, and surgical care practitioners, have been introduced to mitigate workforce shortages and enhance service provision. However, apprehensions persist about their abbreviated training pathways, implications on patient safety, and potential disruption to the professional development of doctors in training.
A structured questionnaire was completed by 387 respondents (54 medical students; 114 junior doctors; 171 consultants; 48 members of the public). Employing both quantitative and qualitative methodologies to analyse these responses, the study elucidates attitudes towards MAPs' clinical roles and the possible impact on the provision of healthcare. Findings revealed reservations amongst medical trainees about diminished training opportunities and professional progression. While consultants acknowledged MAPs' helpfulness in procedural support, they voiced concerns about supervision, long-term sustainability and impact on training. The public demonstrated limited awareness of the role of MAPs and expressed scepticism towards their equivalence to qualified doctors.
These findings underscore the necessity for comprehensive regulatory frameworks, explicit role delineation, and transparent governance to safeguard patient welfare. Future policies must balance workforce expansion with the preservation of educational rigour and professional standards, ensuring sustainable integration of MAPs within the NHS.

Key Words:
Medical Associate Professionals; NHS Workforce; Patient Safety; Healthcare Regulation; Clinical Training

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Introduction

The United Kingdom (UK) is currently facing a significant shortage of doctors, with an average of 2.9 doctors per 1,000 people in England compared to an average of 3.7 in other economically-developed European countries[1]. This has led to over 7,750 vacant medical positions[1], which arguably negatively affects the quality of patient care. Additionally, persistent vacancies add to stress, burnout, and fatigue amongst healthcare workers, further straining healthcare services across the country[1].

In an attempt to address these challenges, the National Health Service (NHS) introduced medical associate professionals (MAPs)[2], which include three distinct groups of mid-level practitioners: physician associates (PAs), anaesthesia associates (AAs), and surgical care practitioners (SCPs). PAs were the first to be introduced in 2003[2]. MAPs' roles and responsibilities have changed over time, sparking both agreement and debate amongst qualified doctors. While early doubts have given way to some optimism, discussions continue about whether MAPs can effectively and efficiently fill gaps in healthcare provision[2]. In December 2024, the General Medical Council (GMC) agreed to regulate MAPs[3]. Doctors, as well as members of the public, have raised concerns about patient safety and healthcare quality, particularly if MAPs are to be considered substitutes for fully-qualified doctors[4-8].

These surveys have highlighted the necessity for clear rules and guidance. Suggestions include independent reviews of the roles of MAPs, discussions amongst professional bodies, assessments of economic risks such as legal claims and hospital re-admissions, and strong standards for clinical practice[9]. Other proposals involve protecting doctors' training, clarifying prescribing rights, defining legal responsibilities, and reconsidering job titles[9]. Since these issues ultimately affect patient care, it is essential to consider the thoughts of those directly impacted, namely healthcare professionals

and the public.

As part of its long-term workforce plan, the NHS in England has proposed increasing the number of PAs by over 200% by 2037, raising the total to around 10,000[2]. While this could help reduce the current shortage of doctors, apprehensions emerge about the extent to which a two-year postgraduate training programme for MAPs can adequately replace the extensive education and experience that doctors must undertake over a period of several years[2].

This study examines the views of medical students, healthcare professionals, and members of the public on the broader integration of MAPs into clinical practice, with a particular focus on patient safety. It follows concerning reports published by organisations such as the British Medical Association (BMA)[4], as well as investigations featured in news outlets including *The Guardian*[5-6], *The Telegraph*[10], and ITV News[11]. These reports and articles have highlighted potential risks and challenges associated with expanding the role of MAPs in clinical settings. By gathering responses from medical students, junior doctors, consultants, and the public, this study aims to provide comprehensive insights into this topical and significant issue from the perspectives of those directly impacted.

Methods

This multi-perspective study employed a structured electronic questionnaire to elicit both quantitative and qualitative data to evaluate perspectives of the integration of MAPs within the NHS framework (Appendix 1). The questionnaire was developed by a panel of educators and clinicians to ensure relevance to the key concerns discussed in the current literature. These included apprehensions amongst medical students about the potential impact of an increased MAP workforce on career trajectories and training opportunities, perceived benefits and limitations for routine training and learning experiences of junior doctors, consultants' perceptions of MAPs' contributions to clinical workflow, patient care and safety, and levels of confidence amongst the public in receiving care administered by MAPs in clinics, wards and theatres.

