FREE Teaching and Learning Conference
DETAILED PROGRAM

Date: FRIDAY 5th November 2010
Location: Queensland Rugby Club, Ballymore Rugby Stadium, 91 Clyde Road Herston – Murrayfield Room
Time: 9:00 AM – 5.00 PM

Structure of the day:

From 9:00: Coffee and registration
9:30 – 11.20: Keynote presentations + Panel Discussions on Assessment:

**Dr. Hamish Coates**: “Generalisable Assessment of Medical Students”

**Prof. David Wilkinson**: “Why Generalisable Assessment is Important for the School”

**Dr. Tracey Papinczak**: “Implementing an Integrated System for Programmatic Assessment in the MBBS Program”

**Dr. Heather Alexander**: “Where to from here in Assessment in Medical Education?”

11.20 – 11.50: Morning tea with simultaneous poster viewing and mini Slides-show*

11.50 – 1.05 pm: 2 Break out groups, papers grouped in following clusters:
Assessment

- **Ms Patricia Régo & A/Prof. Ray Peterson**: Ensuring Clinical Skills Competence through Reducing Extrinsic Cognitive Load
- **Dr. Marie-Louise Dick, Dr. Nancy Sturman, Drew Moore**: Roll out the Role-Plays: an excellent means of providing clinically relevant learning and formative assessment
- **Bavahuna Manoharan/Mr. Andrew Hutchinson**: Quality Clinical Assessments – a Student’s Perspective
- **A/Prof. Charles Mitchell**: Certainty-based assessment
- **Dr. David Emmett**: Confidence based marking for UQ Medical Students

Curriculum (which combines: Vertical Integration, Communication skills, What makes a Good curriculum and Global Learning)

- **A/Prof. Charles Mitchell**: Prescribing as a competency Med School
- **Dr. Lisa Gotley**: POLIE Paediatrics online interactive education
- **Dr. Nancy Sturman**: Paying Top Dollar and the Student Version: The Ethics of Clinical Teaching
- **Dr. Andrew Leggett**: The Princess Alexandra Hospital Balint Professional Development Project
- **Ms. Libby Black**: Creating educational work practices based on evidence – developing an evidence based model for Medical Education Units in Qld Health hospitals – a qualitative study.

1.05 – 1.45: Lunch

1.45 – 3.15: Back to Break out groups, Assessment and Curriculum, followed by 2 technology papers at the end of each of these streams

Assessment

- **A/Prof. Lindy McAllister**: Maximising learning outcomes for students undertaking international health electives.
• **Dr. Leanne Ratcliffe:** Comparing the mini-clinical evaluation exercise (mini-cex) with existing workplace assessments in a tertiary level emergency department

• **Dr. Jenny Zhang**, Patricia Régo, Raymond Peterson, David Wilkinson and Malcom Parker: Analysis of the interview as part of selection into medical school using generalisability theory

• **Dr. Nancy Sturman:** Clinician Assessments: To grade or not to grade? An exploration of GP Clinical Teacher views about assessing students.

• **Dr. Lisa Gotley:** Basic Sciences in Action

• **Dr. Jenny Moffatt:** Continuing quality improvement in the discipline of rural and remote medicine

**CURRICULUM**

• **Dr. Phil Towers:** The Community Patient Volunteer program at SoM Ipswich

• **Dr. David King (presenter), Dr Marie-Louise Dick, Patricia Régo, Dr Tina Janamian, Dr Tracey Papinczak, Assoc Prof Ray Peterson and Dr Drew Moore:** Improving Lectures – Combining student and peer-review of lectures.

• **A/Prof. Ian Yang:** Learning in the clinical setting (LICS): a pilot study at the Northside Clinical School and Rural Clinical School

• **Dr. Margaret Henderson (presenter), Dr. Marie-Louise Dick, David King, John Buckley, Tina Janamian, Susan Garside, Glynn Kelly, Geoff Mitchell:** Vertical Integration in Teaching And Learning (VITAL) in General Practice

• **Dr. Mark Coulthard:** Surgical videoconference

• **Dr. Rebecca Hyde:** Computer-Based Learning - An Enhanced Learning Experience?

**Schedule**

3.15 – 3.40: Afternoon Tea with simultaneous poster viewing and mini Slides-show*

3.40 – 4.00: **Mr. David Emmett** with platform presentation: “A Vision for eLearning in the School of Medicine”

4.00 – 4.40: Key messages from the day/Conference Synthesis and “fun session”

4.40 – 5.00: Wrap up and Thank you, followed by drinks
*Posters and mini-slides show presenters:

1. **Dr. Nancy Sturman, Ms. Patrícia Régo, Dr. Marie-Louise Dick**: Love and Time: An exploration of GPs' motivation for practice-based medical student teaching, and the difficulties encountered **Poster/Curriculum**

2. **Dr. Nancy Sturman**: Tricky Questions: Exploring the use of a scenario-based Clinical Ethics and Professional Practice (CEPP) assessment tool for assessing student competence in the CEPP domain in the General Practice Core Clinical Rotation **Poster/AX**

3. **Dr. Christopher Edwards**: High fidelity pocket simulation in the emergency department **Poster/Technology in education**

4. **Ms. Sarah Dahl**: Online professional development for busy clinicians **Poster/Technology**

5. **Dr. David Levitt**: The use of high fidelity simulation to teach common, acute paediatric emergency skills to fourth year medical students. **Poster/Technology**

6. **Ms. Laurel Hatfield**: Feeding the Grassroots: Support of Clinical Teachers (improving teaching capacity in clinical units) **Poster/Curriculum**

7. **Ms. Brownyn Williamson**: Intern only education – A rose by any other name (integration of student and resident medical officer teaching) – **Poster/Curriculum**

8. **Ms. Karen Mulitalo**: Educational Tools using voice over internet protocols to increase communication and real time teaching in distance education curriculums **Mini Power Point Presentation/Technology**

9. **Susan Graham**: Interdisciplinary, interactive rehabilitation seminars for 3rd year medical students. **Poster**
Assessing reliability and validity of the admission interview for a large cohort using Generalisability Theory (G-theory)

Jenny Zhang
Patricia Régo, Raymond Peterson
David Wilkinson, Malcolm Parker

Discipline of Medical Education
School of Medicine

BACKGROUND

- SOM MBBS program used interview as part of selection from 1997-2008, the reliability of the interview process has never been assessed.
- The interview sought to determine the non-cognitive skills of applicants for their suitability for a career in medicine. The selection process needs to be equitable, consistent and transparent.
- The number of factors can affect the reliability of an interview: - inter-rater discrepancies and rater tendencies, - interview questions, - natural variability between candidates, - occasion-to-occasion variability: different interview time.
- G-Theory enables measuring all sources of variability at the same time, thus enabling an accurate measurement of reliability.

STUDY AIM

- The aim of this study was to
  - (1) review the reliability of the interview process using G-Theory, and
  - (2) assess the validity of the medical school admission interview protocol.
METHODS

The candidates - The data from 378 domestic candidates applied for entry in 2008.

The interviewers - 61 pairs of interviewers, each interview pair consisted of a male and a female, one of them was required to be a medical practitioner. They assessed between two to seven candidates.

The interview process - conducted by pairs of interviewers using detailed marking criteria and a documented assessment procedure to ensure reliability of rating, lasted for 40 minutes.

The interview questions - based on eight key attributes (Participation, Cooperativeness, Motivation, Openness and frankness, Cognitive style, Clarity and stability of self-identity, Self-confidence, communication), rated on a 10-point scale.

Data analysis -

The reliability of the interview (G-coefficient) was assessed with three sources of variation: the candidates, interviewers and the interview scores.

Variance Components analysis of interview ratings was conducted.

The interview attributes subjected to factor analysis and the internal consistency of the attributes.

G-String® computer software and SPSS program.

RESULTS

The grand mean for the interview score for all candidates (n=378) was 7.48 out of 10 (SD 0.91).

The G-coefficient using candidates as the facet of differentiation (object of measurement) as 0.83.

The differences in the candidates contributed to a large portion of the variance component (39.6%), their interactions with attributes (26.1%), and the three-way interactions with interviewers and attributes (22.4%).

Only one factor was extracted from the original 8 attributes which accounted for 61.6% of the variance.

The internal consistency for the factor proved to be reliable, with an alpha coefficient of 0.90.
CONCLUSIONS

- Using many pairs of interviewers proved to be a reliable method for the selection of medical students from a large group of candidates.

- The data set was complete and the sample was sufficiently large to apply the G-theory in this study.

- This study has confirmed that having different sets of interviewers to assess a large number of candidates is more feasible than having the same interviewers assess all candidates.

- A number of possible confounders need to be taken into account:
  - The obligation of the two interviewers to reach a compromise reduced any variance between interviewers,
  - The candidate's pre-trained by interview preparation courses reduced the variability of their responses.

The large variance contributed by the candidates indicates that there was systematic variability between candidates in their interview scores.

The substantial variance attributed to the interaction between interviewers and candidates indicates that there was little consistency in the way interviewers scored each candidate.

The questions asked of the candidates were not identical, leading to the significant variance attributable to the three-way interaction between the interviewers, the attributes and the candidates.

The measurement of only one factor from items that were meant to be measuring different attributes, call the validity of the interview protocol into question.

FUTURE STUDY

- The attributes examined in the interview need to be revisited and redeveloped to ensure an appropriate range of candidates' non-cognitive skills being measured.

- Our results also indicate the importance of using both standardized questions and marking criteria in the measurement of medical school candidates' non-cognitive skills.
THANKS FOR YOUR ATTENTION!

- Questions and comments?
A vision for eLearning in the School of Medicine

eLearning Team

The SoM eLearning team

- David Emmett
- Emma Bartle
- Kym Ward
- Graham Webber
- Natalie Lawrance
- Brandon Winch

What is eLearning?

eLearning - is learning facilitated & supported through the use of information communication technologies. It is used to enrich the student experience.

Blended learning - refers to a mixing of different learning environments.
Teaching and eLearning

eLearning is part of an overall teaching strategy that provides students with access to learning resources in a multitude of methodologies that address their learning needs and enhance their learning experience.

Elearning is as much about teaching as it is about technology

Current status – student feedback

- Survey of students
- September 2010
- 151 responses

Survey results

How would you rate the use of eLearning in the MBBS program compared to your undergraduate program?

- 55.6% satisfactory
- 44.7% poor or very poor
Survey results
Students value **consistency** and **availability** of online resources.

- “all documents need to be in one place”
- “ensuring all lecture notes and materials are available online through one source is highly valuable”

Survey results
Students value **consistency** and **availability** of online resources.

- “the eLearning materials are great, however access to them is difficult, a better layout and organisation of the resources is needed”
- “the constant switching between Blackboard and portal is confusing”

Survey results
Students value **consistency** and **availability** of online resources.

- “all lectures should be recorded and made available to students”
- “Lectopia has made a huge difference to my learning, as I find it difficult to write everything down as a lecturer flicks through their slides”
Survey results

Create the highest-quality eLearning experiences possible for students and staff.

Implement measures and methods using technology for assessing and certifying what individuals know and are able to do.

Ensure broad and equitable access to eLearning opportunities.

