

## Supplementary Material

### **Influence of a rural interprofessional education placement on the rural health workforce: working in primary care, rural settings, and with Māori**

*Ben Darlow<sup>A,\*</sup>, Melanie Brown<sup>A</sup>, Eileen McKinlay<sup>A</sup>, Lesley Gray<sup>A</sup>, Gordon Purdie<sup>B</sup> and Sue Pullon<sup>A</sup>*

<sup>A</sup>Department of Primary Health Care and General Practice, University of Otago Wellington, Wellington, New Zealand

<sup>B</sup>Department of Public Health, University of Otago Wellington, Wellington, New Zealand

\*Correspondence to: Email: [ben.darlow@otago.ac.nz](mailto:ben.darlow@otago.ac.nz)

## Supplementary File: Survey items, participant characteristics, and results tables.

**Table S1. Career trajectory survey items (quantitative and free-text)**

| <b>Clinical setting items</b>   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Have you been working or training in [discipline] during [year]? (Yes / No)</li> <li>• Have you been working or training in another health care profession during [year] (Yes / No)</li> </ul>   |   |
| <b><u>PIPED RESPONSE IF 'YES'</u></b>   | <b><u>PIPED RESPONSE IF 'NO'</u></b>  |
| <ul style="list-style-type: none"> <li>• Which health care profession have you mainly been working or training in during [year]?</li> <li>• Which of the following clinical settings have you worked or trained in during [year]? (Primary care, community / Hospital / Working in health care overseas / Have not worked in a clinical setting / Other (please explain))</li> <li>• For what reason/s have you chosen to work or train in [clinical setting]?</li> </ul> | <ul style="list-style-type: none"> <li>• For what reason/s have you not been working or training in health care during [year]?</li> </ul> |
| <b>Geographical location items</b>  |   |
| <ul style="list-style-type: none"> <li>• Which of the following location types have you worked or trained in during [year]? (Major urban city &gt;100,00 people / Regional city 25,000-100,000 people / Small town 5,000-25,000 people / Very small town/rural/remote &lt;5,000 people / Overseas / Other (please explain))</li> <li>• For what reason/s have you chosen to work or train in a [location type]?</li> </ul>  |   |
| <b>TIPE-only items*</b>   |   |
| <ul style="list-style-type: none"> <li>• How, if at all, has the Tairāwhiti Interprofessional Education programme influenced your career choices?</li> </ul>  |   |

\* Question asked only of the Tairāwhiti Interprofessional Education programme participants