A convenience sampling approach was first used to distribute the electronic questionnaire to medical students, junior doctors, consultants, and members of the public to whom the authors had access. The snowball sampling method was then employed to increase the number of responses. Medical students in any year group and from any UK Medical School, junior doctors and consultants with any level of experience and of any surgical specialty working in the NHS, and members of the UK public were invited to participate. Responses were collected between January 2024 and August 2024.

The responses were submitted anonymously via a secure online link and subsequently reviewed and analysed by the authors. IBM SPSS (Version 26) was used to statistically evaluate the quantitative data through descriptive methods, while the qualitative responses underwent manual content analysis. The data repository maintained stringent anonymity protocols to ensure confidentiality of respondents. Ethical approval was obtained from Doctors Academy's Academic Research Ethics Committee under reference number 202312-8KB.

Results

This study encompassed a cohort of 387 respondents, comprising 54 medical students, 114 junior doctors, 171 consultants, and 48 members of the public. Since distinct queries were posed to each subgroup to explore individualised perspectives, the responses of each subgroup are presented separately in this section.

A. Medical Students' Perspectives on the Integration of MAPs

Of the medical students surveyed, 93% (n=50) articulated a discernible apprehension towards the potential detriment to their training prospects (**Figure 1**). They expressed concerns regarding the preferential recruitment of locally-employed MAPs over rotational medical staff and encroachment upon doctors' professional domains (**Table 1**).

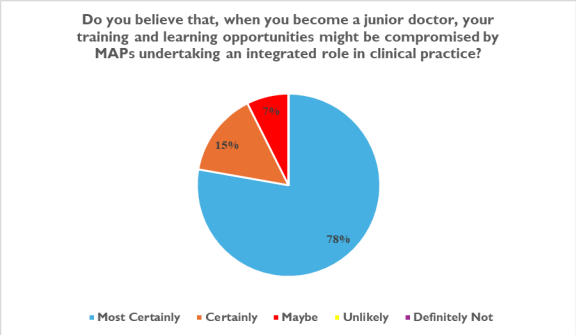

Figure 1: Responses from Medical Students (n=54) to Question 2a

Do you believe that, when you become a junior doctor, your training and learning opportunities might be compromised by MAPs undertaking an integrated role in clinical practice?
• "Limited training seats"
• "As locally employed, MAPs will be preferred over rotational doctors"
• "No clear guidelines on exact roles, encroaching on doctors' territory"

Table 1: Responses from Medical Students (n=54) to Question 2b

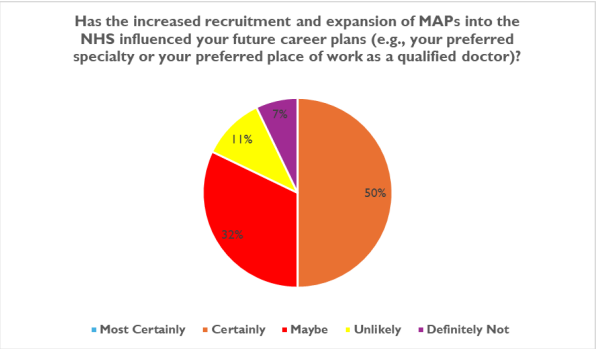

Figure 2: Responses from Medical Students (n=54) to Question 3a

Has the increased recruitment and expansion of MAPs into the NHS influenced your future career plans (e.g., your preferred specialty or your preferred place of work as a qualified doctor)?
• "Whether medical students will find work in the future"
• "Junior doctors paid less than MAPs"

Table 2: Responses from Medical Students (n=54) to Question 3b

The induction of MAPs into the NHS was perceived to exert an influence on medical students' career decisions: 74% (n=40) of respondents anticipated an unequivocal impact on their future professional choices, including specialty selection and geographical location. Amongst the remainder, 16% (n=9) posited the plausibility of such an impact, whereas 10% (n=5) deemed any resultant impact improbable (**Figure 2**). Apprehensions around whether they would secure employment as doctors were expressed (**Table 2**).

Fifty-six percent (n=30) of medical students surveyed did not believe that MAPs could help to mitigate challenges within the NHS (**Figure 3**). The principal reservations expressed pertained to deficiencies in MAPs' training and the consequent compromise of patient safety (**Table 3**). Conversely, 32% (n=17) indicated the possibility of a role for MAPs to alleviate such issues, whilst only 13% (n=7) asserted their definitive utility in this context (**Figure 3**). These respondents contended that the deployment of MAPs could serve as interim remedies for deeper systemic deficiencies, dependent upon judicious implementation (**Table 3**).