All MBBS student resources have been consolidated into UQ Blackboard.
- Community sites have been developed for years 1 and 2 and each location with links to all year modules and clinical skills site
- Sites have been created for all Modules + specific areas
- Students will have guest access to all MBBS modules for all years
- The clinical skills site is being redeveloped and incorporated into this structure
- A PBL Tutors site has been developed incorporating the PBL guides and documents and links to all MBBS resources
A uniform template for all online modules has been developed and will be applied to all Blackboard modules. This will ensure resources are correctly linked and updated which will minimise any disparity.

This will be applied to all year 1 and 2 modules for January 2011 and then to year 3 and 4 rotations during 2011.

**MBBS**

- Types of resources
  - PDF’s – why not give them a book! (eDistribution)
  - VOPPS
  - Weblinks
  - Interaction – POLIE
  - Interactions and Social networking – discussions chats etc
  - PBLs

**Survey results**

[Graph showing survey results]
A marketing and professional development program is underway for staff and students throughout SoM utilising a variety of media and presentations:

- Symposia for staff and students at Ipswich Oct. 27th
- Showcase for staff at Herston Dec. 9th
- CMEDRs presentations and showcase Nov. 5th
- PBL Tutors Oct. 15th

The MBBS guide is being redeveloped for mobile technologies

- The MBBS Portal is being redeveloped as the MBBS Timetable for years 1 and 2 and will be linked to from Blackboard

The Orange Book!

A student logbook of clinical skill competency is being developed for 2011
Moodle

Moodle (an open-source LMS) is being piloted for scenario-based learning for Paediatrics (POLIE project) and will be investigated for use in Post Graduate SoM courses.

Virtual Worlds

- Second life, Open Sim, Open Cobalt
- Interdisciplinary, PBL and Clinical skills

Assessment

Implement measures and methods using technology for assessing and certifying what individuals know and are able to do.

- Exploring the ability of Blackboard to deliver online assessment
- Exploring other assessment tools ie Respondus, QuestionMark etc
- Ultimately creation of banks of questions that students can self-select for topic and level of difficulty
Access

Ensure broad and equitable access to eLearning opportunities

Where do you access the majority of your online resources?

- 50%
- 30%
- 10%
- 20%

Access

- File size
- Equitable access regardless of location
  - Broadband
  - 3G network
  - Vote one NBN
  - International access

Access

Development of solutions that can be delivered on any platform

- MBBS Guide
- Blackboard mobile
- Timetable
- Logbook
eLearning vision

1. Create the highest-quality eLearning experiences possible for students and staff.

2. Implement measures and methods using technology for assessing and certifying what individuals know and are able to do.

3. Ensure broad and equitable access to eLearning opportunities.
Certainty-based Assessment

Charles Mitchell, CSEP

Darrell Crawford, Disc of Medicine

“I was gratified to be able to answer promptly, and I did!”

“I was gratified to be able to answer promptly, and I did!”

“I said I didn’t know.”
Proposal: There is a more appropriate method of assessment that:

- Rewards interns’ knowledge
- Motivates interns
- Better informs teachers of the depth of understanding of interns
- May lead to safer practice

Questions for Faculty

An student’s answer may be:

Correct
- Did they know it?
- Was it a lucky guess?

Incorrect
- Was it a well held misconception?
- Was it an unlucky guess?

Questions for Faculty

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DO WE KNOW?
DOES IT MATTER?
Questions for Faculty

- Do we want to know when students guess?
- Do we want to know what students confidently know and understand?
- Does guessing as an UG or lead to guessing when an intern?

When you know a thing, to hold that you know it. And when you do not know a thing, to allow that you do not know it. This is knowledge.

Confucius (551 BC - 479 BC)

This medication does not augment the effect of warfarin? (Multiple True-False)

1. Aspirin
2. Roxithromycin
3. St John’s Wort
4. Metronidazole
5. Ginkgo

How certain are you?
This medication is appropriate for DVT prevention in a 65 y, 90 kg, obese man admitted with CCF and a creatinine clearance of 30ml/min? (Multiple True-False)

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<td>3</td>
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<td>4</td>
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<td>Unfractionated heparin (subcut) 5000 units twice a day</td>
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How certain are you?

Knowledge →

Confidence

Decisive but unsafe

Decisive and safe and effective

Hesitant and probably unsafe

Hesitant but probably safe
### Assessment – 10 attributes

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<tr>
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<th>Correct</th>
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### Assessment – 10 attributes

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<th>Correct Certain</th>
<th>Correct Uncertain</th>
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<th>Incorrect Uncertain</th>
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<td>1</td>
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<tr>
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<td>Consultant</td>
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Aggregate Scoring System

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<thead>
<tr>
<th>Confidence level:</th>
<th>1 - uncertain</th>
<th>2 - reasonably</th>
<th>3 - very</th>
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<tbody>
<tr>
<td>Score if correct:</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Score if incorrect</td>
<td>0</td>
<td>2</td>
<td>-6</td>
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<tr>
<td>Probability correct</td>
<td>&lt;67%</td>
<td>&gt;67%</td>
<td>&gt;80%</td>
</tr>
<tr>
<td>Odds</td>
<td>&lt;2:1</td>
<td>&gt;2:1</td>
<td>&gt;4:1</td>
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</table>

Conclusions

- CBA has been a better way of assessing knowledge
- Let’s start using it, particularly in clinical years and PGY1&2
- CBA and CBL may be more efficient and may lead to safer graduates and clinicians
- Let’s do it and test it
Computer-Based Learning:
An Enhanced Learning Experience??

Dr R Hyde, Dr C Muir, Dr L Young, Prof G Cleghorn, Assoc Prof H Heussler

Dr Rebecca Hyde
Fellow in Developmental Paediatrics
Mater Children’s Hospital

Background…

- Computer-based or online learning is increasingly being used by teaching institutions, including the UQ Medical School

- Benefits:
  - Cost
  - Time (for both lecturers and learners)
  - Accessibility (important as student groups are increasing in size and students are being allocated to more peripheral placements)

Previous Research

- Very few randomised controlled trials comparing live and computer-based lectures
- Two controlled studies comparing live lectures with linear-format computer-based lectures
  - No difference in knowledge acquisition between groups
- Limitations of other research to date:
  - No control group (3)
  - Compare different types of computer-based learning courses (3)
  - Compare computer-based learning to tutorials or reading (10)
  - Computer-based learning as an adjunct to current teaching methods (7)
  - Use non-linear computer-based programmes (5)
This Study

- Single-blinded randomised controlled trial comparing learning outcomes and experiences of medical students receiving either traditional face-to-face live lectures or linear format computer-based lectures

Methods

- UQ Medical School final year students undertake an 8 week rotation in Paediatrics
- Students receive lectures in:
  - Child Development and Behaviour
  - Paediatric Neurology
  - Paediatric Cardiology
- Alternating groups (from 27/07/09-16/07/10) were allocated to receive either live lectures or computer-based lectures (Voice Over PowerPoint – video recording of lecturer with accompanying audio and PowerPoint slides)

- Pre- and post-lecture questionnaires
  - Demographics, Learning Styles Questions
  - Knowledge Questions (MCQ and short answer)
  - Learning Experience Questions
- 229 students (124 computer-based, 105 live lecture) completed initial questionnaires
- 57 students completed follow-up questionnaires (29 computer-based group, 28 live group)
  - No significant differences existed between those who did and did not complete follow-up questionnaires, in terms of demographics and learning styles
Results

- Comparing the characteristics of participants in the computer-based Vs live lecture groups, significant differences existed in 2 learning style areas (visual-verbal, and global-sequential)
- There were no significant differences between the 2 groups in any other demographic or learning style characteristic

<table>
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<tr>
<th>Question Type</th>
<th>p-value</th>
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<tbody>
<tr>
<td>MCQ</td>
<td>0.578</td>
</tr>
<tr>
<td>SAQ</td>
<td>0.597</td>
</tr>
<tr>
<td>Combined MCQ + SAQ</td>
<td>0.375</td>
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</table>

<table>
<thead>
<tr>
<th>Question Type</th>
<th>p-value</th>
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<tbody>
<tr>
<td>MCQ</td>
<td>0.191</td>
</tr>
<tr>
<td>SAQ</td>
<td>0.252</td>
</tr>
<tr>
<td>Combined MCQ + SAQ</td>
<td>0.174</td>
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Overall Learning Experience Computer-Based Vs Live

<table>
<thead>
<tr>
<th>Learning experience</th>
<th>Lecture Format: n (%)</th>
<th>p-value</th>
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<tbody>
<tr>
<td></td>
<td>Computer</td>
<td>Live</td>
</tr>
<tr>
<td>Awful</td>
<td>0 (0)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Poor</td>
<td>10 (37.0)</td>
<td>3 (10.7)</td>
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<tr>
<td>Adequate</td>
<td>8 (29.6)</td>
<td>13 (46.4)</td>
</tr>
<tr>
<td>Good</td>
<td>8 (29.6)</td>
<td>11 (39.3)</td>
</tr>
<tr>
<td>Excellent</td>
<td>1 (3.7)</td>
<td>1 (3.6)</td>
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Qualitative Statements

- Live lectures:
  - Advantages: “interactive”; “able to ask questions”; “makes you do it”
  - Disadvantages: “not able to start/stop/revise”; “goes at lecturer’s pace”; “cannot go back to it if you missed the lecture”; “limited attention span”; “5 days of lectures was pure torture!”

- Computer-based lectures:
  - Advantages: “access at convenient time and place”; “learn at your own pace”; “pause and review”
  - Disadvantages: problems of accessibility; “cannot get immediate response to questions”; “not engaging as no human contact”; “forgot to watch them”

Conclusions

- No significant difference in actual post-lecture knowledge scores between computer-based and live lecture groups
- No significant difference in change in knowledge scores between computer-based and live lecture groups
- No significant difference in overall learning experience between computer-based and live lecture groups
- Pros and cons for each lecture format were identified by students
Questions?
Certainty Based Marking for UQ Medical Students

David Emmett Senior Lecturer eLearning UQ SoM

New Staff Start-up Research Grant

- This project will evaluate and pilot software developed at the University College London (UCL) that uses certainty-based marking (CBM) as a method for enhancing multiple-choice questions (MCQs).
- Lead Investigator - David Emmett (Soon to be Doctor)
- Research Assistant – Niikée Schoendorfer (Soon to be Doctor)
- Timeframe – August 2010 – December 2011

Multiple-choice questions (MCQs)

A major component of medical student examination, however this approach is not without problems:

- little incentive for students to think rigorously or understand issues deeply; the first thing they usually think of, is good enough. Weaker students often compensate by rote-learning and rejecting deep understanding as unnecessarily challenging (Gardner-Medwin, 2007).
- student not knowing the answer is provided with clues based on the options provided. The effect, called cueing, is especially problematic when diagnostic reasoning is being assessed; this is a common reason for diagnostic errors in clinical practice (Epstein, 2007).
Certainty-based Marking

+ Certainty-based marking of MCQs ensures that in order to get the best marks a student must discriminate between responses based on understanding and guesses.
+ This is because confident answers when correct gain bonus marks, however students who are confident and incorrect are penalised.

