Scientific Foundations Committee

February 12, 2016
7:45 – 9:00 am
Mayo B-646

Minutes

2015-2016 Scientific Foundations Committee Members		
MEMBER	**COURSE/ROLE**	**ATTENDANCE**
Steve Katz	Chair (INMD 6814 Physiology)	x
Sharon Allen	INMD 6803/6804/6805 ECM 1, ECM 2, ECM 3A	
David Baldes	INMD 6815 Human Behavior	
H. Brent Clark	INMD 6819 HHD – N & P	x
Greg Filice	MS 2 ID Thread	
Glenn Giesler / Matthew Chafee	INMD 6813 Neuroscience	/ x
Bob Kempainen	INMD 6808 HHD – C & R	
Robert Morgan	INMD 6809 HHD – R, D & O^3	
Brian Muthyala	INMD 6803/6804/6805 ECM 1, ECM 2, ECM 3A	
Kaz Nelson	INMD 6819 HHD – N & P	
Catherine Niewoehner	INMD 6810 HHD – R & E-R	x
James Nixon	INMD 6803/6805/6806/6807 ECM 1, ECM 3A/B/C	x
Jan Norrander	INMD 6801 Human Structure and Function	
Deborah Powell	INMD 6817 Principles of Pathology, MS2 Pathology Thread	x
Michael Ross	INMD 6816 Human Sexuality	
Michel Sanders	INMD 6802 Science of Medical Practice	
David Satin	INMD 6803/6804/6805/6806/6807 ECM 1, ECM 2, ECM 3	x
Lisa Schimmenti	INMD 6802 Science of Medical Practice	
Peter Southern	INMD 6812 Microbiology	x
Heather Thompson Buum	INMD 6811 HHD – GI & Heme	x
Tony Weinhaus	INMD 6801 Human Structure and Function	
Kevin Wickman	INMD 6818 Principles of Pharmacology	x
Mary Ramey	MS2 Lab Med/Path Coordinator	x
Nicole Cairns	MS2 Student Representative	x
Blake Stagg	MS1 Student Representative	x
Mark Rosenberg	*Vice Dean for Medical Education*	
TBD	*Associate Dean for UME*	
Jeffrey Chipman	*Assistant Dean for Curriculum*	*x*
Anne Pereira	*Assistant Dean for Clinical Education*	*x*
Michael Kim	*Assistant Dean for Student Affairs*	*x*
Suzanne van den Hoogenhof	*Interim Assistant Dean for Assessment & Evaluation*	*x*
Brad Clarke	*Director of Curriculum*	
Jim Beattie	*Director of MEDS / FCT Course Director*	
Leslie Anderson	*Chief of Staff, Medical Education*	
Scott Slattery	*Director of Learner Development*	
Heather Peterson	*Medical School Registrar*	
Brian Woods	*Lead Course Manager*	

Guests: Dimple Patel, Theresa Hudachek, Chelsea Jernberg, Sara Roberts, Brooke Nesbitt

The meeting was called to order at 7:45am.

Minutes

Draft minutes from the December 11 & January 8 meetings were approved as submitted.

Updates/Announcements

Spring 2017 (16-17 AY) - calendar - previous version rolled over from previous year, but year begins on TUESDAY, instead of Monday. Are there adverse effects from course starting on Tuesday? Yes from Dr Niewoehner - in previous years the MS2 ILT on Thursday was used. Brooke Nesbitt will pull the calendar from the last time the semester started on Tuesday and share with Dr Katz.

Student Issues/Concerns/Questions

Shared praise for recent HEME small group session (Transfusion simulation). In previous years, this "lab" in the Simulation Center was spread out across the HHD courses; this year it was concentrated in one block using ILT time. Students could see the application of knowledge from other sessions into a more patient-centered simulation. Was highest rated session in the HHD2 course. Dr Chipman shared that administration is seeking simulation opportunities for students during ILT. Because it is hard for MS1-2 courses to cycle 180 students through the simulation labs (AHC Simulation Center or SimPORTAL) a few students at a time, Dr Chipman and others are brainstorming innovative ways to use current resources, as well as seeking out additional resources. Dr Thompson Buum shared that, despite being faculty- and resource-intensive, the student learning outcomes are worth the investment if scheduling and logistics are possible. The use of technology (online module for didactic content and pre- and post-testing) helped both logistics and curriculum. If other course directors have questions or ideas about using simulation in their courses, please contact Dr Chipman.

Annual Course Review

ECM 1-3C: Wednesday Longitudinal Curriculum, Process of Care Clerkships, Mastering Clinical Information – David Satin & James Nixon

Please refer to ECM Level 0 calendar.

MS1 Fall: (MCI) (Clinical Skills)
MS1 Spring: (WLC) (Clinical Skills)
MS1 Summer: (WLC) (Clinical Skills) (POCC)
MS2 Fall: (WLC) (POCC)
MS2 Spring: (WLC) (POCC)
**Service Learning thread runs through most of all five semesters*
**1Health phases run parallel - FIPCC and Community Teachers*

Mastering Clinical Information (ECM 1 Fall Semester MS1); James Nixon

Introduces students to basic statistics, how to read paper, how to read results, and how to apply to clinical practice. Also includes translational research and IRB use. In general, course receives mixed reviews from students. There were efforts to increase statistics education into the medical school curriculum; MCI addresses this need. One criticism is that the MCI curriculum is potentially too early in the MD curriculum; some changes will be made in tandem with the Wednesday Longitudinal Curriculum (swapping some sessions between MS1 and MS2). One struggle has been made to make it more interactive; ideally the sessions would be small group, but operationally that has not been possible (facilitators, faculty development, space). Dr Niewoehner asked,

when moved into MS2, if the studies would/could be integrated with the content in the parallel HHD course. Yes! There also could be connection to the FCT cases during that semester.

