ORIGINAL SCIENTIFIC PAPER

ORIGINAL RESEARCH: RURAL EDUCATION

Interprofessional education in a rural community: the perspectives of the clinical workplace providers

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ABSTRACT

INTRODUCTION: Interprofessional education is internationally recognised as a key element in preparing a collaborative practice-ready health workforce, for improving health care outcomes and patient-centred practice. The Tairāwhiti interprofessional education (TIPE) programme was introduced in 2012 in a rural area with a high Māori population. Students from seven health professions: dentistry, dietetics, medicine, nursing, occupational therapy, pharmacy and physiotherapy participated in clinical rotations as well as working in Māori communities with Māori health providers.

AIM: The primary aim was to retrospectively investigate clinical workplace providers' perspectives on their participation in the TIPE project over its first 3 years.

METHODS: Face-to-face, semi-structured interviews were completed with 16 clinical workplace providers involved in TIPE. A qualitative approach using template analysis methodology and *a priori* themes was used to identify predominant themes from the providers' perspectives.

RESULTS: All 16 providers reported positive experiences during their involvement in TIPE and wished to continue with this educational model. Benefits described included greater interprofessional collaboration at the workplace; improved engagement between students and providers; enhanced patient-centred care, particularly with Māori and whānau; and positive outcomes from community projects undertaken by the students. Although providers acknowledged additional costs on time, pressure on staff and extra workloads, all confirmed that the benefits from the project far outweighed the costs.

CONCLUSION: From the providers' perspectives, the TIPE project met its objectives. Furthermore, providers noted several students had re-located back to Tairāwhiti to work as health professionals, which suggests that investment in TIPE adds long-term value to the community.

KEYWORDS: Interprofessional education, providers' perspective, rural community, interprofessional collaboration

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Introduction

Interprofessional education (IPE) is internationally recognised as a key component in strengthening health care and overcoming practice challenges, by teaching students skills necessary to become part of the collaborative practice-ready health workforce.[1] The Centre for the Advancement of Interprofesssional Education (CAIPE) determined IPE occurs when two or more professions learn *with, from* and

about each other to improve collaboration and quality of care for patients.[2] Effective IPE leads to effective interprofessional collaboration.[1,3,4] In turn, interprofessional collaboration can improve patient outcomes and patient-centred care, patient satisfaction, work environments and staff turnover; enhance patient safety; optimise different health professionals' skills; and reduce workloads.[1,5–10] Furthermore, IPE can add value to communities as it focuses on family needs.[4] Rural environments have been shown to be particularly suitable for clinical experience and learning for IPE immersion students.[11,12]

In New Zealand (NZ), health priorities include a focus on specific population needs, reducing health disparities and improving collaborative practice.[13,14] Despite evidence that IPE should occur pre-registration, as a precursor to interprofessional collaboration,[15,16] tertiary education institutions in NZ have been slow to embrace and implement this concept.[17] In 2012, Health Workforce New Zealand, the branch of the Ministry of Health tasked with leading and supporting training and development of the health and disability workforce, provided funding for a new model of learning for health professional students. The model, based on IPE principles, also has an emphasis on Hauora Māori and long-term conditions management within a rural environment. One of the proposed outcomes was that the model would encourage health professionals to return to work within rural communities. The Tairāwhiti interprofessional education (TIPE) programme was set up initially as a 3-year pilot by the University of Otago, alongside its sister programme based in Whakatāne (University of Auckland). The Tairāwhiti region is one of the most socio-economically deprived areas in New Zealand with a high Māori population (47%),[18,19] thus students also gain experience working in Māori communities and with Māori health providers. Outcomes and benefits of IPE from the students' and patients' perspectives have been examined elsewhere;[20–30] however, few studies have specifically sought clinical providers' perspectives.[17,23,27] The primary aim of this study was to retrospectively investigate the clinical workplace providers' perspectives on their involvement in the TIPE programme.

WHAT GAP THIS FILLS

What is already known: Clinically based interprofessional education has a proven benefit for student learning, and prepares health professionals to be collaborative-practice ready by the time they graduate and commence practice.

