Review Article

The Current Climate between Physician Associates and Doctors in Training Working within the National Health Service in England: A Quantitative Study

Mesharck G1*, Borumand M1, Clement O2, Sam C3, Sapat K4, Lawrence E5, Sohal SK1 and Nteteka A1

¹Bedford Hospital, UK

²University of Reading, UK

³University of Warwick, UK

⁴Ealing Hospital, UK

⁵Bexley Medical Group, UK

Abstract

The Physician Associate (PAs) role was first introduced in the USA as a solution to doctor shortages. PAs are educated on a medical model but are not doctors. They are medically trained generalist healthcare professionals, who work as part of a multidisciplinary team with the supervision of a senior doctor, providing care to patients in both primary and secondary care. The majority of PAs work in secondary care to provide continuity of care whilst doctors rotate through specialties.

Currently, the PA profession is not regulated. However, this is changing, with the General Medical Council overseeing the process. This has led to dismay from doctors as they feel regulation means PAs taking over their jobs and are concerned about available training opportunities for doctors.

This study aimed to shed light on the current tension between PAs and doctors and to highlight their impact. The results show that the situation is affecting the working relationship between doctors and PAs, and it is having an impact on the public trust in the NHS.

PAs and doctors have been working alongside each other effectively in the USA since the 1960s. There is no reason why it should be any different in the UK. It seems the only way to lessen the divide between PAs and doctors is for the NHS, Health Education England, and the Department of Health & Social Care to work together to promote the positive impact of PAs on the workforce, address the salary difference between the two professions, and more effort is also needed to tackle the perception that PAs and AAs would "replace doctors".

Keywords: Medical associate professions; Physician associate; Doctors in training; Anesthesia associate; Primary and secondary care

Introduction

Effective teamwork within healthcare settings is globally recognized as an important tool for constructing a more efficient, and patient-centered healthcare delivery system [1]. Teamwork among healthcare providers improves patient outcomes, reduces extra workload, and increases job satisfaction [2]. It is well documented that, the healthcare system worldwide continues to be faced with fewer doctors, nurses, and other healthcare professionals because of the growing global population [3-5]. The National Health Service (NHS) in the UK continues to be faced with fewer doctors and nurses [6] in primary and secondary care. Like other developed countries such as Australia, the Netherlands, Germany, and Canada [7], the UK government has also adopted the Medical Associate Professions

Citation: Mesharck G, Borumand M, Clement O, Sam C, Sapat K, Lawrence E, et al. The Current Climate between Physician Associates and Doctors in Training Working within the National Health Service in England: A Quantitative Study. J Med Public Health. 2024;5(2):1102.

Copyright: © 2024 Gariba Mesharck

Publisher Name: Medtext Publications LLC

Manuscript compiled: Apr 11th, 2024

*Corresponding author: Gariba Mesharck, Luton and Dunstable

Hospital NHS Trust, UK

(MAPs) role as one of the strategies to deal with the current healthcare professional shortage within the NHS. The MAPs include Physician Associates (PAs), Anesthesia Associates (AAs), and surgical care practitioners. The NHS England's long-term workforce includes the expansion of MAPs [8]. The term "physician associate" used in this study refers to qualified PAs who are currently on the Physician Associate Managed Voluntary Register (PAMVR). The term "doctors in training" refers to all qualified junior doctors registered with the General Medical Council (GMC).

The PA's role was first established in the United States of America in the 1960s but was introduced to the NHS in 2003 [5,9]. In 2006 the Department of Health established a competency framework for the profession in conjunction with the Royal College of Physicians (RCP) and General Practitioners. Currently, the RCP hosts the Faculty of Physician Associates (FPA), and qualified PAs are encouraged to join a PAMVR. The MAPs role in the UK is gradually expanding. In 2019, the Department of Health and Social Care (DHSC) asked the GMC to regulate PAs and AAs [10]. The Royal College of Anesthetists [11] has been working with AAs within the UK for almost 20 years, agrees to regulation and the establishment of consistent standards as essential patient safety, and supports the GMC regulating AAs. Despite the repeated calls from the RCP and FPA as well as commitments of ministers, PAs are yet to receive a formal registration and regulation [12]. The British Medical Association (BMA), the trade union and

professional body for doctors in the UK responded to a consultation on regulating MAPs and argued that all MAPs should be regulated by the Health and Care Professions Council rather than the GMC [13].

