

**'Bumping along': A qualitative metasynthesis of challenges to Interprofessional Placements**

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## **Abstract**

### **Context**

Interprofessional practice is required to manage complex healthcare needs globally. It is well-established that interprofessional placements (IPP) prepare students to work collaboratively, yet IPP implementation remains limited and disjointed.

### **Objectives**

This review synthesised student, educator and service-users perspectives in order to better understand challenges of IPP and provide recommendations for sustainable IPP implementation.

### **Methods**

A systematic metasynthesis of qualitative literature sourced from databases including CINAHL, Embase and PsycINFO was completed. Studies that incorporated student, educator and/or service-user perspectives on IPP experiences were included. We focused specifically on factors limiting implementation of IPP. The presage-process-product theory provided the theoretical framework for inductive synthesis of 41 empirical studies. A confidence rating for findings was formulated using CERQual.

### **Findings**

We developed three themes which represent key challenges to IPP becoming embedded in placement culture. Firstly, thin theoretical foundations underpinned IPP, limiting understanding of the learning processes involved. Second, implementation relied heavily on individual champions, which curtails investment and sustainability when personnel change. Finally, students, educators and service-users were unsure of the function of IPP and their respective roles, leading to uncertainty along with some negative perceptions of this placement approach.

### **Conclusions**

In line with the presage-process-product theoretical framework, IPP would benefit from explicit connections with educational and change management theories at presage period. During the process stage, IPP requires coordinated leadership and resource investment. Within the product stage clear integration of interprofessional learning outcomes in curricula is advised. Addressing the identified challenges across the stages of IPP will support further development of IPP, firmly establishing this approach within placement culture. IPP can then make a significant contribution to the development of a collaborative practice-ready workforce. This in turn will enhance service-user outcomes and safety.

## **Introduction**

Healthcare systems are in a state of crisis, perpetuated by workforce shortages, increasingly complex healthcare needs and spiralling costs.<sup>1</sup> The World Health Organisation<sup>2</sup> recommend interprofessional practice as a means to address this crisis, which places an onus on educational institutions to extend interprofessional education (IPE) within healthcare degree programmes.<sup>3</sup> A core aspect of IPE is interprofessional placements (IPP) whereby students from two or more professions work together to deliver client services at clinical sites.<sup>4</sup> Placement hours can represent almost half of overall hours in healthcare degree programmes<sup>5</sup>; thus are key in shaping future practice. As IPP is situated in clinical settings, students apply learning from classroom-based IPE by working as an integrated interprofessional team.<sup>6</sup> This translation of theory to practice optimally prepares students for interprofessional practice.<sup>7</sup>

Published studies on IPP over the past 20 years<sup>8</sup> illustrated IPP benefits including improved service-user outcomes<sup>9</sup> and better student attitudes to interprofessional practice.<sup>10</sup> Given the potential of IPP, the Centre for Advancement in Interprofessional Education recommended students have at least one IPP during their healthcare degree programme.<sup>6</sup> Despite the benefits, IPP implementation remains limited and disjointed.<sup>11</sup> There are a range of potential reasons for this. Firstly, IPP is more challenging logistically than uniprofessional placements as it involves students from at least two different professional programmes.<sup>12</sup> Secondly, the need to provide supervision at both a uniprofessional and interprofessional level during IPP increases demands on educators.<sup>13</sup> Thirdly, IPP occurs in the context of dynamic clinical sites which require additional risk management<sup>14</sup>, balancing innovative student learning opportunities with service-user needs.<sup>15</sup> These challenges are exacerbated by difficulty securing clinical placements, as reported internationally.<sup>16</sup> Consequently, it is unsurprising that seminal authors have reported that IPP initiatives are often short-term and not maintained over time.<sup>3, 17</sup>

Against this backdrop, a mismatch between research and practice is emerging. A recent meta-analysis of 12 quantitative studies identified a positive and statistically significant impact of interprofessional education, including IPP.<sup>17</sup> However, the authors highlighted implementation challenges and the need to better understand interprofessional learning processes.<sup>17</sup> Currently, the implementation of interprofessional education models in practice appears undermined by low prioritisation in already pressurised healthcare and education settings.<sup>1, 18</sup> Existing interprofessional reviews<sup>3, 7, 19</sup>, while of high quality, have not focused specifically on how IPP is implemented. Qualitative studies focus on how experiences unfold, taking into account the perspectives of the

many stakeholders (students, educators and service-users<sup>1</sup>) to provide a comprehensive account of IPP challenges experienced.<sup>20</sup> Therefore, a review and synthesis of existing research regarding IPP experiences may yield valuable information about challenges to implementing and sustaining IPP.

Thus the aim of this study is to:

1. Synthesise key stakeholders' perspectives in order to better understand challenges associated with implementing and maintaining IPP.
2. Develop recommendations to support IPP as a placement model, informed by stakeholder perspectives in the qualitative literature.

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<sup>1</sup> Members of the public who are involved in IPP as they access healthcare

## **Method**

A qualitative metasynthesis methodology was employed<sup>21</sup>, which involved systematically gathering and appraising relevant qualitative literature followed by completing an integrated synthesis.<sup>22</sup> This process was guided by the Enhancing Transparency in Reporting the Synthesis of Qualitative Research (ENTREQ) statement<sup>23</sup> (Supplementary Material 1). The review protocol was registered with PROSPERO (registration number CRD42018090640). To support transferability across IPP contexts, findings are structured in the presage-process-product (3P) theoretical framework.<sup>24</sup> The 3P theory attends to educational phenomena<sup>25</sup> and the broader organisational context where learning occurs.<sup>26</sup> This theory is particularly applicable to IPP as it takes account of the stages from planning (presage), conducting (process) and evaluating (product).<sup>27</sup> This theory featured in previous interprofessional reviews<sup>19, 28</sup> and its use in this synthesis adds to the burgeoning body of IPP research applying organisational theories to educational research.

## **Search Strategy**

A comprehensive search string was devised with the subject librarian to maximise search comprehensiveness (Supplementary Material 2).<sup>29</sup> The focus of this review was on participant experiences; therefore, qualitative research and qualitative data from mixed methods studies were included. Qualitative data in the form of open-ended questions from surveys, questionnaires or written reflections was not included if this was the only means by which qualitative data was gathered. This reflects the centrality of dialogue and interaction between researchers and participants to qualitative research.<sup>30</sup> Further details of exclusion/inclusion criteria are found in Supplementary Material 2.

## **Screening & Quality Appraisal**

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used to report results of screening and full-text review (Figure 1).<sup>31</sup> Titles and abstracts of 307 papers were independently screened by two authors (NOL=307, NS =307) and were therefore 'blind' to the other's decision until completion, enhancing robustness of this process.<sup>32</sup> Following subsequent discussion 41 papers were included in this review.