Process of Care Clerkship (ECM 3A-3B-3C); James Nixon
Introductory exposure to the clinical environment/process of care - ½ day per week x 8 weeks x 3 semesters
Inpatient - Internal Medicine Wards and Surgery OR and related didactics
Outpatient - ambulatory clinics; difficulties in recruiting preceptors have improved dramatically since the onset. Didactics include chronic disease management, screening, health maintenance; students do not prefer the lecture format (would prefer small groups)
Acute/Long-term -

*MS1 representative asked if there was a forum for student feedback; many MS1s are frustrated with clinical skills sessions (ECM 2) and a lack of knowledge of what's coming in POCC. Dr Chipman shared that there is an ongoing review of that ECM component with the transition of course directors (Dr Allen stepping down). Education Steering Committee will review this corner of the curriculum during a March meeting (not just ECM, but the clinical MS1-2 curriculum). Dr Thompson Buum shared that there is some difficulty for students in Inpatient POCC with the histories and interactions with patients.

WLC - Wednesday Longitudinal Curriculum (ECM 1-3); David Satin
MS1 Spring: (Ethics, Law, Social Science) Facilitated Small Groups (same facilitators as ECM clinical sessions)
MS1 Summer: (Healthcare Structure , Finance, Policy) Online module (to be updated), guest lecturers, take-home exam. Would like to include some small groups in future
MS2 Fall: (Law, Ethics, Integrative Med) Also should be small groups - currently lectures - may not even need to be facilitated groups. Resource issues with rooms.
MS2 Spring: (QI/PS) Online module, guest lectures, poster session instead of take home exam. Content will be switched schedule-wise with MCI; no poster session next year.

Discussion
Multiple Mini Interviews: Admissions – Dimple Patel
See PPT slides.
Currently, interview program is very traditional - all candidates have two 45-minute 1:1 interview (from at least one MD). MMI is proposed for adoption here at UMMS.

- *Provide an overview of MMIs*
  - *Lit Review*
  - *Scenarios & Format*
  - *Cost*
- *Present rationale for using it here*
  - *Including perceived barriers*
  - *Consensus building process*

Questions or comments to consider as we continue to consider this interview format?
-Who vets the scenarios?
-How are the scenarios rated? (10pt scale, use of results vary)
-How can introverts be less disadvantaged? (adjust stations/times, one station where response is typed?)
-Less time mean less time to develop bias, but could also mean less time to overcome initial impressions? (Actually station raters do not have access to background materials prior to stations)

MS1 representative shared some personal experiences with the MMI. "Nine chances to make a first impression."

Quality Improvement & Patient Safety Workgroup – David Satin
PPT presented at meeting
At-a-glance summary provided in packet

QI Workgroup was convened to review current MD curriculum and provide recommendations for improving QI/PS content in the MD curriculum.

Advisory Board - leaders in QI from health systems, insurance, and other QI-leader organizations.
Recommendations - (table provided in packet)
Six most relevant to SFC:

1. Core didactics
    a. from AAMC Teach for Quality program - Te4Q
    b. Some currently covered, some added recently, remainder not yet covered.
    b. Hands-on Workshops
        a. Have to learn by doing
        b. VAMC currently offers day-long workshop, may be option to provide version to all medical students.
3. ????
4. Project Experience
    a. currently, students PROPOSE a QI project and DO a service learning project
    b. merge these projects and allow students to choose one project to DO
5. Four-year incremental skills development
    a. MS1 workshop introduction
    b. Courses - ("reverse engineered" from what clerkships would need skill-wise)
    c. Clerkships - what skills do you currently use with students?
6. Student-centered QI/PS Passport - stay tuned
7. ????
8. FCT Cases

Dr Powell suggested that Dr Satin should also talk to residency directors about the ACGME requirements for resident QI - what do they think the students should be learning/doing? Currently in works is the hire of a "QI Director" to direct this didactic curriculum and oversee projects. Dr Satin shared that all of the candidates for the "QI Director" have experience working with residents in Quality Improvement.

Dr Satin will meet eventually with every course director 1:1 to see what opportunities exist for QI in MS1-2 courses.

Future Agenda Items

Suggestions from Course Directors for future SFC meeting topics:

- ExamSoft & BlackBag assessments
- ILT feedback
- Copyrights & resources (focused on what we *can* do)
- More Blackbag search examples, Gradebook, downloading, calendar, checking feedback cards
- Survey students about type of practice questions/formative
- The Four Habits Model (Michael Kim)
- Complete of student Incomplete (I) grades

The meeting was adjourned at 9:00am.
The next meeting is March 11, 2016, from 7:30-9:00am in room Mayo B-646.

