

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	The longitudinal impact of interprofessional education on attitudes, skills and career trajectories: A protocol for a quasi-experimental study in New Zealand
<b>AUTHORS</b>	Darlow, Ben; Brown, Mely; Gallagher, Peter; Gray, Lesley; McKinlay, Eileen; Purdie, Gordon; Wilson, Christine; Pullon, Sue

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Anthony J. Goreczny, Ph.D. Chatham University United States of America
<b>REVIEW RETURNED</b>	06-Sep-2017

<b>GENERAL COMMENTS</b>	<p>The stated purpose of this manuscript is to report on longitudinal data regarding interprofessional competencies among several different groups of students and young professionals. This is very important work, and one of the strengths of this paper is inclusion of the wide range of professions. There are a few changes that need made prior to publication, however:</p> <ol style="list-style-type: none"><li>1. The major concern is that there are currently no data in this paper. It is highly unusual to submit research papers that describe what will be done instead of reports of work accomplished. In addition, the authors appear to have data available from at least two data collection points (three data collection points for cohort 1). The authors need to consider analyzing that data and including it in this paper. Based on their timeline, they ought to have data pre and post the interprofessional education (IPE) experience. Inclusion of that data (without worrying about subsequent data collections) could be valuable in and of itself. Such a paper could describe how students changed as a result of the IPE experience itself and if there were any differences across the professions. A subsequent paper (if there is enough data – getting students to complete information after they have graduated is a challenge in and of itself) could then look at how the IPE program affected their post-training experiences.</li><li>2. The authors use the term “pre-registration.” Although some of us are familiar with that term, many others will not be aware of what it means because different countries use different terminology to describe professional status. The manuscript would benefit from a very brief description of this term the first time the authors use it.</li></ol>
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	<p>3. On page 13, the authors noted that they “are not aware of any major changes in curriculum between 2015 and 2016 which would influence the comparability of the Cohort Two participants to those from Cohort One.” Although this may be true, there may be differences between the two cohorts that the authors cannot control (e.g., different types of students applying to programs at different times of the year), and the authors do have a way of checking on relevant differences. The authors ought to consider comparing ATCHTS and TSS data from survey one collection points to determine any differences. If there are no differences between the two groups, they have justification for combining the two groups for subsequent data analyses.</p> <p>In summary, although this paper describes a very important and much needed type of program and data collection process, there are some changes that would benefit the importance of this manuscript – mostly analysis of data the authors already appear to have and inclusion of those analyses in the manuscript.</p>
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<b>REVIEWER</b>	Kathryn Steven University of Dundee Scotland, UK
<b>REVIEW RETURNED</b>	07-Sep-2017

<b>GENERAL COMMENTS</b>	<p>Thank you for the opportunity to review this interesting manuscript. While there are some potential limitations to this study, for example the potential lack of power, potential confounding factors, and the lack of comparative qualitative data for the non-TIPE group the authors recognize these factors and have made attempts to address where possible. The only suggestion would be that follow up for longer than 3 years post graduation may be necessary to truly establish where participants end up in terms of career choice, practice setting and geographical location.</p>
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<b>REVIEWER</b>	Vernon Curran Memorial University of Newfoundland
<b>REVIEW RETURNED</b>	11-Oct-2017

<b>GENERAL COMMENTS</b>	<p>This paper outlines the study protocol to undertake a longitudinal evaluation of the effect of an interprofessional education immersion program in rural, indigenous communities in New Zealand. The investigators plan to use several well validated evaluation instruments to collect longitudinal evaluation data on learners across a number of professions at both pre-registration and multiple post-registration points in time. Quasi-experimental study design is proposed that will allow comparison between participants and non-participants in the planned interprofessional education intervention. The proposed evaluation study should contribute meaningful findings to the interprofessional education literature regarding the effect of interprofessional rural, indigenous immersion programs. Some minor typos throughout the paper that should be edited.</p>
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## VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Reviewer Name: Anthony J. Goreczny, Ph.D.

Institution and Country: Chatham University, United States of America Please state any competing interests: None declared.

Please leave your comments for the authors below

The stated purpose of this manuscript is to report on longitudinal data regarding interprofessional competencies among several different groups of students and young professionals. This is very important work, and one of the strengths of this paper is inclusion of the wide range of professions.

We thank Professor Goreczny for this positive comments.

