“Show Me What You Can Do”: 
A New Way of Selecting McGill Medical Students
October 30, 2008

Saleem Razack$^{1,2,3}$, France Drolet$^1$,

Office of Admissions$^1$, The Centre for Medical Education$^2$, and The Department of Pediatrics$^3$,
Faculty of Medicine, McGill University
Session Educational Objectives

At the end of these Medical Education Rounds, participants will be able to:

1. Appreciate the predictive value, strengths, and common problems associated with medical student selection tools

2. Characterize the M^3I (McGill Multiple Mini-Interview) medical student selection process and distinguish this from the previous selection process at McGill

3. Review the results of the M^3I pilot project in order to understand the rationale for full implementation of the M^3I at McGill in the 2008-2009 academic year
A Mediaeval Hospital
A Bit of the History of Admissions at McGill

- Circa 1995: Associate Dean produced **Guidelines for evaluation** of autobiographical letter and interview

- 2004: Associate Dean hired the Hay Group to review our Admissions selection process and provide practical ways to improve the interviews based on a competency model.
Evolution of Admissions at McGill

• 2005: **Report received** (copy available to consult after conference)

• Recommendations aim at increased focus on pre-identified competencies and training of interviewers, using

• Observations of candidates during interviews

• Competency-related questions

• Problems: lack of ability to ‘adapt’ interviews according to findings and high level of predictability of interview questions if used at large
Evolution of Admissions at McGill

- **2006**: Task Force struck to review Admissions Final Selection Criteria
- Reps from Admissions Cttee, basic and clinical science depts., experienced interviewers (administration, CAPS), student reps, Director Curriculum Development, specialists (medical education and psychiatry)
Selection Process Until Last Year...

• Pre-selection for interviews based on
  – GPA, MCAT, autobiographical letter/cv

• Final selection based on
  – 2 individual interviews (40%) (discrepancies =>0.5 on score of 5.0 discussed by committee)
  – GPA (20%)
  – MCAT (20%)
  – Autobiographical letter (20%)
The Canon of Medicine: Galen, Avicenna (Ibn Sina), and Hippocrates
A Tale of Two Students:

Joe:
- 22 years old, BSc (human biology, minor in anthropology), Université de Montréal
- GPA 3.52
- High School: Royal West Academy
- Organized a foodbank drive last summer that was written up in La Presse
- Likes hiking and salsa dancing

Magalie:
- 22 years old, BSc (Biochem), McGill University
- GPA 3.8
- High School: Collège Marie de France
- 2 Publications from Honours Thesis
- Likes hiking and salsa dancing
Selection Questions:

- Who would make a better Medical Student?
- A Better Physician?
- Why?
- How would you differentiate between the candidates?
- What are you looking for?
Why Bother with Selection?

• Knowledge is related to competence
  – Correlation b/w MCQ certification exam and performance in practice 10 years later = 0.6 - 0.7  
    (Ramsey, et al., 1989)

• Professional skills are related to competence
  – Communication/ethics evaluation predicts patient complaints/quality of care at least 12 years into practice  
    (Tamblyn, et al., 2007)
Why Bother with Selection?

• Chance of getting-in in Canada—16%

• The social accountability of the profession towards society --obligation to both candidates and society to have an accurate and fair selection system
Selection Tools: What Do We Know?
The Ideal Selection Tool

- Predicts something
- Is fair, transparent, un-biased
- Measures the breadth of aptitudes required of a physician (intellectual ability and core competencies)

Commonly used: GPA, MCAT, Past experiences, Interviews
MCAT and GPA

• GPA correlates with internal medicine residency rank order list, clerkship grade in internal medicine, OSCE evaluation in medical school

• MCAT verbal reasoning scores predict performance on LMCC part II (OSCE format)

• Can be used as screening tools with good sensitivity and specificity (performance on USMLE step 1)

• Equity concerns—2 step process vs. formulaic approach to generate rank order list
Autobiographical Letters...

• Fraught with issues of reliability
• Poor definition to the question, “What are we looking for here?”
• Greater internal consistency and reliability demonstrated with “horizontal” scoring vs. “vertical” scoring\(^5\)
Interviews: The Passionate Selection Tool

- Good inter-rater (multiple interviewers, same interview), poor correlation (same interviewee, different interviews)
- Conditional Reliability
- Many problems with predictive value

A great way to demonstrate that context determines performance
A Parable of Selection....