Certainty-based marking

Typical marking scheme

<table>
<thead>
<tr>
<th>Degree of certainty</th>
<th>C1 (Low)</th>
<th>C2 (Medium)</th>
<th>C3 (High)</th>
<th>No reply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark it correct</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Penalty for wrong</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

International progress of CBM

+ International progress in CBM has been slow and hampered by the lack of technology-based solutions to implementation.
+ The University College London has recently developed a plug-in component for Moodle (an open source Learning Management system).
CBM pilot at UQ SoM

This Moodle tool will be examined and tested for use at UQ with second year students, initially:
+ during selected problem-based learning activities, and
+ open access to a bank of MCQs for exam revision.

CBM in Moodle

Project outcomes

The introduction of CBM offers the possibility of:
+ Making assessment more self-directed and reflective
+ Improve efficiencies gained by online delivery of MCQ banks
+ Improving clinical competence and reasoning skills
+ Student motivation
+ A more appropriate instructional and reflective tool for large cohorts of students
The future

Travel - London LAPT
Research Study Aims

• To establish current practices in Medical Education Units (MEUs) of the use of educational based evidence to inform decisions in education and training for planning, implementation, evaluation & research

• To determine what MEU staff consider are barriers to utilizing evidence based practice and how they consider an educational evidence based culture could be developed

What are Medical Education Units

• Established in QLD Health to meet education & training requirements for prevocational doctors

• Staff - Director of Clinical Training, Medical Education Officers

• Work with Medical Board requirements, Junior Doctor Accreditation standards & ACFJD
Rationale for research

- Demands - increasing numbers of medical student numbers

Research Design

- Qualitative
- Multi-site - Analysis of work practices in selected MEUs. How do staff plan their education and use EB educational practice
- Low risk ethics clearance, HREC Qld Health

Data Collection

- 7 MEUs selected
  Primary allocation sites
  Number of interns
  Classification of large, medium & small
  Considered geographical location
- 14 semi-structured taped interviews, 45 - 60 minutes
Key interview Questions

- How does your MEU currently decide what education programs & initiatives you will conduct for the year?
- What do you think is meant by evidence based educational practice?
- Are there any barriers/obstacles that make it difficult for you to be involved in the research process?
- What do you consider could be done to assist your MEU become more engaged in using research to develop EBEP?

Data Analysis

- Transcripts from interviews
- Coding categories developed
- Concepts identified and relationships developed
- Emerging themes identified
- Themes into model development

Where to from here?

- Who will benefit from this research?
- How to develop a culture of evidence based educational practice
- Developing education initiatives
Advancing forward……

Role of QMET

• Development of model of EBEP from research findings
• Support for MEU staff
• Possible funding opportunities for research projects/initiatives
• Collaborative link to QLD Health & other health care groups (ClinEdQ) for EBP
• Link to national organizations
Building assessment capacity in medical education

Hamish Coates
coatesh@acer.edu.au

Imagine a school...

An experiment
We need to decide what 'standards' means

Robert Rauschenberg, Untitled, c.1951

Score distributions for eight groups (institutions, faculties, subjects, etc.)

“Standards”, not "standardisation"

Robert Rauschenberg, Untitled, c.1951

We need to decide what ‘standards’ means
Assessment design principles

- Multi-level responsibility
- Reflect and stimulate diversification
- Quantitative focus
- Learning focused
- Conceptually sound
- Support risk-based monitoring
- Protect academic autonomy
- Let’s improve
- Workable
- Auditable
- Cost effective

Assessment framework: core areas; divergent topics
- Items sourced from academics, existing tests, other systems...
- Items quality assured, criterion referenced, and calibrated
- Items mapped to measure ‘core content’
- Items designed to measure ‘above content’ (cf: AHELO)
- Items deployed to monitor ‘minimum standards’
- Cross-institutional/national linkages
- An efficient, sustainable collaboration
- Objective data for evaluating curriculum and performance

MCA
Assessment framework: core areas; divergent topics
Library of catalogued items built via faculty training workshops
Items quality assured, criterion referenced, and calibrated
'Core' set of items deployed to monitor 'minimum standards'
Sampled items embedded into routine assessment
Return performance data for calibration
Cross-institutional/-national linkages
An efficient, sustainable collaboration
Objective data for evaluating curriculum and performance

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Eight engagement opportunities

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Building assessment capacity in medical education

Hamish Coates
coatesh@acer.edu.au
A Program of Assessment for a Program of Study

Implementing an Integrated System for Programmatic Assessment of the MBBS Program

Dr Tracey Papinczak

Quality assurance in education

“the totality of systems, resources and information devoted to maintaining and improving the quality and standards of teaching, scholarship and research, and of students learning experience”

Quality Assurance Agency in UK Higher Education

Quality assurance system

Does the assessment
– Align with best practice?

Have the following been undertaken?
– Self-reflection
– Examination of student feedback
– Peer review
– External review
1. Best practice in assessment: Individual instruments

- Reliable
- Valid
- Objective
- Acceptable
- Constructively aligned
- Equitable and fair
- Cost-effective
- Time-efficient

1. Principles: Best practice in assessment programs

- Clarify what are expected standards (criteria)
- Facilitate deep learning
- Deliver high-quality feedback
- Positively motivate students
- Support development of learning communities
- Involve students in decision making
- Deliver authentic assessment
- Encourage reflection & self-assessment
- Be paced to support continuous learning
- Have strong validity and reliability for all individual assessment pieces

2. Self-reflection

Taking time Reflecting in-action What is working? What is not working? How can we improve? Where can we access support?
3. Student feedback

Student feedback to the Evaluation Unit
- Concerns about subjectivity of consultant assessment years 3 & 4
- Lack of time to complete some written examinations
- Excessive assessment in some rotations
- In yrs 1 & 2, too little assessment

Course evaluations administered by TEDI
- 2010 SET C
  • greater feedback on assessment needs to be provided
- 2008 – 2009 iCEVAL
  • LO to assessment match needs greater clarity
  • Assessment requirements and marking criteria need to be provided at the start of the course
  • Assessment needs to be spread across the semester not concentrated at the end

4. Peer review

Examples:
- Peer review of examination papers in years 1 and 2
- Peer review of PBL tutors in year 1
- Peer review of lecturers in Discipline of General Practice
5. External Review

Australian Medical Council Review

- Lack of centralised control over and management of assessment
- Variable quality of assessment
- Redundancies and gaps
- Lack of examiner training

Planning for quality assurance

Quality Assurance of the Program of Assessment

- Purposeful plan
- Quality of each piece of assessment

- Mapped to aims and goals
- Gaps identified and addressed
- Redundancies removed
- EBP in assessment
- Best choice for KSA

Threshold learning outcomes

ALTC – Learning & Teaching Academic Standards project
Health, Medicine and Vet Science
Six TL outcomes revised through stakeholder consultation
Implications for assessment within all programs once TEQSA is underway (new Federal Government auditing agency within DEEWR)
Upon completion of their program of study, health graduates at professional entry level will be able to:

• Demonstrate professional behaviours
• Assess individual and population health status, and where necessary, formulate and implement management plans in consultation with patients/clients/carers
• Promote and optimise the health and welfare of patients/clients and populations
• Retrieve, critically evaluate, and apply evidence in the performance of health care activities
• Deliver safe and effective health care in collaboration with other health care professionals
• Reflect on current skills, knowledge and attitudes, and plan ongoing professional development activities.

Assessment in the MBBS Program

Threshold learning outcomes (once TEQSA established)

UQ Graduate attributes

Aims, goals and learning outcomes

Graduate attributes

In-depth knowledge & skills in the field of study
• A comprehensive and well-founded knowledge in the field of study.
• An understanding of how other disciplines relate to the field of study.
• An international perspective on the field of study.

Effective Communication
• The ability to collect, analyse and organise information and ideas and to convey these ideas clearly and fluently, in both written and spoken form.
• The ability to interact effectively with others in order to work towards a common outcome.
• The ability to select and use the appropriate level, style and means of communication.
• The ability to engage effectively and appropriately with information and communication technologies.
Graduate attributes

Independence and Creativity
- The ability to work and learn independently.
- The ability to generate ideas and adapt innovatively to changing environments.
- The ability to identify problems, create solutions, innovate and improve current practices.

Critical Judgement
- The ability to define and analyse problems
- The ability to apply critical reasoning to issues through independent thought and informed judgement
- The ability to evaluate opinions, make decisions and to reflect critically on the justifications for decisions

Ethical and Social Understanding
- An understanding of social and civic responsibility
- An appreciation of the philosophical and social contexts of a discipline
- A knowledge and respect of ethics and ethical standards in relation to a major area of study
- A knowledge of other cultures and times and an appreciation of cultural diversity.
Programmatic assessment

- Focused on the whole of a program of study
- Collaborative & consultative
- Charts students progress over time
- Involves multiple perspectives
- Measures knowledge, skills & affective domains
- Has a strong workplace focus
- Based on principles of best practice in education
- Measures previously underserved areas of assessment
- Avoids overlap & over-assessment of commonly measured KSAs

From the perspective that a program of study is more than the sum of each individual course, a program of assessment must be more than each individual measure.
Research aim
To develop & to implement a comprehensive, integrated assessment program which explicitly maps to the three aims, seven goals & 35 learning outcomes of the MBBS Program and the six threshold learning outcomes of the TEQSA

Educational approach
Dijkstra, Van der Vleuten & Schuwirth (2009)
- Six dimension framework
- Guides programmatic assessment
- Holistic focus
- Explicit mapping to program goals BUT
- Establishing a set of goals for an assessment program in medical education

Method

<table>
<thead>
<tr>
<th>Methodology</th>
<th>Description</th>
<th>Details of Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goals</td>
<td>Establishing a clear goal for the assessment program</td>
<td>Mapping of existing assessment items to aims, goals &amp; learning outcomes; Identification of gaps, redundancies &amp; assessment practices &amp; instruments inconsistent with best practice; Consultation with stakeholders across all four years of the Program; potential barriers &amp; other issues; Establishment of a shared goal for the assessment program</td>
</tr>
<tr>
<td>Supporting the program</td>
<td>Technical support for quality assessment &amp; involvement of stakeholders</td>
<td>Professional development and support; Continued stakeholder input</td>
</tr>
<tr>
<td>Documenting the program</td>
<td>Assessment tools, designing &amp; planning</td>
<td>Literature review to identify best evidence for assessment in higher education &amp; medical education; Analysis of strategic plans &amp; priorities at School, Faculty &amp; University level; Development of a holistic plan for assessment</td>
</tr>
<tr>
<td>Program in action</td>
<td>Collecting data, combining the data, reporting &amp; decision-making</td>
<td>Implementation of the integrated assessment program</td>
</tr>
<tr>
<td>Improving the program</td>
<td>Continuous monitoring &amp; application of relevant research</td>
<td>Evaluation &amp; action research; UQ &amp; AMC Review; Stakeholder feedback</td>
</tr>
<tr>
<td>Accounting for the program</td>
<td>Internal &amp; external reviews</td>
<td>Accountability to stakeholders</td>
</tr>
</tbody>
</table>
Likely outcomes

- Creation of comprehensive map: learning goals, aims & outcomes matched to current assessment processes
- Establishment of holistic assessment program: sampling knowledge, skills & other key aspects of competence both summatively & formatively
- Development of spectrum of complementary assessment strategies: sampling student achievement in an iterative manner but with increasing sophistication
- Synthesis of well-informed, logical & highly defensible plan of assessment.
- Enhanced collaboration & understanding between all stakeholders

Conclusion

The opportunity exists to produce, over the next three years, an innovative program of assessment that best serves the needs of all stakeholders & sets an example of the high quality which can be achieved by one of Australia's premier medical schools.

