

Chapter 7

Using Competency-Based Learning to Improve Clinical Skills

Stefanie R. Ellison

University of Missouri – Kansas City School of Medicine, USA

Jordann Dhuse

University of Missouri – Kansas City School of Medicine, USA

ABSTRACT

This chapter serves to provide medical educators with an overview of competency-based education (CBME) and the clinical skills necessary for medical school graduate. Technology that supports the teaching, learning, and assessment of CBME and clinical skills is defined and examples are provided for each of the Accreditation Council for Graduate Medical Education (ACGME) core competencies. The competencies are defined, and clinical skills embedded in each are highlighted. This chapter provides a summary of the useful technological tools and provides examples of medical schools that use technology to teach and assess CBME with these tools. Online teaching or eLearning, simulation, online assessment, virtual humans, the electronic health record, gaming, procedural software, discussion boards, reflective writing, portfolios, and telemedicine programs are covered in detail.

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INTRODUCTION

The History of Competency-Based Medical Education

Competency-based education has been in existence for decades in medical education and one can trace its roots to the 1970s (ten Cate & Billett, 2014). Over the past 15 years, it has become more consistently present in undergraduate and graduate medical curricula. The increase in competency-based education likely stems from increased accreditation requirements in undergraduate medical education and in residency training programs to assess learners' skills, increasing quality measures in physician performance, and trends to increase health system accountability (Carraccio & Englander, 2013). In addition, demands for improved safety in patient care drives the need for improved training and skills' assessment to foster consistent care (Nasca, Philibert, Brigham & Flynn, 2012). Evidence also exists to show that standardized resident training drives future clinical performance (Asch 2009; Chen 2014). The core competencies began to take shape after the Accreditation Council for Graduate Medical Education (ACGME) delineated the six core competencies in 1998 defined by the six domains of clinical competence: Patient Care, Medical Knowledge, Practice-based Learning and Improvement, Interpersonal and Communication Skills, Professionalism, and Systems-Based Practice (Swing, 2007). Development of the core competencies were an important step to help standardize the competency-based teaching and assessment movement.

Defining the competencies of a physician in practice was an important first step in assessing clinical skills in our undergraduate medical students and residents, but the devil is in the details. While core competencies can be defined, it is important to develop undergraduate and graduate medical education objectives that are detailed and measurable in order for the learner to understand precisely what they need to do to show competence in those skills. Carraccio and Englander (2016) provided recommendations for developing the learning objectives within the core competencies and called for the following in graduate CBME:

1. A standardized language;
2. The power of direct observation and assessment;
3. The need for developing meaningful measures of performance;
4. Desired outcomes as the starting point for curriculum development;
5. Dependence on the reflection of expertise;
6. Need for exploiting the role of the learner in their learning; and
7. Competent clinical systems as the environment to producing competent physicians.

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