



The Association of
Surgeons in Training

THE PURSUIT OF
EXCELLENCE IN
SURGICAL TRAINING



**THE PHYSICIAN ASSOCIATE
ROLE AND ITS IMPACT ON
SURGICAL TRAINING AND
PATIENT CARE**

ASIT REPORT

JANUARY, 2024

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FOREWARD

MR SRINIVAS CHERUVU

ASiT PRESIDENT

&

MS VALDONE KOLAITYTE

ASiT COMMUNICATIONS OFFICER

This report is based on the largest survey in ASiT's history, reflecting the views from every surgical specialty, grade, and region. It has taken place amidst a paradigm shift within surgery, where a range of new allied roles are emerging within surgical teams. The NHS Long Term Workforce Plan 2023 (LTWP), has placed strategic emphasis on responding to workforce shortages within the NHS through the expansion of these roles, including physician associates (PA).

ASiT has been approached by multiple stakeholders from across healthcare and surgery, requesting that we adopt a position on the LTWP workforce changes. We have always been conscious of and consistent in our principles as the pan-specialty and pan-grade surgical training organisation, to advocate based on evidence and not anecdote. ASiT is committed to the multidisciplinary team with respect for the contributions of all members. Our goal is to contribute to a thoughtful and constructive dialogue based on evidence, which can inform and cultivate solutions for a surgical workforce.

Our survey was aimed to both - quantify the experiences of surgical doctors who have directly worked with PAs, and also to explore the nuances of the changes to surgical training and patient care. The survey and this report provides a voice to the experiences of surgical doctors from all grades and backgrounds, narrating a diverse spectrum of experiences and views on the roles of PAs in our modern surgical workforce.

We thank all those who gave their valuable time and effort to share their experiences, in many cases with extensive and detailed accounts. The contributions of the ASiT team, together with the collaboration and unity of the specialty surgical training associations has enabled us to produce this report.

The evidence documented within these pages is an invitation to healthcare leaders and stakeholders to shape the future of surgical healthcare with an awareness of the opportunities and challenges presented by the integration of PAs into the surgical workforce.



SURVEY CREATION AND REPORT EDITORIAL TEAM



President
Srinivas
Cheruvu



**Communications
Officer**
Valdone
Kolaityte



**Vice
President**
Roberta
Garau



**Vice
President**
Lara Rose
Manley



**Director of
Education /
Yearbook Editor**
Raiyyan Aftab



**Webmaster &
Bursary Liaison**
Helen Skinner



**Social Media
Officer**
Setthasorn Ooi



**Conference
Coordinator**
Alona
Courtney



Treasurer
Emily Mills



**Immediate
Past
President**
Martin King



**Associate
Honorary
Secretary**
Vasudev Zaver



**Past
President**
Lola Giwa
Brown



**Honorary
Secretary**
Matthew
Harris



ASiT

CONTRIBUTORS

We would like to acknowledge the contribution and collaboration of the surgical specialty training associations in the dissemination and delivery of this survey and report.



ROULEAUX CLUB
UK Vascular Trainees' Association

Andrew Nickinson



Raefe Jackson



Tom Hubbard



BOTA
BRITISH ORTHOPAEDIC TRAINEES ASSOCIATION

Karen Chui



THE
MOYNIHAN
ACADEMY
PURSUIT OF SURGICAL EXCELLENCE

Michael Okocha



BNTA

Marina Pitsika



Oral and Maxillofacial Surgery Fellows-in-Training
British Association of Oral & Maxillofacial Surgeons

Sirisha Duggineni



Sarika Nalagatla



HERRICK SOCIETY
UK TRANSPLANT TRAINEES

Charlotte Brown



PLASTAUK
Plastic Surgery Trainees Association

Nikita Joji



The Dukes' Club



Society for Cardiothoracic Surgery
in Great Britain and Ireland

Walid Mohamed / Bassem Gadallah



Association of Otolaryngologists in Training

Anthony Bashyam



ASiT COUNCIL

We would like to acknowledge the contribution and collaboration of the regional reps and non-executive members of ASiT Council in the dissemination of this survey and report.

Nathan Walker

Rachel Khaw

Angela Lam

Johno Hirniak

Aqua Asif

Viraj Shah

Alexander Zargaran

Soham Bandyopadhyay

Michael El Boghdady

Aidan Bannon

Johno Hirniak

Richard Mak

Marios Erotocritou

William Atkins

Manal Ahmad

Shina Ardani

Azelle Egbe

Meiling MacDonald-Nethercott

Eleanor James

Katherine France

Elizabeth O'Connell

Rachael Coulson

Conor Toale

Sinead Ramjit

Ali Ansaripour

Nwatuzor

Thomas Kidd

Gillian Miller

Rui Wei

Aikaterina Gkorila

Joanna Aldoori

James Huxley Beavis

Christopher Onyekachukwu

George Neelankavil Davis

Vignesh Balasubaramaniam

Fazia Hashim

Kala Kumaresan

Will Maynard

Clara Miller

Zoe James

Rose Ingleton

Delphine Couderq

Gerrard McKnight

Katie Connor

Ammar Al-Najjar

Malik Fleet

Lawrence Ugwumba



CONTRIBUTORS

MR NIGEL MARRIOTT

INDEPENDENT STATISTICIAN

Fellow of the Royal Statistical Society (RSS) and was accredited by the society as a Chartered Statistician (CStat) in 2003.

RSS - chair of the Business & Industry Section and previously served as Chair of Quality Improvement Section, member of the Professional Affairs Committee and previous member of Diversity & Inclusion Committee.

We would like to acknowledge Mr Marriott for his review and support in the development of this report.



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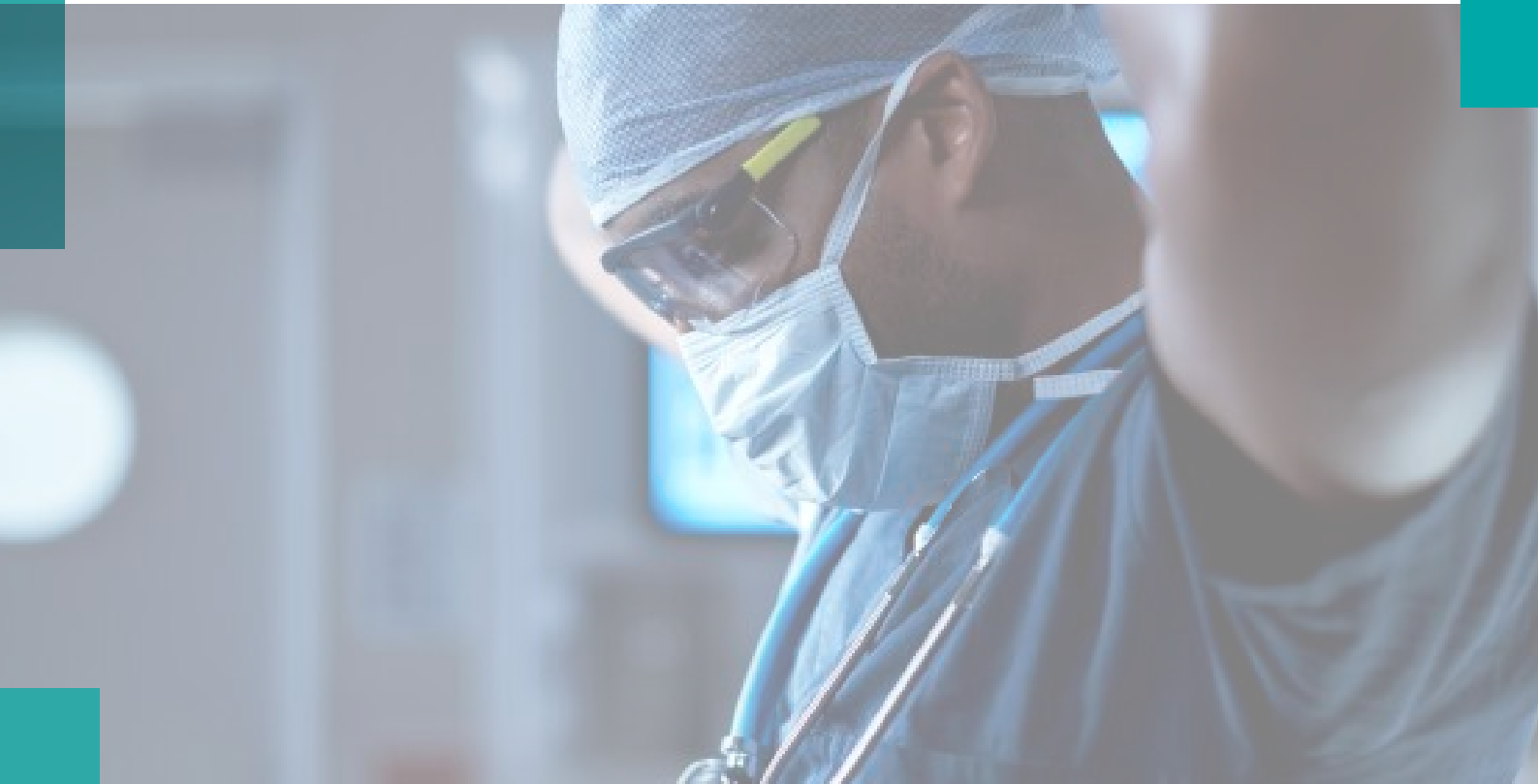
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ASIT PA SURVEY **BACKGROUND**

1. BACKGROUND

The challenges posed by workforce shortages within the NHS have been extensively documented. Our current workforce shortage is estimated to be 8,000 doctors and 40,000 nurses, with an overall deficit of over 100,000 healthcare staff [1]. In addition to the likely impact on quality of care and patient outcomes, the strain on healthcare systems has significant implications for training and staff wellbeing.

The 2023 NHS Long-Term Workforce Plan (LTWP) has further amplified concerns surrounding the ability of the workforce to meet the needs of the healthcare service [2]. The LTWP draws attention to significant shortages across various professions, and strategies to address these challenges, with particular focus on the expansion of the workforce.

One of the suggested strategies to address staff shortages is the expansion of physician associates (PA). The role of PAs have been present in the UK since 2003; at present there are approximately 3000 PAs currently working in the NHS, with a proposed increase to 10,000 by 2036/37 [2-4].



1. BACKGROUND

This proposed expansion of PAs in the NHS has generated concerns within the medical and surgical community. The concerns relating to surgical patient care and training may be summarised as follows:

1. Unclear Scope of Practice and Responsibilities

The lack of a clearly defined scope of practice and responsibilities of PAs has raised questions about their integration into the existing healthcare framework. This lack of clarity may have implications for patient safety and the overall effectiveness of multidisciplinary care.

2. Impact on Surgical Training

The proposed expansion of PA roles has raised concerns about potential disruptions to surgical training, access to educational events and courses. Surgical trainees face unique challenges relating to practical experience, which have been exacerbated by the COVID-19 pandemic [5]. Surgical training remains at an experiential deficit as compared to pre-pandemic. Any changes to the workforce must be carefully considered to avoid a negative impact on training opportunities and the quality of surgical education.

1. BACKGROUND

3. Regulation and Oversight

The absence of a comprehensive regulatory framework by an appropriate oversight body for PAs has contributed to concerns about standardisation and consistency of practice. This lack of regulation may lead to variations in practice from hospital to hospital and region to region, with unclear responsibilities and accountability. Other healthcare professionals, including doctors, nurses, pharmacists and physiotherapists have a related regulatory body and are under the purview of the Professional Standards Authority, but at the time of writing this report there is no regulatory oversight for PAs. The General Medical Council has presented itself as the proposed regulator and in the process drawn critique due to the implied equivalence of this new role to the one of doctors [4,6].

4. Representation to Patients, Public, and Healthcare Professionals

Transparent and accurate introduction of role and responsibilities by PAs is crucial to maintain trust within the healthcare system. Concerns have been raised about the misunderstanding or miscommunication regarding PA role within the healthcare team to patients, the public, and fellow healthcare professionals.

1. BACKGROUND

The Association of Surgeons in Training (ASiT) acknowledges the widespread discourse across a range of communication platforms regarding the experiences of trainees with PAs during surgical placements [7-10].

ASiT is committed to a constructive and evidence-based approach and recognises the importance of data-driven decision-making [11].

To inform the decision to expand PAs across surgery, ASiT has undertaken a pan-grade, pan-speciality snapshot cross-sectional survey with the following aims, and to understand:

- **The experience of surgical doctors working alongside PAs**
- **The impact of PAs within surgical teams on patient care**
- **The impact on of PAs within surgical teams on surgical training**





ASiT PA SURVEY

EXECUTIVE SUMMARY

2. EXECUTIVE SUMMARY

Survey Overview

- **Largest survey** conducted by ASiT with the highest number of respondents in the organisation's history.
- A total of **1,978 responses** were received from **doctors across all training regions and grades between 23/10/23 to 6/11/23.**
- **1,665 doctors** in surgery completed the full survey
- **1,235 surgical doctors in training** completed the full survey
- The response rate, based on GMC data, was **21.4% among the 5,764 doctors in surgical training in the UK**



Specialty Distribution

Respondents from all surgical specialties, grades of doctors and regions of the UK

- **Significant participation from:**
 - General Surgery (**35%**)
 - Trauma and Orthopaedic Surgery (**15.1%**)
 - Urology (**8.7%**)
 - ENT Surgery (**6.3%**)
- **Significant participation across all training grades:**
 - Foundation training (**15.9%**)
 - Core training (**27.7%**)
 - Phase 2 (ST3-ST6) Higher surgical trainees (**29.3%**)
 - Phase 3 (ST7+ST8) Higher surgical trainees (**7.1%**)



2. EXECUTIVE SUMMARY

Exposure and understanding of PA role (out of all respondents, N=1845)

73.8% of respondents have worked alongside PAs in a surgical setting.

Regarding familiarity with the PA role

- **43.1%** were very familiar and understood the role
- **36.7%** were somewhat familiar and had some understanding of the PA role
- **16.8%** were somewhat familiar but did not understand
- **3.4%** were not familiar and did not understand

Exposure to PAs was noted across all surgical specialties, with the highest exposure in:

- General Surgery (**67%**)
- Trauma and Orthopaedic Surgery (**23.5%**)
- Urology (**18.6%**)

Respondents had collaborated with PAs in multiple specialties

- **60.8%** in one specialty
- **34.6%** in 2-3 specialties
- **4.6%** in ≥ 4 specialties.

