

## MEASURING COMPETENCE IN DOCTORS

## Supplemental Material File 3

## Comprehensive List of All Identified Measures

Reference Identifier	IM/RM	Outcome Measure	Measure Identifier
P1	IM (A)	The Angoff Method (OSCE rating scale)	M1
P2	IM	US Medical Licensing Examinations (USMLE)	M2
P2	IM	Medical College Admission Test (MCAT)	M3
P2	RM	Jefferson Scale of Physician Empathy	M4
P3	RM	Jefferson Scale of Physician Empathy – Student Version (JSPF-S)	M5
P3	IM	Objective structured clinical examination (OSCE)	M6
P3	IM	Rating Scales for the Assessment of Empathic Communication in Medical Interviews (REM)	M7
P4	RM	Questionnaire survey about notions of a 'good doctor' 6 brief questionnaire surveys	M8
P5	IM (A)	Performance Rating Instrument - A Trainee Intern Rating Form	M9
P6	RM	Twenty Questions (TQ) game performance	M10
P6	IM	Medical College Admission Test (MCAT) Biological Science Test Score	M11
P7	RM	25-point prior experience and confidence questionnaire	M12
P7	IM	A pre-determined critical event simulation	M13
P8	RM	Vignettes on chronic pain (assessed by treatment outcome)	M14
P8	IM	The short Medical Authoritarianism Scale (MA-S)	M15
P9	RM	A video-based situational judgment test (SJT) assessing social competencies	M16
P10	RM	Performance-based self-esteem (PBSE)	M17
P10	RM	Oldenburg Burnout Inventory (OLBI)	M18
P11	IM	Standardised Patient Examination (SPE)	M19
P11	IM	Opinions about Physicians Interactions with Patients (OPIP)	M20
P11	IM	Medical College Admission Test (MCAT) GPA	M21
P12	IM	OSCE combined with a written examination	M22
P13	RM	Anderson's Epistemological Beliefs Questionnaire (EBQ)	M23
P13	IM	SP: Korean Clinical Performance Examination (CPX)	M24
P14	IM (A)	The CanMEDS Physician Competency Framework	M25
P15	IM	Written Vignettes	M26
P15	RM	Time-pressured Vignette Assessment	M27
P16	IM	US Medical Licensing Examinations (USMLE)	M28
P17	RM	Group Assessment Performance (GAP) Test	M29
P18	IM	OSCE self-assessment measure on a 6-point Global Rating Scale (GRS)	M30

P19	RM	Workload Insight™ Application (Chronometry measure of task)	M31
P19	IM	The Secondary Task Method – Venipuncture (Simulated task performance rated using a 16-point checklist)	M32
P20	RM (A)	A 360-degree Assessment of Competencies	M33
P21	RM	PediatricSim Electronic Game	M34
P22	RM	The 5-item Doctor-Patient Communication Competency Instrument for Medical Students (SP)	M35
P23	RM	Patient Evaluation of Physician Competence	M36
P24	RM	Diagnostic Competency Framework	M37
P25	IM	Simulated Patient (SP) with simulated crisis parameters of mortality and morbidity	M38
P26	IM	7-point Global Rating Scale (GRS)	M39
P26	RM	Chronometry	M40
P27	IM	Direct Observation of Procedural Skills (DOPS)	M41
P28	RM (A)	Qualitative Experiential Knowledge	M42
P29	RM	360-degree Assessment	M43
P30	RM	The Freiberg Questionnaire to Assess Competencies in Medicine	M44
P31	RM	Internal Medicine Standardized Simulation Based Examination (SSBE)	M45
P32	RM	The Interpersonal Reactivity Index (IRI)	M46
P32	RM	The Maslach Burnout Inventory	M47
P32	RM	Medical Outcomes Study Short Form (SF-8)	M48
P32	IM	The Mini-Clinical Evaluation Exercise (mini-CEX)	M49
P32	IM	In-training Examinations (ITE)	M50
P33	IM	Global Rating Scale (GRS)	M51
P33	RM	The Test of Self-Conscious Affect, Version 3 (TOSCA-3)	M52
P34	RM	Chronometry	M53
P34	RM	Objective Performance Ratings by Independent Assessors of Videographed Procedure	M54
P35	IM	Procedural Assessment of Clinical Skill (Injection & Suturing)	M55
P35	RM	Procedural Skills Confidence Survey	M56
P36	IM	OSCE (SP)	M57
P37	IM	Student Self-Ratings of Communication Competence (VAS)	M58
P38	IM	SP-PTT (part-task trainer) hybrid: OSCE	M59
P38	IM	PTT (part-task trainer): OSCE	M60
P39	RM	Written reflective assignment	M61
P39	RM	Rating Scale - self assessment	M62
P40	IM	OSCE	M63
P40	IM	Doctors' Interpersonal Skills Questionnaire (DISQ)	M64
P41	IM	OSCE Station (videotaped)	M65
P42	RM	Self-Assessment of Interpersonal Competence Questionnaire (SAICQ)	M66
P42	RM	The Staff-Patient Interaction Scale (SPIR)	M67
P42	RM	Interpersonal Skills Rating Scale (ISRS) rated by SP's	M68

