

The Journal of the Association of Schools and Colleges of Optometry

OPTOMETRIC EDUCATION

Volume 22, Number 1

Fall 1996

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the Quality,
Quantity & Diversity
of the
Clinical Education
Experience**



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NO. 1**

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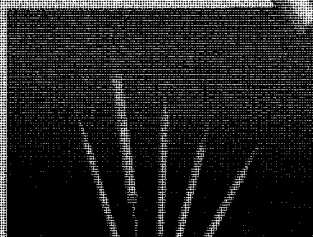
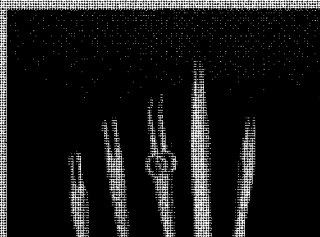
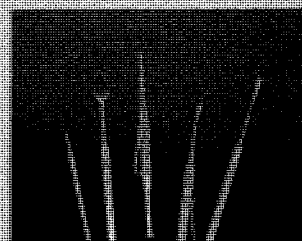
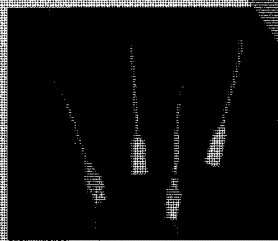
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EDITORIAL

ASCO Focus on Clinical Education

Linda Casser, O.D.
Glenn Hammack, O.D.

The past few years have been a particularly challenging, remarkable, and even disconcerting time during which momentous changes have taken place in the health care arena, especially in the evolution of health care delivery systems. The future promises to be no less challenging, and perhaps even uncertain, particularly as we assess the role of clinical education and how it fits into the rapidly evolving health care model. Can clinical education be efficient and cost effective? Can we successfully compete in a managed care environment? Can we continue to provide the numbers of patient encounters that maximize the clinical educational experience? As optometric educators and administrators, we are concerned, not only with the survival but also with the continued success of the clinical programs in our schools and colleges of optometry because they are critical to our future as a health care profession.

Members of the Association of Schools and Colleges of Optometry (ASCO) recognize that the strength of optometric education may well be dependent upon visionary, and perhaps even dramatic, changes in our clinical educational programs. Continued initiatives will allow us to provide a leadership role in the rapidly changing issues in today's health care environment. An important first step toward exploring these issues is ASCO's commit-

ment to launch a series of Critical Issues Seminars to identify and discuss common concerns among representatives of the schools and colleges of optometry and also to provide a mechanism to generate important, substantive and innovative planning and implementation.

Toward this end, ASCO identified important topical areas for discussion and action. A commitment was made to launch this important initiative by planning the first ASCO Critical Issues Seminar entitled "Increasing the Quality, Quantity, and Diversity of the Clinical Education Experience." The Seminar was conducted March 15-17, 1996, at the Lansdowne Conference Center in Lansdowne, Virginia. Generous financial support for this Seminar was provided by Vistakon.

The leadership and experts in clinical optometric education — the deans and presidents of the schools and colleges as well as the administrators of their respective clinical programs — assembled for the meeting. The coming together of these two important constituencies provided an opportunity to explore the multifaceted aspects of our individual and collective efforts and contributions — what we have learned, and what we have yet to accomplish. Related optometric professional groups, in which we all participate to varying degrees (the American Optometric Association, the Council on Optometric Education, the National

Board of Examiners in Optometry, and the Veterans Health Administration Optometry Service), were also well represented.

Each of the individuals who attended the meeting is committed to the success of the clinical educational programs within our schools and colleges. Clinical education is our "raison d'être." With this commitment in mind, Seminar participants explored a critically important aspect of our individual and collective programs: Increasing the Quality, Quantity, and Diversity of Clinical Optometric Education. As the participants reflected on this topic, several questions readily came to mind:

- * What constitutes "Quality," "Quantity," and "Diversity" in the optometric clinical experience?
- * Why are these characteristics of clinical optometric education important?
- * How are these characteristics valued one to another?
- * What do we need to do, individually and collectively, to continue to achieve "Quality," "Quantity," and "Diversity" in the clinical optometric educational experience?

Realizing that concerns about the continued success of clinical education in the rapidly evolving health care arena are not unique to optometry, seminar organizers brought together experts in clinical education from other health care disciplines. The design of the pro-

gram was intended to maximize the interdisciplinary approach, and a varying format was utilized by each of the speakers.

Each of the three topics pertinent to clinical optometric education — "Quality," "Quantity," and "Diversity" was initially discussed by the speaker(s) in general sessions. Each general session was then followed by topic-specific, break-out groups involving all attendees. During the final session of the Seminar, summary reports were presented from the facilitators of each breakout session. In addition, group discussion continued the development of outcomes and specific action plans for the Seminar.

Three specific action plans evolved at the closing group discussion session of the first Critical Issues Seminar. First, a request was made for ASCO to obtain copies of the student clinical evaluation forms from each of the schools and colleges and to distribute them among the participants as a way of sharing information about the various evaluative tools used in each of

the programs. This goal was successfully accomplished in the weeks following the Seminar.

Second, strong support was expressed for continued seminars directed toward innovative methods of clinical teaching and training. It was suggested that the fall 1996 meeting of the clinic directors/administrators of the schools and colleges of optometry, now a special interest group within ASCO, would be an appropriate and effective forum in which to continue this effort.

Finally, it was suggested that a joint conference involving ASCO and the American Academy of Optometry be scheduled at an Annual Meeting of the Academy addressing issues of clinical education, particularly as they pertain to clinical externship sites. It was felt that the Annual Meeting of the Academy would lend itself well to an event with this particular emphasis since many externship site directors attend. Plans for this valuable and important joint meeting are underway for the 1997 meeting.

We applaud the efforts of the Association of Schools and Colleges of Optometry to develop the clinical programs of our optometric institutions as centers of excellence for patient care and optometric clinical education. The time is right, and the potential impact with optometry could not be more important. The effort and commitment demonstrated in the Critical Issues Seminar series will help to ensure that our individual and collective clinical educational programs will have a bright future. With strong leadership dedicated to optometric excellence, optometry will remain a profession rightly valued for its contribution to health care and the common good.

Dr. Casser is associate professor, Indiana University School of Optometry and director of the Indianapolis Eye Care Center.

Dr. Hammack is assistant dean for clinical affairs and director of clinical programs at the University of Alabama at Birmingham School of Optometry.

Drs. Casser and Hammack were program co-chairs for the Seminar.

ASCO Meetings Calendar*

November 1996

- 1st - Executive Committee Meeting (Fullerton, California)
- 2nd - Board of Directors Meeting (Fullerton, California)

December 1996

- 7th - AAO/ASCO Workshop: "Clinical Teaching Techniques and Student Evaluation Techniques" (Orlando, Florida)

January 1997

- 10th - 11th - Student Affairs Officers Workshop (Birmingham, Alabama)

April 1997

- 11th - Spring Board of Directors Meeting (Houston, Texas)
- 11th - 13th - 1997 Critical Issues Seminar (Houston, Texas)

* Standing and ad hoc committees meet by conference call throughout the year.

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The Sustaining Member Program is ASCO's corporate membership category. Representatives of member companies meet with the chief executive officers of the schools and colleges of optometry to discuss matters of mutual interest. Members also receive a number of specific benefits to enhance their roles in the ophthalmic arena and to facilitate their understanding of developments in optometric education.

Support from its sustaining members has enabled ASCO to sponsor programs and meetings that have been critical to the future of the profession and to expand its leadership role in the optometric education enterprise. To all those who made it possible, we say "Thank You!"

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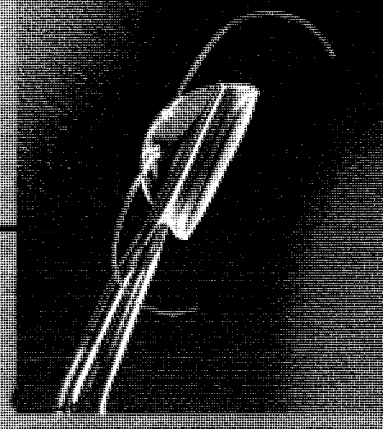
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* Companies are listed by their amount of support. Support far exceeded the \$25,000 minimum for this category. A new category — ASCO's Gold Circle — will be added for the next fiscal year to reflect these companies' magnificent support.

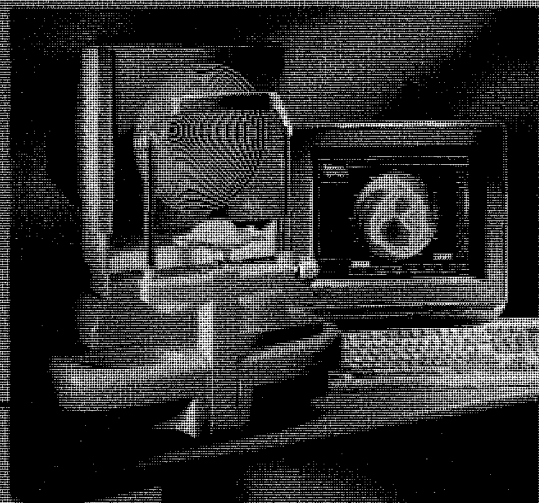
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INDUSTRY NEWS

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CIBA Supports CLSA Members and Students with Grants/Scholarships

As part of its commitment to excellence in education for eye care professionals and students, CIBA Vision Corporation recently provided three grants totaling \$21,450 to the Contact Lens Society of America (CLSA). At the 41st Annual CLSA Education Meeting, CIBA Vision provided \$10,000 in scholarships to allow outstanding students to attend the meeting, \$9,000 for program support at the meeting as well as \$2,450 for a seminar focused on developing leadership skills for eye care professionals.

"Thanks to CIBA Vision providing the student scholarships, future eye care professionals were given an opportunity to learn more about our society and our profession," said John F. Deering, CLSA Foundation chairman and president-elect.

"CIBA Vision is committed to developing the eye care leaders of tomorrow by providing educational experiences today," said Sally M. Dillehay, O.D., M.S., manager of academic development, CIBA Vision. "We're proud to provide these scholarships and opportunities to a group of outstanding future eye care professionals."

Vistakon Offers Eye Site on World Wide Web

Consumers and eyecare professionals can find in depth information on disposable contact lenses and eyecare at a new Internet site sponsored by Vistakon, a division of Johnson & Johnson Vision Products, Inc. The "Johnson & Johnson Eye Site," can be found on

the World Wide Web at <http://www.jnjvision.com>

"With the development of this Web site, Vistakon has made a major commitment to the Internet," explained Gary K. Kunkle, president of Vistakon. "It gives our communications program another significant dimension — one that, in time, could surpass all the others. Among the many advantages of having a Web site is that we can offer visitors quick access to up-to-the-minute information about topics related to our products and to eyecare in general."

According to Kunkle, the "Johnson & Johnson Eye Site" currently consists of about 40 pages of materials that can be viewed with any one of the many available Web browsers. He said current plans call for expanding the site to contain many more pages, including a compendium of articles from eyecare journals.

The site includes detailed information on Vistakon's contact lenses — 1-DAY ACUVUE®, ACUVUE® and SUREVUE® — and offers consumers the opportunity to print out a certificate for a free trial of any of the three lenses. Additional sections focus on topics such as the proper use of contact lenses and the benefits of monovision, a contact lens fitting technique for people requiring bifocal correction.

Varilux Makes Daydreams a Reality For Laboratory Winners

Varilux, a division of Essilor, is sending three lucky laboratory customer service representatives and their guests on a spectacular four-day, three-night vacation to the world famous Disney Institute in Orlando, Florida.

All authorized Varilux distributor customer service representatives and sales representatives were invited to participate in the promotion by filling out a questionnaire enclosed in the latest Lab Link, a binder with fingertip access to all Varilux product information.

"This is a wonderful vacation that is individually tailored to each winner," said Wendy Conley, product manager. "All three winners and their guests will be able to try unique, hands-on experiences within the luxurious surroundings of the Disney resort. Because each vacation is custom-designed, no two people will have exactly the same experience."

"The vacation packages give each winner a choice to relax or participate," Conley said. "It's not just a vacation — it's a chance to explore, discover and create some magic."

Corning Optical Offers Professional Training Video

A new self-study program designed to help doctors and dispensers better understand the Corning line of photochromic lenses is now available from Corning Optical Products.

The program includes a video and corresponding workbook divided into three segments — with review exercises to assist eyecare specialists, optical dispensaries and their sales people in learning more about Corning® PhotoGray Extra®, PhotoBrown Extra®, PhotoSun II® — and new PhotoGray® THIN & DARK™ lenses.

For more information about this program, write Corning Optical Products, HP-CB-5, Corning, NY 14831 or contact your regional Corning sales consultant.

Bausch & Lomb Builds For The Future

Bausch & Lomb announced the 1996 availability of its "New Practitioner Program," an annual initiative to support newly graduated eye care professionals. Specially designed to assist new practitioners build their future practices, the program is available to graduates for up to one year after their graduation date.