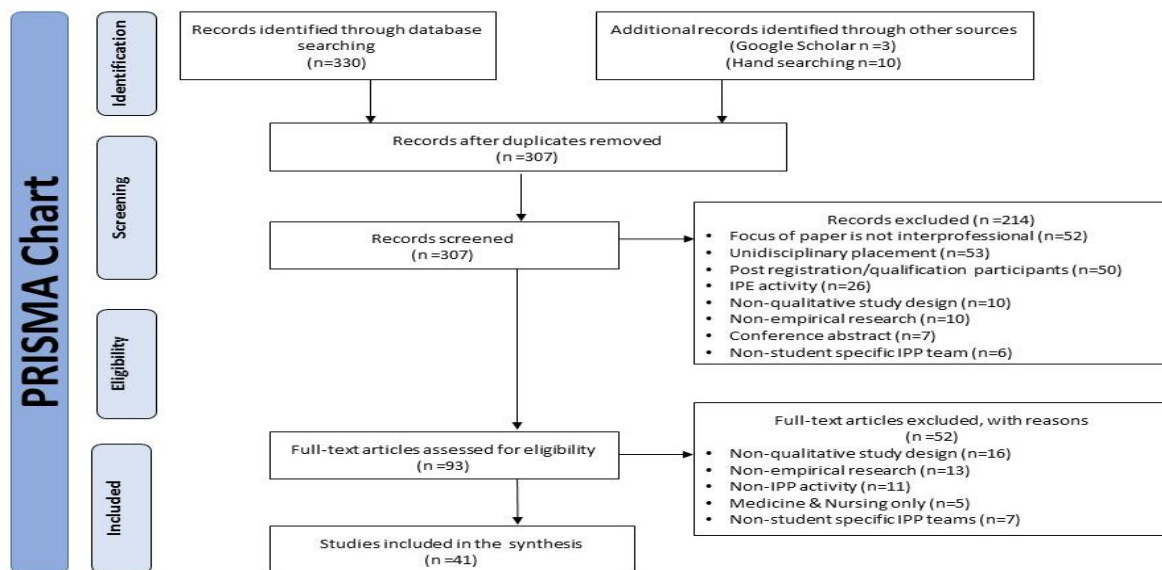


Figure 1: PRISMA Flow diagram<sup>31</sup>

The qualitative checklist of the Critical Appraisal Skills Programme (CASP)<sup>33</sup> was used for independent quality appraisal (NOL =41), (NS =22) (MOD=19). The CASP checklist does not return a numeric ranking. Studies were assigned a rating of low/moderate/high based on agreement of at least two authors. Studies were ranked according to methodological quality, with particular attention paid to data collection, analysis and interpretation. To integrate existing evidence, while acknowledging the quality appraisal<sup>34</sup>, initial synthesis of findings was based on the high-quality studies (n=16). Subsequently, findings from moderate (n=13) and then low-quality studies (n=12) were incorporated.

### Data Extraction & Synthesis

A data extraction template was developed to document relevant contextual information (setting, participants and activities), research design and key findings.<sup>35</sup> Studies were imported into NVivo12, then coded using the three stage process of thematic synthesis: line by line coding, organisation into descriptive themes and development of analytical themes.<sup>36</sup> To increase coding framework credibility five high quality articles were blind coded by the first and second authors. The findings sections were coded first according to the stages of 3P theory- presage, process and product. Further descriptive codes were developed inductively based on the findings within each paper, for example 'learning preferences' and 'collaboration'. Coding for the type of stakeholder and profession enabled nuanced queries to be run within the software to support the analytical process. Resultant descriptive code lists were compared and, following discussion guided by the 3P theory, the initial coding framework was agreed by three authors (NOL, NS, AC). This framework guided

analysis of the remaining 35 articles, with additional codes incorporated as new concepts were identified (Supplementary Material 3). These codes were merged into descriptive categories. Subsequent development of analytical themes determined the key messages of the synthesis.<sup>37</sup> Analytical themes are discussed using the structure of the 3P theory. Three authors (Anonymised) were involved at this subjective stage to limit interpretation bias.<sup>38</sup> The Grading of Recommendations, Assessment, Development and Evaluation- Confidence in the Evidence from Reviews of Qualitative research (GRADE-CERQual) tool was used to make an assessment of the overall confidence for findings underpinning each theme.<sup>39</sup> We have reported on the confidence in each finding in the findings section.

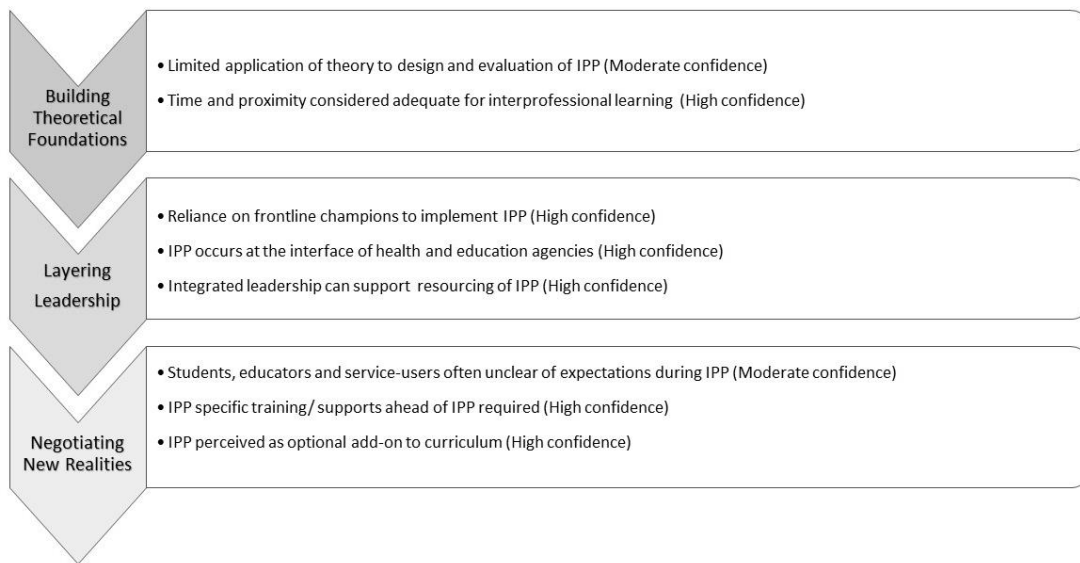
## **Findings**

41 studies were included in the final synthesis<sup>4, 40-79</sup>. Tables 1-3 (Supplementary Material 4) summarise study characteristics with 16 papers deemed high quality, 13 moderate quality and 12 low quality. Methodological limitations such as poor reporting of researcher-participant relationships and limited information about data analysis were primary reasons for low quality designation. Most studies were conducted in Australia (n=13) and the United Kingdom (n=10). Placement sites were highly variable, spanning specially established training wards to rural community clinics. Two weeks (10 days) was the most common IPP length (n=8), with a range from one to 24 weeks. There were varying levels of interprofessional overlap as often some student groups were not present for all of the placement. The balance of uniprofessional and interprofessional activity during the placement also varied between placement sites. Medicine, nursing, physiotherapy and occupational therapy were the most commonly represented professions. The perspectives of students and clinical educators at placement sites were those most typically included in studies. Fourteen studies referred to IPP that were pilot or one-off IPP projects. At the time of data collection three projects had run for one year, six for two years and five for three years. We could not identify IPP running for longer than 3 years within included studies; however, duration for which IPP had been running was not reported in eight papers. Four papers referred to general IPP experiences of educators and students. Data was typically collected during or soon after IPP completion. Three out of 41 studies included follow-up after 12 months.<sup>53, 72, 73</sup>

## **Synthesis**

We explored the experiences of key stakeholders to better understand the challenges of implementing and sustaining IPP as a placement model. Based on a thematic synthesis of 41 studies, we developed three key themes to represent key challenges to IPP and how these can be mitigated: building theoretical foundations, layering leadership and negotiating new realities (Figure 2). The process of thematic synthesis is summarised in Table 4 (Supplementary Material 5). Using the CERQual tool we established the level of confidence in each finding contributing to the final themes. There was a high level of confidence in six findings and a moderate level of confidence in two findings (Table 5, Supplementary Material 6).