The GMC in a recent statement welcomes the request by the DHSC with the support of the four UK governments to become the regulator for PAs and AAs [14]. However, the BMA continues to maintain it stands that, the GMC is the wrong regulator for the MAPs [15]. According to Medscape UK [16], "the BMA has fought a long campaign against expanding PAs numbers and to their regulation by the GMC". Recently, several concerns have been raised about MAPs scope of practice, patient safety, and missed training or educational opportunities for junior doctors [13,17,18]. Ali [19] claims that the introduction of PAs into general practice is detrimental to patient care. The BMA's GP committee for England called for an immediate pause in the recruitment of PAs in general practice, as they expressed concerns over the increasing trends of PAs being used to substitute GPs [20]. According to Oliver [9], doctors have created an increasingly hostile narrative towards PAs on social media and raised repeated concerns about their impact on patients' safety and training opportunities for doctors. Kmietowicz [21] reports in an article that, the BMA has called for the recruitment of MAPs to be paused immediately, and also opposes the regulation of AAs and PAs by the GMC. In an extraordinary general meeting by the Royal College of Anesthetists (RCoA), the council was advised to ask the clinical directors' network to pause recruitment of AAs until a proposed RCoA survey and consultation is complete, and the impact of doctors in training is assessed and reviewed [22].

According to Oliver [9], PAs themselves see and hear negative social media comments, which they find hostile and upsetting. An online article advised all doctors who have been criticising PAs online to stop including the BMA but direct their anger towards the 14 years of intentional NHS defunding, especially primary care funding [23]. An open letter to the BMA by the Chief Workforce and the National Medical Director of Health Education England (HEE) states that they have carried out patient care studies. Based on case studies, clinical, and professional engagement, and literature review on MAPs, it is proven that they increase the effectiveness of the multidisciplinary team. The evidence shows that MAPs are safe, increase the breadth of the skill, capacity, and flexibility of teams, and positively contribute to patient experience [24]. The RCP states that the employment of PAs should not negatively affect trainee doctors, and the GMC has called on NHS England to tackle the perception that PAs and AAs would "replace doctors" [25]. The UK 2022 census of consultant physicians working with PAs shows that 79% agree that PAs contribute to the continuity of care for patients, 64% agree that PAs support medical staffing on the ward, 54% agree PAs can maintain the organisational knowledge within the team, and 36% agree that PAs allow trainee doctors to attend more teaching [26].

The current hostile climate between these two professions can lead to poor team relationships in the future, create extra workload, poor patient experiences causing them to feel stressed or let down, and loss of public trust in the NHS. Recently, there have been an increasing number of statements published by the BMA England and the BMA Scotland about their position on the expansion of MAPs, especially PAs and AAs [13,17,18], and the FPA has responded to those statements. The RCP, the GMC, and the HEE had managed to call for meetings with the council to discuss and address some of the concerns around MAPs, especially PAs and AAs. With all efforts to

address such concerns, there are still several social media fights about the potential for the rising number of MAPs in long-term substantive posts and sometimes reduced training opportunities for transient rotational doctors in training [18]. Currently, no study has attempted to gather data from the PAs and doctors in training working within the NHS on the possible cause(s) of the tension between these two professions, its negative effects, and ways to address those concerns. In this quantitative survey, we obtained data from qualified PAs and doctors in training on the contributing cause for the hostile climate, its impact, and ways to address some of those concerns between the two professions.

