

CBME innovation

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November 18, 2022

*OPDA
Annual
Meeting*



UME Innovations

AMA Medical Education UME Consortium

CBME was a focus



A.T. STILL UNIVERSITY
SCHOOL OF OSTEOPATHIC MEDICINE IN ARIZONA | ATSU

OHIO
Heritage College
of Osteopathic Medicine

SOPHIE DAVIS
SCHOOL OF BIOMEDICAL EDUCATION

MOREHOUSE
SCHOOL OF MEDICINE

The University of Texas at Austin
Dell Medical School

MICHIGAN STATE
UNIVERSITY | College of
Osteopathic Medicine

UConn
SCHOOL OF MEDICINE

UNIVERSITY OF UTAH
SCHOOL OF MEDICINE

RUTGERS
Robert Wood Johnson

School of
MEDICINE

East Carolina University
Brody School of Medicine

UTRGV

MORE THAN
\$14.1 MILLION

TO
37 MEDICAL
SCHOOLS

TODAY, THESE FUNDS SUPPORT

23,000

MEDICAL STUDENTS

WHO WILL ONE
DAY PROVIDE CARE
FOR MORE THAN
40 MILLION
PATIENTS ANNUALLY

EVMS
UC DAVIS
SCHOOL OF MEDICINE

PENNSYLVANIA STATE UNIVERSITY
HERSHEY
College of Medicine

UCSF
School of
Medicine

University of Nebraska
Medical Center

INDIANA UNIVERSITY
SCHOOL OF MEDICINE

FIU
Herbert Wertheim
College of Medicine
FLORIDA INTERNATIONAL UNIVERSITY

UNC
SCHOOL OF MEDICINE

UND
SCHOOL OF MEDICINE
& HEALTH SCIENCES
UNIVERSITY OF NORTH DAKOTA

SCHOOL OF MEDICINE
CASE WESTERN RESERVE
UNIVERSITY

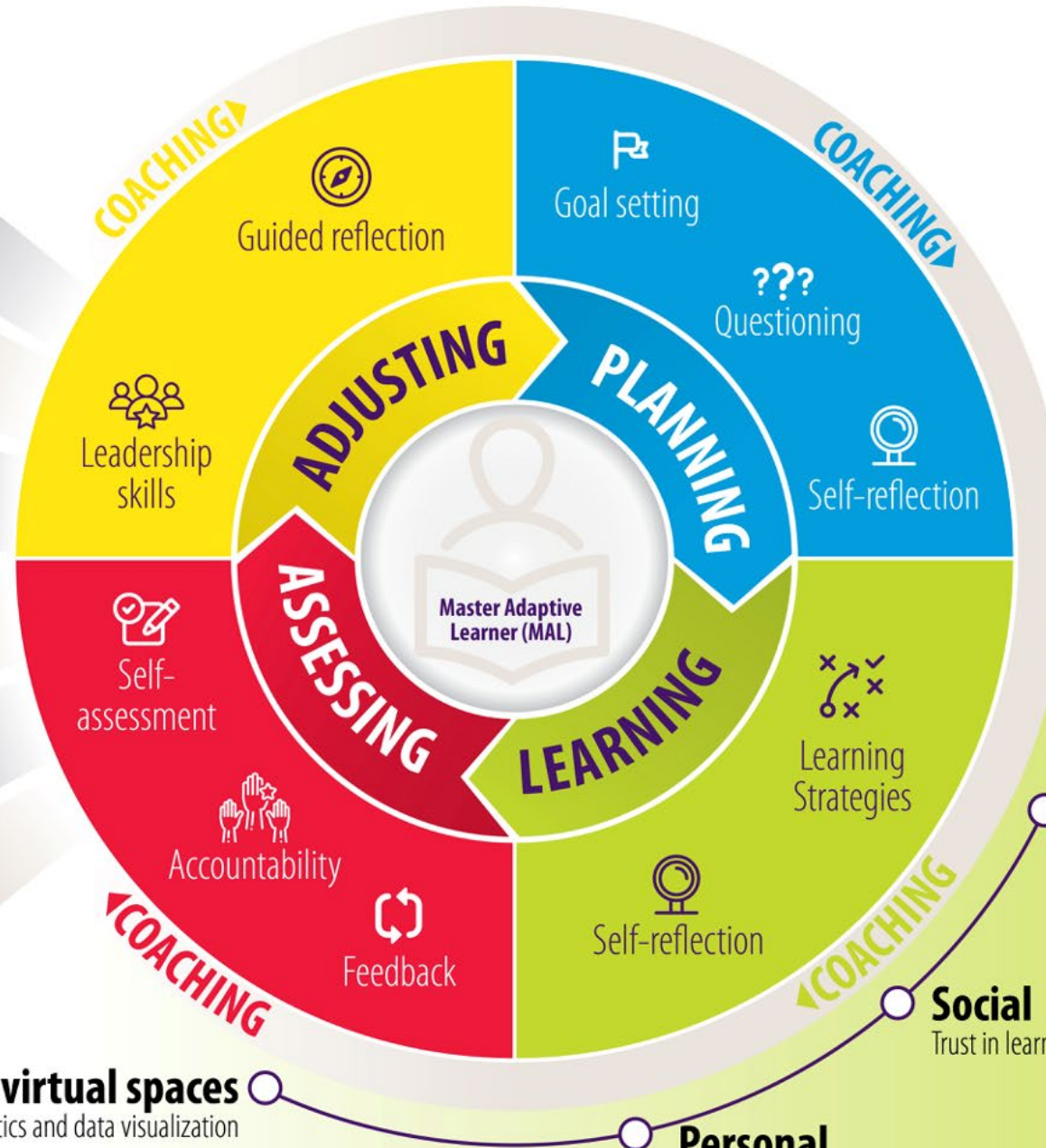
Sidney Kimmel
Medical College
at Thomas Jefferson University