Respectfully submitted,
Brooke Nesbitt

2015-2016 ECM WLC Calendar

	WK	YEAR ONE			WK	YEAR TWO		
08/03/15-08/07/15		Orientation						
08/10/15-08/14/15	1		Intro to WLC			Summer Break		
08/17/15-08/21/15	2	History of Medicine Service Learning Orient						
08/24/15-08/28/15	3							
08/31/15-09/04/15	4	ECM 1 Tutorials	WLC - Part 1 +MCI +FIPCC		1	3B Intro, Service Learning, Patient Advocacy		
09/07/15-09/11/15	5				2	**Labor Day**		
09/14/15-09/18/15	6				3	1 **B**	WLC - Part 3B POCC - M/W PM	
09/21/15-09/25/15	7				4	2		
09/28/15-10/02/15	8				5	3 Law Series		
10/05/15-10/09/15	9				6	**Exam Week Year 2**		
10/12/15-10/16/15	10	**Exam Week Year 1**			7	4 Integrative Med Field Trip	WLC - Part 3B (continued) POCC - M/W PM	
10/19/15-10/23/15	11				8	5		
10/26/15-10/30/15	12				9	6 Ethics Series (research, public health, genetics)		
11/02/15-11/06/15	13				10	7		
11/09/15-11/13/15	14	ECM 1 Tutorials (continued)	WLC - Part 1 +MCI +FIPCC (continued)		11	8		
11/16/15-11/20/15	15				12	**Exam Week Year 2**		
11/23/15-11/27/15	16				13	**Thanksgiving**	WLC - Part 3B (continued)	
11/30/15-12/04/15	17				14			
12/07/15-12/11/15	18				15			
12/14/15-12/18/15	19	**Exam Week Year 1**			16	**Exam Week Year 2**		
12/21/15-12/25/15		Winter Break						
12/28/15-01/01/16								
01/04/16-01/08/16	1	Pediatric Ethics	WLC - Part 2		1	1 **C**	**Intro to ECM 3C**	
01/11/16-01/15/16	2	Conflict of Interest			2			
01/18/16-01/22/16	3	Consent			3	**MLK Day**		
01/25/16-01/29/16	4	**SERVICE**	**LEARNING**	**POSTER**	4	**SESSION**		
02/01/16-02/05/16	5	Confidentiality Pediatric	ECM 2 Workshop & Tutorials		5	4 Quality Improvement & Patient Safety	WLC - Part 3C POCC - M/W PM	
02/08/16-02/12/16	6	Race, Ethnicity, Culture			6	5		
02/15/16-02/19/16	7	MD/RN Ethics			7	6		
02/22/16-02/26/16	8	Clinician Bias			8	**Exam Week Year 2**		
02/29/16-03/04/16	9	**Exam Week Year 1**			9	Break Year 2		
03/07/16-03/11/16	10	**ECM 2 Exams**			10	7 Quality Improve & Patient Safety	POCC - M/W PM WLC - Part 3C (continued)	
03/14/16-03/18/16	11	Break Year 1			11	8		
03/21/16-03/25/16	12	**QUALITY IMPROVEMENT**			12	**POSTER SESSION**		
03/28/16-04/01/16	13	1 HEALTHCARE			13			
04/04/16-04/08/16	14	2 STRUCTURE,	WLC - Part 3A POCC - T/Th PM		14			
04/11/16-04/15/16	15	3 FINANCE,			15	**Exam Week Year 2**		
04/18/16-04/22/16	16	4 & POLICY				Break and Study for USMLE 1		
04/25/16-04/29/16	17	**Exam Week Year 1**						
05/02/16-05/06/16		Break Year 1						
05/09/16-05/13/16	1	5 HEALTHCARE	POCC -T/Th PM					
05/16/16-05/20/16	2	6 STRUCTURE,	WLC - Part 3A (continued)					
05/23/16-05/27/16	3	7 FINANCE,						
05/30/16-06/03/16	4	8 & POLICY						
06/06/16-06/10/16	5					Period 1 : MS3		
06/13/16-06/17/16	6							
06/20/16-06/24/16	7	**Exam Week Year 1**						
06/27/16-07/01/16		Summer Break						

SERVICE LEARNING

SERVICE LEARNING

SERVICE LEARNING

EXAM

Weeks in **bold** include holidays.

Office of Admissions

Multiple Mini Interviews

Multiple Mini Interviews

Today's purpose:

- Provide an overview of MMIs
- Present rationale for using it here
- Receive feedback and generate questions to consider as we continue to explore this option

Overview

MMI

- Provides opportunity to gain insights unavailable from the AMCAS or secondary applications
- Ability to assess non-cognitive characteristics
- Completes our assessment of attributes important for admission specifically to the UMN Medical School
- Student is presented scenarios to measure abilities such as communication skills, professionalism and ethical decision making skills
- Circuit exercise; 10 unique stations; 7 minutes each with 3 minutes in between

MMI developed at McMaster University

- MMI is based on the Objective Structured Clinical Evaluation (OSCE)
- MMI scenarios do not relate to clinical practice but rather to issues about which an applicant should have reasonably sophisticated knowledge.