Research questions and aims

According to Martindale and Taylor [27], a clear and concise research question is considered important for the researcher to set clear aims, and objectives for the study. However, choosing and writing a good research question can be difficult [5,28]. The PICO (Population, Intervention, Comparison, and Outcome) framework was used to derive the research question (Table 1). The PICO tool is the commonly used frame for quantitative research questions [29].

Table 1: PICO Framework.

P	Population	Physician Associates (PAs) and doctors in training.
I	Intervention	The possible causes, and negative impacts
С	Comparison	PAs and doctors in training working in the NHS.
О	Outcome	The hostile climate between the two professions.

Principal question

What are the possible causes of the current hostile climate between PAs and doctors in training working in the NHS as perceived by these two professionals?

Aim of study

The study aims to identify the main cause(s) of the hostile climate between PAs and doctors in training working within the NHS.

Objectives

- a. To identify some of the causes for the hostile relationship between PAs and doctors in training.
- b. To determine the negative effects of the hostile relationship between the two professions.
- To identify measures to address the current climate between PAs and doctors in training.

Methods

Study design

We conducted a cross-sectional quantitative study, using a structured questionnaire for the survey. The questionnaire was designed for the purpose by the research team (GM, and MB) through interviews with qualified PAs and doctors as well as published openaccess articles mainly from British Medical Journals (BMJ) and PubMed on the concerns raised about the role of PAs and the current social media tension between PAs and doctors in training. The survey was sent out for pre-testing by GM and MB in December 2023. Each question was reviewed, and further minor changes were made by the research team. No personal data or identifiable information was obtained from participants. All effort was made to ensure the anonymity of participants. Consent was implied by the return of a completed questionnaire.

Setting, participants, and study size

The sample for this study comprised qualified PAs and doctors currently working within the NHS trust in both primary and secondary care in England. Leads for qualified PAs and doctors from different NHS trusts were contacted via email to share the questionnaire, and text messages were sent with a hyperlink for the questionnaire to be completed by only qualified respondents. The questionnaire was administered electronically using a Google Documents link, and returned anonymously.

Data sources and measurement

The survey consisted of two sections: section one having three closed, single response options, and section two having six closed, single, or multiple response options. Three questions gather data to allow us to establish the job role of the respondent, previous experience, and any knowledge on the scope of the practice of PAs, three questions allowed for respondents to indicate whether or not there was a poor working relationship, negative impact, and loss of public trust in the NHS due to the current hostile climate between PAs and doctors, and three questions allowed multiple options for respondents to choose the possible cause(s) of the conflict between the two professionals, their experience or awareness of the negative impact, and how to promote a conducive working environment between PAs and doctors in training.

An email invitation and text message with a hyperlink to the survey were sent to those Leads for PAs and doctors of different NHS trusts already known to the research team on the 1st of January 2024, and a reminder was sent to all on the 25th of January 2024. The survey ended on the 31st of January.

Analytical methods

The survey responses were imported from the Google form. The responses were analysed quantitatively using descriptive statistics.

Results

This section presents the data and the collated results from the survey. The methods and processes used in acquiring the data have been described in the previous section. The results are presented under the following themes:

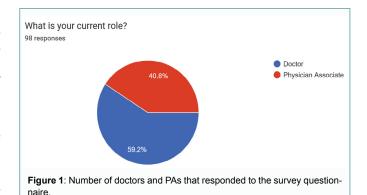
- 1. Demography of the respondents and their relative experience of working with PAs.
- General perception about the current poor working relationship between PAs and doctors and its negative impacts.
- 3. Possible cause(s) of the conflict between PAs and doctors
- 4. Recommended steps to mitigate the current toxic relationship between PAs and doctors.