What this study adds: This study shows that positive benefits from a clinically based education programme extend to clinical providers, their practices and to their largely rural community with a high Māori population.

Methods

Context

At Tairāwhiti, the TIPE programme runs in 5-week rotations spaced over the academic year. Final year, pre-registration students were selected to participate in the programme as part of their respective degree programmes, with each rotation including a mix of students from dentistry, dietetics, medicine, pharmacy and physiotherapy programmes at the University of Otago, nursing at the Eastern Institute of Technology (EIT), and occupational therapy at the Otago Polytechnic. Students are placed in a wide variety of clinical workplaces in the Tairāwhiti region including Wairoa, where they work under the supervision of clinical placement providers, not only in their own clinical discipline (eg a dietetic student working with a dietitian clinical provider) but also in each other's discipline (eg dietetic student attends a general practice placement with a medical student). Students also work collaboratively on various tasks, including on a community education project, and live and socialise together in the shared accommodation provided in Gisborne and Wairoa. Clinical providers include a wide variety of experienced practitioners and practices in all the participating disciplines, with some larger workplaces able to supervise several students concurrently. Because the programme is clinically based, the commitment of workplace providers and practices is essential for its success.

Study design

The study was a standardised evaluation designed to obtain feedback from a range of clinical

workplace providers involved in TIPE over the 13 rotations in 2012–2014. Twenty-seven clinical workplace providers based in various Tairāwhiti locations, who had two or more IPE student groups on placements, were invited by letter to be included in the study. One researcher (KP), followed up providers to confirm their participation. All participants received an information sheet and gave written informed consent. Ethical approval for this study was obtained from the University of Otago Human Ethics Committee.

Table 1. Characteristics of the clinical workplace providers who participated (n = 16)

Provider no.	Health professional	Provider setting*	No. of student groups hosted	Provider's role†
1	Occupational Therapist	Inpatient & Community	3	PPF
2	Dietitian	Inpatient	10	PPF
3	Nurse	Community	11	PPF
4	Pharmacist	Community & Rural	6	Clinical support
5	Dentist	Community	7	Clinical support
6	Nurse and CEO	Community & Rural	13	Clinical coordinator
7	Pharmacist	Community	6	Clinical support
8	Nurse and manager	Community	8	Clinical support & coordinator
9	Manager	Community & Rural	9	Clinical coordinator
10	Physiotherapist	Inpatient & Community	13	PPF
11	Health promoter	Community	2	Clinical support
12	Pharmacist	Community	2	Clinical support
13	Occupational Therapist	Inpatient, Community & Rural	2	Clinical support
14	Doctor	Inpatient, Community & Rural	2	Clinical support
15	Pharmacist	Inpatient	12	PPF
16	Dentist	Community	13	PPF

* *Inpatient* refers to an acute care hospital inpatient setting within a secondary level hospital. *Community* refers to acute or chronic care within the wider community. *Rural* refers to health care extended to the rural areas of Gisborne and Wairoa.
† Professional practice fellows (PPFs) are employed part-time by the University and have an educational as well as a clinical supervisory role.
CEO, chief executive officer; PPF, professional practice fellow.

Data collection

Standardised sets of questions were developed by KP and MS to put to providers about their perspectives on their participation in TIPE over its first 3 years. Questions were based around IPE, the practice setting and details of the location, and seven specific *a priori* themes, which were pre-identified based on the project's aim: (1) reasons for participation; (2) level of understanding of IPE before and after the project endpoint; (3) satisfaction with the briefing given, liaison with TIPE administration, and the ability to provide feedback; (4) students' contributions valued by service providers and the level of engagement perceived by providers and by patients/clients; (5) perceived benefits and disadvantages to the community workplace and to patients/clients; (6) intentions for future participation; and (7) limitations of and suggested modifications to the TIPE setup and structure.

KP conducted face-to-face, semi-structured interviews with providers and included opportunity for open-ended questions to allow further exploration of responses. A back-up videoconference system at Gisborne Hospital was available when distance precluded a physical meeting. Interviews were audiotaped and transcribed verbatim. Interviews were conducted between mid-November and mid-December 2014.