2. EXECUTIVE SUMMARY

Impact on Surgical Training

Impact of PAs on surgical training (N=1306):

- **70.5%** of all respondents reported negative impact
 - 38.3% strongly negative and 32.2% some negative
- **11%** reported a positive impact
 - 3.1% strongly positive and 7.9% some positive
- **15.5%** reported neither positive or negative impact
- **3%** were not sure or unable to comment

Positive impact on training opportunities (N=143)/Respondents reporting positive impact (strongly positive and some positive) :

- PAs provided support with ward work efficiency (**87.2%**)
- Ensured continuity of patient care (**65.3%**)
- Increased training opportunities in theatre (**42.6%**)
- Increased efficiency and training opportunities (**23.4%**)
- Support with on call/emergency services efficiency (**48.9%**)

Positive training impact was reported across grades (N= 143):

- Foundation trainees (**7.7%**)
- CST (**7.4%**)
- Phase 2 HST (**13.2%**)
- Phase 3 HST (**13%**)
- OOPE/R/T (**23.3%**)

Negative training impact was reported across grades (N=924):

- Foundation trainees (**86.7%**)
- CST (**80.8%**)
- Phase 2 HST (**63%**)
- Phase 3 HST (**51%**)
- OOPE/R/T (**43.3%**) groups.

2. EXECUTIVE SUMMARY

Negative Training Experiences as a result of PA present included (N=921)

- Reduced theatre case numbers for surgical doctors (**71.4%**)
- Decreased training opportunities in theatre (**79.9%**)
- Increased workload on wards (**65%**)
- Reduced training opportunities in outpatient setting (**59.7%**)
- Increased workload during on-call/emergency commitments (**48.7%**)

Specialty respondents who have worked with PAs and reported highest numbers of positive impact on surgical training were:

- Urology (**17.1%**)
- Vascular surgery (**14.6%**)
- Paediatric Surgery (**14.3%**)

Specialty respondents who have worked with PAs and reported highest numbers of negative impact on surgical training were:

- Cardiothoracic surgery (**90.9%**)
- Trauma and Orthopaedics (**76.6%**)
- Plastic Surgery (**75.3%**)

Supervision of doctors by PAs

15.5% (N=192) of respondents reported being supervised by PAs.

- within FY 1-2 doctor group (**30%**)
- within CST group (**18%**)
- within Phase 2 trainee group (**9%**)

PA supervision by doctors

- **64.7%** (N=800) of respondents reported supervising PAs, with greatest number in Phase 2 HST

2. EXECUTIVE SUMMARY

Impact on patient care (N=1271):

- **22.2%** of respondents reported a **positive impact**.
 - 4.1% strongly positive and 18.1% some positive
- **46.9%** reported **negative impact** on patient care
 - 22% strongly negative impact and 24.9% some negative impact.
- **26.7%** reported neither positive or negative impact
- **4.2%** were not sure or unable to comment

Factors associated with positive patient care include (N=277):

- Instances of Improved patient care **42.2%**
- Requesting appropriate investigations **39.7%**
- Appropriate clinical decision-making with clinician supervision **31.4%**
- Performing procedures/interventions in theatre with clinician supervision **14.1%**

Factors associated with negative patient care include (N=863):

- Performing procedures/interventions without appropriate supervision **73.2%**
- Misrepresentation of the role to the patients **87.9%**
- Doctors asked to prescribe on behalf of PAs **88.9%**
- Doctors asked to request investigations on behalf of PAs **87.6%**
- Clinical decisions without appropriate clinician supervision **85.4%**
- Unclear role within the medical team **76.5%**

2. EXECUTIVE SUMMARY

Representation of role and future outlook

- **83%** believed that the term Physicians Associate is misleading
- **95.8%** believed the public did not have a good understanding of the differences between doctors and PAs
- **70.2%** of respondents did not believe PAs should have a role in surgical procedures
- **78.1%** of respondents believed PAs should be regulated by a professional body
- **92.9%** felt that further expansion of PA roles should be paused until there is clarification on regulation and scope of practice
- **88.2%** of the respondents believed that trainees should be involved in defining the scope of practice for PAs

In summary, this report reveals a complex landscape of experiences regarding the role of PAs in surgery.

Both patient care and surgical training has been affected by these roles with some examples of good practice, but largely with negative experiences.

The findings underscore the importance of addressing concerns related to patient care, surgical training, terminology in representation of role, and regulation prior to further expansion of such roles in the NHS.



ASiT PA SURVEY
RECOMMENDATIONS

3. RECOMMENDATIONS

We strongly advocate that the recommendations of this report are enacted prior to further expansion of PAs as outlined in the LTWP. This report provides the evidence base to help address the areas of concern outlined in the survey in relation to experience of PA roles in surgical care and training.

The resultant recommendations are focused around 4 key areas:



3. RECOMMENDATIONS

1. PA Scope of practice and responsibilities

Healthcare and surgical Stakeholders, including (but not limited to):

- Royal Colleges of Surgeons
- NHS,
- Faculty of Physician Associates
- Specialty Surgical Associations
- JSCT - Joint Committee on Surgical Training
- COPSS - The Confederation of Postgraduate Schools of Surgery
- ASiT & Trainee Surgical Specialty Training Associations

The above must collaborate to establish clear and **standardised guidelines for PAs within the surgical teams**, including:

1. **Surgical specialty specific guidance;**
2. **Scope of practice** based on qualification, knowledge, experience and skills;
3. **Clearly defined career pathway** - accurately reflecting opportunities and clear distinction to the roles and practices of doctors.

3. RECOMMENDATIONS

2. Surgical training for the surgeons of tomorrow

Based on the evidence provided in this report, surgical training has been impacted adversely by PA roles. Within the context of training, surgical trainees and locally employed doctors must be supported as those who will be the surgeons of tomorrow and responsible for patient care. Our recommendations are:

- **Supervision** of surgical trainees/doctors should be by appropriately qualified and experienced surgeons only, such as **consultant surgeons**
- Positive practice as identified in the survey needs to be developed further with **clear guidance**. Examples include **supporting ward based tasks and helping with continuity of care** without compromising surgical training.
- Doctors **should not be expected to order investigations** such as ionising radiation **or prescribe** either against or without their own clinical assessment or consent.
- There must be clear **pathways for recognising good practice** within the surgical team, and conversely **clear pathways to raise concerns** for patient care or training **absent fear or reprisal**.
- The **training of surgical doctors** must be prioritised, to create a **sustainable workforce for both short and long-term** health service needs.

3. RECOMMENDATIONS

3. Regulation and oversight

Lack of regulation and oversight of PAs scope of practice and responsibilities were key concerns raised:

- **Appropriate regulation in line with scope of practice** must be established as a matter of urgency.
- Accelerate the establishment of a **dedicated regulatory body for PAs** reflective of their scope of practice.
- Collaborate with existing healthcare regulatory bodies **overseen by the Professional Standards Authority** to ensure adherence to professional standards.
- **Learn from the experiences of regulated professions** to create an effective oversight mechanism. For example, the experiences of NMC in relation to the recent regulation of Nursing Associates, a role similarly developed to bridge a gap between HCAs and Registered Nurses.
- **Responsibility must reflect the scope of practice** undertaken

3. RECOMMENDATIONS

4. Representation to patients and professionals

Public confidence and trust is essential to healthcare and therefore **patients must understand who is looking after them.**

The roles of healthcare professionals such as nurses, pharmacists, physiotherapists and doctors are all well understood by patients. Similarly, the **role and responsibilities of PAs should be clearly established and defined.**

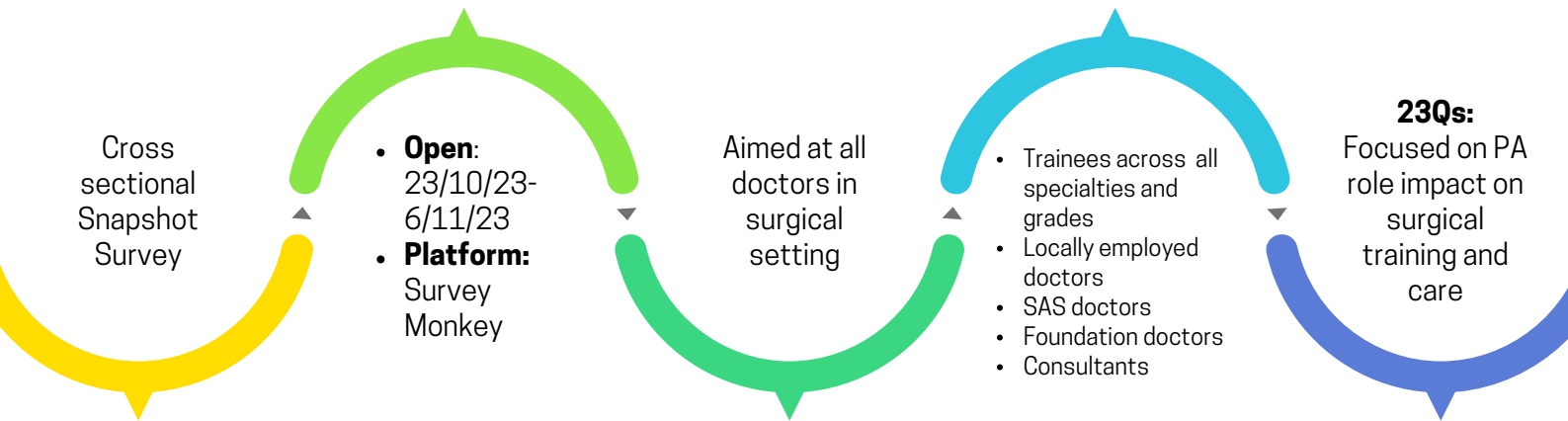
This must then be effectively communicated to the public:

- Implement **educational initiatives** to enhance understanding and awareness of PA roles for the **public and other healthcare professionals.**
- Foster **transparent and accurate representation** of PA roles.
- Utilise **unique uniforms for PAs** consistent with other healthcare roles.



ASIT PA SURVEY
METHODOLOGY

4. METHODOLOGY



This was a prospective cross-sectional snapshot survey. Survey questions were created during a consensus session of ASiT executive team members, who are trainees from different specialties, regions and grades.

The survey was created on SurveyMonkey platform and was open between 23/10/23-6/11/23. It was distributed through ASiT’s website, X, Instagram, Facebook and ASiT email communication channels.

We note that initial X survey post achieved 77,640 impressions and 2,330 engagements with 434 link clicks. Initial email received 4333 opens and 523 link clicks. As well as 2622 post engagements on initial Instagram post.

The survey was open to all trainees, specialty doctors, foundation doctors and fellows regardless of surgical specialty, working in the United Kingdom and the Republic of Ireland.

Responses were anonymous although identifiable by IP addresses unique to each respondent.

We collected respondents’ demographic data, their experience and experience of working with PAs and their views on the future outlook of the PA role within the surgical team.



4. METHODOLOGY

Logic branches were utilised for data collection and analysis, ensuring that positive and negative experiences were captured from respondents who have worked with PAs, whilst maintaining a succinct survey to improve completion rate. Respondents who had no experience of working with PAs in a clinical setting were only able to answer the questions related to future outlook. Data analysis was performed using in-built Survey Monkey tools.

Training grade group analysis was performed by including ST1-ST2 trainees into core trainee grade group (CST).

Higher surgical trainees were distributed into Phase 2 (ST3-ST6) and Phase 3 (ST7-ST8).

Other groups included: Foundation trainees, post CCT fellows, Junior Clinical Fellows, Senior Clinical Fellows, Locum/non-training doctors, OOPE/R/T doctors, others (e.g. consultants, SAS grade doctors)

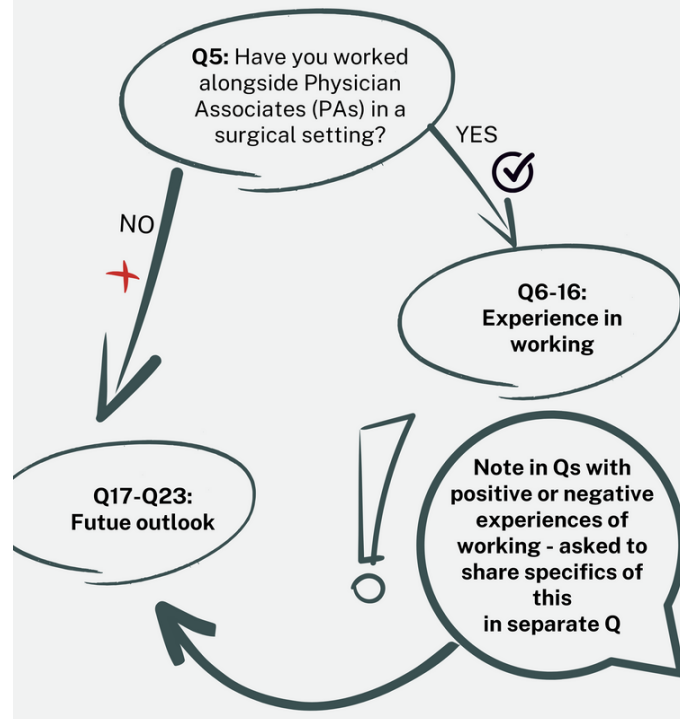
An Independent Statistician opinion was sought for review of data and analysis methods. He was were able to quality assure the results from this survey, which enabled us to develop validated recommendations.