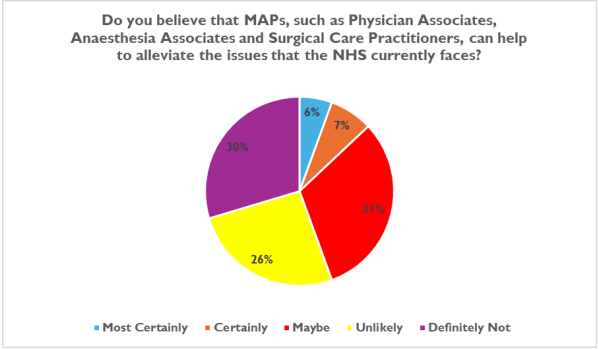

Figure 3: Responses from Medical Students (n=54) to Question 1a

B. Junior Doctors' Perspectives on the

Do you believe that Medical Associate Professionals (MAPs), such as Physician Associates, Anaesthesia Associates and Surgical Care Practitioners can help to alleviate the issues that the NHS currently faces (e.g., high waiting times; spiralling costs; high burnout rates; low morale of doctors)?
"As long as they practice within their scope"
"Can free up training time for doctors"
"Can perform repetitive time-consuming tasks"
"As long as training not hindered"
"If utilised appropriately"
"Temporary fix"
"Take opportunities away from future consultants"
"Confusing to patients"
"Lack of training, experience"
"Patient safety"

Table 3: Responses from Medical Students (n=54) to Question 1b

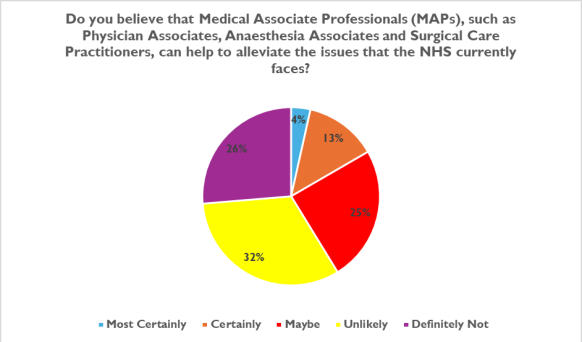

Figure 4: Responses from Junior Doctors (n=114) to Question 3a

Level	Number
Clinical Fellow	9
Clinical Teaching Fellow	1
Core Trainee	22
Foundation Year Doctors 1-4	18
Specialty Trainee 3-5	33
Specialty Trainee 6-8	8
Specialty Doctor	8
Trust Grade Doctor	13
Other	2

Table 4: Levels of Training of Junior Doctor Respondents (n=114)

Integration of MAPs

The 114 junior doctors surveyed represented a variety of grades and specialities (**Table 4** and **Table 5**). More than half (59%; n=67) felt that MAPs would be unable to help alleviate the pressures faced by the NHS, but 16% (n=19) believed the inverse (**Figure 4**). The concerns focused on the need for more doctors rather than MAPs and doubts about MAPs' ability to handle medico-legal issues (**Table 6**). However, some respondents suggested that MAPs could assume a useful role in the mitigation of these issues if they worked under the supervision of and alongside doctors (**Table 6**).

Specialty	Number
Accident and Emergency	2
Anaesthesia/Intensive Care	3
General Practice	3
Histopathology	1
Medicine	10
Surgery	84
Ophthalmology	1
Trauma and Orthopaedics	2
Paediatrics	3
Radiology	3
Other	2

Table 5: Responses from Medical Students (n=54) to Question 1b

Figure 5: Responses from Junior Doctors (n=114) to Question 6a

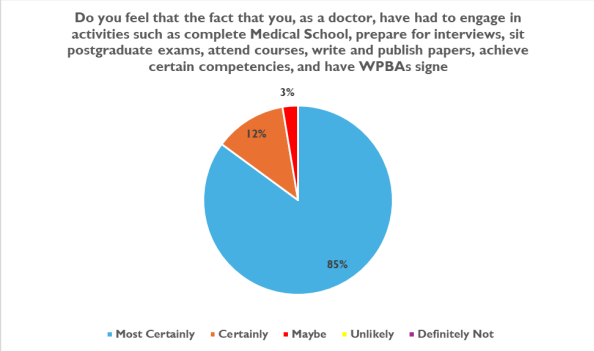

Figure 6: Responses from Junior Doctors (n=114) to Question 4a

Do you believe that Medical Associate Professionals (MAPs), such as Physician Associates, Anaesthesia Associates and Surgical Care Practitioners, can help to alleviate the issues that the NHS currently faces (e.g., high waiting times; spiralling costs; high burnout rates; low morale of doctors)?
• "Role in working alongside doctors"
• "Need clear roles and duties"
• "Could be an intermediary"
• "Service provision with supervision, not to act unsupervised in clinics"
• "Will increase overall workload"
• "Lack of expertise"
• "Decreased quality of services"
• "Higher risks to patients"
• "Less efficiency"
• "Lack of understanding medicolegal issues"
• "Add to workload"
• "We need more doctors not MAPs"

