

# OPTOMETRIC EDUCATION

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Spring 2003

## Special Issue on Residencies



# Association of Schools and Colleges of Optometry

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# EDITORIAL

## Optometric Residency Programs Where is the Training in Education?

Lester E. Janoff, O.D., M.S.Ed., F.A.A.O.

**W**e are pleased to bring you this special issue on optometric residencies, an area of vital concern to all optometric educators. Dr. Greg Goodfellow's description of his residency captures the excitement and challenge that a residency provides. Other articles by Drs. Atkin, Haine, Heiberger, Hoppe, Nishimoto, Reed, Hoffman and Messner present a needed update on an area that ASCO considers so important it has long had a Residency Affairs Committee and a Residency Educators Special Interest Group.

In 1975 I wrote an article in the first volume and issue of ASCO's new publication, the *Journal of Optometric Education*, entitled, "The Need for Training Optometric Educators." One of the questions I raised in the conclusion of the article was "Where will our future Optometric Educators come from?" Writing today, it seems to me that future optometric educators will come from our residency programs. If I were to rewrite this article, I would entitle it, "The Need to Train Residents in the Art and Science of

Education." This isn't an unrealistic view since most residents are immersed in the teaching role soon after entry into their residency program.

Clinical precepting consumes the majority of the residents' teaching time, although often residents serve as lab instructors and even occasionally as lecturers. Do residents currently receive any training in education in their program? The result of a very informal survey of some residency trained faculty and some residency program directors leads me to conclude that training in education as a formal part of the program is rare. Since clinical precepting is the major teaching task for residents, let's look at that function.

What is effective supervision and how does it happen? Conventional wisdom holds that all that is necessary to be an excellent teacher is a vast knowledge of the subject matter. If that is the case, then residents are immediately inferior educators. Fortunately, the conventional wisdom is in error here. However, teachers do need to understand the learners' prior knowledge, as well as their conceptions and misconcep-

tions of the subject matter. Here, residents are likely to excel. The general principles of teaching and learning when applied are valuable in enhancing student learning, and it is this knowledge base that new faculty are likely to be deficient in.

Experienced teachers usually have a large repertoire of teaching strategies that have proved effective over the years, while residents bring only the techniques they were exposed to as students without the opportunity of evaluating their effectiveness. Thus residents tend to continue teaching practices that might not be very effective.

Fortunately, the qualities that constitute good clinical teaching are well described in the literature with a number of excellent articles in our own *Optometric Education* (or its predecessor *Journal of Optometric Education*). It would be a simple task to gather some relevant writings, combine them with some discussion time, and provide a simple instructional module on Clinical Precepting for all residents. Good clinical instructors are made not born.

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# Special Issue on Residencies — An Introduction

**O**ptometric residency programs provide advanced education and clinical training to postgraduate optometrists, primarily recent graduates. The types of programs vary and include family practice, primary eye care, geriatric and pediatric optometry, cornea and contact lens, low vision, vision therapy and rehabilitative optometry, ocular disease and refractive and ocular surgery. The concept of advanced clinical training can be traced back to 1967, when a three-month vision therapy program at the Optometric Center of New York was established. Optometric residency programs evolved into 12-month programs and expanded in numbers and types. In addition to these developments, an accreditation process has been established by the Accreditation Council on Optometric Education (ACOE), with programs meeting standards for quality education and patient care.

Almost four decades later, the role of residency education goes well beyond providing opportunities for advanced education and clinical training. The scope and direction of optometry is reflected in these programs. This issue of *Optometric Education* focuses on residency education, and it explores and evaluates a broad range of topics related to residency education. These topics include the on-going debate on specialization in optometry and the role that residencies play; the impact of residency training on the resident's choice of practice setting; the characteristics and motivations of those who choose residency education; the results of the optometric residency matching service (ORMS), which now includes all school and college affiliated programs; the ongoing evaluation of residency programs; and a view of residency training through the eyes of a resident.

The importance of residencies to optometric education and the profession has been well established. One can only begin to consider residency education's critical and essential role and impact on the profession's future.

Diane T. Adamczyk, O.D., F.A.A.O.  
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# Specialization and Credentialing in Optometry

Kimberly Reed, O.D., F.A.A.O.  
Douglas J. Hoffman, O.D., F.A.A.O.  
Stephanie Messner, O.D., M. Ed., F.A.A.O.

## Introduction

In these already politically charged times, the topics of specialization and credentialing in optometry are sure to evoke strong reactions from many members of our profession. Yet these topics are timely, and in spite of their controversial nature, need to be addressed.

It may be useful to define these terms before embarking upon a discussion. *Specialization* is defined as "The limitation of one's practice to a particular branch of medicine, surgery, dentistry, or nursing. This is typically done after having received postgraduate training in the area of specialization."<sup>1</sup> Optometry is not specifically included within this definition; as is so often the case, we are left to interpret, extrapolate, and try to fit into the established "medical model." *Credentialing* refers to the presentation of documents, or credentials, to some certifying or administrative body, to satisfy a specified set of standards or requirements.

Credentialing is not the same as privileging, which is an explicit protocol that must be followed prior to the execution of some task, such as delivery of patient care within a hospital or clinical setting. Specialization and credentialing, then, while entirely different concepts, are intertwined in discussions of this nature. We shall consider the topics separately, and then examine why specialization may ultimately depend upon credentialing in its implementation.

The concept of specialization in optometry is not new. The first official look at this topic was made in 1968, when an American Optometric Association (AOA) study concluded that specialty certification was not feasible.<sup>2</sup> Subsequent AOA project teams re-examined these issues in the early 1970's and mid-1980's; each time, the AOA House of Delegates concluded that specialty certification was neither necessary nor desirable.<sup>3,4</sup> Recently, the AOA formed a Specialization Project Team. This team reviewed and studied past projects pertaining to specialization in optometry. The Project Team also considered specialization from a governmental affairs perspective and from a reimbursement perspective. Preliminary findings indicated that, due to the many changes that have occurred within the profession, the

issue of specialization should be re-examined. The Project Team considers it paramount that risks and benefits be carefully identified and considered relative to the profession, and also with regard for the professional well-being of all O.D.'s in all modes of practice.<sup>5</sup> Clearly, specialization is not a concept for which a disposition is likely to be determined without a great deal of effort and careful consideration.

We should also briefly discuss the concept of "continued competence," especially in light of the American Board of Optometric Practice (ABOP) proposals in 2000, which were ultimately rejected. A critical distinction between these two concepts is that ABOP's mission in continued competence was to encompass education and examinations for certification and re-certification of competence across a breadth of knowledge and skill areas.<sup>6</sup> Specialization was not a component of these proposals. However, some similarities exist between these seemingly disparate schools of thought, primarily the underlying dual goals of enhancing the quality of care delivered to the public as well as promoting the integrity and status of optometry as a profession. We will touch upon this topic later in this discussion.

How would we even approach the concept of specialization? We can look at the so-called "medical model" as a template of sorts. Which aspect of the medical model should we examine? Are we most like ophthalmology, or are we more like family practice or primary care physicians? What about dentistry or podiatry? To which profession should we default when considering wide-reaching changes in our profession's very structure?

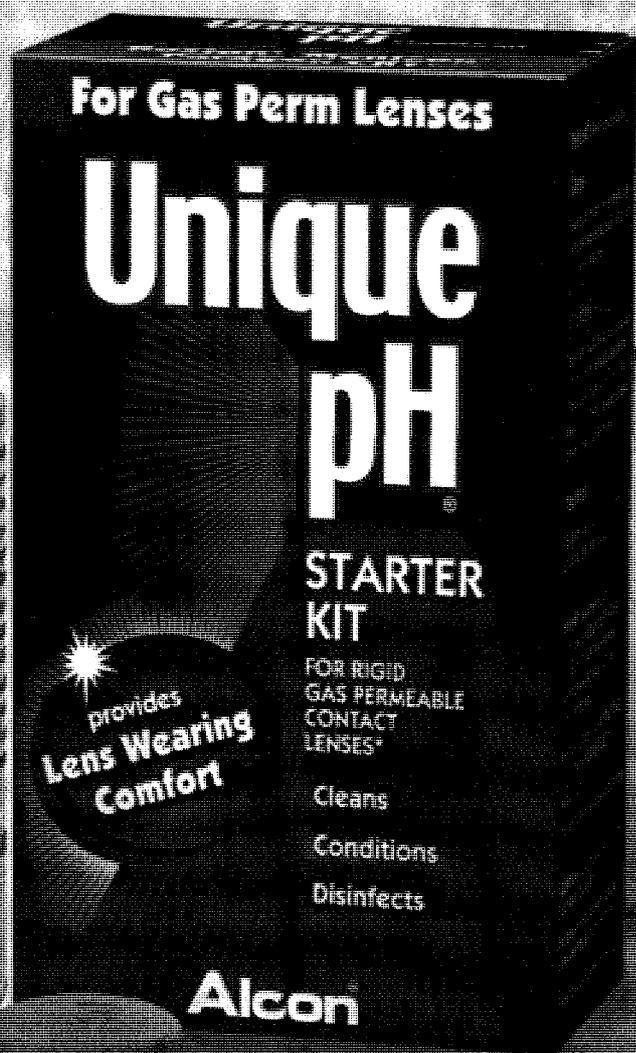
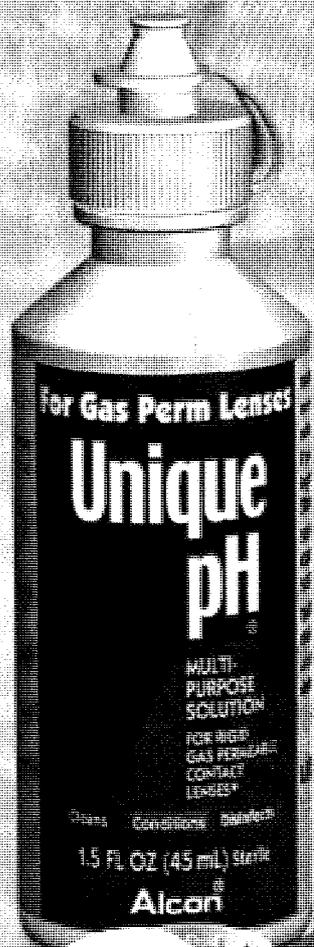
Ophthalmology, as the closest organ-specific profession to our own, might be the obvious answer here. Ophthalmology is already considered a specialty; in fact ophthalmology was the first formally recognized specialty board in medicine. Perhaps the issue is merely one of semantics—ophthalmology has *sub-specialties* within its confines. A number of fellowships are offered for advanced training in cornea, neuro-ophthalmology, retina, and others. If we choose dentistry as our template, which is also logical as dentistry is generally a system-specific profession, then we have further support for the concept of sub-specialists, as dentists can choose to pursue advanced training in a variety of

(Continued on page 82)

Dr. Reed is an associate professor and director of externship programs at Nova Southeastern University College of Optometry.

Dr. Hoffman is professor and director of residencies at The New England College of Optometry.

Dr. Messner is associate professor and chair, post-graduate and Illinois Eye Institute-based clinical education at the Illinois College of Optometry.



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## Weisbarth Named VP At CIBA Vision

Rick Weisbarth, O.D., F.A.A.O., was recently promoted to vice president, professional services, CIBA Vision North America. "Rick's dedication and commitment is exemplary not only to CIBA Vision but to the industry as a whole. I am very pleased with his new promotion," said Yvan Sergerie, president of CIBA Vision North America.

Dr. Weisbarth has been with CIBA Vision for 21 years. He has published and lectured internationally on a variety of contact lens and lens care related topics and is affiliat-

ed with a long list of professional organizations. Dr. Weisbarth is currently the secretary-treasurer of the American Academy of Optometry and has a Diplomate in its Cornea and Contact Lens Section. Dr. Weisbarth received his O.D. degree from The Ohio State University College of Optometry.

## Vistakon® Hosts ASCO Board For Headquarters Tour

Vistakon®, a Division of Johnson & Johnson Vision Care, Inc., hosted the ASCO Board for dinner and a tour of its headquarters in Jacksonville, Florida, during the Board's recent meeting. Vistakon vice president of professional affairs Stanley J. Yamane, O.D., F.A.A.O., welcomed the ASCO guests.

## Transitions Announces New Education Faculty

Transitions Optical, Inc., recently introduced its new Education Faculty, a group of five eyecare professionals who will provide leadership, counsel and guidance on the company's expanding and vital education initiatives. The ODs on the Faculty are Paula Newsome, O.D., M.S., F.A.A.O., and Madeline L. Romeau, O.D., F.A.A.O.

"Building on our education leadership is vital to Transitions' continuing commitment to industry partners and to aiding eyecare professionals in providing excellent eye health information to patients," said Susy Cabral, Transitions' professional and public relations manager.

The announcement of the Education Faculty was made during the 7th annual Transitions Academy Feb. 2-5 in Walt Disney World, Orlando, Florida, where nearly 900 optical industry professionals from 30 countries gathered. Another highlight of the event was the debut of Transitions' new education initiatives that focus on eye health, including the new Partners in

Education program, which features a series of four education modules for eyecare professionals.

