



# Quality Assurance In a Cornea and Contact Lens Service

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## ABSTRACT

*The impetus for the establishment of a cornea and contact lens specialty service quality assessment and improvement (QAI) program was inclusion in managed care provider panels. The purpose of the program was to improve the quality of patient care in the cornea and contact lens service through the application of traditional QAI tools. Tools utilized included a patient satisfaction survey, a medical record review, provider credentialing, and clinical privileging. A successful QAI program has the potential to improve clinical education by increasing the quality of patient encounters, enhancing clinical management and documentation skills, reducing medical-legal risk and thereby assuring quality patient care.*

**Key Words:** Managed care, quality assessment and improvement, record review, patient satisfaction survey, provider credentialing, clinical privileging.

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In 1951,<sup>1</sup> the Joint Commission on Accreditation of Hospitals was created to monitor the delivery of health care in hospital settings. The organization later changed its name to the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in order to reflect its role in accrediting health care settings other than hospitals. JCAHO does not formally recognize optometry. Its standards, however, permit licensed practitioners who are permitted by law to independently provide patient care to be recognized as members of the health care organization's professional staff.

In 1991,<sup>2</sup> the National Committee for Quality Assurance (NCQA) was formed to develop standards of accreditation used to assess the quality of health care delivered by managed care organizations. The mission of the organization is to enable "purchasers and consumers of managed health care to distinguish among plans based on quality." NCQA developed these standards in conjunction with managed care industry representatives, health care purchasers, state regulators, and consumers.

An optometric practice is not eligible for an NCQA or JCAHO audit as a stand-alone entity. It should, however, be committed to the same principles of quality as any other organiza-

tion that delivers health care. Furthermore, an optometric practice may be required to participate in quality assessment and improvement (QAI) programs through its affiliations with managed care organizations accredited by the NCQA or multi-disciplinary practice settings accredited by the JCAHO.

In 1993,<sup>3</sup> the American Optometric Association (AOA) established its Commission on Quality Assessment and Improvement. The mission of the commission is to encourage the implementation of clinical practice guidelines in order to improve the quality, effectiveness, and uniformity of patient care provided by optometrists. As part of this mission, the AOA developed a *Model Quality Assessment and Improvement Program for Optometric Practices*. This publication serves as the foundation for the Quality Assessment and Improvement (QAI) program at Nova Southeastern University College of Optometry.

Upon review of the College's QAI guidelines, the contact lens faculty determined that certain aspects of the recommendations were not being met in the contact lens service. For example, previous patient satisfaction surveys and record audits did not include evaluation of contact lens related eye care. In addition, there was no formal mechanism for delin-

ation of provider privileging. Thus, the faculty noted that the quality measures utilized in the clinic were inadequate compared to NCQA and JCAHO standards. The need to develop dedicated QAI guidelines for the cornea and contact lens service became apparent. The faculty anticipated that revised guidelines would facilitate inclusion in managed health care provider plans as well as promote improved quality care.

## **Total Quality Education (TQE) Program Description**

The goal of the TQE program was to improve the quality of patient care by applying our current primary care QAI guidelines to the cornea and contact lens service.

Program objectives included: (1) documentation of faculty credentials and delineation of clinical privileges; (2) identification and remediation of areas of patient dissatisfaction; (3) implementation of a record review process adapted to the cornea and contact lens service; (4) identification of potential institutional and provider liability; and (5) education of faculty and students regarding QAI issues.

Specific tools utilized to monitor quality assessment and improvement included: (1) faculty credentialing and clinical privileging; (2) patient satisfaction survey; (3) patient record review; (4) risk management record and process review; (5) student testing; and (6) faculty feedback regarding clinical privileging.

Program participants included optometry students and faculty participating in contact lens education during the appraisal period. Patients identified for participation in the project were those receiving care in the cornea and contact lens service during the course of the project.

## **Methods**

### **Documentation of Faculty Credentials and Clinical Privileges**

Credentialing is the process by which a faculty member's identity and qualifications to practice are assessed and verified by a committee of peers. By contrast, privileging is the process by which an institution grants a health care provider permission to provide patient care within well defined limits. Therefore, privileges define the scope of practice of an

individual, rather than the scope of the profession.<sup>4,6</sup>

The committee of peers was composed of optometric faculty maintaining a rank of instructor or higher who participated in clinical or didactic contact lens education. A representative of the contact lens faculty was appointed to coordinate the credentialing and privileging activities and to report to the College QAI Committee. Faculty participation was optional during the grant period.