Physician Associate Role and Its Impact on Surgical Training and Surgical Care: Snapshot Survey Questionnaire Logic Branch

Total number of questions - 23



- Q1-Q3 Demographic data
- Q4-6 Exposure and understanding
- Q6-16: Experience in working
- Q17-Q23 Future outlook





ASiT PA SURVEY **RESULTS**

5. RESULTS

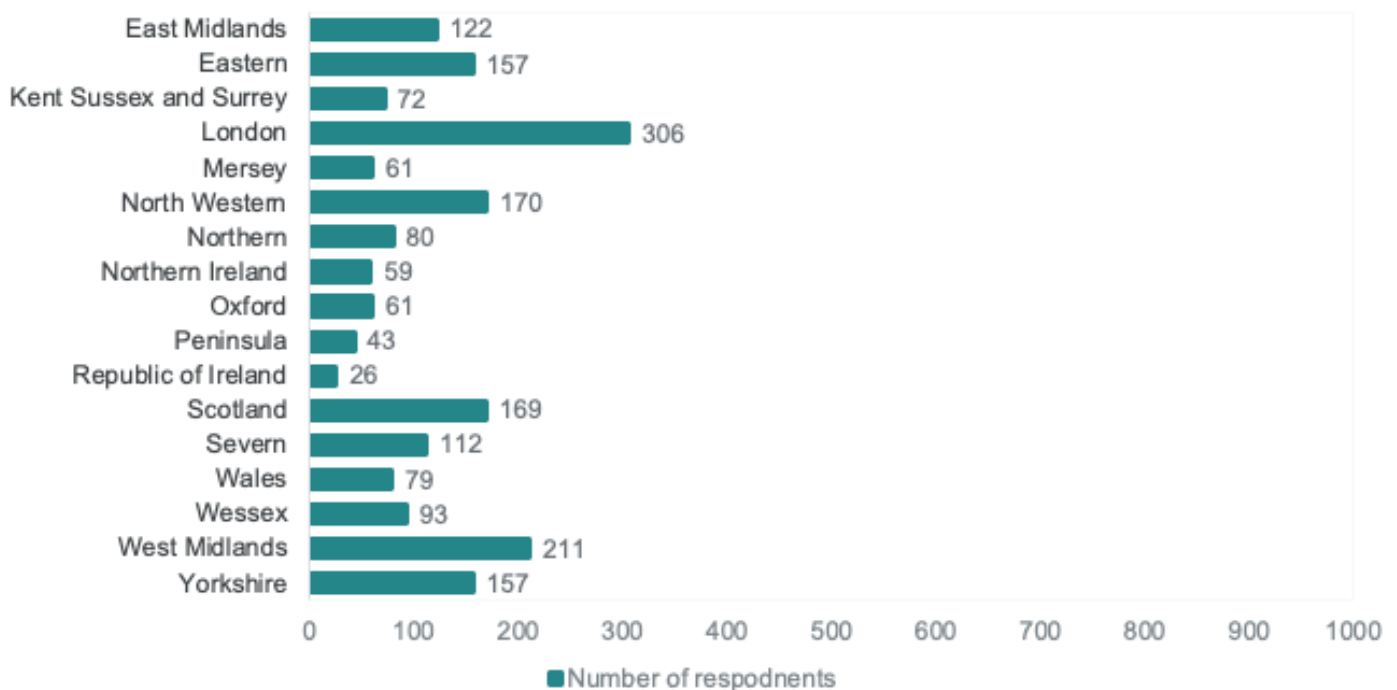
Demographic data

- We received 1978 responses from all training regions and training grades, as highlighted in **Figure 1, Picture 1 and Figure 2**
- 1665 doctors have completed the full survey.
- Of the 1665 complete respondents, 1235 were doctors in surgical training
- According to the GMC data explorer, there are 5,764 doctors in surgical training in the UK, and the response rate was therefore 21.4% [12].

Responses from all specialities were obtained (See **Figure 3**) with most responses from doctors working in:

- General Surgery (35.03%, N=659),
- Trauma and Orthopaedic Surgery (15.10%, N=284)
- Urology (8.72% N=121)
- ENT Surgery (6.27%, N=118)

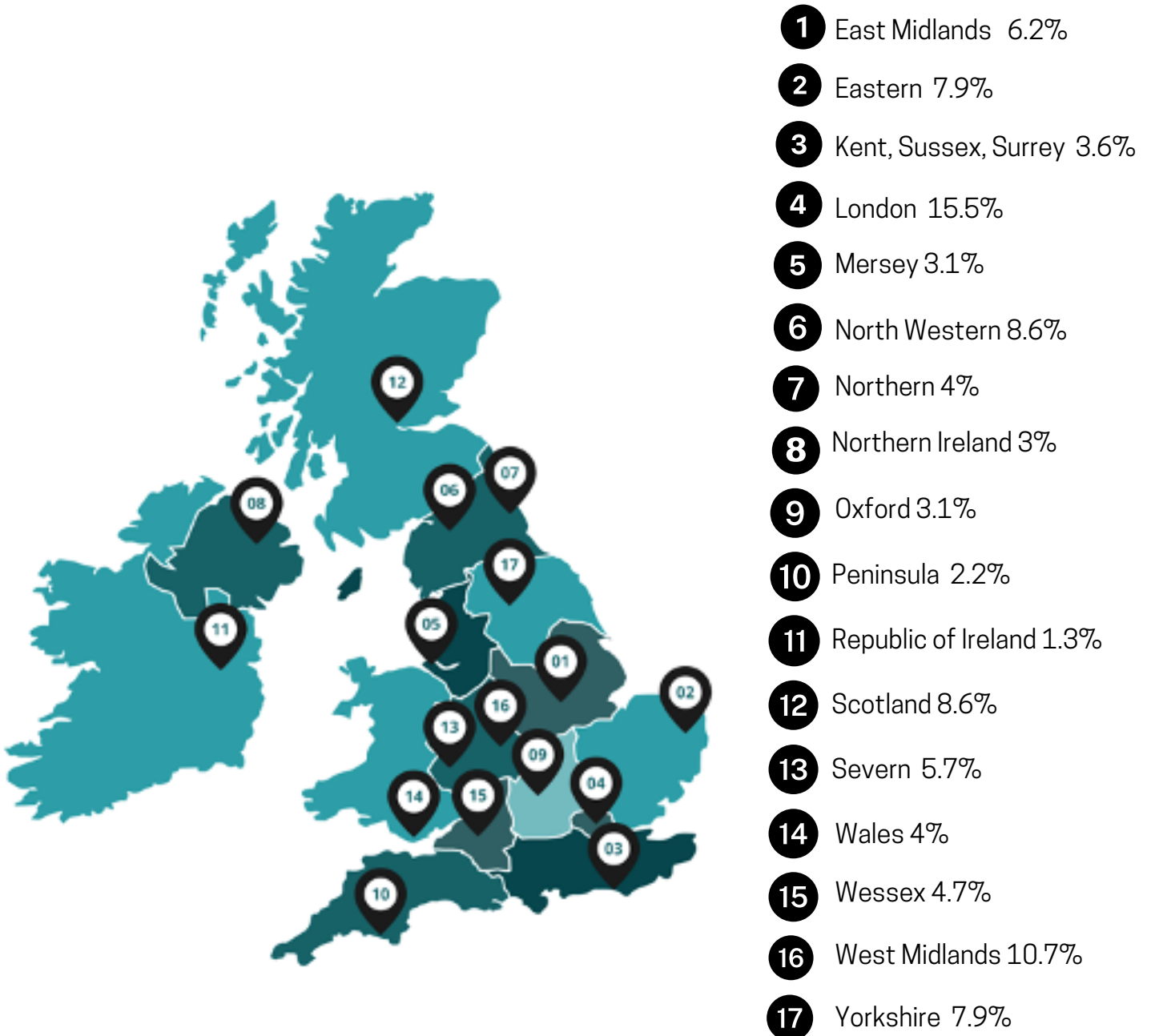
Fig 1. Respondent distribution according to region



5. RESULTS

Demographic data

Picture 1. Respondent distribution according to region



5. RESULTS

Fig 2. Respondent distribution according to grade

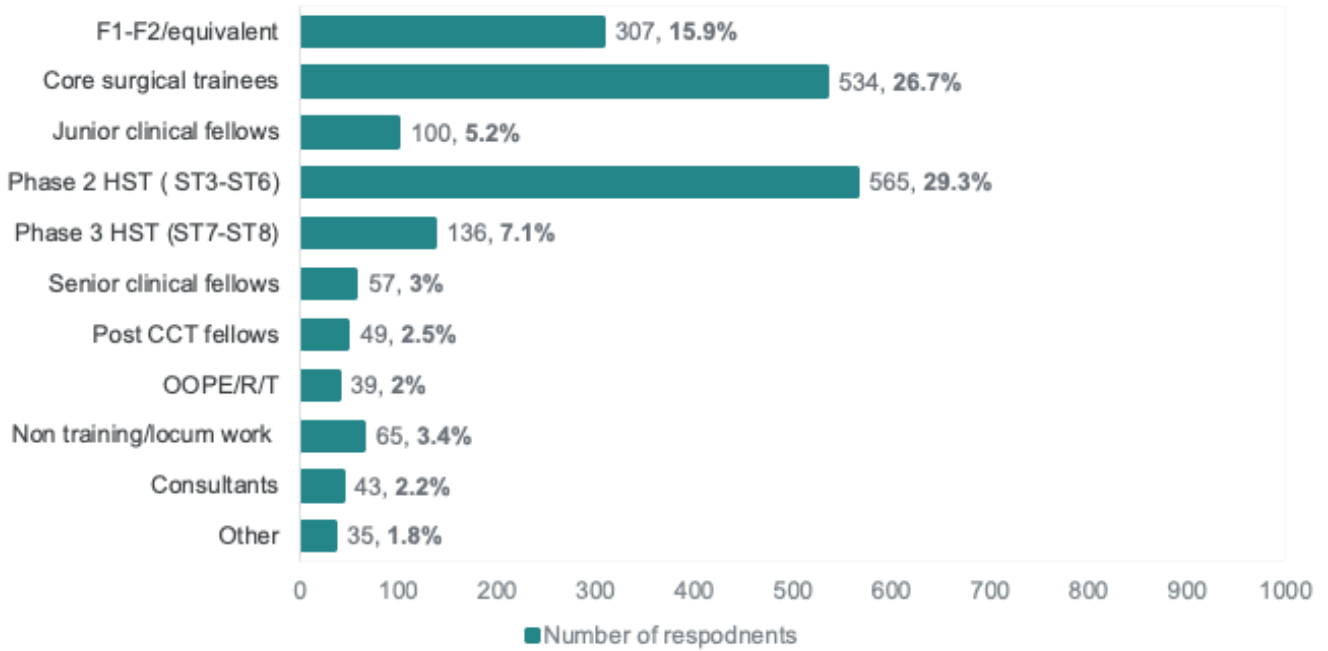
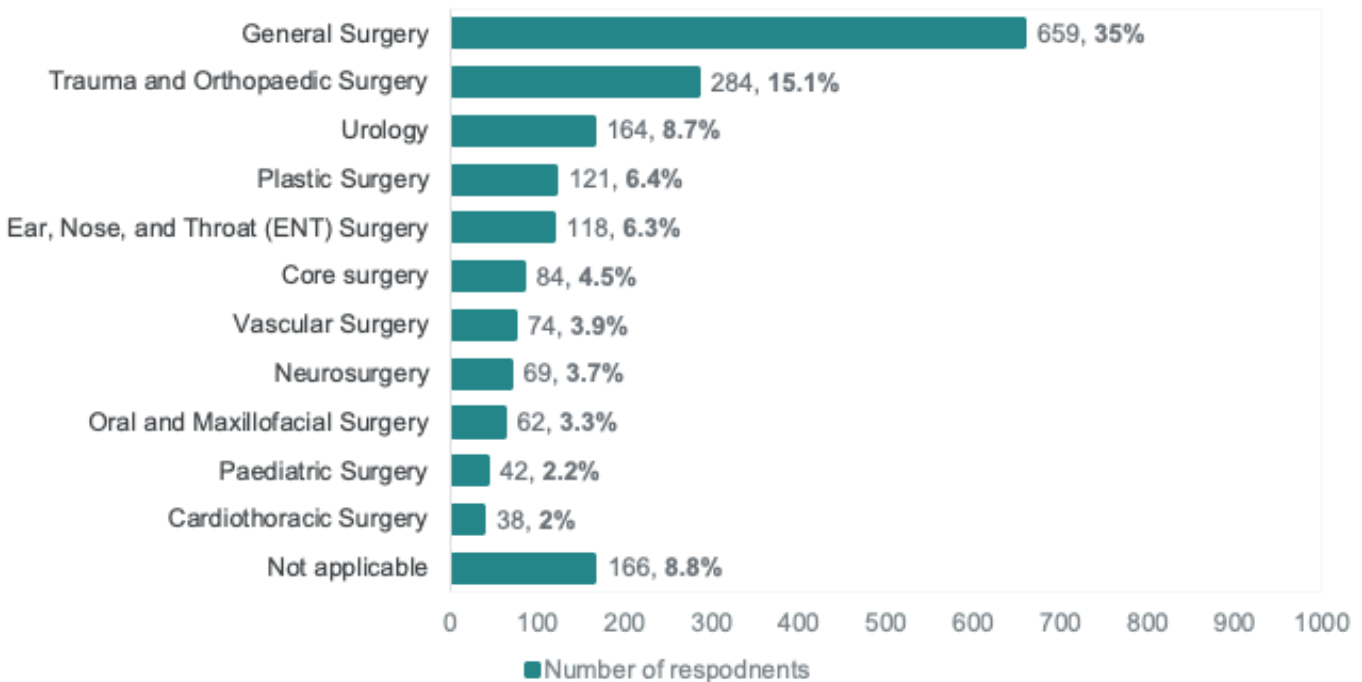


Fig 3. Respondent distribution according to specialty



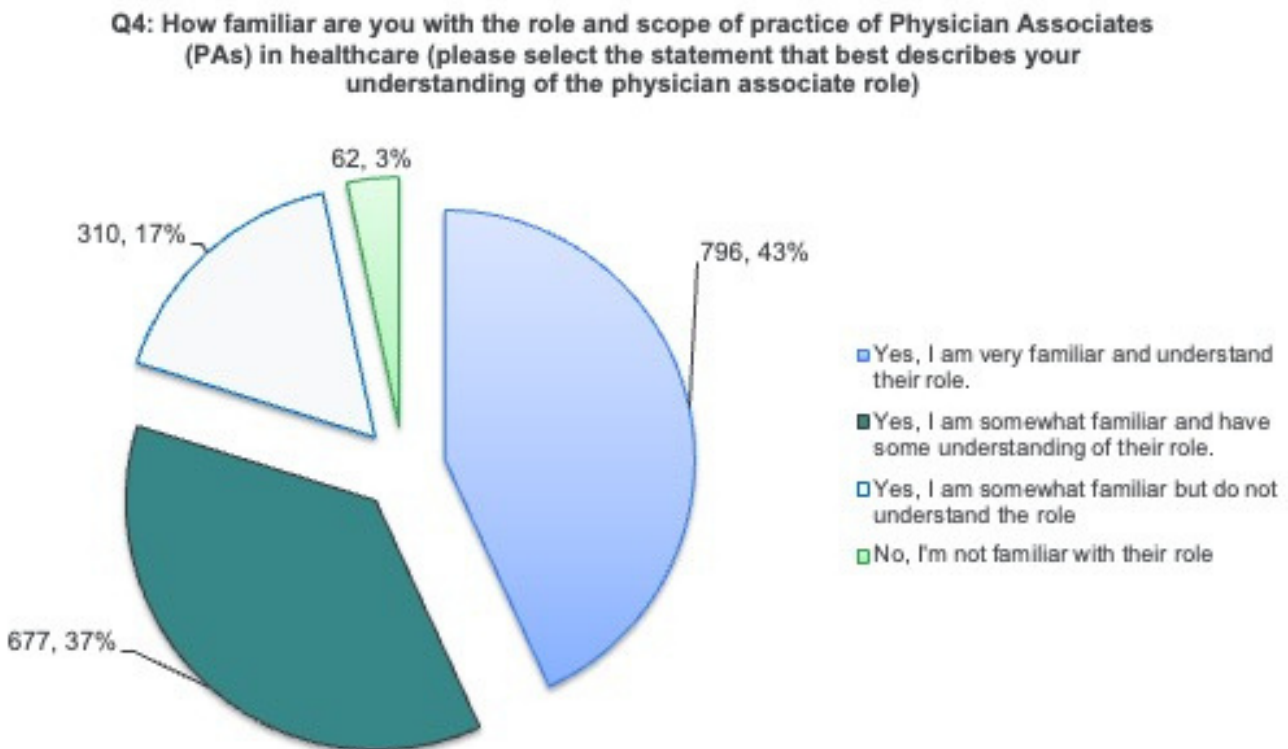
5. RESULTS

Understanding and exposure

The majority (73.8% (N=1354)) of respondents have worked alongside PAs in a surgical setting.