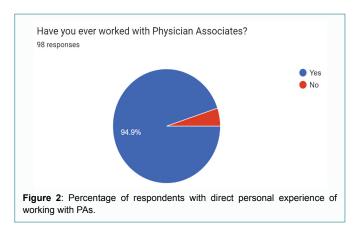
Demography of the respondents and their relative experience of working with PAs

The first set of the questionnaire sought to establish the role of the correspondents and their relative knowledge and experiences of working with the PAs. Figure 1 shows the composition of the respondents in terms of professional demography. A total of 98 doctors and PAs responded to the questionnaire, comprising 59.2% of doctors and 40.8% of PAs. This translates approximately to 58 doctors and 40 PAs. While it would have been ideal to achieve an equal number of responses from doctors and PAs to avoid disequilibrium,

skewness, and possible bias, it is understandable that doctors naturally outnumber PAs within the NHS England.

According to the 2022 workforce report of the General Medical Council (GMC) on the state of medical education and practice in the UK, there were about 231,745 registered doctors in England in 2021. Assuming a 4% annual increase, there would be circa 259,554 doctors in 2024. The Health Education England put the PA workforce at 1149 for the same period. The number would be circa1287 PAs in 2024, assuming a 4% annual increase. Therefore, in comparison with the total workforce of doctors and PAs in England where the study is focused, the number of respondents grossly under-represents the total possible population. However, this study is a pilot and microcosm of a proposed wider study, the result, rather than the sample representation is paramount at this stage. It was necessary to ascertain the level of awareness and personal experience of working directly with the PAs. This would allow the participants to respond to the subsequent issues from personal knowledge and perspectives rather than hearsay or speculations. This boosts the credibility of the study. Figure 2 presents the results from the 98 respondents to the question of whether they had ever worked with PAs. An overwhelming number of respondents answered in the affirmative (94.9%). Only 5.1% of respondents had never worked with PAs.



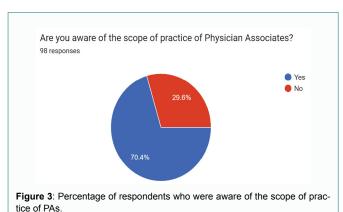


Unsurprisingly, a substantial percentage of respondents (70.4%) admit to being aware of the scope of PAs as shown in Figure 3. This implies that there were some doctors albeit in the minority, who worked with PAs but were not aware of their scope. This point needs further discussion because this could be a potential contributor to the lingering schisms and misgivings from the doctors. It is pertinent to ascertain whose role it is to foster interdisciplinary awareness and cohesion. On the other hand, it appears also that even those who were

aware of the scope of the roles of PAs may have other reasons to doubt the contribution of PAs in providing the required care for patients across NHS, hence the misunderstanding.

General perception about the current poor working relationship between PAs and doctors and its negative impacts

As observed previously, an overwhelming number of the respondents admitted being aware of the scope of practice of PAs. It should be expected that this would enhance the good working relationship between the two professions, but the results suggest otherwise, as seen in Figure 4 which presents the responses to the question of whether the respondents felt that there was poor working relationship between PAs and doctors. The figure shows that 54.6% of those who responded to this question believed that there was a poor working relationship between PAs and doctors, while 45.4% felt otherwise. There are two possible implications of this. On one hand, it could be inferred that knowledge of the scope of practice of PAs is not enough to ensure a smooth and seamless working relationship between the two professions. The second possible implication is that the problem is widespread and requires urgent mitigation. If this result is accepted as reflective of the whole workforce, it means that over half of the population admits to toxic working relationships with colleagues.



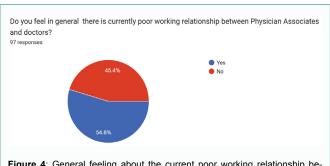
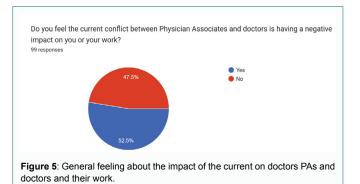


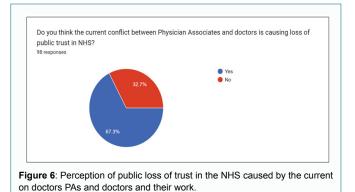
Figure 4: General feeling about the current poor working relationship between doctors and PAs.