"When I went into solo practice, I felt like I was starting from ground zero, and I realized how much information had been at my fingertips in school," said Karen E. McPherson, O.D., Memphis, TN, a 1995 graduate of **The Ohio State University College of Optometry**. "The New Practitioners Program helped me get my practice up and running quickly. It also enables me to become more familiar with the newest developments in contact lenses and solutions."

The "New Practitioner Program" offers graduates a full range of vision care products that help meet the needs of their diverse patient population. The program includes sample products that represent some of the most well-recognized consumer brands in vision care.

"In order to compete in a rapidly changing eye care environment, new practitioners need the right tools to build a foundation for their business. Demonstrating to patients a commitment to providing superior products and service is critical to their future success," said William Reindel, O.D., director of professional market development of the Personal Products Division of B&L.

Program registration materials are available via a Bausch & Lomb representative.

Wesley-Jessen Signs Agreement To Acquire PBH

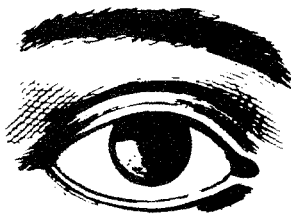
Wesley-Jessen Corp. announced that it has signed a definitive purchase agreement to acquire the worldwide contact lens business of Pilkington Barnes Hind (PBH).

Kevin Ryan, W-J's president, explained the company's motives for acquiring PBH: "By combining the outstanding product lines of the two companies, W-J acquires the

scale and resources to be a stronger competitor in the global market in the years ahead. Through operating efficiencies we will gain a better ability to make the large marketing and R&D investment needed to grow our business and expand the total contact lens market."

He added, "The combined lines will represent the finest assemblage of high value contact lenses in the world, including the FreshLook®, DuraSoft®, OptiFit®, CSI Clarity®, Hydrocurve®, Precision UV™ and Aquaflex® brands among others. These brands offer practitioners high quality and high revenue potential.

"The acquisition of PBH's international lens business greatly expands W-J's market presence abroad. We will be able to penetrate the rapidly growing markets of Europe, Latin America and Asia much more efficiently with the combined line."



CIBA Announces New Optics President

CIBA Vision announced that Steve Schuster has joined its U.S. Optics division as president. Schuster will continue to oversee Canadian operations in addition to his new duties in the United States.

"We are very enthusiastic about the role which Steve will play in the United States," said Dr. Glen Bradley, chief executive officer of the worldwide CIBA Vision Group. "His proven track record in Canada as well as his intimate knowledge of the U.S.A. customer base will contribute strongly to the continued success of CIBA Vision."

Marchon Announces Web Site

Marchon's interactive web site is designed as a consumer friendly site that features a wide variety of

colorful and innovative graphics as well as easy-to-read tips and information that entertain as well as educate consumers of the importance of eyewear from both functional and fashionable perspectives. In the first 30 days of existence, the site had thousands of hits from all over the world.

Marchon's worldwide web site represents over 28 pages of interesting facts about eyewear topics ranging from manufacturing to the inside scoop on which celebrities wear Marchon.

Marchon has four registered worldwide web addresses:
<http://www.marchon.com>;
<http://www.flexon.com>;
<http://www.marcolin.com>;
<http://www.no.1.sunglasses.com>

For more information, visit Marchon's web site.

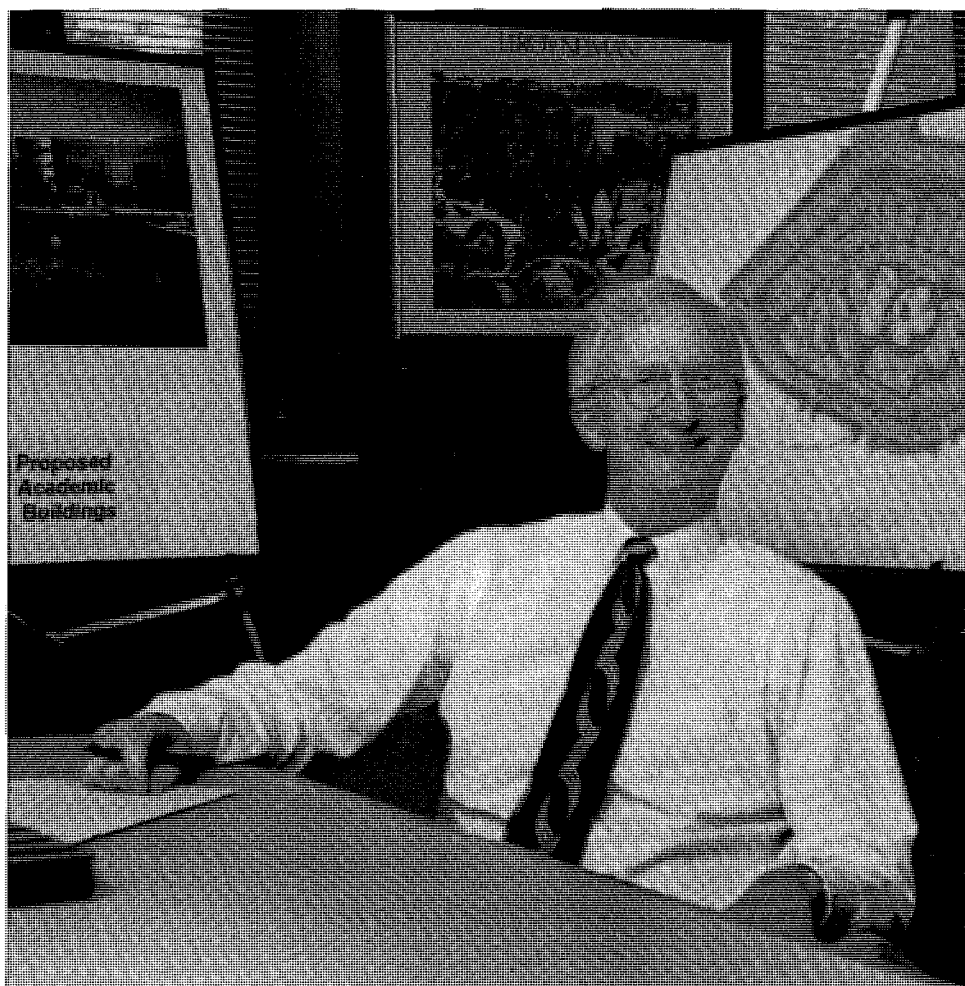
Varilux Introduces The Thinnest Lens

The progressive addition lens that made optical history for its breakthrough design has just been released with the latest in photochromic technology: Varilux Comfort Ornex® Transitions III.

Varilux Comfort Ornex Transitions III has the distinction of being the thinnest Transitions III lens on the market. The innovative Ornex® material features a 1.56 index of refraction, the highest index available in any Transitions® lens.

"The advanced technology and improved photochromics of the Transitions III lens are an exciting combination," said Wendy Conley, Varilux product manager. "With Varilux Comfort Ornex® Transitions III, consumers will have the proven optical performance of the Varilux Comfort design in a lens that is much thinner, lighter and more comfortable than existing Transitions materials."

Focus on the President



ASCO's new president, Thomas L. Lewis, O.D., Ph. D.

Thomas L. Lewis, O.D., Ph.D., began a one-year term as ASCO's president in June 1996. He has served as president of the Pennsylvania College of Optometry, his alma mater, since 1989. Prior to this appointment, he served as dean of academic affairs; as chief of professional staff at The Eye Institute, the College's clinical training facility and as chairman of the Department of Basic Sciences.

Dr. Lewis graduated from the College in 1970 with a Doctor of Optometry degree. He also holds a Doctor of Philosophy degree in anatomy from the Thomas Jefferson University School of Medicine, in Philadelphia. He completed a National Eye Institute postdoctoral fellowship in the Department of Ophthalmology at the Washington University School of Medicine, St. Louis, Missouri.

Dr. Lewis is also president of the

National Board of Examiners in Optometry, and a member of the executive council of the American Academy of Optometry; he holds leadership posts in numerous other professional organizations.

Dr. Lewis was interviewed recently by Patrica Coe O'Rourke, managing editor of *Optometric Education*.

OPTOMETRIC EDUCATION: Dr. Lewis, what are your goals for ASCO as you begin your year as president?

Lewis: The organizational theme for ASCO this year is the development of "partnerships." I view this in the broadest possible context. In order to achieve the goals and objectives of ASCO and at the same time maximize ASCO's impact on the growth of optometry, the development of partnerships is crucial.

Resources are always essential to any organization's ability to achieve its full potential. The resources necessary for ASCO to achieve its objectives for the future involve people and money. Both are in limited supply. Therefore, ASCO must reach out and work efficiently and effectively with others.

It is my hope that we can strengthen our partnerships with ophthalmic corporations, with other organizations in optometry, with other organizations outside of optometry that share a common purpose of education and research, and also within our own education community among the various schools and colleges of optometry.

The ophthalmic corporate community has been extremely generous to ASCO. (See a summary of their contributions for last year on page ten.) Their continued support is critical to our ability to develop programs that

will make ASCO strong. By working closely with NBEO, AOA, AAO, COVD and other organizations within optometry, ASCO and the profession will benefit. I strongly believe that much is to be gained by closer working relationships and more collaboration among the various schools and colleges of optometry. We are at a point in our history when combining resources in teaching, research and even administration will accelerate the growth of the optometric educational enterprise.

OPTOMETRIC EDUCATION: **What do you see as the challenges facing the schools and colleges of optometry in the next ten years?**

Lewis: In one simple word - resources! The schools and colleges of optometry face increasing challenges with respect to the availability of resources to accomplish their missions. These resources include the availability of talented didactic and clinical faculty, bright and talented student applicants and diverse patient populations for clinical training, and funding. Public schools of optometry will be under increasing pressure to support programs from funding sources other than government. Private funding will be more difficult to secure due to intensified competition for philanthropic dollars from individuals, corporations and foundations by organizations outside the profession. The result will be an expanding use of tuition dollars from students to balance budgets.

All of us in optometric education wait, with great anticipation, for the results of the American Optometric Association's work force study. The future demand for optometrists greatly affects the direction of the schools and colleges of optometry. The results of the study may indicate that the current number of students graduating each year is appropriate, or that some change is required.

The dynamic changes in the profession will continue to put great pressure on the curricula, if we are to produce optometrists capable of practicing to the full scope of the profession. The need for more clinical experiences from a diverse population of patients will continue to expand. Forces driven by healthcare reform, such as managed care, will test our

ability to secure patient experiences for our students. Clearly as the need for more clinical training increases, the demands on balancing the curriculum within a four-year time frame will also broaden. This will certainly fuel additional discussion on issues related to residency training.

Schools and colleges of optometry will be challenged to contribute more to research in vision, especially as it relates to the diagnosis and treatment of eye diseases.

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OPTOMETRIC EDUCATION: The boards of ASCO and the American Academy of Optometry have agreed to explore the sharing of an office. You have been active in both groups. Could you discuss the reasons for the move and your expectations for future cooperation?

Lewis: Both groups believe this is in the best interest of the organizations and have directed their executive directors to work toward this end. However, final approval of a plan to achieve this objective is yet to occur in either organization. I believe that the sharing of space by the two organizations will occur and be a definite benefit for optometry.

ASCO and AAO share common goals and objectives. The mission of the Academy is to support education and research. Clearly, this is also a basic mission of all the individual members of ASCO. The schools and colleges of optometry have major involvement in the AAO through the participation of faculty and adminis-

trators on various committees of the Academy. Currently, four of the eight members of the Executive Council of the Academy are faculty members at schools and colleges of optometry.

The importance of discussion between the two organizations is not specifically related to the physical sharing of space. Yes, this will create some efficiencies and potential cost-savings for both organizations. However, I am most excited about the programmatic partnerships which naturally will occur as the two organizations move closer physically and interact administratively. Given the similarities of our missions, there is great potential for ASCO and the AAO to provide even greater support for education and research for the profession. I look forward to the successes that will result from the strengthening of this partnership.

OPTOMETRIC EDUCATION: How do you see your experience on the National Board affecting your role as ASCO's president?

Lewis: Clearly, a relationship between the two organizations is critical. The schools and colleges of optometry are extremely interested in developments which occur at the National Board since they have a major impact on students. The results of the National Board are one of the few tangible outcome measures which schools and colleges have for evaluating the quality of their teaching programs.

Having served on the National Board for eight years and as president for the past two years, I bring the sensitivities and perspectives of the deans and presidents of the schools and colleges to the Board. In turn, I can share issues of great importance to the National Board with the ASCO board members. I firmly believe that in the past five years there has been a stronger relationship between the two organizations and a more direct sharing of ideas and concerns. This has made the National Board stronger and has allowed the schools and colleges of optometry a feeling of greater participation.