References

IMPROVING LECTURES: Combining student and peer-review of lectures

David King
Discipline of General Practice, School of Medicine, Uni of Qld.

with

Marie-Louise Dick, Patricia Régo, Tina Janamian, Tracey Papinczak, Ray Peterson, Drew Moore

Presentation outline

1. Context of the project
2. Literature review – What makes a good lecture?
3. Report of project

Background

- General Practice Rotation:
  - An 8-week rotation in Year 3
  - Students attend ~ 20 lectures, weekly case-based tutorials, and 28 half-day sessions in GP
  - 50 – 60 students in Brisbane area per rotation.
- General Practice – diverse & extensive curriculum
- Lectures delivered by “faculty staff” and external experts
- Student evaluation of lectures very variable, GP rotation initially rated poorly in student evaluations.
- Project designed as part of GP rotation re-vamp.
Background – What makes a ‘good’ lecture?

- Appropriate information
- Entertaining & memorable performance
- Useful & personally relevant
- Clear aims – challenge; reinforce; clarify; provide new insights

Do students know what information they need vs. want? Lectern (bedside) performance big factor.

What makes a good lecture? Information Content

- Amount – 2-3 major learning objectives
- Level – no repetition/ overlap
- Immediate – passing exams vs. future?
- Structure – well organised/easy to follow
- Efficient – generalisable, synthesise diverse information for them
- Up to date (with references)
- Multiple learning needs & styles catered

What makes a good lecture? Performance

Delivery and Resources

- Active learning – case-based, questions
- Attention span – pictures, jokes, questions to the audience
- Engaging audience – movement, voice
- Audience valued & respected
- Anecdotes, role modelling, application
- Audience left wanting more
Project Aim

To provide GP lecturers with feedback on their performance from both students and their academic peers, with a view to enriching the learning experience for both students and teachers.

Methods

- Ethics approval obtained
- All 19 lecturers invited to participate
- Lectures evaluated by:
  - one GP academic;
  - one medical educator; and
  - the student cohort (~60 students)
- The surveys: Peers' assessed
  - Ability to engage students
  - Content
  - Delivery
  - Resources

Methods (continued)

- Existing student cohort surveys
- Overall teaching sessions were rated from 1 (unsatisfactory) to 5 (excellent)
- Evaluations provided to lecturers:
  - Peer reviewer comments given written +/- face-to-face
  - Student cohort evaluations collated
- Lecturer re-evaluated ≥ 2 rotations later
- Reflection questionnaire for lecturers
  - Feedback regarding involvement in study and the value of reviewers' feedback
Analysis

- Descriptive measures (frequencies, means, standard deviations)
- Wilcoxon non-parametric two-related-samples test (to indicate negative or positive changes (ranks) in reviewers’ overall rating of lectures)
- Thematic analysis of qualitative data

Results

- 11 (58%) participating lecturers, delivering 16 lectures
- 3 academic GPs and 3 medical educators provided reviews
  * Reviewers for the 2nd lectures were not necessarily the same as the reviewers for the first lectures (Scheduling reviewers was difficult!)

TABLE 1: Overall ratings for the lectures / lecturers

<table>
<thead>
<tr>
<th>Reviewer</th>
<th>Lecture number</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP Academics</td>
<td>1</td>
<td>16</td>
<td>4.25</td>
<td>0.577</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>16</td>
<td>4.56</td>
<td>0.512</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Medical Eds</td>
<td>1</td>
<td>15</td>
<td>4.73</td>
<td>0.594</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>4.87</td>
<td>0.352</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Student Cohort</td>
<td>1</td>
<td>15</td>
<td>4.01</td>
<td>0.508</td>
<td>3.1</td>
<td>4.8</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>15</td>
<td>4.35</td>
<td>0.290</td>
<td>3.9</td>
<td>4.8</td>
</tr>
</tbody>
</table>
**TABLE 2: Negative or positive changes (ranks) in reviewers’ overall lecture ratings**

<table>
<thead>
<tr>
<th>Reviewer and measure</th>
<th>Ranks</th>
<th>N</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP academic: overall rating</td>
<td>Negative Positive Ties</td>
<td>1 6 9</td>
<td>0.059</td>
</tr>
<tr>
<td>Medical educator: student engagement</td>
<td>Negative Positive Ties</td>
<td>0 7 7</td>
<td>0.008</td>
</tr>
<tr>
<td>Student cohort: overall rating</td>
<td>Negative Positive Ties</td>
<td>3 11 0</td>
<td>0.025</td>
</tr>
</tbody>
</table>

Using Wilcoxon nonparametric two-related-samples test for significance.

*Small numbers

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**Student feedback: the positive themes**

- **Character of the lecturer:** “enthusiastic”, “energetic”, “confident”, “approachable”, “caring”
- **Good case examples:** “good case examples and explanations”, “used personal examples from clinic”, “clear examples; well linked between evidence and clinical practice”
- **Lecture material / content:** “well-structured and level appropriate”, “up to date”, “covered important, good topics”
- **Lecture delivery:** “power points clear, easy to follow”, “presented well / spoke clearly”, “confident and well controlled presentation”
- **Interactive lecture:** “encouraged student participation”, “engaged the students and had a relaxed, approachable demeanour”, “interactive style; allowed good discussion of issues”

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**Student feedback: the negative themes**

- **Lecture material:**
  - repetition: “much of the content was covered in 1st/2nd year”;
  - poorly structured: “too much info for time allocated”;
  - more / less information on certain topics: “could have more management information”, “allow more time for summary / questions”
- **Pace of lecture:**
  - “a little too fast at times”
  - “rather slow-paced, not challenging”
Student feedback: the negative themes (continued)

Lecture delivery:
• "power point slides were very busy"
• "excessive use of acronyms"
• "a little monotonous, no range in expression"
• "a little less animated than I would have liked"

Interaction with students:
• not enough interaction / question time: "minimal student involvement / engagement"

Key feedback given by "peer reviewers"

** Very similar for both GP and Med Ed reviewers, but with GPs focussing more on specific content details

Content
• "slide covering the take home messages would be good"
• "the case studies were excellent" / "the use of case studies would contextualize the material"
• provide more "detail on prevention of migraine"

Peer reviewer feedback (continued)

Presentation: e.g. stance, reading computer screen, voice
• "voice lost when talking to the wall and not to the audience"
• "also body language – stand front on, not to right, eye contact with audience is to your left – you missed hands up"
• "slow down, especially when not near microphone"
Peer reviewer feedback (continued)

Interaction

• “more use could be made of questions to ensure student interactions”
• “re-stating students’ questions/answers would be helpful to all”

Resources: e.g. power point slides – too busy / choice of colours etc.
• “colours, contrast on slides could be better, not green on green”
• “greater slide “variety” and more visual cues”
• “too much info in a slide – dot points better”

Lecturer comments regarding the review and feedback process

<table>
<thead>
<tr>
<th>To what extent . . .</th>
<th>A little</th>
<th>Moderately</th>
<th>Substantially</th>
</tr>
</thead>
<tbody>
<tr>
<td>identify good elements of your lecture?</td>
<td>0</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>identify the less successful elements in your lecture/s?</td>
<td>0</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>challenge your assumptions about what was happening in your lecture/s?</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>do you agree with the feedback?</td>
<td>0</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>was the feedback specific enough to be helpful to you?</td>
<td>0</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>do you value your experiences in this peer review?</td>
<td>0</td>
<td>0</td>
<td>9</td>
</tr>
</tbody>
</table>

Key findings

• GPs and Medical Educators raised similar issues
• Lecture ratings improved following review and feedback (significantly / non-significantly)
• Lecturers want more of this
Future challenges

- How to engage non-participating lecturers?
- Resources - it takes time to create good lectures, and to improve and update current ones.
Learning in the Clinical Setting (LICS): a pilot study at the Northside Clinical School and Rural Clinical School

Study design and baseline data

Hypothesis

A series of short workshops for medical students on ‘learning skills in a clinical setting’ assists them in making their transition to learning in hospital settings

Methods

n=100 Year 3 MBBS students, Rotation 1, 2010
Rural Clinical School and Northside Clinical School

Baseline questionnaires
- Learning skills (10 items)
- Feedback (9 items)
- Communication skills (4 items)
- Self-directed learning readiness scale (40 items)*

Workshops plus Usual active learning (n=60)
(Rockhampton, Bundaberg, Redcliffe, Caboolture)
vs Usual active learning (n=40)
(Towong, Hervey Bay, The Prince Charles Hospital)
Questionnaires

Learning Skills Survey - Please indicate your "CURRENT" ability in the following areas related to learning, on a scale of bad to excellent.

<table>
<thead>
<tr>
<th></th>
<th>Bad</th>
<th>Inadequate</th>
<th>Fair</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Setting personal goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Using the Year 3 Learning Outcomes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Making learning opportunities for yourself and others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Taking advantage of learning opportunities presented</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Managing your resources (e.g. online access to information)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Managing your time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Items</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Self-Directed Learning Readiness Scale - Please evaluate each item regarding the degree to which the item measures a characteristic of yourself.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Unsure</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I solve problems using a plan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. I prioritise my work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. I do not manage my time well</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. I have good management skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. I set strict time frames</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. I prefer to plan my own learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Items</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Workshops

Learning with patients
- goal setting, learning cycle, deliberate practice

Learning with clinical teams
- SNAPPs (summarise, narrow, analyse, probe, plan, select)

Managing learning resources
- time management, prioritisation

Feedback
- giving and receiving feedback

Scenarios on DVD:
Transitioning to the clinical setting
Drawing on your clinical team
Active learning through feedback (2 scenarios)
Results: Learning skills (baseline)

'Good-excellent'
Start of Rotation 1
n=100

- Setting personal goals: 63%
- Using Year 3 learning outcomes: 18%
- Making learning opportunities: 59%
- Taking advantage of learning: 77%
- Managing time: 38%
- Seeking feedback from Consultants: 30%

Results: Self-directed learning (baseline)

'Agree-Strongly agree'
Start of Rotation 1
n=100

- Self-management:
  - I am self-disciplined: 59%
  - I am organised: 59%
- Desire for learning:
  - I enjoy learning new information: 97%
  - I enjoy studying: 62%
- Self-control:
  - I prefer to set my own learning goals: 40%
  - I evaluate my own performance: 73%

Results: Feedback (baseline)

'Very good-excellent'
Start of Rotation 1
n=100

- Current proficiency in receiving feedback from your tutors/teachers: 26%
- Current proficiency in eliciting feedback on your own performance: 14%
Interim Conclusions

The transition from pre-clinical to clinical years is a major challenge for students. Improving this transition to learning in clinical settings is a critical goal.

Interactive learning skills workshops are feasible in Clinical School settings, during orientation or the initial week of the first Rotation.

