Supplemental Digital Appendix 1

Trustworthiness Item Standard Setting for 2019 Entrustment Decisions, From a Multi-Institutional Study of Theoretical Entrustment Decisions, 2019

The Trained Entrustment Group (TEG) at each school will make one decision (from choices A-F, described in detail below) for each student regarding trustworthiness. In doing so, the TEG should consider the body of data/evidence (re: conscientiousness, discernment, truthfulness, etc.) available to the TEG about all the students being considered by the TEG (e.g., if the student had significant lapses in professionalism known to the school, would the TEG be aware of these lapses?)

At every school, the TEG will have access to EPA-specific assessment data for all students being considered by the TEG. However, TEG access to other data about trustworthiness (e.g., regular assessments of professionalism, reports of any known lapses in professionalism, involvement of the student in disciplinary proceedings) varies among schools. On a school-specific basis, the TEG may have access to these other data about trustworthiness for *all*, for *only some*, or for *none* of the students being considered by the TEG.

- If you have access to these other types of data for <u>all the students</u> being considered by your TEG, all your students comprise a single "set" and you will not enter choice "F" for this trustworthiness item for any of your students.
- If you have access to these other types of data for <u>only some of the students</u> being considered by your TEG, your students comprise two different "sets" (one set of students for which you have access to these other types of data and one set of students for which you do not have access to these other types of data). You will enter choice "F" for this trustworthiness item only for those students in the "set" for which you did not have access to these other types of data.
- If you have access to these other types of data for <u>none of the students</u> being considered by your TEG, all your students comprise a single "set" and you will enter choice "F" for this trustworthiness item for all of your students.

The single trustworthiness item is the following:
The TEG decided that for this student, there was:

    A. Presumption of trustworthiness (Presumptive Trust)
    B. Consistent evidence of trustworthiness (Grounded Trust)
    C. Minor concerns about the evidence of trustworthiness (Questioned trust)
    D. Significant concerns about the evidence of trustworthiness (Distrust)
    E. Conflicting/vague data; decision about trustworthiness not made
    F. No trustworthiness data available to TEG for this set of students

Below are more detailed descriptions of each of these six choices for the TEG to use as guidelines in deciding about trustworthiness for each student.

A. Presumption of trustworthiness (Presumptive Trust)
- *Data on trustworthiness were available to the TEG for this set of students generally (even if there were no data on trustworthiness for this particular student)*
- *There is a limited quantity of data (or no data) on trustworthiness for this student*
- *Any available data do not suggest concerns regarding this student's trustworthiness*

B. Consistent evidence of trustworthiness (Grounded Trust)
     A. *Data on trustworthiness were available to the TEG for this set of students generally*
     B. *There is a sufficient quantity of data on trustworthiness for this student*
     C. *The reported data (i.e., ratings, narratives) demonstrate the student's trustworthiness*

C. Minor concerns about the evidence of trustworthiness (Questioned Trust)
     - *Data on trustworthiness were available to the TEG for this set of students generally*
     - *If there is a sufficient quantity of data on trustworthiness for this student, concerns regarding this student's trustworthiness are infrequent and minor (e.g., arriving late)*
     - *If there is a limited quantity of data on trustworthiness for this student, concerns regarding this student's trustworthiness are minor*

D. Significant concerns about the evidence of trustworthiness (Distrust)
     - *Data on trustworthiness were available to the TEG for this set of students generally*
     - *If there is a sufficient quantity of data on trustworthiness for this student, there is a pattern of concerns regarding the student's trustworthiness or there are major concerns (e.g., cheating, lying)*
     - *If there is a limited quantity of data on trustworthiness for this student, there are major concerns regarding the student's trustworthiness*

E. Conflicting/vague data; decision about trustworthiness not made
     - *Data on trustworthiness were available to the TEG for this set of students generally*
     - *The data for this student are too vague or conflicting to determine this student's trustworthiness*

F. No trustworthiness data available to TEG for this set of students
     - *This student was in a set of students for which the TEG did not have any trustworthiness data available*

We also propose a uniform process for all schools in considering each student, with evidence for general trustworthiness assessed and the single trustworthiness item answered by the TEG <u>before</u> the TEG considers the individual EPA entrustment items. *Rationale: determination of trustworthiness may impact our entrustment decisions, even if those trustworthiness data are not evident in EPA-specific data reviewed (e.g., WBAs).*

Supplemental Digital Appendix 2

Trained Entrustment Group (TEG) Structures and Processes (4 Schools), From a Multi-Institutional Study of Theoretical Entrustment Decisions, 2019