The National Board was founded by ASCO and the International Association of Boards and Examiners in Optometry. Therefore, a partnership has existed between the organizations from the inception of the

National Board. This relationship is essential because it ties together the assessment of entry-level competencies and the basic training of students in our schools and colleges.

OPTOMETRIC EDUCATION: Who have been your mentors in optometry?

Lewis: I've been fortunate to have been exposed to some great leaders within our profession and to individuals who were concerned with my growth and development as an educator, as an administrator and as a person.

When I returned to PCO from my Ph.D. and post doctoral programs, I was fortunate enough to work with Dr. Jerry Strickland. Jerry was serving as the dean of academic affairs. As a young department chairman of 28, I had no administrative experience. I learned a tremendous amount from Jerry about managing people, organizational techniques, and grant writing. Since I had no experience in a public university setting, he shared with me many perspectives about education, faculty governance and development, and administration which I otherwise would never have appreciated. Jerry's mentoring was key in allowing me to succeed as an educator and to grow as an administrator.

Serving ten years as dean under Dr. Melvin Wolfberg, who at that time was the president of PCO, gave me the opportunity to assume broad administrative responsibilities, while receiving the strongest possible support from my boss. He gave me full reign and discretion over the academic and research programs. His counsel and advice, especially during difficult times, strongly influenced my success and development. We spent hours discussing alumni relations, the profession and the politics of optometry.

I've been fortunate during my years at PCO to have great support and friendship from colleagues. Dr. John Crozier, emeritus dean of student affairs, admitted me to PCO in 1966 and has remained a very close friend and colleague ever since. On many occasions I have talked with John about issues that are affecting the school and about administrative style. I have always valued his advice and perspective.

My closest friend in optometry was John's brother, George. George Crozier and I shared many years at

PCO until his death in 1988. We taught, worked and vacationed together. He was like a second father, and his wonderful wife, Gilda, like a second mother. Of all the things he taught me, the most important was to ultimately follow my instincts when making a decision. He was my confidant during difficult years as department chairman and dean. I miss him tremendously.

There is no question in my mind that I would not have achieved my current level of success in optometry without one individual, Dr. Norman Wallis. When I returned to PCO in 1975, Dr. Wallis was president. From the very beginning, he saw something in me that I never knew existed. He challenged me almost on a daily basis to be the best that I could be as a teacher and administrator. I've never worked with anyone more energetic or creative. He completely changed the course of the Pennsylvania College of Optometry and while doing so, allowed me to grow and develop as an individual. I flourished under his tutelage and benefitted from his successes.

My current colleague, Dr. Anthony DiStefano, and I have worked closely together at PCO for the past twenty years. Many of my successes are the result of his accomplishments, support and advice. Tony's incredible talents have always been available to assist me on key projects. His wisdom and counsel have allowed me to view issues from many different perspectives.

I deeply appreciate the relationship with many of the other deans and presidents of schools and colleges of optometry. Their advice and counsel is critical. I appreciate their personal support and all that they do through their own institutions for ASCO.

OPTOMETRIC EDUCATION: What has been your focus as president of the Pennsylvania College of Optometry?

Lewis: When I first became president of PCO in 1989, my major objective was to strengthen the institution financially to allow for future growth and development. In addition to restructuring the annual operating budget, I also invested time and energy into institutional advancement, especially planned giving, in order to build the endowment of the institution for the future.

More recently, I have focused on providing the tools which will be necessary to achieve the programmatic goals for the future. The College has been investigating opportunities to diversify its clinical training programs and to join with other healthcare teaching programs within the City of Philadelphia. As an outcome of a space analysis in 1993, and a study of our future program directions, we have acquired property to eventually move our academic and administrative programs. This clearly has been a major focus for the past year and will continue for the next several years.

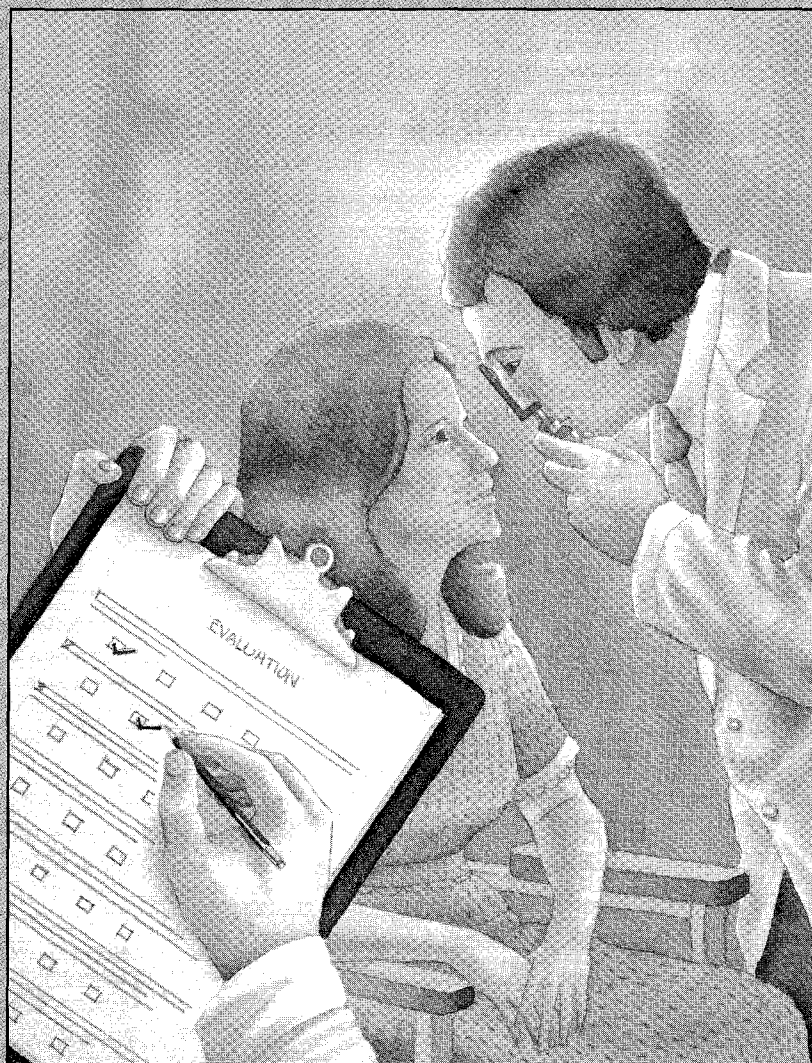
OPTOMETRIC EDUCATION: The Pennsylvania College of Optometry has established a number of links with schools of optometry in other countries. Could you describe those pro- grams and discuss how you see them evolving in the next five- ten years?

Lewis: PCO got involved in international optometry over the last five to six years. We have conducted programs in various parts of the world including Australia, South America and Europe. Programs are planned in Africa and in the Ukraine. Recently, the College was chosen as the site for the headquarters of the World Council of Optometry, and Dr. DiStefano will serve as its executive director.

Although we have established affiliations with schools and colleges in other countries, primarily, we have worked with the national associations of those countries, similar to our American Optometric Association.

The objective of our international programs is to provide vehicles for optometrists in other countries to improve their skills and competencies in order to provide better care for their patients. We have utilized two vehicles to accomplish this objective. The first is basic, traditional continuing education. The second involves multiple-year programming which eventually leads to a Master of Science degree in clinical optometry. The M.S. program has been well-received internationally and creates an opportunity for an optometrist to improve his or her skills and gain a Master's degree. We look forward to continued growth and development in the international arena.

Increasing the Quality, Quantity and Diversity of the Clinical Education Experience



Papers Presented at ASCO's Critical Issues Seminar

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Keynote Address

Current Issues Concerning Clinical Optometric Education

Pascal James Imperato, M.D., M.P.H.

Introduction

It is now well established that clinical learning is a life-long endeavor for all professionals. It begins in the undergraduate years and is reinforced in graduate and continuing education programs. However, many faculty and academic administrators of professional schools have only recently come to realize that independent learning and self-instruction are essential to life-long clinical education. Historically, the acquisition of self-instruction skills was often left to students and professional graduates. Many never really acquired them, and as a result, either learned little or else poorly later in their careers. More recently, however, professional school curricula have been modified to incorporate newer pedagogical modalities that foster both an integrated approach to clinical education and the acquisition of self-learning skills.

Dr. Imperato is distinguished service professor and chair, Department of Preventive Medicine and Community Health, State University of New York Health Science Center at Brooklyn.

Structure of Clinical Education

The curricular structure of most professional schools is almost equally divided between basic science instruction and clinical rotations. In general, the first two to three years are devoted to the basic sciences, to which courses such as biostatistics, the health services and ethics might be added. These years of basic science education are generally followed by a year or two of required clinical rotations and some electives.

In medicine, this curriculum of undergraduate education is followed by several years of hospital based clinical residency. In optometry, residency training has increasingly become an option for graduates, fostered in part through cooperative arrangements between the schools of optometry and other clinical facilities.¹

Following undergraduate and graduate education, young professionals begin what should be a life-long effort at continuing education. This is achieved in a variety of ways and settings and fostered by the requirements of professional societies and even licensing authorities.

Approaches To Clinical Teaching and Learning

For many decades, the usual approach to teaching undergraduate professionals has included lectures, clinical demonstrations, and supervised clinical experiences. Educational researchers have now shown that, while such an approach may impart necessary information, it does not necessarily create adult-learners out of students. Increasingly, educators have become concerned that the passive receipt of information does not enable people to become problem-solvers and critical thinkers capable of linking clinical information with patient management. In other words, while the passive receipt of information in current clinical education may create clinically competent practitioners for the moment, it does not necessarily build the skills necessary for life-long learning and the maintenance of long-term clinical competency.

To address this latter issue, a number of schools have implemented a range of educational innovations. These include preceptorships, small group seminars, and independent study. Students are also being taught to access the literature on their own with computers for case-relevant information, a skill which most can use throughout the rest of their careers.

A major new approach in professional schools is problem based learning. This pedagogical method, extensively used in primary and secondary education, permits students to assume major responsibility for their own learning. It can also allow students to integrate basic science knowledge with clinical experiences. It relies on the use of patient based cases and the need for students to deal with a range of issues related to these cases. With guidance from preceptors, students try to resolve the problems presented by clinical cases by obtaining information and direction in the literature or standard texts.¹

Problem based learning is labor-intensive for both students and preceptors. Preceptors must spend much time and effort creating a case based curriculum that will cover the necessary course content. They must also intensely interact with students in small-group settings once the course is under way. Students must expend a great deal of time and effort to master the necessary learning techniques in addition to the necessary information.

The resource-intense nature of problem based learning makes it costly for schools to implement across the board. Increased costs plus faculty and student acceptance issues have led to its use on a pilot basis in some schools with a limited volunteer group of both students and teachers.

The integrative aspect of problem-based learning has much appeal for educators. However, the need to better integrate basic science content from various disciplines and in turn to achieve a better integration of basic science and clinical disciplines has led to the development of interdisciplinary approaches and integrated curricula. At the least, these curricula attempt to synchronize the presentation of content related to specific organ systems and diseases. Ideally, the content is fully integrated. This approach can avoid duplication of coverage by independent courses and can serve to reinforce learning. However, it requires the cooperation of several teaching departments and overcoming resistance related to course independence.

A number of professional schools now use standardized patients, which may be either actual or simulated. A major advantage of such standardized patients is that they tend to reduce the subjective element in preceptor assessment of a student's clinical performance. In some teaching programs, actual standardized patients receive training in how to discuss their cases and how to assess student abilities in history-taking and in performing a physical examination. These actor-patients are also taught how to evaluate the people skills of individual students. The use of standardized patients has become a common feature of some clinical assessment programs aimed at evaluating practitioner continuing competency.¹

The need to assure clinical competency is a powerful driving force that has led schools and licensing bodies to look for modalities that can measure it. It is now recognized that standard multiple-choice examinations test cognitive knowledge but that their results are not predictive of present and future clinical competency. This observation has led educators to seek learning and testing approaches that are more closely linked to clinical competency.

Computers are now being increasingly used in a variety of ways in clinical education. Computer simulated clinical cases have become extremely popular because they are inherently standardized and can be created by faculty so that they reflect a diverse range of problems. Faculty can also construct computer simulated cases that are either simple or complex, and appropriately use them at differing levels of clinical education. Another advantage of computer based cases is that they can be created so as to enable students to acquire patient management skills.

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*Assuring the
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ongoing process.*

The Content of Clinical Learning

The content of clinical learning must be state of the art. It needs to reflect recent advances in bioscientific knowledge and the rapid evaluation of both diagnostic and therapeutic modalities. These demands essentially drive both the content and structure of the optometric curriculum.

Optometry in the United States is essentially a profession that functions under a limited scope of practice. This has significant implications for both undergraduate and continuing optometric education. Schools and colleges of optometry cannot really incorporate into their curricula clinical experiences with diagnostic and therapeutic modalities not legally included in the

current scope of practice. Nor can continuing education programs impart skills and knowledge which practitioners cannot legally use.