*Figure 2: Overview of Thematic Synthesis*

### **Building Theoretical Foundations**

Fifteen studies referenced a range of 11 theoretical models to inform IPP at the presage (planning) stage. Six of these studies applied four micro-level theories which were specific to the field of interprofessional education. These were the Leicester Model of Interprofessional Education<sup>68, 69, 75</sup>, integrative pedagogy model<sup>61</sup>, Kirkpatrick framework<sup>73</sup> and model of interprofessional mentorship.<sup>62</sup> Nine studies applied seven broader meso-level theories, namely problem-based learning<sup>56</sup>, complexity theory<sup>57</sup>, contact theory<sup>42</sup>, self-presentation theory<sup>42</sup>, socio-cultural theory<sup>54</sup>, presage-process-product theory<sup>55</sup> and situated learning theory.<sup>44, 47, 53</sup> From this pool of 11 theories, six authors adopted theories that focused on how individuals or groups learned: Leicester Model of Interprofessional Education<sup>68, 69, 75</sup>, integrative pedagogy model<sup>61</sup>, model of interprofessional mentorship<sup>62</sup>, problem-based learning<sup>56</sup> contact theory<sup>42</sup>, self-presentation theory.<sup>42</sup> Authors identified that the use of theories supported the transfer of learning across IPP contexts:

The use of theories can assist in generalising our findings to other cases (Yin, 2003b), while situating our findings in the context of the interprofessional literature<sup>42</sup> [Researchers, school placement]

The remaining five theories considered situational or organisational contexts for learning: Kirkpatrick framework<sup>73</sup> complexity theory<sup>57</sup> socio-cultural theory<sup>54</sup>, presage-process-product theory<sup>55</sup> and situated learning theory.<sup>44, 47, 53</sup>

Yet application of theory was inconsistent, with approximately two thirds of studies not articulating a theoretical perspective. IPP educators typically considered interprofessional contact and proximity sufficient:

We were bumping alongside each other. . . that bumping and rubbing. . .smoothes out the edges<sup>43</sup> [Educator, profession unspecified, university clinic]

Thus, a range of theories can be applied to IPP to help understand how and why learning is occurring, going beyond surface observations of interactions.

### **Layering Leadership**

Within the included studies, much impetus at the presage and process stages came from individuals involved in placement education or managers with interprofessional interests,<sup>52</sup> who took on pivotal roles within the IPP process:

Having a champion who is based within the department and accessible to students and other mentors for support and guidance may well encourage engagement in IPL

*[interprofessional learning]*<sup>62</sup> [Aggregated educator perspective, varied placement sites]

Although the value of consistent leadership was clear, IPP lacked coordinated support within organisations across studies. One educator commented:

Directors need to be visibly ‘walking the talk’ to build up trust with others in the organisation and to build links. Otherwise there is a hole in the tyre<sup>48</sup> [Nursing educator, placement site unknown]

This ‘*hole in the tyre*’ analogy highlights the challenge of embedding IPP in placement culture and the need for leadership engagement to gain momentum. If IPP remains dependent on individuals, IPP sustainability is threatened:

The medical, occupational therapy and physiotherapy facilitators all reported problems of managing the demands of their ‘normal’ role and also providing the students with sufficient levels of support on the training ward...Facilitators therefore expressed concern about experiencing ‘burn out’ (medical facilitator) if they continued to work on the ward for a sustained period of time.<sup>51</sup> [Researcher summary, training ward]

There were limited examples of clear managerial involvement and how this layered approach to implementing IPP was beneficial:

The managers...had supported the pilot projects in words and deeds. They had given the clinical tutors the appropriate time for preparing the projects and in the ward additional

staff resources were available in the project periods.<sup>59</sup> [Researcher summary, orthopaedic ward]

As evidenced here, IPP implementation involves additional resources which requires managerial support.

Support from individual managers alone was not robust enough to withstand personnel changes and loss of champions. In one instance this led to termination of a promising IPP:

Following the delivery of the pilot placement...the group was similarly affected by the loss a committed educational manager who was replaced by an individual who was unenthusiastic about allowing students to participate in the placement<sup>52</sup> [Researcher summary, training ward]

Interagency leadership between healthcare and academic organisations was a means of enhancing the robustness of IPP:

One of the challenges facing their work in the coming year was to engage more effectively the wider PDT [*placement development team*] of academics. This engagement would ensure widespread support provision for greater numbers of students across the professions and sector.<sup>67</sup> [Placement development team members, varied placement sites]

In such a climate, IPP leadership is developed across organisational levels and becomes more securely integrated into placement culture.

### **Negotiating New Realities**

During the IPP process, participants often lacked clarity regarding the purpose of this placement model. For example, students did not always understand their role and the rationale for collaboratively working with other students or service-users:

It wasn't really clear as to what everyone was supposed to be doing and why.<sup>55</sup> [student focus group, care of elderly placement]

Educators and service-users echoed this uncertainty, with one service-user comparing participation in interprofessional goal-setting with:

Deciding what I'm going to eat when I'm in a restaurant but I don't have a menu.<sup>43</sup> [service-user, university clinic]

Tools were identified to help stakeholders prepare for IPP. During the presage stage, educators believed IPP-specific training was helpful in clarifying expectations and roles:

Tutors did generally feel underprepared for the demands of teaching interprofessional groups...All felt some form of prior training would be helpful for this type of facilitation.<sup>50</sup>

[Researcher summary, community placement]

Such training may alleviate some of the challenges encountered during IPP. Educators expressed concerns regarding working interprofessionally while not exceeding their scope of practice:

She [educator] felt uncomfortable supervising other professions...there's no way in the world that I would have been able to supply that information to them.<sup>41</sup> [SLT Educator, disability setting]

Peer support among educators during IPP was one strategy identified to address these concerns:

Informal discussion between facilitators meant that each tended to modify their facilitation approaches during the pilot to offer more consistency.<sup>51</sup> [Researcher summary, training ward]

In terms of the product of IPP, students and educators grappled with balancing profession-specific and interprofessional learning outcomes:

Students had around 15 profession-specific and 10 interprofessional learning objectives...All students (and also facilitators) felt that there were too many objectives for a 2-week placement<sup>50</sup> [Researcher summary, community placement]

Typically uniprofessional learning was afforded higher status. This was evidenced by students allocating limited placement time to interprofessional activity:

Some students reported...a reluctance to replace more than two sessions of usual, discipline-specific clinical placement time.<sup>60</sup> [Researcher summary, care of elderly site]

The language students used to describe interprofessional skills conveyed their relative value:

'Soft' skills...how to problem solve and resolve conflicts... as compared to 'hard' clinical skills.<sup>63</sup> [Student, profession unspecified, community placement]

The use of '*soft*' to describe interprofessional skills referenced underlying beliefs within placement culture—that interprofessional competencies are subordinate to profession-specific ones. The meaningfulness of interprofessional activity affected how students perceived IPP. For example, when students completed joint assessment and intervention:

It just became really obvious how much the patient would benefit from having everyone working together.<sup>64</sup> [Student, profession unspecified, role emerging placement]

Services-users also shared this perspective:

It is a good idea...bringing them all together because it is the problem...the left hand doesn't know what the right hand is doing.<sup>75</sup> [Service-user, mental health service]

Service-users understood that transforming healthcare processes required time and saw IPP as a change mechanism, whilst acknowledging this may not impact their care but that of future service-users instead:

If I can help somebody to help somebody else, even if it isn't now, if it is in the future.<sup>75</sup>

[Service-user, mental health service]

Thus, while there is a desire for interprofessional learning, negotiating new roles and boundaries can hamper its implementation.