What is the impact of this non-harmonious working relationship on the patients and NHS in general? Efficient care for patients requires a collaborative effort. This is elusive in a toxic working environment. There is no gain in saying the fact that the current climate in which doctors and PAs who should complement the expertise and experiences of each are engaged in a war of wits will affect their input and patients' welfare. In Figure 5, the responses regarding whether the existing conflict was hurting doctors, PAs, and their work are

presented. The data shows that 52.5% admitted that the rift was causing a problem, as opposed to 47.5% who were in denial. This is consistent with the proportion that believed that the feud existed in the first place. This unambiguously suggests that there is indeed an unconducive working relationship among doctors and PAs which is causing negative impacts on their work and invariably affecting the quality of patient care in England. This is worrisome because the healthcare profession requires absolute serenity and tranquility. Anything to the contrary would only breed bad blood and, a trust deficit among colleagues and within the NHS generally.

This study investigated the perceived effect of the conflict between doctors and PAs on the loss of public trust in the NHS. This was the essence of the result presented in Figure 6. The data shows that 67.3% of the respondents thought that the conflict was causing a loss of public trust in NHS, while 32.7% believed otherwise. This is damaging for the NHS at a time when the Trust is grappling with a negative image arising from poor funding and incessant strikes resulting in thousands of cancelled appointments. According to the BMJ (2023), the overall satisfaction with the NHS in 2022 was 29%, the lowest since records began in 1983. It is doubtful that the rate will be improved in 2024. This was in sharp contrast to public satisfaction with the NHS at 70% in 2010. Therefore, any factor that further erodes public trust in the NHS must be treated with the urgency it deserves.





Possible cause(s) of the conflict between PAs and doctors

What are the main causes of this rift? To answer this pertinent question, the respondents were asked to bare their minds on the possible causes of the conflict from a range of possible causes including the regulation of the PA programme by GMC, salary disparity between doctors and PAs, failure to address concerns by Health Education England, the hierarchy between PAs and junior doctors, pressure on doctors arising from the exclusion of PAs from prescription and

requesting ionising and radiation X-rays and failure of the NHS to expand postgraduation training for doctors. The result is presented in Figure 7 which suggests that salary differences between PAs and junior doctors were at the heart of the conflict as 83.3% of participants attributed the conflict to this factor. There has been a lingering crisis between junior doctors and the government occasioned by a dispute over pay, with junior doctors claiming that they were not getting commensurate pay for their hard work and training. This has led to several days and weeks of walk-outs and strikes. The general belief among doctors is that the PAs stand in their way of achieving their demand because they make up for the vacuum that would have been created by their strikes.

Next in the hierarchy of reasons for the conflict between PAs and doctors is the proposed regulation of PAs by the GMC which is also the body responsible for the regulation of doctors. Out of the 99 respondents, 68% believed that regulating the PAs by the GMC is the cause of the problem. Some reasons and speculations have been advanced as to why it is a bad idea for the GMC to regulate the PAs. Chief among them is the belief that this would further deepen the confusion in the public domain regarding the difference between PAs and doctors. The doctors have always argued that most patients could not distinguish between doctors and PAs. This point has been highlighted in the report of the British Medical Association of December 2023 in which they presented that about 57% of those polled in their survey had never heard about Physician Associates, while 41% were not sure if they were treated by PAs or someone else. Some thought that PAs were more senior than junior doctors. The doctors are, therefore, of the belief that regulating PAs by GMC would escalate the confusion.

The other significant reasons for the conflict as shown in Figure 7 are the failure of the NHS to expand postgraduate training opportunities and the failure by Health Education England to address the concerns of doctors.