The restricted nature of optometric practice means then that state-of-the-art knowledge is sometimes not acquired because it is not legally possible to do so. On the other hand, optometry simultaneously faces the challenge of an expanding scope of practice. Aside from the clinical practice implications of scope of practice expansion, there are also those that relate to undergraduate and continuing optometric education.

As state-level legislation and/or regulations expand the scope of practice to include, for example, the use of therapeutic agents and the treatment of glaucoma, schools and colleges of optometry must modify their curricula so as to make their graduates clinically competent in these areas. This requires not only curricular flexibility, but also an ability on the part of faculty to rapidly alter a curriculum. In addition to a gradual introduction of new curricular content, as usually occurs in schools of medicine, schools and colleges of optometry must also at times quickly introduce some new curricular content in response to legal expansion of scope of practice. Thus, curricular revision in optometric education must respond to two distinct imperatives — expansion of scope of practice and advances in bio-scientific knowledge and technology.

Expanding scope of practice and advances in bioscience and clinical diagnosis and treatment place sizeable educational demands on all optometrists. The schools and colleges of optometry have a responsibility not only to revise their undergraduate curricula to meet these challenges, but also to assume a leadership role in providing quality continuing education to practitioners.

Other Changes Required in Clinical Education

Most schools and colleges of optometry are staffed by academic administrators and faculty who are generally adept at keeping curricular content current and in trying out new learning approaches. However, optometry and medicine both face

several newer challenges that require changes in how we present clinical education.

Clinical education must include exposure to the rapid changes in how care is structured, financed and delivered. To do this, schools should have courses in the health services to acquaint students with issues such as managed care. Schools also need to develop clinical experiences which enable students to gain practical experience practicing in the managed care setting and as a part of multi-disciplinary teams consisting of nurses, physician assistants, physicians, and other health care providers. These experiences will serve to prepare students for the practice world that they will shortly encounter.

In recent decades, clinical education has tended to encourage graduates to specialize and to avoid generalist practice. This trend is less evident in optometry than in medicine, but it is nonetheless present. It often results in narrowly focused specialists who tend to lose sight of the whole patient. Therefore, schools and colleges of optometry should foster primary care among their practitioners, and promote clinical education that is broad enough to include a significant exposure to population based health and preventive medicine. Complementing the focus on individual patients, curricular content should include appropriate learning experiences that cover basic epidemiologic methods, biostatistics, clinical outcomes assessment, and clinical needs assessment.

Quality of Clinical Education

"Assuring the quality of clinical education is an ongoing process"² It is best accomplished through an institutionalized system of outcomes assessment. Outcomes can be measured by two types of data, summative and formative. Summative outcomes essentially summarize the success of a program. Formative outcomes data are used to modify a program with the intent of improving it.³

Some examples of summative outcomes data which schools of optometry should routinely use are:

- scores and pass rates of students on licensure examinations
- test scores of students on internal examinations
- adequacy of clinical facilities
- data on the quality and diversity of students admitted
- evaluations of curricular structure and content
- information on the numbers and quality of faculty
- information on faculty governance
- information about faculty development
- data on support staff

These summative measures are used to determine how well a school has met its goals and objectives.

Formative outcomes measurement seeks to go further. It involves the use of diagnostic tools to determine why success rates in various areas are not meeting established goals. For example, the pass rate on a given examination is a summative outcome. Finding out the rate of learning, student difficulties in mastering content and other obstacles to achieving a higher success rate represent formative outcomes data. These kinds of formative data permit faculty and administrators to change and modify programs to ensure that they meet the goals set for them.

Internal quality management should be supplemented by external quality assessment which has as its objectives improvement, if necessary, and accreditation. Such external reviews by independent accreditation bodies ensure the ongoing quality of the internal assessment program. They seek to assess quality of faculty, students, curricular content, physical facilities and learning modalities among other parameters.

Accreditation bodies can also set standards, establish clinical guidelines, and evaluate the quality of clinical services. At present, optometry does not have a national accrediting organization that can perform these functions. With the expansion of managed care, there is greater urgency for optometry to give serious thought to establishing such an organization. In the absence of a body of this type, it will be difficult for the optometric profession to make a meaningful contribution to these key activities at the national level.

At the state level, the optometric profession should explore possible

cooperative endeavors in quality assurance and assessing the quality of clinical outcomes with peer review organizations (PROs). These organizations are currently the federally designated quality review agents for the Medicare program. Much of their focus to date has been on assessing quality among inpatients. However, the extension of managed care to the Medicare population has created a need for these organizations to assess clinical outcomes and the quality of care in the ambulatory setting. An increased focus by PROs on ambulatory care will create possibilities for the optometric profession to explore cooperative quality assurance efforts.

Conclusions

Clinical education today is in a state of flux. It must meet the challenges presented by advances in bioscience, newer diagnostic and therapeutic modalities and a changing health care environment. For it to be successful, it must also respond to newer and better approaches to learning which move away from the passive receipt of information toward integrated interdisciplinary self-learning that relies on the development of good problem-solving skills. Quality clinical education must also engender social responsibility, good provider-patient relations, the importance of primary care and an emphasis on prevention.

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Increasing the Quality of the Clinical Education Experience

James A. Boucher, O.D., M.S.

It is almost impossible to consider the quality of the clinical educational experience of optometric students without also including the quantity and diversity of these experiences. Quantity and diversity are two components which are essential in a quality clinical education.

The Council on Optometric Education's view of the quality of the optometric education experience can be found in its revised accreditation standards. Beginning with Standard 1, Mission Statement, Goals, Objectives and Outcomes, COE delineates the requirements of quality optometric education. The optometric institution's mission statement should include a statement on the scope of the practice of the profession. How will the school's educational program educate and prepare the student for the evolving practice of optometry?

Other standards likewise relate to the quality of clinical education.

Standard 6: "The school or college of optometry must have a curriculum that prepares students to become competent to practice entry level optometry." Twelve of the nineteen schools and colleges of optometry in the United States and Canada have been evaluated under the new COE standards. The evaluation visit reports mention that over half of these schools and colleges are having trouble defining entry level optometry.

Standard 6.4: "The curriculum must be related significantly to a published set of expectations for entry level optometric practice. A definition of competency must be established for all essential areas." Not all schools and colleges are able to define the competencies they expect.

Standard 6.9.1: "The quantity, quality and variety of experiences in the supervised care of patients must be sufficient to develop clinical competency for each student for entry level optometric practice." Inadequate clinical faculty/student ratios were mentioned in four site visit reports.

Standard 6.9.2: "External clinical programs must be formalized by written agreement and be consistent with the program's educational goals." All but one of the schools and colleges of optometry have external clinical rotation programs. The greatest number of rotation sites any school or college of optometry has is 125.

Standard 7: "The school or college must have a clinical program that enables it to meet its mission, goals and objectives."

Standard 7.1: "The clinical program must have an ongoing mechanism and plan for developing, assessing, managing and publishing patient care policies." The COE has not been able to pay as much attention to this area as originally planned when developing the new standards. Two members of the COE's evaluation team generally spend from two to four hours assessing the College's clinical education program. A part of this assessment is verifying that the College has an ongoing mechanism and plan for developing, assessing, managing and publishing patient care policies, but in this limited time frame, the Council does not "accredit" clinics. The role of the COE is to accredit educational programs.

Standard 7.2: "A system of clinic administration and management must be in place for both internal and external clinical programs." The schools and colleges of optometry indicate that they visit external rotations on a one- to maximum of five-year cycles. There have been a few cases where the sites have never been visited, and a COE recommendation will usually require site visits when this is found.

When COE sends visitation teams to the schools and colleges, efforts are made to visit as many of the external clinics as possible. More importantly, the COE site team evaluates how the school or college monitors its own external affiliations. The team reviews evidence of the evaluation process in place, and the team reviews all evaluation forms for the externship sites. COE teams also interview students to obtain feedback on their satisfaction with the externship program, and based on input received, the team may request additional information on a specific site.

Standard 7.3: "The school or college must provide opportunities for optometry students to interact with other health care professionals."

Dr. Boucher was chair of the Council on Optometric Education from 1989-1996. He is an optometrist in private practice in Laramie, Wyoming and an adjunct professor at the College of Health Sciences, University of Wyoming.

This standard is difficult for many of the schools and colleges to meet. One of the major problems of optometric clinical education is that optometry is not in the mainstream of health care delivery systems, and interdisciplinary opportunities need to be found.

The following quality issues should be addressed in assessing the quality of clinical optometric education: record review, clinical policies, student and faculty clinic schedules and patient care policies/outcome surveys.

The following protocols are related to quality issues: consultation, quality assurance, infection control and credentialing.

Finally, it may be helpful in defining the quality of the optometric edu-

cation experience, to look at what COE evaluation teams have cited as areas of clinical weaknesses during their site visits:

- * Low clinic numbers in primary care
- * Low clinic numbers in contact lenses, binocular vision/pediatrics or low vision
- * Distribution of patient care encounters not uniform
- * Inappropriate faculty/student ratios in clinic
- * A lack of clear behavioral objectives for clinic courses
- * Students not able to follow patients
- * No measurable clinic goals
- * Difficulty in defining entry level optometry

- * Difficulty in establishing competency for all essential areas
- * Lack of specified educational and curricular outcomes for entry level optometry
- * Unclear expectations and competencies
- * The program has not developed a system for evaluating the extent to which the mission, goals and objectives are being achieved (outcomes assessment).
- * Lack of site visits to external rotations on a regular basis
- * Multidisciplinary interaction is limited
- * Lack of learning objectives
- * Patient care outcomes not assessed

Increasing the Quantity of the Clinical Education Experience

Jerald W. Strickland, O.D., Ph.D.

Introduction

The clinical education of optometrists, with few exceptions, from 1950 to the 1960s consisted of one to one and one-half years of *opportunities* for patient care experiences, and the total

number of patient encounters was generally less than 100 per graduate. In the late 1960s the Council on Optometric Education set a standard of 150 as the "minimum" number of patient encounters expected for each graduate as of the 1970-71 academic year. The quality (distribution and complexity of problems) of patient material was not an issue at that time since the scope of optometric practice was narrowly defined.

With the changes in the optometric laws in the early to mid-70s, the issue arose of adequacy regarding the breadth of patient care experiences to satisfy these new entry level practice definitions. Adequate clinical experience in using diagnostic pharmaceuticals and procedures and appropriate experience in diagnosing, treating and managing external eye disease were the major issues. How many, of what, is enough? State legislatures were asking for assurances of entry level competence and often drifted into conversations regarding *numbers* of patient encounters and *breadth* of experience of optometric graduates.

Historically, the vast majority of patients presented to optometric education clinics with refractive and/or oculomotor problems. Often, only chance encounters provided the non-routine, non-refractive experience. For those institutions located in urban and dense population environments and with substantial indigent patient bases, the chance encounter with non-refractive problems was significantly increased. Therefore, it is not surprising that most optometric educators today are very concerned about the numbers of patients encountered per graduate and the adequacy of training to assure entry level competence for their graduates in all states.

The current Council on Optometric Education Standard 6.9.1 states that "The quantity, quality and variety of experiences in the supervised care of

Dr. Strickland is dean of the College of Optometry, University of Houston and president-elect of ASCO.

patients must be sufficient to develop clinical competence for each student for entry level optometric practice." The standard is complemented by "Affiliations with extramural programs and clinics in which students may participate in the supervised care of patients should be developed, when needed, to ensure sufficient patient quantities and varieties to provide adequate student experiences in areas of optometric care." Indeed, it is evident that COE stopped short of setting distinct quantity, quality and variety standards and leaves each institution to set and therefore defend its own standards.

Do we have some help in understanding this issue from medicine? Looking only at the American Board of Medical Specialties, one finds some boards which recognize an "internship," "flexible/transitional year" as the PGY-1 year of the residency. Family practice is one example and assumes a well-distributed and massive dose of patient care. As in most specialties in medicine, both the quantity and quality of the experience, patient encounters, etc., are assumed but in most cases not recommended, dictated or documented for each graduate.

In internal medicine, the Board requirements are spelled out to include "a minimum of twenty-four months of meaningful patient responsibility" and "four months of meaningful patient responsibility may be taken outside internal medicine," with approval. The Internal Medicine PGY-1 includes a minimum of eight months in internal medicine or six months in internal medicine and two months of pediatrics, dermatology, neurology, and/or emergency room care. Substantiation of clinical competence is documented by the assessment of "clinical judgment, medical knowledge, clinical skills (medical interviewing, physical examinations and procedural skills), humanistic qualities, professional attitudes, and provision of medical care." The following diagnostic and therapeutic procedures are required for board certification. "Although the Board does not prescribe an absolute number of times a procedure must be done to assure a high level of competency, it has developed guidelines for the min-

imum number of directly supervised, successfully performed procedures...": abdominal paracentesis (3); arterial puncture for blood gas analysis (5); arthrocentesis of knee joint (3); central venous line placement (5); lumbar puncture (5); nasogastric intubation (3); thoracentesis (5); critical life-saving procedures, documented by taking advanced cardiac life support. Subspecialty certification in internal medicine is not as quantitative, but the length and types of rotations are specified.

