CORE COMPETENCIES IN HEALTH PROMOTION AND DISEASE PREVENTION

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Optometrists are health care providers. While the primary focus of delivery of care is on the visual welfare and ocular health of their patient, the optometrists are also trained in the detection and monitoring of systemic diseases that may be associated with ocular ramifications and manifestations. It is their responsibility to employ appropriate measures that lead to the best outcome for their patient. It is expected that practicing optometrists possess an understanding of the principles relevant to their practice, not just a collection of technical skills. As the technology and knowledge base of patient care advances, their background allows them to seek input from other sources and evaluate it for its worth and appropriateness. They must possess the expertise to determine if these advances will serve to benefit some or all of their patients and under what conditions. They can then weigh the factors and make appropriate decisions for implementation in patient care.

Skilled clinicians in any field are expected to advance the knowledge base of the profession. A professional program, no matter how excellent, cannot teach practitioners everything they will use in practice forty years from now. Many daily aspects of optometric practice today, such as automated visual field units, scanning lasers and corneal topographers, did not exist that long ago and could not have been incorporated into any program at the time. The optometric professional must be given the background to understand how advances in technology and knowledge can be integrated into their practice as soon as they are feasible to benefit their patient population.

Many of the advances in patient care are not technical in nature. Some of these may arise from understanding a better way to care for a patient's eye and vision health but in fact are involved with the larger goal of addressing the health needs of for the whole patient. Coordination of care allows everyone on the healthcare team to play a role in the patient's care. Each professional can address the problems to which they are best suited while keeping all others informed as to the patient's progress. This interdisciplinary approach allows for a maximal sharing of results and better integration of care for the patient as a whole without repetitive testing and increased expense.

****Optometrists play an important role on the healthcare team. In addition, they should be working to advance the art and science of patient care. This combination of service requires the optometrist to have a solid foundation in population health. There are certain fundamentals in assessing the health of society and understanding the impact of interventions that every health professional must know. Historically, clinical education has focused on the diagnosis and treatment of disease. The shift has been away from simply addressing the needs of those with acute health care problems to the importance of prevention of disease process and the promotion of health of the population. This is a paradigm shift in health care education and has been met with varied acceptance. The Association of Teachers of Preventive Medicine and the Association of Academic Health Centers, with support from the Department of Health and Human Services, convened the Healthy People Curriculum Task Force that

represented seven clinical health professions. The task force worked to develop specific aspects of health care that moved beyond the diagnostic and treatment content that makes up most of health professional curriculums. The members of the Healthy People Task Force represented a diverse group including: dentistry, osteopathic medicine, pharmacy, nurse practitioners, nurses, and physician assistants. The group constructed and approved the Clinical Prevention and Population Health Curriculum Framework for all health professions that addressed areas they felt were essential for all practitioners to understand. This curriculum content was meant to be in common across all health profession programs to facilitate interdisciplinary care and provide all care givers with a basic understanding and global perspective on health care delivery.

One of the objectives of *Healthy People 2010* is to "Increase the proportion of schools of medicine, schools of nursing, and other health professional training schools whose basic curriculum for health care providers includes the core competencies in health promotion and disease prevention." As our population continues to grow and become more diverse, the limits of episodic, problem based interventions become more apparent. There is a need for greater understanding and implementation of measures to improve population health through prevention and patient education. There is also a need to reach out to those individuals that do not access the health care system for various reasons to ensure that their health issues are addressed at a time when the care is not critical and expensive, but instead more timely and cost efficient. To make this happen, optometry programs must ensure that these issues are part of their curriculum or risk having graduates being left out as changes in the healthcare delivery system occur.

In the 2003 Institute of Medicine's: "Bridging the Gap" report there was a call for institutions which provide educational programs to health care providers to reassess the manner and content of how they teach the future cadre of health professionals. It was suggested that the curriculums will need to provide a more current approach to the delivery of health care that will fit into the changing needs of the public. In addition, the report suggests that the demands placed on the health care provider will require different methods and approaches for dealing the changing makeup of the population.

In response to the IOM report, an inter-professional group call the Healthy People Curriculum Task Force was convened by the Association of Teachers of Preventive Medicine and the Association of Academic Health Centers in January 2003 to determine what elements need to be integrated the core curriculum for their students. They worked to develop a curriculum framework which would address the recommendations of the IOM report. The primary focus was to address the need for change as highlighted in Objective 1.7 of the Healthy People 2010 document which stated:

"Increase the proportion of schools of medicine, schools of nursing and health professional training schools whose basic curriculum for health care providers includes the core competencies in health promotion and disease prevention"

The task force was aiming towards elaborating the concept of prevention into clinical education rather than limiting health care to disease detection and treatment. The shift in the concept of treating patients within heath care to addressing prevention and health

promotion was a philosophical change. It was felt that that prevention had not been a historical core aspect of how health care was taught and health care providers needed to consider prevention as an integral aspect of care delivered.

Optometry was not an original member of the original task force however; the curricular recommendations that were developed are appropriate to the optometric profession and most, if not all, of the recommendations should be included in the education of future eye care providers.