## **Discussion**

### *Summary of Key Findings*

The three themes elucidated the challenges of implementing IPP as a placement model within healthcare education (Figure 3). In the presage window, more robust theoretical foundations could support IPP-related learning processes while framing an understanding and critique of IPP approaches. During the process phase, layered leadership across agencies would mitigate the vulnerability evident when individual champions are too heavily relied upon. IPP requires stakeholders to navigate new placement realities in terms of collaborative relationships. Students and educators must negotiate service-user needs within professional boundaries while simultaneously ensuring that placement learning outcomes are achieved. Sustainable IPP may be less likely if these challenges are not effectively addressed. In our review of qualitative IPP studies, three years was the longest running IPP identified. While quantitative studies were not incorporated and several studies did not specify how long IPP was running, it may be an indicator that sustaining IPP over time is challenging and requires some changes to IPP in practice. Notably, the most sustainable IPP was purpose-designed training wards where scope was clearly defined and organisational infrastructure appeared well-established. Such supports are required across presage, process and product elements of all IPP models to promote longevity. This is illustrated in Figure 3.

Insert Figure 2 here

### *Comparisons with the existing literature*

Our findings align with numerous reviews advocating for the greater application of theory in interprofessional learning.<sup>26, 80</sup> The review findings indicate this is an important consideration during the presage (planning) stage of IPP. While theory can be perceived as removed from frontline practice, judicious application of theory can bridge the theory-to-practice gap by exploring the underlying mechanisms.<sup>25</sup> Hean *et al.*<sup>81</sup> provide guidelines to support the selection of appropriate theories for interprofessional initiatives. Five of the eleven theories cited in this review considered the learning context or organisation, e.g. complexity theory. Suter *et al.*<sup>26</sup> advocated for greater use of such theories in interprofessional education, as they allow for the consideration of the dynamic environments in which learning occurs. In addition to the theories cited in this review, change management theories could add an important dimension to IPP implementation. IPP requires a significant shift in placement culture which has a strong history of profession-specific education.<sup>82</sup> For example, diffusion of innovation theory<sup>83</sup> was applied to optimise design and delivery of a conference promoting involvement in IPE.<sup>84</sup>

During the IPP process we found a lack of coordinated or layered leadership, a point highlighted across interprofessional research.<sup>19, 85</sup> While classroom interprofessional initiatives are generally housed within a single organisation, IPP occurs at the interface of healthcare agencies and universities; therefore, layering leadership within and across agencies is required. At present, university and health service partnerships in the area of IPP lack consistency.<sup>86</sup> Given the thin margins for resource redeployment available to healthcare agencies and the need for placements by universities, interagency partnerships may help reduce the burden on any one agency. Based on experiences of introducing changes in other aspects of healthcare<sup>87</sup>, as IPP becomes more embedded resource investment may be reduced. Detailed resource mapping over time is advised to confirm this.

While we have considered formal IPP in this review, there is a body of research highlighting the potential of opportunistic interprofessional workplace learning.<sup>87, 88</sup> Interprofessional learning in this context may be less cost and resource intensive.<sup>73</sup> However, even within this opportunistic model, dedicated time and resources are needed to facilitate learning.<sup>89</sup> Evidence suggests that if IPP is to have a meaningful impact on future clinical practice, two weeks is the minimum length required.<sup>6, 90</sup> Given that profession-specific workplace practices are often deeply entrenched<sup>1, 91</sup> all workplace interprofessional learning, both formal and informal, should be leveraged during healthcare education to maximise collaborative working foundations.

IPP requires stakeholders to negotiate new realities in their practice; however, significant attention to planning and development at the presage phase can optimise successful outcomes for all stakeholders.<sup>6</sup> Our findings identified students, educators and service-users grappling with unfamiliar roles. For students in particular, the impact of poor interprofessional experiences included adverse perceptions of interprofessional practice, potentially reducing future collaborative working.<sup>92</sup> Positive outcomes of classroom-based IPE facilitator training<sup>93</sup> and student IPP preparation courses were documented.<sup>8</sup> It would be beneficial to development training packages, grounded in pedagogical theory, to support those involved in IPP.<sup>17</sup> With greater investment at the levels of higher education authorities, healthcare systems and professional bodies, development of consistent and positive IPP preparation programmes is feasible. IPP preparation programmes will in turn enhance IPP experiences of all stakeholders.<sup>6</sup>

Currently, there are gaps in how stakeholders are represented within the literature. Despite a growing impetus to include service-users in research, in the studies we reviewed their contributions often lacked a specific focus on interprofessional aspects of their experience. A similar phenomenon was observed in quantitative studies.<sup>94</sup> If service-user contributions are to have influence, they must be meaningful.<sup>95</sup> We recommend that data collection from service-users is targeted on uniquely interprofessional dimensions of the experience and systematically included in studies exploring IPP.<sup>96</sup>

In terms of the IPP product phase, findings indicated low status of interprofessional outcomes. These were described as 'soft' competencies, including communication and conflict management skills. Research focused on work-readiness of healthcare graduates indicates that 'soft' skills are increasingly valuable to employers.<sup>97</sup> Such skills support effective collaborative practice, which reduces adverse clinical events and improves patient safety.<sup>98</sup> This does not imply profession-specific clinical skills are not important, rather the current silo approach is a significant challenge to IPP and interprofessional practice.<sup>99</sup> An evaluation of the balance between profession-specific and interprofessional learning outcomes is essential to support the acquisition of all skills including team communication and collaboration. Further use and development of frameworks such as the competency framework of the Canadian Interprofessional Health Collaborative may enhance clarity and consistency regarding interprofessional outcomes.<sup>100</sup>

### *Strengths and limitations*

Greenhalgh *et al.*<sup>38</sup> noted that data analysis in review papers is often less robust than the screening and appraisal process. A strength of this review is the involvement of co-authors throughout the analytical process and the use of CERQual to increase transparency of findings.<sup>101</sup> Through reviewing IPP literature we identified a lack of evidence-based guidelines against which to benchmark IPP. While we discussed how formal and informal interprofessional learning may result in different learning outcomes, it was not within the scope of this review to develop practice guidelines. This would represent a distinct research project and one which should be addressed as a priority within the field. The exclusion of research based on qualitative surveys and questionnaires did exclude studies containing in particular additional service-user perspectives. A review underpinned by survey-based studies may add useful information to the findings of this review. While we endeavoured to develop as comprehensive a search strategy as feasible, there may be relevant papers omitted due to issues such as limitations of search terms used.<sup>102</sup>



### *Implications for education practice*

Application of theories, especially those that consider IPP in the workplace context may better inform the design and evaluation of IPP within the presage phase. During the process of IPP, shared leadership accompanied by investment of healthcare agencies and universities create a broader support base for IPP. Those involved in IPP on the ground also require support to negotiate unfamiliar roles. Targeted training can support this. IPP develops collaborative working skills, in conjunction with maximising informal interprofessional learning opportunities and also encouraging post-registration interprofessional development.