In pediatrics, each applicant for board certification must have verification of training and verification of clinical competence. Such verifications are attested to by the director of the program. The director is required to provide the board with a detailed assessment of the applicant including "gathering data by history, by physical examination, and by laboratory studies; assessing data and arriving at a diagnosis; managing problems and maintaining health; interpersonal relationships with patients and families; interpersonal relationships with other members of the health team; and work habits and personal qualities."

In ophthalmology, PGY-1 year includes primary responsibility for patient care in fields such as internal medicine, neurology, pediatrics, surgery, family practice or emergency medicine. "As a minimum, six months of this year must consist of a broad experience in direct patient care." Candidates for board certification must be verified to have completed satisfactorily a formal graduated ophthalmology residency training program of 36 months. Indeed, as in pediatrics, the director of the program attests to successful completion and competency. Each program is presumed to require competencies in optics, refraction and visual physiology, and diagnosis, treatment and management in pediatric ophthalmology and strabismus, neuro-ophthalmology and orbit, external eye and adnexa and the anterior and posterior segments of the eye.

Expanding Learning Opportunities

I have long been an advocate of the "problem list around the neck" phi-

losophy. Such a concept would figuratively place a well-defined, extensive and doable problem list around a student's neck upon entry into patient care and would contain the numbers and specific clinical experiences required. Upon satisfactory completion, the properly checked list would be replaced by a doctoral hood.

It is clear from the prevalence and incidence data regarding many health, eye and vision problems that the odds are simply not in favor of all 1,183 United States graduates (1995) having the same or even similar experiences. However, a minimum or optimum number of conditions/procedures would seem feasible if one were to substitute a variety of exposure and learning modes for direct patient encounters. Learning opportunities could include: clinical rounds; video tape and video disc and CD ROM; group encounter; published cases; computer simulated or assisted cases; clinical problem solving exercises, virtual patients, etc. The key issue is to decide what varieties and numbers of visual problems are necessary for today's "entry level optometrist" and what level of experience and exposure will allow this practitioner to continue to grow clinically and to have sufficient problem-solving and investigatory skills to handle patient problems which were heretofore never encountered.

How Many is Enough?

The answer is certainly not a single number, but if one were to approach the answer using conventional wisdom and determine the numbers of encounters needed (for entry level competence) in various age groups, the racial mix, the socioeconomic mix and the major ocular conditions — refractive, ocular-motor, anterior segment, cataracts, perceptual, retinal and posterior segment and glaucoma — the combination would represent about 97% of the problems encountered in most diverse clinical settings. For example, at the University of Houston College of Optometry, using data derived from 80 affiliated clinical sites over the past ten years, the distribution of problems, in percent, for approximately 400,000 patient encounters is:

The principal problems:	Percent
• Refractive Error	58.0
• Anterior Segment	10.0
• Cataract/Aphakia	7.0
• Binocular	6.0
• Retinal and Posterior Segment	6.8
• Glaucoma	4.0
• Normal State	6.0
• Other	3.0
Racially, the breakdown was:	
• White	62.0
• Black	17.0
• Hispanic	11.0
• Native American	8.0
• Asian	1.0
• Other	1.0
The age distributions were:	
<10	8.0
10-19	16.0
20-29	20.0
30-39	14.0
40-49	13.0
50-59	13.0
60-69	11.0
>70	5.0

These data are presented in order to get a perceptual fix on the magnitude of the problems, the complexity of the interrelated issues and the parameters necessary to answer the question, "How many is enough?"

A further analysis of patient encounters from this sample external education program showed that all

students encountered, on the average, about 500 patients per externship rotation (16 weeks) or 6-7 patients per day. Since all students were required to have two such rotations, the total direct patient encounters for the 32 weeks was, on the average, 1000/student, distributed by problem, race and age as noted above.

The university based clinics provided the underpinning for practice, serving a select and very diverse patient population and providing primary and specialty patient exposure (family practice, medical, pediatric, low vision, specialty contact lens and vision development clinics). The average number of primary and specialty patient encounters for these same students was, on average, 572 patient encounters per graduate.

Based solely upon our experience, and indeed we could be an outlier within the schools and colleges of optometry, the total direct patient encounters approximate 1572 per graduate. Clinical rounds, video tape, video disc, CD ROM, group encounters, published case reports, case library reviews, and computer simulation would add breadth to these direct encounters.

If one were to add these numbers to reflect the collective patient care potentially delivered by all the 1,183

1995 graduates, the number would be 1,859,676 patient encounters, not an insignificant number of patients solely treated by the vision and eye care delivery systems associated with schools and colleges of optometry. Indeed little is known of the impact of such services on the health status of the group served, but we could make some assumptions.

Conclusion

In conclusion, one model would suggest that the patient base should be *adequate* to provide at least 1,500 patient encounters for each 1996 graduate with a local or regional distribution which considers age, race, socioeconomic status, problem diversity, and alternative learning modes in order to provide the greatest opportunity for a broad clinical experience. The definition of *adequate* will, and probably should, vary from one education institution to another.

Educating by the numbers does have distinct advantages; the odds are better that the graduate will develop and inculcate the problem-solving skills and investigative knowledge base to deal with complex, rare and under-experienced patient problems. In this paradigm, more may well be better, "on the average."

Dennis W. Siemsen, O.D., M.H.P.E.

Introduction

Much has already been said about the effectiveness of evaluating educational programs by adding up the numbers. This concept has a segment of desirability to it; being able to count the number of encounters that the student (or resident) is exposed to gives us, the scientists, the numerical/statistical data base we all yearn for.

How often do we hear about the statistical relevancy of a particular study? I participated in the activities of the program committee of the American Academy of Optometry

during the years I served as chair and vice-chair of the Section on Optometric Education. One of the criteria the committee used for acceptance or rejection of a given paper was the presence of some kind of results. Often the question was asked, where are the numbers, the statistical analysis? This was particularly true of studies of the effectiveness of new teaching methodologies in optometric education. I must admit to you, that I, too, looked for "the numbers," since claims are often made of how good a new teaching method is without ever having evaluated the outcomes. Statistical analysis is a nice way to achieve validity, one with which most of us as scientists are familiar.

In contrast, it is my position that the numbers argument is weak when

applied to clinical competency. I would also submit that there are inherent dangers to the profession if the number of patient encounters is used as the primary means of determining the effectiveness of our clinical programs.

It has been stated that if a student is exposed to a certain type of patient encounter, either as a part of direct patient care, or during a grand rounds type program, this mere exposure can be construed as some kind of validation of the activity. This argument can only be applied as part of a wide ranging set of criteria which will serve to support the patient numbers as a means of outcome assessment. In this paper, I will present other factors that will have an impact on the final effect the number of patient encounters

Dr. Siemsen is director, Center for Optometric Education, at the Illinois College of Optometry.

ters may have on a given student's clinical competency.

Facilities and Equipment: The Right Tools for the Job

First, the facility in which the students work must contain adequate resources for the students to gain the maximum benefit from their patient encounters. Students who must work in over-crowded clinical areas, wait in line for equipment, or use equipment so outdated as to be questionable in its accuracy, are being denied the opportunity to get the most from their experiences. Poor facilities, which would also include examination rooms not designed for optometric patient care, slow the examination process, and produce an encounter that is not efficient, making it difficult for the student to provide quality care. Reinforcement of bad technique necessitated by poor equipment and facilities does not benefit the student, the patient, or the profession.

Optometry students should have the advantage of modern, well-functioning equipment in an environment which is conducive to quality patient care. This includes not only the clinical facility of the optometry school, but also any other external facilities affiliated with the school which is involved in training students. If a student is in a situation such as a federal or other public health care facility, do they have the proper equipment to do the job? Are they taught to use equipment that will give "gold standard" results, or are they required to "make do" for the privilege of working in a particular setting with patients with interesting problems?

The Preceptors' Role in Expanding the Students' Knowledge Base

I use the term "preceptors" to include anyone who teaches students. This may include full-time or part-time faculty, residents, or other adjunct faculty, including hospital staff, private practitioners, or just about any other variety of clinician one can think of. These individuals are the key to the clinical training. Students can examine as many patients as they can cram into one

twelve-week rotation, but if the preceptor can't teach, all of those experiences will just reinforce bad patient care concepts and will not add to the student's knowledge base.

It is often assumed that just because someone holds a professional degree, or is successful in practice, then this person is a good teacher. Practically anyone who has ever been a student clinician in a health professions program knows that this is not the case. Some of our brightest clinicians are not very good teachers. This is not necessarily their fault; they just were never taught how to teach.

One of the recommendations from the Summit on Optometric Education was to develop Centers for Teaching, which would act as resource centers for optometric educators. Inclusion of our clinical preceptors should not be overlooked in this process. Teaching and evaluation methods are important skills for any preceptor. Before those of us charged with the responsibility (through our accreditation agencies) of properly equipping our faculty start sending out students to faraway lands to boost the numbers, we'd better be certain that the persons we entrust with our students have the proper knowledge base and can impart it to the students. Reputation and word of mouth are not enough. It is incumbent on us in the schools and colleges to properly evaluate preceptors before, during and after a rotation to be sure the goals and objectives of the program are met.

Learning Resources: The Glue That Holds the Pieces Together

Support mechanisms for learning must be in place to enhance the clinical exposure of the students. Such resources as libraries, texts, journals and databases are essential to reinforce the patient care in which the student participates.

I do not suggest that these types of educational resources can replace the "real thing," that is, the clinical encounter. They should, however, be required as an adjunct to that experience. If a student is serving a rotation in a clinical setting without a library, access to relevant articles and the presence of someone to discuss the case on a scholarly basis, will the stu-

dent get the full benefit of the encounter? For this reason, rotations in hospitals, medical centers, and other clinical facilities are preferred over smaller, individual, single student assignments. This latter type of experience might be appropriate on a day-per-week basis, giving the student the opportunity to return to campus or the larger, multi-disciplinary site, where adequate learning resources are available.

Supplementary Activities: Icing on the Cake

Not every rotation has the wide variety of experiences that we would desire for every student, yet there may be substantial reasons for including them anyway. The clinic located on the university campus may lack an abundance of glaucoma cases, but may offer a wealth of contact lens exposure that is unmatched elsewhere. Should we declare the college clinic dead and irrelevant? Of course not! We look for supplementary activities that complement that existing activity. These supplementary activities may be found in a variety of settings, from hospitals to nursing homes, from day care centers to shelters for the developmentally disabled. In this way, another form of multi-disciplinary exposure can be achieved. Again, the teaching ability and credentials of the preceptors are of utmost importance.

The most desirable situation would be to staff these sites with full- or part-time faculty who are also members of the college's regular clinical staff. Using this method, their teaching skills can be reviewed and evaluated by their peers on the college level, rendering some assurance of the quality of their activities when at the off-campus site. For those situations where the college does not pay for the preceptor, release time should be arranged with the off-campus clinic so that the preceptor may spend time in the college clinic and gain experience in the teaching and evaluation objectives of the institution. Even better would be a regular (e.g., once a week) assignment on campus, giving even more students and faculty access to the knowledge base of these individuals, while monitoring their teaching skills.

Providing Supervision and Feedback to Students

I do not think enough can be said about the importance of appropriate supervision and timely feedback in each and every clinical setting.

Although it is our goal to make students progressively more self-sufficient, it is never appropriate to relinquish the responsibility of patient care to the student. Students are not merely cheap labor. In fact, most clinical preceptors who take their teaching role seriously will admit that there is little net gain in efficiency by having students in their rotation. Appropriate student supervision takes up whatever additional time is gained by having students work up patients.

Supervision also means more than merely discussing the case and reviewing the treatment plan with the student. It means being in the room with the student and directly observing patient care activities. It means mentoring the student and demonstrating techniques, including communication with the patient. It means challenging the student without being condescending or demeaning.

Preceptors must also be willing to take the time to provide effective feedback. What do I mean by "effective?" Saying to the student, "you did that well," or "you could do better" is not enough. The preceptor needs to provide specific information to students that they can use to improve their performance. This feedback should be provided in a way that is timely and expected by the student.

In a recent survey of optometry students, my colleague, Dr. Richard Foley, of the University of Illinois College of Medicine, and I found that students thought that they didn't receive enough feedback from their instructors. The same survey suggested that students overwhelmingly want more feedback on their clinical performance. It seems apparent that before we go to courageous lengths to increase the number of patient encounters for our students, we should be sure we are getting the maximum benefit from the contact they already have.

The Danger of the Numbers Game

There are some inherent dangers in playing what I refer to as "the numbers game."