Table 6: Responses from Junior Doctors (n=114) to Question 3b

Almost all (97%; n=111) the junior doctors surveyed felt that the hard work they must endure to keep up with the arduous and competitive process to become a doctor became undervalued when learning opportunities were given to MAPs instead of to them (**Figure 5**). One respondent questioned if the effort to become a doctor was truly worth it, whilst another contemplated whether the challenges faced to become a doctor are adequately considered in debates about MAPs (**Table 7**). Respondents similarly expressed concerns about their training opportunities; 90% (n=103) believed that MAPs will negatively affect their access to training (**Figure 6**). Two comments alluded to the already high competition amongst

Do you feel that the fact that you, as a doctor, have had to engage in activities such as complete Medical School, prepare for interviews, sit postgraduate exams, attend courses, write and publish papers, achieve certain competencies, and have WPBAs signed off is sometimes undervalued when a learning opportunity is offered to a MAP?
• "Much higher efforts needed from doctors"
• "Why would anyone become a doctor?"
• "By-passing exams and gaining equivalence"
• "Increase competition"
• "Are these factors ever looked at by people who encourage MAPs?"

Table 7: Responses from Junior Doctors (n=114) to Question 4b

trainees for positions in training programmes (**Table 8**). Additionally, 50% (n=57) maintained that the continued expansion of MAPs will influence their future career plans (**Figure 7**).

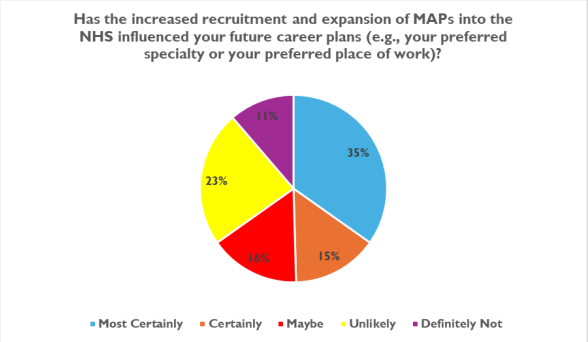

Figure 7: Responses from Junior Doctors (n=114) to Question 7

Do you believe that your training opportunities are or will be affected by MAPs undertaking a more integrated role in clinical practice?
• "No on-call commitments"
• "competes with 2 junior doctors"
• "Workforce is already saturated with trainees"
• "MAPs cannot run wards independently, need constant support"
• "Depends on attitude of department towards trainee-MAP functioning"

Table 8: Responses from Junior Doctors (n=114) to Question 6b

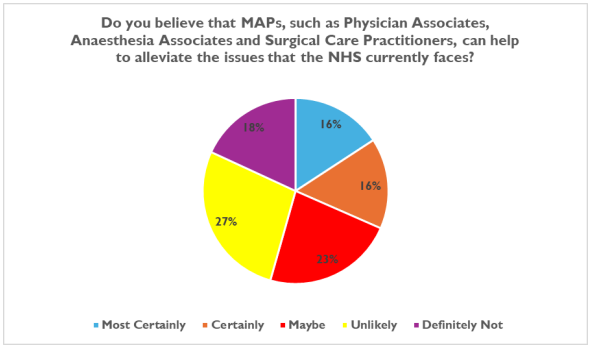

Figure 8: Responses from Consultants (n=171) to Question 1a

Consultants' Perspectives on the Integration of MAPs

Similarly to the medical students and junior doctors surveyed, consultants were asked whether they believed that MAPs can mitigate systemic challenges within the NHS. Of 171 respondents, 78 (46%) regarded this prospect as improbable, 39 (23%) acknowledged that it could be possible, and 54 (31%) affirmed the existence of a definable role (**Figure 8**). While proponents highlighted MAPs' potential capacity to provide operational support in the absence of medical staff, to collate clinical data, and to assist in basic procedures, others expressed reservations regarding the burden of supervising MAPs and the ambiguous longevity of their roles within the NHS (**Table 9**).

