COUNTING THE CHICKENS AS THEY HATCH: TRACKING STUDENTS AND THE RURAL HEALTH PIPELINE

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BACKGROUND

• Geographic maldistribution of Australian health workforce

• Variety of recruitment and retention initiatives to gain, train and retain rural health workforce

• Rural Health Multidisciplinary Training (RHMT) Program
  – 15 University Department of Rural Health
  – 18 Rural Clinical Schools
OBJECTIVES OF RHMT PROGRAM

- Provide rural health training for students
- Develop an evidence base for effectiveness of rural training strategies
- Support rural health professionals to improve Indigenous health
- Increase the number of rural origin health professional students
- Maintain academic networks for training and provision of services
RHMT PROGRAM PARAMETERS

Parameter 5:
Maintain and progress an evidence base and the rural health agenda

iii. Collect and maintain data on rural workforce outcomes …
    • Establish tracking systems for graduates, or utilise national data collections such as the Medical Schools Outcomes Database and the Australian Health Practitioner Regulation Agency, … .
TWO ONGOING TRACKING STUDIES

• UONDRH Joint Medical Program (JMP) Tracking Study

• Nursing and Allied Health Graduate Outcomes Tracking (NAHGOT) Study
Joint Medical Program (JMP) delivered by UON & UNE commenced in 2008

Aim:
To determine how many domestic JMP graduates practice in rural locations in the early stages of their career

Objectives:
• Track domestic JMP graduates’ location of practice from PGY 3 -10
• To determine the association between JMP undergraduate participation in extended RCS placement and rural location of practice
JMP TRACKING STUDY METHOD

• Target:
  – Domestic JMP graduates (since 2012)

• Data collection
  – Demographic data (from Faculty dataset):
    • Rural background, RCS placement length, bonding, Aboriginality, age and gender
  – Outcome data (from AHPRA website):
    • Principal place of practice from PGY 3 -10
RESULTS TO DATE

- 631 domestic graduates (2012-2016)
- 596 (94.4%) have been tracked through AHPRA

<table>
<thead>
<tr>
<th>PGY</th>
<th>Current Practice location, n (%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban (MMM1-2)</td>
<td>Rural (MMM 3-7)</td>
</tr>
<tr>
<td>3</td>
<td>154 (89.0%)</td>
<td>19 (11.0%)</td>
</tr>
<tr>
<td>4</td>
<td>142 (86.6%)</td>
<td>22 (13.4%)</td>
</tr>
<tr>
<td>5</td>
<td>126 (91.3%)</td>
<td>12 (8.8%)</td>
</tr>
<tr>
<td>6</td>
<td>106 (87.6%)</td>
<td>15 (12.3%)</td>
</tr>
<tr>
<td>Total</td>
<td>528 (88.6%)</td>
<td>68 (11.4%)</td>
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</tbody>
</table>
PGY 3-6 Locations Based on Background and RCS Placement Length

$P < 0.001$
Aim:
Contribute to the body of evidence about factors that influence rural nursing and allied health workforce recruitment

Objectives:
• Track allied health and nursing students at Monash University and the University of Newcastle from Year 1 into graduate practice
• Compare pre-graduation ‘future practice intentions' with actual, post graduate practice location over a 10-year period

Ethics x 2: MUHREC & UONHREC
NAHGOT STUDY METHODS

DATA FROM PRE-REGISTRATION STUDENTS

Baseline Data (Year 1 students) → Completion Data (Final year students)

University Data (Demographics and high school data) → Year 1 Survey (Rural background & practice intention)

University Data (Course completion & Placement data) → Final Year Survey (Practice Intention & future contact details)

DATA FROM GRADUATE PRACTITIONERS

First Year Graduate Data (Within 12 months of AHPRA rego.) → Continuing Graduate Data (Post-12 months of rego for 10 years)

AHPRA Data (Rego #, principal place practice, speciality) → Graduate Survey (Rego # & preferred place practice)

AHPRA Data (Rego #, principal place practice, speciality) → Graduate Survey (Rego # & preferred place practice)
# DATA SOURCES

**University Data**
- Routinely collected
- Enrolment data
  - Student ID, Demographics, Discipline, etc.
- Professional placement data
  - Location, duration, etc.

