Supplemental Digital Appendix 1

Full list of Exemplar Quotations From ACGME Milestones Related to Quality Improvement, Patient Safety, and Related Concepts, From a Content Analysis of 26 Sets of ACGME Milestones, 2015

Domain/Concept	Specialty	Page	Level	KSA	Example
QI/PS					
Quality improvement (individual level)	Physical Medicine & Rehabilitation	16	4	K	"**Identifies** opportunities for process improvement in everyday work . . ."
Quality improvement (individual level)	Diagnostic Radiology	5	2	S	"**Incorporates** QI into clinical practice"
Quality improvement (individual level)	Family Medicine	14	5	A	"**Role models** continuous quality improvement of personal practice. . . using advanced methodologies and skill sets"
Quality improvement (systems level)	Internal Medicine	13	3	K	"**Understands** common principles and techniques of quality improvement and appreciates the responsibility to assess and improve care for a panel of patients"
Quality improvement (systems level)	Thoracic Surgery	26	5	S	" Designs measurement tools to monitor and provide feedback to providers/teams on resource consumption to facilitate improvement"
Quality improvement (systems level)	Ophthalmology	11	4	A	"**Demonstrates leadership potential** for systems changes"
Patient safety (individual level)	Dermatology	11	1	K	"**Recognizes** the reasons for protocol-driven procedural safety, including universal precautions and informed consent
Patient safety (individual level)	Emergency Medicine	9	1	S	"**Uses** appropriate Universal Precautions"
Patient safety (individual level)	Neurological Surgery	21	3	A	"**Demonstrates** personal **ownership** of complications and patient outcomes"
Patient safety (systems level)	Anesthesiology	13	1	K	"Has **knowledge** that patient safety issues exist in medicine and that they should be prevented (e.g., drug errors, wrong site surgery)"
Patient safety (systems level)	Ophthalmology	13	3	S	"**Analyzes** causes of adverse events through root cause analysis (RCA)"

Domain/Concept	Specialty	Page	Level	KSA	Example
Patient safety (systems level)	Internal Medicine	9	4	A	"**Viewed as a leader** in identifying and **advocating** for the prevention of medical error"
Related Concepts					
Teamwork	Dermatology	16	1	K	"**Identifies** members of the team who coordinate patient care"
Teamwork	Allergy and Immunology	4	4	S	"**Demonstrates ability** to lead a multidisciplinary patient care team"
Teamwork	Internal Medicine	16	5	A	"**Fosters** collegiality that promotes a high-functioning interprofessional team"
Cost-effectiveness	Family Medicine	8	1	K	"**Understands** that health care resources and costs impact patients and the health care system"
Cost-effectiveness	Emergency Medicine	3	4	S	"**Practices** cost effective ordering of diagnostic studies"
Cost-effectiveness	Ophthalmology	12	5	A	"**Advocates** for cost-effective care and use of risk-benefit analyses within health care system"
Handoffs and transitions in care	Internal Medicine	11	3	K	"**Recognizes** the importance of communication during times of transition"
Handoffs and transitions in care	Family Medicine	9	3	S	"**Participates** in effective and safe hand-offs and transitions of care"
Handoffs and transitions in care	Dermatology	33	5	A	"**Role models** coordination and ongoing communication with supervisors, consultants, and referring providers"
Documentation	Urology	29	1	K	"While working under supervising physician, **demonstrates awareness** of the importance of record completion and participates in these responsibilities as part of a team"
Documentation	Diagnostic Radiology	13	1	S	"**Generates** accurate reports with appropriate elements required for coding"
Documentation	Dermatology	34	5	A	"**Serves as role model** and consultant for, junior learners, peers, and other members of the health care team in patient record documentation"

Domain/Concept	Specialty	Page	Level	KSA	Example
Equitable care (including culturally effective care)	Otorhinolaryngology	14	4	K	"**Aware** of socio- economic issues in patient care and takes those into consideration when developing patient care plans"
Equitable care (including culturally effective care)	Psychiatry	30	2	S	"**Demonstrates** capacity for self-reflection, empathy, and curiosity about and openness to different beliefs and points of view, and respect for diversity"
Equitable care (including culturally effective care)	Preventive medicine	21	3	A	"**Exhibits** appropriate attitudes, values, and behaviors in difficult situations, including caring, honesty, genuine interest in patients and families, and tolerance and acceptance of diverse individuals and groups"
Patient-centered care	Obstetrics and Gynecology	25	1	K	"**Understands** the importance of respect for patient privacy and autonomy"
Patient-centered care	Family Medicine	3	3	S	"**Partners** with the patient and family to overcome barriers to disease prevention and health promotion"
Patient-centered care	Internal Medicine	18	5	A	"**Role models** professional interactions to negotiate differences related to a patient's unique characteristics or needs"

Abbreviations: ACGME indicates Accreditation Council for Graduate Medical Education; KSA: Knowledge, Skills, and Attitudes [from Bloom's taxonomy, in Anderson LW, Krathwohl DR, Airasian PW, et al, eds. A Taxonomy for Learning, Teaching and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives. Complete edition. New York: Longman; 2001].

Supplemental Digital Appendix 2

Words Used to Categorize ACGME Milestone Content to Knowledge, Skills, and Attitudes Framework, From a Content Analysis of 26 Sets of ACGME Milestones, 2015*

Knowledge	Skills	Attitudes
Aware of	Advocates[+]	Accepts
Defines	Demonstrates	Advocates[+]
Describes	Exhibits	Appreciates
Identifies	Fosters[+]	Commits to
Knows	Implements	Fosters[+]
Recognizes[+]	Leads	Promotes[+]
Understands	Manages	Recognizes[+]
	Mentors	Respects
	Participates	Role Models[+]
	Practices	Values
	Promotes[+]	Viewed as
	Role Models[+]	
	Uses	
	Works	

Abbreviations: ACGME indicates Accreditation Council for Graduate Medical Education.

*This is list is not exhaustive. It includes the most commonly encountered words in the milestones and those we defined a priori.

[+]These terms could be interpreted to fit in more than one category based on context.