First is the false sense of security it imparts. Having lots of clinical encounters for the student may seem to be the perfect situation at face value; yet, as I've tried to point out thus far, the quality of those encounters can neutralize any advantage those numbers bring. In discussions with my counterparts in other disciplines, numbers are often used to add value to a particular clinical activity without adequate consideration of the eventual skill level achieved by the student. Let's face it—numbers are impressive. Yet numbers alone do not guarantee the validity of a clinical experience.

Of significant concern to me is the fact that if we live by the numbers, we

suffer by the numbers as well. In our recent negotiations with the medical community and legislators to achieve therapeutic privileges in Illinois, we were often asked, "how many of this type of patient do your students see?" Our common response was, and is, "how many is enough?" I have yet to see any scientific studies prove that by seeing a certain number of patients with a particular affliction, the student will automatically be considered competent. This, of course, leaves the numbers game player vulnerable. If we were to say that a student needs to fit n rigid contact lenses, the next person might insist (with the same degree of certainty) that students really need to fit $n + 5$ rigid cases to be considered competent. By stating, however equivocally, that a particular number of patient encounters will translate into competency, we risk being compared to another type of experience with more numbers, but reduced learning potential. For this reason alone, I would choose not to use numbers, but consider the outcome of the encounter instead.

Conclusion

Increasing the number of patient care encounters is a constant battle among clinical administrators. We all assume, with some intuitive justification, that more is better. But more is only better if the additional experience is worthy of the student's and also the faculty member's time. If not, it might be better spent in some other beneficial activity.

Richard C. Weber, O.D., M.P.A.

What is the question? How many encounters are enough to provide clinical education, or how many patient encounters are needed to achieve competence? Pursuant to the initial question are additional questions. What is competence? How

do you define it? How do you measure it? How do you standardize it?

In defining competency, one asks the question, is competency just being adequately or well qualified, or, as Farnsworth stated in his paper on the reevaluation of physician recertification, does it include cognitive ability, clinical skills, personal qualities such as interpersonal attributes, problem-solving skills and clinical judgment necessary to safely perform professional activities? Problem solving is the ultimate competency.

Initially, schools and colleges of optometry and state boards are credentialing assessment of readiness for practice; traditionally, this has meant the entry level clinical examination at a fixed period of time. With the expansion of knowledge occurring within the profession, how do we identify reliable criteria? Once we have a handle on standardizing competency, the number becomes more individualized.

A study performed at the Medical College of Georgia School of Medicine attempted to determine whether the

Dr. Weber is vice president for clinical affairs and executive director of the University Optometric Center at the State College of Optometry, State University of New York.

number of times a procedure has been performed is indicative of a self-perceived level of competence. It concluded that, for most procedures, self-assessment of competency correlated with frequency of performance and that for most procedures there was a significant association between frequency and self-assessed competency. In a profession where scope of responsibility is expanding in a positive and dynamic way, it is dangerous to place a published quantity of patient encounters necessary to ensure a good clinical education without adding to the equation a standard for assessment.

Establishing an adequate patient base augurs well for the development of a model or "reasonable set" to quantify the clinical educational experience. There are a variety of methods we can utilize to establish this reasonable set, apply a standard for assessment and quantify the clinical education experience, controlling the numbers with the standard. Controlling the numbers of patient encounters with the standard of assessment utilized is especially important when, with the implications of managed care, there may be a scarcity of patients.

Models for the Clinical Education Experience

The following are several models which may be utilized in attempting to establish a reasonable set to quantify the clinical education experience:

1. Number of patient encounters as a function of "physical time" constraints.

Increasing the frequency of patient encounters can begin in the first year by utilizing screenings which apply psychomotor techniques. It can proceed into the second year with more advanced patient encounters with credentialing at the end of the second year for certain psychomotor techniques versus an "integrated" cognitive understanding. We are therefore talking about four years of patient interactions beginning in the first year, inclusive of summers with an integrated approach to primary care so the student will learn to successfully manage a patient. Some academicians advocate increasing the physical time

by adding the fifth year as highly specialized. One must add a cautionary note, however, which is that narrowly trained practitioners who are more specialty focused do not practice primary care and therefore do not provide access. In an era of managed care where access is important, highly specialized practitioners may place themselves in a self-defeating category.

2. Number of patient encounters based on "diagnostic groups."

One can affect quantity of patient encounters by establishing the diagnostic groups, functional areas and the estimated number of patient encounters in each group needed per student. After establishing the estimated numbers needed in each group, one can then examine the expanded patient base needed to achieve the numbers. Do you need 10,000 patients to get 200 glaucoma patients, 100 diabetic retinopathies, etc.? At our institution, the patient base is expanded through the development of satellite and extramural programs which supplements and feeds the specialties.

3. Number of patient encounters based on the "standardized patient."

Medicine has established the "standardized patient" for the National Medical Board Examination. If we apply this model, how many patient encounters do we need if we utilize the pre-selected, standardized patient? By utilizing the standardized patient, one can reduce the subjective assessment of a student's performance and therefore measure competency at a fixed period in time and control the patient numbers.

4. Number of patient encounters based on a "simulated patient" (virtual reality) model coupled with contextual learning.

Utilizing a computer based simulation model standardizes and tailors cases to the level of training of the individual student. At the University of Colorado School of Medicine, thirteen second year students were trained by second year surgical residents for a 12-week elective in surgical critical care. Contextually, clinical problems were presented initially and

then followed by self-directed study and group discussion which was found to be highly effective. They concluded that students would enter clinical clerkships more prepared than presently if clinical skills were introduced contextually into the basic science curriculum. In a 1982 study by Norman and Feightner, a comparison of resident performance on real and simulated patients demonstrated that there was no significant difference on resident performance.

5. Number of patient encounters based on the "grand rounds" approach.

This model is self-explanatory in controlling the number of patient encounters needed — utilization of "one" patient as multiple teaching encounters for many students. This method coupled with quality assessment and improvement activities can enhance the student clinical education process by coupling student outcomes with expectation of patient outcome at the functional unit level.

6. Number of patient encounters on "multiple fragmented" versus "comprehensive follow through" approaches.

In this model, the more comprehensive the follow-through by each student/patient, the fewer patients can be seen over a fixed period of time. The effects of the managed care marketplace on comprehensiveness and continuity of patient care as it relates to the quantity issue is significant. An integrated approach must now be utilized with constraints on the number of procedures performed. One doctor (student) is now responsible for the case versus the "old" clinical approach in which the patient is moved from clinic to clinic with multiple doctors. This primary care model most definitely has a significant effect on controlling the quantity of the patient encounters.

7. Number of patient encounters based on "type of setting and patient mix."

The managed care revolution, through its emphasis on the primary care model, has fostered a shift in training from residency training

(which is hospital based) to ambulatory care. An interesting study performed by the Robert Wood Johnson Foundation appearing in the *Journal of the American Medical Association* concluded that, while generally satisfied, a large proportion of physicians preferred to have received more training in settings outside of hospitals, including managed care settings.

A study done in the United Kingdom and appearing in *Lancet*, comparing the clinical experience of two cohorts, one in 1981 and the other in 1986, concluded that the decline in clinical experience of medical students has coincided with the introduction of health service reforms and that university based clinical education is in danger of being replaced by a dispersed clinic apprenticeship for current practice.

A University of Wisconsin study appearing in the *Journal of Family Practice* concluded that with significant academic structure and quality control, extramural experiences can be as academically intensive and carefully monitored as traditional referral hospital based clerkships.

A study by Schweibert at the University of Oklahoma Health Sciences Center concluded that the use of community private practices to provide quality experiences for a large number of students can be standardized in terms of clinical content among these diverse teaching sites as measured by patient volume, mix and student evaluation.

Another study authored by Osborn

at the University of Utah Center for Health Sciences evaluated the effects of setting, type of supervision and time in clinic on the resident continuity clinic experience and concluded that increased time in the clinic resulted in a broader exposure to patients but that residents placed in private offices had a more varied patient mix, were more closely supervised and seemed to gain primary care skills more rapidly than residents at other sites.

Conclusion

In the determination of the number of patient encounters needed, should not the schools and colleges of optometry establish credentialing and privileging criteria of students during the learning process? Should profiling of the student continue until there is an assessment of readiness for practice, the entry level examination? During this process, educators should help students realize that the status of their license is dynamic, not static, and they can lose it. The credentialing and privileging while a student should translate into a realization that the process of profiling is a continuum which will follow them throughout their professional lives.

Therefore, we return to the question, quantity based upon "what" set of standards and on what outcome of care? Standards and criteria for credentialing and privileging must be dynamic, subject to modification based on new information derived from technology assessment and outcomes mea-

surement. Teaching methodology needs to associate the process of care with the outcome, not just the quantity of the exposure. Practitioner profiling is part of the continuum — the process of life long learning. Assessing continued competency throughout the process (student-resident-licensee) affects the recommended numbers of the clinical education model.

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Increasing Diversity

Richard D. Weaver, D.D.S.

...A Perspective From the Dental Schools

All health professions are responding to the rapidly changing environment of health care delivery, organization and management. Educators in the various health professions are examining and redefining responsibilities in preparing professionals competent to fulfill the emerging requirements of practice and needs of society. Collaboration and sharing of experiences within the full community of health professions can assist us all in the continuing evolution and responsive accountability of our individual professions.

A year ago, the Institute of Medicine (IOM) released its report on the future of dental education: *Dental Education at the Crossroads: Challenges and Change*. The report challenges the status quo and provides 22 recommendations that can guide individual dental schools in assessing current status and future directions. Several of the recommendations are pertinent to today's discussion on the diversity of clinical

education. These recommendations focus on curriculum reform; a closer educational and care delivery relationship with medicine; patient-centered, comprehensive care clinical experiences; and patient care as a distinct mission of dental education.

Each of the health professions has its own crowded curriculum, its own recognized list of marginally useful and redundant courses. A review of responses to the IOM report, being conducted by the American Association of Dental Schools, indicates that there is general concurrence among dental school deans, faculty, and professional organizations in dental education and practice, that priority be given to curriculum reform and modernization. We are beyond the time of more debate and good intentions. The scope and depth of clinical skills essential for a primary care provider to serve the full community of patients requires a curriculum that strongly integrates basic and clinical sciences, one that is scientifically based and clinically relevant. The curriculum must afford opportunity for the development of critical thinking and problem solving and for the

application of knowledge to variant clinical situations and findings. Curriculum time must be available to develop competence and proficiency in diagnosis, treatment planning, care delivery and patient management.

These are not new ideas. They are areas routinely recognized as problematic to current health profession curriculums. The IOM report encourages dental education to, again, critically review its curriculum and make progress in its modernization. Dental education is moving away from a curriculum defined around behavior objectives and is in the process of defining the competencies expected of an entry level general dentist. Working back from the competencies, outcome measures and more relevant basic and clinical science content can be identified and essential, comprehensive clinical experiences designed. As optometric educators explore means to increase the quality, quantity and diversity of the clinical education experiences, they, too, may find curriculum reform and competencies development essential to the efforts.

Dental education and practice occurs in relative isolation from other health professions. Two prime factors contribute to the IOM recommendation urging a closer integration of dental and medical education and care delivery. Our aging population and advancing technology will require a general dentist more capable of caring for frail and medically compromised patients, of integrating oral health care. Secondly, if oral health is to be an integral part of total health, it must be taught and practiced as an integral part of comprehensive health care, including primary care.

There is little agreement to merging dentistry with medicine, or expanding opportunities for earning a combined M.D./D.M.D. degree. However, more dental schools are exploring opportunities for integrated medical and dental basic science education, rounds with medical students, elective experiences in hospitals and rotations to community based clinics where experience can be gained in a more collaborative and multidisciplinary provision of primary care. The provision of primary care to the full community of patients requires a broad base of clinical knowledge and skills and a familiarity with and appreciation of the contributions of others on the primary health care team. The integration of education and practice opportunities

Dr. Weaver is a consultant to the American Association of Dental Schools in Washington, D.C.

with other health professionals will increase the quality, quantity and diversity of clinical education and better prepare practitioners to understand and fulfill emerging responsibilities.

There is broad consensus within dentistry for a professional base of knowledge, technical skills and clinical experiences that prepares graduates to provide a broad range of services as a general practitioner. Still the dental curriculum is very much designed around and presented through the various specialties and special areas of dentistry. This is particularly true of the didactic curriculum. And while it may be "easier to move a cemetery than change a curriculum," dentistry has been moving away from specialty block clinical experiences to comprehensive care clinics. Dentistry is moving its emphasis from the development of independent technical proficiencies to a clinical environment which facilitates the integration of knowledge and skills, which promotes problem solving and independent decision making and which focuses on the needs of the patient. Technical proficiency is acquired through the efficient delivery of timely and coordinated care. Intramural and extramural opportunities are being provided that afford experiences in serving a broad mix of patients with diverse characteristics and needs. In particular, this has included the elderly, children, disabled and underserved populations.

