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Abstract

Competency based strategies for educational outcomes have been in development in many health related fields over the past several years. These have the intent of improving the quality and competency of graduates. With many optometric programs in both developed and underdeveloped countries in their infancy, use of these strategies could not only improve educational outcomes but standardize training.

The Accreditation Council for Graduate Medical Education (ACGME) is the accrediting body for all United States medical residencies and fellowships. In 2001, they began the Outcomes Project which mandated specific training and evaluation in the six General Competencies: patient care, medical knowledge, interpersonal communications, professionalism, problem based learning and improvement and systems based practice. Graduate medical training programs have been developing curricula and assessment tools in these areas. Sharpening the focus on the educational process itself, programs are increasingly incorporating specific learning experiences and validating these assessment tools to assure graduates have sufficient skills to practice in the increasingly complex medical environment.

In 2006, The ACGME Outcomes Project is moving into Phase 3 in which graduate medical education programs will utilize outcomes to assess trainees and to evaluate the quality of their programs. This ongoing quality assessment of both trainees and the educational environment is to assure medical training produces highly qualified physicians who will continue this process of quality improvement throughout their professional careers. Application of the principles of such outcomes based education in the development of optometric training programs can enhance the quality of graduates and their subsequent practice.

Accreditation Council for Graduate Medical Education

The Accreditation Council for Graduate Medical Education (ACGME) is responsible for the Accreditation of post-MD medical training programs within the United States. Accreditation is accomplished through a peer review process and is based upon established standards and guidelines.

The Outcome Project is a long-term initiative by which the ACGME is increasing emphasis on educational outcome assessment in the accreditation process. Expectations for increased emphasis on outcome assessment are reflected in changes to Program and Institutional Requirements that require programs to:

- Identify learning objectives related to the ACGME's general competencies
- Use increasingly more dependable (i.e. objective) methods of assessing residents' attainment of these competency-based objectives; and,
- Use outcome data to facilitate continuous improvement of both resident and residency program performance.

Outcome Project activities to bring about these changes and to support programs in their implementation include:

- Development of a set of general competencies;
- Support for programs through identification and development of dependable methods for assessing attainment of the competencies;
- Development of model resident evaluation systems to provide examples of dependable evaluation; and,
- Creation of a support system of resources that includes assessment experts, ideas for teaching the general competencies, references for articles pertinent to the definition, teaching and evaluation of the competencies, and a "toolbox" of assessment techniques.

Accreditation Council for Graduate Medical Education General Competencies required for residents to develop to the level expected of a new practitioner:

• Patient care

The resident must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health

• Medical knowledge

Residents must demonstrate knowledge about established and evolving biomedical, clinical, and cognitive sciences and the application of this knowledge to patient care

• Practice-based learning and improvement

Residents must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices

• Interpersonal and communication skills

Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their patients families, and professional associates

• Professionalism

Residents must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population

• Systems-based practice

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value

COMPETENCY	REQUIRED SKILL
Patient care	<ol style="list-style-type: none"> Caring and respectful behaviors Interviewing Informed decision-making Develop patient management plans Performance of procedures Preventive health services Work within a team
Medical knowledge	<ol style="list-style-type: none"> Investigatory & analytic thinking Knowledge and application of basic sciences
Practice-based learning & improvement	<ol style="list-style-type: none"> Analyze own practice for needed improvements Use of evidence from scientific studies Application of research and statistical methods Use of information technology Facilitate learning of others
Interpersonal & communication skills	<ol style="list-style-type: none"> Creation of therapeutic relationship with patients Listening skills
Professionalism	<ol style="list-style-type: none"> Respectful, altruistic Ethically sound practice Sensitive to cultural, age, gender, disability issues
Systems-based practice	<ol style="list-style-type: none"> Understand interaction of their practices with the larger system Knowledge of practice and delivery systems Practice cost-effective care Advocate for patients within the health care system

Accreditation Council on Optometric Education

The Accreditation Council on Optometric Education (ACOE) is the only accrediting body for professional optometric degree (O.D.) programs, optometric residency programs and optometric technician programs in the United States and Canada.

The ACOE serves the public by establishing, maintaining and applying standards to ensure the academic quality and continuous improvement of optometric education that reflect the evolving practice of optometry. The scope of the ACOE encompasses professional optometric degree programs, optometric residency programs, and optometric technician programs

Professional Optometric Degree Program Standards

Standard VI – Curriculum

6.9 Procedures must be employed to assess each student's achievement of curricular outcomes. Required Documentation to be part of or appended to the self-study:
-Examples of curricular outcomes assessment procedures and instruments

6.9 The program must establish and apply a published set of clinical outcomes to prepare students for entry level practice. At a minimum the graduate must be able to:

- 6.9.1 Identify, record and analyze pertinent history and problems presented by the patient.
- 6.9.2 Demonstrate the necessary skills to examine and evaluate the patient to arrive at a rational diagnosis.
- 6.9.3 Formulate a treatment plan and understand the implications of various treatment options.
- 6.9.4 Provide preventive care, patient education and counseling.
- 6.9.5 Recognize when it is necessary to obtain a consultation and to coordinate care provided by others.
- 6.9.6 Demonstrate knowledge of professional, ethical, legal, practice management, and public health issues applicable to the delivery of optometric care.
- 6.9.7 Effectively communicate orally and in writing with other healthcare professionals and patients.
- 6.9.8 Demonstrate basic life support skills for emergencies encountered in optometric practice. Required Documentation to be part of or appended to the self-study:
• Published set of clinical outcomes