EMORY
UNIVERSITY
SCHOOL OF
MEDICINE

THE UNIVERSITY OF
CHICAGO
PRITZKER SCHOOL
OF MEDICINE

Competency based Medical Education (CBME)

- Competency outcomes clearly articulated (milestones, EPAs)
- Developmental sequencing across med ed continuum
- Tailored learning experiences in authentic roles
- Competency-focused instruction based on performance evidence
- Programmatic assessment, with direct observation and frequent feedback
- Time as a resource



- Learning Environment (LE)**
- Organizational**
Transparency & clinical quality
- Social**
Trust in learning relationships
- Personal**
Growth mindset

Physical and virtual spaces
Informatics and data visualization



VANDERBILT
UNIVERSITY
MEDICAL
CENTER



School of
MEDICINE



UCSF School of
Medicine

Core Components

**Outcome
Competencies**

Aligned w ACGME +/- AAMC EPAs

**Sequenced
Progression**

Competencies tracked across variability of years

Tailored Learning

Digital portfolios, flexibility in clerkships, coaching

**Competency-
focused Instruction**

Learning objectives mapped to competencies

**Programmatic
Assessment**

Variable

**Time Variable
Approaches**

Graduation



School of
MEDICINE

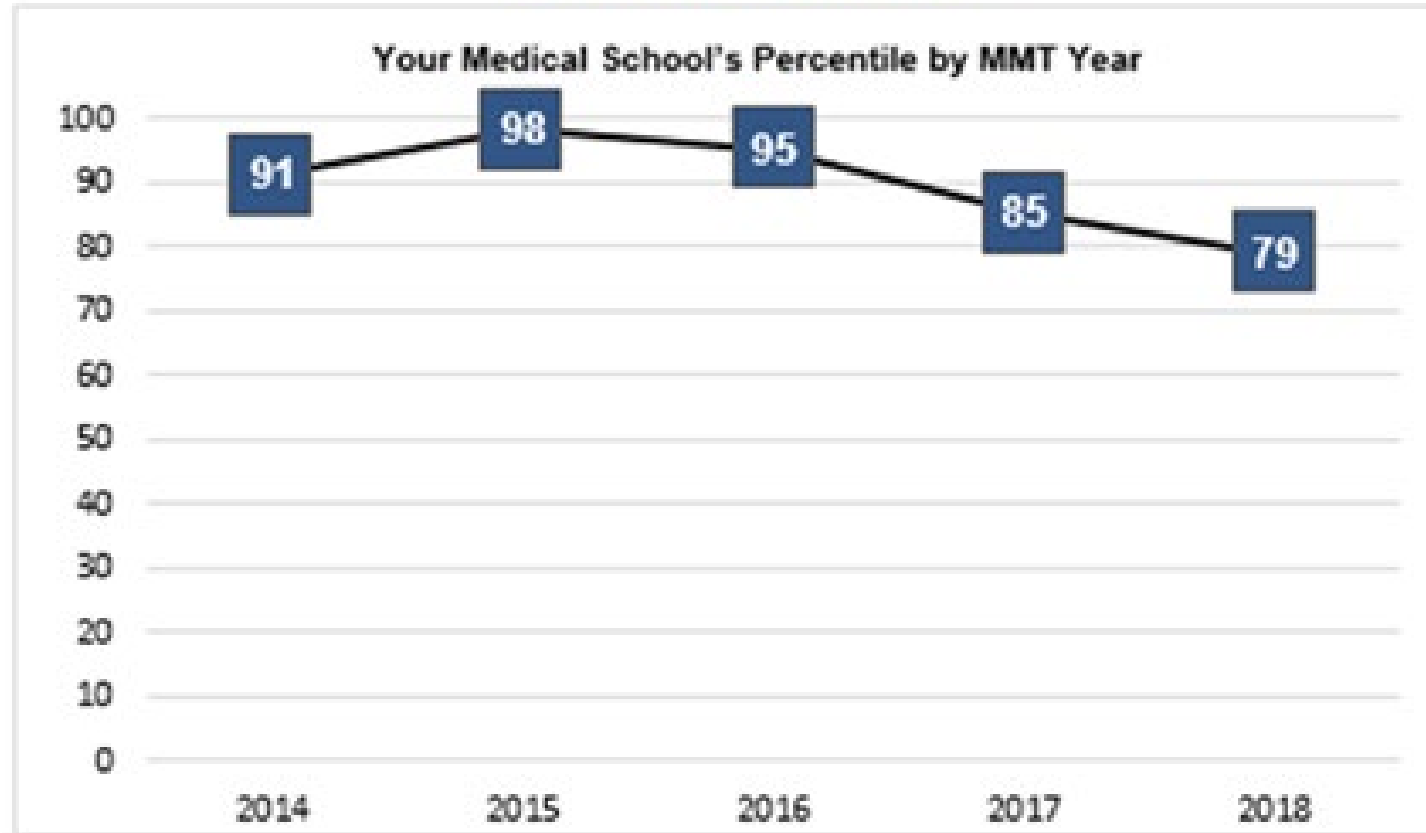
Graduate Early*

- 2018: **25%**
- 2019: **60**
- 2020: **66**
- 2021: **77**
- 2022: **93**

*Some start GME if at OHSU; Match rates not different; 2022 on track

Acknowledgement: George Mejicano, Tracy Bumsted

Average Medical School Debt



Average ↓ \$17,000 per student

GME Innovations



“Promotion in Place” Piloting CBME-TV in GME

John Co, MD, MPH (PI)
Debra Weinstein, MD (PI emeritus)
Mary Ellen Goldhamer, MD, MPH
Martin Pusic, MD, PhD
Stephen Black-Schaffer, MD
Maria Martinez-Lage, MD
Eric Nadel, MD



Conceptual Model

- **Voluntary** participation - programs and people
- Emphasizes **individualized training**, guided by enhanced assessment with faculty development and resident coaching
- Training duration may be **shorter or longer**
- Residents who demonstrate competency earlier than standard duration **stay at the institution**, but are “**promoted in place**” to attending

Programs
can
customize

- **Minimum time** in training (at outset)
- Enhancements to **assessment** (beyond identified common elements)
- Intervals for **transitions** to attending
- Opportunities for **enfolded fellowships**, or fellowship immediately upon graduation and before PIP period
- Composition of **junior attending role**



Physicians' powerful ally in patient care

Table 1. Implementation of CBME at exemplar sites aligned with the core components framework.