**Table S2. Baseline characteristics of participants in the Longitudinal Interprofessional Study**

| Characteristic              | TIPE cohort 1<br>(n=59) | TIPE cohort 2<br>(n=71 <sup>a</sup> ) | p     | TIPE<br>(n=130 <sup>a</sup> ) | Non TIPE<br>(n=443 <sup>a</sup> ) | p       | Total                |
|-----------------------------|-------------------------|---------------------------------------|-------|-------------------------------|-----------------------------------|---------|----------------------|
| Female                      | 66.1%<br>(39/59)        | 75.4%<br>(49/65)                      | 0.26  | 71.0%<br>(88/124)             | 69.9%<br>(309/442)                | 0.82    | 70.1%<br>(397/566)   |
| Age                         | 22 (22–23)<br>n= 59     | 23 (21–24)<br>n= 65                   | 0.58  | 23 (21–24)<br>n=124           | 22 (21–23)<br>n=442               | 0.003   | 22 (21–24)<br>n=566  |
| Ethnicity <sup>b</sup>      |                         |                                       |       |                               |                                   |         |                      |
| NZ European                 | 59.3%<br>(35/59)        | 60.9%<br>(39/64)                      | 0.85  | 60.2%<br>(74/123)             | 55.0%<br>(243/442)                | 0.31    | 56.1%<br>(317/565)   |
| Maori                       | 10.2%<br>(6/59)         | 14.1%<br>(9/64)                       | 0.51  | 12.2%<br>(15/123)             | 5.9%<br>(26/442)                  | 0.017   | 7.3%<br>(41/565)     |
| Pacific                     | 0.0%<br>(0/59)          | 1.6%<br>(1/64)                        | 1.00  | 0.8%<br>(1/123)               | 1.4%<br>(6/442)                   | 1.00    | 1.2%<br>(7/565)      |
| Chinese                     | 16.9%<br>(10/59)        | 10.9%<br>(7/64)                       | 0.33  | 13.8%<br>(17/123)             | 17.4%<br>(77/442)                 | 0.34    | 16.6%<br>(94/565)    |
| Indian                      | 8.5%<br>(5/59)          | 6.3%<br>(4/64)                        | 0.64  | 7.3%<br>(9/123)               | 4.3%<br>(19/442)                  | 0.17    | 5.0%<br>(28/565)     |
| Other                       | 13.6%<br>(8/59)         | 17.2%<br>(11/64)                      | 0.58  | 15.4%<br>(19/123)             | 22.6%<br>(100/442)                | 0.084   | 21.1%<br>(119/565)   |
| Discipline                  |                         |                                       | 0.40  |                               |                                   | <0.0001 |                      |
| Dentistry                   | 15.3% (9)               | 12.7% (9)                             |       | 13.8% (18)                    | 15.3% (68)                        |         | 15.0% (86)           |
| Dietetics                   | 13.6% (8)               | 14.1% (10)                            |       | 13.8% (18)                    | 4.7% (21)                         |         | 6.8% (39)            |
| Medicine                    | 20.3% (12)              | 12.7% (9)                             |       | 16.2% (21)                    | 15.1% (67)                        |         | 15.4% (88)           |
| Nursing                     | 16.9% (10)              | 14.1% (10)                            |       | 15.4% (20)                    | 9.0% (40)                         |         | 10.5% (60)           |
| Occupational Therapy        | 3.4% (2)                | 5.6% (4)                              |       | 4.6% (6)                      | 12.2% (54)                        |         | 10.5% (60)           |
| Oral Health                 | 0.0% (0)                | 8.5% (6)                              |       | 4.6% (6)                      | 0.0% (0)                          |         | 1.0% (6)             |
| Pharmacy                    | 20.3% (12)              | 18.3% (13)                            |       | 19.2% (25)                    | 27.1% (120)                       |         | 25.3% (145)          |
| Physiotherapy               | 10.2% (6)               | 14.1% (10)                            |       | 12.3% (16)                    | 16.5% (73)                        |         | 15.5% (89)           |
| Previous location           |                         |                                       | 0.020 |                               |                                   | 0.95    |                      |
| Major urban city            | 59.3%<br>(35/59)        | 32.3%<br>(21/65)                      |       | 45.2%<br>(56/124)             | 45.0%<br>(197/438)                |         | 45.0%<br>(253/562)   |
| Regional city               | 23.7%<br>(14/59)        | 32.3%<br>(21/65)                      |       | 28.2%<br>(35/124)             | 28.5%<br>(125/438)                |         | 28.5%<br>(160/562)   |
| Small town                  | 8.5%<br>(5/59)          | 20.0%<br>(13/65)                      |       | 14.5%<br>(18/124)             | 16.0%<br>(70/438)                 |         | 15.7%<br>(88/562)    |
| Very small town/remote      | 8.5%<br>(5/59)          | 15.4%<br>(10/65)                      |       | 12.1%<br>(15/124)             | 10.5%<br>(46/438)                 |         | 10.9%<br>(61/562)    |
| Interprofessional attitudes |                         |                                       |       |                               |                                   |         |                      |
| ATHCTS                      | 55.1 (5.3)<br>n= 57     | 55.5 (4.8)<br>n= 65                   | 0.63  | 55.3 (5.1)<br>n=122           | 53.3 (5.4)<br>n=436               | 0.0003  | 53.8 (5.3)<br>n=558  |
| TSS                         | 55.1 (13.9)<br>n= 57    | 52.6 (11.6)<br>n= 63                  | 0.27  | 53.8 (12.8)<br>n=120          | 54.8 (11.3)<br>n=426              | 0.39    | 54.6 (11.7)<br>n=546 |

TIPE, Tairāwhiti Interprofessional Education Programme. ATHCTS, Attitudes Towards Health Care Teams Scale. TSS, Team Skills Scale.