Do you believe that Medical Associate Professionals (MAPs), such as Physician Associates, Anaesthesia Associates and Surgical Care Practitioners can help to alleviate the issues that the NHS currently faces (e.g., high waiting times; spiralling costs; high burnout rates; low morale of doctors)?
• "Support daily work in absence of doctors"
• "Can collate targeted information"
• "Can assist basic procedures"
• "Can do mundane tasks"
• "Should be involved after diagnosis made, not to be thrown in the deep end"
• "Can create more work"
• "Used to fill gaps"
• "Unsure of long-term role"

Table 9: Responses from Consultants (n=171) to Question 1b

Consultants' preferences for MAPs relative to junior doctors in clinical and surgical settings were explored. This question was answered by only 110 respondents, of which a substantial majority (81%; n=89) rejected the substitution of junior doctors with MAPs in these contexts (**Figure 9; Table 10**). The impact of an integrated role of MAPs on junior

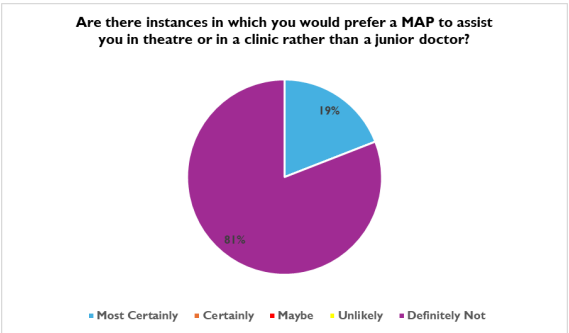

Figure 9: Responses from Consultants (n=110) to Question 2

doctors' training opportunities was also examined from the perspective of consultants; a significant majority of respondents (74%; n=127) anticipated an effect (**Figure 10**; **Table 11**). Additionally, 47 of 73 consultants (64%) conveyed apprehension that MAPs' long-term incorporation into clinical practice could compromise the transition of junior doctors to consultancy (**Figure 11; Table 12**).

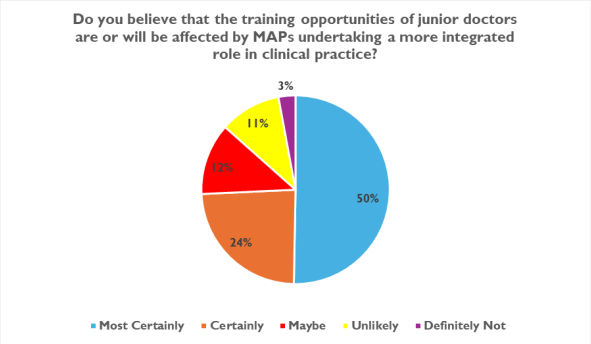

Figure 10: Responses from Consultants (n=171) to Question 3a

Are there instances in which you would prefer a MAP to assist you in theatre or in a clinic rather than a junior doctor?
• "Day-case proctocology like procedures"
• "Ward rounds"
• "More knowledge in trainees"

Table 10: Responses from Consultants (n=110) to Question 2

Do you believe that the training opportunities of junior doctors are or will be affected by MAPs undertaking a more integrated role in clinical practice?
• "Limited opportunities"
• "MAPs not out of hours/ on-calls, thus training opportunities lost for trainees"

Table 11: Responses from Consultants (n=171) to Question 3b

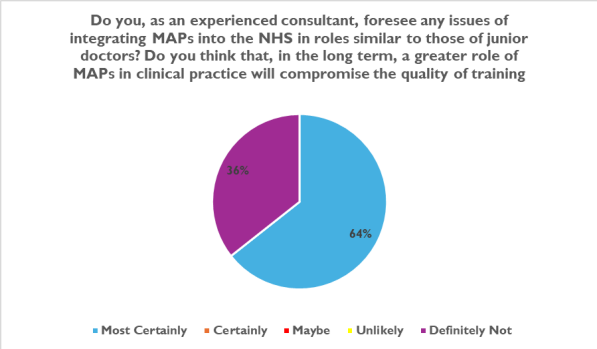

Figure 11: Responses from Consultants (n=73) to Question 4

Public's Perspectives on the Integration of MAPs

Among the 48 members of the public surveyed, awareness of MAPs was markedly low, with 39 (81%) unaware of their professional profiles (**Figure 12**). Comparable levels of awareness were observed when respondents were asked if they realised that they might be treated by an MAP rather than a doctor in primary or secondary care settings; 40 respondents (83%) were unaware (**Figure 13**).