Data analysis

Qualitative data were then analysed using template analysis, a form of thematic analysis that involves a hierarchical coding from initial *a priori* themes.[31,32] In this study, an initial coding template was developed based on the *a priori* themes identified and agreed on by KP and MS. Using the first few datasets, emerging subthemes were then grouped under the *a priori* themes. For each transcribed interview, KP identified these subthemes, and using standardised Master Codes, continued to code recurring responses onto an MS Excel file. Data were qualitatively analysed by reviewing the coded quotations and making links within and between themes. As more data were analysed, initial subthemes were refined and new subthemes were identified. To cross-check the analysis, MS independently

identified subthemes from the transcribed interviews and made further suggestions. The final allocation was determined by mutual agreement between KP and MS. Once subthemes were identified and agreed upon, further analysis focused on the strongest subthemes that related to the study aim: the clinical providers' perspectives of IPE in a rural community.

Results

Practice settings and level of participation by providers

Face-to-face interviews were undertaken with 17 of the 27 potential clinical workplace providers (those who had hosted at least two groups of IPE students). One workplace had only hosted one qualifying IPE group, so their responses were excluded. Characteristics of the 16 clinical workplaces providers are shown in Table 1. Twelve providers were from Gisborne and four from Wairoa. At least one clinical workplace provider was interviewed from each of the seven health professions represented and who were involved in supervision of students in the TIPE programme. The median number of student groups placed with providers was eight (range: 2–13). In total, 14 of the 16 workplaces provided students with experiences in the wider community rather than a hospital outpatient setting.

From the responses, several subthemes emerged from the data analysis. These were able to be grouped under six main, previously identified *a priori* themes: (1) reasons for clinical workplace providers' participation; (2) level of understanding of IPE before and as a result of the project; (3) satisfaction with the TIPE briefing, administration and ability to provide feedback; (4) student contributions and levels of engagement; (5) benefits/ disadvantages for the community workplace and patients/ clients; and (6) future intentions/suggested modifications.

Theme 1: reasons for clinical workplace providers' participation

All providers acknowledged the important reasons for participation, one of which was that TIPE gave students the opportunity to learn about the IPE work environment, as well as exposing students to a Māori community. Identified subthemes grouped under this *a priori* theme are shown in Table 2.

Theme 2: level of understanding of IPE before and as a result of the project

Pre-participation, the level of understanding about IPE varied widely among providers, although approximately half expressed some understanding that IPE involved an interprofessional team approach to practice: The approach can:

> 'Help appreciate each other's roles and to work better as a team.' [Provider 14]

Table 2. Reasons for participation in the Tairāwhiti interprofessional education programme

Reasons for participation	*n*	Examples of comments from providers
Learn about IPE work environment	15	*Really good way to get an understanding of what the programme is about.*
Opportunity for students to experience what it is like working in a Māori community	15	*I saw it as a way to get dietetic students to come to a Māori community.*
Giving students positive experiences to entice them back to the community	14	*We know we have to actually get students to come so they can see it's actually a fun place to work and live.*
Teaching students as part of the providers' role	14	*When we were first approached… we were excited because we are a teaching practice.*
Professional development	13	*So we really grow with the physio students.*
Two-way learning	12	*They teach us a lot of technical things…their clinical knowledge…in some ways a lot better than mine.*
Engages staff within the profession to work together	12	*It's quite kind of nice because you are working with other disciplines.*
Training opportunity through connection with Otago University	7	*Saw it as a way of accessing any training the Uni might have/provide.*
Challenge for self	3	*But a good challenge.*
Means of bringing in some funding/facilities	1	*Saw it as a means to get money for our service.*

IPE, interprofessional education.
n = frequency of comments attributed to each subtheme.

Over half of the providers indicated they had a greater understanding of IPE by the end of the 3 years.