Nine faculty members completed a credentialing document modified from the AOA's *Model Quality Assessment and Improvement Program for Optometric Practices* and submitted supporting documentation. The coordinator of activities reviewed each document and requested clarification as needed. Upon primary source verification of the faculty member's credentials, the faculty member requested clinical privileges. The coordinator, in conjunction with the committee of peers, reviewed the privileging document prior to submitting the recommendations to the QAI Committee. Clinical privileges were granted to licensed providers on the basis of one of the following: (1) completion of a contact lens residency accredited by the Council on Optometric Education; (2) diplomate status in the cornea and contact lens section of the American Academy of Optometry; (3) completion of a course or examination administered by a recognized optometric or ophthalmologic certifying body; (4) evidence of clinical experience; or (5) self-report of ten procedures performed during the previous year.

In addition to previously described requirements, faculty members were asked to participate in a clinical orientation as part of their teaching responsibilities in the specialty service. Faculty members developed and administered an orientation on the following topics: (1) instrumentation including corneal topography, pachymetry, and anterior segment photography; (2) verification of lens designs; (3) prescribing of therapeutic agents and contact lens solutions; (4) recognition and interpretation of fluorescein patterns of rigid lenses and anterior segment pathology; and (5) lens selection and ordering procedures.<sup>7</sup> The orientation also focused on student performance objectives, new developments in cornea and contact lens care, and policies and procedures unique to the specialty service.

Although the clinical orientation included a demonstration of proficiency in selected skills by written and practical examination, performance was not a means of limiting faculty privileges.

Documentation of completion of the credentialing and privileging process was submitted to the College QAI Committee. Written feedback was solicited from the contact lens faculty.<sup>8</sup> Faculty members outside the service were invited to participate in the review process in order to ensure the fairness and objectivity of the program.

### **Patient Satisfaction Survey**

The College's primary care service patient satisfaction survey was adapted to the specialty service (Table 2). All patients receiving care during the fifth week of each student clinical rotation were provided with a survey upon completion of their examination. Patients were asked to record their responses on Scantron forms. Completed surveys were deposited in a receptacle placed at the reception desk.

### **Patient Record Review**

The College's primary care service patient record review was also adapted to the specialty service. Fourth year optometry students conducted the record review under the supervision of a clinical preceptor. (Appendix A). The review was administered prior to and after the QAI educational program. Records from the final week of the preceding clinical rotation and the initial week of the current rotation were selected randomly by the contact lens technician for evaluation. The contact lens technician ensured that the provider names were masked. The survey results were recorded on Scantron forms.

### **Process Review**

Optometry faculty and staff familiar with contact lens service clinical policies and procedures conducted a process review. The identities of the individuals conducting the review were masked from the students, staff, and faculty being evaluated. The primary objective was to identify policies and procedures with potential institutional and practitioner opportunities for improvement.

### **Student Outcome Review**

An educational seminar for faculty and students provided an overview of

**Table 1  
Provider Credentialing**

Selected Item Analysis (N=9)

Gender		Education		Professional Training		Post-professional Training		Years Since Graduation	
Male	67%	Baccalaureate	78 %	O.D.	N=9	Residency	44 %	Mean	14.7
Female	33%	Masters	11 %	Institutions Represented	N=7	Contact Lens Residency	11 %	Standard Deviation ( $\delta$ )	13.4

**Table 2  
Patient Satisfaction Survey**

KEY: 1 = I strongly disagree    2 = I disagree    3 = I have no opinion either way    4 = I agree    5 = I strongly agree

Clinical site	North Miami Beach N=12		Davie N=30	
	Mean	Mode	Mean	Mode
The receptionist was courteous when I scheduled my appointment.	4.91	5	4.52	5
I was able to make my appointment easily and in a reasonable period of time.	4.67	5	4.48	5
The receptionist was courteous when I arrived for my appointment.	4.83	5	4.55	5
My student doctor greeted me in a reasonable period of time.	4.92	5	4.76	5
The Eye Clinic was clean.	4.67	5	4.83	5
Proper hygiene was observed during the examination.	5.00	5	4.86	5
The student doctor's conduct was professional.	5.00	5	4.90	5
I felt that the examination was thorough.	5.00	5	4.90	5
The supervising doctor's conduct was professional.	5.00	5	4.83	5
The pricing was reasonable.	4.58	5	4.45	5
The policies were clearly explained to me.	4.83	5	4.69	5
The student doctor and supervising doctor worked well together.	4.92	5	4.79	5
My questions were answered in a professional and personal manner.	4.92	5	4.83	5
I am satisfied with the overall care that I received in the contact lens service.	5.00	5	4.86	5

QAI and Total Quality Management (TQM) principles with an emphasis on record review. A brief examination was administered at the beginning and conclusion of the seminar. Evaluation of the QAI educational program was incorporated into the contact lens course evaluation.