Element of Entrustment Process	Pilot School Approaches to the Process (The four schools that convened TEGs are represented by the Letters A- D)		
Approach to a trained entrustment group (TEG)	Specific EPA TEG, separate from existing promotions committees (A-D)		
TEG members	Core EPAs team at the school[a] plus other faculty, coaches, senior administration (A-C)	Core EPAs team at the school[a] plus administrative support (D)	
TEG size	4-members (B)	6-7 members (A, D)	11 members (C)
Number of students reviewed by the TEG	All students (A-C)	A subset of randomly (by random number generator for the entire list of graduating students) selected students, because of resource limitations in implementing review process for all graduating students (D)	
Planned number of EPAs reviewed by the TEG	All 13 Core EPAs (B)	A selected portion of the EPAs with the same selected EPAs reviewed for all students (A, C, D)	
Assessment data reviewed	EPA data and other assessment data (B-D)	Only EPA-related data (A)	
Review Process	All students are reviewed in advance; individual students discussed at the meeting if not achieving entrustment criteria or insufficient data (A-C)	All students are discussed at the meeting (D)	
Number of faculty reviewing each student's data	At least 2 faculty	One faculty member pre-reviewed the data and presented	For each EPA 3-4 faculty review a few students

	members independently pre-review data and then present the data to the entire group (B)	the data to the entire group (A, D)	together for standard setting and then each member reviews student data individually. Challenging decisions are brought to the EPA group. Decisions are then brought to the entire TEG. (C)
Timepoint of Entrustment Decisions Made	Spring of the final year of medical school for the class of 2019 (A-D). At all four schools, these entrustment decisions were made independent of the decision about readiness for graduation.		
Sources of Data about Conscientiousness, Discernment and Truthfulness	Quantitative and narrative data from faculty evaluations and workplace-based assessments, including specific items about conscientiousness, discernment and/or truthfulness (A, D)	Workplace-based assessments, OSCEs and simulations (B)	Individual professionalism report, including data from preclinical courses, clerkship workplace-based assessments, professionalism incident reports, and specific items about conscientiousness, discernment and/or truthfulness (C)
Mechanism of initiation of WBAs and requirements for WBAs completion	WBAs were student-initiated, with specific guidelines regarding the number of assessments based on the course or clerkship discipline (A, C, D).	WBAs were student-initiated, but there were no specific requirements for a number of assessments (B)	
General description of the WBAs program	At the time of the activity, WBAs assessment forms are generated by a web-based survey instrument that can be initiated by the student on a mobile device and completed by the observing assessor. These WBA data are then	At the time of the activity, students initiate the assessments through the school's existing LMS. The student selects an assessor who completes a form on their own account within the LMS, and this information is integrated	

	stored in a centralized database for review by the trained entrustment group (A, C)	into the student's file within the LMS for later review (B, D)
At the school, were WBAs explicitly for formative feedback purposes only?	At all 4 schools, EPA-specific WBAs were used for formative purposes only for the graduating class of 2019; some other assessments that were available to the TEG (see above), were used for summative assessment purposes in some cases.	

Abbreviation: EPA, entrustable professional activity; WBA, workplace-based assessment; OSCE, objective structured clinical examination; LMS, learning management system.

[a]At each Core EPAs Pilot school, there is a project lead and three additional members comprising the school-specific "Core EPAs team;" team members are individuals serving at their schools in roles that include program director, clerkship director, medical education dean and expert in faculty development, assessment or program evaluation.

Supplemental Digital Appendix 3

Number of Workplace-Based Assessments (WBAs) Available for Each Student, by Entrustable Professional Activity (EPA), to Trained Entrustment Groups in Making Entrustment Determinations (N = 2,415),[a] From a Multi-Institutional Study of Theoretical Entrustment Decisions, 2019

EPA	0 WBAs # (%)[b]	1-3 WBAs # (%)[b]	4-10 WBAs # (%)[b]	11-15 WBAs # (%)[b]	>15 WBAs # (%)[b]	Total #
1: Gather a history and perform a physical examination	171 (49)	90 (26)	22 (6)	6 (2)	60 (17)	349
2: Prioritize a differential diagnosis following a clinical encounter	32 (32)	2 (2)	0 (0)	9 (9)	57 (57)	100
3: Recommend and interpret common diagnostic and screening tests	68 (68)	30 (30)	2 (2)	0 (0)	0 (0)	100
4: Enter and discuss orders and prescriptions	59 (59)	33 (33)	8 (8)	0 (0)	0 (0)	100
5: Document a clinical encounter in the patient record	163 (80)	34 (17)	6 (3)	0 (0)	0 (0)	203
6: Provide an oral presentation of a clinical encounter	119 (37)	106 (33)	33 (10)	13 (4)	53 (16)	324
7: Form clinical questions and retrieve evidence to advance patient care	136 (62)	7 (3)	37 (17)	19 (9)	21 (10)	220
8: Give or receive a patient handover to transition care responsibility	71 (57)	52 (42)	2 (2)	0 (0)	0 (0)	125
9: Collaborate as a member of an interprofessional team	84 (38)	32 (15)	104 (47)	0 (0)	0 (0)	220
10: Recognize a patient requiring urgent/emergent care and initiate evaluation / management	82 (82)	14 (14)	4 (4)	0 (0)	0 (0)	100
11: Obtain informed consent for tests and/or procedures	197 (90)	22 (10)	1 (<1)	0 (0)	0 (0)	220
12: Perform general procedures of a physician	229 (100)	0 (0)	0 (0)	0 (0)	0 (0)	229
13: Identify system failures and contribute to a culture of safety and improvement	125 (100)	0 (0)	0 (0)	0 (0)	0 (0)	125
Total	1,536 (64)	422 (17)	219 (9)	47 (2)	191 (8)	2,415