Tell me about yourself, Mr. Elephant....

Student

Us
Towards More Reliable Admissions Tools:

The Multiple Mini-interview

- Pioneered at McMaster
- Series of short, focused interactions
- Multiple samples of insight into behaviours
- Format flexible – one-on-one or multi-party discussion; standardized actors, verbal, written, ability test; observation of behaviour only
Sample $M^3I$ Interaction
MMI: Tool Properties

- Reliability: $R=0.7-0.8$
- Mitigated effects of context specificity
- Violations of security do not affect performance
- Cost efficient
MMI: Validity

(data graciously supplied by K. Eva, McMaster University)

• Best predictor they have seen of clerkship ratings, OSCE performance, CLEO scores on MCCQE, Professional behaviour in tutorials
Impetus for Piloting the M$^3$I at McGill University

• Strength of published literature on its properties
• A new construct of the ‘physician’—McGill’s contribution to the discourse—the ‘physicianship’ curriculum
• Maybe the curricular inputs (aptitudes of students applying to medical school) could be linked to the desired outputs (physicianship attributes)
The Attributes of Physicianship

**Healer**
- Listening
- Caring & compassion
- Insight
- Openness
- Respect for the healing function
- Respect patient dignity & autonomy
- Presence/accompaniment

**Competence**
- Commitment
- Confidentiality
- Altruism
- Trustworthiness
- Integrity & honesty
- Morality & ethical behavior

**Professional**
- Self-regulation
- Autonomy
- Responsibility to society
- Responsibility to the profession
- Team work

**Healer & Professional**
- Listening
- Caring & compassion
- Insight
- Openness
- Respect for the healing function
- Respect patient dignity & autonomy
- Presence/accompaniment

**Trustworthiness**
- Integrity & honesty
- Morality & ethical behavior

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**Team work**
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- Presence/accompaniment

**Responsibility to society**
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- Presence/accompaniment

**Responsibility to the profession**
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**Team work**
- Respect patient dignity & autonomy
- Presence/accompaniment
Back to Our Parable....

Destination: Physicianship!

Student

Us
Susutra, Father of Indian Surgery, ca. 300 BC
Linking Selection to Curricular Renewal: Evaluation of the M³I Pilot at McGill University

Saleem Razack, France Drolet, Sonia Faremo, Linda Snell, Jeffrey Wiseman, Joyce Pickering
The M³I (McGill Multiple Mini Interview) Pilot 2008

- Applicants: International & non-Quebec Canadians Baccalaureate Pool (Estimated Size: 680 applicants; 100 interviewed)
- January 18 & 21; February 15 & 18, 2008
- 10 ten-minute stations (8 min. station; 2 min transition)
- McGill Medical Simulation Centre
Study Design

• Students exposed to both M³I and Traditional Interviews (100% consent rate)
• M³I tool development
• Data Gathering:
  – Stakeholder questionnaires
  – Psychometric Properties of the M3I’s
  – Correlations between tools
  – Outcomes (ongoing)
Research Questions:

• Feasibility?
• Acceptability?
• Reliability?
• Validity?
  – Face Validity
  – Construct Validity
  – Content Validity
  – Comparisons (Predictive/Discriminant Validity)
• Development Process?
M$^3$I Development Process

- Development of an M$^3$I blueprint based on physicianship attributes
- Teams of station-writers charged with specific sections of blueprint to make stations
- Training sessions: station-writers, evaluators
- Piloting with standardized actors
The Attributes of Physicianship

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- Altruism
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- Integrity & honesty
- Morality & ethical behavior

Healer & Professional

The Attributes of Physicianship
# M³I Physicianship Blueprint

<table>
<thead>
<tr>
<th>Physician's Role</th>
<th>Output Attributes</th>
<th>Input Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Professional</strong></td>
<td><strong>Self-regulation:</strong> Standard-setting, accountability (personal and group)</td>
<td>• Knowledge of profession (appropriate lay level)</td>
</tr>
<tr>
<td></td>
<td><strong>Autonomy:</strong> independent decision making for the best interests of patients and good of society</td>
<td>• Understanding of role of individuals within a system (getting at the 'why's')</td>
</tr>
<tr>
<td></td>
<td><strong>Responsibility to society:</strong> use of expertise for public good and social accountability</td>
<td>• Autonomy and self direction</td>
</tr>
<tr>
<td></td>
<td><strong>Responsibility to the profession:</strong> commitment to maintain moral and collegial nature of the profession and to be accountable for one’s professional conduct</td>
<td>• Understanding the role of individuals within a system</td>
</tr>
<tr>
<td></td>
<td><strong>Team Work:</strong> Ability to recognize and respect the expertise of others and work with them in the patient’s best interest</td>
<td>• Advocacy</td>
</tr>
</tbody>
</table>