### **Conclusions**

We identified key challenges and a suite of theory-based recommendations to optimise IPP experiences for all stakeholders to facilitate effective implementation. Enriching IPP by responding to diverse perspectives can more deeply embed IPP within placement culture. In turn, IPP advancement will prepare a healthcare workforce for collaborative and person-centred practice to address increasingly complex healthcare needs.

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## Appendix A: ENTREQ Statement

#	Item	Guide and description	Section & Page #
1	Aim	State the research question the synthesis addresses.	Refer to <b>Introduction</b>
2	Synthesis methodology	Identify the synthesis methodology or theoretical framework which underpins the synthesis, and describe the rationale for choice of methodology (e.g. meta-ethnography, thematic synthesis, critical interpretive synthesis, grounded theory synthesis, realist synthesis, meta-aggregation, meta-study, framework synthesis).	Refer to <b>Method</b>
3	Approach to searching	Indicate whether the search was pre-planned (comprehensive search strategies to seek all available studies) or iterative (to seek all available concepts until they theoretical saturation is achieved).	Refer to <b>Search Strategy, Supplementary Material 2 and Prospero</b>
4	Inclusion criteria	Specify the inclusion/exclusion criteria (e.g. in terms of population, language, year limits, type of publication, study type).	Refer to <b>Search Strategy, Supplementary Material 2 and Prospero</b>
5	Data sources	Describe the information sources used (e.g. electronic databases (MEDLINE, EMBASE, CINAHL, psycINFO, Econlit), grey literature databases (digital thesis, policy reports), relevant organizational websites, experts, information specialists, generic web searches (Google Scholar) hand searching, reference lists) and when the searches conducted; provide the rationale for using the data sources.	Refer to <b>Supplementary Material 2 and Prospero</b>
6	Electronic Search strategy	Describe the literature search (e.g. provide electronic search strategies with population terms, clinical or health topic terms, experiential or social phenomena related terms, filters for qualitative research, and search limits).	Refer to <b>Supplementary Material 2 and Prospero</b>
7	Study screening methods	Describe the process of study screening and sifting (e.g. title, abstract and full text review, number of independent reviewers who screened studies).	Refer to <b>Figure 1: PRISMA flow chart</b>

8	Study characteristics	Present the characteristics of the included studies (e.g. year of publication, country, population, number of participants, data collection, methodology, analysis, research questions).	Refer to <b>Findings</b>
9	Study selection results	Identify the number of studies screened and provide reasons for study exclusion (E.g., for comprehensive searching, provide numbers of studies screened and reasons for exclusion indicated in a figure/flowchart; for iterative searching describe reasons for study exclusion and inclusion based on modifications to the research question and/or contribution to theory development).	Refer to <b>Figure 1: PRISMA flow chart</b>
10	Rationale for appraisal	Describe the rationale and approach used to appraise the included studies or selected findings (e.g. assessment of conduct (validity and robustness), assessment of reporting (transparency), and assessment of content and utility of the findings).	Refer to <b>Screening and Quality Appraisal</b>
11	Appraisal items	State the tools, frameworks and criteria used to appraise the studies or selected findings (e.g. Existing tools: CASP, QARI, COREQ, Mays and Pope [25]; reviewer developed tools; describe the domains assessed: research team, study design, data analysis and interpretations, reporting).	Refer to <b>Screening and Quality Appraisal</b>
12	Appraisal process	Indicate whether the appraisal was conducted independently by more than one reviewer and if consensus was required.	Refer to <b>Screening and Quality Appraisal</b>
13	Appraisal results	Present results of the quality assessment and indicate which articles, if any, were weighted/excluded based on the assessment and give the rationale.	Refer to <b>Screening and Quality Appraisal</b>
14	Data extraction	Indicate which sections of the primary studies were analyzed and how were the data extracted from the primary studies? (E.g. all text under the headings “results /conclusions” were extracted electronically and entered into a computer software).	Refer to <b>Data Extraction and Data Synthesis</b>
15	Software	State the computer software used, if any.	Refer to <b>Data Extraction and Data Synthesis</b>

16	Number of reviewers	Identify who was involved in coding and analysis	Refer to <b>Data Extraction and Data Synthesis</b>
17	Coding	Describe the process for coding of data (e.g. line by line coding to search for concepts).	Refer to <b>Data Extraction and Data Synthesis</b>
18	Study comparison	Describe how were comparisons made within and across studies (e.g. subsequent studies were coded into pre-existing concepts, and new concepts were created when deemed necessary).	Refer to <b>Data Extraction and Data Synthesis</b>
19	Derivation of themes	Explain whether the process of deriving the themes or constructs was inductive or deductive	Refer to <b>Data Extraction and Data Synthesis</b>
20	Quotations	Provide quotations from the primary studies to illustrate themes/constructs, and identify whether the quotations were participant quotations or the author's interpretation.	Refer to <b>Findings-Synthesis</b>
21	Synthesis output	Present rich, compelling and useful results that go beyond a summary of the primary studies (e.g. new interpretation, models of evidence, conceptual models, analytical framework, and development of a new theory or construct).	Refer to <b>Discussion</b>

## Appendix B: Search Strategy

### Search String

String used in CINAHL Database – adapted as required for other databases

Search ID#	Search Terms
S22	S3 AND S20 AND S21
S21	S9 OR S13 OR S16 OR S17
S20	S18 OR S19
S19	qualitative research OR qualitative evaluation OR mixed methods
S18	(MM "Qualitative Studies") OR (MM "Education Research")
S17	client OR patient OR service user OR service-user
S16	(care* OR caregiver OR family OR parent) AND (S14 OR S15)
S15	care* OR caregiver OR family OR parent
S14	(MM "Caregivers")
S13	((MM "Education, Clinical") OR (MM "Clinical Supervision")) AND (S11 OR S12)
S12	(MM "Education, Clinical") OR (MM "Clinical Supervision")
S11	educators
S10	S3 AND S9
S9	S6 OR S7 OR S8
S8	students
S7	(MH "Students") OR (MM "Students, Undergraduate")
S6	allied health
S5	(Students OR educators OR carers OR clients) AND (S3 AND S4)
S4	Students OR educators OR carers OR clients
S3	S1 AND S2
S2	Clinical placement OR workplace learn* OR practice learn*
S1	Interprofession* OR inter-profession OR interdisciplinary OR inter-disciplinary

### Sources

<b>Research Databases</b>	CINAHL, Embase, PsycINFO, Sociological Abstracts, AMED
<b>Grey Literature</b>	The National Institute for Health and Care Excellence Centre for the Advancement of Interprofessional Education Canadian Interprofessional Health Collaborative National US Interprofessional Center Google Scholar
<b>Key journals for hand searching</b>	Journal of Interprofessional Care Journal of Research in Interprofessional Practice and Education Journal of Interprofessional Education and Practice

	Health and Interprofessional Practice Medical Teacher
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### Inclusion and Exclusion Criteria

