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Post Registration Interprofessional Education for the Health and Care Workforce: A Cross-Sectional Survey

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Abstract

Background

Interprofessional Education (IPE) is essential for collaborative practice in healthcare. While the evidence base for IPE in undergraduate education has increased, it is underexplored at post registration level for the health and care workforce. The aim of this study was to explore how IPE is implemented within the workplace for health and care professionals across Scotland, UK and to identify hindering factors, and resources required to advance IPE in this setting.

Methods

A multi-site cross sectional survey was conducted of educators involved in leading workforce education across Scotland, UK from June 2024 to September 2024. The survey responses were analysed using descriptive, and thematic analysis using the framework approach.

Results

70 educators across 19 locations responded to the survey. Simulation-based education and case-based learning were common approaches used in IPE. Other activities described were more multiprofessional and didactic. Resource issues such as staff capacity, space, the logistics of bringing different professions together, as well as profession specific educational priorities, and educational siloes hindered IPE implementation. Faculty support for workplace educators was considered important to advance IPE.

Conclusion

These findings from this survey provide insight into how IPE occurs at post registration level, for staff working in health and care settings. Where IPE is occurring, sound educational approaches are being used to ensure active and interactive learning that encompasses IPE. However, conceptual confusion of IPE, uncertainty of how to implement or evaluate IPE, as well as commonly reported resource issues hinder IPE development. Collaboration between educators in the workplace, faculty support from Higher Education institutes and educational networks could address the challenges to implementing and sustaining effective IPE for the health and care workforce.

Background

Improving collaborative working between healthcare professionals continues to be recognised globally as vital for addressing poor communication, ineffective teamwork, fragmented care, and as a priority for a sustainable healthcare workforce.[1, 2] The body of evidence demonstrates the positive impact of

interprofessional education (IPE) on learners, and on collaborative practice. [3, 4] IPE is an interactive and active educational approach “when members or students of two or more professions learn with, from, and about each other to improve collaboration and the quality of care.” [5]

Within the UK, high-profile inquiries have highlighted the serious consequences of poor communication and teamwork between professions [6–8] which have motivated waves of particularly to improve patient safety. How healthcare professionals learn and work together, however, is not only an educational concern for undergraduate and prequalification education. IPE is also an educational concern at post registration level for the workforce in all health and care settings [8]. IPE has over the years become part of undergraduate and pre-qualification education, but it has been less reported at postgraduate or post qualification level.[9, 10] To aid with the strategic development of IPE beyond undergraduate education, there is a need to understand if and how IPE is being implemented for the workforce in our health and care settings. The aim of this cross-sectional survey was to map the status of IPE implementation in the workplace for health and care professions across Scotland.

Methods

A cross-sectional survey was conducted as part of a 1-year seconded position *(held by anonymised)* with the NHS Scotland Academy (NHSSA) and the Clinical Skills Managed Educational Network (CSMEN), to inform the strategic development of IPE for the health and care workforce. As a service evaluation, full health service ethics approval was not required to conduct this survey. However, this study was submitted to the *anonymised* University Teaching and Research Ethics Committee for ratification. A favourable opinion was obtained to support publication of the survey findings (reference 0788 - MD-0788-918-2025).

Within Scotland, there are 14 regional National Health Service (NHS) Boards, 7 Special NHS Boards, and 1 Public Health body, providing a range of regional, specialist and national services. While NHS Boards are responsible for healthcare delivery, local authorities are responsible for the delivery of social care which may be accessed from the authorities themselves or through private provision. To deliver an integrated service, local authorities and NHS boards work together.

Educators from all health professional backgrounds working within health boards across Scotland were invited to complete an online survey designed to address following objectives:

1. Determine the status of IPE implementation in the workplace
2. Assess the interest in IPE mentorship
3. Identify the various educational methods and approaches used to implement IPE in the workplace
4. Identify enabling and hindering factors affecting the initiation and progression of IPE within the workplace.
5. Determine the specific resources and support needed to start or advance IPE activities, including measuring the impact on practice.

The survey questions (Appendix 1) were developed by *anonymised* and reviewed by *anonymised* As a bespoke survey, face validity was applied [11] to ensure that the questions were directly aligned to the above objectives, relevancy to the target respondents, and brevity for respondents based in busy working environments. The survey consisted of a mixture of questions requiring Likert scale responses, and a series of question inviting free text responses. Survey responses were collected between June 2024 and September 2024. An electronic link to the online survey was shared via email, and via closed social media groups to target those working in education of health and/or social care workforce in NHS health boards and in public health.