Discussion

Further analysis:
- Longitudinal change over the year
- Pre and post workshop
- Correlation with assessment results

Other considerations:
- Workshop timing, length and topics
- Teaching sites
- Starting rotation
- Individual learning style

Practical tip:
Ensure learning skills are included in Orientation

Acknowledgments

- Rural Clinical School – funding for educational DVD
- ‘Actors’ in the DVD
- Centre for Medical Education, Research and Scholarship – Robyn Synnott for data entry
- Year 3 Medical Students of the Rural Clinical School and Northside Clinical School, for their participation
- Clinical School and Hospital staff for coordination and involvement
- University of Western Australia for protocols
Overview

- Make a case for why learning outcomes of International Health Electives (IHEs) need to be ‘examined’

- Offer some ways forward on how we might improve the outcomes of IHEs for all stakeholders

International health electives

- For the purposes of this talk I focus on placements which students elect to undertake outside the normal educational context

- IHEs in non-English speaking environments

- Often in emerging economies

- For our context:
  - 4 week placements in year 1
  - 8 week placements later in the program
Traditionally, internationalisation of the medical curriculum relied on student mobility.

IHEs are enjoyed by students – so much so that IHEs are sometimes referred to as medical tourism.


Students report IHEs contribute to their knowledge and skill.

BUT……

Are the outcomes of this learning (knowledge and skills) greater than could have been achieved ‘at home’?

What other ‘value-adding’ has been achieved from the IHE?

Does the benefit

- To student
- Host site
- Staff at host site
- Patients at host site
- "The profession"

Outweigh the costs?

- To student
- Organising site e.g., admin time
- Host site and staff

There is insufficient evidence of benefits and effectiveness of IHEs.


Learning outcomes are variable because of

- lack of structure and preparation

- lack of learning support during IHE

- lack of opportunities for reflection and consolidation of learning on return home

- Moral and ethical considerations

Benefits to host sites being questioned


Risks are unexplored, perhaps unrecognised, often unmanaged

So, in a climate of financial belt-tightening and risk management, we need to be able to make a better argument for the unique and strong learning outcomes for IHEs.

We need to maximise the learning opportunities of IHEs:

- Through better preparation
- Learning support during placement
- On return

And utilise the untapped possibilities for learning:

- Global health
- Intercultural communication
- Interprofessional education
- Higher order cognitive skills
- Higher order personal and interpersonal skills

Some strategies for maximising LOs in IHEs:

**Preparation**
- Global health content
  - UNMDG
- Research the health system, health issues, education & welfare systems, literacy levels etc of host country
- Module on intercultural competence/communication
  - Principles of culture general vs culture specific
- Prior contact with hosts
  - Learning plan with measurable goals

**In country learning support**
- Virtual input from staff and peers eg. via online forums, skype
- Self-directed learning that links experience to goals of Lg plan
- Reflective activities eg., intercultural communication failures

**Return home**
- Debriefing
- Write up of Lg plan outcomes
- Critical incident report on significant learning experience
- Assignment e.g., resource for host site, webpage etc
- Presentations
THE GENERAL PRACTICE ATTACHMENT
- 28 sessions over 8 weeks
- Attached to between 1 and 8 GPs
- Practice nurse often involved in teaching
- Active participation in consultations

THE PROJECT
- Purposive sampling of teaching practices
- Semi-structured interviews with 60 GP teachers
- Interview guide covered 5 aspects of teaching
THE INTERVIEW GUIDE

- Tell me about:
  - The rewards of teaching
  - The difficulties and challenges of teaching
  - The teaching strategies you prefer
  - Assessing students
  - Any training or support you need

Open responses, no pre-identified themes
Not a survey

ETHICS AND PROFESSIONALISM THEMES IDENTIFIED

- Student professionalism
- GP overload
- Fairness of student assessment
- Obligation to teach
- Consequences for patients involved in teaching consultations
- Teaching and professional development
- Patient consent
- Confidentiality
- Litigation

STUDENT PROFESSIONALISM

- Identified by 35%, 21/60 participants
- GPs appreciate
  - Student enthusiasm: “keen,” “dynamic,” “motivated”
  - Student knowledge
  - Student help “make themselves part of the practice”
  - Polite, pleasant, prompt students
UNPROFESSIONAL STUDENTS

- Identified by 42%, 25/60 participants
- GPs do not appreciate
  - arrogance “dismissive” “bigoted”
  - lack of interest “bored” “slack”
  - passivity “uninvolved” “no sense of humour”
  - interruptions
  - poor knowledge and/or communication skills
  - sandshoes
  - lateness

COURTESY TO PATIENTS

- “Occasionally students need reminding that they need to ask permission before examining patients and thank them afterward”

- “I expect the student to stand as the patient enters”

- “I had a student who lounged in the chair, his hands in his pockets”

WORN OUT

- “Students like sponges, with no interaction. You could say something outrageous and get nothing back. Didn’t pick up on things I’d taught them previously. . . I’d feel wrung out at the end of the day”

- “There was one student I got upset with . . . I had a run of weaker students a few years ago and they wore me out”
DOCTORS' HEALTH

GP overload as a consequence of teaching identified by 42%, 25/60 participants

- feeling pressured because of time demands and/or cognitive overload
- preference for sharing the teaching load, and/or have breaks between teaching rotations

TENSION

Tension between teaching and patient care

- "You really have to make sure the patient’s needs are being met”
- "The patient is paying me to do it, not the student”

UTILITY: POSITIVE CONSEQUENCES

Potential benefits of teaching to patients were identified by 22%, 13/60 participants

- Potential benefits include
  - insights into clinical reasoning
  - longer consultations
  - teacher role
Potential adverse consequences to patients were identified by 47%, 28/60 participants.

Potential negative impacts of teaching on:
- therapeutic relationship/rapport, particularly in mental health and new patient initial consultations
- patient outcomes, because of student inexperience or inappropriateness, or unmet patient needs
- patient satisfaction, because of patient perceptions of student participation as inappropriate, or impositions on their time

“My patients have come to me to do the excision – half the time they want to see the plastic surgeon! I had a student close a patient’s excision a few weeks ago, and I heard him say in the waiting room ‘I’ve got the student version’”

“Rural practices may be able to offer students a different experience operating almost as a practice nurse, but patient expectations are different in a professional practice with patients paying top dollar”

“I have a high end professional practice . . . it’s much easier to give students a greater role in a bulkbilling practice with a high turnover, the patients don’t really have a choice, but I can’t offer this”
**PATIENT RIGHTS AND OBLIGATIONS**
- Is the patient under any obligation to fulfil the right of a medical student to clinical education?
- Is this obligation related to payment for care?

- GPs report no equivocation about their patients’ right to a teaching-free consultation

**CONSENT**
- High (typically >90%) levels of patient consent reported

- More likely to be declined or not requested in PAP smear consultations, and mental health consultations

**TYPICAL CONSENT PROCESS**
- Notice in waiting room
- Receptionist seeks consent
- Receptionist sends message to GP
- GP confirms with patient
- GP seeks explicit consent to more active student involvement in consultations

- Unknown: documentation of consent
ACTION POINTS

- Advice to GPs about medico-legal cover, documented consent processes and signed confidentiality agreements
- Advice to students about the expectations of GPs
- Further research about patient willingness to participate in teaching partnerships, and patient outcomes in teaching practices
- Further research about aspects of teaching which reduce GP stress and ‘burnout’

TO TEACH THEM THIS ART, IF THEY SHALL WISH TO LEARN IT

[Image of a quote]

[Translated text]

[Original Greek text]

[English translation]
Prescribing: What are the competencies?

Charles Mitchell, Ian Coombes, Elaine Lum
CSEP
University of Queensland

Competence

• is the ability to perform a specific task, action or function successfully
• more than enabling knowledge
• rather the appropriate application of knowledge
• includes how needed knowledge effectively obtained
• ideally, should include how competencies are acquired and how assessed

Proposal

Prescribing should be considered in a similar way to procedures where a combination of knowledge and, more importantly, competencies (skills) are prerequisites to be demonstrated before being allowed to perform a specific complex task.

The main difference is that procedures require psychomotor skills in addition to cognitive skills
4 Domains of Prescribing

**Self-Reflection**

- **Info Gathering**
  - Take/ review medical & medication hx; physical examination; Investigations
  - Compare medical & medication hx
  - Assess adherence to meds; risk factors for non-adherence
  - View/ assess patient’s needs holistically (psychosocial, physical)

- **Enabling Knowledge**
- **Decision Making**
- **Communicate Decision – Prescribe**
- **Monitor & Review**
- **Experience**

**Info Gathering**

- Access and interpret all relevant records for past management
- Review nature, severity and significance of the symptoms/problem/diagnosis
- Consider natural history of the clinical problem/diagnosis
- Request and interpret relevant diagnostic tests
• Diagnosis
• Consider drug & non-drug options
• Balance benefits and risks of specific drug(s)
• Consider drug-drug, drug-comorbidity interactions
• Consider cost/availability of options
• Select drug, form, route, dose, frequency, duration

Decision Making

• Other medical staff/prescribers
• Pharmacy staff to review; dispense; arrange supply
• Nursing staff to administer or supply
• Patients/carers to administer
• Contingency plans

Communicate Decision – Prescribe

Monitor & Review

Review:
• Control of symptoms and signs
• Adherence
• Patient’s outcomes
• Consider need to tailor therapy to patient, continued or ceased
• Any need to consult
Rational prescribing – WHO Model

1. Define patient’s problem
2. Specify therapeutic objective(s)
3. Choose your standard drug and verify its suitability
4. Start treatment
5. Give information, instructions & warnings
6. Monitor (and stop) treatment

Mapping the 4 Domains of Prescribing

- Information gathering
  - Assess adherence to current & past medications and risk factors for non-adherence
  - Understands the importance of assessing adherence
  - Knows the risk factors for non-adherence
  - Know the evidence for strategies to improve adherence
  - Acquires skills for detecting non-adherent behaviour
  - Acquires skills for encouraging medication adherence
  - MCQ
  - OSCEs
  - MiniCEX (Clinical Examination)
Processes for medical staff

- SMPT
- NPS modules (UG & PG)
- OSCEs
- Pre-employment assessment
- PGY1/2 program
- WBA

SMPT 2011

- Based on errors made by interns in recent years
- Focuses on PINCHA drugs
- Basic clinical pharmacology – now presented in VOPPs
- Eight F2F sessions on competencies delivered in Y4 Medical Rotation
- Proposal to split and introduce earlier

HEALTH CARE

Why do interns make prescribing errors? A qualitative study

Ian D-Coombes, Danielle A Strosser, Judith A Coombes and Charles Mitchell

A diverse range of prescribing errors has been estimated to occur in the United States, United Kingdoms and elsewhere. This paper aims to examine the underlying factors associated with these prescribing errors. The study population comprised 24 medical students from four different medical schools who were asked to complete confidential questionnaires on prescribing errors. The questionnaire assessed the frequency and nature of prescribing errors, the extent to which errors were related to knowledge and skill, and the impact of these errors on patient care. The results indicated that prescribing errors were more common among medical students who had not received formal training in pharmacology. The study suggests that more emphasis should be placed on early and ongoing education in pharmacology to reduce the incidence of prescribing errors. The results also highlight the need for improved communication and documentation of medication orders to prevent future errors. Future research should focus on developing strategies to improve the quality of prescribing errors and reduce the overall incidence of errors. The findings of this study have important implications for the development of educational programs and training for medical students.