In addition to instituting a clinical environment that is patient centered and more approximate to the requirements of practice, several schools have implemented a vertical team approach to care delivery within the student and faculty practices. This involves teams of first, second, third, and fourth year students functioning as a group practice under a faculty/mentor. Diagnosis and treatment planning is completed within the group, as generalists, with specialty consultation as needed. Because of the breadth of skills within the group, patients assigned to the group can be more quickly treated and more complex needs met. First and second year students have early exposure to clinical dentistry, which gives context and relevance to their didactic and preclinical course materials. Junior and senior students have more time for developing proficiency in

advanced procedures, since routine procedures can be provided by the first and second year students. The faculty/mentor serves as a role model for general dentistry, as well as an immediate resource to students in guiding and evaluating care.

There has been a high level of response by the dental schools to the IOM recommendation regarding efficiently delivered, patient centered, comprehensive care. Not only is this now considered essential to preparing graduates for the immediate requirements of practice; it is becoming essential for the survival of dental schools in the emerging health care markets. Dental schools must successfully compete for patients in a managed environment where service comes first. Success in this competitive market will require a school's ability to offer a diverse scope of services, to a broad mix of people, in a timely, efficient and accountable manner. What has happened in medicine will and is happening to the other health professions. Increasing the quality, quantity and diversity of clinical education will have to take into consideration emerging market factors.

Along with patient centered, comprehensive care as a distinct mission of dental education, the IOM report emphasized the responsibility of dental education to its community, in particular, toward improving access to oral health care for all population groups and reducing disparities in oral health status between groups. Dental schools have a history of community outreach, whether through their Departments of Community Dentistry in the 60's and 70's, or in meeting federal capitation grant requirements of the late 70's. This history continues today with most schools offering off-site clinical rotations to federal community and migrant health centers; state or county urban or rural clinics; geriatric, day-care, and extended care facilities; special care clinics and hospitals or non-profit organization sponsored clinics.

These outreach settings, so often established for underserved populations, provide opportunities for students to gain exposure, understanding and appreciation for the diversity of patients and patient needs that become a part of their responsibilities as they

enter practice. These experiences begin to instill a sense of responsibility that extends beyond the individual patient and includes community and society. There are data that indicate that students with training and experience in providing care to special and underserved populations are more likely to include these populations in their scope of practice following graduation. Expanding community outreach not only better prepares new professionals for meeting public trust and accountability; it also enhances the visibility and value of the school to the parent institution, local community, state and region. These are factors of consequence in these days of more limited health professions education resources.

Dentistry, then, in response to a recent IOM study of dental education, is reexamining its curriculum and the relationships it has with the requirements of practice, higher education, other health professions and the immediate community. The scope of clinical education experiences is a central matter in the reexamination. Efforts are directed to five areas: (1) determining the diversity of services and competencies that define a general practitioner responsive to the needs and demands of individuals as well as community; (2) reforming and modernizing existing curricula to regain time and material relevance; (3) offering a variety of clinical experiences that enable efficient learning and delivery of the broad scope of services; (4) integrating the educational processes and services, as possible, with other health professions education experiences and emerging systems of health care delivery; and (5) offering community based clinical experiences that improve access to care and enhance a student's awareness of the diversity of community needs and professional responsibilities. While working to maintain excellence in dental education and in preparing a quality workforce, increasing emphasis is being given to efficient, comprehensive care; improved access; public trust and accountability; and meeting the needs of society. As optometry examines the quality, quantity and diversity of its clinical education experiences, these same areas will need to receive consideration.

Douglas Wood, D.O., Ph.D.

...A Perspective From the Colleges of Osteopathic Medicine

I am firmly convinced that significant diversity in the clinical educational experience of all health professionals involved in direct patient care is essential — essential not only to the well being of the patient, but also to the effectiveness of the practitioner. In my attempt to defend this position, I will share how the issue of diversity is addressed in the clinical education of osteopathic students, and then I will offer some suggestions on how the clinical experiences of optometric students can include significant diversity.

Having so boldly stated the firmness of my conviction regarding the need for diversity in the clinical education experience, I will also openly confess that I am an osteopathic nephrologist. This confession may seem to pose a dichotomy. How can a specialist, someone whose education focused on a very narrow field of medicine, talk about diversity, you may ask. My response is twofold. First, I am an *osteopathic* nephrologist. Although in the later stages, my education became more narrowly focused, initially it was very broad as osteopathic medicine emphasizes generalism and a holistic approach to patient care. (2) I have a strong personal belief in using a team approach to providing patient care and in delivering that care in a community-based environment. Folded into my firm conviction that significant diversity should be a part of the clinical educational experience of all health professionals who are involved in patient care is my equally strong belief that clinical education should be as diverse as possible in those clinical areas which are basic to the practice of health care. These would be the classic generalist areas of family practice, general internal medicine, general pediatrics, and possibly obstetrics and gynecology.

I am not alone in this belief. The 1984 *General Professional Education of Physicians Report* (GPEP Report) stated

that all physicians first should be well-rounded generalists. This concept should be broadened and the statement reframed to state that all health care providers should first be well-rounded generalists. Interestingly, the best physician I ever had an opportunity to interact with was an excellent nephrologist who never referred to himself as one but rather as a general internist with an interest in nephrology.

A well-rounded generalist understands that the body is a complex system comprised of several subsystems all of which are interdependent. In order to understand health and disease in one system, the health care practitioner must have a basic understanding of all systems. Therefore, despite the fact that optometric practitioners concentrate their practices around the eye, it is important that they understand disease in all of the systems which may be manifested in ocular pathology. The interdependence of body systems must be continually emphasized.

In osteopathic medical education, this emphasis is maintained through the concept of holism. However, I believe that this concept is different than holism as used in the allopathic (MD) profession. Allopathic physicians, when discussing holism, state that he/she treats the patient as a whole. The osteopathic concept of holism is that the osteopathic physician practices holistic medicine when she/he deals with the total patient considering the time within which the patient is seen and the environments in which the patient exists. We as health care practitioners see patients generally for very short periods of time and therefore receive only a "snapshot view" of that patient. Thus, it is essential that we consider the time frame in which the patient is seen. It also is essential that we consider the various environments in which we live, not only the physical environment but also the social environment, psychological environment and those other environments in which we exist. The concept of holism should be

important to optometric education in that there are environmental factors which affect the patient causing problems which may be manifested in the eye. It is an accepted fact that the eye is one of the windows to the interior of the body. Fundamental changes in diabetes mellitus and hypertension are primary examples of this fact.

Optometrists must be part of a team which embraces health promotion and disease prevention. If optometric practitioners and optometric students are to be effective members of health care teams, then they must have diverse clinical experiences not only to be effective contributors but also to understand the contributions of others. Only through understanding the perspective of others within the health care team can each team member function effectively.

Before giving my perspective on how diversity in the clinical education of optometric students could be accomplished, let me share with you some of the positive elements providing significant diversity in osteopathic clinical education. To begin with, the emphasis in osteopathic medicine on generalism has assisted this profession in implementing diversity in clinical education. Generalism has been a basis of osteopathic medicine for greater than 100 years. A second element affecting clinical education within the osteopathic as well as the allopathic professions has been the rapid shift of health care into the ambulatory environment. A third change which we are seeing in osteopathic clinical education has been the combination of generalist services, namely, family practitioners, general internists, and general pediatricians practicing as a team with an emphasis on basic fundamentals in each area. All of these elements have come together to enhance diversity in clinical education of osteopathic medical students. While the model is still far from ideal, however, it does have a basis upon which we are able to move forward.

The osteopathic model may also be helpful to optometry to provide significant diversity in the clinical educa-

Dr. Wood is the president of the American Association of Colleges of Osteopathic Medicine in Rockville, Maryland.

tion of optometric students. It is important, I feel, to reiterate my strong belief that diversity means experience in those clinical areas basic to the practice of health care including family practice, general internal medicine, general pediatrics, and possibly obstetrics/gynecology, as well as general surgery.

I feel that optometric students should spend time in each of these areas primarily in the ambulatory environment. Within these ambulatory settings the students would be exposed to basic concepts in each of these areas and would be expected to master these concepts. The length of each of the clinical experiences should be contingent

upon the concepts which the students are expected to master. One of the issues which has bothered me for an extended period of time is that of a defined time frame within which health professions educators are expected to graduate "well-educated" practitioners. For instance, who determined that it takes four years to produce a physician? To me that concept does not make a great deal of sense. I feel that health professions education should be based on demonstrated competency rather than time in service.

The ambulatory experiences of optometric students should be one where the student can be part of an effectively functioning health care team. The most effective teams which I have seen to date are those which are found in managed care organizations and those which are found in physical medicine and rehabilitation units. These teams should stress health promotion and disease prevention as a significant part of their educational offering. They should also be concerned with the health of populations as well as the health of individual patients. One of the elements of medical education which is changing is that of integration of public health professionals within health care teams. The team must value the contributions of all of its members.

As we view the health care situation in the United States, we note rapid changes and, at times, most of us feel that we as health care providers are losing control of the system. Our future, however, is not in the hands of those who are trying to manipulate the system, but rather in the hands of those who believe in it most — namely us. Our future lies in generalism, health care teams, in health promotion and disease prevention, and in population centered community based practice. To be effective practitioners, optometric students as well as all health profession students must have significant diversity in their clinical education.

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The Multiple Roles of Academia In An Inner City Clinic

Donaldo R. Figueroa, O.D.
Morton W. Silverman, O.D.

Abstract

The challenge of providing student optometric clinicians with a diverse clinical experience confronts optometric educators throughout the profession. The Optometric Center of Los Angeles provides students of the Southern California College of Optometry with an urban clinical environment which incorporates diversity, high levels of pathology, and community involvement. Through networking with outside agencies and with the help of granting foundations, the center provides a premier educational setting for students and a high profile resource for the community.

Key Words: inner city clinic, optometric clinical education, urban health care, eye care in South Central Los Angeles

Introduction

The United States is at a crisis in the delivery of health care services. Almost 60% of the U.S. population receive their health services through some form of managed health care. While on the one hand significant numbers of the U.S. population receive quality health care, it is estimated that in a given day, almost 40 million Americans are

not eligible for any health care benefits. For the most part, optometry students are the product of middle class backgrounds, and are often not familiar with the serious problems in the delivery of health care services as well as the complexity of clinical problems encountered by an inner city population.

In addition the student's ability to utilize and interact with community resources is essential in caring for this special population.

Within the schools and colleges of optometry, there is a strong need to acquaint the students with the health care problems of the under-served inner city population. There is a critical need for a diversified patient population for students in clinical education. Too often, however, optometric clinics care for a limited number of patients in the lower socio-economic population. This is true for clinics on a university campus that provide care predominantly to students and faculty, and for clinics on the campus of optometric institutions located in middle class areas. Even clinics located in metropolitan areas may fall short of this mission unless they include providing for the under-served of the inner city. In this respect the Optometric Center of Los Angeles serves this goal well.

Historical Perspective

The Optometric Center of Los Angeles (OCLA) is a satellite clinic of the Southern California College of Optometry (SCCO), located in the

heart of South Central Los Angeles. This center provides an inner city experience for fourth year clinicians, exposing them to the realities of the urban community and to the special health concerns which poverty entails. The history of the Optometric Center of Los Angeles (OCLA) begins with a description of its roots, the Southern California College of Optometry (SCCO).

SCCO was originally founded in 1904 as the Los Angeles School of Ophthalmology and Optometry. Originally located as a proprietary institution in downtown Los Angeles at 5th and Hill Streets, the school moved to the campus of the University of Southern California (USC) in 1928, with full University affiliation in 1930.¹ USC affiliation lasted only 3 years as a result of political forces within and outside the profession. Although the name and address changed several times over the years, the college operated out of the same South Central Los Angeles neighborhood for nearly 45 years.

The need for a larger campus for the Los Angeles College of Optometry prompted a decision in 1969 to relocate to a site near California State University in Fullerton, California.

Because the students' clinical education necessitated an uninterrupted flow of patients and because of a strong feeling for the community which would be left behind, an application was submitted to the U.S. Public Health Service for grant money to establish a "Central City Clinic." Its location in the center city and its disadvantaged patient population were key points in the approval of a \$260,000 grant for the project. The closure of the clinic on the campus of the Los Angeles College of Optometry coincided with the opening of the new clinic in April 1972.

Since the early days of the clinic, the nature of the patient base shifted from a university population towards that of a true inner-city clinic. Since the 1940's and until recently, the area known as South Central Los Angeles had been a predominantly African-American community. At one time, this area was considered "the heart and soul of the largest black community in the western United States,"² and one of the few places in Southern California where an African American could own his own home or business.³ After the Watts riot in 1965, a sharp decline in the economics of the area began. As a result of the violence and

Dr. Figueroa is a clinical associate in a medical practice and the former clinic director of the Optometric Center of Los Angeles.

Dr. Silverman is professor of optometry at Nova Southeastern University College of Optometry and a former clinic director of the Optometric Center of Los Angeles.

instability, many businesses, both large and small, left the area. Drug trade and the spread of gangs contributed to an eroding quality of life.⁴

The last 15 years have seen a tremendous upheaval in this area. Gang violence and rising property values led to an exodus of the African American family, and at the same time, to a huge influx of Latinos (Hispanics).