Simple descriptive analysis of Likert scale data was undertaken and reported as percentages to show the distribution of responses across categories. Nvivo software was used to organise and analyse the free text responses which were thematically analysed using the framework approach.[12] This analysis followed the five recommended interconnected stages of the framework approach which included familiarisation, identification of a thematic framework, indexing, charting and interpretation. Reflexive discussions took place between *anonymised* to interpret the data. These peer to peer discussions enabled reflection and acknowledgement of our own roles and expertise in supporting workforce education and IPE and potential influence of these roles on the interpretation of data.

Results

A total of 70 responses were collected from 18 health boards, and 1 Scottish charity (BASICS Scotland) who are responsible for specialist training of health professionals in pre-hospital care (Fig. 1). Survey responses were excluded if the IPE activity described involved only undergraduate students and referred to as occurring within a higher education setting.

Analysis of Descriptive Data

The analysis of this data addressed the following objectives: 1) the status of IPE, and 2) IPE mentorship. As illustrated in Table 1, a diverse range of educational roles or remits were reported. This was mainly within a secondary or acute care setting with a small minority in care home settings. Some participants had a remit in supporting education for one specific professions e.g Nurse education only, and others had a remit that spanned more than one professional group, e.g Nurse, Midwifery and Allied Health Professions (NMAHP) education. The majority (21%) reported a remit in medical education.

Table 1
Self-reported workplace educational remits

Self-Reported Educational Remit	Number and percentage of roles n (%)
Medical Education	15 (21.4%)
Practice & Professional Development	10 (14.3%)
Nurse Education	8 (11.4%)
Resuscitation Training	7 (10.0%)
Clinical Education	7 (10.0%)
Pharmacy Education	6 (8.6%)
Nursing, Midwifery & Allied Health Profession (NMAHP) Education	5 (7.1%)
Pre-hospital Emergency Education	3 (4.3%)
Simulation Education	2 (2.9%)
Midwifery Education	2 (2.9%)
Allied Health Professional Education	2 (2.9%)
Workforce Education	1 (1.4%)
Neonatal Education	1 (1.4%)
General Practice Education	1 (1.4%)

The frequency of IPE varied across the responses, with more than 80% reporting it occurred at least twice annually and a minority (8.6%) reporting that IPE occurred once per year (Fig. 2). 10% reported that IPE did not occur within their departments.

As shown in Fig. 3, the majority reported that they were implementing IPE and indicated an interest in developing their IPE further (70%) or an interest in measuring the impact of their IPE (28.6%). A number of responses indicated that areas had either not thought about implementing IPE, were uncertain of where to start or felt that there were barriers associated with implementing IPE. As illustrated in Fig. 4, the majority indicated a positive response mentorship (as a mentor or mentee) with only 2.9% indicating that they would not be interested in mentorship.

Analysis of the free text comments

Several reoccurring themes were identified in the analysis of the free text comments. These themes have been organised to address survey objectives 3–5: the educational approaches used with IPE, the factors influencing IPE, and resources considered helpful for advancing IPE:

Educational approaches or techniques used with IPE

Theme 1: Simulation-based education

Where respondents indicated that they were implementing IPE, simulation-based education (SBE) was a common technique used with IPE. These interprofessional SBE activities included a range of professions, some also inclusive of the wider healthcare team such as healthcare support workers, and students during their placements. Some of the initiatives were described as planned, regular learning events for staff development or compulsory regular training for staff, whilst some were described as ad hoc learning events:

"Theatre team critical incident training in situ simulation for theatre nurses, operating department porters, care support workers, recovery staff, blood transfusion services, anaesthetists and (potentially!) surgeons." (Simulation Education, 15)

"Medical, surgical, accident and emergency nursing, radiology, labs, paramedics. Once weekly inter-departmental in-situ simulation every Thursday 10am in accident and emergency." (Medical Education, 48)

"The simulation (for trainees in acute settings) is based in a ward environment and trainees are asked to act as if they are a newly qualified pharmacist, allowing them to undertake activities for themselves in a safe environment. The training event involves them interacting and managing patients who have been admitted to hospital with a variety of presenting complaints and co-morbidities alongside medical, nursing and physiotherapy students.... Each session is followed by an interprofessional debrief to explore participants' thoughts and actions." (Pharmacy Education, 30)