When asked about familiarity with the PA role, 43% of respondents were very familiar with their role and reported to understand it, 37% were somewhat familiar with their role and reported to understand it, 17% of the respondents were somewhat familiar with their role but did not understand it and 3% were not familiar and did not understand their role (**Fig 4**).

Fig 4. Exposure to PA role and understanding of scope of practice



5. RESULTS

Understanding and exposure

The 1354 respondents who have worked with the PAs:

- 2.4% (N=33) were not familiar with the role
- 14.1% (N=191) were somewhat familiar but did not understand their role
- 34.5% (N=467) were somewhat familiar and had some understanding of their role
- 49% (N=663) were very familiar and understood their role

The 480 respondents who have not worked with PAs:

- 6% (N=29) were not familiar with the role
- 24.6% (N=118) were somewhat familiar but did not understand their role
- 42.3% (N=203) were somewhat familiar and had some understanding of their role
- 27.1% (N=130) were very familiar and understood their role

Responses analysing familiarity and understanding of the role across the grades and specialties are demonstrated in **Table 1** and **Table 2**

5. RESULTS

Table 1. Grade-wise Analysis of Familiarity and Understanding of Physician Assistant (PA) Roles

% Demonstrated within each grade group	Respondents were				
	Not familiar with the role %, N	Somewhat familiar but did not understand their role %, N	Somewhat familiar and had some understanding of role %, N	Very familiar and understood their role %, N	Total, N
Foundation Year 1 / 2	2.4% (N=7)	18.8% (N=54)	33.3% (N=96)	45.5% (N=131)	288
Junior Clinical Fellow	3.1% (N=3)	19.8% (N=19)	36.5% (N=35)	40.6% (N=39)	96
Core surgical trainee	3.6% (N=18)	16.6% (N=84)	36.9% (N=187)	42.9% (N=217)	506
Phase 2 Higher Surgical Trainee (ST3-ST6)	2.9% (N=16)	14.3% (N=78)	38.3% (N=209)	44.5% (N=243)	546
Phase 3 Higher Surgical Trainee (ST7-8)	5.3% (N=7)	20.6% (N=27)	36.7% (N=48)	37.4% (N=49)	131
Senior Clinical Fellow	7.02% (N=4)	21.05% (N=12)	33.33% (N=19)	38.60% (N=22)	57
Post CCT Fellow	2.1% (N=1)	6.4% (N=3)	42.6% (N=20)	48.9% (N=23)	47
OOPE/R/T	0%	18.4% (N=7)	34.2% (N=13)	47.4% (N=18)	38
Non-training/ locum work	6.4% (N=4)	21% (N=13)	33.9% (N=21)	38.7% (N=24)	62
Others (e.g.Consultants/SAS)	2.8% (N=2)	18.3% (N=13)	40.9% (N=29)	38% (N=27)	71

5. RESULTS

Table 2. Specialty-wise Analysis of Familiarity and Understanding of Physician Assistant (PA) Roles

% Demonstrated within each Specialty group	Respondents were				
	Not familiar with the role %, N	Somewhat familiar but did not understand their role %, N	Somewhat familiar and had some understanding of role %, N	Very familiar and understood their role %, N	Total, N
General Surgery	4% (N=26)	17% (N=110)	37.9% (N=245)	41.1% (N=266)	647
Cardiothoracic surgery	0%	19% (N=7)	40.5% (N=15)	40.5% (N=15)	37
Neurosurgery	1.5% (N=1)	13.4% (N=9)	25.4% (N=17)	59.7% (N=40)	67
Trauma and Orthopaedic Surgery	2.8% (N=8)	17.8% (N=50)	38.8% (N=109)	40.6% (N=114)	281
Vascular surgery	6.9% (N=5)	13.9% (N=10)	33.3% (N=24)	45.8% (N=33)	72
Paediatric Surgery	5% (N=2)	15% (N=6)	32.5% (N=13)	47.5% (N=19)	40
Plastic Surgery	5.9% (N=7)	10.9% (N=13)	47.9% (N=57)	35.3% (N=42)	119
Urology	4.4% (N=7)	22.% (N=35)	32.7% (N=52)	40.9% (N=65)	159
ENT	0%	18.1% (N=21)	35.3% (N=41)	46.6% (N=54)	116
OMFS	1.6% (N=1)	11.3% (N=7)	50% (N=31)	37.1% (N=23)	62

5. RESULTS

Exposure to PAs was noted across all surgical specialities. Respondents reported most frequent exposure in General Surgery (67.01%, N=900), Trauma and Orthopaedic Surgery (23.45%, N=315) as well as Urology (18.54%, N=249). **(Fig 5)**

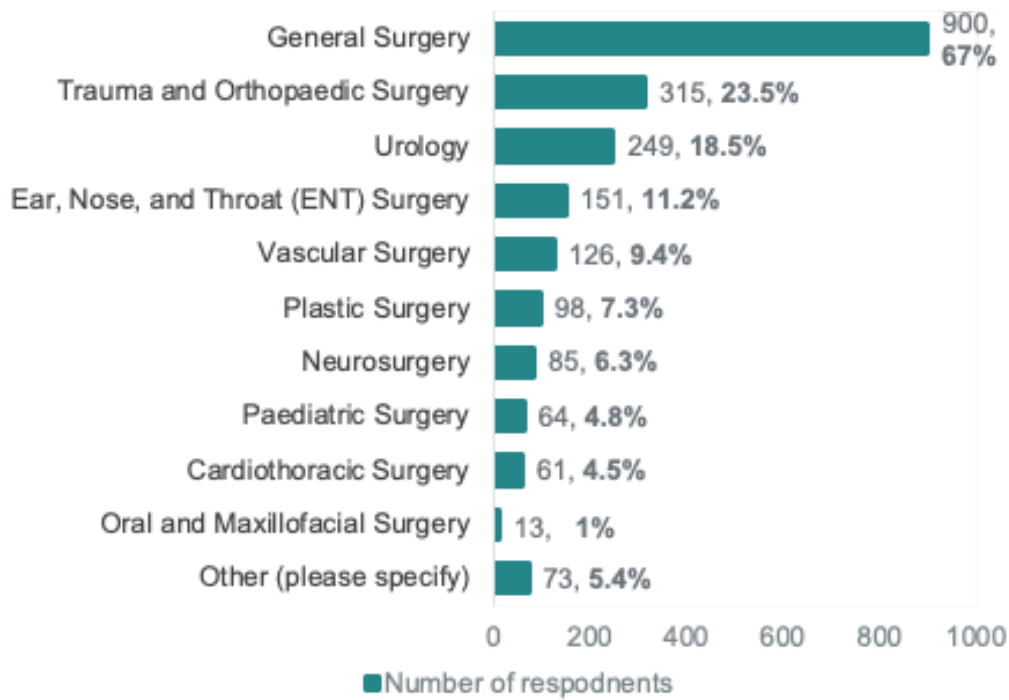


Figure 5 Exposure to PAs in different specialties

Respondents had collaborated with PAs in:

- 1 specialty - 60.8% (N=817),
- 2-3 specialties - 34.6% (N=464)
- >=4 specialties - 4.6% (N=62) of the cases.
- Other specialities surgical doctors encountered PAs in were in Emergency department, Acute medicine/medical specialities, Obstetrics and Gyneacology, Anaesthetics.

5. RESULTS

Impact on surgical training

When asked about PAs impact on surgical training (summarised in Figure 6)

- 70.5% (N=921) of the respondents reported a negative impact.
- 15.5% (N=203) of respondents reported they neither had any positive or negative impact on their training opportunities.
- 11% (N=143) of respondents reported a positive impact.
- 3 % (N=39) Were not sure or unable to comment

38.3% felt that PAs had a strongly negative impact on their training (Figure 6)

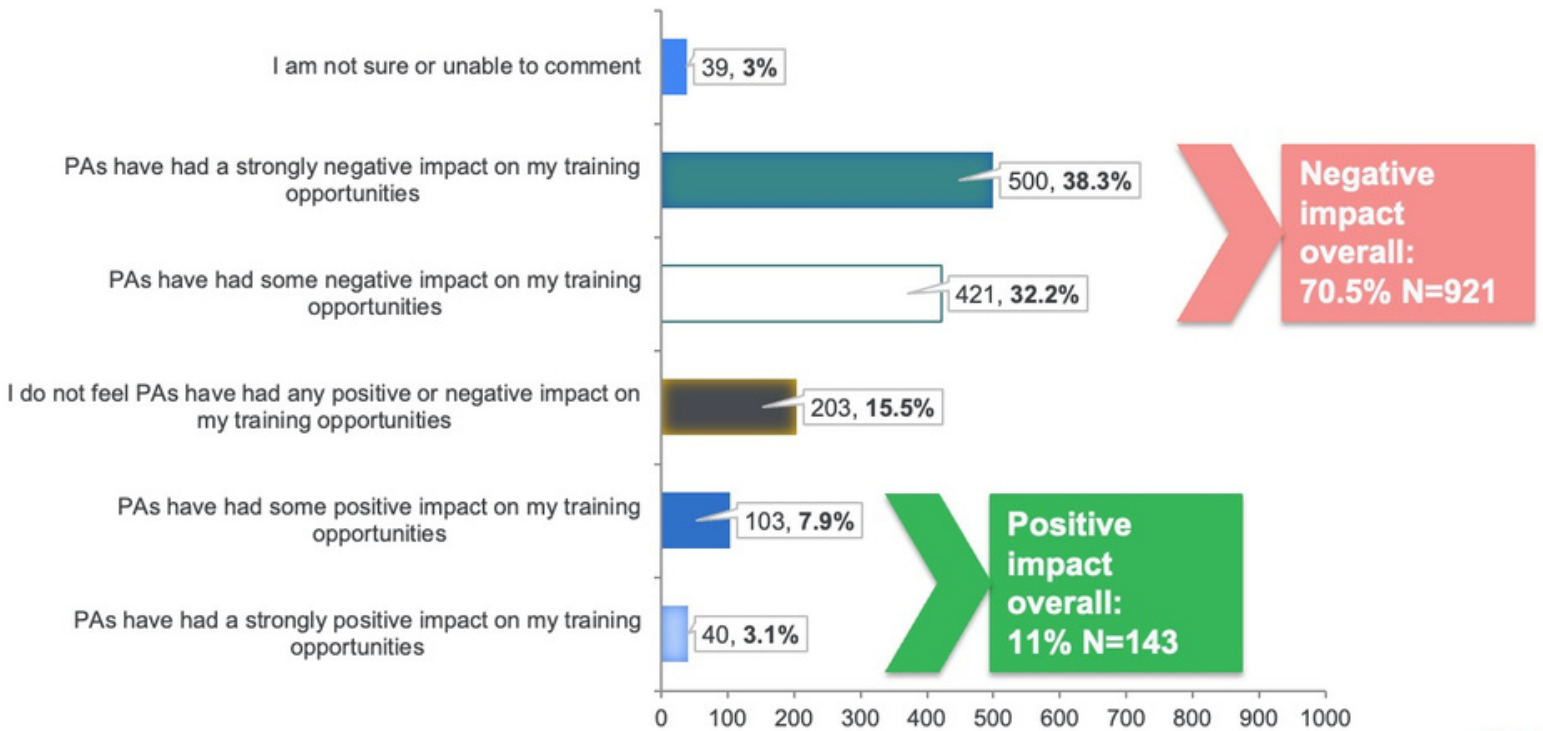


Figure 6 PA impact on surgical training

Negative impact on surgical training was reported across all grades. Distribution of responses across grades and specialties is demonstrated in **Table 3** and **Table 4**

When respondents reported negative impact on their training the % in each grade was as follows:

- 86.8% of foundation grade respondents,
- 80.8% of CST,
- 63.3% of Phase 2 (ST3-6)
- 51.0% of Phase 3 (ST7-8)

5. RESULTS

Table 3 Distribution of responses PA effects on surgical training according to grade

% Demonstrated within each grade group	PAs have had aimpact on my training opportunities				
	Strongly positive/some positive impact %, N	Strongly negative/some negative impact %, N	No positive or negative impact %, N	I am not sure or unable to comment %, N	Total N=1306
Foundation Year 1 / 2	7.7% (N=14)	86.8% (N=157)	3.3% (N=6)	2.2% (N=4)	N=181
Junior Clinical Fellow	5.4% (N=3)	82.1% (N=46)	10.7% (N=6)	1.8% (N=1)	N=56
Core surgical trainee	7.4% (N=27)	80.8% (N=294)	10.2% (N=37)	1.6% (N=6)	N=364
Phase 2 Higher Surgical Trainee (ST3-ST6)	13.2% (N=56)	63.3% (N=269)	20.9% (N=89)	2.6% (N=11)	N=425
Phase 3 Higher Surgical Trainee (ST7-8)	13% (N=13)	51% (N=51)	31% (N=31)	5% (N=5)	N=100
Senior Clinical Fellow	13.6% (N=6)	59.1% (N=26)	25% (N=11)	2.3% (N=1)	N=44
Post CCT Fellow	17.1% (N=6)	54.3% (N=19)	22.9% (N=8)	5.7% (N=2)	N=35
OOPE/R/T	23.3% (N=7)	43.3% (N=13)	26.7% (N=8)	6.7% (N=2)	N=30
Non-training/ locum work	7.5% (N=3)	82.5% (N=33)	5% (N=2)	5% (N=2)	N=40
Others (Consultants/SAS)	25.8% (N=8)	41.9% (N=13)	16.1% (N=5)	16.1% (N=5)	N=31

