

## Research and clinical teaching in osteopathic programmes: a question of balance?

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## Research & clinical teaching

- History of the VU osteopathy programme
- Vision of the programme (role of research)
- Teaching research 1992-2011
- Has the teaching of research met our goals so far?
- 2012 onwards
- Strategies for teaching research & critical thinking



## Osteopathy in Australia

- Non-medical, manual therapy
  - Private practice (hospital access is rare)
  - Refer for X-rays, but not directly for CT & MRI
  - No prescribing rights
  - Not covered by Medicare (with some exceptions)
    - Covered by Workers compensation, transport accident national schemes, and most private ancillary insurance
- Musculoskeletal complaints most common primary complaint (AOA census 2004)
  - Pain (87%)
    - Lumbar spine (27.3%) and neck (24.5%), head (9.8%)

Orrock P. Profile of members of the Australian Osteopathic Association: Part 2 – The patients. Int J Osteop Med. 2009

## Osteopathy in Australia - History

- **First osteopaths arrived from USA in 1907**
  - USA – only a small number
  - UK – from 1950s onwards
  - Australian trained
- **Registered profession (since 1979 in most states)**
  - National registration Board (Osteopathy Board of Australia)
  - National professional association (AOA)
  - Joint profession association (COCA)
- **Rapidly expanding profession**
  - Osteopaths outnumbered by physiotherapy and chiropractic



## Osteopathy Education - History

- **Informal apprenticeships**
  - Up to the 1970s
- **Private colleges**
  - From 1930s – 1980s
  - Often including chiropractic, homeopathy & naturopathy
- **University degrees in Osteopathy**
  - From 1986 onwards (PIT / RMIT)
  - 1994 - VU becomes second program in Osteopathy

## Victoria University (VU)

- **Victoria University established in 1992**
  - Successive mergers of TAFE & Colleges of Education in Melbourne's western suburbs
- **Osteopathic programme**
  - Opportunity for funding for new courses
  - Right people / right time
  - First intake in 1994



## VU Osteopathy programme 1992

- Course established by Dr Peter Gibbons DO, MB, BS
- 5 year full-time programme
  - Bachelor of Science (Clinical Science) – 3 years
  - Masters of Science (Osteopathy) – 2 years
- First program to use the 3 + 2 model
- Research 'minor thesis' part of the Masters
  - 2 year research project
  - Written as minor thesis or as a journal article



## VU Osteopathy programme 1992

### ■ Vision of course:

1. Provide excellence in training of medical & osteopathic skills
2. Train graduates who were practitioners & researchers

### Goals of the Masters research thesis

- Produce substantial publication output
- Produce research relevant & useful for the profession
- Encourage graduates to return for PhD research
- Develop an experienced team of researchers
- Provide students with a positive experience of research
- Produce research-savvy graduates – promote research culture

## Teaching research 1992-2011

- Research units – 1 of 4 units per semester in Masters
  - (Research, Clinical Practicum, Osteopathic Science, Clinical Diagnosis & Management)
- Year 4 - Coursework + project proposal
  - Research 1 (first semester)
    - Theory of research design, statistics, outcome measures
    - Research proposal
  - Research 2 (second semester)
    - Statistics practicals - SPSS computer laboratories
    - Ethics proposal & submission to Ethics Committee

## Teaching research 1992-2011

### ■ Year 5 – Focus on research project

- Minor coursework component – project thesis writing & presentation
- Data collection & analysis
- Thesis write up

1995 - Individual student projects  
2009 – group projects (2- 5 students)

### ■ Final submission:

- Thesis (minor thesis or journal article format)
- Presentation (PowerPoint)
- Thesis marked by 2 examiners: internal + external

## Has the teaching of research met our goals so far?

### Goals of the Masters research thesis

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## Goal: Produce substantial publication output

- Peer-reviewed journal publications
  - Over 40 publications from student projects
  - Many presentations at research conferences

### However...

- Only a small % of projects were published
- Responsibility to polish and submit project fell to the supervisor (but little time to do this)
- Publication process very time consuming
- Many worthy projects remained unpublished

### Goal: Produce research relevant & useful for the profession

- Many projects have clear relevance to the profession
  - Efficacy of a technique / approach (pain, ROM, etc)
  - Accuracy of diagnostic procedure
  - Characteristics / views of the profession

#### However... many factors contributed to the small scope of project

- Timeframe (needed to be completed within 2-year period)
- Teaching staff lacked experience to supervise projects
- Topics were largely driven by student interest, not staff
- Teaching staff overwhelmed with the numbers of students to supervise

### Goal: Encourage graduates to return for PhD research

- Little success ...
  - Only a couple of VU graduates are enrolled or considering PhD research

#### Why?

- Focus on clinical practice (making a living)
- Few are interested enough to pursue research
- PhD only of use for an academic career
- Previous experience of research not positive??