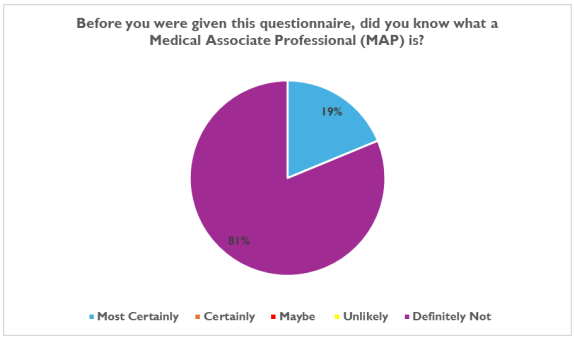

Figure 12: Responses from the Public (n=48) to

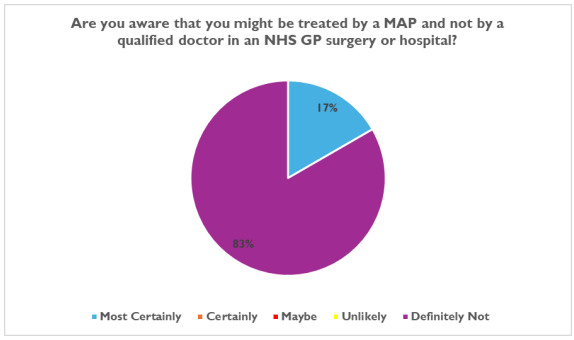

Figure 13: Responses from the Public (n=48) to Question 2

Do you, as an experienced consultant, foresee any issues of integrating MAPs into the NHS in roles similar to those of junior doctors? Do you think that, in the long term, a greater role of MAPs in clinical practice will compromise the quality of training of junior doctors who are training to become consultants?
• "The system needs to protect training"
• "Useful addition to the team"

Table 12: Responses from Consultants (n=73) to Question 4

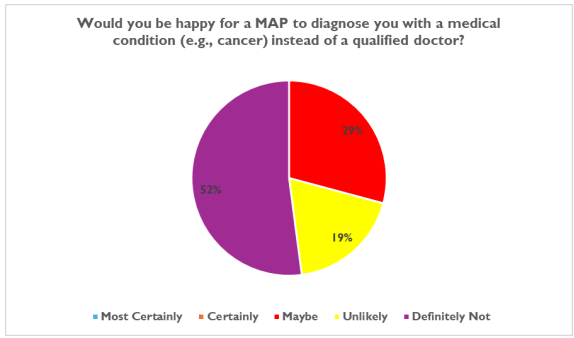

Figure 14: Responses from the Public (n=48) to Question 3

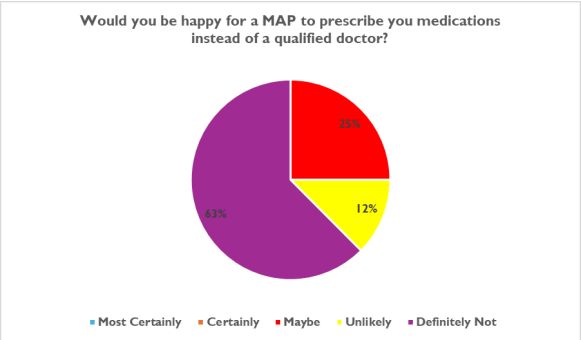

Figure 15: Responses from the Public (n=48) to Question 4

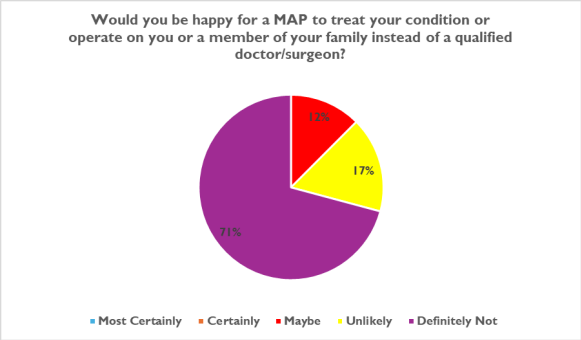

Figure 16: Responses from the Public (n=48) to Question 5

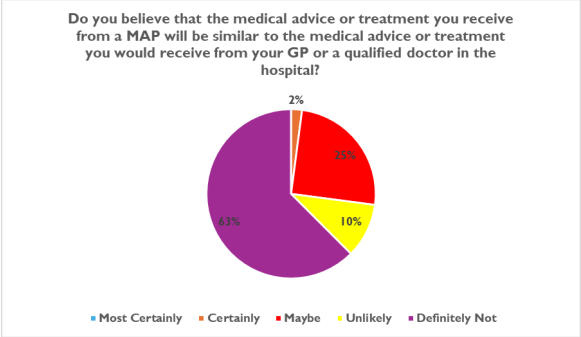

Figure 17: Responses from the Public (n=48) to Question 6

Attitudes towards diagnostic responsibilities undertaken by MAPs revealed notable scepticism: 34 (71%) respondents would not be content to receive a diagnosis from a MAP, and 14 (29%) might (**Figure 14**). However, no respondent would 'most certainly' or 'certainly' be satisfied to be diagnosed by a MAP. A similar trend emerged regarding prescribing practices, with 36 (75%) expressing discontent at the prospect of being prescribed medications by a MAP rather than a qualified doctor (**Figure 15**). The other 12 respondents (25%) suggested that they might be open to this, but no respondent conveyed certainty (**Figure 15**).