Core components (Van Melle et al., International Competency- Based Medical Education Collaborators. 2019)	Vanderbilt University School of Medicine	Oregon Health & Science University School of Medicine	University of Michigan Medical School	University of California, San Francisco, School of Medicine
Outcome competencies	Institutionally-created UME competencies aligned with ACGME framework (Lomis et al. 2017) plus AAMC Core EPAs	Institutionally-created UME competencies aligned with ACGME framework plus AAMC Core EPAs	Eight Institutionally – created UME competency domains aligned with ACGME framework + 2 additional domains (leadership, teamwork, & interprofessionalism; critical thinking & discovery) for a total of 31 competencies	Seven UME competencies aligned with the 6 competencies in the ACGME framework plus interprofessional collaboration
Sequenced progression	Competencies are allocated and tracked across courses and years of training Greater focus on EPAs in the post- clerkship phase	Competencies are allocated and tracked across courses and years of training EPA achievement tracked only in clinical phase	Focus on 4 competency domains during first preclinical year (MK, PC, Comm, Prof); other competencies assessed in clerkship and post-clerkship years.	Competencies have 35 milestones for the 3 phases of the curriculum; curriculum and assessment activities are mapped to the milestones
Tailored learning experiences	Evidence-driven digital portfolio Structured individualized coaching program Student-led individualized learning plans, with scheduling flexibility in post-clerkship phase (years 3 & 4)	Students have great flexibility in timing and choice of clerkships Each student assigned to academic coach who provides guidance based on student performance	Three years of workplace-based learning (clinical) Post-clerkship competency committee reviews competency development and provides guidance to learners and their coaches/advisers (Keeley et al. 2019) Individualized development plans and coaches	Each student has a faculty coach for the entire curriculum; students and coaches have 8 progress and planning meetings to review progress in student dashboard and discuss student’s individual SMART goals for learning planning
Competency-focused instruction	All courses and clerkships have learning objectives and assessments mapped to competencies New course structures created to emphasize differing competency needs	All courses and clerkships have learning objectives and assessments mapped to competencies	All courses and clerkships have learning objectives and assessments mapped to competencies	All courses and clerkships have learning objectives and assessments mapped to competencies
Programmatic assessment	All courses assess in standardized competency language and provide frequent formative and fully transparent feedback Individual competency development is tracked and informs progression independently of course grades Aggregate competency outcomes for cohorts of students inform curricular and assessment improvements	All courses and clerkships have a standardized assessment framework based on competencies Aggregate competency outcomes for cohorts of students inform curricular and assessment improvements	Learners are assessed primarily based on competencies using a number of assessment strategies Competency committee reviews learner data in dashboard and makes determination of competency progression (Monrad et al. 2019)	All assessments are centrally coordinated (Hauer et al. 2018) Multiple competency-focused assessment tools are used longitudinally Group decision making is required for course and clerkship grading and overall progress
Time variable approaches <i>* the Van Melle model does not name time-variability as a core component</i>	Graduation is not variable; however variable use of time in the post- clerkship phase based on individual’s competency development	Time-variable progression as well as graduation A few students have begun GME training ~ 2 months early and early graduation is increasingly common	Graduation is not variable; however variable use of time in post-clerkship phase based on individual’s competency development	Time variability allowed for exams and in required medicine sub-internship Lomis K, et al. <i>Medical Teacher</i> , 43:sup2, S7-S16