**Student Survey Data**
- Twice per year
  - First year
  - Final year
- Rural origin
- Intended practice location
- Request to follow-up in final year

**Post-Registration Data**
- Student ID (supplied by graduate)
- Registration number
- Principal practice location
- Annual follow-up
- Graduate survey

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Data Linkage – 10 years

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# TARGET HEALTH PROFESSIONS

<table>
<thead>
<tr>
<th>Health Profession</th>
<th>Year 1 Enrolments 2018</th>
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<tbody>
<tr>
<td></td>
<td>Uni of Newcastle</td>
</tr>
<tr>
<td>Medical Radiation (Diagnostic Radiography)</td>
<td>117</td>
</tr>
<tr>
<td>Medical Radiation (Nuclear Medicine)</td>
<td>58</td>
</tr>
<tr>
<td>Medical Radiation (Radiation Therapy)</td>
<td>63</td>
</tr>
<tr>
<td>Midwifery</td>
<td>53</td>
</tr>
<tr>
<td>Nursing</td>
<td>954</td>
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<tr>
<td>Occupational Therapy</td>
<td>134</td>
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<tr>
<td>Paramedicine</td>
<td>-</td>
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<tr>
<td>Pharmacy</td>
<td>85</td>
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<tr>
<td>Physiotherapy</td>
<td>117</td>
</tr>
<tr>
<td>Podiatry</td>
<td>77</td>
</tr>
<tr>
<td>Psychology</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,658</strong></td>
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</table>
PILOT SURVEY STUDY DATA
FINAL YEAR 2017 - UON ONLY (N = 40)

Preferred Practice Location
(Mean score on 10 point scale)

Overall
Immediate
After 5 Years
After 10 Years

Absolutely no intention
Absolutely every intention

Metro
Non-metro
YEAR 1 STUDENTS 2018

Most Preferred Practice Location

<table>
<thead>
<tr>
<th>Location</th>
<th>Immediate (n=118)</th>
<th>After 5 Years (n=112)</th>
<th>After 10 Years (n=101)</th>
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<tbody>
<tr>
<td>Metropolitan</td>
<td>54.2</td>
<td>47.3</td>
<td>47.3</td>
</tr>
<tr>
<td>Regional/Rural</td>
<td>27.1</td>
<td>36.6</td>
<td>27.1</td>
</tr>
<tr>
<td>Remote</td>
<td>10.2</td>
<td>8</td>
<td>8.5</td>
</tr>
<tr>
<td>Unsure</td>
<td>8.5</td>
<td>11.9</td>
<td>8</td>
</tr>
</tbody>
</table>

Least Preferred Practice Location

<table>
<thead>
<tr>
<th>Location</th>
<th>Immediate (n=99)</th>
<th>After 5 Years (n=96)</th>
<th>After 10 Years (n=94)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan</td>
<td>19.2</td>
<td>18.8</td>
<td>19.2</td>
</tr>
<tr>
<td>Regional/Rural</td>
<td>8.1</td>
<td>10.4</td>
<td>8.1</td>
</tr>
<tr>
<td>Remote</td>
<td>10.6</td>
<td>10.6</td>
<td>10.6</td>
</tr>
<tr>
<td>Unsure</td>
<td>8.1</td>
<td>9.4</td>
<td>8.1</td>
</tr>
</tbody>
</table>
RECRUITMENT & RETENTION

- Known to be multi-factorial
- Different in remote, rural, regional, inland and coastal
- Often professional, social and environmental factors
- Mobility and dual careers both recent demographic changes
- Small communities changing in relative attractiveness (digital divide)
- Balanced by sense of community and rural lifestyle
WHAT HAVE WE LEARNED?

• High levels of complexity:
  – Many players – Students, Universities, Government, Health Departments, Multiple Professions, AHPRA

• Multiple Variables (and confounders):
  – Not just rural or urban origin
  – Scholarships, other rural practice inducements, family & friends, environment, affordability, job availability, etc.
  – Changing educational regimens and practice conditions
DATA COLLECTION CHALLENGES

- Student surveys may be of limited value
  - Survey saturation => Low response rates
  - What about incentives?
  - Various online survey instruments:
    - Survey Monkey, Qualtrics, RedCap
- Collaborations need agreed definitions and language (data dictionary)
- Data linkage:
  - Uni administrative data, professional placement data, AHPRA data
  - Loss to follow-up
CONCLUSIONS

• Early days – need to clearly define protocols and maintain consistency

• Need for high quality, generalisable evidence requires:
  – Rigorous study design and protocols
  – Significant time and investment

• Retention! - The job is only just beginning once the chicken is hatched