*Assessed at selection for MD degree, as reflecting potential to develop corresponding output attribute*

Rationale: This is the broader understanding of physicians as part of a collective group within society.

Rationale: Capacity for autonomy, but also a broader understanding of why autonomy is necessary.

Rationale: Medicine as a moral enterprise or a public good.

Rationale: Medicine as a group activity where there are obligations to colleagues and to society.

Rationale: Medicine as a team enterprise.
<table>
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<th>Physician’s Role</th>
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<th>Input Attributes</th>
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<tr>
<td>Professional and Healer</td>
<td><strong>Acquired by graduation with MD degree</strong></td>
<td><strong>Assessed at selection for MD degree, as reflecting potential to develop corresponding output attribute</strong></td>
</tr>
<tr>
<td><strong>Professional and Healer</strong></td>
<td><strong>Output Attributes</strong></td>
<td><strong>Input Attributes</strong></td>
</tr>
<tr>
<td><strong>Competence:</strong> to master and keep current the knowledge and skills relevant to medical practice</td>
<td><strong>Competence:</strong> to master and keep current the knowledge and skills relevant to medical practice</td>
<td><em>Insight, judgment, common sense</em></td>
</tr>
<tr>
<td><strong>Commitment:</strong> to be obligated or emotionally impelled to act in the best interest of the patient</td>
<td><strong>Commitment:</strong> to be obligated or emotionally impelled to act in the best interest of the patient</td>
<td><em>Empathy, compassion, caring</em></td>
</tr>
<tr>
<td><strong>Confidentiality:</strong> to not divulge patient information without just cause.</td>
<td><strong>Confidentiality:</strong> to not divulge patient information without just cause.</td>
<td><em>Integrity</em></td>
</tr>
<tr>
<td><strong>Altruism:</strong> the unselfish regard for, or devotion to, the welfare of others</td>
<td><strong>Altruism:</strong> the unselfish regard for, or devotion to, the welfare of others</td>
<td><em>A deeper understanding of altruism, including the inherent tension between altruism and looking after oneself</em></td>
</tr>
<tr>
<td><strong>Trustworthiness:</strong> worthy of trust, reliable</td>
<td><strong>Trustworthiness:</strong> worthy of trust, reliable</td>
<td><em>Integrity</em></td>
</tr>
<tr>
<td><strong>Integrity and Honesty:</strong> firm adherence to a code of moral values; incorruptibility.</td>
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<td><em>Integrity</em></td>
</tr>
<tr>
<td><strong>Morality and Ethical Behaviour:</strong> to act for the public good; conformity to the ideals of right human conduct in dealings with patients (right human conduct inherently includes respect for personhood)</td>
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<td>------------------</td>
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<td><strong>Healer</strong></td>
<td><strong>Acquired by graduation with MD degree</strong></td>
<td><strong>Assessed at selection for MD degree, as reflecting potential to develop corresponding output attribute</strong></td>
</tr>
</tbody>
</table>
|                  | **Listening**: the receptiveness to and the skills required for attentive listening with a knowledge of how language works, particularly in creating meaning. | • **Listening**  
  • **Understanding**  
  Rationale: Listening as a fundamental communication skill |
|                  | **Insight**: the ability to recognize and understand one’s actions, motivations, and emotions | • **Insight, judgment, common sense**  
  Rationale: Essentially, the capacity to reflect on, in, and before action to construct knowledge from experience |
|                  | **Openness**: the willingness to hear, accept, and deal with the views of others without reserve or pretense. | • **Tolerance, respect for others**  
  • **Adaptability, flexibility**  
  Rationale: The successful candidate will ultimately treat a diverse population with a wide variety of lifestyles, beliefs, and values. |
|                  | **Respect for the Healing Function**: the ability to recognize, elicit, and foster the power to heal inherent in each patient. | • **Empathy, compassion, caring**  
  Rationale: This attribute is ultimately about the ability to put oneself in the shoes of another. |
|                  | **Respect for Patient Dignity and Autonomy (including respect for personhood)**: the commitment to respect and ensure subjective well-being and sense of worth in the patient and recognize the patient’s personal freedom of choice and right to participate fully in his or her own care | • **Empathy, compassion, caring**  
  • **Respect for others**  
  Rationale: This attribute is about ensuring that the successful candidate has the capacity to develop the attitude to see themselves as shared decisionmakers with patients. |
|                  | **Presence and Accompaniment**: to be fully present for a patient without distraction and to fully support and accompany the patient throughout care. | • **Empathy, compassion, caring**  
  • **Listening, understanding**  
  Rationale: Presence is difficult to define, but includes the skillset of listening and understanding. |
|                  | **Caring and Compassion**: a sympathetic consciousness of another’s distress and a desire to alleviate it. | • **Caring and compassion**  
  Rationale: Required skills and attitudes to care for distressed people. |
Explicit Linking of Selection Inputs to Curricular Outputs