There is a striking curiosity that most of the reasons for the conflict evident from this study are congenial and relate to the personal or corporate interests of the doctors rather than concern for the safety or ineligibility of PAs to practice.

Indeed, as presented in Figure 8, 44% of respondents admitted to being made aware of patients' safety concerns or negative patient care outcomes, whereas 46.4% were concerned about inadequate supervision for newly qualified doctors, and 58.5% indicated that training opportunities for junior doctors mattered to them. The majority of the respondents in this theme (71.4%) were more concerned about inadequate supervision for PAs. Physician Associates are required to attain only 50 h of clinical supervision by senior doctors yearly. This translates to about an hour or less per week. This would be barely noticeable and should be a huge surprise if they were part of the conflict.

What should matter is the competence and safety of the PAs, just like doctors and this should be achieved through training and collaborative care.

Recommended steps to mitigate the current toxic relationship between PAs and doctors

This study sought to determine possible steps to mitigate the seemingly protracted imbroglio that has caused animosity among PAs and doctors at their places of work. As shown in Figure 9, 86.2% of those who responded to the question on possible steps to promote a

conducive working environment among doctors and PAs believed that the solution lay within the NHS, HEE, and Department of Health and Social Care. These are the bodies responsible for the overall welfare of doctors in England. It is believed that the solution to the stand-off will be achieved if the concerns recorded in Section 3.3 are addressed to the satisfaction of the doctors, including a resolution on doctors' pay, training opportunities, and issues around the regulation of PAs.

The second recommendation is intervention by employers at the local level. While the matter of salary and regulation could only be addressed at the national level, efforts to address concerns specific to local environments could go a long way.

Finally, the participants believed that positive communication between the Faculty of Physician Associates and the British Medical Association could contribute to calming down frayed nerves.

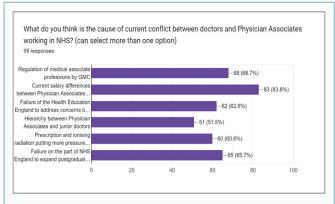


Figure 7: Perceived cause(s) of the conflict between doctors and PAs working in NHS.

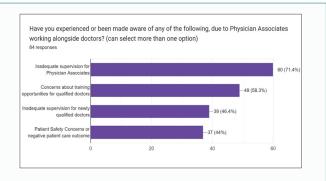


Figure 8: Perceived concerns due to PAs working alongside doctors.

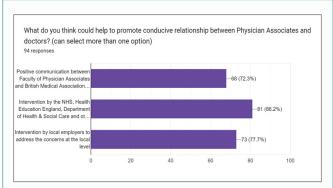


Figure 9: Recommended steps to mitigate the crisis between PAs and doctors.

Discussion

Main findings and in the context of other literature

We described the current hostile climate between PAs and doctors working within the NHS in England. The majority of the respondents were doctors compared to PAs. Our respondents agree that there is a poor working relationship between PAs and doctors. The impact of poor working relationships among healthcare workers can be detrimental to patient safety. It is well documented that; poor working relationships make staff less willing to admit errors or raise concerns and can obstruct the ability to learn and improve which can ultimately affect patient safety [30]. The majority of our respondents admitted that the current toxic climate hurts their work. This is worrisome, local Trust employers should make an effort to identify and address concerns if there are any because healthcare professionals require absolute serenity and tranquillity to be able to work effectively as a team. A recent survey reported that overall satisfaction within the NHS dropped to 36% which is a fall of 17% point from 2020 to 2021, and this was the lowest level of satisfaction recorded since 1997 [31]. Most of the respondents in this survey admitted that the current hostile climate between PAs and doctors is contributing to the loss of trust in the NHS. Currently, in the UK, newly qualified PAs working within the NHS earn more than fully qualified Foundation Year 1 (FY1) doctors although doctors ultimately have better salary progression. The salary difference between PAs and doctors was noted to be the main contributing cause for the ongoing hostile environment between the two professions in the study. The majority of the respondents indicated that there is inadequate supervision for qualified PAs. Research shows that clinical supervision of healthcare professionals is linked with the effectiveness of care and improvement in compliance with evidence-based processes, aligned to improve patient care outcomes [32]. When organisation place a high value on the importance of clinical supervision, it can help ensure barriers are removed to allow regular practice, healthcare staff can also engage in the process as well as reflect on their practice [32,33]. Clinical supervision in general is important for all healthcare professionals, especially for the newly qualified PAs and doctors. Our respondents think that intervention by NHS England, HEE, Department of Health, RCP, and other key stakeholders can help promote a good working relationship between the two professions. It is well documented that key stakeholders such as HEE, RCP, NHS England, and DHSC have worked and continue to work with other medical professionals. For example, working with the FPA, the Royal Colleges, the BMA, the doctor's association, and the anaesthetics association on how to make the MAPs role easier for employers, patients, and the general public to understand the relationship between the roles of associates and doctors. The MAPs role remains relatively new [5], and the PAs role would be better suited to meeting their workforce difficulties, and resistance to this role is apparent reported in a survey [6]. More effort is needed in this area by these stakeholders to promote good working relationships, and ultimately to ensure patient safety.