Theme 2: Case-Based Learning

Case-based learning was described as a valuable approach used with IPE and this was facilitated in person or remotely:

"We have a variety of face to face and remote group learning courses involving doctors, nurses and paramedics. Simulation is used in our face-to-face learning with the remote sessions being more case based." (Pre-hospital and emergency education, 5)

"Other teaching such as clinical decision making is attended by nursing and AHPs physiotherapists, occupational therapists, pharmacists) uses a variety of teaching methods including case-based learning." (Nurse Education, 32)

Theme 3: Shared Learning and multiprofessional education

Some survey participants described educational activities which implied that these were more shared learning or multiprofessional didactic learning experiences such as lectures delivered to multiple professions or teaching delivered by another profession:

“We have a monthly continuing professional development programme online for Advanced Practitioners and non-medical prescribers. Speakers providing the education are often medical or nurses who teach Allied Health Professions and vice-versa.” (Practice and Professional Development, 9)

Our medical education team is linked to Practice and Professional Development and is multiprofessional, and includes nurses teaching medical trainees. (Practice and Professional Development, 8)

Factors influencing implementation

Theme 4: Resource

A range of factors were mentioned as hindering IPE implementation such as resource related issues including staff capacity, space, as well as the logistics of bringing different professions together for IPE in the workplace:

“The only two real barriers I can recognise are logistical - scheduling of sessions that suits a range of disciplines, and availability of training venues.” (Practice Development, 36)

Theme 5: Profession specific educational priorities

It was highlighted that priority often went to other educational activities within the workplace which were governed by profession specific training or curriculum needs. This had time and funding implications for some:

“There is so much activity and change within the education and training of pharmacy technicians and support staff that we do not have the capacity to embed this in what we do right now.” (Pharmacy, response 22)

“Nationally, the funding model doesn't support or align with IPE....If I organise IPE then the medics are funded and the non-medics are not! Whilst there is good intention and desire to run IPE, this is definitely a barrier.” (Simulation Education,15)

Theme 6: Educational Siloes

Survey participants indicated that educational sessions often occurred within the workplace involving only one professional group rather than collaboratively across professions. Once again, funding arose as a contributory factor to isolated educational activities.

“We are hoping to start inviting other professions to lunchtime teaching sessions run as part of (foundation year 1 medicine) programme...These are not formally planned as IPL sessions as the funding and programme is focused on (foundation year 1 medicine) education.” (Pharmacy Education, 30)

“The biggest challenge has been budgetary. Medical and allied health learning and development is overseen by different groups with different budgets. The sim spaces are funded by medicine with no contribution for other professions.” (Medical Education, 53)

Isolated activities were reinforced by a few participants who highlighted a reluctance to learn with other professions or reluctance by some staff to support education in the workplace:

“Some people are reluctant to be in a situation with other professions.” (Pre- hospital Emergency Education, 11 **)**

“Some care staff are not practice supervisors and so don't feel it is their role to support and teach. “ (Practice Education, 70)

Resources and support to develop or advance IPE

Theme 7: Faculty support

Whilst solutions to the resource issues previously identified such as funding, staff time, and teaching space were noted as priority areas to support and advance IPE, faculty support was also considered as an important factor in advancing IPE. This included staff training and shared resources to build their understanding of IPE, support delivery, and to measure the impact of IPE:

“Case examples - anything contextualised that staff can easily understand and then implement going forward.” (Practice Education, 70)

“Further training, shadowing, further discussion/practice in debriefing and scenario building.” (Practice Education, 12)

“A set of organisationally agreed upon impact evaluation tools with guidance and examples of application.” (NMAHP Education, 68)

Discussion

The findings from this survey offers valuable insights into how IPE is implemented across Scotland's health and care workforce. While there is evidence of IPE being implemented in some areas, and appetite to explore IPE opportunities if not already implemented, it is evident that resources (time, space, capacity, funding), educational siloes and profession specific educational priorities impeded IPE development or advancement. The survey highlights that educational initiatives occur in isolation mainly due to differences in funding. Given the range of professions with educational remits and

responsibilities. Collaborative efforts between directorates to share resources will be more efficient than lone ventures in IPE.