<sup>a</sup> 6 TIPE participants and 1 non-TIPE participant did not provide any Survey 1 (baseline) data

<sup>b</sup> Participants could identify with more than one ethnicity.

**Table S3. Professional setting by study group - data gathered at one-, two-, and three-years post-graduation**

| Professional setting      | TIPE                             |                                   |                                     | Non-TIPE                         |                                   |                                     |
|---------------------------|----------------------------------|-----------------------------------|-------------------------------------|----------------------------------|-----------------------------------|-------------------------------------|
|                           | One-year post-registration N (%) | Two years post-registration N (%) | Three years post-registration N (%) | One-year post-registration N (%) | Two years post-registration N (%) | Three years post-registration N (%) |
| Primary care or community | 61 (55.0)                        | 61 (54.5)                         | 60 (57.1)                           | 175 (57.0)                       | 187 (62.1)                        | 179 (61.3)                          |
| Hospital                  | 54 (48.6)                        | 56 (50.0)                         | 48 (45.7)                           | 141 (45.9)                       | 132 (43.9)                        | 124 (42.5)                          |
| Other*                    | 1 (0.9)                          | 0 (0.0)                           | 3 (2.9)                             | 4 (1.3)                          | 2 (0.7)                           | 7 (2.4)                             |
| Total                     | 111                              | 112                               | 105                                 | 307                              | 301                               | 292                                 |

\* Combines working in health care overseas, have not worked in a clinical setting, other

TIPE = Tairāwhiti Interprofessional Education

**Table S4. Mixed-model logistic regression of professional setting in primary care or community**

|  | Unadjusted                        | Adjusted for discipline           | Adjusted*                         |
|--|-----------------------------------|-----------------------------------|-----------------------------------|
| Number of Observations Used                      | 1228                              | 1228                              | 1144                              |
| Survey   | F=0.31 d.f.=2,1222 p=0.74         | F=0.30 d.f.=2,1215 p=0.74         | F=0.18 d.f.=2,1121 p=0.84         |
| TIPE x survey interaction                        | F=0.39 d.f.=2,1222 p=0.68         | F=0.76 d.f.=2,1215 p=0.47         | F=0.99 d.f.=2,1121 p=0.37         |
| TIPE   | F=1.14 d.f.=1,426 p=0.29          | F=0.49 d.f.=1,477 p=0.49          | F=0.11 d.f.=1,448 p=0.74          |
| OR TIPE / non-TIPE                               | 0.76 (95%CI 0.47, 1.25)<br>p=0.29 | 0.83 (95%CI 0.49, 1.40)<br>p=0.49 | 0.91 (95%CI 0.51, 1.62)<br>p=0.74 |
| OR TIPE / non-TIPE at one-year postgraduation    | 0.93 (95%CI 0.48, 1.82)<br>p=0.84 | 1.15 (95%CI 0.55, 2.38)<br>p=0.71 | 1.35 (95%CI 0.60, 3.02)<br>p=0.46 |
| OR TIPE / non-TIPE at two years postgraduation   | 0.68 (95%CI 0.35, 1.33)<br>p=0.26 | 0.74 (95%CI 0.36, 1.54)<br>p=0.43 | 0.74 (95%CI 0.34, 1.65)<br>p=0.47 |
| OR TIPE / non-TIPE at three years postgraduation | 0.70 (95%CI 0.35, 1.40)<br>p=0.31 | 0.67 (95%CI 0.32, 1.43)<br>p=0.30 | 0.74 (95%CI 0.32, 1.68)<br>p=0.47 |

\* adjusted for baseline ATHCTS, baseline TSS, discipline, gender, age, ethnicity, and final pre-training location.