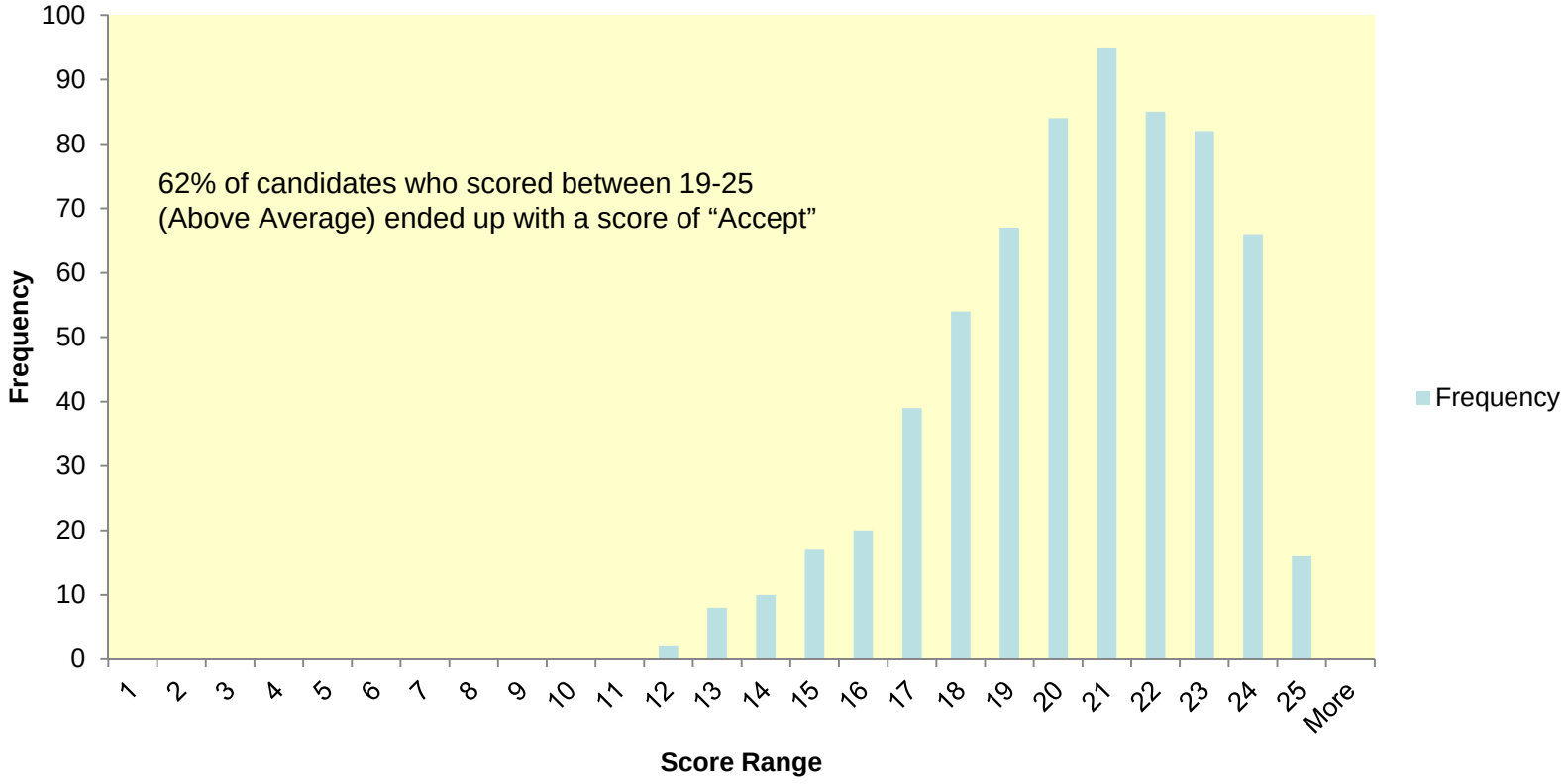
Why MMI?

- In need of a valid tool to assess non-cognitive applicant attributes that align with attributes being assessed further down the training pipeline.
- Traditional interview formats or simulations of educational situations do not accurately predict performance in medical school.

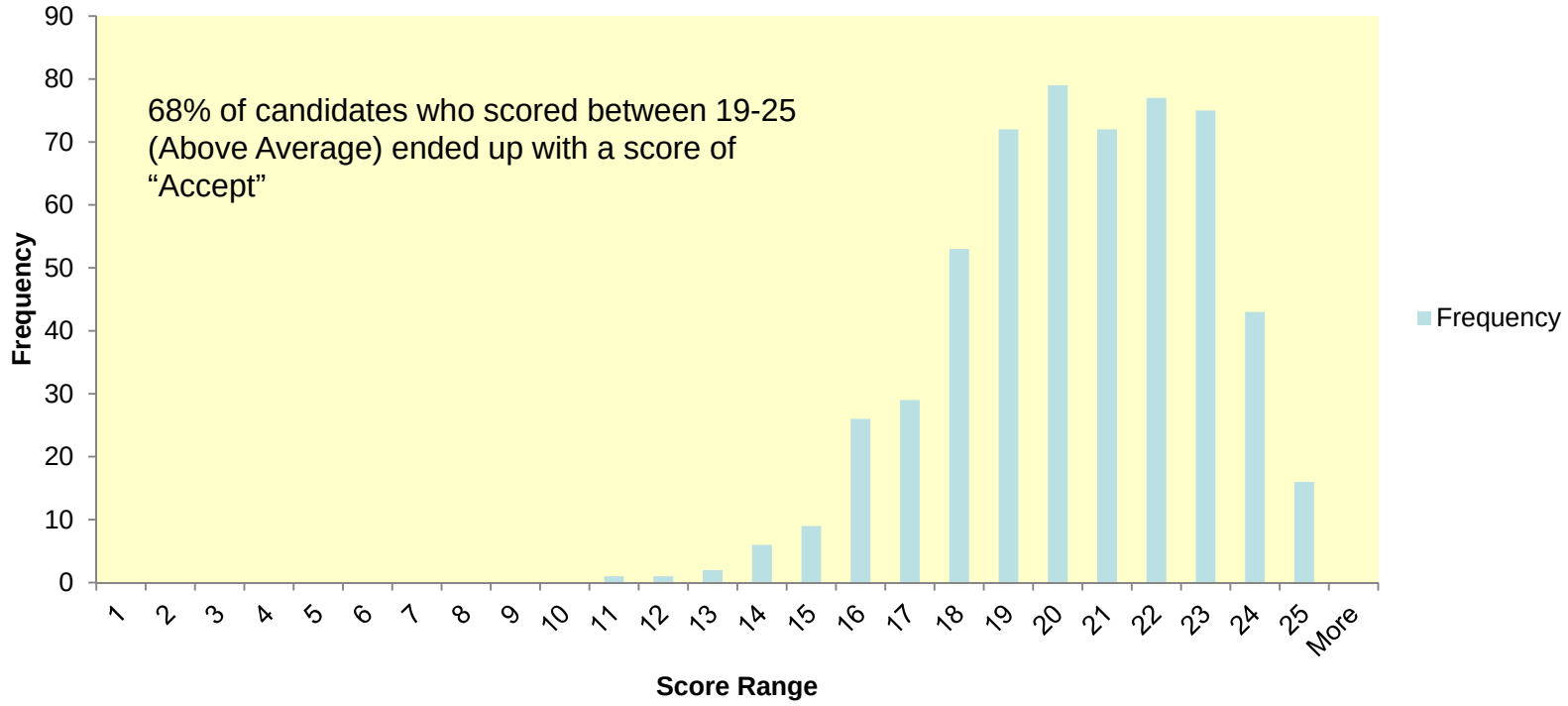
Why here?