	Inclusion criteria	Exclusion criteria
Focus of paper	Original research papers where the primary focus is IPE undertaken in an interprofessional placement (as previously defined).	Descriptive reports, editorials, commentaries.
Participants	Students (undergraduate or postgraduate students who are studying for a professional qualification), educators (university or clinically based) or service-users (or carers/family members).	Qualified healthcare professionals involved in continuing education programmes.
Context	An interprofessional placement that involves direct student-service-user (or carers/ family members) interaction.	Interprofessional education that does not involve direct patient interaction, e.g. simulated or classroom based activities.
	Student teams consist of 2 or more students from different professional backgrounds such as occupational therapy, speech and language therapy or social work.  At least one student is from a professional background other than medicine or nursing, to reflect the therapeutic aspect as well as medical aspect of healthcare.	Student team only consists of medical and nursing students.
Type of Study	Qualitative research and qualitative data from mixed methods studies will be included as aim of the review is to synthesise lived experiences of those involved in IPP.	Quantitative research

Language	English	Non-English due to resources available.
Date Limiters	Any studies that meet the above criteria will be included regardless of time of publication to maximise comprehensiveness of searching and reporting.	None

## Descriptive Coding Framework

Descriptive Codes	Files	References
Activities	35	497
Advocacy	2	3
Client Assessment	10	13
Goal setting	1	3
Induction	1	1
Intervention	11	22
Observation	6	9
Patient Care	17	60
Presentation	2	3
Referrals	3	4
Reflection	7	14
Role play	1	1
Rounds	3	5
Shared project	5	7
Socialising	4	5
Support	6	13
Team decisions	9	11
Team Meeting	9	22
Team work	24	65
Barriers	37	192
Benefits	36	270
People	41	1098
Carer or Family	4	5
Educator at clinical site	22	179
Educator- role unclear	1	15
Manager	2	2
PhD Student	1	1
Service User or Patient	7	28
Staff on site	1	7
Student	34	372
University educator or staff	1	3
Presage	40	502
Context	32	32
Educator Preparation	12	35
Expectations	20	60
IPP Set-up	17	74
IPP Status	8	14
Levers	8	25
Preparation	18	53
Stereotypes and Hierarchies	25	53
Student Preparation	12	22
Theories	13	44



Process	41	1145
Change	17	37
Collaboration	23	60
Communication	20	57
Cultural Differences	3	8
Facilitating	10	27
Informal	12	25
Leadership	7	16
Learning About	23	50
Learning From	19	41
Learning Needs	11	15
Learning Preferences	10	28
Learning With	18	44
Places	7	21
Accommodation	1	1
Cafe or Pub	2	2
Meeting Room	1	1
Office	4	6
Placement Commute	1	2
Problem Solving	8	13
Professional socialisation	30	114
Roles	35	164
Supervision	22	143
Teaching Strategies	14	51
Tension-Conflict	35	139
Timing	20	51
Workload	17	41
Product	38	409
IP Attitudes	17	30
IP Knowledge	16	40
IP Working	15	26
Relationships	25	51
Service user outcomes	23	67
Service outcomes	7	10
Student Assessment	5	10
Sustainability	9	11
Profession	30	596
AHP	1	2
Clinical Psychology	1	3
Dentistry	2	4
Dietetics	1	1
Education	1	3
Kinesiology	1	1
Medicine	17	73

Midwifery	2	2
Nursing	20	88
OT	12	55
Paramedic	1	1
Pharmacy	4	4
Podiatry	1	1
PT	10	34
SLT	7	32
Social Work	8	49

Table 1. Summary of high quality study characteristics

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>Carlson <i>et al.</i> (2011)<sup>43</sup></b>	Process	12 educators	Acute urban hospital-training ward.	2 weeks	Focus group, individual interview, participant observation
<b>Chipchase <i>et al.</i> (2012)<sup>44</sup></b>	Presage & process	8 students: 2 OT, 2 PT, 2 SLT, 2 Med; 4 educators: OT, SLT, PT	Orphanages and schools for children with disabilities.	5 weeks	Focus group, individual interview
<b>Fortugno <i>et al.</i> (2013)<sup>45</sup></b>	Process & product	3 students: 1 NU, 1 CY, 1 NT; 2 Educators: secondary school teachers; 40 secondary school students who were involved in IPP	Urban secondary school.	32 days [1 day per week x 8 months]	Focus group, reflective log
<b>Friary <i>et al.</i> (2018)<sup>46</sup></b>	Process, product	14 students; 6 SLT, 8 PT; 2 educators; service users: 5	University based clinic	14 weeks	Focus group, individual interview
<b>Gudmundsen <i>et al.</i> (2018)<sup>47</sup></b>	Process	32 students; 9 Med, 9 U, 8 OT, 6 PT	Geriatric rehabilitation ward, intermediate acute ward, nursing home and community health service	2 weeks	Participant observation, informal conversations
<b>Jacobsen <i>et al.</i> (2009)<sup>48</sup></b>	Process	8 students: 2 OT, 2 PT, 2 NU 2 Med; 2 educators; 4 site staff; 1 PhD student observer; 1 project manager	Acute urban hospital-training ward	2 weeks	Focus group, individual interview
<b>Lidskog <i>et al.</i> (2008)<sup>49</sup></b>	Product	16 students: 6 OT 6 NU, 4 SW	Acute urban hospital-training ward.	3 weeks	Individual interview
<b>Lidskog <i>et al.</i> (2009)<sup>50</sup></b>	Process	68 students: 22 OT 39 nursing, 7 SW	Acute urban hospital-training ward.	3 weeks	Individual interview, participant observation, reflective log

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>Missen <i>et al.</i> (2012)</b> <sup>51</sup>	Presage	57 educators: 3 OT, 5 PT, 3 SLT, 8 Med, 15 NU, 3 SW, 2 DT, 1 Psy, 1 MHNU 2 RD, 4 PH 3 DL, 3 PD, 2 MI, 2 PA	Acute rural hospital.	Not specified; not reporting on specific IPP but aggregated experiences	Focus group, individual interview, questionnaire
<b>Morphet <i>et al.</i> (2014)</b> <sup>4</sup>	Process	36 students (# unspecified Med, NU, other health care students)	Acute urban hospital-training ward.	2 weeks	Focus group
<b>Pelham <i>et al.</i> (2016)</b> <sup>52</sup>	Presage	16 educators: 2 OT, 3 NU, 4 PH, 2 DL, 1 PT, 1 Med, 1 DT, 1 Health promoter, 1 Manager	Rural community healthcare.	5 weeks	Individual interview
<b>Reeves (2000)</b> <sup>53</sup>	Presage, process & product	36 students: unspecified # of Med, NU and DL.; 15 educators; service users: 10	Urban community placement	2 weeks	Focus group, individual interview, participant observation
<b>Reeves <i>et al.</i> (2002)</b> <sup>54</sup>	Process	36 students: 6 OT, 6 PT, 12 Med, 12 NU; 8 educators; 1 ward staff;	Acute urban hospital-training ward.	2 weeks	Focus group, individual interview, participant observation
<b>Reeves (2008)</b> <sup>55</sup>	Presage	20 educators	Acute urban hospital-training ward.	4 weeks	Individual interview, participant observation
<b>Thackrah <i>et al.</i> (2017)</b> <sup>42</sup>	Process & product	12 students: 4 OT, 4 SLT, 2 SW, 1 EP, 1 GHS	Rural community placement	2-5 weeks	Individual interview
<b>Yang <i>et al.</i> (2017)</b> <sup>56</sup>	Presage, process & product	8 students: 4 OT, 4 SLT	Rural school placement.	6-8 weeks	Individual interview