## Essilor Awards Grants To Optometry Colleges

Essilor of America has awarded its Essilor Optical Technology Grants to four U.S. optometry colleges. Northeastern State University College of Optometry in Tahlequah, Oklahoma and The Ohio State University College of Optometry in Columbus, Ohio, were each awarded \$20,000. A tie between the Michigan College of Optometry in Big Rapids, Michigan and the SUNY State College of Optometry in New York City, resulted in Essilor dividing the prize, with each of those two schools receiving \$10,000/

Commented Rodney Tahrán, O.D., vice president of professional relations and clinical affairs for Essilor, "Essilor is proud to be able to support the schools that encourage advancement in ophthalmic materials and care. For this reason, we are thrilled to announce Essilor will be offering three more \$20,000 grants in 2003."

The one-time awards are given to colleges of optometry that exhibit commitment to growing the industry through new advancements. Applications were judged on the schools' commitment to the growth of premium optical technology and how the funds will help elevate the standards and visibility of ophthalmic dispensing for students.

## Alcon Develops New Formulation of PATANOL®

Alcon, Inc., recently presented the results from two clinical trials involving a new, investigational once-daily formulation of the company's flagship brand PATANOL®. Alcon anticipates approval of its NDA later this year.

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areas. Stark differences exist between these two potential models, however. While we are all familiar with the existence of sub-specialties within ophthalmology, there are no boards that regulate or declare competence in any of the sub-specialty areas. Nothing prohibits a general ophthalmologist from doing vitreo-retinal procedures, and similarly a fellowship-trained corneal "specialist" may quite often do cataract surgery. In effect, then, the identification of sub-specialists in ophthalmology does not "limit" the scope of practice, but rather merely identifies that particular practitioner as having a specific area of interest, and possibly having had additional training in the form of a fellowship. However, there is nothing prohibiting a general practitioner from calling himself or herself a "retina specialist," in spite of a lack of formal training to substantiate such a claim. In dentistry, there is a standard, structured process for achieving specialist status. Orthodontists, endodontists, periodontists and other specialists must complete two to four years of formalized clinical and didactic training prior to practicing their subspecialty. Which of these two avenues, if either, should we follow?

The evolution of optometry from a generalist type of profession toward a more interest-driven one isn't surprising, given the enormous expansion of our scope of care during the past quarter century. In fact, our profession has been experiencing an escalating trend towards "breakout groups," as evidenced by a number of outcomes: a growing number of Diplomate programs that are offered within the American Academy of Optometry, the increased interest and membership in the COVD; special interest groups and "sections" within the AOA; and an increasing number of postgraduate residency programs covering more and more specialized areas of study, to name a few. Examination of optometry schools' curricula also clearly shows the broadening scope of optometry, and the multiple facets that our profession now encompasses. However, making the leap from "special interests" to "specialty certification" is not without some risk.

A panel of experts has been asked to present a sampling of the key factors and obstacles related to credentialing and specialty certification. Their comments underscore the inherent com-

plexity of the subject. Some editorial changes have been made to the original responses, but the content has not been altered.

The panelists for this discussion are: Gerald Selvin, O.D., President, National Association of VA Optometrists, Residency Program Coordinator, Boston VA Healthcare System, Jamaica Plain campus. Barry Barresi, O.D., Ph.D., President, The New England Eye Institute, Vice President of Patient Care and Clinical Services, The New England College of Optometry. Stephanie Messner, O.D., M.Ed., Director of Residencies and Chair, Postgraduate and IEI-Based Education, Illinois College of Optometry

**Q: In your opinion, is there currently a need for specialty certification in optometry?**

**Dr. Selvin:**

Specialty Certification in optometry is an issue that has been considered at various times in the past 15-20 years. Most recently, the entire continued competence issue was a major bone of contention within the profession and the ABOP initiative ultimately failed. The reason for its failure, in my opinion, is that it never addressed what was being certified! That issue {ABOP} differs from specialty certification that would recognize a specific area of advanced competence. When we hear the word certification attached to anything, there's a knee jerk reaction, which is tantamount to throwing the baby out with the bath water. Pondering the subject on its merits may, in fact, reveal good reasons for specialty certification.

Each year, over 150 new residents elect to spend 12 or more months in supervised, mentored, intensive postgraduate clinical training. Residencies are not required for optometric licensure and entry-level practice. Those individuals who pursue residency training do so in order to develop the advanced competence in a specific area. The Association of Schools and Colleges of Optometry (ASCO) has identified 9 specific areas of residency training. Each resident acquires expertise in one or more of these areas. At the conclusion of a residency, there is no evidence of the resident's advanced competence other than a certificate issued by the school or college of optometry that sponsors

the residency program (academic affiliate). The certificate indicates that the resident met the requirements of the residency, demonstrated a specific level of competence, and completed the requirements set forth by the individual program and the academic affiliate. Attainment of advanced competence is presumed but not measured. Nonetheless residencies are strongly recommended for candidates seeking faculty positions, VA positions, and other similar styles of practice.

The statement that a residency graduate, having merely completed a residency program, now has attained advanced competence would have no credibility without a specific measure of this advanced competence. We could, however, specifically measure advanced competence in a particular area of optometry by offering an examination that would be credible, standardized and available to individuals who have completed residencies. Individuals completing residencies would be eligible to take this examination and, upon passing it, be granted certification of their advanced competence in the area in which they trained.

The time has come for specialty certification in our profession. However, we should pursue this in a way that has credibility. Since most of us are generalists, there is no need for the vast majority of optometrists to be certified for any specific advanced competence. However, for those who have completed the rigorous year of clinical training in a residency, formal recognition of their advanced competence by certification is the only fair way to identify a group of practitioners who can take the lead and facilitate the growth of the profession.

**Dr. Barresi:**

There is no imperative for the establishment of specialty certification in optometry. To the contrary there are many significant risks that would bear on the profession if such action were pursued.

Consider that in the case of optometry's pursuit of therapeutic prescription authority, there was a compelling public health and societal benefit. With TPAs there was a societal imperative for this very significant change in the legal scope of practice of optometry. In contrast, specialty certification is a solution looking for a problem. There are no public health hazards, health care financing barriers,

ers or efficiency of care issues that pose a problem specific to the matter of specialty certification. All health professions have a primary obligation to take policy actions that benefit the public. Thus the burden of proof to establish specialty certification falls on the backs of the proponents. These advocates must develop compelling evidence that, in the absence of such new regulatory structure, the public will be harmed.

In my view, the creation of another scope of practice regulatory system offers no compelling evidence of the public's benefit; the presence of specialty certification may actually harm the public's prompt access to quality generalist care in optometry. Without doubt another qualification layered on top of State Board licensure would further confuse the public about optometrists and their scope of practice. The fact of the matter is that optometry has no true specialties. That is, it is exceedingly rare to find private practice optometrists who limit their practice to a particular specialty area. Hence, programs such as the Academy's Diplomate program are a perfect mechanism to provide recognition about one's advanced knowledge in a specific area without doing harm to the regulatory or legal standing of such optometrists.

Thus, proponents of specialty certification must successfully argue that certification provides a unique set of public benefits and will do no harm.

**Dr. Messner:**

Wallis,<sup>7</sup> Wild,<sup>8</sup> McAlister and McAlister,<sup>9</sup> and Gross and Wallis<sup>10</sup> have discussed specialty certification in optometry. The issues they have raised should be considered in the current debate on this topic. Following the dissolution of the American Board of Optometric Practice in June 2001, the American Optometric Association House of Delegates voted to convene a summit, with profession-wide input, to study the issue of formally recognizing specialty areas within optometry.

The controversy that has surrounded specialty certification for over three decades still exists today. Detractors believe that certification will fragment the profession by closing non-certified practitioners out of participation in areas identified as "specialty" practice, despite having been trained and licensed to provide these services. The argument has been made that optometry, unlike medicine, is a limited-license

profession, so the need for specialty certification does not exist. Specialty board certification in medicine protects the public from physicians practicing beyond their scope of training; this is not necessary in optometry.

Although optometry is, by definition, a specialty, further formalized sub-specialization may serve an important role in protection of the public. Currently, an individual practitioner may claim to be a "specialist" in a particular discipline within the scope of optometric practice. To the public, this implies a higher level of competence than is found with the general optometrist. Unfortunately, there is no formalized procedure for identifying those with advanced competency in recognized areas of specialization. One self-proclaimed "specialist" may have received no advanced training, experience or credentials, but may simply possess an interest in that area of practice while another may have spent a year in postdoctoral residency training and achieved diplomate status in a professional organization. Without uniform and formalized subspecialty certification, it is difficult to make this distinction clear to the public. Other independent healthcare professions, including dentistry and podiatry, have successfully used board certification to identify those who have achieved a level of advanced competency in an area of sub-specialization. It is logical to assume that optometry could accomplish this too.

Although certification would formally identify specialists within the various optometric disciplines, it would not necessarily preclude general optometrists from including those disciplines within their practices. Just as a general ophthalmologist may treat glaucoma or manage neuro-ophthalmic cases, it would be appropriate for the general optometrist to manage certain cases that fall within an identified subspecialty of optometry. In those instances when the complexity of the case is beyond the capability of the generalist, referral to a certified specialist would be appropriate. Thus, intra-professional referrals could be made with a greater level of confidence, promoting growth within the profession.

Another compelling argument in favor of subspecialty certification is that the schools and colleges of optometry are not able to provide meaningful experience to all students in all areas of specialization within the four-year program. The scope of

optometric practice has expanded dramatically during the past 25 years, yet the length of the training program has remained relatively stable during that time period. Students are expected to assimilate vast amounts of information in the classroom and have sufficient opportunities to develop competence through application of that knowledge in a clinical setting. It would be unrealistic to assume that each school could ensure that every one of its graduates has achieved competence in all areas of specialization. In fact, optometric institutions have been charged with identifying *entry-level competence* for their students. In other words, schools must identify those skills that their students must possess to be deemed capable of safely and effectively beginning independent and unsupervised practice. This does not preclude optometry programs from providing their students with skills and experiences that are considered beyond entry level, but mastery of these areas is neither required nor guaranteed. Of course the educational institutions do not independently determine what constitutes entry-level competence. The state professional regulatory agencies play a critical role in this process by establishing requirements for licensure. This not only includes graduation from an approved optometry program, but also a comprehensive and independent verification of entry-level competence, typically the National Board of Examiners in Optometry examinations.

Development and assessment of *advanced competency* in an optometric subspecialty must, however, be achieved after graduation, through residency training or equivalent clinical and didactic experience. If we are to begin subspecialty certification in optometry, it is imperative that the process of achieving certification be rigorous. Certification, otherwise, will not be a meaningful credential. Advanced training must be a prerequisite to eligibility. In fairness to established practitioners, this need not be limited to residency or fellowship training initially, but could include approved courses of study and documented clinical experiences. As with entry-level competence, advanced competence should be assessed by an independent agency through a comprehensive and psychometrically sound examination. Such an examination would be costly

to develop and administer. For areas of specialization in which a small number of practitioners would seek certification, the associated fees could be prohibitive. We must decide as a profession if we are willing to support the cost of certification. To certify that a practitioner is qualified to provide subspecialty care to the public without adhering to rigorous education and testing standards would be less than honest, would make certification less meaningful and would likely bring skepticism, if not criticism, from the healthcare community. I agree with Norman Wallis's statement, "If optometric specialty certification is to have meaning to the public, in the same way that licensure does to protect the public, then the same quality in the assessment process must be expected."

**Q: Do you have a rebuttal or follow-up comments?**

**Dr. Selvin:**

While I agree with the argument that there is no inherent public health risk in not pursuing specialty certification, that argument, in my opinion, misses the point. There are optometrists trained well above the standard of entry-level practice in different subspecialty areas. Consumers have a right to know who has more expertise in these areas even if there is no risk in obtaining care from a non-specialized OD. Additionally, those who have been trained in these areas should be recognized for the advanced competence in the same way that other health care providers are recognized. Specialty certification should not necessarily be driven by a known or existing public health hazard. We as a profession need to proactively consider what is best for the public and always be cognizant of what protects it from harm.

I believe I can successfully argue the public benefits without doing harm. I am not proposing that all or even most optometrists obtain specialty certification. In fact, specialty certification should be reserved only for those with legitimate advanced competence in a specific area. Where is the harm to the public or profession in recognizing those who have done the extra work and have undergone the training necessary to enable them to practice at the level they desire?

The public has a right to know if someone has advanced credentials.

Any optometrists who have pursued a residency and have proven via an examination and their training that they have advanced competence deserve recognition above and beyond the OD degree and a state license. Why be threatened by the recognition of a small minority of optometrists who would be identified as specialists? There are optometrists today who are recognized informally as experts by most in the profession and many patients. This proposal would simply formalize and legitimize this process.

I would add that lack of specialty board certification in medicine does not limit practitioners' ability to do specific procedures by licensure. It does, however, create a barrier that is typically used in some health care organizations such as hospitals, academic medical centers, HMOs, and the Department of Veterans Affairs before accepting a clinician into that specialty.