In regards to more invasive interventions, such as medical treatment or surgical procedures, resistance intensified: 42 respondents (87%) were unequivocally opposed to medical or surgical treatment carried out by MAPs, whilst six (12.5%) conveyed tentative acceptance (**Figure 16**). No respondent stated that he/she would 'certainly' or 'most certainly' be content to receive medical or

Do you have any other thoughts about the expansion of MAPs in GP surgeries or NHS hospitals?
• I think it is a ridiculous idea and should not go ahead.
• As long as they have training in the specific field they are working in yes. But I will always prefer a doctor
• More information about their role and responsibilities needed before a decision could be made
• A sad state of affairs. NHS needs funding properly.
• It is to address the shortage of doctors, and offer medical services on the cheap and create a two tier health service. Soon rich people will get doctors and poor people will get MAPs to treat them.
• This is not something I feel should be done - it is undermining years of study and training.
• I won't allow a flight attendant to fly an aeroplane. Why won't I want a doctor to treat me? Is my health not important?
• Useless government policies will chase the doctors away.
• Won't allow them to come near me. I insist on seeing a doctor since I have paid my taxes all my life.
• Does airhostess fly an aeroplane?
• Pathetic from the government. People will die.
• MAPs are just assistants to doctors. They should not be allowed to treat patients in any form.
• This should be discouraged. There should be at least graduate doctor of treating any patients.
• Strongly opposed to this and will insist on seeing a qualified person.
• I don't like the idea.
• Not happy with this. is it another cost cutting scheme?
• It causes me a great deal of concern.
• Didn't know about this until now.
• Sad way to substitite [*sic*] a qualified doctor.
• Might lower waiting time. For certain areas but quality will be poor.

Table 13: Responses from Members of Public (n=48) to Question 7

surgical treatment from a MAP (**Figure 16**). Furthermore, confidence in the clinical equivalence between MAPs and doctors was limited, with only one respondent (2%) perceiving the quality of advice and treatment offered by the two groups comparable. Twelve respondents (25%) believed that there might be some parity, but a significant majority (87%; n=42) did not consider any comparability.

The members of the public were also invited to provide their thoughts on the expansion of MAPs in their General Practice surgery or local hospital. Twenty comments were received, all of which carried negative connotations and many of which were particularly striking (**Table 13**). Examples include "it causes me a deal of concern" and "[s]ad way to substitute a qualified doctor".

Discussion

The findings of this study provide a critical examination of the integration of and functional roles assumed by MAPs within the NHS from the perspectives of medical students, clinicians, and the public. MAPs, categorised as PAs, AAs and SCPs, have defined roles within the core capabilities framework commissioned by Health Education England (HEE)[12]. However, persistent ambiguities surrounding role boundaries relative to junior doctors have led to functional overlap across clinical environments, prompting debate on MAPs' appropriate scope of practice[9]. This study has explored certain elements that underpin this.

The potential of MAPs to fill workforce gaps and alleviate pressures on overstretched NHS services has been posited[2]. However, a central issue raised in the literature is the disparity in education and training pathways between MAPs and junior doctors[2]. MAPs complete a two-year postgraduate qualification during which they must obtain 1,600 clinical hours[13], while doctors must spend five-to-six years in Medical School, achieve 5,500 clinical hours, and complete a foundation year to gain full registration[14]. This contrast inevitably raises concerns about patient safety and clinical autonomy, particularly since MAPs are trained to function in supportive capacities rather than as independent decision-makers. Unlike other allied specialties such as nursing, physiotherapy and occupational therapy, the supportive role of MAPs is, indeed, vaguely defined in most institutions as MAPs review patients independently on wards and in clinics, and they might even independently perform minor theatre procedures such as joint injections which doctors have traditionally been trained to perform. Unless clear distinctions are drawn and discrete roles are drafted for MAPs, concerns on the overlap of their duties compared to those normally undertaken by doctors will arise. These apprehensions have emerged in our results, voiced throughout the different strata of the society questioned.