Physicianship Attribute (Output):
Openness: the willingness to hear, accept, and deal with the views of others without reserve or pretense

Admissions Selection Criteria (Input):
- Tolerance, respect for others
- Adaptability, flexibility

Rationale: The successful candidate will ultimately treat a diverse population with a wide variety of lifestyles, beliefs, and values and abilities.

MMI Scenario:
Show an intellectually disabled young man how to read an analogue clock

Corresponds to:
Which can be assessed by:
Feasibility:

Is the M$^3$I usable?
Results: Feasibility

• Detailed budget comparisons difficult to make (*pro bono* work, differential funding structures in different Universities etc), but:
  – Comparable Evaluator/station writer numbers and hours (average 16.5) to traditional interviews
  – Unknowns: standardized patient program and simulation centre resources

Best Estimate: Comparable costs (time, money), but redistributed
Acceptability:

Will stakeholders (students, faculty, etc.) agree to use the $M^3$I?
Will there be and impact on recruitment?
## Student Questionnaire Responses

(n=82; 6 point Likert scale for items 1-5)

<table>
<thead>
<tr>
<th>Items</th>
<th>Traditional Interview</th>
<th>M^3L</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean (St Dev)</td>
<td>Mean (St Dev)</td>
</tr>
<tr>
<td>1. The ___ format is fair to all students.</td>
<td>3.89 (1.2)</td>
<td>4.68 (0.97)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(p&lt;0.001)</td>
</tr>
<tr>
<td>2. The ___ format allowed me to demonstrate my strengths.</td>
<td>4.45 (1.16)</td>
<td>4.73 (1.01)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(p=0.16)</td>
</tr>
<tr>
<td>3. I enjoyed participating in the ___.</td>
<td>4.66 (0.91)</td>
<td>4.96 (1.10)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(p=0.06)</td>
</tr>
<tr>
<td>4. The ___ format was stressful for me.</td>
<td>3.39 (1.31)</td>
<td>3.78 (1.40)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(p=0.016)</td>
</tr>
<tr>
<td>5. I believe the ___ format is an effective tool for evaluating one's</td>
<td>3.96 (1.31)</td>
<td>4.87 (1.0)*</td>
</tr>
<tr>
<td>aptitudes (non-academic) for the medical profession.</td>
<td></td>
<td>(p&lt;0.0001)</td>
</tr>
<tr>
<td>6. Which of the interview formats do you feel has allowed you to be</td>
<td>33</td>
<td>53</td>
</tr>
<tr>
<td>the most competitive as compared to your fellow applicants?</td>
<td>(38%)</td>
<td>(62%)</td>
</tr>
<tr>
<td>Theme:</td>
<td>Sample Verbatim Comment:</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Greater Objectivity/Fairness with M$^3$I</td>
<td>“The M$^3$I is a bit more of a standardized opportunity. Traditional interviews seem more random”</td>
<td></td>
</tr>
<tr>
<td>Greater Ability to Showcase my skills/ability/personality with M$^3$I</td>
<td>“The M$^3$I format allowed me to show my strengths rather than simply stating what I think my strengths are.”</td>
<td></td>
</tr>
<tr>
<td>“Entertainment” value of M$^3$I</td>
<td>“As for the M$^3$I, it was tough but it was certainly exciting as well.”</td>
<td></td>
</tr>
<tr>
<td>Higher stress but ‘good’ stress with M$^3$I</td>
<td>“M$^3$I more stressful in anticipation because I had never done them before. Once started M$^3$I’s I found not very stressful.”</td>
<td></td>
</tr>
<tr>
<td>M$^3$I is an effective tool to evaluate aptitudes specifically required of a physician</td>