- Currently most interviewees score “above average”
  - Current interview program fails to discriminate between candidates.
- Interviews have structured questions but, allow interviewer flexibility to ask their own questions-this can sometimes be problematic
- Inconsistent evaluations
  - 2015: 25% of interviewed candidates had a 5 or greater point difference between interviewers
- Perceptions of known interviewer v. unknown interviewer
- Minimize halo effect and unconscious bias
- 10 evaluator data points compared to 2
- Rater time is less; 100 minutes compared to 150 minutes

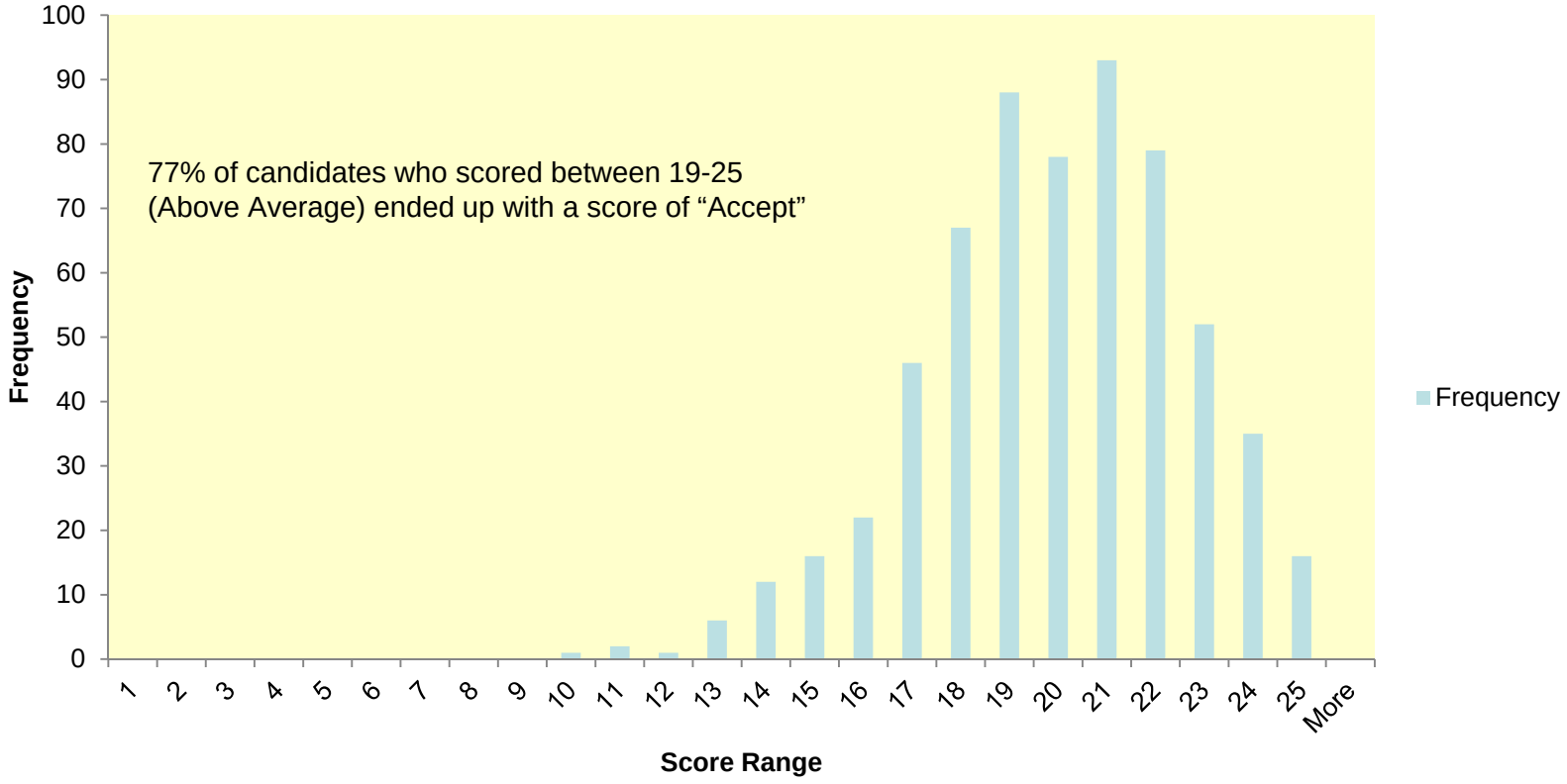
2013 Average Applicant IV Scores



2014 Average Applicant IV Scores



2015 Average Applicant IV Scores



Conclusions from Lit Review

- MMIs are more reliable and predictive of clinical performance
- MMI does not disfavor UIM, minority, or low SES candidates
- Minimizes potential compatibility issues and unconscious bias that may be present in a traditional interview scoring system.
- According to one study traditional interviews were more favored over MMIs by EM residents. In another study a mixed approach was more favorable by EM residents.
- MMIs did not lessen the anxiety felt by candidates compared to traditional interviews.

Extroverts v. Introverts

- When considering the attribute oral communication there is a high correlation between MMI scores and extroversion
- UC Davis 2012 study extraversion was associated with MMI performance

Bias

- No data on reduction of bias compared to traditional interviews but literature shows either the process is free of bias based on candidate perception or unrelated, for the most part, to gender, SES, cultural background

Example Scenarios

- You are a university student who is shadowing a family doctor to learn more about the profession. The next patient you must see has a poor understanding of English. The patient speaks only Cardassian. The doctor asks that you see this patient to find out the reason for the visit. The patient is in the room. You may use the paper and pencil provided to assist you.
  - **Problem Solving and Communication Skills**

- Consider a mistake you made in the past that had a significant impact on another person. How did you handle the situation? What would you do differently now, and why?
  - **Conflict resolution, Self awareness, Communication skills, Responsibility**

- Due to the shortage of physicians in many rural communities, it has been suggested that medical programs give preference to students who are willing to commit to a two or three-year tenure in an under-serviced area upon graduation. Consider the broad implications of this policy for health and health care costs. For example, do you think the approach will be effective? At what expense? Discuss this issue with the interviewer.