**Dr. Messner:**

Dr. Barresi suggests that there is no public health hazard related to the absence of specialty certification. I believe that a hazard does exist, as I indicated in my original statement. Currently, with no established specialty certification within the profession, the public has no means of identifying those practitioners who have tangible credentials in areas of specialty practice. Two practitioners may indicate that they specialize in strabismus treatment. One may have an interest in binocular vision and strabismus, and enjoy seeing strabismus cases while the other may have spent a year in postdoctoral binocular vision residency training, done clinical research in the discipline and attained Diplomate status in the American Academy of Optometry. Yet the consumer has no way to differentiate between the clinical competence of the two. Specialty certification would fill this void.

This should in no way limit patient access to quality generalist care in optometry. Unlike in medicine, residency training in a specialty is not universal following graduation from optometry school. Most optometrists choose to go into the general practice of optometry. As I outlined in my original statement, general optometrists can choose to manage those cases appropriate for their level of expertise in a given discipline and to refer those that are beyond their scope of practice. This

is standard practice in medicine. With specialty certification, optometrists could more readily and confidently make intraprofessional referrals. This, in turn, would lead to the growth of our profession.

I agree with Dr. Selvin's contention that ABOP has left many within the profession with a "bad taste in the mouth" regarding certification and concur that specialty certification is far different from what ABOP was proposing. For those individuals who choose to spend a postdoctoral year in residency training, a standardized and psychometrically sound examination to certify that they have attained advanced competency in a specialty area would be welcome. Currently, those who pursue residency training do so because they have the desire to advance their knowledge and expertise in a specific discipline so that they may render a high level of patient care. Attainment of a residency certificate has little meaning beyond the academic or federal service realm. However, if residency training would eventually lead to specialty certification, such training would be of greater value in the private sector. This may help to attract some of the brightest and most highly trained new optometrists into private practice.

## Conclusion

The panelists have articulated the key aspects of the dilemma that underlies any future implementation of credentialing and subspecialty certification in optometry. They have illustrated the difficulties we face in our attempt to arrive at solutions that will provide the basis for consensus building and long-term planning. (Table 1) Policy change within optometry is always a bit risky, as we must constantly strive to foster growth and professionalism within our profession, while also "protecting our flanks." At the same time we have to be sensitive to the ever-present changes within health care and the increasingly consumer-driven market. It is clear that much controversy surrounds this entire concept. Our first main hurdle will be in deciding for or against the idea. If the profession elects to explore the possibilities further and move forward with a meaningful discussion in the practical issues of implementation, we will have to make certain assumptions. These include:

**Table 1**  
**The Pros and Cons of Specialization in Optometry**

Reasons Cited in Favor of Specialization	Reasons Cited in Opposition to Specialization
May increase intra-optometric referrals	Then again, it may not!
Inconsistent state laws allowing use of the designation "specialty" - unifying the definition will reduce public confusion.	Alternative solution would be to nationally regulate use of the term itself rather than "grow into" it.
Would allow optometric residency graduates or other practitioners with advanced knowledge and/or experience an opportunity to distinguish themselves as having had formal training above and beyond professional school.	The public is confused enough as it is about the various people involved in eye care; this extra layer might add still more confusion; further this might fragment the profession into the "haves" and "have-nots."
Might pave the way for future third party payor improvements, hospital privileges.	Reimbursement is not currently linked to specialty certification in many payor systems.
We could more closely mirror ophthalmology in its organizational structure.	Are we sure we want to? Will we still further lose sight of the roots of our profession?
Optometry school curriculum has expanded beyond what can reasonably be taught in four years - specialties cannot be "mastered."	Younger practitioners aren't expected to be masters, only minimally competent.
We have to be flexible and evolve with the times, continuing to improve our profession.	Let's look at continued competence in all areas of optometry instead of focusing on specialties.

1. Use of the term "subspecialization" instead of specialization, since optometry is already a specialty profession. All optometrists are specialists. Some optometrists might seek to become subspecialists. This distinction should help to alleviate any potential conflicts created in privileging situations in third party payer situations or in obtaining hospital privileges.
2. Subspecialization is not expected to occur at the entry level; advanced training or competence must be achieved and measured.
3. Credibility in the process must be maintained. A valid, rigorous outcomes measure must be developed for those attempting to obtain subspecialty status.
4. Once implemented, state boards must prohibit non-subspecialists from claiming "board certification" in any specialty area. This will be the public's primary means of identifying those individuals who have achieved subspecialty certification.
5. We must examine all potential pitfalls for non-subspecialists, so as not to disrupt any privileges or status all optometrists now enjoy. The process of subspecialization should not in any way infringe upon any optometrist's rights or scope of practice.

With these assumptions in mind, it

becomes clear that this would not directly affect the status of optometric education or require any modification in the curricula of the various schools and colleges of optometry. Rather, it is an issue that could be implemented through postgraduate residency programs, through the existing Diplomate programs in the AAO and/or COVD, or through clinical experience or other advanced training.

When ASCO realigned and streamlined the titles associated with optometric residency programs in 1999<sup>11</sup>, it was a first step in identifying subspecialty areas within our profession. It might be prudent to use this as a starting point in refining possible subject areas. (Table 2).

As more than one of our panelists has pointed out, however, merely completing a residency program does not guarantee a minimum level of competence. No unified curriculum exists for residency programs, and there is wide variability in the educational activities among various residencies. If postgraduate residencies were to be used as a stepping-stone towards subspecialization, an initial step, then, would be to develop a unified curriculum within each of the subject or title areas. Next, a valid, reliable, repeatable assessment instrument would need to be developed. This is no small undertaking; however, it would be quite fea-

sible to develop working groups to accomplish this task.

Further, it is possible that this model would allow regional access for general practitioners to participate in a structured curriculum. Instead of participating in a residency program, practitioners could document various clinical experiences to "count" towards the clinical portion of the curriculum, and on-line or other advanced technologies could be employed to deliver advanced course work or concepts, allowing practitioners to study at their own pace, and carry on their regular work activities.

Achieving Diplomate status in any subject area within the AAO or COVD is a well-established, credible, rigorous measure of advanced competence. The existing structures within these two organizations could potentially involve more general practitioners, and postgraduate residency programs could use the established assessment techniques to ensure competence of residents.

Finally, development of an entirely new assessment instrument could be undertaken by an outside organization, such as the NBEO. This may be costly and time-consuming, but in the long run might stand up to outside criticism as it would more closely mirror subspecialty certification within other professions. It should also be noted that if

## Table 2: Optometric Residency Title Descriptions

- 1. Family Practice Optometry:** The didactic and clinical curricula will be devoted to topics and practice broadly represented in general optometric care. The patient population will be community based and include an age range from pediatric to geriatric.
- 2. Primary Eye Care:** The majority of the didactic and clinical curricula will be devoted to topics and practice relevant to the program's unique patient population. This patient population may be evident in the title, e.g., Primary Eye Care-Dept. of Veteran Affairs, Primary Eye Care-Indian Health Services.
- 3. Cornea and Contact Lenses:** The majority of the didactic and clinical curricula will be devoted to topics and practice prevalent in the cornea and contact lens population.
- 4. Geriatric Optometry:** The majority of the didactic and clinical curricula will be devoted to topics and practice prevalent in the geriatric population.
- 5. Pediatric Optometry:** The majority of the didactic and clinical curricula will be devoted to topics and practice prevalent in the pediatric population.
- 6. Vision Therapy and Rehabilitation:**

The majority of the didactic and clinical curricula will be devoted to topics and practice relevant to dysfunctions of the eye movement, accommodative, binocular and perceptual systems, reduced visual acuity and compromised visual fields.
- 7. Low Vision Rehabilitation:** The majority of the didactic and clinical curricula will be devoted to topics and practice relevant to low vision patients.
- 8. Ocular Disease:** The majority of the didactic and clinical curricula will be devoted to topics and practice relevant to the diagnosis, management and treatment of ocular disease.
- 9. Refractive and Ocular Surgery:** The majority of the didactic and clinical curricula will be devoted to topics and practice relevant to refractive and ocular surgery.

one single assessment instrument were to be adopted, any number of pathways could lead to that same endpoint, whether it be residency training or equivalent clinical experience.

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# Optometry Student Interest in Residency Education

Sharon R. Atkin, M.S.A., O.D., F.A.A.O.

## Abstract

**Background.** The optometric profession is facing difficult issues with regard to the ability of the schools and colleges to adequately provide the curriculum and clinical experiences that enable their students to graduate with "entry-level competence." There has been discussion regarding the requirement of residency training to enhance the level of education. This study was undertaken to determine the level of demand for residency training in a voluntary situation and the factors that are important in the decision. These include whether to participate or not, the preferred types and settings for residencies, and the important demographic factors. **Methods.** A survey was developed and distributed to all third and fourth year students in 1998. All completed third year surveys were returned to the investigator in one packet from each school. Fourth year students returned their completed surveys directly to the investigator in a pre-addressed, stamped envelope. **Results.** Forty-eight percent of surveys were returned (1325) for data analysis with one-third indicating an interest in residencies. Gender and marital status were significant factors while GPA and amount of school loan debt were not significant. The need to develop confidence/improve clinical skills was the number one factor that determined interest in residency training while having definite practice plans was the number one reason for not pursuing a residency. **Conclusions.** The demand for residency positions, should it continue as is, will exceed the number of positions. Optometry as a profession might want to consider utilizing the results of this study in planning the future expansion of residency programs so that appropriate types and settings for the programs are developed.

**Key Words:** optometry residency, residency education, optometric education

In March 1997, the Association of Schools and Colleges of Optometry (ASCO) conducted a Critical Issues Seminar on Residency Education. The purpose of this meeting was to discuss issues facing optometry and residency education: (1) should residencies be required? (2) should all programs participate in a centralized matching system? (3) if residencies remain voluntary will there be enough positions in the correct settings to meet the demand? and (4) should there be specialties within optometry? The Critical Issues Seminar was the impetus for this study.

Health care as a whole is rapidly changing. There are constant advances in knowledge and technology, changes in the manner in which care is delivered, and enhancement of available services. Additionally, the demographics of the population are changing. The percentage of individuals over age 65 has increased significantly and will continue to increase with the aging of the baby boomers. As the population ages, there is an increase of many disease processes, including eye disease. These factors have placed greater demands on the educational system. Changes in health care occur so rapidly that the schools and colleges are challenged to keep pace. Optometrists must be adequately prepared to provide services within the overall system of health care. One way to ensure that these goals are met is through completion of a postgraduate residency to gain additional experience, knowledge, skills, maturity, and confidence.

Residency training in optometry is a relatively recent phenomenon. The first accredited residency program was initiated in 1975 within the Veterans Affairs Medical Center (VAMC) in Kansas City, Missouri.<sup>1,2</sup> Until recent years, almost all of the residencies were within Department of Veterans Affairs (VA) facilities with a few at some of the schools and colleges of optometry. Residency positions are now available in a variety of other settings such as health maintenance organizations (HMOs), the Indian Health Service (IHS) and co-management centers. There are a number of different types of residencies available including family practice, geriatric optometry, cornea and contact lenses, low vision rehabilitation, vision enhancement and rehabilitation, primary eye care, pediatric optometry, ocular disease, refractive and ocular surgery, and combinations

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of the aforementioned. Residency training is not a requirement for licensure in optometry in any state.

The purpose of the study was to obtain information that might be useful to the optometric profession in planning for the future of residency education.

## Methods

The instrumentation utilized in this study was a survey. The survey was designed by the investigator and was reviewed by three VA optometrists as well as the Residency Affairs Committee of the Association of Schools and Colleges of Optometry. Modifications were made based on their input. Two fourth year optometry students were asked to respond to the survey on a trial basis. Both students completed the survey in fewer than ten minutes and noted no problems or concerns with the instrument.

The entire population of third and fourth year optometry students in the United States was sampled, with the exception of third year students who did not attend class on the day in which the survey was administered. The most recent data available on class size and composition of optometry students was from 1996 when these third and fourth year optometry students were first and second year students. At that time there were 1363 first year students, 628 males and 735 females. There were 1336 second year students, 653 males and 683 females.

Following duplication, the surveys were separated into packages containing an appropriate number of surveys for the third and fourth year students at each school. The packets were mailed to each individual school and college of optometry along with stamped return envelopes addressed to the investigator for return of the fourth year students' surveys.

Each school and college of optometry assigned one individual to be responsible for the distribution and collection of the surveys. Surveys were to be distributed to third year students during a class, lab, or clinic in which attendance was strongly encouraged if not required. Students were to be permitted time to complete the survey prior to, or at the conclusion of the class. Surveys were then to be returned to the class instructor upon completion. This was done to ensure a high response rate among those students who actually attended class. The majority of fourth year students were

away from the schools participating in external clinical rotations. Those fourth year students who were at the school did not have formal classes but rotated in the school's optometry clinic. This necessitated distribution of most of the surveys by mail. The schools were requested to place the surveys of students who were involved with a clinical experience at the school in the students' mailboxes along with a stamped return envelope. The remaining surveys were sent by the schools to their students on external rotations through the U.S. mail. A stamped, addressed return envelope was enclosed for return directly to the investigator.