<td>“This is where the M$^3$I shines. The traditional interview experience can be skewed by the interviewee’s speaking skill while the M$^3$I is more interactive and incorporates more skills [required of a physician]”</td>
<td></td>
</tr>
<tr>
<td>Fidelity of simulations is important contributor to effectiveness of M$^3$I</td>
<td>“The main problem I had with these M$^3$I interviews was the level of freedom the applicants had with making up information. Many stations required some suspension of belief...”</td>
<td></td>
</tr>
<tr>
<td>Items</td>
<td>Mean (St Dev)</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------</td>
<td></td>
</tr>
<tr>
<td>The M$^3$I is a fair assessment tool.</td>
<td>5.21 (0.66)</td>
<td></td>
</tr>
<tr>
<td>The M$^3$I is an effective tool for assessing McGill medical school applicants.</td>
<td>5.14 (0.67)</td>
<td></td>
</tr>
<tr>
<td>The M$^3$I can be used with all of McGill’s student quotas (Quebec, Canadian, and foreign students).</td>
<td>4.87 (0.99)</td>
<td></td>
</tr>
<tr>
<td>Assessment using the M$^3$I is an open and transparent process.</td>
<td>5.18 (0.73)</td>
<td></td>
</tr>
<tr>
<td>The specified competencies can be accurately evaluated by the M$^3$I.</td>
<td>4.81 (0.7)</td>
<td></td>
</tr>
<tr>
<td>The M$^3$I is consistent with the goals of McGill’s School of Medicine.</td>
<td>5.18 (0.65)</td>
<td></td>
</tr>
<tr>
<td>Applicants to McGill’s medical school seemed to react well to the demands of the M$^3$I.</td>
<td>5.03 (0.51)</td>
<td></td>
</tr>
<tr>
<td>I would be in favour of using the M$^3$I instead of traditional interviews.</td>
<td>4.68 (1.25)</td>
<td></td>
</tr>
</tbody>
</table>
## Evaluators’ Comments: Thematic Analysis

**Theme 1: Candidate differences may affect M³I evaluation outcomes.**

<table>
<thead>
<tr>
<th>Sub-Themes, Frequency &amp; Sample Verbatim Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.1 Cultural background (9):</strong> Cultural differences could strongly affect evaluation unless taken into consideration (E.37)</td>
</tr>
<tr>
<td><strong>1.2 Language differences (4):</strong> Big decisions to be had on how to do this fairly for francophone applicants (E.17)</td>
</tr>
<tr>
<td><strong>1.3 Applicant maturity (2):</strong> CEGEP students are not yet life sophisticated to deal with some of the situations (E.24)</td>
</tr>
<tr>
<td><strong>1.4 Prior experience (2):</strong> Some stations (e.g. peanut gallery) favor applicants who have been camp counselors (E.27)</td>
</tr>
<tr>
<td><strong>1.5 Personality types (2):</strong> Bit unfair in that it discriminates against shy, reserved personality types (E.23)</td>
</tr>
</tbody>
</table>

**Theme 2: The M³I is effective for evaluation of relevant skills, abilities, etc.**

<table>
<thead>
<tr>
<th>Sub-Themes, Frequency &amp; Sample Verbatim Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2.1 Is fair and objective (7):</strong> I think it is a very objective way to evaluate applicants (E.28)</td>
</tr>
<tr>
<td><strong>2.2 Clearly discriminates between candidates (4):</strong> Thus far, I have found this evaluation technique to be extremely discriminating (E.22)</td>
</tr>
<tr>
<td><strong>2.3 Taps into important skills (4):</strong> Gives an excellent overview of applicant’s skills with respect to Canmeds (E.11)</td>
</tr>
</tbody>
</table>