The integration of MAPs can be seen to threaten junior doctors' training opportunities. Indeed, over 90% of the medical students and junior doctors surveyed in this study expressed concerns that the presence of MAPs could erode their learning experiences. Additionally, almost all of the junior doctors reported that the substantial time, resources and effort that they must invest into their professional development felt undervalued when opportunities are given to MAPs. These findings support the BMA's call to safeguard doctors' training pathways and its proposal to rebrand MAPs as "assistants" in order to explicate that their role is purely supportive[4]. They also give strength to the suggestion that MAPs should be viewed as a support to junior doctors rather than a replacement[15].

On the other hand, this study found that some senior clinicians welcome the integration of MAPs as a pragmatic response to workforce shortages in the NHS. Yet, while over 50% of the consultants surveyed acknowledged MAPs' potential to relieve clinical pressures, a significant majority expressed a preference for junior doctors in clinics and theatres, with many concerned about compromised training opportunities of junior doctors who will, in the near future, become consultants.

Despite the theoretical benefit that MAPs can improve service delivery, this study revealed that a significant minority of the public understood the role of MAPs. A preference for diagnoses, medications, and surgical interventions administered by doctors rather than MAPs was evident. These findings support a survey conducted by the BMA in 2023 which identified that 86% of 18,000 doctors noted that patients frequently cannot distinguish between doctors and MAPs and that 30% of 2,009 public respondents were unaware that MAPs existed[4]. This is further corroborated by a recent systematic review on the public's perception of MAPs, which concluded that many patients mistake PAs for doctors and are unaware of the prescribing rights of PAs[16]. Mesharck *et al.* similarly proposed that the role of MAPs within the NHS should be clearly outlined and communicated, particularly to the public, since misconceptions and insufficient information about the roles of MAPs exist[17]. NHS England mandates that patients must be informed when they communicate with a PA rather than a doctor[18]. However, inconsistent adherence to this directive has carried serious consequences[19]. Such evidence underscores the need for greater transparency within healthcare services, as well as education amongst the public, to clarify the identities and functional limitations of MAPs. Indeed, that the public has demonstrated some willingness

to visualise MAPs as a part of the broader healthcare system[16] highlights that, if their roles are clarified and transparency is upheld, they can play a valuable role in the provision of quality healthcare.

It has been argued that the financial motivations behind employing MAPs, who command lower salaries than doctors, risk prioritising cost-efficiency over quality of care[15]. Indeed, cost-effective staffing models can optimise resource allocation without diminishing standards of care if governance structures, training programmes, and accountability measures are rigorously enforced[2]. However, given the above arguments around the training and clinical experience of MAPs, as well as blurred boundaries of their roles and the public's lack of awareness, it remains to be seen if this is true in relation to MAPs.

Conclusion

This study has illustrated that, while MAPs can potentially help to address workforce shortages, their integration raises complex questions in relation to training, accountability, and patient safety. The ongoing debates on the integration and regulation of MAPs underscore the complexities inherent in defining their role within the healthcare system. Concerns raised by professional bodies, such as the BMA's call for a moratorium on further expansion, reflect the need for careful evaluation and deliberation. Nonetheless, the contributions of MAPs, particularly in patient care and multidisciplinary support, highlight their potential to address systemic challenges and complement existing healthcare structures.

This study highlights the necessity for clearer governance, formalised guidelines, and well-defined professional titles to ensure MAPs are effectively integrated into the workforce without compromising patient safety or negatively impacting the progression of doctors. Establishing such frameworks could alleviate current pressures on the NHS, promote collaborative practice between MAPs and clinicians, and support sustainable healthcare delivery in the face of rising demand and persistent workforce shortages. Future policies should prioritise transparent role delineation and robust oversight to facilitate a cohesive and adaptive healthcare environment.

Future Directions

The findings of this study have indicated the need to now include the perspectives of other medical professionals. The distribution of the questionnaire to General Practitioners would enhance the validity of this research, particularly given that, in October 2024, the BMA's General Practitioners Committee for the UK (GPC UK) voted to stop the recruitment of PAs in general practice and to phase out existing roles[20].

Additionally, although the primary objective of this study was to examine the attitudes and preferences of current and future doctors, alongside members of the public, future research would benefit from consideration of MAPs' perspectives. Their inclusion could offer additional insights and complement the findings presented here, thereby contributing to a more comprehensive understanding of the topic.

Finally, the authors propose the use of probability sampling methods to gather further responses. This would enable a more representative sample to be generated.

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