## Results

The University Office of Educational Development conducted preliminary analysis. The patient satisfaction survey and the QAI educational program evaluation were evaluated by the Office's frequency tabulation report for student course

evaluations. The record audit and student examinations were scored by the test response report and item analysis, similar to conventional course examinations. Results were distributed to the contact lens faculty and QAI Committee.

### Documentation of Faculty Credentialing and Clinical Privileges

Nine faculty members with diverse backgrounds and experience participated in the program (Table 1). Scheduling meetings around clinic and didactic assignments proved to be challenging. Awarding privileges based on experience and self-report

was difficult due to lack of documentation. It is noteworthy to report that although this portion of the program generated greater faculty interest than other program objectives, no faculty members submitted written feedback.

### Patient Satisfaction Survey

The results of the patient satisfaction survey were positive (Table 2). Although the modest sample size limited statistical power, it provided baseline data for future comparison. Remediation was deferred until a second administration. Computer analysis of Scantron forms was a time efficient means of generating simple statistics.

### Patient Record Review

Administered on two occasions, the results were similar in regards to frequently missed questions (Table 3). The standard deviation was smaller on the second administration. The most frequently missed items on both administrations were documentation of medical and ocular history.

Faculty participation in drafting the record review generated consensus regarding record keeping requirements. Because the record review identified areas of obvious deficiency, a more structured record keeping form was adopted. Computer analysis of Scantron forms was, again, a time efficient means of generating simple statistics.

### Process Review

The process review identified items with the potential to improve the quality of patient care as well as to limit medical-legal risk: (1) documentation and dissemination of written clinical procedures; (2) uniform use of consent forms; (3) adherence to Centers for Disease Control guidelines for infection control; (4) security of prescription pads and medications; and (5) remediation of hazardous areas of the physical plant associated with renovation. Positive outcomes included revision of clinical policies and procedures with greater emphasis on quality patient care rather than institutional or practitioner risk.

### Student Outcome Review

The most frequently missed items were questions related to optometry's role in the health care accrediting process, as well as items distinguishing between provider credentials and privileges (Table 4). Students were

enthusiastic about the contribution of our consultant, Dr. Carol Brown, in her role as a member of the AOA Commission on Quality Assessment and Improvement and as a private practitioner. Course evaluations revealed that students believed the program would enable them to compete in the managed care environment following graduation.

### Discussion

Quality assessment and improvement is based on a philosophy entitled Total Quality Management (TQM). TQM defines quality as satisfying the needs and expectations of the "customer." Applied to health care, TQM identifies patients as "external customers" and health care providers, insurers, and administrators as "internal customers." It mandates systematic measurement and problem solving of the institutional process.<sup>9-12</sup>

Based on traditional TQM principles, our methodology emphasizes process rather than individual performance. Strengths and opportunities for improvement are attributed to the institution rather than to the individual. For example, our QAI model does not evaluate individual provider performance on patient satisfaction surveys and record reviews. Hence, the data is unavailable for inclusion in faculty performance evaluations. It is anticipated that semi-annual recertification will incorporate individual accountability; however, this will be the purview of administration rather than faculty.

It is difficult to define the role of the contact lens educator in the health care privileging process. Unlike allopathic or osteopathic medicine,

optometry lacks an established board certification process that clearly documents experience, knowledge, and training in a defined area of patient care. Although a residency certificate documents completion of post-graduate training, it does not measure knowledge through performance on standardized examinations. In addition, a residency certificate in contact lenses is currently too limiting to serve as a required prerequisite for providing patient care in our institution (Table 1).

Future recommendations regarding the documentation of faculty credentials and delineation of clinical privileges include consideration of certification examinations administered by the American Academy of Optometry or the International Association of Contact Lens Educators. Certification by either of these organizations would provide documentation of knowledge beyond entry level in the area of contact lens care. In addition, third party administration might provide greater objectivity than that available in internally developed proficiency examinations. It is anticipated that the College QAI Committee will soon require a formal mechanism for the delineation of clinical privileges. Privileges will then be granted upon the joint recommendation of the committee of peers, the College QAI Committee, and clinic administration.