  - **Problem Solving and Communication Skills**

Example Scenarios

- Discuss a challenging situation where you were not sure of how to proceed.
  - **Self awareness, Problem solving, Ethical and moral judgement**
- You are shopping and notice another patron remove an item from the shelf and walk past the sale counter towards the exit. This patron walks in such a determined fashion directly towards the exit that it seems obvious that they intend to leave the store without paying for the item.
  - **Self awareness, Communication skills, Ethical and moral judgement, responsibility**
- Imagine you are president of the freshman medical school class. As president, the individual assumes responsibility for the actions of others which is sometimes difficult. One of your classmates is distraught over the unexpected death of a parent and seeks your support. On your way to meet that classmate, you run into another who is quite upset about the intramural schedule that was designed because it conflicts with the class community service project and wants you to change it immediately. As you get into your car, you glance at your watch and realize that you are at least an hour late picking up your child from daycare. Discuss how you would deal with the above demands on your personal and professional life. Specifically, what aspects of your personality would allow you to persevere in the above situation?
  - **Self awareness, Management skills, Responsibility**

COST

Year 1	Year 2	Year 3	Year 4	Year 5
$7,500	$2,500	$2,500	$2,500	$2,500
• Database of 400 stations • Training video • Feedback forms • Tech support	• 30 new stations • Updates/new portal functionalities at no charge	• 30 new stations • Updates/new portal functionalities at no charge	• 30 new stations • Updates/new portal functionalities at no charge	• 30 new stations • Updates/new portal functionalities at no charge

IERC charges-TBD

Perceived Barriers

- Space
- Potentially getting raters
- Perceived loss of recruitment opportunities
- Favors extroverts
- How much does it really reduce bias?

Consensus Building Process

- Dean
- Admissions Committee
- Clinical Education Committee
- Scientific Foundations Committee
- Medical Student Council
- Education Council-Final Approval

Feedback

- Questions or comments to consider as we continue to consider this interview format?

APPENDIX V. RECOMMENDATIONS (abridged spreadsheet)