## Research Design

The dependent variable was the demand for postgraduate residency training by optometry students. The independent variables included the following: estimated GPA, estimated class rank, age, gender, marital status, and level of school loan debt.

## Results

Surveys were sent to sixteen optometry schools for distribution to all third and fourth year students. Of these, fourteen schools participated fully. The InterAmerican University in Puerto Rico chose not to participate. One college returned its surveys late, with the fourth year surveys coming in during the data analysis phase of the study and the third year surveys being returned almost at completion of the analysis. Most of the fourth year surveys were incorporated into the results while the third year data is not included. Additionally, two schools distributed the third year surveys to individual students rather than to the class as

a whole as requested and this resulted in a lower participation rate.

Two thousand seven hundred eighty-six surveys were mailed to the schools; of these, one thousand three hundred twenty-five were returned in time to be considered for inclusion in the study. The actual number of participants on each question varies and is lower than this number for several reasons. Surveys were not included in the analysis for several reasons: more than two questions were not completed, questions that required ranking were not ranked by numbers and/or no definitive answer was provided regarding whether or not the student was interested in residencies. Total numbers of respondents also varies as some individuals did not respond to one or two questions, yet the remainder of their responses were included for analysis.

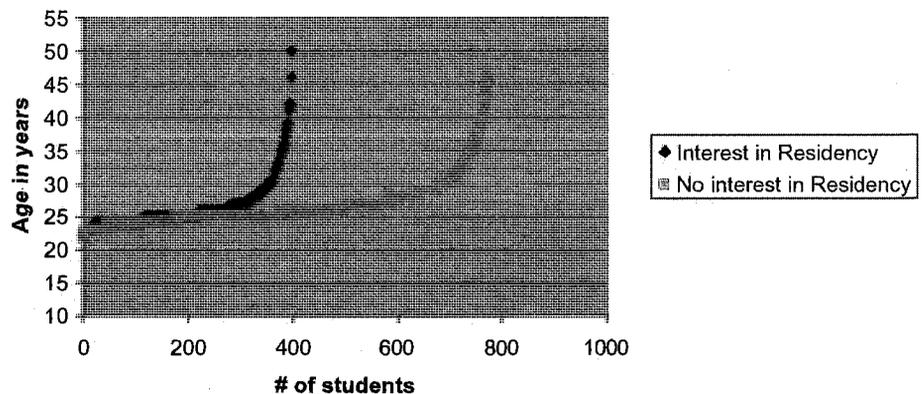
Overall, there was a response rate of 48% (1325 of 2786), with 58% of third year students responding (821 of 1407) and 38% of fourth year students participating (504 of 1379). The overall survey population included 1457 females (52%) and 1319 males (48%). The overall interest in residency education was 34%, 411 of 1215 respondents.

## Demographic Data

It was hypothesized that gender, age, and marital status impact the decision to participate in residency programs. The results indicate no effect of age on this decision as the mean and median ages of both groups, as well as standard deviation, were essentially the same (Figure 1). The t-test value for this demographic characteristic was 0.341.

Gender and marital status, however, were both shown to influence the decision to participate in residency education. One thousand two hundred fif-

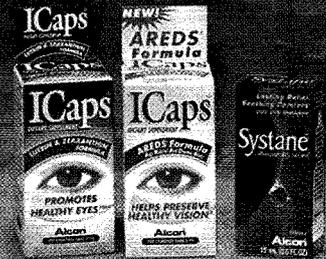
Figure 1: Comparison of Age by Level of Interest





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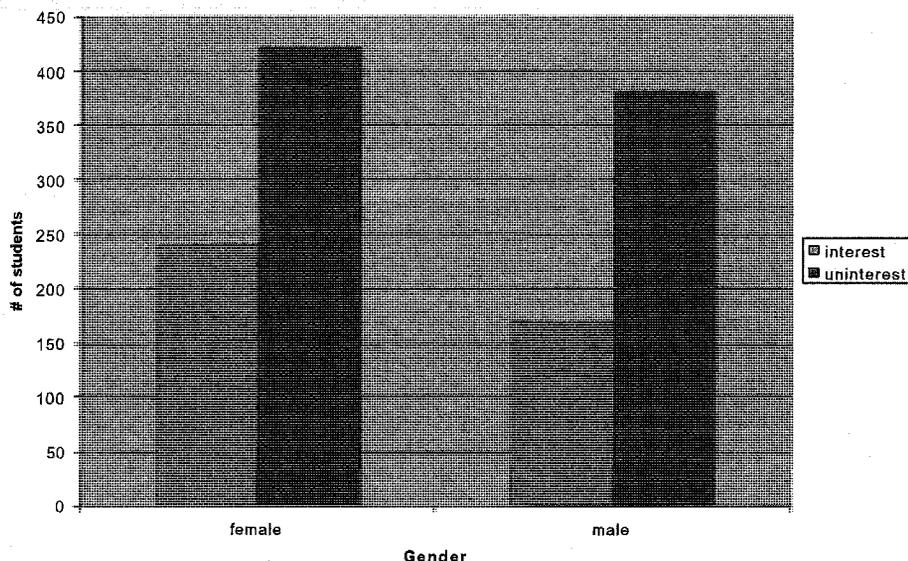


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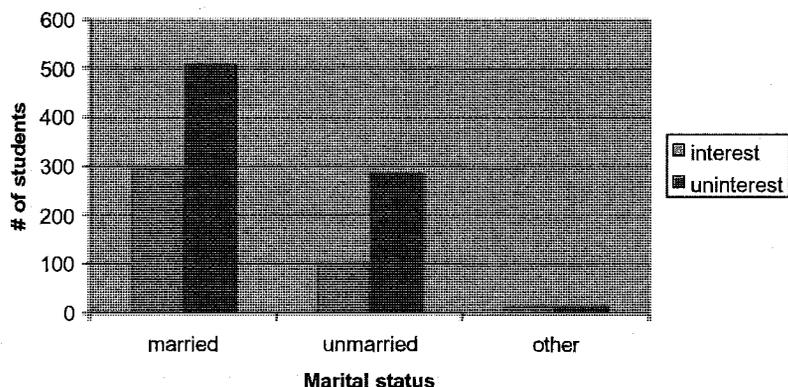
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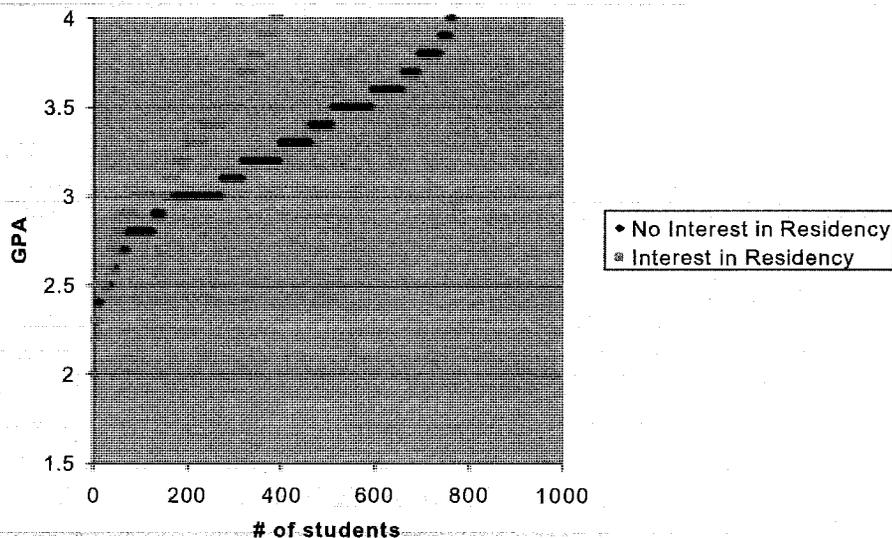
**Figure 2: Comparison of Interest In Residency by Gender**



**Figure 3: Comparison of Interest vs. Marital Status**



**Figure 4: Comparison of GPA by Interest In Residency**



teen individuals responded to question 5 related to gender. Six hundred sixty-three were female (55%) and 552 were male (45%). The overall study popula-

tion of 2786 was composed of 1457 females (52%) and 1319 males (48%). Of the 663 females included in the results, 241 (36%) indicated interest in

residencies while 170 (31%) of the 552 males included indicated an interest (Figure 2).

One thousand two hundred sixteen individuals responded to question 7 related to marital status. Eight hundred and one students were married (66%) and 392 were unmarried (32%) with 23 persons (2%) in the other category. Of the 801 married individuals, 293 (37%) responded affirmatively to residency training while 105 of the 392 (27%) single people demonstrated any interest (Figure 3). Almost one-half of those in the other category indicated an interest in residencies.

Grade point average was not found to have any effect on the decision to pursue residency training. The mean and median GPAs were the same for students interested in residency education and those who were not (Figure 4).

*Promotion of Residency Training*

The results indicated that knowledge of residency education is gained early in the academic environment (Figure 5). Nine hundred thirty of 1215 respondents (77%) had knowledge of residencies prior to or during the first year of optometry school. An additional 230 individuals learned of residency training during the second year of optometry school for a total of 1160 of the 1215 (95%) having knowledge within the first two years of optometry school. However, the results of the analysis indicate the year of first knowledge of residency training has no effect on the level of interest in the programs. The  $X^2$  value was 5.03 and the p-value .16.

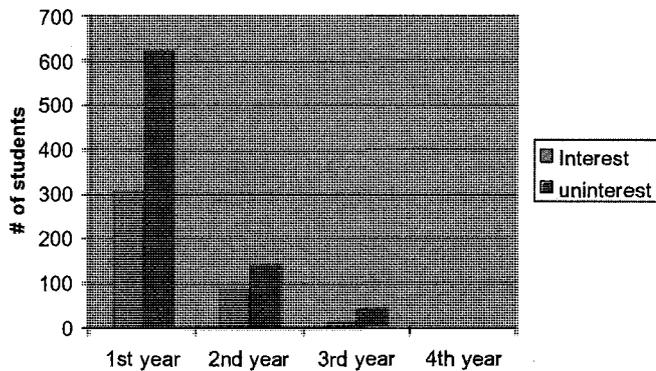
Despite learning of the existence of residency training early in the professional program, a majority of students felt that the amount of information provided by the schools and colleges regarding this educational opportunity was inadequate (691 of 1204 or 57%).

Of the 959 respondents to question 8b, which related to how the students first learned of residency training, 37% (356) indicated the knowledge came from faculty at the school which they attend. Thirty-one percent (299) indicated that a fellow student first made them aware of residencies and 14% (130) stated that a former or current resident provided them with their first knowledge of residency education.

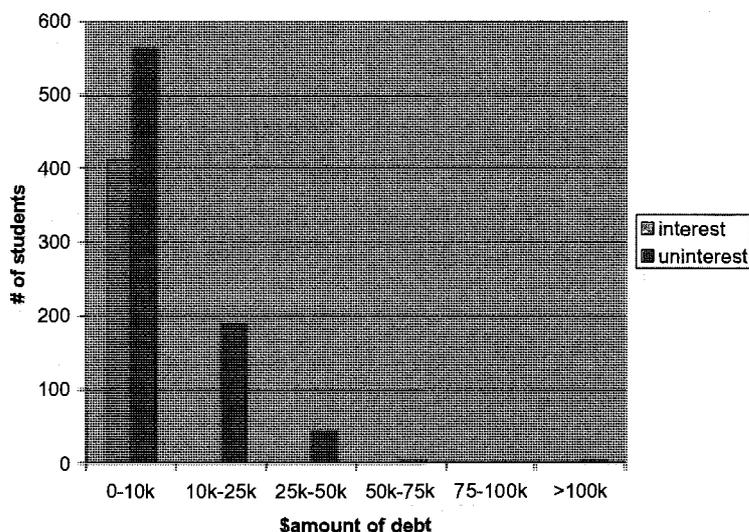
*School Loan Debt*

It was assumed that the amount of school loan debt is the primary barrier to graduates seeking postgraduate

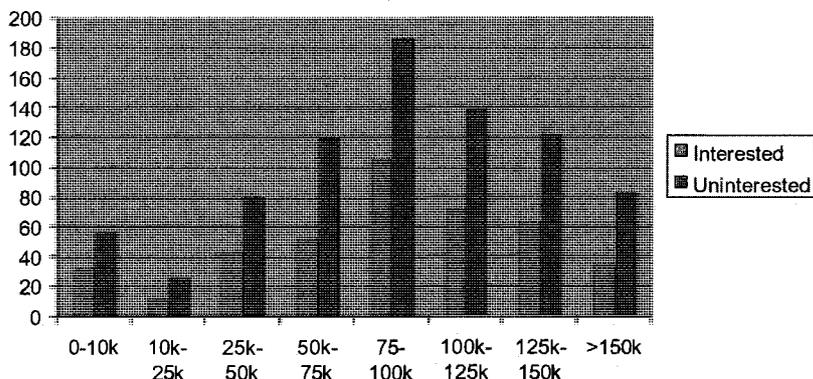
**Figure 5: First Knowledge of Residency Training**



**Figure 6: Comparison of Undergraduate Loan Debt**



**Figure 7: Comparison of Optometry School Loan Debt**



education. Loan debt was assessed by asking the amount of undergraduate debt, optometry school debt, and calculating the total amount of debt.