The IPE initiatives that were described as occurring in the workplace commonly used SBE, as a technique or CBL, which are reported as common pairings with IPE in post registration education.[10] These findings are encouraging to see as SBE and CBL both require interactivity and active engagement from learners to apply skills, knowledge and expertise. IPE is most effective when it is active and interactive.[13, 14] On the other hand, some of the initiatives described seemed multiprofessional or shared in nature and more didactic than interactive. Along the continuum of IPE, it is recognised that there will be different learning needs which may steer the type of IPE activity. In the University British Columbia Model of IPE [15] 3 distinct stages of this IPE model outline the different stages of learners, starting with the confronting uniprofessional identities, immersion, and then working towards mastery are described. Didactic IPE activities such as lectures have been mapped to the first stage with more active and interactive IPE such as SBE and case based learning at the immersion stage.[10] At the level of mastery, Charles et al [15:p16] define learners in this stage as having "a clear sense of who they are as practitioners and of the role of their professions in the provisions of care" meaning that learning activities can therefore push towards activities which challenge critical thinking and reflective practice would fit an accurate description of members of the workforce who responded to this survey. However, there is the possibility that some of the educational initiatives show that confusion over terminology and the concept of IPE persists. [16–18] While shared learning events attended by multiple professions are beneficial and are valuable for continuing professional development, a clear understanding of IPE and its differences from other approaches is crucial for effective implementation, and building the evidence base for IPE.

The findings from this survey highlight that faculty support is an important resource that educators within the health and care workforce need to develop or advance IPE. Encouraging IPE sharing by connecting educators who work within health and care settings in different roles and regions across Scotland is essential. While there are simulation interest and clinical skills groups, IPE can be used with various educational techniques and approaches. This could be facilitated through informal mentorship channels, which was of interest to the majority of survey respondents in this study (Fig. 4), or facilitated through interest groups within existing networks in Scotland. Those responsible for delivering workforce education and training need to continually tap into the growing evidence base for IPE and learn from national and international IPE initiatives. Existing national and international IPE groups and organisations and Higher Education Institutes where IPE is successfully imbedded in undergraduate or pre-registration curriculum can provide a valuable supportive network of experienced individuals to help build understanding of the basic principles of IPE as well as how to plan and implement IPE. Given the range of professions with educational remits and responsibilities identified in this survey, collaborative efforts between professions to share educational resources and recognise opportunities for IPE, where relevant, will be more efficient than isolated educational activities.

As part of this faculty support, help to evaluate IPE was identified as an additional resource required to advance IPE in the workplace for staff. The importance of evidenced based faculty support for pre-registration IPE is consistently highlighted [19, 20]. However, the findings of this survey emphasise that this faculty support needs to extend to effectively plan, deliver and evaluate IPE at post registration level to support staff in the workplace.

There is a continued need to build the evidence base to demonstrate IPE's impact health and care outcomes to maintain momentum with the growth of high quality IPE research.[21] Some of the IPE initiatives described by survey participants seemed to be well-planned and developed which and should be widely disseminated as examples of good practice in IPE. Continuously demonstrating the impact of IPE is crucial, and this impact can be more easily measured if IPE is implemented in an evidence-based way. Utilising the already existing evidence base and support from IPE networks to design rigorous initiatives will lead to high-quality experiences for staff and also for students in health and care settings.

Limitations

The findings from this survey centre around IPE provision from a number of health boards in Scotland and responses were mainly from secondary or acute care settings. Although the findings provide valuable insights into one area of the UK, these findings may not be generalisable to all other health boards within the UK where other factors may contribute to the implementation of IPE. Further scoping work would need to be undertaken beyond Scotland, and to increase this scope to primary and community care settings. The insights gained are from a brief survey which collected some written descriptions of educational initiatives. Follow up interviews would provide the opportunity to further clarify some of the findings particularly to gain insight and enable more clarification of the specific details of the IPE initiatives implemented.

Conclusion

These findings highlight the need for ongoing IPE faculty support across the continuum, from undergraduate education to workforce development. Collaborative working between educators in the workplace can help address challenges such as limited funding, space, and staff capacity for education. Engaging with national and international IPE organisations, as well as IPE leads in Higher Education Institutes, can raise awareness of existing networks, tools, and evidence-based resources, supporting the development and advancement of IPE in practice. Furthermore, support to evaluating the impact of IPE on outcomes for the workforce and care outcomes will strengthen the evidence base for IPE.