Abbreviations: EPA, entrustable professional activity; WBA, workplace-based assessment.

[a] EPA x WBAs # distribution Chi-square = 1,482.9; p <.001.

[b] Percentages shown are for row totals within each EPA. Totals may not add up to 100% due to rounding.

Supplemental Digital Appendix 4

Workplace-Based Assessments' Availability Grouped by Trained Entrustment Group Decision-Making, From a Multi-Institutional Study of Theoretical Entrustment Decisions, 2019

Were the any WBAs available to the TEG in considering the student's readiness for entrustment in the EPA?[a]	Total (%)[b,c]	Entrustment decision made[b,c]	Entrustment decision not made[b,c]	p-value
1: Gather a history and perform a physical examination	349	291	58	<.001
yes	178 (51)	169 (58)	9 (16)	
no	171 (49)	122 (42)	49 (84)	
2: Prioritize a differential diagnosis following a clinical encounter	100	70	30	<.001
yes	68 (68)	68 (97)	0 (0)	
no	32 (32)	2 (3)	30 (100)	
3: Recommend and interpret common diagnostic and screening tests	100	69	31	<.001
yes	32 (32)	31 (45)	1 (3)	
no	68 (68)	38 (55)	30 (97)	
4: Enter and discuss orders and prescriptions	100	79	21	<.001
yes	41 (41)	41 (52)	0 (0)	
no	59 (59)	38 (48)	21 (100)	
5: Document a clinical encounter in the patient record	203	181	22	.014
yes	40 (20)	40 (22)	0 (0)	
no	163 (80)	141 (78)	22 (100)	
6: Provide an oral presentation of a clinical encounter	324	286	38	<.001
yes	205 (63)	202 (71)	3 (8)	
no	119 (37)	84 (29)	35 (92)	
7: Form clinical questions and retrieve evidence to advance patient care	220	193	27	<.001
yes	84 (38)	84 (44)	0 (0)	
no	136 (62)	109 (56)	27 (100)	
8: Give or receive a patient handover to transition care responsibility	125	93	32	<.001
yes	54 (43)	54 (58)	0 (0)	
no	71 (57)	39 (42)	32 (100)	

9: Collaborate as a member of an interprofessional team	220	180	40	<.001
yes	136 (62)	130 (72)	6 (15)	
no	84 (38)	50 (28)	34 (85)	
10: Recognize a patient requiring urgent/emergent care and initiate evaluation / management	100	72	28	.003
yes	18 (18)	18 (25)	0 (0)	
no	82 (82)	54 (75)	28 (100)	
11: Obtain informed consent for tests and/or procedures	220	62	158	.088
yes	23 (10)	3 (5)	20 (13)	
no	197 (90)	59 (95)	138 (87)	

Abbreviations: WBA, workplace-based assessment; TEG, trained entrustment group; EPA, entrustable professional activity.

[a]For each EPA, based on responses to the item about number of WBAs, a dichotomous WBA-availability variable ("yes," includes all "1-3," "4-10," "10-15," and "> 15" responses vs. "no," including all "0" responses). No WBAs were available for any student for EPA12 (Perform general procedures of a physician) and EPA13 (Identify system failures and contribute to a culture of safety and improvement).

[b]For each EPA, based on the TEG determination item responses, a dichotomous "entrustment decision made" variable was created ("yes," including all "Student is ready to be entrusted to perform this EPA with indirect supervision," "Student is progressing but not yet ready to be entrusted to perform this EPA with indirect supervision," and "Evidence is against student progressing towards entrustment to perform this EPA with indirect supervision" responses vs. "no," including all "TEG could not make an entrustment decision for this EPA" responses).

[c]Percentages shown are for column totals within each EPA.