There was no relationship found between the amount of undergraduate debt, optometry school debt, total debt and the decision to apply for residency training. As far as undergraduate debt

is concerned, a  $X^2$  value of 2.97 was measured with a p-value of .887. Eighty percent of students had \$10,000 or less of undergraduate debt; of these, 34% were interested in residency training while 66% were not (Figure 6).

The findings for optometry school (Figure 7) and total debt (Figure 8) also show no effect on the interest in resi-

ducing training. There is essentially no difference in the level of interest over the different ranges of debt. The level of interest in residencies for the entire study population was 34%. For the range of optometry school debt from \$100,000 to greater than \$150,000, the level of interest was 33%. A  $X^2$  value of 3.147 was measured for optometry debt with a p-value of .872. A  $X^2$  value of 3.17 was measured for total debt with a p-value of .868.

#### *Demand for Residency Positions*

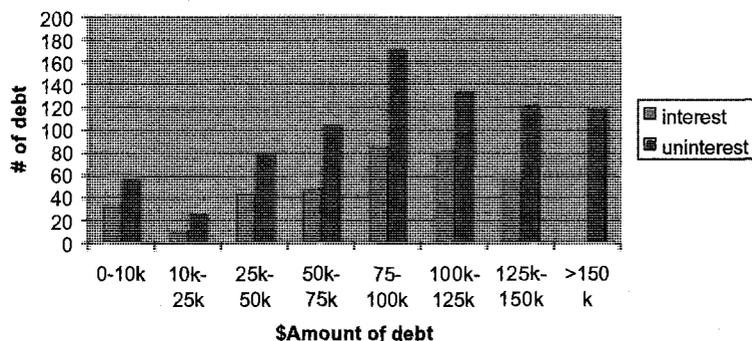
At the time this study was conducted, there were 102 optometry resident programs fully accredited or granted preliminary approval pending a site visit to thoroughly evaluate the program for full accreditation. Approximately 150 individuals were enrolled in these residency programs. Assuming that the number of graduating optometrists remains at approximately 1300 per year, and assuming that approximately one-third of these individuals will remain interested in residency training, there should continue to be more demand for this education than is being provided.

#### *Important Factors in the Decision to Participate*

The students interested in residency training were asked to rank a number of factors in terms of their importance in their interest in residency education.

These factors were evaluated by two different means (Table 1). The factors were ranked on a scale of 1 to 5 in terms of their importance to each individual and the Kruskal-Wallis ranking scheme was applied. Under this scheme of analysis, the need for more clinical experience to develop confidence/improve clinical skills was most important. The opportunity to diagnose and manage eye disease was the second most important factor, followed by the applicability of the experience to future practice. The second means of evaluating the data was to simply sum the number of individuals who ranked each item regardless of the rank applied to the item and then assign an overall rank based on the totals. With this scheme of analysis, the need for more clinical experience to develop confidence/improve skills was again the most important factor in the decision to apply for a residency position. Again, the opportunity to diagnose and manage eye disease was the second most important factor. Under this means of analysis, the

**Figure 8: Comparison of Total School Loan Debt**



**Table 1: Important Factors in the Decision to Participate**

Kruskal-Wallis Rank	Numerical Rank
1. Need to develop confidence/improve skills	1. Need to develop confidence/improve skills
2. Opportunity to diagnose and manage eye disease	2. Opportunity to diagnose and manage eye disease
3. Applicability of experience to future practice	3. Desire for specialty experience
4. Being more competitive for desired position	4. Being more competitive for desired experience

**Table 2: Factors for Not Participating in a Residency Program**

1. Definite practice plans
2. Family responsibilities/commitments
3. Belief that the individual is totally competent for independent practice

**Table 3: Ranking of Residency Program Type**

1. Cornea and contact lens
2. Primary eye care
3. Ocular disease

**Table 4: Ranking of Residency Program Setting**

1. O.D./M.D. practice
2. Optometry schools/colleges
3. VA sites

desire for specialty experience was the next most important factor. Being more competitive for a desired position was the fourth most important factor by both means of evaluation.

**Additional Data**

Additional data obtained from this survey related to factors that are important in reaching the decision not to participate in a residency, student preferences for the types of residency experiences, and preferences for the type of setting for residency training.

The factors for not participating in a residency program were ranked on a scale of 1 to 5 in terms of their importance to each individual (Table 2). Using the Kruskal-Wallis ranking scheme, it was determined that having definite practice plans was the most important consideration, followed by family responsibilities/commitment, and belief that the individual is totally competent for independent practice. Using the Kruskal-Wallis 1-way ANOVA by rank, the probability of these factors being equally weighted

by the respondents was  $p < .05$ .

The eleven types of residency programs were ranked on a scale of 1 to 3 in terms of their importance to each individual interested in residency education (Table 3). The Kruskal-Wallis ranking scheme was used to determine the three most preferred types of programs. It was found that cornea and contact lens programs were most desirable, followed by primary eye care and ocular disease. Using the Friedman 2-way ANOVA by rank, the probability of these factors being equally weighted by the respondents was  $p < .05$ .

The seven settings for residency programs were ranked on a scale of 1 to 3 in terms of the priority given them by individuals interested in residency training (Table 4). Using the Kruskal-Wallis ranking scheme, the most preferred setting for the residency programs is an O.D./M.D. practice, followed by optometry schools/colleges and VA sites. Using the Friedman 2-way ANOVA by rank, the probability of these factors being equally weighted by the respondents was  $p < .05$ .

**Discussion**

The first accredited residency program in optometry was initiated in 1975 at the VA Medical Center in Kansas City, Missouri, which received accreditation in 1976.<sup>1,2</sup> The foundation for residencies was laid by earlier advanced clinical training programs such as the three-month program in vision therapy, which was established in 1967 at the Optometric Center of New York.<sup>3,4</sup> The rapidly increasing numbers of accredited residency programs, the number of new programs requesting and receiving accredited status, and the total number of applicants gives credence to the substantial value-added benefit to both the residency trained optometrist as well as to the profession.<sup>4</sup> One study of residency trained optometrists found that former residents were three times as likely to be affiliated with a school or college of optometry as well as much more likely to pursue fellowship in the American Academy of Optometry than were non-residency trained optometrists.<sup>5</sup>

Through anecdotal information, it has been presumed that residency trained optometrists will be in greater demand than their counterparts for positions in settings such as the Department of Veterans Affairs, Indian Health Service, and co-management centers that typically encounter a much

more challenging patient population than that encountered in the average optometry practice. It is also assumed that residency training will open more career opportunities in areas such as research and teaching, in addition to clinical practice, and make these individuals more competitive for any position for which they might apply.<sup>6</sup>

By 1992 it was recognized that the optometric curriculum was at maximum capacity for a four-year educational program due to the expanding scope of professional responsibilities permitted by all states, which allowed for the use of advanced clinical skills, techniques, and knowledge.<sup>7</sup> It was agreed that postgraduate training programs might serve as the primary means of further advancing the scope of optometric practice. The advantages of residency training in optometry are recognized to include added prestige, improvement of practice and patient management skills, enhancement of competence and confidence, which improve the level of clinical judgment, and experience in critical thinking and presentation skills.<sup>6,8</sup> It is believed that residency-trained optometrists heighten the status of optometry as a profession and as members of the health care team.<sup>4</sup>

There has never been a survey of optometry students and their attitudes towards residency training. There have been a number of studies that have been undertaken to determine demographics and attitudes of individuals participating in residencies and those who have completed residencies in optometry.<sup>2,5,9-11</sup> There has also been a study of the demographic and educational characteristics of the applicants to the Optometric Residency Matching Service (ORMS).<sup>12</sup> Some interesting data has been gathered as a result of these studies. For the two years studied by Messer (1991 and 1992),<sup>12</sup> the demand for residency positions was more than twice the number of available positions. The gender characteristics of applicants and residents have ranged from a lower percentage of females than in the student population in the early years of residencies,<sup>9</sup> to a higher percentage of females than students in more recent years.<sup>12</sup> The proportion of women to men in the professional undergraduate programs has been consistently on the rise.

The surveys conducted by Hines (1981),<sup>9</sup> Koch & Newcomb (1986),<sup>10</sup> and Bartlett et al. (1992)<sup>2</sup> consisted of surveying only one residency class that

was comprised of active participants in residency programs at the time of the study. The surveys conducted by Oshinskie<sup>11</sup> and Heiberger & Mozlin<sup>5</sup> studied all individuals who had completed residency programs in addition to those currently participating at the time of the study. Oshinskie's survey,<sup>11</sup> performed in 1985, looked at only VA residency trained optometrists. The survey by Heiberger & Mozlin in 1989<sup>5</sup> reviewed only those residents who had completed the vision therapy residency at the State University of New York College of Optometry. All surveys requested demographic information including school graduated from, year of graduation, and gender. Additional demographic information on some surveys included age, marital status, and ethnic origin. Other requested information related to the reasons for participating in a residency program, curricular elements, perceived advantages and disadvantages of the residency, post-residency career plans, epidemiological data, and comments.

Most residents were in the top one-half of their classes academically.<sup>11,12</sup> The majority indicated their desire to participate in a residency program was motivated by the desire to improve their clinical competence and confidence through additional clinical experience.<sup>2,11</sup> A number of residents learned of residencies in their first year of professional education,<sup>2</sup> while many learn of residencies through word of mouth in their third and fourth professional years.<sup>11</sup> The large majority do not make a decision to participate in a residency program until their fourth year of optometry school.<sup>2</sup> All respondents to a survey of all individuals who had participated in VA residency programs through 1985 would recommend residency training to optometry students and 77% believed that postgraduate training should be a requirement regardless of future practice plans.<sup>11</sup> In the current study, the overall response rate of 48% allowed for a large enough sample size to draw significant conclusions from the data gathered. The difference in response rates between third year students (58%) and fourth year students (38%) can be explained by the differences in survey technique between the two groups. Third year surveys, for the most part, were distributed during a class, lab, or clinic in which attendance was strongly recommended if not mandatory. Time was allotted for completion of the surveys and the surveys were then collected at

the end of the class. Fourth year students are primarily away from the school on external clinical rotations. Therefore, these surveys were mailed individually to the students who returned the surveys independently.

Some interesting findings were obtained from this study, some of which were expected while others were not. The biggest surprise was that the amount of school loan debt was not determined to be the most significant factor in the decision to consider residency training. The amount of debt was found to be the same for both groups of individuals. The results of the debt level were further born out by the ranking of factors in terms of their importance in the decision not to participate in residency education. In fact, it was not one of the top three factors in terms of importance in this decision. While more than half of respondents ranked debt level as the most, or next to most, important factor in the decision not to participate in residency training, when all factors were weighted, this was not significant in the final decision. It may be that, when combined with other factors, such as family responsibilities and low resident salaries, the amount of debt becomes important. Resident salary was not included in the ranking list but was written in as an important factor by a number of respondents.

The overall interest level in residency training of 34% is significant. At the time this survey was conducted, the optometric profession had enough accredited residency positions for approximately 10% of graduates. According to data from ORMS from the 2002 match,<sup>13</sup> the first year in which programs affiliated with a school of optometry participated, there were 242 positions at 147 sites. This would provide positions for close to 20% of graduates. However, there were only 233 applicants for the 242 positions.

Interestingly, the vast majority of optometry students are aware of residency education in the first year of school. However, the general feeling is that inadequate amounts of information are being provided on the benefits and value of residency education.

Previous studies have indicated that the top 25% of students on the basis of class rank are those who tend to seek residency training.<sup>10,11</sup> While this item was excluded from the results of analysis of the present study, on the basis of grade point average, class rank would not appear to inhibit interest in post-

graduate residency education. It may be that while individuals who are lower in class rank are interested in additional education and see the need for it, the fact that demand typically exceeds the number of positions selects out these individuals.

In terms of the basic demographic data obtained, both gender and marital status appear to impact on the decision to apply for residency training. The percentage of female and male respondents of 55% and 45% is approximately equal to the percentages in the survey population of third and fourth year optometry students of 52% female and 48% male. Therefore, we can deduce that there is a moderate difference in the level of interest in residency education between females and males with females being more interested. Due to the large sample size, this difference is statistically significant at  $p=.04$ . Given that the gender distribution of the respondents is similar to that of the survey population, it can be assumed that the marital status of the populations is generally similar as well. If this is the case, marital status is also an important factor in the decision as to whether to participate in a residency program. Married individuals are statistically significantly more likely to display interest than their unmarried classmates. This is surprising in that it would be suspected that married individuals would have more responsibilities and more family commitments that would create a need to generate a greater income. Perhaps the majority of spouses have good jobs that provide adequate financial support that enables the partner to pursue additional training. Another interesting finding was that age does not seem to bear on the decision to seek residency training. Again, it was assumed that older students would have greater financial responsibilities that would spurn interest in residencies. Also, having relatively fewer years in which to work in the profession would also result in older individuals opting to skip additional education to begin earning a regular salary. Perhaps older students realize the potential for greater earnings that may result from the additional year of training. Or perhaps older students have a greater level of maturity and sense of responsibility that makes them want to improve their clinical skills and knowledge.