TIPE = Tairāwhiti Interprofessional Education. OR = odds ratio

**Table S5. Geographical location by study group - data gathered at one-, two-, and three-years post-graduation**

| Geographical location*         | TIPE                             |                                   |                                     | Non-TIPE                         |                                   |                                     |
|--------------------------------|----------------------------------|-----------------------------------|-------------------------------------|----------------------------------|-----------------------------------|-------------------------------------|
|                                | One-year post-registration N (%) | Two-years post-registration N (%) | Three-years post-registration N (%) | One-year post-registration N (%) | Two-years post-registration N (%) | Three-years post-registration N (%) |
| Major urban city               | 64 (57.7)                        | 63 (56.3)                         | 57 (54.3)                           | 159 (51.8)                       | 158 (52.5)                        | 162 (56.1)                          |
| Regional city                  | 35 (31.5)                        | 34 (30.4)                         | 34 (32.4)                           | 126 (41.0)                       | 126 (41.9)                        | 100 (34.6)                          |
| Small town                     | 13 (11.7)                        | 20 (17.9)                         | 15 (14.3)                           | 32 (10.4)                        | 36 (12.0)                         | 46 (15.9)                           |
| Small town/rural/remote        | 10 (9.0)                         | 7 (6.3)                           | 7 (6.7)                             | 11 (3.6)                         | 15 (5.0)                          | 16 (5.5)                            |
| Other than a major urban city† | 51 (45.9)                        | 56 (50.9)                         | 52 (51.0)                           | 161 (53.5)                       | 169 (56.5)                        | 147 (51.6)                          |
| Overseas                       | 0 (0.0)                          | 5 (4.5)                           | 6 (5.7)                             | 9 (2.9)                          | 4 (1.3)                           | 12 (4.2)                            |
| Total‡                         | 111 (111)                        | 112 (110)                         | 105 (102)                           | 307 (301)                        | 301 (299)                         | 289 (285)                           |

\* Major urban city (population > 100,000); Regional city (population 25,000 to 100,000); Town (population 5,000 to 25,000); Small town/rural/remote (population < 5,000).  
 † Other than a major urban city category excludes those who were only located overseas  
 ‡ TIPE = Tairāwhiti Interprofessional Education.

**Table S6. Mixed-model logistic regression of location other than a major urban city (population > 100,000)**

|  | Unadjusted                     | Adjusted for discipline         | Adjusted*                       |
|--|--------------------------------|---------------------------------|---------------------------------|
| Number of Observations Used                      | 1208                           | 1208                            | 1124                            |
| survey   | F=0.60 d.f.=2,1202 p=0.55      | F=0.57 d.f.=2,1195 p=0.56       | F=0.79 d.f.=2,1101 p=0.45       |
| TIPE x survey interaction                        | F=0.67 d.f.=2,1202 p=0.51      | F=0.69 d.f.=2,1195 p=0.50       | F=0.53 d.f.=2,1101 p=0.59       |
| TIPE   | F=0.89 d.f.=1,410 p=0.35       | F=4.08 d.f.=1,425 p=0.044       | F=4.04 d.f.=1,390 p=0.045       |
| OR TIPE / non-TIPE                               | 0.80 (95%CI 0.50, 1.28) p=0.35 | 0.60 (95%CI 0.37, 0.99) p=0.044 | 0.58 (95%CI 0.34, 0.99) p=0.045 |
| OR TIPE / non-TIPE at one-year postgraduation    | 0.65 (95%CI 0.34, 1.22) p=0.18 | 0.48 (95%CI 0.25, 0.94) p=0.031 | 0.46 (95%CI 0.22, 0.94) p=0.033 |
| OR TIPE / non-TIPE at two-years postgraduation   | 0.77 (95%CI 0.41, 1.46) p=0.43 | 0.59 (95%CI 0.30, 1.14) p=0.12  | 0.59 (95%CI 0.29, 1.21) p=0.15  |
| OR TIPE / non-TIPE at three-years postgraduation | 1.01 (95%CI 0.53, 1.95) p=0.96 | 0.77 (95%CI 0.39, 1.53) p=0.46  | 0.71 (95%CI 0.34, 1.48) p=0.36  |

\* adjusted for baseline ATHCTS, baseline TSS, discipline, gender, age, ethnicity, and final pre-training location. TIPE = Tairāwhiti Interprofessional Education. OR = odds ratio