Abbreviations

CBL
Case based learning
IPE

Interprofessional education
SBE
Simulation based education

Declarations

Ethical approval and Consent to Participate: This project was conducted as a service evaluation, which according to Health Research Authority (HRA) definitions adopted by NHS organisations is not classified as research and therefore did not require NHS Research Ethics Committee (REC) review.

As a service evaluation formal informed consent was not required. Participants were provided with information about the purpose of the survey prior to completion and their participation in completing the survey was voluntary.

This study was submitted to the *anonymised* University Teaching and Research Ethics Committee for ratification. A favourable opinion was obtained to support publication of the survey findings (reference 0788 - MD-0788-918-2025).

Although this project was a service evaluation, it was conducted in accordance with national ethical regulations and aligned with the principles underpinning the Declaration of Helsinki.

Clinical Trial: Not applicable

Consent for Publication: Not applicable

Availability of Data Materials: The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Competing interests: The authors declare that they have no competing interests

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Authors Contributions:

VOC was responsible for the conception of this work, the study design, acquisition and analysis of data, and final drafting of the manuscript.

LW was responsible for the co design of the study, analysis of data, reviewing the manuscript critically in preparation for submission drafting the work.

CP was responsible for the co design of the study, analysis of data, reviewing the manuscript critically in preparation for submission.

All authors read and approved the final manuscript.