## Conclusions

The overall interest in residency education in this study was 34%, 411 of

1215 respondents. If this level of interest were to continue, there would be a greater demand for positions than the number available. A continuing demand might mean one of two things: (1) the most qualified applicants will be accepted for residency training while those who may be most in need of additional training will not receive a position even when they recognize a need for further education or (2) there must be an expansion of programs to meet the demand. However, as previously discussed, there was a significant increase in the number of positions in 2002 and there were fewer applicants than the number of available positions. This may be due to the fact that twenty additional VA positions became available late in the application process. All positions were ultimately filled. This suggests that further research is warranted on an ongoing basis to determine the ideal number of residency positions as well as the appropriate numbers of each type of residency program.

One must be cautious when evaluating the results regarding interest in postgraduate education. While 34% of respondents indicated an interest in pursuing residency training, only 118 individuals applied for 96 positions available through the Optometry Residency Matching Service for the application period that ended in March 1999. There had been a continued decline in the number of matching service applicants over a period of four years. In 1996, there were more than 240 applicants, 163 in 1997, and 143 in 1998. In 2002 there were 233 applicants but there were now 242 positions available. A positive response to this question may not indicate a serious level of interest. This may seriously confound planning for future positions that are voluntary in nature.

An unpublished survey of optometry student interest in residencies was done as a follow-up to this report.<sup>14</sup> It surveyed fourth year students after the match, who were third year students at the time of the initial survey, in order to determine how many actually applied to residency programs. Of the 1268 students surveyed, 335 responses were received from students at nine different schools and colleges (26%). Of these, 25% had applied for at least one residency position.

Females and married individuals were found to be more likely to consider the additional education. This could be an important factor considering that

the percentage of female optometry students has been rising significantly. One could conclude, therefore, that this factor will continue to increase the overall demand for residency positions. In the 2002 residency match, 66% of applicants were female.<sup>13</sup> There is no data currently regarding marital status of optometry students to determine what effect this may have on future demand for residencies.

Ninety-five percent of students are receiving information within the first two years of professional school about residency training. Unfortunately, most students don't feel that the schools are providing enough information regarding the importance and advantages of residency education. Apparently just having knowledge of the existence of residencies does not stimulate many students to seek information independently. A more aggressive position by the Schools and Colleges of Optometry in providing information on the value and benefits of residencies could stimulate additional interest in the training.

While school loan debt has become excessive for all professional students, it does not appear to be a significant determinant for participation in residency education. Student debt is frequently voiced as a concern regarding additional training, but the results of the survey indicate that the debt load is the same between those who pursue postgraduate training and those who do not. It is possible, however, that debt load, when combined with low residency stipends and inability to defer school loan payments, becomes significant in terms of the decision.

Knowledge of the preferred types and settings of residencies of those interested in additional education should help the optometric profession assess the current distributions of programs and possible need for change. There has been no planning of residencies by the profession. To this point, essentially anyone interested in developing a program may affiliate with a school or college and develop whatever type of residency and in whatever setting they prefer. As long as the program can demonstrate that it meets basic educational standards set by the Accreditation Council on Optometric Education and its own mission, goals, and objectives, it will be accredited.

There has been a significant increase in the number of residency programs over the past few years, particularly in 2002 with the addition of twenty new positions in the VA alone. While the

number of positions continues to increase, the demand for residency training appears to be relatively stable at best. It is becoming increasingly difficult to fill positions. Applicants are fairly particular regarding the programs to which they apply, on average applying to only two programs. If an applicant desires to be at one particular program or one particular geographic location, open positions will remain open. Optometry as a profession must not only share the value and benefits of residency training with students but must also develop a plan for residency education. It makes no sense to continue to initiate new programs if positions are going unfilled.

**Note:** For a copy of the survey, please contact Dr. Atkin at Sharon.Atkin@med.va.gov

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## Industry News

(Continued from page 81)

PARANOL solution was the first ocular allergy product to combine antihistamine and mast cell stabilizing action. In the United States, it is now the most frequently prescribed topical treatment of allergic conjunctivitis. Alcon introduced the currently marketed twice-daily formulation of PATANOL in 1997 and currently markets the drug in over 30 countries including the U.S. and Canada.

### Volk Optical Introduces New Colored Rings For Optical Lenses

Volk Optical now offers select styles of non-contact, diagnostic slit lamp and BIO lenses with colored rings for easy identification of organization.

"Depending on your needs, the brightly colored lens rings have a variety of uses," explains Volk President Peter Mastores. "They can help practitioners easily distinguish their lenses from those of their colleagues or to tell apart one style of lens from another with just a quick glance. They're also a great way to organize larger practices by color coding the lenses in each exam room."

The new finish changes only the color of the ring; customers can expect the same superior clarity and expert craftsmanship that have made Volk's patented, double aspheric, glass lenses the industry standard. To order or obtain more information, visit

www.volk.com, or phone Volk direct at 1-800-345-8655. Volk, an industry pacesetter in the design and manufacture of diagnostic, therapeutic and surgical ophthalmic lenses, equipment and accessories, is based in Mentor, Ohio.

### Marchon Announces Donna Karan Spring 2003

Marchon, the exclusive distributor of Donna Karan eyewear, announced that its 2003 sun collection captures the true essence of Donna Karan New York with a purity of line, richness in material and workmanship that is distinctly modern

Four different styles feature sunwear for customers looking for eyewear that is either sophisticated and luxurious, classic and elegant, distinctly feminine or bold and modern. Marchon, headquartered in Melville, New York, is one of the world's largest privately owned designers, manufacturers and distributors of fashion and technological advanced eyewear and sunwear.

### Novartis' Visudyne® Effective With Wet AMD

Novartis Ophthalmics presented new data at the Macula Society annual meeting demonstrating for the first time that Visudyne® therapy may benefit patients with "wet" AMD who have lesions of a minimally classic composition, a form of wet AMD that was considered untreatable up to now.

Visudyne is the only drug approved for other forms of wet AMD, the leading cause of blindness in people over the age of 50.

Novartis and QLT, Inc., partners in developing and marketing Visudyne, are working to enhance the benefits offered to patients by this therapy through an on-going clinical trial involving more than 1,000 patients. For further information, contact: Jan McClure, 1-770-905-1020.

### Zeiss Expands Eastern Region Sales Force

Carl Zeiss Optical, Inc. announced the recent staff addition of Kathy Vojdani as territory manager. In this role, Vojdani will primarily be responsible for the management and expansion of the company's customer base in eastern Pennsylvania and southern New Jersey. In addition, she will increase awareness of Zeiss lenses and coatings through student education, trade show attendance and marketing plan implementation.

"We are excited to have Kathy on board with our sales team," said Roland Sitzler, vice president of sales, Carl Zeiss Optical, Inc. "We're confident that her industry knowledge and experience qualify her to fulfill the needs of our expanding customer base in the eastern region." Headquartered in Oberkochen, Germany, Carl Zeiss is a leading international group of companies operating in the optical and opto-electronic industry.

# Pediatric Residency Journal

Geoffrey W. Goodfellow, O.D., F.A.A.O.

## I'm a Resident!

*Tuesday, June 26, 2001*

How exciting...overwhelming...satisfying! My pediatric residency at the Illinois College of Optometry begins next week. I haven't felt this way since my first days of Optometry school. I still can't believe that I've finished externships...passed boards...graduated! Time does go quickly.

The past few weeks have been enjoyable; I've spent lots of time with family and friends. I don't have my license, so I really couldn't be a real optometrist for these past weeks. I have such a strong feeling of satisfaction. I have accomplished so much, but at the same time, I'm just at the beginning of my career.

I spoke to some classmates last night. Katie is still very anxious about finding a good job; she just hasn't "found" anything yet. I am so relieved that my future for the next year is determined. The moment I was accepted for the Peds residency at ICO, I was thankful that I didn't have to be part of that job-hunting brigade. A tiny portion of Katie was jealous...I could only smile. On the other hand, Kevin said he found a great job at a commercial establishment that will be paying him big bucks. I really was happy for him, even though images of my meager residency stipend were dancing mockingly through my mind. There's more to life than money, right? I love Peds, and the experiences of my residency year will pay off in the long run, right? My gosh, what have I done?

## In the Beginning...

*Monday, July 9, 2001*

I saw my first patient today...a ten-year-old myope who broke his glasses. Since I spent the last six months on externship at VA hospitals, dealing with anyone under the age of 60 feels challenging. It was so strange not to ask for permission to dilate the patient; it was all me. I wrote out a prescription for new glasses and cleverly answered the mother's question about when the eyedrops would wear off.

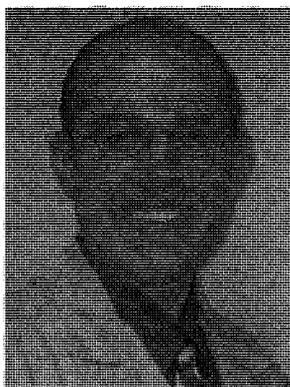
*Tuesday, July 10, 2001*

His name was Tyler...He was three years old...He was devious. I really do like children, but this cute little boy was most difficult for this new Peds resident. My well-intentioned case history was overshadowed by a chief complaint of an eye turn. I glanced at the patient; oh my, there was definitely an esotropia occurring. My "fixate and follow" routine was floundering. My candy bead test was sticky. My cover test just wouldn't end. I simply

wanted to shout out loud, "somebody come quick; call in the reinforcements; someone restrain the child." My lone popsicle stick with a sticker on it was no match for this equipment-eating patient. Tyler wanted to stand. Tyler wanted to sit. Tyler wanted to run around the room. Mental note: purchase lots of fun, playful, colorful fixation targets.

*Monday, July 16, 2001*

It is quite clear to me now. It was clear to me when I had my pediatrics rotation too, but that was very long ago. (All that diabetic retinopathy and dry eye has a way of diluting the optometric memory.) It is clear to me now that children do not like eyedrops. Nothing quite expresses displeasure like the uncontrollable sob of a child. I was in the process of telling my patient about the eyedrops, how I would instill them, what it would feel like, how to look up at the ceiling while I gently instilled the delicate drop. After several minutes of coercing, my patient encounter was observed by the passing Dr. Kattouf. She politely called me to the side and stated the likes of, "children don't like eyedrops. You clearly and briefly explain what you're going to do, you get the mom's permission, and you just do it. The child will cry for several moments, and then everything returns to normal. Now watch..." She was so correct.



## Residency Underway

*Thursday, September 27, 2001*

I put the finishing touches on our COVID poster today. The majority of the work was done already; I simply needed to arrange my figures purposefully on my poster. I have always enjoyed the research process - devising a plan, gathering the data, waiting in suspense as our abstract is reviewed. Dr. Steele [Ed. Note: Dr. Greg Steele passed away in 2002.] is amazing to me. He never seems to worry about the details. He has offered some suggestions but has really let me run the show with our poster.

I also put a bit more effort into my upcoming grand rounds presentation. I find thinking about it much harder work than actually doing it. After finding a good case, I start thinking of dozens of ways to present the information, but nothing is more satisfying than double-clicking that PowerPoint icon and pressing onward. I've sat through quite a few presentations in my academic career, and it's easy to recognize a good presentation from a poor one. However, once you prepare something of your own, you realize that it's a lot harder than it looks!

*Monday, November 12, 2001*

The mother begins by telling me that her son failed a school vision screening. I've certainly heard that one

*Dr. Goodfellow is an instructor in the Pediatrics/Binocular Vision Service of the Illinois Eye Institute at the Illinois College of Optometry.*

before. Distance visual acuities were 20/20 in the right eye and 20/200 in the left. My cycloplegic examination revealed +5.00 D OD and +9.00 D OS. Mom and dad *really* didn't want contact lenses, so we discussed some spectacle options. Little Jake and his parents left with a prescription for his first pair of glasses and a box of sticky patches for some occlusion therapy. Dad wasn't sold on the idea, but mom seemed to grasp the concept... RTC 1 month.

#### **Saturday, December 15, 2001**

Things are so busy now. When I look back at my previous entries, I truly realize how far I have come. I feel so much more like an independent doctor of optometry with the confidence needed to tackle the toughest of cases. I still have tons to learn, but at least I can give every case my best shot. Teaching in Strabismus and Amblyopia lab has really allowed me to solidify my thought process. Having to answer the questions of third year students has kept me on my toes. I am so thankful that I decided to do a pediatric residency. I am having the best year ever. From my first grand rounds experience and my teaching assistance in the Binocular Vision Disorders lab to my posters at COVD and Academy, I have experienced so much. I have confirmed my love for academic optometry and know this is what I want to do in life. I've logged nearly 300 patient encounters so far and really appreciate the diversity the program offers - vision therapy, strabismus evaluations, visual efficiency exams, infant exams, urgent care, primary care. Every day is different from the one before.