The 1980's saw a 30% decrease of the African-American population and a 200% increase of the Latino population. Those Latinos who have moved into this community are predominantly immigrants, many of whom have come from war-torn countries. They have come here in large numbers from Guatemala, El Salvador, Honduras and rural areas of Mexico.

Patient Base and Economics

In order to describe the patient base served by the Optometric Center of Los Angeles, a retrospective study was made of all patients seen at the clinic during May 1993, for a primary care comprehensive eye/vision examination. A total of 199 patient charts were evaluated. The gender of the patients was found to be 43% male and 57% female. Almost sixty eight percent of the patients were found to have recognizable Spanish surnames. Data collection also revealed that 6.5% percent were African American, 5.0% were white, and 1.0% were Asian Americans. For 19.1% of the charts, race could not be determined. The range of ages was from 2 to 86 years. The median age was 22 years with a mean age of 27.9 years.

In an effort to gather economic information, a breakdown of postal zip codes was made. Using census information, the following characteristics were ascertained. The average annual per capita income for the area represented by the distribution of these patients was \$8,648. This can be compared with an average annual County of Los Angeles per capita income of \$20,786.

The median annual family income of the areas represented by OCLA patients was \$19,929, as compared with a California median annual family income of \$37,868. These areas show an average of 29.1% of persons living below the Federal Minimum Income Level. The national average is 13.1%.

Although the clinic is drawing from the poorest and the most needy residents of the city, funds received

for patients under the government's Medicaid program account for only 20.9% of the clinic income. Additional clinic income comes from a unique program known as the Lions' Low Vision Aids Service (LOVE). This program, in addition to providing care for low vision patients, also provides comprehensive care to those in need and accounts for 17.7% of clinic income. The combined totals make up less than 40% of the total income at the clinic. Most OCLA fees come from patients who pay out of pocket for the clinic's services.

Coordination of Community Services

In 1987, the issue of the homeless was coming to the forefront, accompanied by an acknowledgement of the crisis of the working poor and of the problems procuring health care for the uninsured. The clinic director of the time, Dr. Mort Silverman, was bombarded by requests from public schools and social service agencies for free and reduced fee services for comprehensive vision care services and eyeglasses. Dr. Silverman approached the LOVE Board of Directors for help; and on a case by case basis, primary eye care for the indigent was established by the program.

Word of this valuable resource spread quickly. Initial referrals from neighborhood high schools and elementary schools led to calls from other schools. Likewise, calls from one social service agency would lead to calls from others. Eventually, linkages were established across a broad range of schools and agencies covering an extensive geographic area. Although the LOVE board was initially overwhelmed by these requests, it is to their credit that the increased demand was not turned away. Instead, this new scope was adopted by the program, and an increased fund-raising effort was made. By 1990, from its roots as a low vision library, the program had expanded to become a major provider of primary eye care services and materials to the poor. In October of that year, in recognition of its work in the inner city, the program was honored with the Distinguished Service Award of the Vision Care section of the American Public Health Association at its annual convention in New York City.

Currently, the program continues to grow with the awarding of grants from

private foundations. Since May 1992, the Weingart Foundation has given \$135,000 to the Optometric Center of Los Angeles, with the stipulation that the funds be used exclusively for disadvantaged youth. Another \$50,000 was awarded by the Fieldstead Foundation in June 1993. The program now brings together referrals from over 200 schools and agencies which serve the poor of Los Angeles. The agencies which have become a part of this referral network offer services ranging from acute and chronic health care, mental health care, and social services, to legal services.

They provide services to such diverse groups as the Native American population, juvenile rehabilitation programs, alcohol and drug programs, homeless shelters, church missions, and county health clinics. The patients referred to the clinic through these groups provide a patient base representing a unique cross section of inner-city America. High levels of pathology, which are typical in the poor, present students a similarly unique clinical challenge.

Through the cooperation of these institutions of good will, the number of patients cared for under the LOVE program has gone from 358 in 1990 (fees of \$28,970) to 996 (fees of \$106,341) for the fiscal year ending June 30, 1994. These include impoverished youth of the inner city, many of whom struggle with visual anomalies which may be impeding their education. It includes adults neglected as the result of the economy or by problems with drug and alcohol abuse who are now trying to work their way back into the mainstream of working society but need help with their eyesight. It includes senior citizens without insurance or the financial ability to attend to their visual and ocular needs during these difficult days of our urban society.

Health Care Concerns of the Inner City

As has been described, the patients cared for at OCLA are from a predominantly poor community. They live with conditions typical of poverty, such as a higher incidence of disease, illness, drug abuse, and violence. Crowded living conditions are the norm in these areas.

The Los Angeles City Planning Department states that South Central Los Angeles is now the third most

densely populated section of Los Angeles (population per area).⁵ High density living circumstances, especially when combined with poverty, cause sanitation concerns and other conditions which tend to spread disease. Tragically, children make up a large part of the population of this area. A recent article in the Los Angeles Times stated that 38% of the African American children and 35% of the Latino children of the city are impoverished.⁶ These are the children of South Central Los Angeles. A lack of proper nutrition and prenatal care compound their health problems. Despite a higher need for health care services, this group is less likely to have health insurance.

African-Americans in the United States have rates of glaucoma which are four to five times higher than whites.⁷ African Americans also have a 33% higher chance of developing type II diabetes. Hispanics have a 300% higher chance of developing this disease, which is the leading cause of new blindness in individuals between 20 and 74 years of age.⁸ These ethnic groups have eye care and systemic needs which are overwhelming. Unfortunately, facilities for dealing with these illnesses are scarce within this low income area.

Referral Network

At OCLA, the need for referral to other health care practitioners for patient care is most often for systemic testing and/or treatment, and for ophthalmological services dealing with acute ocular conditions and treatment outside of the clinic's scope of practice.

For the testing and treatment of patients for systemic conditions such as hypertension, diabetes, and high cholesterol, low cost and free clinics are available which can be of tremendous assistance. These clinics are, however, a resource whose use is limited. There is a lack of full time staff at several of them. Some are staffed by medical students and volunteers with fewer qualifications than may be optimal. Medications (often donated by pharmaceutical companies) are dispensed for reasons of availability, rather than for what might be the best drug for a particular case. Long lines tend to be present during normal.

The Optometric Center of Los Angeles is in a unique position to offer state-of-the-art eye care services to this under-served area. As a non-profit

educational clinic, supported by the parent institution, the Lion's organization, and granting agencies, OCLA provides relief to this distressed community. Most patients without insurance who are referred for systemic and ophthalmologic services are sent to the Los Angeles County/ University of Southern California General Hospital in East Los Angeles or to the H. Claude Hudson Comprehensive Health Center (under the Los Angeles County Department of Public Health). Unfortunately, many patients fall into the uninsured category. County General Hospital is a large, long-established county hospital with all medical specialties and surgical capacities. Affiliated with the U.S.C. School of Medicine, it is the traditional provider of care to the poor of Los Angeles.

Although the quality of physicians and medical staff is considered good, conditions at County General Hospital are stressful and attitudes suffer. The emergency room acts as a walk-in clinic for all types of medical problems, and is typically crowded day and night. The waiting times in non-life threatening conditions is usually from 8 to 12 hours. Unfortunately, because California optometrists have not had therapeutic privileges, OCLA patient referrals with conjunctivitis, with the need for small corneal foreign body removal, and with other non-emergency conditions, contribute to the high volume of patients seen there daily.

Certainly, the recent granting of therapeutic drug privileges to California optometrists will be of benefit to the general public. In addition, for the public served by OCLA and the related community institutions, the benefits will be of significant value.

The Future

The fate of the health care of this community and other urban poverty areas ultimately rests on one of the greatest challenges facing the nation, the struggle of health care reform. Although there is little debate on whether or not there should be reform, the debate on which direction of change should be followed is intense. Many factions agree that the current policies have created a situation that cannot continue. Specifically impacting this patient population is the issue of how to provide coverage for all. The lack of facilities nearby which provide high quality care contributes to the difficulty of this situa-

tion. Non-profit clinics help fill the void, however insufficiently.

In this environment, the discrepancy between health care that is available to patients with insurance and that which is available to the poor and uninsured is apparent to students and faculty alike. People without insurance cannot usually afford state-of-the-art health care. The patients' lack of resources inevitably means a compromise in the quality of care.

It is quite evident that multiple roles of academia in an inner city clinic are best illustrated by student optometric clinicians and faculty who, by working with the poor and uninsured of this environment, are called upon to use all the resources within their personal and professional armamentarium on behalf of their patients' well being.

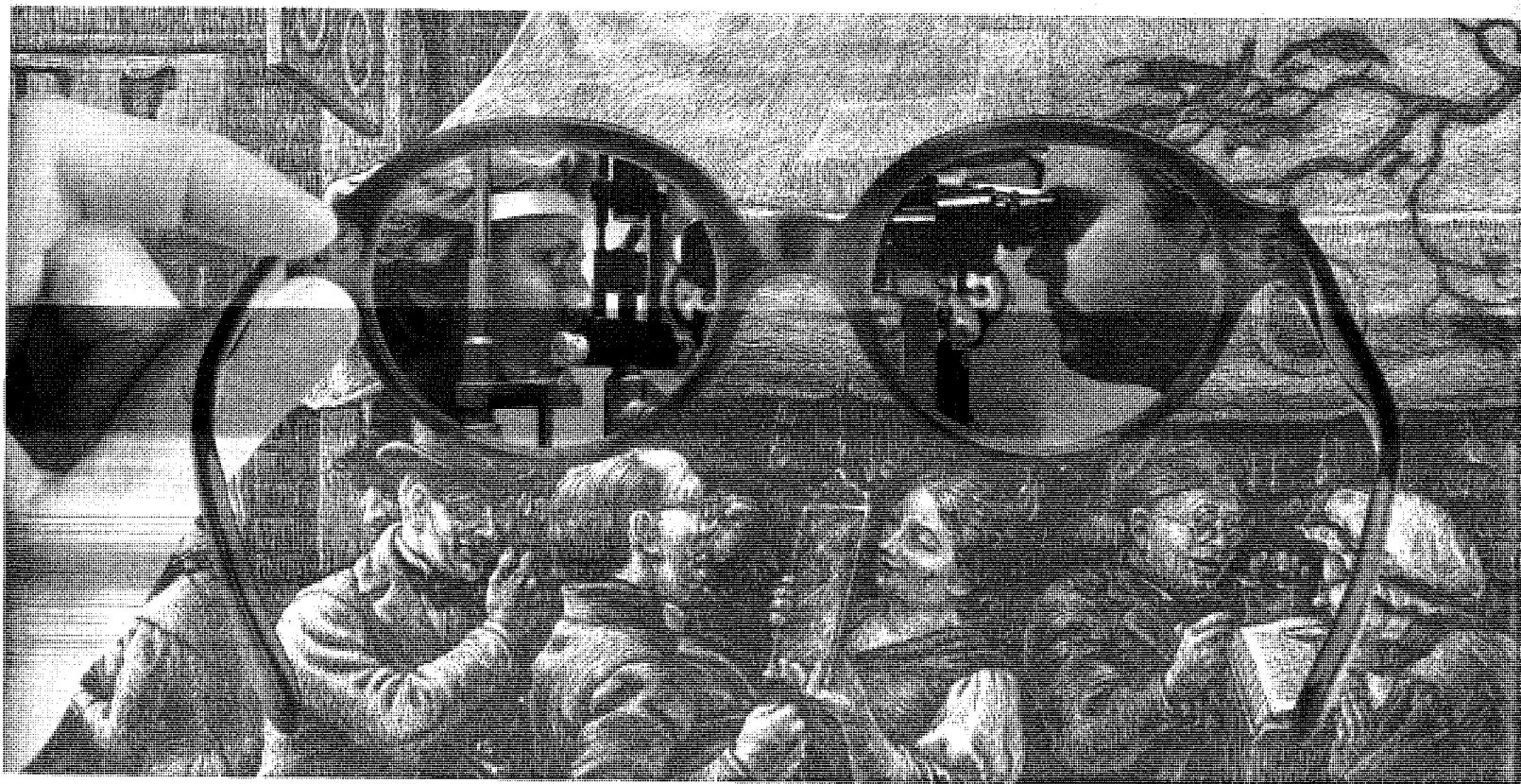
They are challenged to determine which referrals are necessary and which are not. They must also use special judgement in the selection of diagnostic tests and in the employment of prophylactic procedures. In addition, clinicians must keep in mind that, for this population, every unnecessary and costly test performed potentially impacts patient's funds available for daily living expenses. Every necessary referral not made could result in the loss of sight, and possibly life. It further illustrates to our students and faculty that, until our society comes to grips with the dichotomy inherent in the present health care system, there is a need to expose our clinicians to this unfortunate reality.

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