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Figures

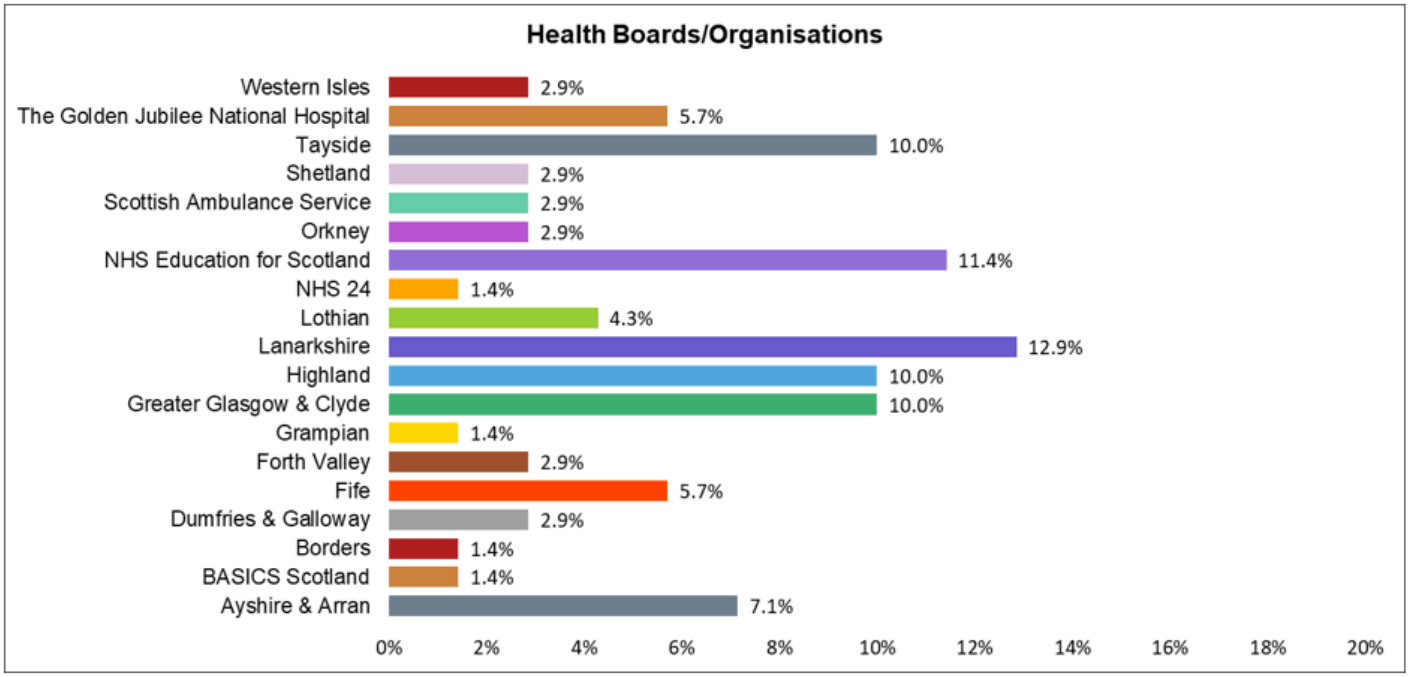


Figure 1

Percentage responses from health boards and relevant organisations

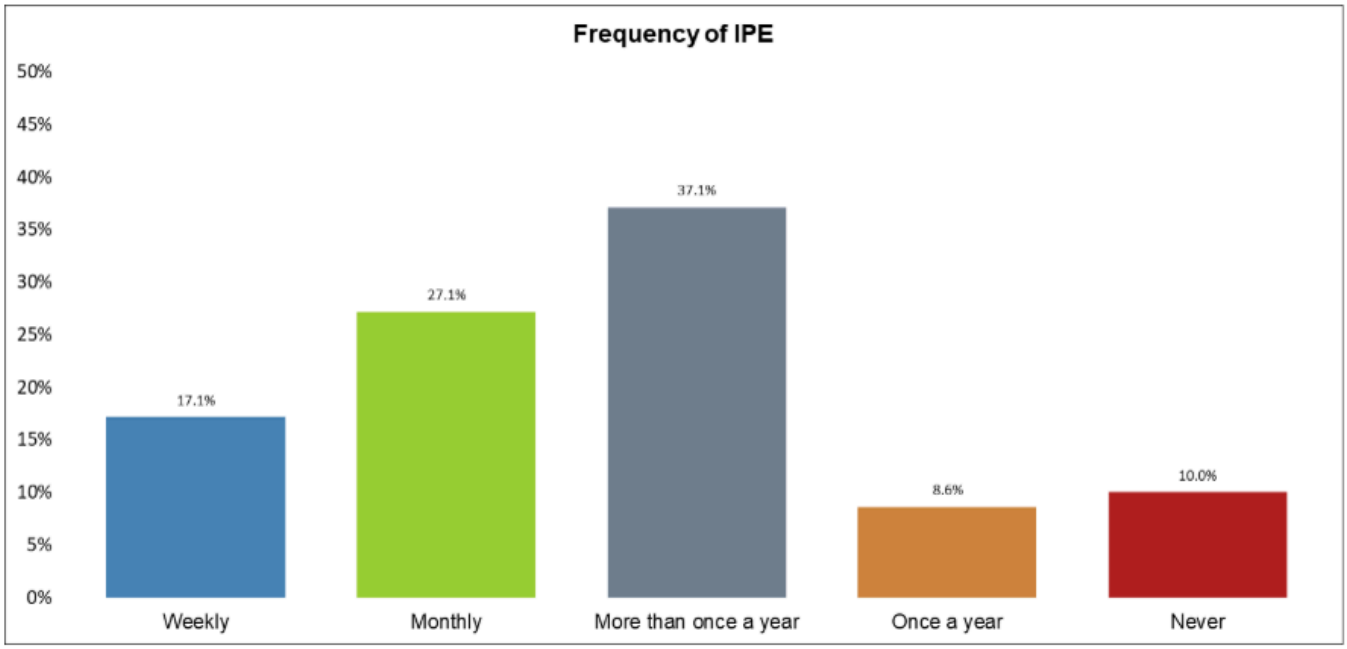


Figure 2