#	ACTIVITY	STUDENT ASSESSMENT	PROGRAM EVAL	TIMELINE	FULL ROLL-OUT / PILOT	CORE / ELECTIVE
1 DIDACTIC	Core Didactics: Core set of knowledge-based QI/PS topics taught in years 1 & 2, online and in-class sessions. - Common learning objectives Duluth and TC. - Common online module supplemented by local workshops and invited speakers. - Covers 16 AAMC identified QI topics (see appendix VI.) - Includes change management (not overtly one of the 16 topics) - Timed just before projects or workshops or FCT/PBL cases. Core Didactics: Core set of knowledge-based QI/PS topics taught in years 1 & 2, online and in-class sessions. - Common learning objectives Duluth and TC. - Common online module supplemented by local workshops and invited speakers. - Covers 16 AAMC identified QI topics (see appendix VI.) - Includes change management (not overtly one of the 16 topics) - Timed just before projects or workshops or FCT/PBL cases. Core Didactics: Core set of knowledge-based QI/PS topics taught in years 1 & 2, online and in-class sessions. - Common learning objectives Duluth and TC. - Common online module supplemented by local workshops and invited speakers. - Covers 16 AAMC identified QI topics (see appendix VI.) - Includes change management (not overtly one of the 16 topics) - Timed just before projects or workshops or FCT/PBL cases. Core Didactics: Core set of knowledge-based QI/PS topics taught in years 1 & 2, online and in-class sessions. - Common learning objectives Duluth and TC. - Common online module supplemented by local workshops and invited speakers. - Covers 16 AAMC identified QI topics (see appendix VI.) - Includes change management (not overtly one of the 16 topics) - Timed just before projects or workshops or FCT/PBL cases.	Case-based multiple choice exam and/or short answer exam (take home or in class)	End of course surveys - Feedback from QI/PS teams and project reports/posters (see Recommendation #5) - Survey of recent UMN graduates currently in residency (PGY1 survey)	Full roll out by 2017 with portions initiated in 2015	FULL ROLL-OUT	CORE

APPENDIX V. RECOMMENDATIONS (abridged spreadsheet)

2 WORKSHOP	Hands on Workshops: Toolkit for QI (root cause, fishbone, chart audit, just culture, process map, control chart, PDSA (exercise with Lego), etc.) - Timed just before projects or FCT/PBL cases or even during clerkship - Ideally interprofessional - VA does a full day workshop and has agreed (in principle) to offer this to all 170 Twin Cities students/year. (Duluth students can likely come for a one-day field trip in six groups of 10 students, or provide their own tailored workshop (Essentia?)) - Online toolkit available 24/7 as a primer or refresher - Could try one exercise/tool as a FIPCC session	Case-based multiple choice exam and/or short answer exam (take home or in class)	End of course surveys - Feedback from QI/PS teams and project reports/posters - PGY1 survey	Full roll out in 2016	FULL ROLL-OUT in 2016 (For class of 2020, start in September 2016)	CORE
3 DULUTH	Duluth Specific Curricular Elements: Supplement core QI/PS curriculum with: - Online modules to cover (1) CQI definitions and Core Principles, (2) Central Steps in CQI studies, (3) Change measurements in CQI. - Active learning sessions with discussion of the modules - Case integration of QI/PS in PBL cases - "Laptop Rural Preceptor" hosts online discussions prior to RMSP (Rural Medical Scholars Program) experiences. - Active learning sessions regarding community measures with all of the first year students' pre-RMSP site visits. - Selection of one community measure for each student to evaluate during their first year RMSP visits with subsequent work on improving the measure working with site longitudinally through year 2 (site dependent.) -Post-RMSP site visits active learning sessions comparing the community	Same as with the current programs in which these elements are incorporated	RMSP Course Evaluation - Feedback from the Laptop Rural Preceptors - Feedback from the RMSP Preceptors - PGY1 survey	Begin some elements in 2016, all elements in place by 2018	FULL ROLL-OUT	CORE

APPENDIX V. RECOMMENDATIONS (abridged spreadsheet)

4 PROJECT	Project Experience: In year 2, Incorporate students into local Health Systems' existing functional QI/PS teams. - Groups will be assigned to specific teams; students will be required to attend meetings and add value to team when possible by way of project planning, data collection, communication, analysis, report writing, etc. - UMP Quality Collaborative piloted 4 students this year who both attended didactics (similar to Activities #1 and 2 above) and participated in project meetings, execution, and presentation. Plan to offer this to 15 students with next cohort (one student per project) and potentially up to 75 students thereafter (5 students per project) assuming similar didactics are taught in med school sessions) - Teams from UMN and local health systems will need to be chosen as appropriate (and willing) to work with students.	- Team participation eval - Reflective essays - Technical report of project - project Poster presentation	End of course surveys - Feedback from QI/PS teams and project reports/posters - PGY1 survey	Pilot 15 student volunteers in 2016 and up to 75 student volunteers in 2017 (at which point it may serve as an alternative to the current ECM 3C QI project proposal.)	PILOT	CORE (May be a SELECTIVE alongside service learning projects and public health/health policy projects. i.e. students receive sufficient didactics to choose a project by the end of first year in one of three topics)
5 INCREMENTAL SKILLS	Four-year incremental skills development: -YEAR 1: Hands on workshop(s) per Recommendation #2. -YEAR 2: Small group workshops focused on applying the individual tools associated with courses and PBL/FCT. -YEARS 3&4: Apply tools to real clinical situations on clerkships. (e.g. see Recommendation #7)	YEAR 1: Case-based multiple choice exam and/or short answer exam YEAR 2: Case-based multiple choice questions on the semester's final exam YEARS 3&4: Per chosen activity/tool, & student participation.	End of course surveys - Student performance on evaluation elements - Clerkship faculty eval - PGY1 survey - Focal improvement in clinical care/outcomes related to the specific clerkship activity	Begin some elements in 2015 (skills workshop), all elements in place by 2018	PILOT some elements/tools running through years 1, then 2, then 3&4.	CORE

APPENDIX V. RECOMMENDATIONS (abridged spreadsheet)