P43	RM	Self efficacy rating (Likert scale)	M69
P43	IM	SP clinical performance assessment by assessor direct observation (DO)	M70
P44	RM	Self-reported preparedness (self efficacy) Likert questionnaire	M71
P44	IM	SP observation using the Calgary-Cambridge Observation Guide (CCOG)	M72
P45	IM	Radiological (X-ray) diagnostic accuracy	M73
P45	RM	Diagnostic Confidence Rating (Likert scale)	M74
P46	RM	Diagnosis using written clinical vignettes on Qualtrics	M75
P46	RM	Chronometry	M76
P47	IM (A)	mini-CEX	M77
P48	RM	Computer-analyzed Electroencephalography	M78
P48	RM	Pauli Test	M79
P49	RM	The Mini-NeuroCart	M80
P50	RM	Self efficacy scale	M81
P50	RM	Responses to a standardised video case	M82
P51	IM	OSCE test - Global rating scale of communication skills - binary checklist	M83
P52	RM	Analogue Patient Satisfaction Questionnaire	M84
P53	IM	OSCE SP checklist	M85
P54	IM	SP case	M86
P55	IM	Formative exit exam (medical school module) on clinical reasoning and diagnostic accuracy	M87
P56	IM	SP's who rated students on a 5-point scale for communication skills	M88
P56	IM	Diagnostic Thinking Inventory	M89
P57	IM	Procedural Protocol Instrument (IPPI) Global rating scale - blind video assessed	M90
P58	RM	CanMEDS Assessment Framework Measure	M91
P59	RM	The Oslo Inventory of Self-Reported Communication Skills (OSISCS)	M92
P59	IM	SP - The Arizona Communication Interview Rating Scale (ACIR)	M93
P60	RM	Coping Responses Inventory (Moos)	M94
P60	IM	State Examination for Medical Doctors	M95
P60	RM	Maslach Burnout Inventory (MBI)	M96
P61	IM	CPX - Clinical Performance Examination (SP)	M97
P61	IM	OSCE	M98
P62	IM	MRCGP (UK)	M99
P62	IM	MRCGP AKT (Applied Knowledge Test)	M100
P63	RM	Self-evaluation meta-planning focus group	M101
P64	IM	The Junior Doctor Assessment Tool (JDAT)	M102
P65	IM	GMC test of Competence (ToC)	M103
P65	IM	OSCE	M104
P65	RM	Self-Assessment Questionnaire - ranking in comparison to other doctors	M105
P66	IM	OSCE - using the Calgary-Cambridge Observation Guide Checklist (SP and observer)	M106

P66	RM	Self-assessment - Likert scale	M107
P67	RM	Empathy and Clarity Rating Scale (ECRS) in OSCE evaluation	M108
P68	RM	Comfort and competence of working with sexual and gender minorities survey	M109
P69	IM (A)	Portfolio-based assessment	M110
P70	RM	Wechsler Adult Intelligence Scale (WAIS-IV)	M111
P71	RM	OSCE - Standardized nurse (SN) rating on professional collaboration	M112
P72	RM	Focus groups	M113
P73	IM	OSCE - 4 stations (SP)	M114
P73	RM	5-minute examination - Diagnostic Accuracy	M115
P74	RM	The Essential Elements of Communication (EEC) - rating scale on an OSCE (SP)	M116
P75	RM	Socio-cultural domains of patient safety - OSCE (SP)	M117
P76	RM	Electronic 'Just in Time Medicine' (JIT) clinical evaluation exercise (CEX)	M118
P77	IM	Group Assessment using faculty opinion survey	M119
P78	IM (A)	Assessor Rating Scale	M120
P79	IM	360-degree feedback	M121
P80	RM	PRONE score	M122
P81	RM	PREP assessment (Physician Review Program) Test Battery	M123
P82	RM	Chart stimulated recall (CSR)	M124
P82	IM	SP's who rated students on a 5-point scale for communication skills	M125
P83	IM	Center for Personalized Education for Physicians (CPEP) multivariate competence assessment	M126
P84	RM	Patient-physician Interaction Quality Checklist	M127
P85	RM	Team Objective Structured Bedside Assessment (TOSBA)	M128
P86	IM	GMC Test of Competence (ToC) - including a written knowledge test and an OSCE	M129
P87	IM	GMC Test of Competence (ToC) - including a written knowledge test and an OSCE	M130
P88	RM	Knowledge-based questionnaire	M131
P89	RM	360-degree Assessment	M132
P90	IM	OSCE (SP)	M133
P91	RM	Emergency Medicine Milestones Survey	M134
P92	IM	Vignettes	M135
P92	IM	SP's	M136
P92	IM	Chart abstraction	M137
P93	IM	Referral for fitness to practice investigation	M138
P94	IM	OSCE	M139
P95	RM	The Jefferson Scale of Physician Empathy (JSE)	M140
P96	RM	The Scale of Attitudes Toward Disabled Persons (SADP)	M141
P97	RM	The Jefferson Scale of Physician Empathy (JSE)	M142
P98	RM	The Almost Perfect Scale-Revised (APS-R)	M143
P98	IM	Grade Point Average (GPA)	M144

P99	RM	The cross-cultural care survey (CCCS)	M145
P100	IM	Workplace Based Assessments (WPBA) including: mini-clinical evaluation exercise (mini-CEX), case-based discussion (CbD), direct observation of procedural skills (DOPS), and mini-peer assessment tool (mini-PAT)	M146
P101	IM (A)	Workplace Based Assessments (WBA's)	M147
P102	IM	OSCE	M148
P103	RM	Support vector machine combined with an ordinal partitioning model (SVMOP)	M149
P104	RM	Professional Fulfilment Index (PFI)	M150
P105	RM	Epworth Sleepiness Scale	M151
P105	RM	QOL Burnout and depression	M152
P105	RM	Self-reported medical errors	M153

*Notes.*

EM: Existing Measures, RM: Research Methods, (A): Assessor assessment.

Papers in the manuscript are referenced in the format <sup>P1,2,3,4,5 etc.</sup> individual measures are referred to as <sup>M1,2,3,4,5 etc.</sup>