5. RESULTS

Table 4 Impact on Surgical Training: Specialty-Specific Analysis

% Demonstrated within each Specialty group	PAs have had aimpact on my training opportunities				
	Strongly positive/some positive %, N	Strongly negative/some negative %, N	No positive or negative %, N	I am not sure or unable to comment %, N	Total
General Surgery	11.6% (N=58)	68.3% (N=341)	16.8% (N=84)	3.2% (N=16)	499
Cardiothoracic surgery	4.6% (N=1)	90.9% (N=20)	4.6% (N=1)	0%	22
Neurosurgery	12.5% (N=6)	68.5% (N=33)	18.8% (N=9)	0%	48
Trauma and Orthopaedic Surgery	7.8% (N=16)	76.6% (N=157)	14.6% (N=30)	1.0% (N=2)	205
Vascular surgery	14.6% (N=7)	60.4% (N=29)	18.8% (N=9)	6.3% (N=3)	48
Paediatric Surgery	14.3% (N=5)	54.3% (N=19)	25.7% (N=9)	5.7% (N=2)	35
Plastic Surgery	10.6% (N=9)	75.3% (N=64)	10.6% (N=9)	3.5% (N=3)	85
Urology	17.1% (N=19)	61.3% (N=68)	15.3% (N=17)	6.3% (N=7)	111
ENT	12.5% (N=10)	70% (N=56)	13.8% (N=11)	3.8% (N=3)	80
OMFS	3.0% (N=1)	69.7% (N=23)	27.3% (N=9)	0%	33

5. RESULTS

Impact on surgical training

Training opportunities were negatively affected in domains including:

- Reduced case volume /logbook numbers in 71.4% (N=645)
- Decreased training opportunities in theatre in 79.9% (N=722)
- Increased workload on wards in 65.7% (N=594) **Fig 7.**
- Other comments revealed (10.7% N=97) common themes such as (Appendix 3):
 - PAs asking surgical doctors to prescribe or order ionising radiation requests
 - Prioritisation of PA in clinics and theatres experience
 - Increased workload for surgical doctors and inadequate referrals
 - Competition for learning opportunities- reduced exposure to procedures
 - Competition for trainer supervision

Q: Please select the statement(s) that best explain why you believe Physician Associates (PAs) have a negative impact your surgical training (select all that apply) (Total Respondents N=921:

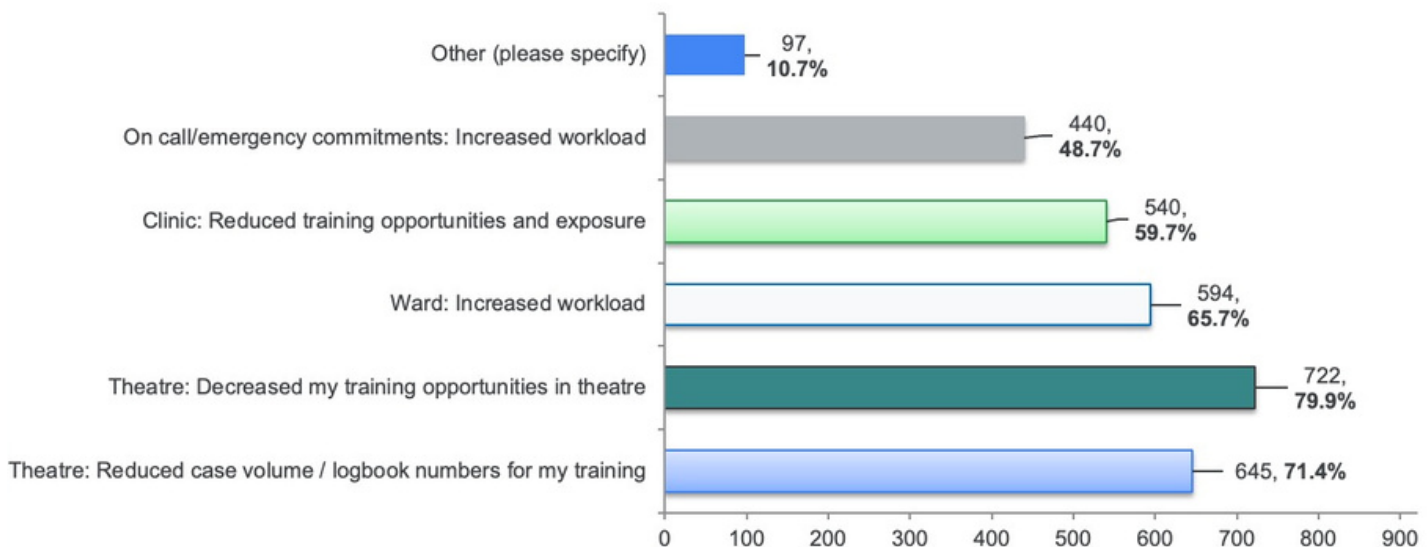


Figure 7 Impact on surgical training: negative impact response distribution analysis

Analysis of responses suggesting a negative impact on training by grade and specialty revealed impact across various settings including theatre, clinic, ward and on call commitments. **Table 5** and **Table 6**

5. RESULTS

Table 5 Negative Impact on Surgical Training Domains: A Grade-Specific Analysis

% Demonstrated within each grade group, note multiple choice options were available	Surgical training domains affected by PAs						
	Theatre: reduced case volume / logbook numbers for my training	Theatre: decreased my training opportunities in theatre	Ward: increased workload	Clinic: reduced training opportunities and exposure	On call/emergency commitments: increased workload	Other	Total, N
	%, N	%, N	%, N	%, N	%, N	%, N	
Foundation Year 1 / 2	64.1% (N=100)	79.5% (N=124)	76.9% (N=120)	68.0% (N=106)	48.1% (N=75)	10.3% (N=16)	156
Junior Clinical Fellow	77.8% (N=35)	82.2% (N=37)	66.7% (N=30)	77.8% (N=35)	46.7% (N=21)	6.7% (N=3)	45
Core surgical trainee	77.8% (N=224)	84.7% (N=244)	62.9% (N=181)	63.2% (N=182)	47.6% (N=137)	10.4% (N=30)	288
Phase 2 Higher Surgical Trainee (ST3-ST6)	72.1% (N=191)	75.9% (N=201)	61.9% (N=164)	49.8% (N=132)	53.2% (N=141)	10.2% (N=27)	265
Phase 3 Higher Surgical Trainee (ST7-8)	64.6% (N=31)	72.9% (N=35)	58.3% (N=28)	35.4% (N=17)	39.6% (N=19)	12.5% (N=6)	48
Senior Clinical Fellow	61.5% (N=16)	80.8% (N=21)	84.6% (N=22)	57.7% (N=15)	57.7% (N=15)	19.2% (N=5)	26
Post CCT Fellow	52.6% (N=10)	68.4% (N=13)	31.6% (N=6)	57.9% (N=11)	26.3% (N=5)	10.5% (N=2)	19
OOPE/R/T	75% (N=9)	91.7% (N=11)	75% (N=9)	58.3% (N=7)	33.3% (N=4)	25% (N=3)	12
Non-training/ locum work	62.5% (N=20)	81.3% (N=26)	81.3% (N=26)	78.1% (N=25)	56.3% (N=18)	9.4% (N=3)	32
Other (e.g. Consultants, SAS)	69.2% (N=9)	76.9% (N=10)	61.5% (N=8)	76.9% (N=10)	38.5% (N=5)	15.4% N=2	13

5. RESULTS

Table 6 Negative Impact on Surgical Training Domains: A Specialty-Specific Analysis

% Demonstrated within each Specialty group, note multiple choice options were available	Surgical training domains affected by PAs						
	Theatre: reduced case volume / logbook numbers for my training	Theatre: decreased my training opportunities in theatre	Ward: increased workload	Clinic: reduced training opportunities and exposure	On call/emergency commitments: increased workload	Other	Total, N
	%, N	%, N	%, N	%, N	%, N	%, N	
General Surgery	71.5% (N=241)	79.2% (N=267)	61.7% (N=208)	55.8% (N=188)	46.9% (N=158)	9.5% (N=32)	337
Cardiothoracic surgery	57.9% (N=11)	84.2% (N=16)	63.2% (N=12)	47.4% (N=9)	42.1% (N=8)	5.3% (N=1)	19
Neurosurgery	71.9% (N=23)	68.8% (N=22)	84.4% (N=27)	50% (N=16)	53.1% (N=17)	15.6% (N=5)	32
Trauma and Orthopaedic Surgery	69.9% (N=107)	77.8% (N=119)	64.7% (N=99)	57.5% (N=88)	45.8% (N=70)	10.5% (N=16)	153
Vascular surgery	53.3% (N=16)	70% (N=21)	63.3% (N=19)	46.7% (N=14)	43.3% (N=13)	16.7% (N=5)	30
Paediatric Surgery	66.7% (N=12)	83.3% (N=15)	72.2% (N=13)	72.2% (N=13)	55.6% (N=10)	11.1% (N=2)	18
Plastic Surgery	79.4% (N=50)	88.9% (N=56)	66.7% (N=42)	58.7% (N=37)	57.1% (N=36)	15.9% (N=10)	63
Urology	74.2% (N=49)	80.3% (N=53)	56.1% (N=37)	62.1% (N=41)	50% (N=33)	12.1% (N=8)	66
ENT	64.% (N=35)	74.1% (N=40)	74.1% (N=40)	68.5% (N=37)	61.1% (N=33)	3.7% (N=2)	54
OMFS	82.6% (N=19)	78.3% (N=18)	60.9% (N=14)	73.9% (N=17)	47.8% (N=11)	8.7% (N=2)	23

5. RESULTS

Impact on surgical training

11% of respondents reported a positive impact on their training (N=143). 3.1% suggested a strongly positive impact (N=40). Distribution of responses across grades is demonstrated in **Table 3**.

When respondents reported positive impact on their training the % in each grade was as follows:

- 7.7% of foundation grade respondents,
- 7.4% of CST,
- 13.2% of Phase 2 (ST3-6)
- 13% of Phase 3 (ST7-8)

Training opportunities were positively affected in domains including:

- Supported ward work efficiency (87.2%, N=123),
- Ensured patient continuity of care (65.3%, N=92)
- Increased training opportunities in theatre (42.6%, N=60)
- Clinic: increased efficiency and training opportunities (23.4%, N=33)
- Supported on call/emergency service efficiency (48.9%, N=69) (**Fig 8**)
- Other comments (2.1%, N=3) revealed common themes of:
 - PAs support of services during transition of junior doctors
 - Helping to understand how the specific unit setup works
 - Helping understand basic bedside procedures (Appendix 3)

5. RESULTS

Impact on surgical training

Q: Please select the statements that best explain why you believe Physician Associates (PAs) have a positive impact on your surgical training (select all that apply):
Total Respondents N= 143

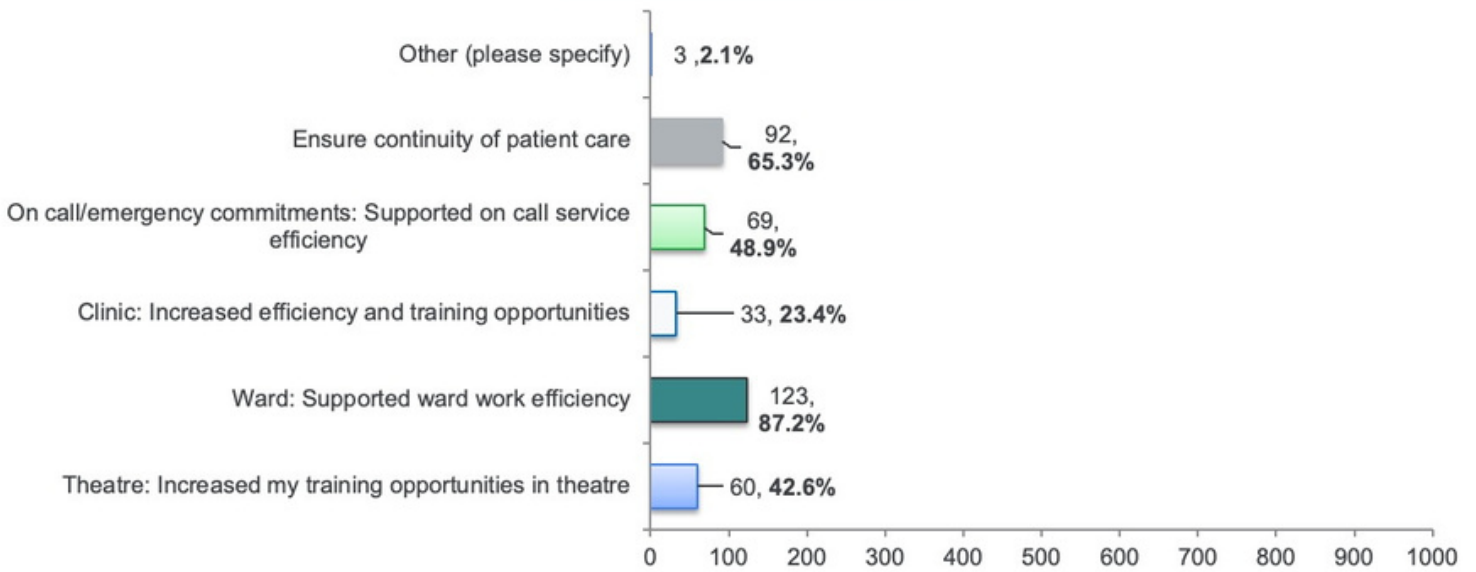


Figure 8. Impact on surgical training: positive impact response distribution analysis

Analysis of responses suggesting a positive impact on training in different grades and specialties is demonstrated in **Table 7** and **Table 8**

5. RESULTS

Table 7 Positive Impact on Surgical Training Domains: A Grade-Specific Analysis

% Demonstrated within each grade group, note multiple choice options were available	Surgical training domains affected by PAs						
	Increased my training opportunities in theatre	Supported ward work efficiency	Increased efficiency and training opportunities	On call /emergency commitments: Supported on call service efficiency	Ensure continuity of patient care	Other	Total, N
	%, N	%, N	%, N	%, N	%, N	%, N	
Foundation Year 1 / 2	46.2% (N=6)	84.6% (N=11)	30.8% (N=4)	53.9% (N=7)	84.6% (N=11)	7.7% (N=1)	13
Junior Clinical Fellow	33.3% (N=1)	66.7% (N=2)	33.3% (N=1)	66.7% (N=2)	66.7% (N=2)	0%	3
Core surgical trainee	53.6% (N=15)	89.3% (N=25)	21.4% (N=6)	32.1% (N=9)	46.4% (N=13)	0%	28
Phase 2 Higher Surgical Trainee (ST3-ST6)	36.4% (N=20)	90.9% (N=50)	20% (N=11)	60% (N=33)	69.1% (N=38)	0%	55
Phase 3 Higher Surgical Trainee (ST7-8)	50% (N=6)	75% (N=9)	16.7% (N=2)	33.3% (N=4)	58.3% (N=7)	8.3% (N=1)	12
Senior Clinical Fellow	50% (N=3)	66.7% (N=4)	50% (N=3)	50% (N=3)	50% (N=3)	16.7% (N=1)	6
Post CCT Fellow	33.3% (N=2)	100% (N=6)	50% (N=3)	33.3% (N=2)	100% (N=6)	0%	6
OOPE/R/T	28.8% (N=2)	100% (N=7)	14.3% (N=1)	28.6% (N=2)	57.1% (N=4)	0%	7
Non-training/ locum work	0%	66.7% (N=2)	0%	66.7% (N=2)	33.3% (N=1)	0%	3