Theme 3: satisfaction with the briefing given, liaison with TIPE administration and ability to provide feedback

Overall, providers were very satisfied with their initial briefing from programme staff and appreciated the ability to give feedback to TIPE coordinators about the communication with TIPE administration. Providers also appreciated the level of communication about the programme before involvement:

> 'Oh perfect! … is an excellent communicator; always knows which students we're getting…if there are issues with timing of when the students have been assigned we can go back to … and make adjustments.' [Provider 3]

Table 3. Students' contributions and level of engagement in the Tairāwhiti interprofessional education programme

Students' contributions	*n*	Examples of comments
Working with whānau (extended family)	15	*For them to carry a caseload and see patients…that's the biggest contribution.*
New energetic person	13	*Bringing the energy, and bringing the new person for someone to listen to.*
Keen to learn about another profession	13	*Really keen to learn what occupational therapy is about and how it relates to their own profession.*
High motivation	12	*Positive attitudes, motivation, willingness and want.*
Students stimulate the health profession to learn	11	*We can identify what skills we need a little more strengthening.*
Student confidence	9	*Well some [students] were excellent. But that's probably to do with their confidence.*
New or updated resources or knowledge	9	*Would receive resources, training, updates knowledge - achieved all of that.*
Peer learning	3	*How it's different from what I have been taught, so peer learning experience.*
Student engagement		
Positive experiences	16	*From a provider perspective it's been really positive.*
Positive relationships established	16	*Yeah fantastic. They were really seen as part of a team, not as students.*
Providers perceived students to have a patient-centred focus	15	*So their whole time is patient-centred because that's how we work.*
Community keen to learn and share their knowledge	14	*People here are very practical so coming in and working alongside our patients.*
Community keen to interact with and learn about students' professions	14	*They love to know they are part of somebody's learning.*
Wanting to make students feel welcome	9	*We allowed students the space to feel comfortable/belonging.*

n = frequency of comments attributed to each subtheme.

Theme 4: student contributions and levels of engagement

Identified subthemes grouped under this main *a priori* theme are represented in Table 3. Students' contributions and engagement in practice were valued and strongly supported by the workplace providers:

> 'Positive attitudes, motivation, willingness and want - I think they fitted in really well.' [Provider 1]

> 'Our clients and general public had opportunities to talk with young, energising people.' [Provider 12]

Theme 5: perceived benefits/ disadvantages to the community workplace and to patients/clients

Subthemes are summarised in Table 4. Whether expected or unexpected, all providers strongly agreed that involvement in TIPE benefitted both their workplace and patients:

> 'The more students are exposed to barriers and the realities of living in rural, with the high Māori population; hopefully patient-centred care becomes more appropriate.' [Provider 2]

Each provider indicated several benefits resulting directly from the students' contributions to patients, or from the community projects students worked on. Most importantly, providers recognised the ongoing benefits TIPE has for the community:

> 'If one of them out of all of them was to decide to come back to Gisborne to carry on with their particular interest then that's got to be good value…I probably saw that as a real benefit.' [Provider 8]

> 'Gosh we have had a few good ones [community projects]…some are still being used as resources…a couple have been used as proposals for funding.' [Provider 7]

Despite providers acknowledging the additional costs related to time, staff and extra workload (Table 4), all providers stated that the benefits of having the students outweighed any costs or negative experiences:

> '[There is] not a single reason why I wouldn't want to continue involvement.' [Provider 3]

Theme 6: future intentions and suggested modifications

All providers' felt there was 'two-way value' with TIPE and indicated an ongoing commitment to have continuing involvement:

Table 4. Providers' perceived benefits and barriers/disadvantages from involvement in the Tairāwhiti interprofessional education programme showing key subthemes for each