**Theme 3: M³I doesn’t have some advantages of the traditional interview.**

<table>
<thead>
<tr>
<th>Sub-Themes, Frequency &amp; Sample Verbatim Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3.1 Using the traditional interviews &amp; M³I could be more effective (4):</strong> Having both formats may be more useful, perhaps one interview and one M³I (E.29)</td>
</tr>
<tr>
<td><strong>3.2 Traditional interviewers get to know applicants (3):</strong> Don’t get to know the candidates. These snapshots do not replace the &quot;get to know your interviewee&quot; (E.24)</td>
</tr>
</tbody>
</table>

**Theme 4: The M³I process is a positive one.**

<table>
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<tr>
<th>Sub-Themes, Frequency, &amp; Sample Verbatim Comments</th>
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<tbody>
<tr>
<td><strong>4.1 M³I process worked well (3):</strong> I was surprised by how well the process seems to have worked (E.03)</td>
</tr>
<tr>
<td><strong>4.2 It was a good experience (3):</strong> A most positive experience—but I was fortunate to see all the various stations (E.22)</td>
</tr>
</tbody>
</table>

**Theme 5: Addressing practical concerns can improve the M³I process.**

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<tbody>
<tr>
<td><strong>5.1 Operational details (3):</strong> Availability of note paper for candidates to use at certain stations (E.30)</td>
</tr>
<tr>
<td><strong>5.2 Examiner fatigue (2):</strong> Examiners (were) tired from same exam for entire day, perhaps splitting am and pm (E.31)</td>
</tr>
<tr>
<td><strong>5.3 Examiner preparation (2):</strong> Specific questions on evaluation forms should be reviewed and discussed (E.27)</td>
</tr>
<tr>
<td>**5.4 Long-term planning: It is a matter of resources needed to do this (E.19)</td>
</tr>
<tr>
<td><strong>5.5 Fairness/ transparency (2):</strong> The compilation occurs somewhere else—not transparent (E.24)</td>
</tr>
<tr>
<td><strong>5.6 Stakeholder Questionnaire (2):</strong> I think it is too early to have us answer these questions (E.19)</td>
</tr>
<tr>
<td><strong>5.7 Station-specific comments (2):</strong> The scenario &quot;turning the tables&quot; was difficult. The students seemed very reluctant to criticize (E.36)</td>
</tr>
</tbody>
</table>
Reliability:

Can consistency of $M^3I$ ratings be assured?
## Reliability: Day to Day Equivalence

<table>
<thead>
<tr>
<th>Station Numbers and Mean Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
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</tr>
<tr>
<td><strong>Day 1</strong></td>
</tr>
<tr>
<td><strong>Day 2</strong></td>
</tr>
<tr>
<td><strong>Day 3</strong></td>
</tr>
<tr>
<td><strong>Day 4</strong></td>
</tr>
</tbody>
</table>
### M³I Stations: Inter-Rater Reliability (Day 4)

<table>
<thead>
<tr>
<th>Station</th>
<th>Pearson Correlation Coefficients</th>
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<tr>
<td>1</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>.85**</td>
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<td>4</td>
<td>.77**</td>
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<tr>
<td>5</td>
<td>.6</td>
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<td>.51</td>
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<tr>
<td>7</td>
<td>.56</td>
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<tr>
<td>8</td>
<td>.79**</td>
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<tr>
<td>9</td>
<td>.92</td>
</tr>
<tr>
<td>10</td>
<td>.16</td>
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</table>
Validity:

Does the $M^3I$ measure what it is supposed to measure?
### Correlations

<table>
<thead>
<tr>
<th></th>
<th>GPA</th>
<th>MCAT</th>
<th>ABL</th>
<th>INTERVIEW</th>
<th>M3I5</th>
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<tr>
<td>GPA</td>
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<td>-.005</td>
<td>-.005</td>
<td>.144</td>
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<tr>
<td>Sig. (2-tailed)</td>
<td>.090</td>
<td>.957</td>
<td>1</td>
<td>.961</td>
<td>.153</td>
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<tr>
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<tr>
<td>ABL</td>
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<td>-.005</td>
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<td>.696**</td>
<td>.073</td>
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<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>INTERVIEW</td>
<td>-.007</td>
<td>-.005</td>
<td>.696**</td>
<td>1</td>
<td>.130</td>
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<tr>
<td>Sig. (2-tailed)</td>
<td>.946</td>
<td>.961</td>
<td>.946</td>
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<td>.198</td>
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<td>.144</td>
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<td>Sig. (2-tailed)</td>
<td>.928</td>
<td>.153</td>
<td>.468</td>
<td>.198</td>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
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</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**
Predictive Validity—Traditional Interviews