5. RESULTS

Table 8 Positive Impact on Surgical Training Domains: A Specialty-Specific Analysis

% Demonstrated within each Specialty group, note multiple choice options were available	Surgical training domains affected by PAs						Total, N
	Increased my training opportunities in theatre %, N	Supported ward work efficiency %, N	Increased efficiency and training opportunities %, N	On call /emergency commitments: Supported on call service efficiency %, N	Ensure continuity of patient care %, N	Other %, N	
General Surgery	46.4% (N=26)	83.9% (N=47)	26.8% (N=15)	48.2% (N=27)	71.4% (N=40)	0%	56
Cardiothoracic surgery	0%	100% (N=1)	0%	100% (N=1)	0%	0%	1
Neurosurgery	33.3% (N=2)	100% (N=6)	0%	16.7% (N=1)	83.3% (N=5)	0%	6
Trauma and Orthopaedic Surgery	53.3% (N=8)	80% (N=12)	20% (N=3)	40% (N=6)	40% (N=6)	0%	15
Vascular surgery	42.9% (N=3)	85.7% (N=6)	28.6% (N=2)	42.9% (N=3)	71.4% (N=5)	0%	7
Paediatric Surgery	40% (N=2)	100% (N=5)	40% (N=2)	80% (N=4)	60% (N=3)	20% (N=1)	5
Plastic Surgery	30% (N=3)	90% (N=9)	10% (N=1)	40% (N=4)	50% (N=5)	0%	10
Urology	31.6% (N=6)	84.2% (N=16)	21.1% (N=4)	57.9% (N=11)	68.4% (N=13)	0%	19
ENT	50% (N=5)	100% (N=10)	30% (N=3)	70% (N=7)	60% (N=6)	0%	10
OMFS	0%	100% (N=1)	0%	0%	0%	0%	1

5. RESULTS

Supervision of doctors by PAs

15.5% (N=192) of respondents reported that they have been supervised by PAs, with a direct line of oversight on doctors practise.

Out of these respondents

- 31.8% CSTs (N=62/344, 18% within CST group),
- 28% were FY1-2 doctors (N=53/173, 30% within FY1-2 group),
- 18.8% Phase 2 trainees (ST3-6) (N=36/404, 8.9% within Phase 2 trainee group).
- Other comments revealed common themes such as:
 - Supportive roles in non-surgical environments
 - PA role- appropriateness to supervise doctors
 - Administrative/roles of responsibility- PAs took on roles in managing doctors rota and ward activities. (Appendix 3)

Supervision of PAs by doctors

64.7% (N=800) of the respondents reported they have supervised PAs, with a direct line of oversight on a PAs practise.

Out of the respondents who supervised PAs, the grade distribution is as follows:

- 36.1% Phase 2 HST(ST3-6) (N=289/404, 71.5% within Phase 2 HST group),
- 26.9% CSTs (N=215/344, 62.5% within CST group)
- 9% FY1-2 (N=72/171, 42.1% within FY1-2 group),
- 8.9% Phase 3 HST (ST7-8) (N=71/96, 74% within Phase 3 HST group)
- Comment analysis indicated varied experiences, ranging from supervising PA students, teaching mixed PA and medical students, and working alongside PAs, to instances of refusing supervision due to perceived differences in roles, responsibilities, and training backgrounds. (Appendix 3)

5. RESULTS

Impact on surgical patient care

When asked about PAs impact on surgical patient care:

- 46.9% (N=597) of the respondents reported negative impact,
- 26.7% (N=339) of respondents reported they neither had any positive or negative impact on patient care
- 22.2% (N=282) of respondents reported a positive impact.
- 4.2% (N=52) Were not sure or unable to comment (Fig 9)

22% felt that PAs had a strongly negative impact on surgical patient care (**Figure 9**)

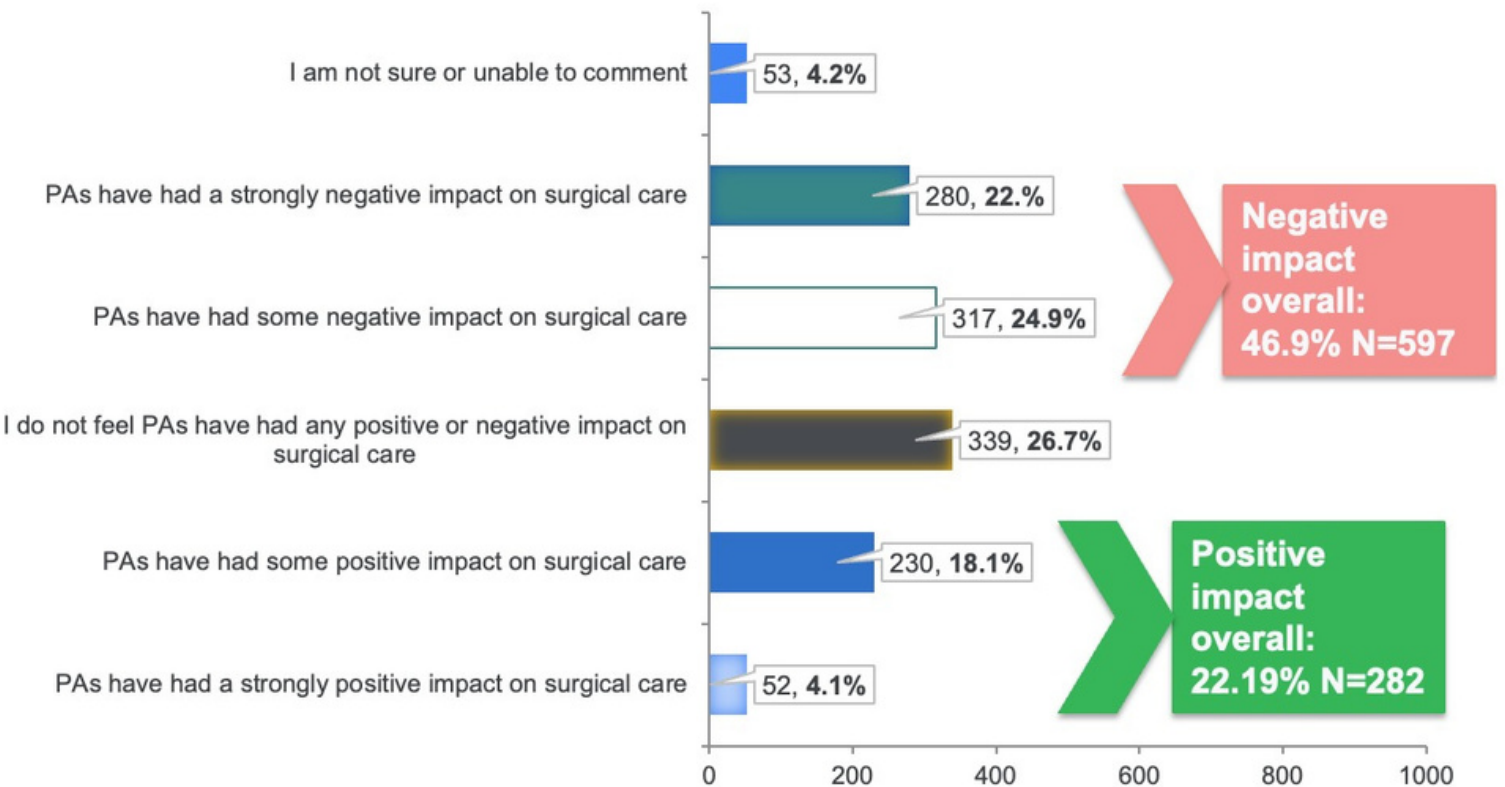


Figure 9 PA impact on surgical care responses

Analysis of impact on patient care responses by grade and specialty is demonstrated in **Table 9** and **Table 10**

5. RESULTS

Table 9 Impact on Surgical Patient care: A Grade-Specific Analysis

% Demonstrated within each grade group	PAs have had a:				Total
	Strongly positive/some positive impact on patient care %, N	Strongly negative/some negative impact on patient care %, N	No positive or negative impact on patient care %, N	I am not sure or unable to comment %, N	
Foundation Year 1 / 2	12% (N=21)	60% (N=105)	23.4% (N=41)	4.6% (N=8)	175
Junior Clinical Fellow	14.6% (N=8)	50.9% (N=28)	29.1% (N=16)	5.5% (N=3)	55
Core surgical trainee	17.7% (N=62)	51% (N=179)	28.8% (N=101)	2.6% (N=9)	351
Phase 2 Higher Surgical Trainee (ST3-ST6)	27.7% (N=116)	42.7% (N=179)	26.3% (N=110)	3.3% (N=14)	419
Phase 3 Higher Surgical Trainee (ST7-8)	27.1% (N=26)	39.6% (N=38)	25% (N=24)	8.3% (N=8)	96
Senior Clinical Fellow	27.9% (N=12)	39.5% (N=17)	25.6% (N=11)	7.0% (N=3)	43
Post CCT Fellow	34.3% (N=12)	34.3% (N=12)	25.7% (N=9)	5.7% (N=2)	35
OOPE/R/T	27.6% (N=8)	37.9% (N=11)	27.6% (N=8)	6.9% (N=2)	29
Non-training/ locum work	10.5% (N=4)	47.4% (N=18)	34.2% (N=13)	7.9% (N=3)	38
Other (e.g. Consultants, SAS)	42.9% (N=12)	35.7% (N=10)	17.9% (N=5)	3.6% (N=1)	28

5. RESULTS

Table 10 Impact on Surgical Patient care: A Specialty-Specific Analysis

% Demonstrated within each Specialty group	PAs have had a:				
	Strongly positive/some positive impact on patient care %, N	Strongly negative/some negative impact on patient care %, N	No positive or negative impact on patient care %, N	I am not sure or unable to comment %, N	Total
General Surgery	25% (N=121)	42.4% (N=205)	28.7% (N=139)	3.9% (N=19)	484
Cardiothoracic surgery	14.3% (N=3)	42.9% (N=9)	42.9% (N=9)	0%	21
Neurosurgery	17.0% (N=8)	44.7% (N=21)	36.2% (N=17)	2.1% (N=1)	47
Trauma and Orthopaedic Surgery	17.6% (N=35)	55.8% (N=111)	22.1% (N=44)	4.5% (N=9)	199
Vascular surgery	35.4% (N=17)	35.4% (N=17)	27.1% (N=13)	2.1% (N=1)	48
Paediatric Surgery	33.3% (N=11)	39.4% (N=13)	21.2% (N=7)	6.1% (N=2)	33
Plastic Surgery	20.2% (N=17)	61.9% (N=52)	16.7% (N=14)	1.2% (N=1)	84
Urology	22.0% (N=24)	39.5% (N=43)	33.0% (N=36)	5.5% (N=6)	109
ENT	21.8% (N=17)	47.4% (N=37)	25.6% (N=20)	5.1% (N=4)	78
OMFS	21.9% (N=7)	40.6% (N=13)	34.4% (N=11)	3.1% (N=1)	32

5. RESULTS

Impact on surgical patient care

With respect to how patient care was affected negatively, 863 respondents reported:

- misrepresentation of the role to the patients 87.9% (N=525)
- being asked to prescribe on behalf of PAs 88.9% (N=531),
- being asked to request investigations on behalf of PAs 87.6% (N=523) of the cases,
- clinical decisions without appropriate clinician supervision 85.4% (N=510),
- unclear role within the medical team (76.5%, N=457)
- and procedures/interventions without appropriate supervision (73.2%, N=437).

(Fig 10)

Q: Please select all the statements that best explain why you believe Physician Associates (PAs) have a negative impact on surgical care (select all that apply)

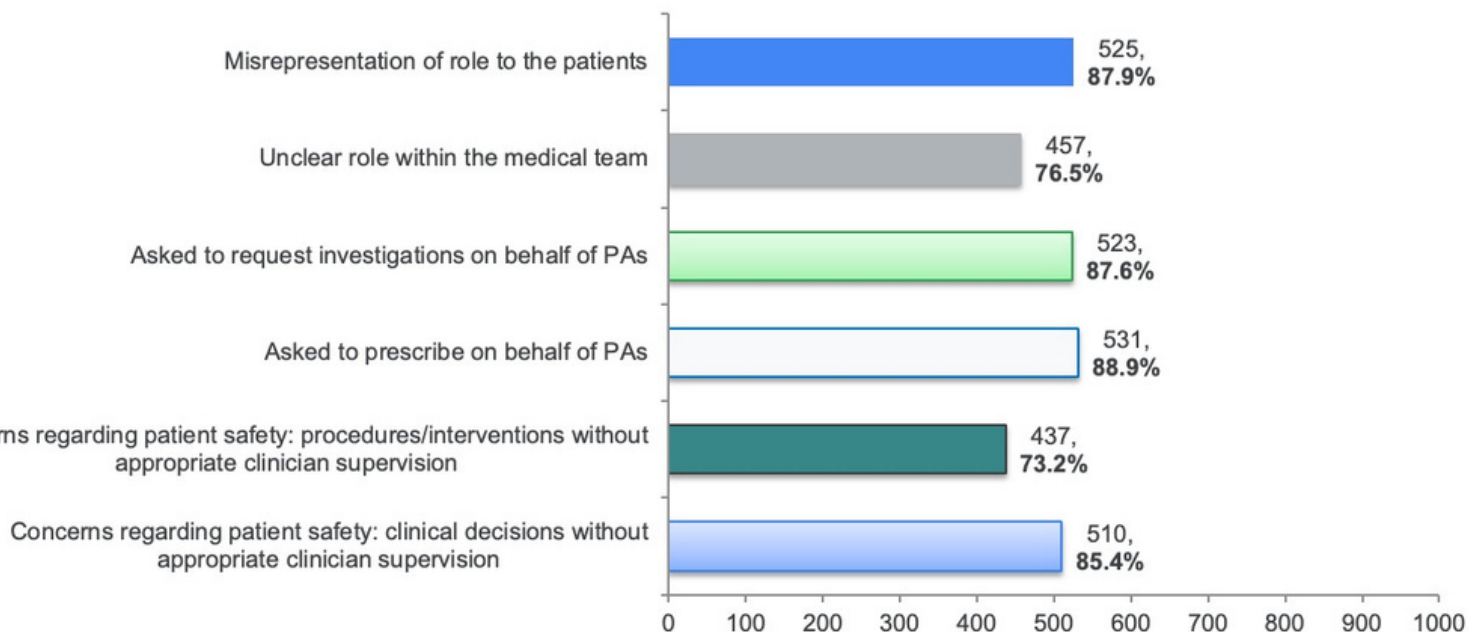


Fig 10. Impact on surgical care responses: negative response analysis

5. RESULTS

Impact on surgical patient care

When patient safety concerns were identified relating to PA work, these issues were not reported in 45.9% of the cases (N=375)