University of Missouri St. Louis College of Optometry Entry Level Practice Standards

Before graduation each student will effectively utilize and demonstrate a working knowledge in patient care within each of the following areas:

- Basic body systems, with special emphasis on the ocular and visual system and their interrelationships to the body as a whole;
- The various processes and causes that lead to dysfunction and disease and the effect that processes can have on the body and its major organ systems, with special emphasis on the ocular and visual systems;
- The mechanisms of actions of the various classes of pharmaceutical agents, their interactions, along with their safe and effective use for the treatment of disease and conditions affecting the eye and visual system;
- The structures and processes contributing to the development of refractive error and other optical or paraoptical abnormalities of the visual system;
- The optics of the eye and ophthalmic lens systems (including spectacles, contact lenses, and low vision devices) used to correct refractive, oculomotor and other vision disorders;
- Vision development and visual function with respect to deviation and enhancement of conditions such as, but not limited to, strabismus, amblyopia, oculomotor, accommodation, and visual perception;
- Vision therapy and other rehabilitative methods used for the management of common visual disorders;
- The psychosocial dynamics of the doctor/patient relationship and an understanding of the social, psychological, and economic forces affecting diverse patient populations;
- The practice management structure and strategies as they pertain to various practice settings;
- The critical elements of verbal and written communications and understanding of the need for clear and appropriate documentation of patient encounters;
- The concepts of refractive surgery and its management;
- A broad-based multidisciplinary understanding of patient care;
- An appreciation for and a commitment to lifelong learning;
- And an understanding of and commitment to uphold the ethical obligations imposed by the tenets of the Optometric Oath of Practice.

UM-St. Louis College of Optometry General Competencies required for students to develop to the level expected of a new practitioner:

- Optometric knowledge
emphasis on the established and evolving knowledge base about the ocular and visual system and their relationship to the body as a whole.
- Patient care
emphasis on providing competent, compassionate and effective treatments for the betterment of patients' visual function
- Verbal and written communication
emphasis on the ability to communicate to a patient, their family and other professionals in an accurate and relevant fashion
- Professionalism
emphasis on a commitment to a deep and continuing understanding of the rights and responsibilities as practitioners of optometry
- Public health
emphasis on an awareness of and understanding of a larger health care system and an information of the optometric and general health needs of the surrounding community
- Practice-based commitment to lifelong learning
emphasis on an understanding of the changing face of medicine, optometry and vision science and a commitment to the continuing improvement of clinical skills

Outcomes (Require Appropriate Outcome Measures Throughout Optometric Education)

- Knowledge/Analysis
knowledge acquisition from didactic and hands-on experiences
- Problem Solving/critical thinking
application of knowledge base in an appropriate manner to arrive at a solution
- Integration/Application
transferring and applying knowledge from didactic courses to patient care
- Proficiency
ability to retrieve, synthesize and disseminate knowledge in an appropriate and timely manner
- Communication
ability to communicate and exchange information effectively with peers, other professionals and the public
- Teaming
ability to foster a positive learning environment with peers; an understanding of the value of group scholarship and co-management between professions
- Citizenship
appreciation for people in general, whether a patient, colleague, or the general public

OUTCOME	DEFINITION	OUTCOME MEASURE(S)
Knowledge/Analysis:	knowledge acquisition from didactic and hands-on experiences	<ol style="list-style-type: none"> first order questions on midterm exams first order questions on final exams quizzes assignments lab practicals
Problem Solving/ Critical Thinking:	application of knowledge base in an appropriate manner to arrive at a solution	<ol style="list-style-type: none"> second order questions on midterm exams second order questions on final exams group/individual projects/ standardized patients term papers/websites
Integration/Application:	transferring and applying knowledge from didactic courses to patient care	<ol style="list-style-type: none"> peer teaching/learning group projects journal club
Proficiency:	ability to retrieve, synthesize and disseminate knowledge in an appropriate and timely manner	<ol style="list-style-type: none"> proficiencies in class projects/cases standardized patient encounters patient logs qualitative case observation
Communication:	ability to communicate and exchange information effectively with peers, other professionals and the public	<ol style="list-style-type: none"> inter & intra professional communication interpersonal communication (online grade forms) standardized patient encounters Practice Management II proficiency peer teaching presentation qualitative case observation
Teaming:	ability to foster a positive learning environment with peers; an understanding of the value of group scholarship and co-management between professions	<ol style="list-style-type: none"> group projects/problem sets peer group assessment group debates practice examinations and co-management between professions clinical simulations
Citizenship:	appreciation for people in general, whether a patient, colleague, or the general public	<ol style="list-style-type: none"> professionalism section on each patient encounter assessment matrix class attendance peer group assessment qualitative case observation larger system