OBJECTIVE: To identify and analyze factors underlying prescribing errors to inform development of specific medication safety interventions.

Design: A descriptive qualitative study that involved face-to-face interviews and case-study analysis.


Participants: Fourteen interns participated in 24 interviews.

Method: An interview questionnaire was used to identify factors causing the errors. These factors were analyzed on the basis of human error theory to identify underlying themes.

Results: Factors underlying prescribing errors:

- Knowledge and skill
- Communication
- Documentation
- Time and task

Although a particular error or common error may be the immediate cause of an incident, underlying issues such as fatigue, illness or stress may also contribute.

Conclusions: The findings of this study have important implications for the development of educational programs and training for medical students. The results indicate that more emphasis should be placed on early and ongoing education in pharmacology to reduce the incidence of prescribing errors. Future research should focus on developing strategies to improve the quality of prescribing errors and reduce the overall incidence of errors.
SMPT 2011

• Based on errors made by interns in recent years
• Focuses on PINCHA drugs
• Basic clinical pharmacology – now presented in VOPPs
• Eight F2F sessions on competencies delivered in Y4 Medical Rotation
• Proposal to split and introduce earlier

High Risk Medications

Potassium and other concentrated electrolytes
Insulin and oral hypoglycaemics
Narcotics and NSAIDs
Cytotoxics and immune suppressants
Heparin, enoxaparin and warfarin
Antibiotics: aminoglycosides and previous allergies to penicillins and sulphonamides

SMPT 2011

• Based on errors made by interns in recent years
• Focuses on PINCHA drugs
• Basic clinical pharmacology – now presented in VOPPs
• Eight F2F sessions on competencies delivered in Y4 Medical Rotation
• Proposal to split and introduce earlier
• Assessment under development
In a general practice, you are about to see a 21 year man who has long-standing asthma. Seen occasionally in the practice but you have not seen him previously. He has just seen the practice nurse who recorded the following: Recently waking several nights a week with SoB and wheeze. Also SoB on mod exertion. No evidence of recent infection. Rx Symbicort 400mcg/12mcg) two bd and Ventolin 2 puffs prn. MAT Turbuhaler and pMDI OK

On examination: Non-productive cough. Not cyanosed. Chest exam - moderate insp and exp wheezes. Spirometry reveals moderate obstruction with an FEV1 of 2.7 litres and FVC of 4.5 litres (FEV1/FVC 60%)

OSCE

YOUR TASKS ARE TO:

• Take a focused history from this patient. You should take no more than 5 minutes on this task
• Ask the examiner for any other findings you would seek on physical examination.
• Discuss your plan of management with the patient

WHAT WOULD YOU DO?

Aspects of history
Request for physical finding
Advice
Discussion Questions

- Is the prescribing cycle a reasonable framework to formulate the required competencies for prescribing?
- Are there any other detailed frameworks currently in use?
- What are you doing in this space? Care to share?
- Should there be a national view?
- If yes, how do we proceed?
Quality Clinical Assessment

*A Student Perspective*

A. Hutchinson & B. Manoharan
University of Queensland Medical Society

MBBS Assessment

Preclinical
• Year 1: Theoretical exams, communication skills
• Year 2: As Year 1, but increased focus on clinical reasoning and clinical skills

Clinical Years
• Assessment per rotation (mixture of): Written (SAQs, MCQs) exams, Viva voce, Structured Clinical Interviews, Structured Long & Short Cases etc.
• Barrier MSAT examinations.

Student perceptions on assessment

• Assessment as a motivator
• Assessment as a learning tool
• “studying” for an exam vs. “learning” to be a doctor
• Changing perceptions of assessment
How do we achieve quality clinical assessment?

Pre-assessment
• Learning objectives
• Adequate briefing
• Clear understanding of expectations
• Formative assessment opportunities

Assessment
• Appropriate use of assessment modalities
  – Range
  – Consistency
• Directed by learning objectives
• Tailored for skill level
• Consistent / reliable examiners
• Learning opportunity
Post-Assessment
• Feedback
• Remediation
• Clear guidelines on resits / remarks / appeal
• Evaluation
  – Quality control
  – Modification
  – Student performance
  – Usefulness

Recommendations
• SoM framework of assessment delivery
  – Standardisation of Delivery
• Training and competency of assessors
• Training students to be teachers
• Assessment as a learning tool
  – Assessment feedback and Relevance
• Consistent information provision re assessment
• ?Benchmarking of assessment

Thank you

A. Hutchinson + B. Manoharan
University of Queensland Medical Society

www.uqms.org
Roll out the Role Plays:
An excellent means of providing clinically relevant learning and formative assessment

Drs Marie-Louise Dick, Nancy Sturman, and Drew Moore

Background

• GP Rotation for 3rd year medical students
• 8 weekly case-based tutorials (2 – 3 hours)
• Each student has the opportunity to role play both (a) patient and (b) doctor under examination conditions

Developing a case scenario

• Each student develops a clinical case scenario based on a patient seen in general practice
• Provided with templates that mirror clinical case examinations
• Focus on either the diagnostic or management phase of consultation
Instructions for Students – Clinical Exam

DIAGNOSTIC INTERVIEW

Perusal

You have approximately 5 minutes for pre-reading basic patient details. In the case of an existing patient of the surgery, relevant past history will be included on the patient summary page.

The Clinical Exam is 13 minutes in duration.

In this time you are to:

• take a history from your patient
• ask the examiner for the relevant examination findings
• briefly present your problem / diagnostic list to the examiner
• close the consultation by summarising your conclusions to your patient

Patient Details for Diagnostic Case

Name: Mrs Mary Coff
Age: 60 years

Presenting Complaint: Mrs Coff presents with a long-standing cough. She has not attended your practice for over 5 years.

General Appearance: a well-groomed overweight lady in no distress

Health Summary Sheet

ALLERGIES: Nil known
SUBSTANCE USE:
Alcohol:
Tobacco: smokes 10 cigarettes / day

FAMILY HISTORY:
Father died lung cancer age 68; mother died ischaemic heart disease age 71

SOCIAL HISTORY:
Married with 2 adult children; family well. Retired school teacher

CURRENT MEDICATIONS: nil

IMMUNISATIONS: 12 years ago ADT (diphtheria and tetanus vaccine)

PAST MEDICAL HISTORY: nil
Physical Examination Findings

BP 155/80; P 80 regular; RR 16 per minute; T 36.8 C; BMI 32
No signs of anaemia, clubbing, wasting or jaundice; no lymphadenopathy

Respiratory findings
Ears, Nose and Throat examination normal
Chest clear to auscultation; upper zones mildly hyper-resonant; trachea central; expansion within normal limits; no localising features

Cardiovascular findings
Apex beat normal; heart sounds dual, nil added; JVP not elevated; no oedema

Abdominal findings
Abdomen soft, non-tender; no masses or organomegaly

Other examination findings:
ECG - normal
Glucometer blood sugar level - 6.4

Feedback

Students briefed on how to give feedback:
suggest
• Self-reflection: how did it go?
• Feedback Sandwich: Ask, Tell, Ask
• Be specific

Constructive feedback provided
• Based on criterion-based marking guide used for summative assessment
• Verbally by peers
• Verbally by trained GP tutor
• +/- written feedback from tutor
Feedback

Craved by students
Evaluated highly:

<table>
<thead>
<tr>
<th>Survey Item:</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practising long cases in the PBL tutorials with peers and PBL tutor was useful</td>
<td>3.7 / 4</td>
</tr>
</tbody>
</table>

Student Comments

“One of the biggest pluses of the rotation has been the forced practice and observation of the long-cases during PBL – it was an eye-opener seeing the different approaches taken by other students; and being given an opportunity to explore the boundaries of what goes on during a consultation has been really important for me.”

Email from student, 2006

Role Play Model – Conclusions

Students:
- become familiar with examination format and marking criteria
- learn to give and receive feedback
- observe different approaches to consultations
- improve consultation skills and clinical knowledge
- reflect on their own knowledge and skills
Recommendations

Consider incorporating role plays where relevant and feasible – many potential learning experiences!

Acknowledgments

To students photographed in case-based tutorials October 2010 – Many thanks!!
Extending the scope of surgical tutorials to medical students during remote placements via videoconference

Mark G Coulthard
Academic Discipline of Paediatrics and Child Health

Anthony C Smith, Mark G Coulthard, Megan White, Nigel Armfield, Craig McBride and Roy Kimble

Paediatric Surgical Teaching

Past
- Week 1 – face to face didactic lecture in Brisbane
- ALL students EXCEPT rural
- Week 2-6 – surgical tutorials Mater & RCH only

Present
- Week 1 – face to face didactic lecture in Brisbane
- ALL students EXCEPT rural
- Week 2-6 – surgical tutorials ALL students including RURAL

Student Allocation = Brisbane 60%, Regional 40%

Scope

Sessions delivered from:
Centre for Online Health, Brisbane.
VC links to:
- MCH – Brisbane
- Redlands
- Ipswich
- Toowoomba
- Redcliffe
- Caboolture
- Nambour
- Hervey Bay
- Bundaberg
- Rockhampton

Sessions delivered via VC
- Multipoint Bridge
- Split Screen
- 256 kbit/s
- Interactive
- Format
  - Tutorial
  - Short lectures, discussion
Tutorials in progress…

Activity & Topics

- March – September 2009
- Three rotations
- 15 tutorials
- Median duration – 52 min
- Attendance rate – 82%

- Burn injuries
- Intussusception
- Head and neck lesions
- Vomiting
- Abdominal pain
Evaluation

Technical feasibility

- Content, service activity
- User satisfaction
  - students & presenters
- Were the student exam marks any better?

Online survey monkey

- 10 questions – Likert scale
- Distributed to 180 students
- 62% response rate (n=123)

Student Satisfaction Results (n=123)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly agree (%)</th>
<th>Agree (%)</th>
<th>Neutral (%)</th>
<th>Disagree (%)</th>
<th>Strongly disagree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tutorials provided me with new information</td>
<td>50</td>
<td>42</td>
<td>7</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>The content covered was NOT relevant</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>42</td>
<td>54</td>
</tr>
<tr>
<td>The depth of the content covered was appropriate</td>
<td>50</td>
<td>46</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>The tutorials were well presented</td>
<td>46</td>
<td>49</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>There was NOT sufficient opportunity to ask questions</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>55</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Statement</th>
<th>Excellent (%)</th>
<th>Very Good (%)</th>
<th>Average (%)</th>
<th>Below Average (%)</th>
<th>Poor (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tutorials supported interaction between participants</td>
<td>25</td>
<td>51</td>
<td>20</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>The tutorials were useful for exam preparation</td>
<td>58</td>
<td>35</td>
<td>6</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Students who did not have access to these tutorials may be disadvantaged</td>
<td>37</td>
<td>50</td>
<td>10</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>These tutorials should NOT continue on a routine basis</td>
<td>0</td>
<td>3</td>
<td>7</td>
<td>29</td>
<td>61</td>
</tr>
</tbody>
</table>

Overall impression of tutorials | 51 | 40 | 8 | 0 | 1 |
Student Comments

- “For a student in a remote site without paediatric surgery facilities, these tutorials were invaluable to me in providing access to a specialist resource I would otherwise have been denied, and undoubtedly will have benefit, not just for my exams, but for my future practice when confronted by these paediatric surgical conditions. I feel very strongly that these sessions were invaluable to my education in paediatrics, and should certainly be continued in the future.”
- “They were very educational and well presented”
- “Keep broadcasting them to peripheral hospitals”
- “The program was excellent and, I felt, very important for my learning”
- “They could be made available to the Ochsner students as I did not get to see any of the tutorials”

Better video compression. Mpeg4 part 2 (Xvid preferably) or mpeg 4 part 10 (H264/AVC) codec would be better suited. At a bit rate of 500kb/sec or so, possibly even less. Backward compatibility be damned. Most students would have filters installed for watching other movies/shows anyway. 200MB for such a short, low res video is gigantic and overkill. Especially when you’re half way across the world and have to download it at a net cafe. Otherwise the tutorial was good and uploading it was a great idea (despite the size). Compression artefacts wouldn’t be much of an issue as we’re watching it for the slides mainly anyway.