The themes in these comments regarding patient safety and reporting of concerns included:

- Perceived lack of clear pathways for escalation
- Instances where issues were raised but not effectively addressed
- Lack of senior member acceptance of negative feedback on PAs
- Potential negative personal consequences of reporting

(Appendix 3)

Analysis of negative impact on patient care responses by grade and specialty are demonstrated in **Table 11** and **Table 12**

5. RESULTS

Table 11 Negative Impact on Surgical Patient care: A Grade-Specific Domain Analysis

	Patient care domains affected by PAs							Total, N
	Concerns regarding patient safety: clinical decisions without appropriate clinician supervision %, N	Procedures/interventions without appropriate clinician supervision %, N	Asked to prescribe on behalf of PAs %, N	Asked to request investigations on behalf of PAs %, N	Unclear role within the medical team %, N	Misrepresentation of role to the patients %, N	Other %, N	
% Demonstrated within each grade group, note multiple choice options were available								
Foundation Year 1 / 2	77.4% (N=96)	60.5% (N=75)	84.7% (N=105)	83.1% (N=103)	74.2% (N=92)	87.1% (N=108)	7.3% (N=9)	124
Junior Clinical Fellow	83.3% (N=30)	58.3% (N=21)	97.2% (N=35)	88.9% (N=32)	80.6% (N=29)	88.9% (N=32)	8.3% (N=3)	36
Core surgical trainee	75.5% (N=179)	70% (N=166)	91.1% (216)	87.3% (N=207)	73.8% (N=175)	80.6% (N=191)	11% (N=26)	237
Phase 2 Higher Surgical Trainee (ST3-ST6)	66.7% (N=192)	55.2% (N=159)	79.5% (N=229)	75% (N=216)	63.9% (N=184)	75.4% (N=217)	17% (N=49)	288
Phase 3 Higher Surgical Trainee (ST7-8)	64.1% (N=41)	54.7% (N=35)	62.5% (N=40)	60.9% (N=39)	71.9% (N=46)	87.5% (N=56)	21.9% (N=14)	64
Senior Clinical Fellow	82.1% (N=23)	75% (N=21)	89.3% (N=25)	78.6% (N=22)	53.6% (N=15)	85.7% (N=24)	14.3% (N=4)	28
Post CCT Fellow	69.6% (N=16)	39.1% (N=9)	73.9% (N=17)	69.6% (N=16)	52.2% (N=12)	65.2% (N=15)	13% (N=3)	23
OOPE/R/T	79% (N=15)	63.2% (N=12)	84.2% (N=16)	84.2% (N=16)	79% (N=15)	89.5% (N=17)	26.3% (N=5)	19
Non-training/ locum work	86.4% (N=19)	81.8% (N=18)	100% (N=22)	86.4% (N=19)	86.4% (N=19)	90.9% (N=20)	4.6% (N=1)	22

5. RESULTS

Table 12 Negative Impact on Surgical Patient care: A Specialty-Specific Domain Analysis

	Surgical care domains affected by PAs							Total, N
	Concerns regarding patient safety: clinical decisions without appropriate clinician supervision %, N	Procedures/interventions without appropriate clinician supervision %, N	Asked to prescribe on behalf of PAs %, N	Asked to request investigations on behalf of PAs %, N	Unclear role within the medical team %, N	Misrepresentation of role to the patients %, N	Other %, N	
% Demonstrated within each Specialty group, note multiple choice options were available								
General Surgery	67.9% (N=216)	55.0% (N=175)	81.5% (N=259)	77.7% (N=247)	69.5% (N=221)	77.4% (N=246)	13.8% (N=44)	318
Cardiothoracic surgery	100% (N=11)	90.9% (N=10)	90.9% (N=10)	100% (N=11)	72.7% (N=8)	100% (N=11)	0%	11
Neurosurgery	75% (N=21)	78.6% (N=22)	67.9% (N=19)	64.3% (N=18)	75.0% (N=21)	89.3% (N=25)	10.7% (N=3)	28
Trauma and Orthopaedic Surgery	76.6% (N=111)	61.4% (N=89)	91.7% (N=133)	88.3% (N=128)	71.0% (N=103)	82.8% (N=120)	11.0% (N=16)	145
Vascular surgery	75.8% (N=25)	60.6% (N=20)	84.9% (N=28)	81.8% (N=27)	66.7% (N=22)	75.8% (N=25)	27.3% (N=9)	33
Paediatric Surgery	47.8% (N=11)	43.5% (N=11)	78.3% (N=18)	73.9% (N=17)	60.8% (N=14)	47.8% (N=11)	34.8% (N=8)	23
Plastic Surgery	86.8% (N=59)	73.5% (N=50)	83.8% (N=57)	75.0% (N=51)	72.1% (N=49)	85.3% (N=58)	13.2% (N=9)	68
Urology	68.2% (N=45)	60.6% (N=40)	68.2% (N=45)	68.2% (N=45)	65.2% (N=43)	74.2% (N=49)	16.6% (N=11)	66
ENT	66.7% (N=36)	59.3% (N=32)	85.2% (N=46)	72.2% (N=39)	64.8% (N=35)	77.8% (N=42)	22.2% (N=12)	54
OMFS	70% (N=14)	65.0% (N=13)	85.0% (N=17)	80.0% (N=16)	70.0% (N=14)	85.0% (N=17)	5.0% (N=1)	20

5. RESULTS

Impact on surgical patient care

With respect to how patient care was affected positively, 277 respondents reported:

- Instances of improved patient care 42.2% (N=117)
- Requesting appropriate investigations 39.7% (N=110)
- Appropriate clinical decision-making with clinician supervision 31.4% (N=87)
- Performing procedures/interventions in theatre with clinician supervision 14.1% (N=39)
- Other (please specify) (44.8%, N=124) comments highlight positive aspects of PAs in supporting surgical training, particularly in a ward-based setting (**Fig 11**).
 - Key themes include:
 - Improved continuity of patient care
 - Ward-based support (assisting with administrative tasks, documentation and discharge letters)
 - Efficiency and workflow improvement
 - Reduced administrative burden (Appendix 3)

5. RESULTS

Impact on surgical patient care

Q: Please select the statements that best explain why you believe Physician Associates (PAs) have a positive impact on surgical care (select all that apply)

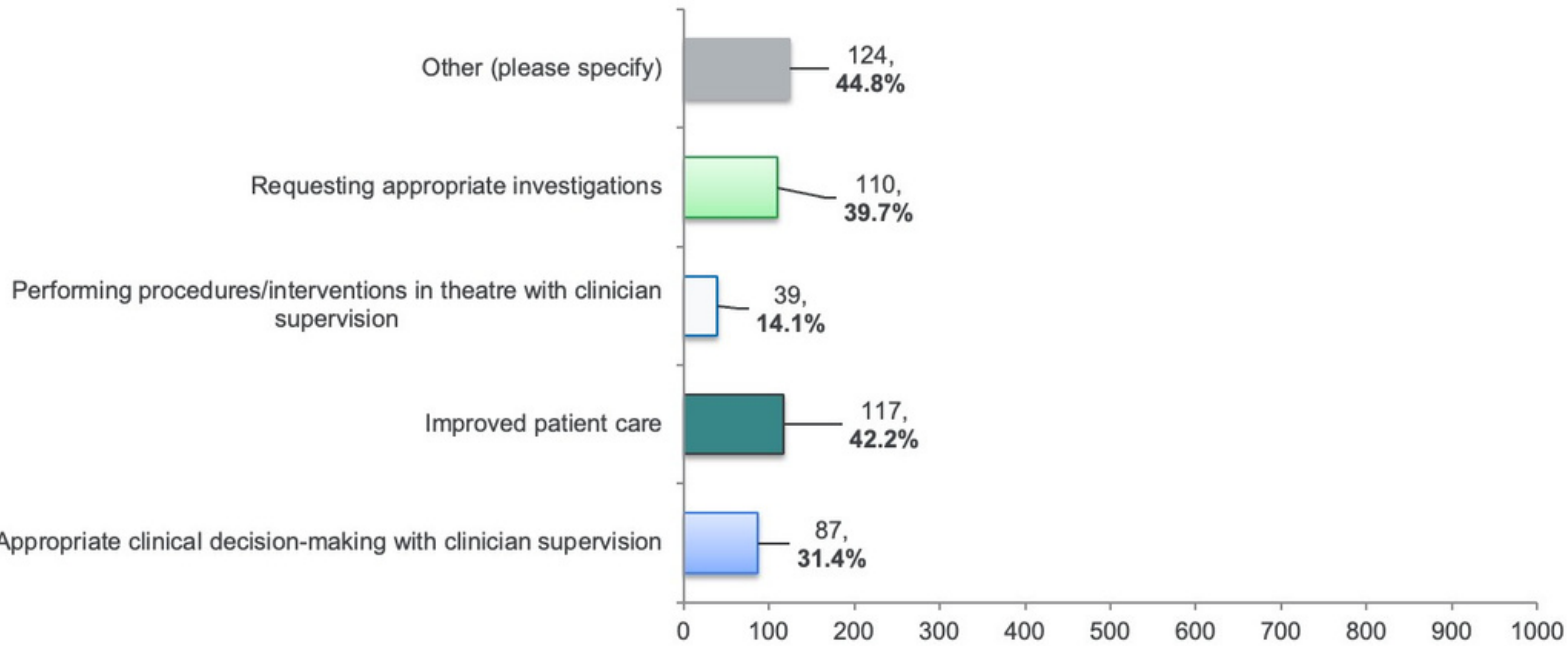


Fig 11. PA Impact on surgical care responses: positive response analysis

Analysis of positive impact on patient care responses by grade and specialty are demonstrated in **Table 13** and **Table 14**

5. RESULTS

Table 13 Positive Impact on Surgical Patient care: A Specialty-Specific Analysis

% Demonstrated within each grade group, note multiple choice options were available	Patient care domains affected by PAs					Total N
	Appropriate clinical decision-making with clinician supervision %, N	Improved patient care %, N	Performing procedures/interventions in theatre with clinician supervision %, N	Requesting appropriate investigations %, N	Other (please specify) %, N	
Foundation Year 1 / 2	42.9% (N=9)	57.1% (N=12)	19.1% (N=4)	4.8% (N=1)	33.3% (N=7)	21
Junior Clinical Fellow	50% (N=4)	50% (N=4)	25% (N=2)	25% (N=2)	50% (N=4)	8
Core surgical trainee	29.5% (N=18)	45.9% (N=28)	14.8% (N=9)	36.1% (N=22)	36.1% (N=22)	61
Phase 2 Higher Surgical Trainee (ST3-ST6)	28.1% (N=32)	32.5% (N=37)	10.5% (N=12)	34.2% (N=39)	49.1% (N=56)	114
Phase 3 Higher Surgical Trainee (ST7-8)	23.1% (N=6)	26.9% (N=7)	11.5% (N=3)	38.5% (N=10)	69.2% (N=18)	26
Senior Clinical Fellow	45.5% (N=5)	63.6% (N=7)	36.4% (N=4)	63.6% (N=7)	18.2% (N=2)	11
Post CCT Fellow	16.7% (N=2)	50% (N=6)	8.3% (N=1)	33.3% (N=4)	58.3% (N=7)	12
OOPE/R/T	50% (N=4)	62.5% (N=5)	0%	50% (N=4)	50% (N=4)	8
Non-training/locum work	25% (N=1)	25% (N=1)	0%	50% (N=2)	50% (N=2)	4

5. RESULTS

Table 14 Positive Impact on Surgical Patient care: A Specialty-Specific Analysis

% Demonstrated within each Specialty group, note multiple choice options were available	Surgical care domains affected by PAs					
	Appropriate clinical decision-making with clinician supervision %, N	Improved patient care %, N	Performing procedures/interventions in theatre with clinician supervision %, N	Requesting appropriate investigations %, N	Other (please specify) %, N	Total N
General Surgery	25.8% (N=31)	43.3% (N=52)	11.7% (N=14)	38.3% (N=46)	50% (N=60)	120
Cardiothoracic surgery	0%	0%	66.7% (N=2)	33.3% (N=1)	0%	3
Neurosurgery	28.6% (N=2)	42.9% (N=3)	0%	71.4% (N=5)	42.9% (N=3)	7
Trauma and Orthopaedic Surgery	40% (N=14)	37.1% (N=13)	8.6% (N=3)	37.1% (N=13)	42.9% (N=15)	35
Vascular surgery	35.3% (N=6)	64.7% (N=11)	11.8% (N=2)	23.5% (N=4)	35.3% (N=6)	17
Paediatric Surgery	30% (N=3)	40% (N=4)	10% (N=1)	30% (N=3)	70% (N=7)	10
Plastic Surgery	6.3% (N=1)	37.5% (N=6)	25% (N=4)	37.5% (N=6)	37.5% (N=6)	16
Urology	34.8% (N=8)	39.1% (N=9)	21.7% (N=5)	39.1% (N=9)	47.8% (N=11)	23
ENT	35.3% (N=6)	23.5% (N=4)	0%	35.3% (N=6)	35.3% (N=6)	17
OMFS	0%	25% (N=2)	0%	50% (N=4)	75% (N=6)	8

5. RESULTS

Views on the role of PAs and future outlook

- 83% of the respondents (N=1426) have reported that the term PA is misleading. 8.5%, (N=146), respondents reported that the term is not misleading and 8.5% (N=146) were not sure.
- When asked if they believe that the public have a good understanding about the difference between a doctor and PA, respondents: disagreed 95.8% (N=1640), agreed 1.1%, (N=19), were not sure 3.10% (N=53).
- When asked where PAs can best contribute to delivery of surgical care, 85.9% (N=1460) respondents reported that they can best contribute with daily ward jobs. 26.9% of the respondents (N=458) responded that they don't believe PAs have a role in surgical care. **(Fig 12)**

Q: Where can Physicians Associates (PAs) best contribute to delivery of surgical care (select all that apply) (Total respondents N=1699)