Frequency of IPE

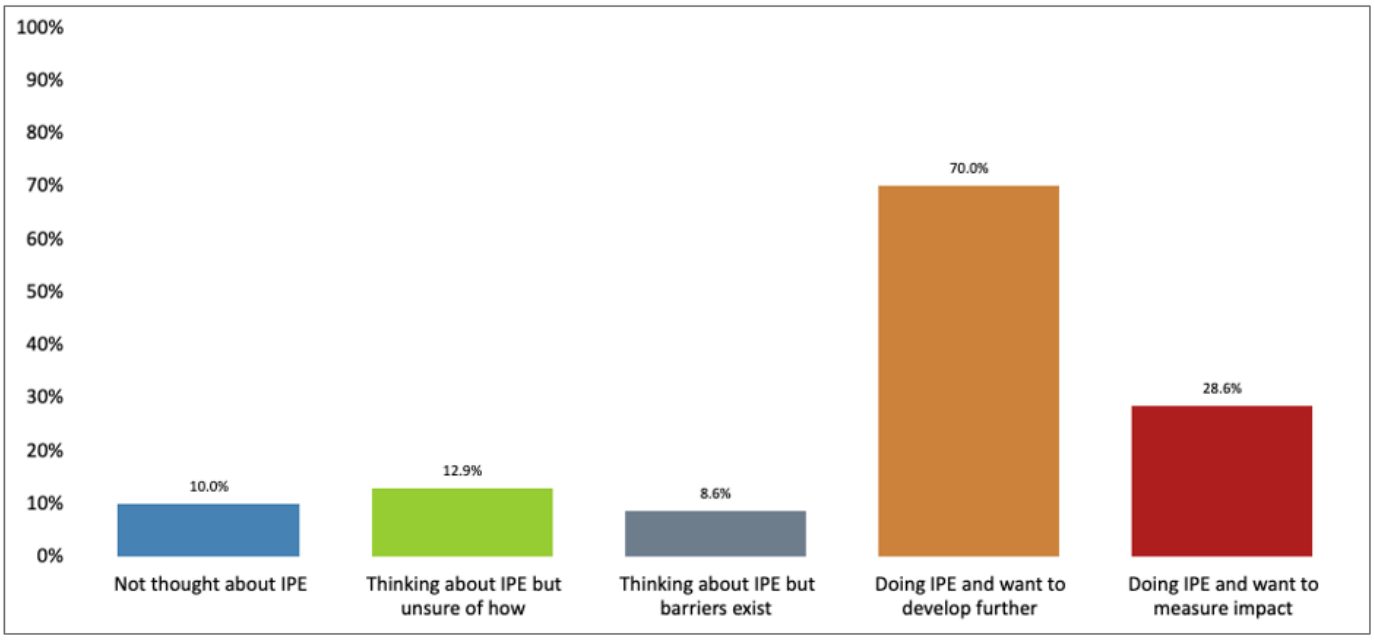


Figure 3

Stage of IPE implementation

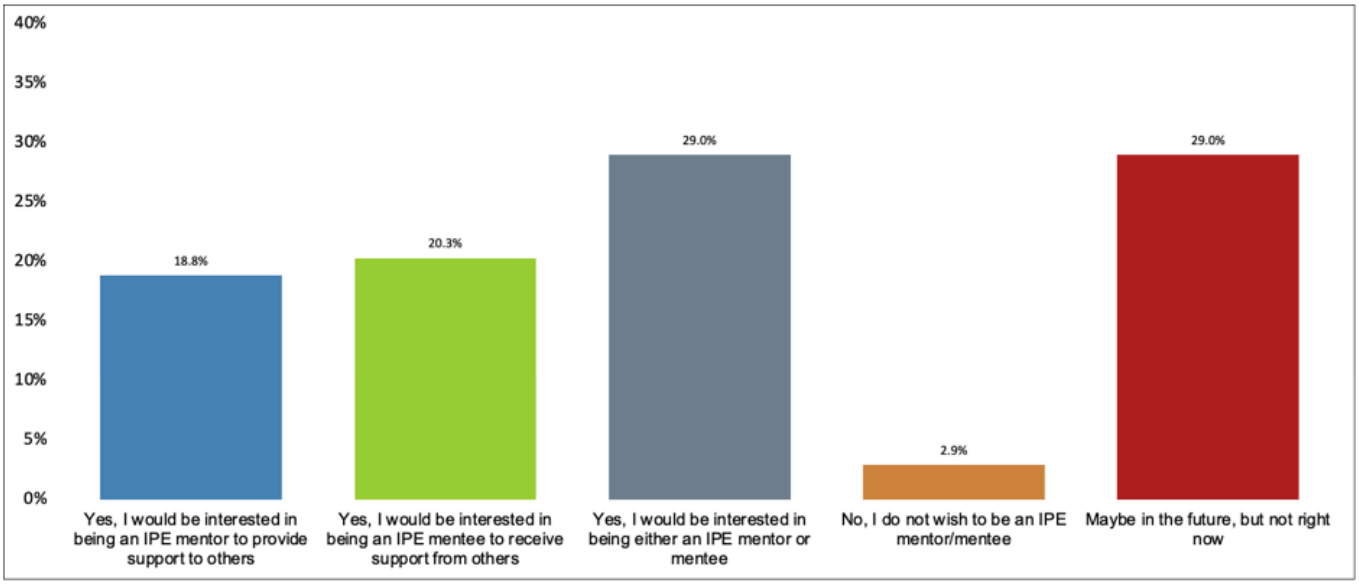


Figure 4

IPE Mentorship/Menteeship

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

- Appendix1.docx