Limitations

Our survey represents a snapshot of the hostile climate between PAs and doctors in training working within the healthcare system; however, our response rate was relatively low. More doctors participated in the survey, and ideally equal number of doctors and PAs was needed to avoid skewness and possible bias, although it is understandable that doctors naturally outnumber PAs within the NHS England, limiting generalisability. Some respondents skipped

some questionnaires. We also conducted this survey over a period where UK junior doctors were striking over pay, pressure on the government to regulate MAPs, and doctors' unions opposed the regulation of MAPs by the GMC.

Implications

The NHS England's long-term workforce includes the expansion of MAPs in the UK. Our findings suggest there is a hostile climate between PAs and doctors in training. The toxic social media conflict is contributing to the poor health of PA. The infective teamwork results from the hostility between doctors in training and PA. Ultimately, this will inevitably lead to an inefficient and poor patient-centered healthcare delivery system and thus, the patients will suffer. However, our findings also suggest that there is work to be done to establish a good working relationship between PAs and doctors in training. The GMC is set to register and regulate PA/AA towards the end of 2024. However, this will not address the various concerns established in this survey.

Recommendations for future research

In this study, we recommend investigating the impacts, and how to address the hostile climate between PAs and doctors in training using a mixed-method approach at a large scale with support from major stakeholders such as the HEE, DHSC FPA, NHS, and the BMA.

Conclusion

The study has established that the majority of the study participants believe there is hostility between doctors in training and PAs. The main possible causes of the hostility, determined by the study, are the salary differences between the two professions, GMC as the impending regulatory body for PAs, and the lack of training opportunities for junior doctors. The study has identified that indifference may be negatively impacting patient care and so contributing to the loss of public trust in the NHS [31]. However, if the national healthcare government and local NHS employers can undertake measures that aim to provide support to both healthcare professionals by working with the relevant faculties and associations to address concerns highlighted in this survey. We recommend a mixed research methodology with systematic literature involving a large sample size required to provide more robust findings.

Acknowledgment

We would like to thank all the participants for this survey, and all the research team. Ideas on the presentation of research findings were obtained from existing open-access research works in PubMed.

References

- Babiker A, Husseini ME, Nemri AA, Frayh AA, Juryyan NA, Faki MO, et al. Health care professional development: Working as a team to improve patient care. Sudan J Paediatr. 2014;14(2):9-16.
- Bosch B, Mansell, H. Interprofessional collaboration in health care: Lessons to be learned from competitive sports. Can Pharm J (Ott). 2015;148(4):176-9.
- Halter M, Drennan VM, Joly LM, Gabe J, Gage H, de Lusignan S. Patients' experiences
 of consultations with physician associates in primary care in England: A qualitative
 study. Health Expectations. 2017;20(5):1011-9.
- Drennan VM, Halter M, Wheeler C, Nice L, Brearley S, Ennis J, et al. What is the contribution of physician associates in hospital care in England? A mixed method, multiple case study. BMJ Open. 2019;9(1):e027012.
- Mesharck G. The Role of Physician Associate in Primary Care in England: A Systematic Literature Review. J Med Public Health. 2024;5(1):1097.
- 6. Halter M, Wheeler C, Drennan VM, de Lusignan S, Grant R, Gabe J, et al. Physician