Perceived benefits	*n*	Examples of comments
Ongoing value	16	*A lot of the potential of what IPE is about…has it made us smarter and wiser? Yeah.*
Believes benefits outweigh the costs	16	*I'd do it for nothing, I think we do get benefits and we have a role to play.*
Patient-centred learning and practice	16	*Not only exposes students to the environment and setting, also the* whānau *(extended family) in the community.*
Cultural aspect	15	*Very appreciative of the placements and Māori culture, I think a lot hadn't been exposed to that.*
Client benefits from extra time taken when with students	13	*I think they can benefit from the extra attention and care.*
Positive influences on community to see students 'outside' of their region	12	*They could see somebody who was going to University and talking to them…very positive.*
Willingness of staff to take on students	11	*Everybody here really enjoys it you know.*
Benefit of HP working together better	11	*We are far more aware actually of what each other's roles are and where we can link in with people…I ring the pharmacy heaps, and ask for advice from that.*
Future work	11	*It's achieved a few objectives…to recruit and get people to come and want to work here.*
Community projects benefit the community	10	*Has a very positive effect…huge impact on our community. And it's ongoing.*
Challenges the provider	9	*They challenge us, made us think 'hang on a minute do I know that?'*
Students stimulate reflective practice benefitting both student and HP	9	*Good for me professionally to explain what I am doing…check within itself as reflective practice.*
Community projects benefit the provider	2	*Gosh we've had a few good ones! We have used them…a couple as proposals for funding too.*
Perceived barriers/disadvantages		
Cost in terms of time/space/the time students take to supervise	15	*It slows everything down. Have to help them on a journey.*
Disinterested students/project focus	8	*Only negativity was when we had two students who didn't participate working with my staff.*
Tough community to be accepted by	4	*People are tough and people can be really harsh.*
Patient denies consent to be seen	4	*The only barriers would be individual clients…we do get difficult clients.*

HP, health professional; IPE, interprofessional education; IP, interprofessional.
n = frequency of comments attributed to each subtheme.

> 'I personally think having had this project…clearly demonstrated the value of IPE. We now need to normalise it.' [Provider 15]

Almost all providers believed the structure and set up of the TIPE model provides opportunities for both the provider and students. Despite providers appearing to be largely satisfied with the structure, several made suggestions to ensure ongoing programme success:

> 'I think we have to be careful to not dilute it from our point of view…not to grow it too much bigger.' [Provider 10]

Most providers did not feel that the programme had particularly changed their current operations. However, some did identify positive changes in the way they operated:

> 'So now actually we have created this huge network…I now have a bigger group of people amongst my professional fellows and we now work with each other a lot more closely than what we did before as we never knew we existed.' [Provider 16]

Clinical providers with additional educational roles

A subanalysis showed that providers who also had a formal educational role with the students (as professional practice fellows) had a stronger IPE-specific response; agreed a reason for participating was to 'engage staff within the profession to work together'; perceived students were 'keen to learn about another profession'; and were more likely to recognise 'benefits of health professionals working together,' compared to those clinicians who were not formally appointed as educators.

Discussion

The study investigated clinical workplace providers' perspectives about their involvement in the TIPE programme. There was strong support from providers for the TIPE programme, and benefits easily outweighed the challenges such as the additional time commitment required. This study confirmed that the structure of TIPE was both acceptable to health professionals and sustainable for providers.

Tairāwhiti is often a difficult region to attract health professionals to live and work in.[33] Many providers wanted to expose students to what it is like working in a Māori community and give students positive experiences to entice them back to the area. Providers noted the success of TIPE, when observing that some graduates had already relocated back to Tairāwhiti to work as health professionals. In time, such outcomes may reverse the long-standing shortage of health professionals choosing to work in New Zealand rural communities.[32] This outcome is exciting, as it corresponds to a key goal for investment made by Health Workforce New Zealand (HWNZ) in the new model of learning and is in line with IPE goals.[5]

All providers had positive relationships with students, who engaged well with staff, patients and the community. This is particularly important in a small community such as Tairāwhiti, where a trusting rapport needs to be established between patient and health professional to achieve optimal outcomes. Providers also valued having energetic, highly motivated students, who were patient-centred, keen to learn about and be involved with other professions, and who would contribute to services and the community.

The two-way value of learning from the students as well as students learning from providers, and enhanced collaborations between services as a result of students' positive interactions with the various workplace providers, were also important findings. Providers involved in both education and supervision noted clinical and non-clinical relationships improved their communication with each other, realising their own interprofessional collaboration increased as a result of the project. This is a particularly encouraging finding, as providers now have the potential to sustain and promote interprofessional collaboration among other health professionals in the Tairāwhiti region.