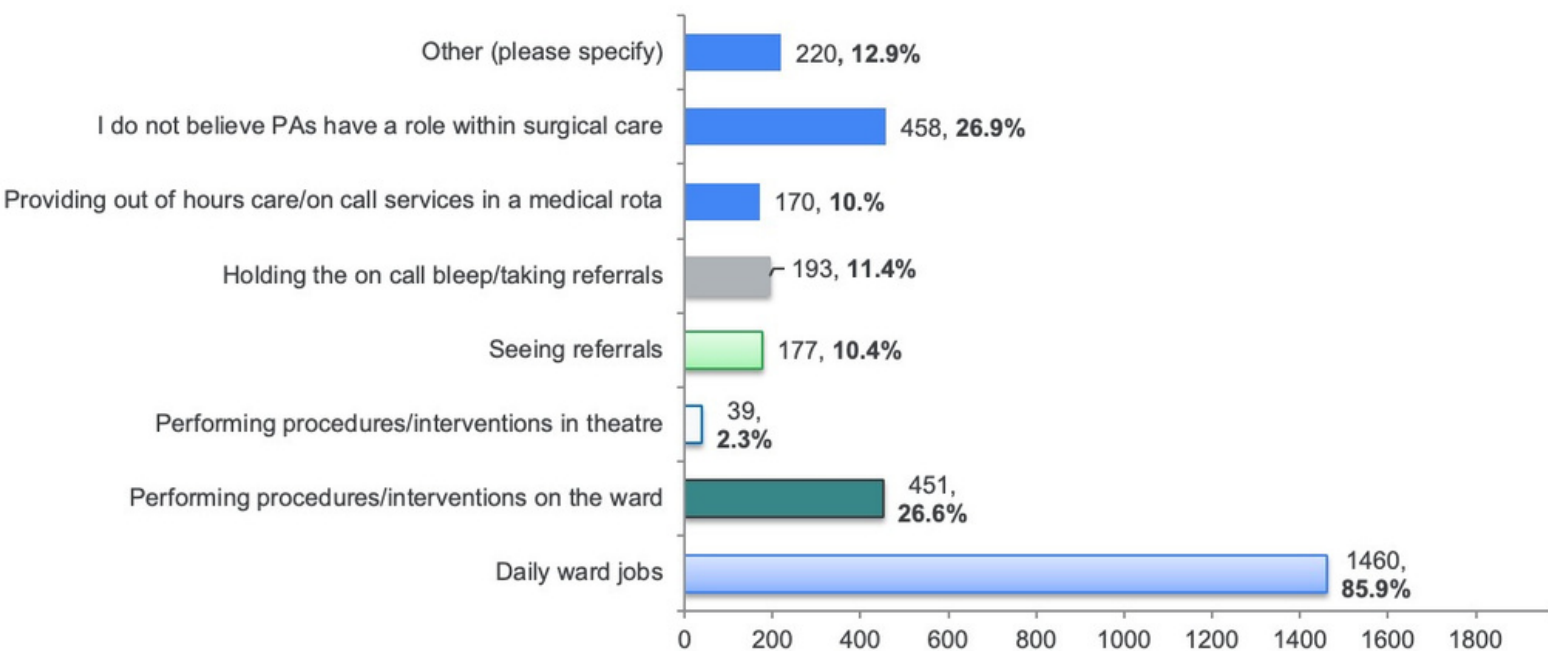


Fig 12. Respondent perspectives on how PAs can best contribute to delivery of surgical care

5. RESULTS

Views on the role of PAs and future outlook

The general themes in comment responses regarding where PAs can best contribute to the delivery of surgical care include:

- ward-based tasks, administrative support, procedure assistance (eg venepuncture, NG tubes, catheters, cannulas etc.)
- some respondents mention assisting in theatres when it doesn't clash with trainee needs
- Further to this there is an emphasis that PAs can contribute to routine post-operative care including wound checks and follow up arrangements.
- There is also recurrent theme of Limitations on Scope: Many respondents express the view that PAs should be limited in their scope to basic ward skills, referrals, and administrative tasks.
- Additionally, they may play a role in administrative efficiency, handling tasks like discharge summaries, administrative duties, and coordination of patient flow.
- Many comments emphasise the importance of PAs working in supervised roles.
- Some responses highlight the need to ensure that PAs do not take away training opportunities from surgical trainees. PAs should complement the team and contribute without hindering surgical training.

5. RESULTS

Views on the role of PAs and future outlook

In summary, the suggested roles for PAs in surgical care centre around administrative support, ward based tasks, and certain procedural assistance, with a strong emphasis on working under supervision and not replacing the roles that require extensive medical training. (Appendix 3)

When asked what would be PAs role within surgical procedures (theatre operations/interventions):

- 70.2% (N=1190) of the respondents did not believe PAs have a role within surgical procedures,
- 22.8% (N=387) reported they have a role in assisting,
- 3.7% (N=62) chose comment option (other),
- 3% (N=51) reported they may have a role in supervised practice,
- 0.3% (N=6) – full autonomous practice.

Common themes that emerged from this question include:

- A potential concern is that the surgical trainee is moved to cover a clinic/on-call, and the PA is the only member available to assist in theatre (as the PA cannot cover the clinic/on call) - taking away the training opportunity for the trainee.
- Some suggest that PAs should focus on administrative tasks or ward-based roles to free up trainees for learning opportunities.
- There is a recurring theme emphasising the importance of prioritising surgical trainees in gaining hands-on experience and exposure in surgical procedures. (Appendix 3)

5. RESULTS

Views on the role of PAs and future outlook

- 78.1% (N=1322) of the respondents reported that PAs should be regulated by a professional body. 14.2% (N=241) disagreed that there is a need for regulation, 7.7% (N=130) were not sure.
- 92.9% (N=1571) of the respondents reported that further expansion of PAs roles should be paused until there is clarification on regulation and scope of practice. 4.3% (N=73) disagreed that there is a need to pause further expansion, 2.8% (N=48) were not sure
- 88.2% (N=1490) of the respondents believed that trainees should be involved in defining the scope of practice of PAs. 5.5% (N=93) disagreed and 6.3% (N=106) were not sure.

5. RESULTS

- The findings of the survey provide valuable insights into the current experiences of surgical doctors working alongside PAs. The majority of respondents had personal exposure to working alongside PAs, particularly in General Surgery, Trauma and Orthopaedic Surgery, Urology, and ENT Surgery although all surgical specialties were found to have PAs within surgical teams.
- The number of complete responses (1665) represent a substantial proportion of the surgical workforce (21.4% of surgical trainees). Demographic analysis also revealed a diverse representation across regions, specialties, and grades, which which reduces the risk of our survey being unrepresentative of the surgical training workforce
- The survey questions (Appendix 1) provided the framework from which to explore and answer some of the key concerns highlighted in the introduction. Results related to each key concern (list concerns) are discussed further.

Impact on Surgical Training

- Prior to the survey there had been extensive commentary both on social media and through representations made to ASiT and other national surgical stakeholders of the potential impact of PAs on surgical training. A significant majority of respondents (70.5%) reported a negative effect to surgical training. This was consistent across all grades, and the areas highlighted as contributing to a negative impact on training include reduced opportunities in theatre, decreased case volumes, and increased workload on wards.
- The inability for PAs to prescribe and directly request investigations has also increased workload for surgical doctors. Collectively there is increased administrative burden upon doctors, and from the commentary it is clear to see that there are multiple examples of PAs therefore being preferentially utilised for endoscopy and theatre experience whilst doctors complete these duties.

5. RESULTS

Impact on Surgical Training

- Supervision by and of PAs appears to be prevalent across the grades of doctors.
- Most interestingly over 15% of doctors were being supervised by PAs, which contradicts the surgical training practices as established through JCST where doctors are named supervisors.
- Particular interest is the fact that phase 2 trainees have also been supervised by PAs which would contradict the fact that they are higher specialty trainees who are supervised by consultant and qualified trainers.
- Similarly working as part of a multidisciplinary team, doctors will receive support and support other members of the team although directly supervising other members is not common practice especially for non-consultant and SAS grade doctors.
- Here we have found that nearly two thirds of respondents have been supervising PAs.
- This will therefore draw into question the issue of responsibility; would it be the PA or is it the doctor? In normal clinical practice every doctor must adhere to the guidelines of the good medical practice and overall clinical responsibility lies with a consultant of care. Within the construct of this professional relationship, it is less clear as to where the responsibility lies.
- The challenges identified in the survey align with global experiences, as the integration of PAs into surgical teams can potentially disrupt traditional training models. In the United States, where the PA role is well-established, studies have shown the need for careful consideration of how PAs are incorporated into surgical training programs to avoid negative impacts on the educational experience of surgical trainees [13].

5. RESULTS

Surgical Patient Care

- Respondents expressed reservations about the impact of PAs on patient care, with 46.8% reporting a negative influence.
- Notably, there appears to be a significant number of respondents who have not escalated these concerns due to unclear pathways of escalation.
- There are multiple examples where respondents were ignored and advised against raising a complaint and preferably follow the instructions of the PA.
- It is evident that in cases where concerns were raised, doctors were told that PAs were well integrated into the clinical team over many years and not to question well established norms.
- Issues such as misrepresentation of roles, prescription requests on behalf of PAs, and unclear roles within medical teams were commonly cited concerns.
- The undertaking of procedures/interventions absent suitable supervision is of significant patient safety concern and was highlighted by almost three quarters of respondents.
- Patient safety concerns were raised in almost half of the cases, indicating a need for clearer pathways to address such issues.

5. RESULTS

Representation to Patients, Public, and Fellow Professionals

- The survey results indicate concerns about the transparent and accurate representation of PA roles within the medical team.
- Respondents voiced scepticism about the term Physician Associate with 83% finding it misleading and 95.8% disagreed that the public understands the difference between doctors and PAs.
- Effective communication and understanding of healthcare roles are paramount to maintaining trust within the healthcare system [13,14].

Unclear Scope of Practice and Responsibilities

- The ambiguity surrounding the scope of practice and responsibilities of PAs, as highlighted in the survey, is a significant concern.
- In the absence of standardised guidelines and a comprehensive regulatory framework for PAs working in surgical specialties has led to variations in practice across different hospitals and regions.
- Where roles such as the role of a doctor or pharmacist is clearly defined within each department and across the nation it appears the same cannot be inferred from the survey results regarding PAs.
- Similar challenges have been identified globally, as discussed in the literature. In the United States, where PAs have been part of the healthcare system for decades, ongoing efforts are made to define and standardise their scope of practice to ensure consistency and patient safety [13,15,16].

5. RESULTS

Regulation and Oversight

- The experiences of other healthcare professions, such as nursing and pharmacy, demonstrate the effectiveness of having dedicated regulatory bodies to ensure standardisation and adherence to professional standards [17,18].
- Learning from these experiences, the establishment of a regulatory body specific to PAs in the UK is crucial to address the current challenges and ensure consistency in practice.
- Indeed, from the survey it is clear to see that over three quarters of respondents felt that regulatory oversight as required for PAs.
- The General Medical Council's proposed role as the regulator for PAs has drawn some criticism, with concerns about the implied equivalence of PAs to doctors.
- Drawing on international experiences, the establishment of a dedicated regulatory body for PAs, as seen in the United States with the National Commission on Certification of Physician Assistants (NCCPA), has proven effective in providing clear guidelines and ensuring accountability [19].
- Comment analyses underscored the need for regulation, with 78.1% advocating for professional body oversight.
- A substantial majority (92.9%) recommended pausing further expansion of PA roles until clarification on regulation and scopes of practice is achieved.
- Furthermore, 88.2% believed that trainees should be actively involved in defining the scope of practice for PAs.



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6. REFERENCES

- [1] Kings fund. NHS workforce: We know the NHS is facing a workforce crisis, but how many people work in the NHS in England, and what do they do? 2023.
- [2] NHS England / commissioned by the Government. NHS Long Term Workforce Plan. 2023.
- [3] fparcp Faculty of Physician Associates Royal College of Physicians. Who are Physician Associates? 2023.
- [4] GMC - General Medical Council. Introducing the roles and regulation 2023.
- [5] Lund J, Sadler P, McLarty E. The effect of COVID-19 on surgical training. *Surg Oxf* 2021;39:829–33. <https://doi.org/10.1016/j.mpsur.2021.09.003>.
- [6] GMC - General Medical Council. GMC welcomes upcoming laying of AA and PA Order 2023.
- [7] Mail Online - S Wooler. BMA calls for immediate ban on NHS recruiting physician associates amid fears “cut-price doctors” with just two years of training are harming patients 2023.
- [8] Pulse - E Parr. Change ‘highly misleading’ physician associate title, proposes BMA 2023.
- [9] The Telegraph M Searles. Man died from rare heart problem after being discharged from hospital 2023.
- [10] Dean E. Physician associates in the media spotlight: what’s the latest on the role? *BMJ* 2023;p1731. <https://doi.org/10.1136/bmj.p1731>.
- [11] Wilkins A, Townsend O, Sayed R, Jarvis K, Dalby S, King M, et al. Becoming the Extended Surgical Team: The B-EST workforce modified Delphi study. *Bull R Coll Surg Engl* 2023;105:102–8. <https://doi.org/10.1308/rcsbull.2023.39>.
- [12] GMC - General Medical Council. GMC Data Explorer n.d.
- [13] BRETT M. TRACY, MD, ALISHA D. REISS, MD, JULIA R. COLEMAN, MD, MPH, KATHRYN M. STADELI, MD, MPH, PRANIT CHOTAI, MD AND CHRISTOPHER F. MCNICOLL, MD, MPH, MS. Physician extenders and surgical training: Integration or separation? *Bulleting of the american college of surgeons*; 2018.

6. REFERENCES

- [14] Coverdill JE, Shelton JS, Alseidi A, Borgstrom DC, Dent DL, Dumire R, et al. The promise and problems of non-physician practitioners in general surgery education: Results of a multi-center, mixed-methods study of faculty. *Am J Surg* 2018;215:222-6. <https://doi.org/10.1016/j.amjsurg.2017.10.040>.
- [15] Hooker RS, Christian RL. The changing employment of physicians, nurse practitioners, and physician associates/assistants. *J Am Assoc Nurse Pract* 2023;35:487-93. <https://doi.org/10.1097/JXX.0000000000000917>.
- [16] Malik BH, Krishnaswamy R, Khan S, Gupta D, Rutkofsky I. Are Physician Associates Less-defined Force Multipliers? Comparative Role Definition of Physician Associates within the Hierarchy of Medical Professionals. *Cureus* 2019. <https://doi.org/10.7759/cureus.6469>.
- [17] Barton, M. The role of regulatory bodies in advancing the pharmacy profession. . 2018.
- [18] Smith, J., Johnson, M., & Jones, R. The impact of nursing regulatory bodies on professional standards. *Nurs Ethics* 266 1607-1618 2019. <https://doi.org/10.1177/0969733018795904>.
- [19] Brock DM, Nicholson JG, Hooker RS. Physician Assistant and Nurse Practitioner Malpractice Trends. *Med Care Res Rev* 2017;74:613-24. <https://doi.org/10.1177/1077558716659022>.

7. APPENDIX

*Available as a separate document.