Table 2. Summary of moderate quality study characteristics

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>Brewer <i>et al.</i> (2017)<sup>57</sup></b>	Presage, process & product	38 students: 12 OT, 10 SLT, 7 PT, 4 DT, 3 NU, 1 PH, 1 Psy	Two primary schools and an aged care facility.	1 to 12 weeks (profession dependent)	Focus group
<b>Freeth <i>et al.</i> (2001)<sup>58</sup></b>	Process	36 students: # unspecified Med, NU, PT, OT; 10 educators; 13 site staff	Acute urban hospital-training ward.	2 weeks	Focus group, individual interview, participant observation, questionnaire
<b>Gum <i>et al.</i> (2013)<sup>59</sup></b>	Product	5 students: # unspecified of DT & PM	Rural community placement	12-24 weeks	Focus group, reflective log
<b>Jakobsen <i>et al.</i> (2010)<sup>60</sup></b>	Process & product	Students: 22 Med	Acute urban hospital-training ward.	2-9 days	Interview
<b>Jakobsen and Hansen (2014)<sup>61</sup></b>	Presage & process	17 students: 4 OT, 7 PT, 6 NU; 8 educators: 2 PT 2 OT 4 NU; 3 managers (1 x PT, OT & NU)	Acute urban hospital ward.	1 week	Focus group
<b>Kent <i>et al.</i> (2014)<sup>62</sup></b>	Process & product	46 students: # unspecified of DT, Med, NU, OT, PH, PT, PD, SW, and SLT; 12 educators	Student clinic within a public health community rehabilitation centre.	2 days (spread over 4 ½ days]	Focus group
<b>Koskinen and Äijö (2013)<sup>63</sup></b>	Process	42 students: 2 OT, 2 PT, 2 NU, 13 BA, 9 DL 12 EC, 2 MW	University based clinic.	1-8 weeks	Focus group
<b>Marshall and Gordon (2010)<sup>64</sup></b>	Process	38 students: 2 OT, 4 PT, 7 Med, 22 NU, 3 SW; 22 educators: 3 Med, 8 NU; 5 SW, 2 OT 1 PM, 1 DT; 2 NHS Trust executive	NHS areas used as pilot sites	Not specified- reporting on aggregated experiences	Individual interview

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>Nicol and Forman (2014)</b> <sup>65</sup>	Process	7 students (professions unspecified); 12 university staff, 4 IPE site principals, 10 site staff	Two aged-care residential facilities and one school.	3 days to 11 weeks	Individual interview
<b>Richardson et al. (2010)</b> <sup>66</sup>	Presage & process	15 students: 7 PT, 8 OT; 18 educators	Role-emerging placement at two multidisciplinary clinics, a site providing health support to people using shelters and an agency providing community osteoporosis programs	Unspecified	Focus group, reflective log
<b>Strong et al. (2016)</b> <sup>67</sup>	Process	8 students: 2 OT, 2PT, 2 SLT, 2 Med	School for children with disabilities and two orphanages.	5 weeks	Individual interview
<b>Salm et al. (2010)</b> <sup>68</sup>	Product	41 students (# Unspecified Ed, NU, JS, KHS and SW); Educators: # unspecified educators; site staff: # unspecified	Two inner-city, elementary schools. One alternative school.	14 weeks	Individual interview, participant observation, reflective log
<b>Williamson et al. (2011)</b> <sup>69</sup>	Process	41 students (# unspecified of MW, DT, PD, OT, NU); 8 educators	Not specified	Not specified	Focus group, individual (telephone) interview

Table 3. Summary of low quality study characteristics

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>Anderson et al. (2010)</b> <sup>70</sup>	Process & product	43 students; 16 service-users	Community disability services	4 weeks	Focus group, individual interview

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>Anderson and Thorpe (2010)</b> <sup>71</sup>	Process & product	100 students: 9 SLT, 50 Med, 26 NU, 15 SW	Acute hospital ward.	1 week	Focus group
<b>Charles <i>et al.</i> (2008)</b> <sup>72</sup>	Presage & product	150 students (unspecified professions involved)	Rural community placement.	Not specified	Individual interview
<b>Charles <i>et al.</i> (2011)</b> <sup>73</sup>	Presage, process & product	14 students: SW	Rural community healthcare.	6 weeks.	Individual interview, questionnaire
<b>Ciccone <i>et al.</i> (2013)</b> <sup>41</sup>	Process & product	2 students: 1 SLT & 1 Psy; 3 educators, 2 SLT & 1 Psy	Role emerging placement at a correctional facility.	1 day per week over 20 weeks to co-facilitate a 90 min. group	Focus group, individual interview
<b>Craig <i>et al.</i> (2016)</b> <sup>40</sup>	Product	23 students (professions unspecified); 57 educators	Rural community placement.	4-6 weeks	individual (telephone) interview
<b>Drolet <i>et al.</i> (2011)</b> <sup>74</sup>	Presage	14 educators	N/A	N/A	Focus group
<b>Kinnair <i>et al.</i> (2012)</b> <sup>75</sup>	Process	11 students: 6 Med, 5 SW; 6 educators; 6 service-users; 1 carer	Community mental health services.	3 days	Focus group, individual interview, questionnaire
<b>Lyons <i>et al.</i> (2013)</b> <sup>76</sup>	Process & product	48 students: 21 Med, 19 NU, 8 PM; 2 educators: 1 Med and 1 NU	Acute urban hospital ward-colorectal surgery service.	3 sessions [averaged total of sessions (17) by total number of students, (48)]	Individual interview, participant observation
<b>McGettigan and</b>	Product	Educators: # unspecified of Med, NU, PT, OT	Acute urban hospital-training ward.	2 weeks	Focus group

Citation	3P features	Participants	Placement Setting	IPP Length	Data Collection
<b>McKendree (2015)<sup>77</sup></b>					
<b>Mpofu <i>et al.</i> (2014)<sup>78</sup></b>	Process	17 students: 3 PT, 10 Med, 4 NU	Rural community placement.	5 months	Focus group
<b>Seaman <i>et al.</i> (2015)<sup>79</sup></b>	Process & product	11 site staff; 12 service-users; 4 family/carers	Residential elderly care facility.	2-6 weeks	Focus group, individual interview

Abbreviations for Tables 1-3: #=number; BA=bio-analytics; CY=Child & Youth; DL=dental; DT=dietitian; EC=emergency care; EP=exercise physiology; GHS=general health sciences; JS=Justice Studies; KHS=Kinesiology & Health Studies; Med=medicine; MHNU: mental health nursing; MI=Medical Imaging; MW= midwifery; NHS=National Health Service; NT=nutrition; NU=nursing; OT=occupational therapy; PA=pathology; PH=pharmacy; PM=paramedic; PT=physiotherapy; Psy=psychology; SLT=speech & language therapy; SW=social w



**Table 4: Process of Thematic Synthesis**

Third order	Second Order	First Order	References
Building Theoretical Foundations	Theory underutilised	Theories are applied to the design and evaluation of a limited number of IPP studies.	40, 42, 45, 47, 49, 50, 51, 56, 59, 64, 70, 71, 75
		Time and proximity underpinning interprofessional learning	4, 41, 44, 46, 53, 54, 61, 64, 66, 67, 68, 72, 73, 78
Layered Leadership	Team ownership of IPP	There is a reliance on frontline champions to implement IPP, making IPP vulnerable if these people move roles	46, 51, 53, 54, 64, 78
	Interagency partnerships	Leadership is needed at managerial level within organisations and across health and education agencies	45, 48, 51, 52, 53, 55, 61, 62, 64, 65, 68, 69, 71
		Integrated leadership can support adequate resourcing of IPP	41, 51, 57, 65, 71, 74, 78
Navigating New Realities	Tension between new and traditional model of placement	Students, educators and service-users are often unclear about what is expected of them during IPP	41, 42, 43, 45, 46, 49, 53, 70, 73, 75, 76, 78, 79
		Stakeholders, especially students and educators require IPP specific training/ supports ahead of IPP as it roles differ from those of held during a uniprofessional placement	44, 48, 53, 57, 58, 60, 61, 62, 65