Curriculum Framework

The curriculum framework was approved by the initial task force in 2004. Revisions from 2008 have been recommended and are pending approval. The curriculum framework is divided into the following four components:

1. Evidence Base for Practice
2. Clinical Preventive Services and Health Promotion
3. Health Systems and Health Policy
4. Community Aspects of Practice

These global components are further broken down into 18 specific domains (originally 19 domains were identified). Each domain further develops the core component areas into specific content and are written so as to allow individual professions to reflect on what is most relevant for their students. Each domain includes examples to ensure that the concepts are clear and to allow each health care profession to determine which aspects of the domains are appropriate to include in the education of their clinical health professional student.

Evidence-Based Practice

This component is written to allow the student to acquire the ability to translate the research into evidence for practice. In the first release of the Curriculum Framework, five domains were suggested: Epidemiology and Biostatistics, Methods of Evaluating Health Research Literature, Outcome Measurement, including Quality and Cost, Health surveillance and Determinants of Health. The 2008 version reevaluated the domains and has rewritten them into four domains that follow. The concepts presented are to give the student an understanding of the various means to measure disease, to interpret outcomes by understanding statistical concepts, research design, be able to interpret risks and know the determinants of disease, be able to read the evidence critically and know when to apply it to their patients and the community.

Table 1. Domains of Evidence Based Practice Curriculum

1. Problem Descriptions – Descriptive Epidemiology –
	Burden of disease, e.g., morbidity and mortality
	Course of disease, e.g., incidence, prevalence, and case-fatality

Potential determinants of health and disease, e.g., genetic, behavioral,
    socioeconomic, environmental, health care (access and quality)
Distribution of disease, e.g., person, place, and time
Sources of data, e.g., vital statistics, active and passive public health surveillance

2. Etiology, Benefits and Harms – Evaluating Health Research
    Study designs, e.g., surveys, observational studies, randomized clinical trials
    Estimation – magnitude of the association, e.g., relative risk/odds ratio,
        attributable risk, percentage, number-needed-to-treat, and population
        impact measures
    Inference, e.g., statistical significance test and confidence intervals
    Confounding and inference – concepts and basic methods for addressing
    Quality and presentation of data, e.g., accuracy, precision and use of graphics

3. Evidence-Based Recommendations
    Scoring the quality of the evidence, e.g., types and quality of studies and
        relevance to target population
    Scoring the magnitude of the effect, i.e., incorporating benefits, harms, and
        values
    Grading of the recommendations, i.e., combining quality of the evidence and
        magnitude of the effect

4. Implementation and Evaluation
    Types of Prevention, e.g., primary, secondary tertiary
    At whom to direct intervention, e.g., individuals, high risk groups, populations
    How to intervene, e.g., education, incentives for behavior change, laws and
        policies
    Evaluation, e.g., quality improvement, outcome assessment, reassessment of
        remaining problem

Clinical Preventive Services and Health Promotion

This component covers the mechanisms to critically evaluate the evidence that has
been developed and for an intervention or service. The emphasis in this competency is
the need to learn to understand what the science tells them about clinical prevention
and health promotion and not to simply memorize interventions. There are four domains
in this component:

Table 2. Domains of Preventive Services and Health Promotion

1. Screening
    Assessment of health risks, e.g., bio-psycho-social, environment
    Approaches to testing and screening, e.g., range of normal, sensitivity,
        specificity, predictive value, target population
    Criteria for successful screening, e.g., effectiveness, benefits and harms, cost,
        patient acceptance

Evidence-based recommendations

2. Counseling for Behavioral Change
    Approaches for behavior change incorporating diverse patient perspectives, e.g.,
        diet and exercise
    Clinician-patient communication, e.g., patient participation in decision making,
        informed consent, risk, communication, advocacy
    Criteria for successful counseling, e.g., effectiveness, benefits and harms, cost,
        patient acceptance
    Evidence-based recommendations

3. Immunization
    Approaches to vaccination, e.g., live vs. dead vaccine, pre vs. post exposure,
        boosters, techniques for administration, target population, population-
        based immunity
    Criteria for successful immunization, e.g., effectiveness, benefits and harms,
        cost, patient acceptance
    Evidence-based recommendations

4. Preventive Interventions (originally referred to as chemoprevention)
    Approaches to chemoprevention, e.g., pre vs. post exposure, time limited vs.
        long term
    Criteria for successful immunization e.g., effectiveness, benefits and harms, cost,
        patient acceptance
    Approaches to non-chemoprevention, e.g., diet and exercise
    Criteria for non-chemoprevention
    Evidence-based recommendations

Health Systems and Health Policy

This component is designed to acquaint the learner with the health care system within the United States.   The student needs to be aware of policies that will affect not only their practice but also the health of their patient population. Specific objectives for this component are to present what policies exist, how these policies were created and to identify how the clinician can become an active participant in the policy making process. There are 4 domains that fall here and they are as follows:

Table 3. Domains of Health Systems and Policy in the U.S.