There are a few changes that need made prior to publication, however:

1. The major concern is that there are currently no data in this paper. It is highly unusual to submit research papers that describe what will be done instead of reports of work accomplished. In addition, the authors appear to have data available from at least two data collection points (three data collection points for cohort 1). The authors need to consider analyzing that data and including it in this paper. Based on their timeline, they ought to have data pre and post the interprofessional education (IPE) experience. Inclusion of that data (without worrying about subsequent data collections) could be valuable in and of itself. Such a paper could describe how students changed as a result of the IPE experience itself and if there were any differences across the professions. A subsequent paper (if there is enough data – getting students to complete information after they have graduated is a challenge in and of itself) could then look at how the IPE program affected their post-training experiences.

Response: As noted by the editor, this is a protocol paper and is not intended to present results.

2. The authors use the term “pre-registration.” Although some of us are familiar with that term, many others will not be aware of what it means because different countries use different terminology to describe professional status. The manuscript would benefit from a very brief description of this term the first time the authors use it.

Response: We thank Professor Goreczny for pointing out that this term may not be universally understood. We have added a brief description at the point of first use as suggested:

IPE appears to be generally well received by pre-registration students (students enrolled in a programme that prepares them for professional registration or licensure),

3. On page 13, the authors noted that they “are not aware of any major changes in curriculum between 2015 and 2016 which would influence the comparability of the Cohort Two participants to those from Cohort One.” Although this may be true, there may be differences between the two cohorts that the authors cannot control (e.g., different types of students applying to programs at different times of the year), and the authors do have a way of checking on relevant differences. The authors ought to consider comparing ATCHTS and TSS data from survey one collection points to determine any differences. If there are no differences between the two groups, they have justification for combining the two groups for subsequent data analyses.

Response: We agree with the reviewer that survey one responses for the 2015 and 2016 TIPE cohorts should be compared. We had previously stated in the Analysis section (Quantitative aspect of questionnaire section) 'Baseline characteristics will be compared for: the 2015 and 2016 TIPE students; the TIPE and non-TIPE students; and the different disciplines.' We have made this clearer by explicitly stating the baseline characteristics that will be compared:

Baseline characteristics (demographics, ATHCTS and TSS) will be compared for: the 2015 and 2016 TIPE students; the TIPE and non-TIPE students; and the different disciplines.

We agree differences between these cohorts could occur. Being quasi-experimental, differences between the TIPE and non-TIPE cohorts could also occur. We have modified the analysis to include adjustment for all of the baseline characteristics, to increase the likelihood that any difference will be adjusted for:

Mean ATHCTS and TSS scores will be calculated at each time point for each disciplinary group. Mixed model analysis of covariance will compare scores, adjusted for discipline, baseline demographics, ATHCTS and TSS, with terms for whether graduates participated in the TIPE programme, time of survey, the interaction of TIPE programme and time, and random terms for individual student.

In summary, although this paper describes a very important and much needed type of program and data collection process, there are some changes that would benefit the importance of this manuscript – mostly analysis of data the authors already appear to have and inclusion of those analyses in the manuscript.

Reviewer: 2

Reviewer Name: Kathryn Steven

Institution and Country: University of Dundee, Scotland, UK Please state any competing interests:

None Declared

Please leave your comments for the authors below

Thank you for the opportunity to review this interesting manuscript. While there are some potential limitations to this study, for example the potential lack of power, potential confounding factors, and the lack of comparative qualitative data for the non-TIPE group the authors recognize these factors and have made attempts to address where possible.

1. The only suggestion would be that follow up for longer than 3 years post graduation may be necessary to truly establish where participants end up in terms of career choice, practice setting and geographical location.

Response: We thank Dr Steven for her comments. We agree that it would be a good idea to collect longer term follow-up data, however, our funding currently only extends to three years post-graduation. We have added this to the discussion along with our plans to seek consent and funding to continue data collection:

Follow-up three years post-registration may not be sufficient to capture where participants settle in terms of career choice, practice setting and geographical location. Participant consent and funding will be sought to continue with data collection beyond three years.

Reviewer: 3

Reviewer Name: Vernon Curran

Institution and Country: Memorial University of Newfoundland Please state any competing interests:  
None declared

Please leave your comments for the authors below

Comment: This paper outlines the study protocol to undertake a longitudinal evaluation of the effect of an interprofessional education immersion program in rural, indigenous communities in New Zealand. The investigators plan to use several well validated evaluation instruments to collect longitudinal evaluation data on learners across a number of professions at both pre-registration and multiple post-registration points in time. Quasi-experimental study design is proposed that will allow comparison between participants and non-participants in the planned interprofessional education intervention. The proposed evaluation study should contribute meaningful findings to the interprofessional education literature regarding the effect of interprofessional rural, indigenous immersion programs. Some minor typos throughout the paper that should be edited.

Response: We thank Professor Curran for these positive comments.