### Goal: Develop an experienced team of researchers

- A few individual staff have developed research skills and research & publication profile
- Many staff have relatively small exposure to research supervision and few / no publications

#### Why?

- Research supervision has often fallen on the shoulders of the few staff interested in research
- Preparing papers for publication is very time consuming
- Most staff are mainly occupied with teaching

### Goal: Provide students with a positive experience of research

- Unfortunately, the research experience has not always been positive for students
- 2011 survey of VU graduates

- Opinions were divided regarding the enjoyment involved in producing a masters project
- "Being involved in a research study has encouraged me to perform future osteopathic research"*
  - 54.1% disagreed, with only 18.9% agreeing

Murray et al. Attitudes of VU graduates to research: has research in the osteopathic masters produced research savvy graduates with positive attitudes to performing future research? Unpublished VU thesis. 2011

### Goal: Provide students with a positive experience of research

#### Why has the research experience not always been positive for students?

- Research project was often not able to be completed in timely way
  - Delays in ethics submission, equipment & recruitment issues
  - Major stress caused by delays in graduation and registration
- Students in final year are attempting to focus on clinical skills and future work as osteopaths
  - research project took the focus from clinical to research skills

### Goal: Produce research-savvy graduates – promote research culture

- Students said the Masters had been successful in giving them critical analytic skills
- 95.5% agreed that research is vital to the growth of the osteopathic profession
- 87.4% agreed that *"educating the osteopathic student to utilize evidence correctly will promote research enthusiasm and influence how osteopaths are perceived"*
- 72.1% agreed with *"The masters program gave me the confidence to critically analyse published results presented in journal articles"*
- 63.1% agreed with *"I apply evidence based medicine to my osteopathic practice wherever possible"*

### Goal: Produce research-savvy graduates – promote research culture

- However, it did not encourage them to want to undertake further research
- No respondent strongly agreed that they would like performing research and being involved in research projects
- Responses were divided regarding the statement “*I am not interested in conducting osteopathic research*”, with 36% disagreeing and 35.1% agreeing
- 53.4% of respondents agreed “*The focus should be more on teaching students about research utilisation, rather than concentrating on teaching them how to conduct research*”

Murray et al. Unpublished VU thesis. 2011

### Course review & renewal 2008-9

- As part of a course review and redesign, the Osteopathy Unit decided that the Research teaching needed major change

#### Why?

- It was not meeting our goals and not providing a consistently positive student experience
- The supervision & marking workload for staff was exhausting and not sustainable
- The small Masters projects seemed to be limiting the scope of the projects that staff wished to pursue

### Research teaching changes from 2012

- Focus changed to giving students skills as research consumers, rather than to become researchers
  - Search, find and critically appraise research
  - Equipping students with skills they will need as practitioners
- Embedding critical analysis and evidence-informed skills throughout the five year programme
  - Integrated across the teaching of all practical and theory based classes

### Research teaching changes from 2012

- Developed a ‘vision statement’ to make a clear position on evidence-informed practice to students, staff and the profession

**“The Osteopathy Unit offers quality educational programmes that emphasise evidence-informed practice and produce skilled, knowledgeable and reflective practitioners”**

### Research teaching changes from 2012

- **Year 4 Research**
  - Tutorials focussed on critical appraisal of research articles, outcome measures
  - Statistics theory & computer lab practicals
- Clinical Diagnosis & Management (CD&M)
  - Problem-based learning (PBL)

**Computer lab tasks developed in context with health science articles and use real research data from previous studies PBL & critical tasks relevant and participatory (Fryer 2009)**

Fryer G. Teaching Critical Thinking in Osteopathy - Integrating Craft, Knowledge and Evidence-informed Approaches. *Int J Osteopath Med.* 2008;11(2):56-61.

### Research teaching changes from 2012

- **Year 5 Research**
  - Tutorials – critical appraisal articles
    - CONSORT, Cochrane bias tools
  - ‘Hands on’ exposure in **staff-led** projects
    - Give a positive ‘taste’ of research
    - Tasks include literature reviews, data collection, statistical analysis, critical appraisal of related literature
    - Students will not follow project from beginning to end

## Research teaching changes from 2012

- Year 5
  - First group in 2013
  - No written 'thesis'

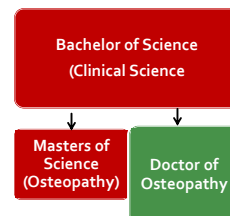
**Assessment of subject is still being developed & will be reviewed in 2014 after the first cohort**

- Critiques of individual studies
- Literature review (narrative or systematic) / summary of evidence

## Alternative pathway proposed for research

### ■ Proposal of Professional Doctorate

- Entry from Bachelor
- Alternative to Masters
  - Leading to professional registration
  - Additional year (1-2) of study
- For students identified with a desire to undertake research
- Involve research and a minor thesis
- Improved credentialing for further academic and research career



## Challenges for all osteopathic programmes

- How to avoid research from overwhelming the clinical focus in the final years?
  - Produce research savvy osteopaths with critical appraisal skills
  - Production of research and publication
  - Development of research skills in teaching staff and publication profiles and career progression
  - Help create research culture in osteopathy
- Our experience using research projects in an entry level programme has not fully achieved these aims
- Experiences may be different at other programmes

## Strategies to promote critical thinking and integration of evidence-based practice (Fryer 2009)

- Discussion of relevant evidence in all osteopathic classes
  - Integrated throughout programme
- Problem-based or case-based critical appraisal exercises
  - Participatory activities should focus on high-priority clinical problems

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## Strategies to promote critical thinking and integration of evidence-based practice (Fryer 2009)

- Evidence resources available in teaching facilities and clinics
- Recruitment of clinical educators who support evidence-informed osteopathy
- Assessment of searching and critical appraisal skills

**Progressively implementing these strategies in the VU programme**

Fryer G. Teaching Critical Thinking in Osteopathy - Integrating Craft, Knowledge and Evidence-informed Approaches. *Int J Osteopath Med.* 2008;11(2):56-61.