#### **Tuesday, January 22, 2002**

Urgent care is always so suspenseful. You just never know what is going to walk in the door while you're on duty. I diagnosed a case of optic neuritis today. The patient had pain on eye movement, no ocular health findings, failure on the red cap desaturation test. Yes, you must wade through the deep trenches of dry eye syndrome and subconjunctival hemorrhage to finally reach each exciting case, but it is worth the wait. The experience also keeps me humble. Some days in urgent care also give me practice at saying, "you know what, I'm not sure what I'm seeing here; could you help me out." As a health care professional, that's a really important quality.

It's so incredible to see the development in my fellow residents. I often consult with my primary care colleagues when I come across something new. They are a great fund of information to me. Hopefully, they find me just as helpful. Just today, Stacie called to ask my opinion on how to manage an intermittent exotropia that she was examining in primary care. I like sharing information about things I've learned. She could have called anyone...

#### **Monday, February 25, 2002**

My favorite part of the Peds residency remains direct care. I love working with my young patients and interacting with their families. I find particular enjoyment with my ongoing vision therapy cases and countless follow-ups. It is fun to chart the progress of a child who has been working hard. Remember that little boy with anisometropic amblyopia who could only see 20/200 out of his left eye three months ago? We started patching therapy initially and progressed to some techniques involving monocular fixation in a binocular field at the last visit.

Well you know what? He came back today, and his vision was 20/20 in that eye and he was able to see random dot forms. His mom and dad were thrilled...and so was I. This is what optometry is all about.

### **All Good Things Must Come to an End**

#### **Wednesday, May 29, 2002**

You'll never believe it! I received another job inquiry today. I have had three people contact me over the past three months to say that they were looking for an optometrist with pediatric residency training. I have been determined to stay actively involved in academic optometry and wish to remain in the Chicago area, so I haven't seriously considered many of these job inquiries, but this recent one is looking for a one day per week pediatric optometrist to work in a hospital setting. I always knew that having a residency and being good at what you do would help find a good job, but I never dreamed that it would open up so many doors. This once-a-week commitment would greatly complement my new faculty schedule. Yep, that's right - I recently accepted the position of Instructor of Optometry at the Illinois College of Optometry!

#### **Friday, July 5, 2002**

Can my residency possibly be over? As I familiarize the new pediatric residents with my year's experience, I realize what an incredible opportunity my Peds residency has been for me as a clinician. As a student, you can read and study as much as you want; you can even demonstrate yourself clinically under the guiding wisdom of your precepting faculty member. But, only when you have the chance to think on your own and be independent does it all come together.

It has been difficult to say a parting farewell to my fellow ICO residents. They have taught me so much, and I have enjoyed their company throughout the year. Paula, my partner Peds resident, and I shared some memorable stories today about our great year. We laughed about the time my car broke down on the way to the Junior Olympic games and how we had to drive slowly through mountainous terrain with no air conditioning in hundred-degree weather, stopping every few miles to give the car a rest, just so we could make it to the next gas station. It's fun to look back with a smile. It's difficult to say goodbye, but we must all move onward to do great things.

#### **Saturday, July 27, 2002**

I received notification today that I will be able to participate in the oral fellowship examination at this year's Academy meeting. In addition to submitting some case reports and organizing my posters, my residency gave me the last set of points needed to fulfill my fellowship candidacy.

I have adapted to my new faculty schedule and am still getting organized in my new role. Fall quarter will begin soon, and campus will be alive again with new and returning students, rested for another phase of challenges and learning; I, too, feel ready and rested for what lies ahead. My residency has definitely finished, but my residency experience continues. How exciting...overwhelming...satisfying!

# The Optometric Residency Matching Service — An Update

Charles L. Haine, O.D., M.S., F.A.A.O.

## Introduction

The Optometric Residency Matching Service (ORMS) was formed in the middle 1980s to bring some order to the chaos that surrounded residency matching as it existed in the then Veterans Administration (VA). ORMS was founded as a volunteer organization run by non-paid VA personnel who were interested in residency education. In 1991, ORMS was incorporated as the Optometric Residency Matching Service, Inc., with a Board of Directors and officers of the Board.

From 1991 to 2001, the matching service grew slowly until it was matching approximately 100 residency positions for the Department of Veterans Affairs, the Indian Health Service, and one school's external residencies. Throughout this period, there was active dialogue between the officers of ORMS and the Residency Affairs Committee (RAC) of the Association of Schools and Colleges of Optometry (ASCO). It was the feeling of the RAC and ORMS that some form of matching should be instituted for all school-affil-

iated residency programs so that there would not be any undue pressure on candidates, residency supervisors or directors. The theory was that if everyone matched on the same date, the possibility of "gaming" the system to gain unfair advantage would be marginalized.

In December 2000, the RAC, after two years of intense study and discussion, voted to recommend that the presidents and deans of the schools and colleges of Optometry endorse a two-year trial of matching with ORMS, which would commence with the 2002 match. In March 2001, the deans and presidents voted to accept the committee's recommendation.

For the 2001 matching season, ORMS implemented an online application and matching Web page. The electronic system changed the service in a transparent but significant way; ORMS now would provide application services for those residency directors or supervisors who chose to accept the form that was transmitted to them electronically by ORMS. The new application service was widely accepted by the vast majority of constituents. A side effect was a decrease in paperwork for candidates.

This paper is a summary report to academic optometry on the match that was completed in March 2002.

## The Match

The match process begins for the candidates on October 1st of each year when ORMS begins accepting applications from the residency candidates. The application requests demographic and educational data on the applicant and allows applicants to select up to ten residency programs of interest. Upon receipt of the application, ORMS forwards the applications to the programs in which the candidate has interest. During the period from October 1st to February 10th of each matching season, the candidate provides the program supervisor with the information necessary for that particular program, which is over and above the application that ORMS had previously forwarded to the program. Such information would include the following: curriculum vitae, letter of intent, letters of recommendation, optometry school transcripts, NBEO transcripts, and personal or professional information as required. Also, the candidate is responsible for arranging an interview with the optometric staff of the program.

The candidates must file a second form, their Applicant's Ranking of Programs Form, which specifies their order of preference for given programs. This form allows the candidates to rank order up to ten programs. For the 2002-03 matching season, the candidates were required to file this form by 5 PM CST, February 28, 2002. This deadline varies from year to year but is usually around the 1st of March. As a security measure, a copy of each applicant's ranking list is sent back to the applicant.

The program supervisor must file his/her Coordinator's Ranking List of up to twenty-five candidates by the same deadline as the candidate. Again, as with the applicant's ranking list, a copy of the program supervisor's ranking list is sent back to the supervisor upon receipt.

Immediately following the deadline, the ORMS staff initiates the matching process to simultaneously analyze every Coordinator's Ranking List with respect to every Applicant's Ranking Form. A matching algorithm simulates the situation where coordinators offer positions to applicants and the applicants accept or reject those offers. The result of this match is that each applicant is placed with his/her most preferred program that does not match with an applicant ranked higher on that program's ranking list. ORMS does not arbitrari-

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ly or subjectively assign applicants to programs. ORMS, as an agent to both parties, simply computes "agreements to mutually commit" between the parties based upon the objective algorithm.

ORMS states that the result will be sent to the interested parties within seven days of the match. Notifications of the results of the match are sent in the following order:

- Candidates who matched
- Candidates who did not match
- Supervisors who matched
- Supervisors who did not match

Immediately after the results have been posted, ORMS posts a directory of unmatched programs on the web site [www.orms.org](http://www.orms.org). This list is for use by non-matched candidates to ascertain if there are positions available that are of interest to them. ORMS updates this list with information from the sites.

Another service is the "pool" list of candidates who did not match. This list contains candidates' names and demographic and academic information. This list is distributed to unmatched programs that are paid residencies at the same time as they are notified that a position was not matched. After five working days, the list is released via electronic mail to residency supervisors who have unpaid positions.

## Results

For 2002, there was a total of 256 applicants for 242 residency positions at 147 residency programs. Over the course of the application period, nine candidates withdrew from the match and five candidates did not pay the application and matching fee, resulting in 242 persons eligible for the match. There were 233 candidates who submitted matching forms, which resulted in nine additional individuals who were counted as informal withdrawals from the match. Of the full field of candidates, there were 86 male and 170 female; therefore, 66% of the applicants were female. The age ranged from 23 to 52 years with a mean of 27 years, mode of 25 years, and median of 26 years. There were 225 U.S. citizens in the total group. National Board mean scores were as follows:

- Mean Part 1 score=477
- Mean Part 2 score=508
- Mean TMOD score=85
- Mean Part 3 score=521

**Table 1**  
**Number of Applicants by School**

Inter American University at Puerto Rico = 4
Pacific University College of Optometry = 19
Illinois College of Optometry = 27
Southern California College of Optometry = 15
Indiana University School of Optometry = 14
Southern College of Optometry = 26
Michigan College of Optometry at Ferris State University = 6
SUNY College of Optometry = 21
University of Montreal School of Optometry = 2
University of Alabama at Birmingham School of Optometry = 5
New England College of Optometry = 28
University of California at Berkeley School of Optometry = 12
Nova Southeastern University College of Optometry = 13
University of Houston College of Optometry = 9
Northeastern State University College of Optometry = 3
University of Missouri at St. Louis College of Optometry = 1
Ohio State University College of Optometry = 13
University of Waterloo School of Optometry = 6
Pennsylvania College of Optometry = 26

The GPA could have been calculated, but it was not felt to be pertinent as there are differing standards from school to school.

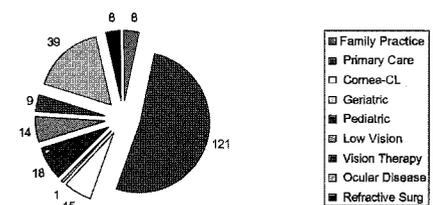
There were 187 candidates who matched, or 80% percent of the candidates who submitted matching forms. Of those matches, 106 (57%) were "1:1" matches where the candidate ranked the program as #1 and the program ranked the candidate #1. This figure of 57% is slightly below the usual 65% seen in previous years' matches.

## Discussion

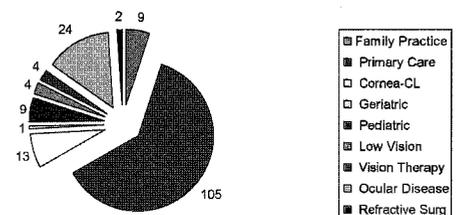
Figure 1 illustrates the distribution of the 233 applicants who participated in the match by their first choices of types of residency positions. Primary care optometry represented that largest group of candidates. Primary care optometry also has the greatest number of residency positions. In other words, the residency candidates tend to apply to programs in roughly the same distribution as the residency programs are distributed (compare Figure 1 with Figure 7). This distribution held true for candidate choices 2-5 as illustrated in Figures 2-5 and with the overall distribution of candidate choices, Figure 6.

Figure 8 represents the number of residency candidates who applied to

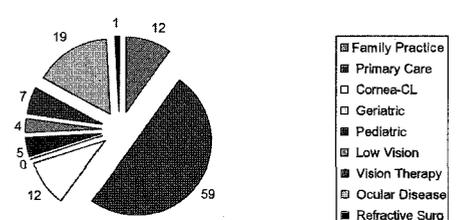
**Figure 1: First Choice**



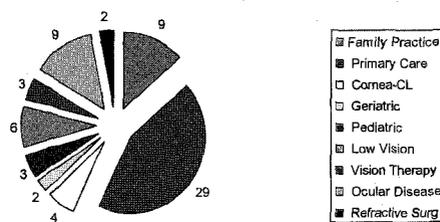
**Figure 2: Second Choice**



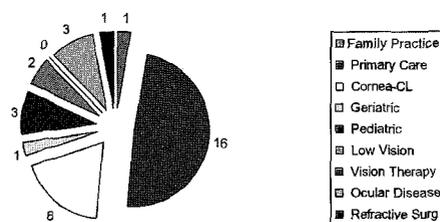
**Figure 3: Third Choice**



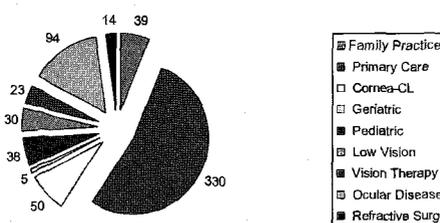
**Figure 4: Fourth Choice**



**Figure 5: Fifth Choice**



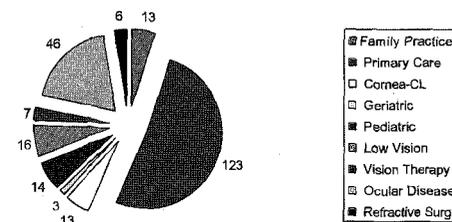
**Figure 6: Totals 1-5 Choices**



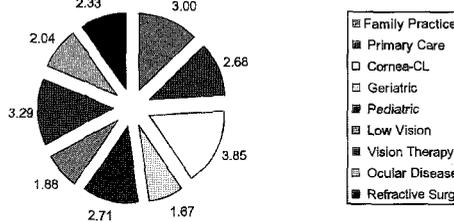
the various types of residency positions divided by the number of positions available in each type of program. Due to the fact that candidates could choose up to 10 programs, with a mean of approximately three programs, there are more candidates choosing programs than the one to one that would result if each candidate were to select only one position.