Presenter satisfaction

- Students in remote areas now have access to sessions they normally would have missed out on
- It’s a much more efficient use of our time – we conduct one tutorial which involves ten sites throughout Queensland simultaneously
- This method of teaching should be applied to all of the teaching offered to MBBS students. It works extremely well
Examination Results

<table>
<thead>
<tr>
<th>Year</th>
<th>Students Examined</th>
<th>Surgical Score</th>
<th>Overall Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>299</td>
<td>5 (4 to 6)</td>
<td>28 (25 to 30)</td>
</tr>
<tr>
<td>2009</td>
<td>326</td>
<td>6 (5 to 7)</td>
<td>28 (25 to 31)</td>
</tr>
</tbody>
</table>

Surgical component between 2008 and 2009 (P<0.001)
Non-surgical scores between 2008 and 2009 (P=0.59) (Mann-Whitney U test)

Conclusions

- Clinical placements in non-metropolitan areas are essential for the management of students
- Videoconferencing has been useful for the delivery of education and training to students in remote locations
- Potential to expand the online tutorials to include other sub-specialist lectures and tutorials

Acknowledgments

- Centre for Online Health – for facilitating the medical education programme
- The University of Queensland – Learning Enhancement Grants 2009/2010
- Queensland Health for helping to establish the multipoint bridge connections
- Site & student coordinators for their assistance during the clinical placements
BACKGROUND
The Community Patient Volunteer Program

- The first intake of MBBS students at Ipswich campus of UQ commenced in 2009.
- The clinical bedside coaching program for Year 2 MBBS students in Brisbane is based principally within wards of the major teaching hospitals, and taught by registrars.
- A comparable program could not be run in Ipswich due to workforce constraints in the local hospital.
- Medicine at UQ Ipswich had to find another way of delivering clinical skills teaching to second year students.

Aim

- The Community Patient Volunteer (CPV) program was developed to provide an alternative method of delivering part of the Year 2 clinical bedside coaching program for students based at Ipswich campus.
- The purpose of this paper is to describe how the program was established and identify areas of strength and weakness.
Volunteers

- The CPV program brings volunteers onto campus from the community
- Volunteers may have
  - a chronic medical condition, or
  - a past history of an acute event
- Groups of five students practice history-taking and their physical examination skills using the volunteers as subjects

Recruitment of Volunteers

- General practices – GP referrals
- Hospital outpatient departments (?)
- Community groups, residential care facilities
- Newspaper articles
- Pamphlets (GP surgeries, hospital outpatients etc)
- A database is under development to manage the allocation of patients, resources etc.
The CPV program

- Interested potential volunteers contact SoM Ipswich
- Volunteers are sent an information booklet that contains:
  - details of the program
  - consent and code-of-conduct forms (returned to the CPV coordinator via post)
- Volunteers have the opportunity to ask questions etc.
- A comprehensive medical history is taken by a clinician (30-60 minute phone interview)
- History supplied to tutor before the start of the session involving the volunteer
- Volunteers are asked to bring results of tests, radiographs etc. to the teaching session
- All data is considered confidential and stored (in future) in a database (secure)

CPV Database

- Currently under development and being tested:
  - contact details
  - appointments scheduling,
  - medical histories,
  - results of clinical investigations and images

CPV Program and Clinical Bedside Coaching

- Each session is 2.5 hours long.
- One clinical tutor (usually a local GP) and five students
- 2-3 volunteers in a session,
- The GP tutor provides intensive personal supervision of clinical skills teaching
- Currently > 100 volunteers.
- Range of conditions (we do not recruit patients with known mental illness).
- Match volunteer’s condition to the module currently being covered
- Most volunteer patients attend sessions every 6-8 weeks.
- At the end of a session volunteers are provided with a card indicating the time of their next session
- Volunteers are provided with:
  - Morning/afternoon tea and/or sandwiches for lunch
  - Transport (Cab Charge vouchers) or
  - Gift cards
Engagement with the Ipswich Community

The CPV Program provides an opportunity
- for local people to be a part of higher education and the School of Medicine and play a part in the education of future doctors
- for learning (volunteer and students)
- to discuss their medical condition with others and provide volunteers with new experiences in a positive and friendly atmosphere.
- For companionship with other volunteers, students, tutors and SoM staff.
- for some volunteers to have their medical conditions to be explored further.
- to raise the profile of UQ in the Ipswich Community
- some local Ipswich people are not aware that Ipswich has a University presence

Feedback: Patients

- "I enjoy the interaction with the students and tutors at each session. The students and staff are very friendly."
- "I am always impressed by the students, how polite and friendly they are. I enjoy the interesting discussions, during the sessions and how the students are always prepared to listen to me as a volunteer."

Feedback: Students

- "They [patients] were generous with their time, keen to share their experiences and personal details with us. The atmosphere is very different to the busy wards of the hospital where patients are unwell. Here the volunteers were relatively well and able to communicate in an open environment. I actually gained more from this program with regards to clinical skills development than I did from our hospital visits."
- "...[patients] were always happy to answer our questions and be examined, when we approached hospital patients we're always extra cautious and aware that these people might not want to see us, whereas with CPV's they have come to us because they are willing to talk to us and let us examine them, and they seem to enjoy spending time with us."
Things to consider

- Ongoing costs to run CPV program in 2011. (Costs of catering/gift cards/transport/materials, tutors)
- The use of traditional communication paths such as mail/phone rather than IT avenues such as web/email to work with older volunteers.
- Rotation of inactive and active volunteers not always available how to retain and recruit new volunteers.
- Confidential storage of medical histories and volunteer details as program grows. Also establishing protocols to ensure confidentiality is preserved.
- Collection and liability of medical images from volunteers – consent to use these materials and responsibility of SOM to remove identifiers.

Where to from here

- Continue to market program and increase volunteer numbers
- Revist target audiences perhaps increasing face to face information sessions at local community events/residential living
- Local newspaper/newsletter avenues
- Maintain links with current volunteers, especially those inactive via Newsletter/birthday, get well cards etc.
- Phone calls and scheduling appointments for 2011
- Update information booklet
- Web presences to attract new volunteers
- Work with contacts at local hospitals to recruit or feed information to potential volunteers via this avenue sourcing interesting medical histories.
- Test and put in place data base and histories tools for 2011

Where to from here

- Students, tutors and community patient volunteers will be invited to discuss their experiences in focus groups and or semi structured interviews
- As a comparison, students and tutors from RBWH, PA etc will also be invited to participate in focus groups. Focus group sessions will be recorded, transcribed and common themes identified.
Conclusions

The CPV Program:
- is an effective way to deliver part of the clinical skills curriculum
- will be expanded and refined for 2011
- does NOT replace hospital ward visits
  - alternative way for students to develop their clinical skills
Background and Need for the Project

- Danielle Clode's 2007 review identifies the need for 'a culture of care' for junior doctor well-being in hospital settings
- Balint clinical reflection groups potentially contribute, but no Australian regarding utility
- Numerous international studies on Balint groups but not with interns in metropolitan hospitals, not vertically integrated, few mixed methods study with outcome data.
- Substantial mental health and well-being needs of Australian doctors, as per Beyond Blue 2010 study

Survey of interns and educators at PAH – perceived priorities in intern training

- Survey monkey survey, repeated 3 times a week apart
- Interns (response rate 32%) and their clinical educators (response rate 38%) at Princess Alexandra Hospital asked to rank the following in order of priority in intern training: procedural skills training; learning to manage the doctor-patient relationship; managing medical emergencies; learning to assess risk and prioritise management accordingly; communication with other professionals.
- Educators and interns rank risk management highest
- Educators rank doctor-patient relationship almost as high, while interns rank it the lowest priority
- Preliminary findings only – statistical and qualitative analysis pending
Aim of the Project

- To foster a culture of compassionate reflection on doctor-patient relationships.
- Development of capacity to run Balint groups for entire intern contingent of a metropolitan teaching hospital
- Establish the project by educating leaders so that Balint groups can be offered
- Investigate the effect on intern's well-being and capacity of empathy

What are Balint groups?

- Developed by psychiatrist and psychoanalyst Michael Balint and his wife Enid Balint social worker and psychoanalyst in London 1940s to 1970s (Enid 1980s)
- Initially to help GPs reflect on the psychological and emotional aspects of their relationships with patients
- Groups of up to ten meet regularly (weekly to monthly) with one or two leaders (usually a doctor and an allied health professional)
- Consultation presented briefly, without notes, then the doctor-patient relationship is discussed in the group
- Set structure and boundaries, but encouragement of imagination, creativity and spontaneity
- Ongoing commitment, cases discussed serially as they evolve
- Address clinicians distress, develop capacity and empathy
- Respectful consideration of both doctor and patient

How did the Project Come Into Being?