- associates in England's hospitals: a survey of medical directors exploring current usage and factors affecting recruitment. Clin Med (Lond). 2017;17(2):126-31.
- Drennan VM, Gabe J, Halter M, de Lusignan S, Levenson R. Physician associates in primary health care in England: A challenge to professional boundaries? Soc Sci Med. 2017;181:9-16.
- 8. NHS England. NHS long-term Workforce plan. 2023.
- Oliver D. The fractious debate over physician associates in the NHS. BMJ. 2023;383:2449.
- 10. NHS Health Education England. Medical associate professions. 2020.
- Royal College of Anaesthetists. RCoA position statement on anaesthesia associates. 2023.
- 12. GMC. Guide to registration for PAs and AAs. 2023.
- 13. BMA. Medical associate Professions briefing. 2023.
- GMC welcomes the upcoming laying of AA and PA order. General Medical Council. 2023.
- BMA media team. GMC regulation of AAs and PAs a 'slap in the face' to doctors, says BMA. 2023.
- Medscape UK. BMA to fight the law for GMC regulation of Physician Associates. 2023.
- BMA Scotland. Physician associates/Anaesthesia associates (PAs/AAs): Update and Call for views. 2023.
- Oliver D. Why shouldn't doctors defend our distinct professional identity? BMJ. 2023;382:1630.
- Ali A. Physician associates in General practice: a GP registrar's perspective. BMJ. 2023;382:1960.
- Kmietowicz Z. GP leaders in England call for a pause in recruitment of physician associates. BMJ. 2023;383:2581.

- 21. Kmietowicz Z. BMA calls for an immediate halt to the recruitment of anaesthesia and physician associates. BMJ. 2023;383:2713.
- RCoA. Outcome of the RCoA Extraordinary General Meeting on 17 October 2023.
 2023.
- 23. Meehan D. Letter: GPs need to speak out against the online abuse PAs face. 2023.
- Health Education England. Open letter to the BMA regarding regulation and supervision. 2023.
- Rimmer A. Physician associates are not a replacement for doctors, say RCP and GMC. BMJ. 2023;383:2507.
- 26. Royal College of Physicians. The UK 2022 census of consultant physicians. 2023.
- Taylor RU, Martindale SH. Alternative and complementary research approaches.
 The Essentials of Nursing and Healthcare Research. Thousand Oaks, CA: SAGE.
 2014:155-74.
- 28. Doody O, Bailey ME. Setting a research question, aim, and objectives. Nurse Researcher. 2016;23(4):19-23.
- Methley AM, Campbell S, Chew-Graham C, McNally R, Cheraghi-Sohi S. PICO, PICOS, and SPIDER: a comparison study of specificity and sensitivity in three search tools for qualitative systematic reviews. BMC Health Serv Res. 2014;14:579.
- 30. Royal College of Obstetricians and Gynaecologist. What are the effects of poor workplace behaviour and culture on patient safety, the team, and the quality of training? 2024.
- 31. Wellings D. Has the public fallen out of love with the NHS? 2022.
- Snowdon DA, Leggat SG, Taylor NF. Does clinical supervision of healthcare professionals improve effectiveness of care and patient experience? A systematic review. BMC Health Serv Res. 2017;17(1):786.
- Butterworth T. What is Clinical Supervision and how can it be delivered in practice. Nursing Times. 2022;118(2):20-22.