6 PASSPORT	Student Centered QI/PS Passport: Attend certain number of M&Ms. Can include other types of QI/PS activities (ie: team meetings, grand rounds on QI/PS, outside lectures, ICSI, MN Community Measurement events/MARC meeting, IHI Modules, patient safety elective, root cause analysis (see #10) etc.) - The passport could include core and elective numbers and types of activities for required and extra credit noted on Dean's letter (e.g. "added qualification in QI/PS"). - Need to vet venues to ensure appropriate and negotiate with closed meetings to make available to at least some students - Ideally includes a session to provide context and debrief/reflection in person (small group – not a written reflection) - Has the added bonus to UMPhysicians of cataloging QI/PS activities under their roof. (requested by UMP Compliance and risk management for insurance premium negotiations etc.)	Completion of core and elective passport elements - Follow-up activities as described above - ECM Course or specific venues may assign students tasks to add value to the events they attend (e.g. Students cite which QI/PS tools might help in the M&M or QI/PS meeting they attended)	End of course surveys - Survey of student attitudes towards errors - Department M&M faculty/staff surveys PGY1 survey	Pilot elements in 2016 provided sufficient resources are invested to organize and coordinate activities	PILOT	ELECTIVE during Pilot phase. CORE with additional elective opportunities if pilot successful.
7 CHART AUDITS	Chart Audit During Med 1 Clerkship: Facilitated by clerkship faculty and discussed in small groups, students will 1) Chart Audit for Hospital Readmissions, 2) Chart Audit for Clinical Documentation Quality. - This is an example of a year 3&4 activity per Recommendation #5	Evaluation of chart audits - Evaluation of student participation by faculty facilitating the activities	End of course surveys - Student performance on evaluation elements - QI/PS projects generated from the issues identified - Readmission rates. - Documentation quality, pre-post students/overall	Pilot in 2015 for Med 1 Clerkship at UMMC If successful, expand as a core experience for all students during Med 1 Clerkship by 2018 (see Recommendation #5 - Four-year incremental skills development.)	PILOT	CORE

APPENDIX V. RECOMMENDATIONS (abridged spreadsheet)

8 FCT/PBL	Incorporate QI/PS into current preclinical curriculum's case-based courses: Prepare QI/PS case elements and questions for select Foundations of Critical Thinking (FCT) course cases in Twin Cities and Problem Based Learning (PBL) course cases in Duluth. - Timed alongside Core Didactics and Hands on Workshops.	Same as with the current programs in which this element is incorporated	End of course surveys (specifically asking about QI/PS elements) - PGY1 survey	Begin some elements in 2015, all elements in place by 2017	FULL ROLL-OUT	CORE
9 ORIENTATION	Introduce QI/PS at Orientation/White Coat Ceremony: QI/PS curriculum should be formally introduced at orientation on both campuses, including patient stories, both negative and positive. - e.g. David Rothenberger's Story as a patient - Introduces QI/PS as a component of professionalism	NONE	Pre and Post-surveys of student attitudes	Full roll out in 2015	FULL ROLL-OUT	CORE
10 RCA	Students participating in a hospital based Root Cause Analysis (RCA) of errors: Preparation for this activity could include RCA/Just Culture specific didactics, workshop, refresher video, and a mock RCA. - Should include a debrief in small groups - Logistical issues may necessitate a large group mock RCA in classroom with small group breakouts	Pass/fail based on participation	End of course surveys - Feedback from QI/PS faculty performing the RCA alongside students	2015 in VALUE Clerkship 2016 as an elective element of the QI Passport (Recommendation #3)	PILOT IN VALUE CLERKSHIP	CORE or elective as part of the QI/PS passport (see #3)
11 PANEL MGM	Team based panel management: During the VALUE and/or RPAP Clerkships, students are matched with a primary care preceptor and are given a patient panel to follow through the end of clerkship. Students would help manage the panel, focusing on areas of MN Community Measurement as pursued by the preceptor's clinic. - Ideally, every student engages in this activity during the preclinical years. This recommendation was too heavy a lift and not something our group recommends for the immediate pilot.	Chart audit completion - Registry updates - Evaluation from preceptor and care team - Patient feedback	End of course surveys - Student performance on evaluation elements - Feedback from patients, preceptor, care team - Focal improvement in clinical	Pilot in 2015 as part of VALUE and RPAP Clerkships Open time line for preclinical implementation as a pilot	FUTURE PILOT if VALUE and RPAP leadership feel it could be moved up to preclinical years and scaled effectively.	CORE for those in VALUE/RPAP. Pilot as elective or even as a selective project track (see #'s 5 and 9.)

APPENDIX V. RECOMMENDATIONS (abridged spreadsheet)

12 INDEPENDENT PROJECTS	Student-Driven QI/PS Project: Using real problems posed by health systems, students would work with a QI/PS mentor to run a project from beginning to end, culminating in a poster presentation at the end of students' second year of medical school. -Note that this activity differs from Recommendation #5 in that students are driving the project in contrast to joining an existing QI team already working on specific health system identified projects. Our workgroup recommends prioritizing Recommendation #5	As with the current Service Learning curriculum, there is a well-established time line of submission dates with associated grades including abstract submission/project proposal, peer review of another group's poster draft, poster draft submission, final poster and presentation, submission of reflection on professionalism questions related to the project.	End of course surveys - Number of successful QI/PS projects - Student performance on evaluation elements - Feedback from mentors and project sites - Project related improvement in clinical care/outcomes	Pilot in 2015	PILOT as a second year project (Twin Cities and Duluth) and/or for the VALUE (and potentially RPAP) Clerkships.	May be a SELECTIVE alongside service learning projects and public health/health policy projects. i.e. students receive sufficient didactics to choose a project by the end of first year in one of three topics