(Administrative Data—1998-2005 Cohort, 1107 students)

Correlation (R value) of interview scores with performance in

- ICM – Introduction to Clinical Medicine (R=0.00)
- POM – Practice of Medicine (‘clerkships) (R=-0.0015)

∴ No correlation between interview scores and clinical performance in MDCM degree
**M^3I: Preliminary Data Correlations**

- M^3I does not correlate with interviews, MCAT scores, GPA, Autobiographical letter
- Suggests that it is measuring a different set of competencies
- **No correlation between interview scores and ICM or POM performance at McGill**
What Can We Infer about the Validity of the M³I?

- **Face, Construct, and Content Validity:**
  Student/Evaluator Questionnaires—Strong perception this is very good (Construct=Physicianship)

- **Discriminant Validity:** Measures different aptitudes than other selection tools used

- **Predictive:** Hopefully to come! Non-correlation with interviews a good thing
M³I Pilot: Lessons Learned from Results

**Feasibility:** Comparable

**Acceptability:** Students rated it highly positively, as do examiners

**Reliability:** Good inter-rater and day to day reliability was assured

**Validity:** High face validity, construct based upon physicianship (“starting with the end in mind”)
What Have We Learned from the \( \text{M}^3\text{I} \) Pilot?

• Explicit linkage of curricular inputs to outputs ("Beginning with the End in Mind...")
  – Critical reflection on our desired product and the aptitudes required to function well as a physician
  – A good way to ground admissions processes renewal at our sister schools?

• It is feasible to create a valid and reliable that complements our other selection tools and reflects institutional values
What Have We Learned from the M\(^3\)I Pilot?

- Non-correlation of interview scores with clinical performance in MDCM degree supports critical look at admissions process
- Impact on recruitment may be positive

Overall: The M\(^3\)I shows promise as a feasible, cost-effective, valid, and reliable selection tool
What Should We Be Cautious and Humble about?

- Not discarding the many years of collective selection wisdom that we have, and which has resulted in a generally excellent ‘substrate’ for our MDCM program
- Need for ongoing “CQI” for our selection processes
- We do teach them something—it isn’t all selection!
If It Ain’t Broke, Why Fix It?

• Situating the M³I in a larger perspective of societal changes
  – Postmodernism
  – Greater societal diversity
  – Generational expectations
  – A greater demand for social accountability

⇒ An evolution from implicit towards more explicit processes in a wide variety of human endeavours...
Caution and Humility, Part II: Reflections of an Ex-Program Director

- Superficial resemblance between OSCE’s and M³I’s
- Huge difference between assessing for potential (what we are doing) vs. learning (what an OSCE does)
- Remember input attributes vs. output competencies
The Future of the M^3I at McGill

- Extremely positive experience with pilot
- Adopted by the admissions executive to apply to all student quotas next year
- Outcomes evaluation built-in
- 9 stations + 1 double station (unstructured interview)
- This will result in:
  - 10 complete circuits
  - At least 4 in French
M³I Questions for the Future

• Performance outcomes
• Career choices (will they change?)
• Class demographics
• Value added of simulation
• Equivalent M³I’s dans les deux langues officielles du pays....
• Ongoing reflection on our desired ‘product’ of the MDCM degree
Acknowledgements

• Evaluators and Station-Writers, too numerous to name
• Admissions Committee Executive
• A cadre of excellent standardized actors
• Dr. Joyce Pickering, Undergrad. Associate Dean
• Dr. Kevin Lachapelle, director of the MMSC
• Sherrie Child at the MMSC
• Two very special ladies at the MMSC:
  – Lisa Kagan
  – Linda Crelinsten
Our Hopes for the M$^3$I....

I’m going to show them what I can do!
A Last Nod to Our Parable....

I'm thinking of how I treat this elephant, and of his future duties and obligations, as I assess his suitability for the job!

We've felt lots of different kinds of elephants today...

I have a pretty good idea of what we are feeling for in an elephant...

The more of us that help decide if this one is good, the better!

Destination: Physicianship!

Us
Thank You!