		IPP is perceived as lower status that uniprofessional placement activity	49, 54, 55, 58, 59, 64

**Table 5: CERQual Evidence Profile**

<b>Finding</b>	<b>Studies contributing to the review finding</b>	<b>Data Adequacy</b>	<b>Methodological Limitations</b>	<b>Coherence of Findings</b>	<b>Relevance of research</b>	<b>CERQual assessment of confidence</b>	<b>Explanation of CERQual assessment</b>
<b>Building Theoretical Foundations</b>							
<i>Theories are applied to the design and evaluation of a limited number of IPP studies.</i>	40, 42, 45, 47, 49, 50, 51, 56, 59, 64, 70, 71, 75	Minor concerns	Minor concerns	Moderate concerns	Minor concerns	Moderate	Of 14 studies, 9 had no/very minor or minor concerns regarding data adequacy, with 4 moderate concerns and 1 serious concern. 9 studies had no/very minor or minor concerns regarding methodological limitations, with 3 moderate and 2 serious concerns. 8 studies had no/very minor or minor concerns regarding coherence of findings, with 3 having moderate concerns and 3 having serious concerns. 11 had no/very minor or minor concerns regarding relevance of research and 3 had moderate concerns
<i>Time and proximity</i>	4, 41, 44, 46, 53, 54, 61,	Moderate concerns	Minor concerns	Minor concerns	Minor concerns	High	Of 14 studies, 8 had no/very minor or minor concerns regarding data adequacy with 5

<b>Finding</b>	<b>Studies contributing to the review finding</b>	<b>Data Adequacy</b>	<b>Methodological Limitations</b>	<b>Coherence of Findings</b>	<b>Relevance of research</b>	<b>CERQual assessment of confidence</b>	<b>Explanation of CERQual assessment</b>
<i>underpinning interprofessional learning</i>	64, 66, 67, 68, 72, 73, 78						having moderate concerns and 1 serious concern. 10 had no/very minor or minor concerns regarding methodological limitations and there were 4 moderate concerns. 11 had no or minor concerns regarding coherence and relevance of research, with 3 moderate concerns for each category.
<b>Layering Leadership</b>							
<i>There is a reliance on frontline champions to implement IPP, making</i>	46, 51, 53, 54, 64, 78	No or very minor concerns	Minor concerns	No or very minor concerns	No or very minor concerns	High	Of 6 studies, 5 had no/very minor concerns regarding data adequacy and 1 moderate concern. 5 had no/very minor or minor concerns regarding methodological limitations, with 1 moderate concern. 5 had no/very minor or minor concerns regarding

<b>Finding</b>	<b>Studies contributing to the review finding</b>	<b>Data Adequacy</b>	<b>Methodological Limitations</b>	<b>Coherence of Findings</b>	<b>Relevance of research</b>	<b>CERQual assessment of confidence</b>	<b>Explanation of CERQual assessment</b>
<i>IPP vulnerable if these people move roles</i>							coherence of findings and relevance of research with 1 moderate concern in each category.
<i>Leadership is needed at managerial level within organisations and across health and education agencies</i>	45, 48, 51, 52, 53, 55, 61, 62, 64, 65, 68, 69, 71	Minor concerns	Minor concerns	Minor concerns	Minor concerns	High	Of 13 studies, 11 had no/very minor concerns regarding data adequacy with 1 moderate and 1 serious concern. 8 had no/very minor or minor concerns regarding methodological limitations, with 4 moderate concerns and 1 serious concerns. 11 had no/very minor or minor concerns regarding coherence of findings, with 1 moderate and 1 serious concern. 10 had no/very minor or minor concerns regarding relevance of research, with 3 moderate concerns.
<i>Integrated leadership can support</i>	41, 51, 57, 65, 71, 74, 78	Minor concerns	Moderate concerns	Minor concerns	Minor concerns	High	Of 13 studies, 11 had no/very minor or minor concerns regarding data adequacy with 1 moderate and 1 serious concern. 8

<b>Finding</b>	<b>Studies contributing to the review finding</b>	<b>Data Adequacy</b>	<b>Methodological Limitations</b>	<b>Coherence of Findings</b>	<b>Relevance of research</b>	<b>CERQual assessment of confidence</b>	<b>Explanation of CERQual assessment</b>
<i>adequate resourcing of IPP</i>							had no/very minor or minor concerns regarding methodological limitations, with 4 moderate concerns and 1 serious concern. 11 had no/very minor or minor concerns regarding coherence of findings and relevance of research, with 2 moderate concerns in each category.
<b>Negotiating New Realities</b>							
<i>Students, educators and service-users are often unclear about what is expected of them during IPP</i>	41, 42, 43, 45, 46, 49, 53, 70, 73, 75, 76, 78, 79	Moderate concerns	Minor concerns	Moderate concerns	Minor concerns	Moderate	Of 13 studies, 7 had no/very minor or minor concerns regarding data adequacy, 3 had moderate and 3 had serious concerns. 7 had no/very minor or minor concerns regarding methodological limitations, with 5 moderate concerns and 1 serious concern. 9 had no/very minor or minor concerns regarding coherence of findings with 1 moderate and 3 serious concerns. 7 had no/very minor

<b>Finding</b>	<b>Studies contributing to the review finding</b>	<b>Data Adequacy</b>	<b>Methodological Limitations</b>	<b>Coherence of Findings</b>	<b>Relevance of research</b>	<b>CERQual assessment of confidence</b>	<b>Explanation of CERQual assessment</b>
							concerns regarding relevance of research while 6 had moderate concerns
<i>Stakeholders require IPP specific training/ supports ahead of IPP as roles differ from those of held during a uniprofessiona l placement</i>	44, 48, 53, 57, 58, 60, 61, 62, 65	Minor concerns	Minor concerns	No or very minor concerns	No or very minor concerns	High	Of 9 studies, 7 had no/very minor or minor concerns regarding data adequacy, with 2 moderate concerns. 6 studies had no/very minor or minor concerns regarding methodological limitations, with 3 moderate concerns. 8 studies had no/very minor or minor concerns regarding coherence of findings and 1 moderate concern. 9 studies had no/very minor or minor concerns regarding relevance of research
<i>IPP is perceived as lower status than</i>	49, 54, 55, 58, 59, 64	Minor concerns	Minor concerns	No or very minor concerns	Minor concerns	High	Of 6 studies, 5 had no/very minor or minor concerns with 1 moderate concern regarding data adequacy, methodological limitations and coherence of findings. 6 had no/very

Finding	Studies contributing to the review finding	Data Adequacy	Methodological Limitations	Coherence of Findings	Relevance of research	CERQual assessment of confidence	Explanation of CERQual assessment
<i>unprofessional placement activity</i>							minor or minor concerns regarding relevance of research.