1. Organization of Clinical and Public Health Systems
    Clinical health services, e. g., continuum of care – ambulatory, home, hospital,
        long-term
    Public health responsibilities, e.g., public health functions (Institute of Medicine);
        10 essential services of public health
    Relationships between clinical practice and public health, e.g., individual and
        population needs

2. Health Services Financing
> Clinical services coverage and reimbursement, e.g., Medicare, Medicaid, employment based, the uninsured
> Methods for financing health care institutions, e.g., hospitals, long-term care facilities, community health services
> Methods for financing public health services
> Other models, e.g., international comparisons

3. Health workforce
> Methods of regulation of professionals and health care, e.g., certification, licensure, institutional accreditation
> Discipline-specific history, philosophy, roles and responsibilities
> Racial/ethnic workforce composition including underrepresented minorities
> Relations of discipline to other health professionals
> Legal and ethical responsibilities of health care professionals, e.g., malpractice, HIPPA, confidentiality
> The role of public health professionals
> Interprofessional activity

4. Health Policy Process
> Process of health policy making, e.g., local, state, federal government
> Methods for participation in the policy process, e.g., advocacy, advisory processes
> Impact of policies on health care and health outcomes including impacts on vulnerable populations
> Consequences of being uninsured or underinsured
> Ethical frameworks for public health decision-making

Population Health and Community Aspects of Practice

The last component broadens the focus by addressing community and shifting from the person to the population. Typically community is thought of as a geographic defined area. This component expands that meaning of community is include physical, cultural, race/ethnicity, age, interests, and experiences. The content attempts to broaden the perspective of health care to cover population based health care and expand the idea of learning about prevention from many diverse resources. There are 6 six domains in this component as shown in table 4.

Table 4. Domains of Population Health and Community Aspects of Practice

1. Communicating and Sharing Health Information with the Public
> Methods of assessing community needs/strengths and options for intervention, e.g., Community-Oriented Primary Care
> Media communications, e.g., strategies for using mass media, risk communication

       Valuation of health information, e.g., websites, mass media, patient information
          (including literacy level and cultural sensitivity)

2. Environmental Health
       Sources, media, and routes of exposure to environmental contaminant, e.g., air,
          water, food
       Environmental health risk assessment and risk management, e.g., genetic,
          prenatal
       Environmental disease prevention focusing on susceptible populations

3. Occupational Health
       Employment-based risks and injuries
       Methods for control of occupational exposures and injuries
       Exposure and prevention in health care settings

4. Global Health Issues
       Roles of international organizations, e.g., WHO, UNAIDS, NGOs
       Disease and population patterns in other countries, e.g., burden of disease,
          population growth, health and development
       Effects of globalization on health, e.g., emerging and reemerging
          diseases/conditions
       Socio-economic impacts on health in developed and developing countries

5. Cultural dimensions of Practice
       Cultural influences on clinicians' delivery of health services
       Cultural influences on individuals and communities, e.g., health status, health,
          services, health beliefs
       Culturally competent health care

6. Community Services
       Methods of facilitating access to and partnerships for health care
       Evidence-based recommendations for community preventive services
       Public health preparedness, e.g., terrorism, natural disasters, injury prevention
       Strategies for developing self-reliance of communities

The Curriculum Framework as presented in the four components and the 18 domains are a comprehensive recommendation for all programs that educate health care providers. The content that is suggested is broad and should affect all types of health care education. A common misunderstanding is that it is up to the individual with a degree in public health to have a concrete understanding of many concepts presented. One of the aims of the Task Force was to get academic programs to present the concepts as basic to the ability of their students to understand the evidence and to provide the best care possible once they are out practicing. Optometry had once been considered a profession that simply focused on the visual system. As eye care providers, it is incumbent on us to understand the evidence and its value and to incorporate the results into practice for both our patients and the communities we serve.

It is also important to maintain an awareness of the science even after one is awarded a professional degree and license to practice. The concept of lifelong learning, while not specifically specified in the Curriculum Framework, is important.

Within the components, there are multiple references to the evidence or science from which clinical decision-making is based. In order to continue to practice at a high level, the practicing clinician needs to continuously be aware of the latest research, be able to assess its quality and whether it should be integrated into the care they deliver to their patients.

The American Schools and Colleges of Optometry was a late comer to the process. They sought to determine what the optometric programs within the United States were covering with respect to the content. A survey was developed and disseminated during 2007 to each of the schools or colleges of optometry. The results suggested that each of the institutions covered most of the material within their programs, though with a great amount of diversity in the time delegated to cover the material. The challenge in assessing the magnitude of coverage was limited by the respondents thinking that the content was being delivered within only public health courses rather than continuously from the first lecture welcoming the students into the optometric institutions through the years of post graduate education needed to maintain a current license and knowledge of all issues needed to provide the best care to their patients.

Optometry is the primary eye care profession. Its scope of practice goes far beyond correcting refractive errors to include diagnosis and treatment of ocular disease as well as monitoring the impact of systemic conditions on the visual system. In performing their services optometrists are part of the mainstream of the healthcare system. To perform best as part of the health care team, they need to understand the concepts behind best practices and incorporate new methodologies as they become proven. As part of the health care delivery team, it is important for optometrists to be able to communicate with other health professionals using the same understanding of the health care system in order to improve the health of the entire population and not just the visual health of the patient in the examination room.

References:

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