- Principal researcher, a psychiatrist and psychotherapist with educational interests returns to public sector community mental health after a long period in private practice
- Overwhelming experience of mental health case workers and trainee psychiatrists in abject communities, little opportunity for clinical reflection
- Researcher attends Balint Society of Australia intensive workshop and returns to begin Inala Community Mental Health Balint Group for case workers
- Group runs for 20 months, fortnightly, co-led with team leader
- Researcher also becomes the first doctor to complete the (interdisciplinary) Leadership Program at PAH
Evolution of the Project

- Psychotherapy supervision group for trainee psychiatrists founded and led by the researcher – these groups have a 30 month history. Psychoanalytic psychotherapy, after the work of Balint, Winnicott, Fairbairn, and the Mentalisation Based model of Fonagy and Bateman
- Ongoing educational commitment fosters relationship with EAS
- International presentations and publication of paper on Inala project
- The Inala service is acknowledged for a high level of achievement in ACHS in staff development and support on account of the Balint project
- An opportunity arises for the researcher to move to full time educational work as Director of Clinical Training – application based around commitment to introduce the Balint Professional Professional Development Project as means to a vertically integrated culture of care for junior doctors and their patients, and of interdisciplinary collaboration in the process

Further Development

- Project Supported by Deputy Director of Medical Services, and the Chair of General Clinical Education Committee, both of whom were in Balint groups during GP training
- Project put to Learning and Development Board who support it, particularly it’s interdisciplinary nature
- Employee Assistance Service have been requesting a Balint group
- Leader training model derived from that learned on intensives in Australia and Romania (IBF)
- Senior Clinician and Educator Balint-Leader training group forms with core of Employee Assistance team, Inala Mental Health Seniors and Medical Education team including DCT, Deputy DCTs and MEOs

Continuing Development

- Inala Mental Health personnel leave the project due to other commitments
- Others join including clinical ethicist, hospital chaplain. Very few doctors involved.
- PAH Week demonstration workshop generates interest in other allied health and nursing personnel
- Efforts to form a junior doctor and registrar Balint-leader training group begin three months later, but greater difficulty encountered. The core of this group are psychiatry registrars who have been involved in the supervision groups. Few interns. Sporadic attendance. Suitability of Leader-training model at this level questionable.
Methods and procedures

- Mixed methods – Action Research, Evaluation Surveys and Intern Well-Being Survey incorporating GHQ-12 and Jefferson Scale of Empathy (Physician Version)
- Aim through establishment of Junior and Senior Balint-leadership training to train sufficient personnel to co-lead groups for all the interns of 2012
- 95 interns of 2011 non-intervention to be surveyed at start and end of internship with GHQ-12 and JES. Non-identifiable, but with point to point matching.
- Expect increased psychiatric caseness, increased GHQ-12 scores and decreased JES scores over the year

More methods and procedures

- 95 interns of 2012 surveyed similarly, but with weekly Balint clinical reflection groups made available within the intern education program, with attendance expected in all on campus rotations other than ED
- In intervention group, expect less increase in minor psychiatric morbidity, expect less deterioration in JES
- Compare data two groups
- Also potential for comparison using same survey measure on Gold Coast intern groups 2011 and 2012 with a different small group intervention focussing on intern health and well-being

Action Research Methodology

- Culture change project
- Goals set
- Strategy developed to bring actualise them
- Evaluation of outcome
- New goals set accordingly
- Research questions: What are the obstacles? How can they be overcome?
- Action research journal
- Strategies generated and tested
- Keep those that work
- Stop what doesn't work
- Re-evaluation and further cycles
**Intended Outcome**
- That the addition of Balint groups to the intern education program will ameliorate the potentially adverse effect of internship on junior doctor well-being and capacity for empathy
- Cultural changes within the hospital flow on from medical education, psychiatry, employee assistance service, chaplaincy service, learning and development to other areas of the hospital with increasing vertical integration and interdisciplinary collaboration towards the realisation of Clode’s ‘culture of care’

**Conclusions and Implications**
- If the program can be established and sustained, if evidence can be provided:
  - The program could be extended into the teaching of medical students and trainee specialists (proposals in place for medical student group in psychiatry rotation)
  - Extension into employee assistance, support and professional development programs for clinicians
  - Potential change in emphasis of teaching in medical school and in postgraduate prevocational training in professionalism and communication towards a model more consistent with intersubjective and cultural models, and with constructivist adult learning principals, including application of Vygotsky’s zone...
Background
Teaching at all levels of medical learning now occurs in general practice
Increasing number of learners
Shortage of GP teachers
Registrars traditionally don’t teach
Fee for service environment
Disincentive for teaching = TIME

AIM
To develop a model of high quality integrated teaching general practices in which the teaching load of medical students is shared by GP supervisors and GP registrars
Potential Advantages

GPs/registrars

- Sharing the teaching load
- Acquisition / enhancement of teaching skills
- Learning by teaching

Potential Advantages

Students

- Enhanced teaching
- Enhanced learning
- Possibly enhanced interest in general practice as a career

Potential Advantages

Overall

- Development of high quality teaching practices
- Increased teaching capacity
Challenges

Variable commitment and teaching skills
Managing teaching loads and remuneration
Evaluating quality and quantity of teaching and learning experiences

VITAL Study - Methods

2009 - 2010

20 practices taking student and registrar concurrently
Opportunity to gain CPD points
Methods

Half-day Teaching Skills Workshops

Registrars and Supervisors
Specific skills focus
Opportunity to practise skills with medical students

Methods

Shared teaching in the practice

Practice visits

Evaluation - pre and post study
- student results

Results: Overall Workshop Learning Experience (n=25)
Anticipated Vs Identified
Advantages and Disadvantages

**Advantages:**
as predicted

**Disadvantages:**
 Some anticipated weren’t identified
Also: reduced individual time with student identified

What students liked most and least about teaching

<table>
<thead>
<tr>
<th>MOST</th>
<th>LEAST</th>
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<tbody>
<tr>
<td>Experienced</td>
<td>Less experienced</td>
</tr>
<tr>
<td>More time / less rushed</td>
<td>Time pressured</td>
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<tr>
<td>Depth and breadth of knowledge</td>
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<tr>
<td>Up-to-date knowledge</td>
<td></td>
</tr>
<tr>
<td>Closer in age and skill level</td>
<td></td>
</tr>
<tr>
<td>Better understanding of student</td>
<td></td>
</tr>
<tr>
<td>requirements</td>
<td></td>
</tr>
<tr>
<td>Patients well-known to them</td>
<td></td>
</tr>
<tr>
<td>Chronic diseases</td>
<td>Reduced number of chronic conditions</td>
</tr>
<tr>
<td>Complex cases</td>
<td></td>
</tr>
</tbody>
</table>

Would you recommend this shared teaching model to your colleagues?

- Yes
- No

Percentage of responses:

- Supervisor
- Registrar
- Medical Student
Do you plan to continue using this shared teaching model in the future?

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Supervisor</th>
<th>Registrar</th>
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<tbody>
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<td>80%</td>
<td>20%</td>
</tr>
<tr>
<td>No</td>
<td>20%</td>
<td>80%</td>
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</table>

Conclusions

- VITAL Model well received by GPs, registrars and students
- Provision of teaching skills can increase teaching confidence
- Teaching can be facilitated in private practice
- The VITAL teaching workshop is potentially applicable to other specialties and health disciplines
Where to from here in Assessment in Medical Education?

Dr Heather Alexander
5 November 2010
Selected AMC recent activities:

- Advice to the Medical Board of Australia on the expectations of internship
- Reviewing the use of technology in assessment
- Accreditation of a new workplace-based assessment pathway for International Medical Graduates (IMGs)
- Defining the meaning and implications of Competence-Based Education in medicine

Advice to the Medical Board of Australia on the expectations of internship: Consultation findings

AMC has conducted a consultation process with Health Departments and Postgraduate Medical Councils in all states and territories.

The findings cover a range of issues including the implications of general registration, purpose of internship, location, length and structure of internship, supervision, assessment and sign-off.

Internship is seen by participants as:
- building on, and consolidating, the knowledge and skills acquired through the undergraduate degree
- providing broad experience informing career choice.

Internship is not work ready on entry to internship. Internship is seen as a transition period where a range of professional skills are developed:
- Time management
- Decision-making skills
- Ability to work as a member of a team
- Interdisciplinary practice
- Building relationships with patients
- Understanding constraints/ barriers/ limitations
- Patient safety
- Clinical reasoning
Advice to the Medical Board of Australia on the expectations of internship: Consultation findings

What do we assess? Do we assess the right things?

Choice of instruments / use of instruments

Reviewing the use of technology in assessment

Technology facilitating the change in assessment methodology:

• Introduction of a Computer Adaptive Test (CAT) examination for IMGs from 2011
• Investigating the use of computer platforms for new and novel assessment methods
• Investigating the use of iPads for data collection in clinical assessment

How do we assess?

How can we use technology to facilitate assessment?

Accreditation of a new workplace-based assessment pathway for IMGs

Council of Australian Governments (COAG) Assessment Initiative

July 2006 COAG announces national IMG assessment initiative.

Three proposed pathways:
1. Competent Authority
2. Standard Pathway (AMC Examination)
3. Standard Pathway (Workplace-based assessment)
Accreditation of a new workplace-based assessment pathway for IMGs

Workplace-based assessment …
• Requires assessors to observe IMG performance
• Is shown to produce highly reliable scores with limited numbers of observations
• Is comparable in cost to other defensible methods of assessment
• Enables IMGs to be given feedback on their clinical performance, immediately and specifically
• Promotes enhanced clinical performance

Accreditation of a new workplace-based assessment pathway for IMGs

• The AMC Interim Accreditation Committee has accredited 4 sites to provide workplace-based assessment

• Positive reports on experiences – first data available in December 2010

Canadian WBA study

Poor Reliability (Discrimination) and Evaluation Results – Why?
• Lack of assessor training – specialty directors/division chiefs were trained, then asked to introduce it to their faculty
• Lack of commitment of faculty assessors – unwilling to commit the time when asked by trainees
• Lack of standardization of assessments, and plan for selection of cases
• Poor/variable quality of feedback
• Lack of infrastructure support – scheduling, forms, …
Accreditation of a new workplace-based assessment pathway for IMGs

Workshop ratings of a recorded miniCEX performance (history taking) by a junior doctor – BEFORE CALIBRATION

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<tr>
<th>n = 13</th>
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<th>Satisfactory</th>
<th>Excellent</th>
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<td></td>
<td>1   2</td>
<td>3  4</td>
<td>5  6</td>
<td>7  8</td>
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<tr>
<td>History taking</td>
<td>1  6  4  2</td>
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<tr>
<td>Communication skills</td>
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<td></td>
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<tr>
<td>Technique/ Accuracy</td>
<td>2  1  3  7</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Appropriateness</td>
<td>2  2  3  4</td>
<td></td>
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</table>

Overall performance relative to that of a doctor at the end of PGY1:

Do not Meet Expectations Borderline Met Expectations

1  4  5

Accreditation of a new workplace-based assessment pathway for IMGs

Ratings of a recorded miniCEX performance (counseling) by a junior doctor – BEFORE CALIBRATION

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<td></td>
<td>2   3</td>
<td>4  5</td>
<td>6  7</td>
<td>8  9</td>
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<tr>
<td>Professionalism</td>
<td>3  1  1  1  1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Counseling</td>
<td>2  2  1  1  1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Judgment</td>
<td>1  2  1  2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organisation/ efficiency</td>
<td>1  2  1  2</td>
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<tr>
<td>Overall Clinical Competence</td>
<td>1  3  3</td>
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</table>

Importance of assessor calibration and training

Are our assessment instruments working as they should?
Recent AMC paper - Competence-based Medical Education

Codified knowledge - knowledge that is transmittable in formal, symbolic language - competencies can be, and have been, defined.

Tacit knowledge - not able to be made fully explicit. Forms the basis of judgements required for dealing with complex clinical problems and the uncertainty.

Time is an important element in training.

Competence vs Performance

Defining the meaning and implications of Competence-Based Education in medicine

How do we balance Education and Assessment in the Competence Model of Medical Education?

How do we deal with the downward spiral of increasing detail in the specification of competencies driven by challenges to assessment outcomes?
What do we assess? Do we assess the right things?

How do we assess?

How can we use technology to facilitate assessment?

Are our assessment instruments working as they should?

How do we balance Education and Assessment in the Competence Model of Medical Education?

How do we deal with the downward spiral of increasing detail in the specification of competencies driven by challenges to assessment outcomes?