Future administrations of the satisfaction survey, record review, and risk management review shall be tabulated and distributed, along with plans for improvement, to the contact lens faculty and College QAI Committee on a quarterly basis. Future plans for

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**Table 3**  
**Patient Record Review**

Selected Item Analysis	Pre-test (% Correct)	Post-test (% Correct)
Is there a completed problem list that includes significant illnesses and medical conditions?	69	69
Is there an appropriate medical and ocular history?	67	62
Is the habitual contact lens wearing schedule and care system, including enzyme use, properly documented?	66	87
Is biomicroscopy properly documented?	66	84
Is over-refraction present with acuities?	70	81

## Appendix A — Patient Medical Record Review

Date of Review: _____	Yes	No	N/A
1. Do all pages contain patient name?	___	___	___
2. *Is there biographical/personal data in the record?	___	___	___
Address			
Employer			
Home and work telephone numbers			
Marital status			
3. *Is the provider identified on each page?	___	___	___
4. Are all entries dated?	___	___	___
5. Is the record legible?	___	___	___
6. Is there a completed problem list that includes significant illnesses and medical conditions?	___	___	___
7. Are allergies and adverse reactions to medications properly documented?	___	___	___
8. Does the record include documentation of the most current medications with dosages for those with significant ocular side effects?	___	___	___
9. Is there an appropriate medical and ocular history?	___	___	___
10. Does the patient history include the appropriate subjective information pertinent to the presenting complaints?	___	___	___
11. Are the contact lens parameters properly documented with enough information to duplicate the lens order?	___	___	___
12. Is the habitual contact lens wearing schedule and care system, including enzyme use, properly documented?	___	___	___
13. Are entering acuities present, pinhole if VA < 20/40?	___	___	___
14. Is manifest refraction present on new fits?	___	___	___
15. Is keratometry and/or topography present on new fits?	___	___	___
16. Is biomicroscopy properly documented?	___	___	___
Lids			
Lashes			
Bulbar and palpebral conjunctiva with lid eversion			
Cornea (specify with or without staining)			
Iris			
Anterior chamber on emergent conditions			
17. Is there proper documentation of the contact lens fit? Coverage, centration, movement for hydrogel lenses Rotation if appropriate BCR-corneal relationship for rigid lenses	___	___	___
18. Is over-refraction present with acuities? Spherical if > / = 20/20 Spherical-cylindrical or retinoscopy if < 20/20 or patient's best corrected spectacle VA With monovision, specify monocular or bi-ocular	___	___	___
19. Is the assessment complete? Contact lens fit and optical correction Contact lens and/or corneal complication	___	___	___
20. Is the plan complete? Contact lens parameters dispensed and ordered Wearing schedule Care system and/or therapeutic medication Management for complications related to lens wear and/or corneal disease	___	___	___
21. Is the working diagnosis consistent with findings?	___	___	___
22. Are the plans of action/treatment consistent with the diagnosis?	___	___	___
23. Are the problems from previous visits addressed?	___	___	___
24. Is there a date for return visit or other follow-up plan for each encounter?	___	___	___

\* Items two and three completed by ancillary personnel

**Table 4**  
**Student Outcome Review**

Selected Item Analysis (Answer indicated by asterisk)	Pre-test (% Correct)	Post-test (% Correct)
	Mean = 49 % δ = 18%	Mean = 99% δ = 5%
A process by which an institution grants an individual permission to provide patient care within well defined limits is entitled: 1) clinical privileging*; 2) clinical credentialing; 3) peer review; or 4) quality assessment.	45	100
An optometric practice is / is not* eligible for an NCQA audit as a stand alone organization.	4	100
Professionals not specifically mentioned in the current NCQA standards are: 1) dentists; 2) podiatrists; 3) chiropractors; or 4) optometrists.*	11	100

Note: Questions referring to NCQA reflect policies in place at the time of the execution of the project.

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the patient satisfaction survey include translating it into Spanish, increasing the sample size and frequency of administration, providing evaluation forms at the reception desk, and providing a written response to patients with their name and address on the evaluation form. Plans for patient record review include documenting that ancillary reports were reviewed by the practitioner and developing a form for documenting telephone calls relating to patient care. In addition, future record reviews will be conducted as part of the fourth year academic program. Future plans for risk management include review of the clinical policies and procedures manual by a consultant, the creation of tools to assess outcomes related to the revised procedures, and the adoption of clinical practice guidelines.

A formidable task of any quality assessment and improvement program is to maintain momentum following the program's inception. Plans to facilitate continuous improvement include greater staff and administrative involvement, an annual faculty in-service, and formal recognition of faculty and staff for outstanding performance.

In conclusion, this program achieved its intended purpose in the establishment of a specialty service QAI program through completion of the objectives previously outlined. Although inclusion in managed care provider panels

served as the program's impetus, a more important outcome was the increased emphasis on quality patient care. A successful QAI program has the potential to improve clinical education by increasing the quality of patient encounters, enhancing clinical management and documentation skills, reducing medical-legal risk, and defining quality patient care.

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