To be fair, the analysis is flawed to a certain extent, in that some positions have two classifications. In those cases, the first classification of the residency was used to total the number of candidates per position available. Furthermore, the candidate's choices were counted in the same manner, so that this would tend to balance any bias in the count of programs. Despite these potential biases, it does appear from the data that residency programs are doing reasonably well in

**Figure 7: Number of Positions by Type of Program**



**Figure 8: Application/Position**



meeting the needs of candidates in terms of types of programs offered.

It appears that the candidates' highest priority is the type of program and their second criterion is the quality of the program. With opportunities well distributed geographically, candidates appear to be using geography as a highly ranked determinant in their decision-making. Also, married optometric couples are increasingly seeking residency education. These couples usually seek residency programs where they can live together; therefore, they are attracted to larger metropolitan areas where more than one program exists or to programs with multiple positions. In addition, some residency programs in geographically remote areas do experience difficulty in filling their positions.

In past years, when the match consisted of VA, Indian Health Service and one school's external residency positions, ORMS matched about 85% of the positions. This year, when using the number of positions to calculate the match rate, 77% were matched. Some of this decrement is probably due to the Department of Veterans Affairs adding approximately 20 positions in late January 2002. Without that addition, the match rate would have been 84%. Because there

are always candidates who do not match and programs with spaces to fill after the match, ORMS has initiated two services. Unmatched candidates are offered the opportunity to have their name placed on the "pool" list that is distributed to program supervisors who have open residency positions. Concurrently, ORMS publishes a list of unfilled residency positions for use by unmatched candidates. When the list of unfilled positions was removed from the ORMS web site in mid-September 2002, there were only six positions listed as unfilled.

In the results section it was noted that 225 candidates were U.S. citizens. This becomes important for non-citizen candidates because they are prohibited from matching at federal facilities if there are qualified applicants who are U.S. citizens. Therefore, VA and IHS programs may not match with non-citizens.

The Residency Affairs Committee of ASCO suggested a two-year trial using ORMS for optometric residency matching. The information reported in this article reflects the result of the first year of that trial. Based upon the positive response to last year's match and the data discussed earlier, it appears that the upcoming match for the 2003-04 residency year will be even better for the residency candidates and program supervisors.

# Between Site Visits: The Need for Ongoing Evaluation of Residency Programs

Michael H. Heiberger, O.D., M.A., F.A.A.O.

## Introduction

According to Chelimsky<sup>1</sup>, "Telling the truth to people who may not want to hear it is, after all, the chief purpose of evaluation." This, and a usually heavy workload with fewer than adequate resources, make program coordinators and their supervisors often treat evaluation as a "necessary evil" rather than as an avenue to program improvement.

Typically, accredited residency programs in optometry are subject to a comprehensive review by the Accreditation Council on Optometric Education (ACOE) at least every seven years. Programs that have exhibited significant non-compliance with ACOE standards may be reviewed more frequently. Since these are invariably one-year programs, an individual program typically has undergone seven cycles, with seven sets of residents, between reviews. The ACOE's standards for residency programs<sup>2</sup> require that "the program must annually review the fulfillment of its objectives to determine the degree to which it has attained its mission and goals." Furthermore, the standards state, "The program must

modify its educational program if indicated by the annual review." Starting in 2003, the ACOE will request that each program report on its annual review of the achievements of its mission, goals and objectives as required by the ACOE's standard I.

Stufflebeam<sup>3</sup> lists accreditation as one of twenty-two different models of program evaluation. He points out that accreditation is very much in the public interest in that it aids lay persons in making informed judgments about the quality of programs and the qualifications of program personnel. Accreditation bodies set minimum standards and address how programs can be improved. Accreditation standards, however, often emphasize inputs and processes and not outcomes. The ACOE expects residency programs to utilize outcome measures in their annual program reviews and now will monitor them on an annual basis.

## Program Evaluation

The twenty-two models of program evaluation are arranged into four categories by Stufflebeam<sup>3</sup>:

1. Pseudoevaluations - those that fail to produce and report valid assessments of program merit and worth

2. Questions-Oriented - address specified questions whether or not they are appropriate for assessing a program's merit or worth
3. Improvement/Accountability-Oriented - comprehensive approaches to fully assess a program's merit and worth
4. Social Agenda/Advocacy Approaches - directed toward making a difference in society by seeking to ensure equal access to educational opportunities

Accreditation is one of three approaches included in (3) the improvement/accountability-oriented category. The others are decision/accountability-oriented and consumer-oriented approaches. The former emphasizes questions of merit and worth to judge a program retroactively as well as to help improve the program. The latter is a process of determining merit and worth with the consumer's welfare as the program's primary justification and is geared to providing consumers with information by which to choose among competing programs or services.

While absolutely necessary in a setting such as optometric education, accreditation is limited in its main methods of approach — the use of observations, interviews, self-study and site visits by peer experts. In addition, if a program were to rely solely on its cyclical (usually seven-year) accreditation self-study and site visit for its evaluation, the many opportunities that ongoing program evaluation offers are lost. This not only includes the opportunity for continuous program improvement; it also enables a program to choose and use a wide range of evaluation methods to provide information about a program's merit and worth to a wide range of audiences.

Many of the tools and methods, even if also used in accreditation self-studies, usually get looked at once in seven years. None of these methods are prescribed by ACOE. However, they are often used in sporadic fashion to serve the needs of a self-study. Examples of these tools and methods include the use of:

- Surveys - to gather opinions of participants, beneficiaries or sponsors of programs
- Needs assessments - to determine program resource requirements
- Focus groups - composed of program personnel who address a specific issue(s)

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# Outcomes of Residency Education: Postresidency Practice Settings

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## Abstract

**Background:** From the first accredited residency program in 1976, optometric residency education has greatly expanded in terms of the number of programs offered, the settings for residency training, and the types of program emphasis. This paper seeks to address the question: Do former residents select practice settings that require or recommend residency training?

**Methods:** A mailed survey was sent to all residency coordinators affiliated with Southern California College of Optometry. Data was analyzed to determine the type of setting where previous residents currently practice. Responses were analyzed by the type of residency program and the program emphasis.

**Results:** The proportion of former residents who practice in settings either requiring or recommending postgraduate training was 65.6%. Differences in practice setting were associated with program emphasis and program type.

**Discussion:** Selecting a variety of different outcomes to be evaluated can provide greater insight into the impact and value of residency education. This study suggests that the majority of individuals who complete postgraduate residency training select a practice setting that requires or recommends residency training.

**Key Words:** residency, outcomes, practice settings, Veterans Affairs, Indian Health Service

## Background

The Accreditation Council on Optometric Education (ACOE) has defined residency training programs as follows: An optometric residency program is a postdoctoral educational program centered on clinical training that results in the resident's attainment of advanced competencies in eye, vision, and health care.<sup>1</sup> From the first accredited residency program in 1976<sup>2</sup>, optometric residency education has greatly expanded in terms of the number of programs offered, the settings for residency training, and the types of program emphasis.

Southern California College of Optometry (SCCO) established its first residency program in 1977, originally as a Fellowship in Children's Vision<sup>3</sup>. Over the years SCCO affiliated residency programs have been established in many different specialty areas including low vision rehabilitation, ocular disease, primary eye care, cornea and contact lenses, and pediatric optometry and vision therapy. These residency programs have been developed at a variety of differ-

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ent locations including the college-based Eye Care Clinic, optometry services within the Department of Veterans Affairs, the United States Public Health Service Indian Health Service, and private clinical settings.

The mission of the College's residency programs is to provide postdoctoral clinical training that incorporates the highest level of knowledge with an array of unique and diverse experiences.<sup>4</sup> To achieve the mission, SCCO residency programs have established the following goals:

1. To provide postdoctoral students with a diverse optometric education that integrates the basic and clinical sciences.
2. To develop advanced clinical reasoning abilities.
3. To foster intellectual development through independent study and the application of scientific method in research and/or other scholarly activities.
4. To prepare the postdoctoral student for advanced clinical competence as eye care providers with the ability to diagnose, treat, and manage eye and vision conditions.
5. To provide clinical programs that offer the postdoctoral student the opportunity to deliver optometric services in a wide variety of health care settings to culturally and socially diverse population groups within our society.
6. To challenge and motivate postdoctoral students to develop personal and professional goals in leadership, education, and advanced clinical care.<sup>5</sup>

The purpose of this paper is to assess one of the outcomes of residency education related to the selection of postresidency practice settings, as guided by goal 6 stated above. Postdoctoral students who successfully develop personal and professional goals in advanced clinical care may be more likely to seek practice opportunities that will support them in attaining their goals. One way that this may occur is by selecting practice settings that require or recommend residency training. This paper seeks to address the research question: upon completion of their program, do former residents tend to select practice settings that require or recommend residency training?

Although the scope of this research did not include an evaluation of the types of patient care services provided, and it did not assess the complexity of

the patient mix seen by former residents, the information obtained is still useful. Because a practice setting requires or recommends residency training, it is expected that the residency training would be utilized in that setting. In turn, practice setting may be considered a proxy for the potential for a broader scope of practice. Based on where a resident does finally practice, certain postulates and conclusions may be drawn from the data obtained.

## Methods

A mailed survey was sent to all residency coordinators affiliated with SCCO in the summer of 1997. The Residency Program Directors were asked to indicate where their former

residents were practicing, and whether practice setting either required or recommended the completion of residency training. The judgment of the residency requirements was made through communication among the Residency Program Director, the Assistant Dean for External Programs, and the former resident. Practice settings that were categorized as requiring a residency were described as locations where an applicant must have completed a residency to be eligible for employment consideration. These practice settings were typically educational institutions, Department of Veterans Affairs optometry service, co-management centers, hospitals, or Indian Health Service clinics. Practice settings that were categorized as recommending a

residency were described as a location in which residency training was desirable, although not a prerequisite, to be eligible for employment. These settings were typically private practice, some Indian Health Service settings, and some health centers. Examples of practice settings that did not require or recommend completion of a residency included some private practice settings, "commercial or corporate" practice, or other employed situations.

Responses were also analyzed by the type of residency program and the program emphasis. The type of program was categorized as College-based, based within the Department of Veterans Affairs, affiliated with the Indian Health Service, or based in a private clinical setting. Program emphasis

**Table 1: Summary of Survey Responses**

Residency Program Location	Residency Program Emphasis	Type of Residency Program	Total Number of Former Residents	Percentage in Settings Requiring Residency	Percentage in Settings Recommending Residency	Combined Percentage
Vision Therapy Service, Eye Care Clinic, Optometric Center of Fullerton	Pediatric Optometry and Vision Therapy	College-clinic based	29	37.9%	48.3%	86.2%
Los Angeles VA Outpatient Clinic, Los Angeles, CA	Ocular Disease / Low Vision Rehabilitation*	VA based	14	14.3%	35.7%	50.0%
West Los Angeles VA Medical Center, Los Angeles, CA	Primary Eye Care/Geriatric Optometry**	VA based	42	19.0%	38.1%	57.1%
Sepulveda VA Medical Center, Los Angeles, CA	Primary Eye Care	VA based	11	27.3%	36.4%	63.6%
Barnet Dulaney Eye Center, Phoenix, AZ	Ocular Disease	Private Setting	10	30.0%	30.0%	60.0%
Cornea and Contact Lens Service, Eye Care Clinic, Optometric Center of Fullerton	Cornea and Contact Lens	College - clinic based	6	50.0%	33.3%	83.3%
The Center for the Partially Sighted, Santa Monica, CA	Low Vision Rehabilitation	Private Setting	5	60.0%	0.0%	60.0%
US Public Health Service, Shiprock, NM	Primary Eye Care	Indian Health Service	4	25.0%	50.0%	75.0%
US Public Health Service, Chinle, AZ	Primary Eye Care	Indian Health Service	2	100.0%	0.0%	100.0%
US Public Health Service, Crownpoint, NM	Primary Eye Care	Indian Health Service	2	0.0%	0.0%	0.0%
US Public Health Service, Fort Defiance, AZ	Primary Eye Care	Indian Health Service	2	50.0%	0.0%	50.0%
US Public Health Service, Winslow, AZ	Primary Eye Care	Indian Health Service	2	50.0%	50.0%	100.0%
Hu Hu Kam Memorial Hospital, Sacaton, AZ	Primary Eye Care	Indian Health Service	1	0.0%	0.0%	0.0%
US Public Health Service, Sells, AZ	Primary Eye Care	Indian Health Service	1	0.0%	0.0%	0.0%
<b>TOTAL</b>			<b>131</b>	<b>29.8%</b>	<b>35.9%</b>	<b>65.6%</b>

\*analyzed as low vision rehabilitation; \*\*analyzed as primary eye care



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