Additionally, providers recognised that students involved in TIPE will be future health professionals who have the knowledge to initiate

collaboration and potentially break down professional silos. Such learning corresponds with the WHO's notion that IPE is a necessary component for preparing a collaborative practice-ready health workforce.[1,13]

Further benefits perceived by providers included the students' interactions that challenged providers, stimulating them to reflect on their own practice. These findings align with the work by Reeves *et al.*,[23] who found facilitators in an IPE training ward identified beneficial outcomes from their involvement, including opportunity for their own academic and professional development.

Providers also endorsed the direct benefits of TIPE to the patients and the community. A qualitative study examining the effect of the TIPE programme on social determinants in the region noted that students felt they were 'working for real' and saw the value of the projects to the community.[29] Such findings highlight the success of incorporating a socially accountable activity in the programme, as students and providers appreciated both the tangible effect of the project, and the positive relationships formed.[29]

Other results in this study also supported the TIPE model from an administrative perspective, though providers did acknowledge additional workplace costs with regards to time, pressure on staff and extra workloads. A few providers perceived that continuing back-to-back involvement, or increasing the student numbers, could put too much pressure on the provider/staff. However, all providers felt the ongoing benefits of the project far outweighed any costs, confirming the success of the project set up and ongoing relationships with the providers.

Strengths and limitations

A key strength of our study was the willing participation of members of all seven health professions involved. Providers included a health promoter, clinical manager and a chief executive officer, and their perspectives added to the range of views. The majority of providers interviewed had a long-term involvement with the TIPE programme, with three providers having had a group of students in every 5-week block over the 3 years. It was important to capture these longitudinal perspectives, as initial perspectives about ongoing benefits and disadvantages may change with time. Another strength of this study was the robust design where subthemes from transcriptions were cross-checked independently (by MS) to reduce the risk of coding errors and bias.

One potential limitation was the nature of participation. Perspectives may have been biased towards those who agreed to participate because they were happy to share positive experiences. However, the majority of non-participants were from Wairoa, a satellite township, where most providers had only participated in the third year and did not meet the inclusion criterion of two or more groups. Thus, our actual participation rate of those eligible was high and captured both providers' perspectives across the professions and the range of student groups. With manual coding, there is always a possibility of coding error; however, independent cross-checks were completed for all transcripts to reduce this risk. This study related to the TIPE programme only, and the perspectives presented here can only be extrapolated with caution to other areas of New Zealand or overseas. The data were also limited to the 3 years in which the pilot study was carried out, and may not reflect current perspectives. However, the TIPE project is now in its fifth year, with continued and committed support from clinical providers. New providers supporting students from the Oral Health programme at the University of Otago have now successfully joined the programme.

Conclusion

Our results add a unique perspective about IPE in a rural community. The study has shown that the TIPE model worked well from the clinical providers' perspectives, and they perceived it was the interprofessional component that had the greatest ongoing value to enable the students, and to some extent themselves, to actively foster collaborative patient-centred practice. Providers felt it was most important for students to have positive experiences in order to entice them back

to rural communities such as Tairāwhiti. It is clear this extra effort has been worth the cost, as some TIPE students have already relocated back to the area as new-graduate health professionals. Expanding beyond the current student numbers in Tairāwhiti could potentially result in too much pressure on providers, thus recognising an optimal number is important. Finally, the study demonstrated that the TIPE model has potential to be successfully extended into other clinical sites, particularly those in rural communities.

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COMPETING INTERESTS
The authors report no conflicts of interest.

AUTHOR CONTRIBUTIONS
Authors SP, MS and PM contributed to the development of, and/or taught parts of the educational programme, designed the study, assisted with data collection and contributed to the analysis. Data analysis was led by MS. KP assisted in study development, reviewed literature, collected and analysed data and wrote the first draft of the manuscript; she is also a past student of the programme. In addition, all authors contributed to further analysis, interpretation, and the first and subsequent drafts and revisions of the manuscript. All authors approved the final version of the revised manuscript.