

Outcome Definitions & Measurement

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Valued Outcome	Definition	Reference/Instrument(s)
Identify, analyze, synthesize & assess credibility of relevant information	Five-step evidence based medicine: 1. Developing a question 2. Finding research to answer the question 3. Evaluating research for validity, impact, and applicability 4. Applying the information to clinical decision-making 5. Periodically evaluating at performing the first four steps.	Slawson & Shaughnessy (2005) "need to teach ... information management along with ... EBM"
Lifelong learners	"a concept that involves a set of self-initiated activities (behavioral aspect), and information seeking skills (capabilities) that are activated in individuals with a sustained motivation to learn and the ability to recognize their own learning needs (cognition)." Hojat, Veloski, Nasca, Erdmann, and Gonnella; 2005	JSPLL - 19 item survey Cronbach's alpha (reliability) .89 Test-retest .91
Integrate scientific foundations	Basic science courses	Stanford Curriculum
Self assess learning needs	BEME: "A personal evaluation of one's professional attributes and abilities against perceived norms." Eva & Regehr "reflection in practice" slowing down at the borders of competence.	Papinczak et al. Approaches and Study Skills Inventory for Students (ASSIST) Pololi & Price Learning Environment Survey (LES)
Function in systems and teach each other (teams)	ACGME (Systems-based education): 1. work effectively in various health care delivery settings and systems relevant to their clinical specialty 2. coordinate patient care within the health care system relevant to their clinical specialty 3. incorporate considerations of cost awareness and risk-benefit analysis in patient care and/or population-based care as appropriate 4. advocate for quality patient care and optimal patient care systems 5. work in inter-professional teams to enhance patient safety and improve patient care quality 6. participate in identifying system errors and in implementing potential systems solutions.	Kreutzer: 360 evaluation; standard written evaluations of medical students and residents often include evaluation of systems-based performance, these are generally based on observation or chart/case review and completed by supervisors of some type (residents, attendings); team simulations or drills - even team OSCEs. Six Sigma evaluation
Demonstrate competence (outcomes)	BEME: "the degree to which an individual can use the knowledge, skills, and judgment associated with the profession to perform effectively in the domain of possible encounters defining the scope of professional practice." (Kane, 1992)	AAMC 12 clinical competencies (2005) 1. Professional behavior 2. Communicate with patients 3. Apply scientific knowledge 4. Take clinical history 5. Perform mental/physical exam 6. Select, justify, interpret clinical tests

	<p>“The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served.” (Epstein & Hundert, 2002)</p> <p>“Clinical competence is ... a multifaceted entity;” both cognitive & non-cognitive</p>	<p>7. perform basic clinical procedures</p> <p>8. record, present, research, critique, and manage clinical information</p> <p>9. diagnose clinical problems</p> <p>10. intervene through preventive, curative, and palliative strategies</p> <p>11. formulate a prognosis</p> <p>12. provide clinical care within the practical context of the physician-patient relationship (gestalt)</p>
Be active learners		Observation, records, & surveys
Emotional intelligence , able to deal with whole patient, love for profession	<p>“Trait emotional intelligence is a constellation of emotion-related self-perceptions and dispositions located at the lower levels of personality hierarchies” (Petrides & Furnham, 2001). <i>Trait emotional self-efficacy</i> is an alternative label for the same construct.</p> <p>“the capacity to reason about emotions, and of emotions to enhance thinking. It includes the abilities to accurately perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth (Mayer & Salovey, 1997)</p>	<p>Trait EI self-report: TEIQue SF – 30 items (Petrides & Furnham, 2006)</p> <p>Ability EI: MSCEIT – 141 item Mayer-Salovey-Caruso Emotional Intelligence Test Consensus scoring</p>