



AMERICAN ACADEMY
OF OPHTHALMOLOGY®

Unresolved Challenges in Patient Safety: Finding a Way Forward

**A Report from the American Academy of Ophthalmology
Patient Safety Symposium**

www.aao.org/patient-safety-report

Unresolved Challenges in Patient Safety: Finding a Way Forward

Preface

Despite advances in health care, reducing medical error in the clinic and operating theater remains a worldwide challenge. The American Academy of Ophthalmology (AAO) has been at the forefront of global efforts to address this by [promoting a culture of safety](#) in ophthalmology. In recent years, the Academy organized [symposia on patient safety](#) at Academy and supranational meetings, including the Pan-American Association of Ophthalmology (PAAO), the Asia-Pacific Academy of Ophthalmology (APAO), and the European Society of Ophthalmology (SOE). The Academy has also collaborated with several organizations, including the World Health Organization (WHO), the International Council of Ophthalmology (ICO), the American Board of Ophthalmology (ABO) to gather resources on patient safety for ophthalmologists to use in their practice.

The Academy hosted a symposium at AAO 2017 titled “Unresolved Challenges in Patient Safety: Finding a Way Forward.” This symposium, attended by more than 60 ophthalmologists from around the world, featured seven 5-minute presentations by ophthalmic leaders, followed by roundtable discussions. The leaders of the discussion groups presented a summary of their recommendations. This white paper is a result of that symposium, and it includes main points from the presentations and a summary of next steps to improve patient safety in ophthalmology.

Introduction to the Symposium

In his introduction as chair of the symposium, **Richard L. Abbott, MD, AAO Secretary for Global Alliances**, explained how current patient safety initiatives emphasize the reporting, analysis, and prevention of medical errors that could lead to adverse events. Medical errors – for example, wrong site, wrong patient, wrong surgery – occur much too frequently, with 1 in 10 patients in all of medicine suffering from serious complications.

The first step in improving patient safety is to recognize that a problem exists. Using data from the Academy's Intelligent Research in Sight (IRIS®) Registry and other sources, we are now able to more accurately identify patient safety problems. Now is the time to find a way forward – to identify the safety issue, to determine what is required to fix the problem, and how to best use current and future technologies to find solutions.

Although registries, like IRIS, will capture many of the medical errors that have occurred, it is possible that this number may represent only the tip of the iceberg. It has been suggested that having a system that also captures the near misses, as well as the actual errors committed, will enhance our ability to improve patient safety. In addition, it is important to recognize that behavior modification through policy mandates may also play an important role in reducing medical error.

EXECUTIVE SUMMARY

An American Academy of Ophthalmology (AAO) patient safety symposium produced valuable teachings on improving patient safety and reducing medical error. This symposium featured presentations by ophthalmic leaders from around the world and roundtable discussions. This report summarizes the presentations given and lists suggestions made to improve patient safety in ophthalmology.

Suggestions for Individual Ophthalmologists and Their Practices

- Leverage advances in technology that are available to you to enhance knowledge and performance:
 - Analyze personal practice information gathered from the [IRIS Registry \(Intelligent Research in Sight\)](#) (currently U.S. only) and consider instituting changes.
 - When possible, move from clinical guidelines to action by introducing alerts or reminders into electronic health records (EHRs), for example, in the form of pop-up boxes to indicate that the patient has diabetes and needs a dilated exam.

- Continue to use [the Academy's recommendations](#) to incorporate procedures for the prevention of wrong-patient, wrong-site, and wrong-implant errors in both medical and surgical settings.

- Enhance patient understanding of procedures to bring about patient outcome expectations that are more realistic.
- Recognize how patient safety issues are affected by different health care settings and modify practice procedures accordingly to better match the setting.

Suggestions for the Academy and Other Organizations

- Encourage decision makers to foster a “blame-free culture” to report not only medical errors but also “near misses.”
- Encourage a “culture of safety” beginning with medical school education and continuing through residency, fellowship, and practice, and create a practical and comprehensive patient safety curriculum for trainees.

The Academy's symposium featured seven presentations by ophthalmic leaders covering the main aspects of patient safety.

Presentation Topics

- [Structure of Where We Practice](#)
- [Clinical Guidelines: Moving from Recommendations to Actions](#)
- [Improving Safety by Measuring What We Do: The Potential Role of the IRIS Registry](#)
- [Patient Perspective: What They Need to Know to Improve Their Safety](#)
- [Teaching Accountability and Responsibility to Our Residents](#)
- [Ministry of Health and Governments: How Do They Effect and Influence Patient Safety Issues?](#)
- [Physician Wellness and Its Impact on Patient Safety](#)

Summary of Presentations

Structure of Where We Practice

Ophthalmologists practice in different settings, such as clinics and operating rooms. These workplaces can be complicated because they may or may not be dedicated solely to the practice of ophthalmology. To reduce and prevent adverse medical events, it is first important to have a team dedicated to ophthalmology and/or an ophthalmology subspecialty at the workplace, according to **Jan de Faber, MD, SOE President**. The entire team, including nurses and other ophthalmic personnel, must be familiar with the

equipment and be given the authority to make patient-focused safety decisions. The second important consideration at the workplace is the electronic health record (EHR), which should be helpful and not a hurdle. The EHR should help facilitate an effective time-out process in the operating theater as well as serve to alert the surgical team to any inconsistencies in the patient's care (e.g., a very different intraocular lens [IOL] power in the second eye). Typos or cut-and-paste errors in EHRs can often lead to medical errors due to wrong-site or wrong-muscle documentation.

Clinical Guidelines: Moving from Recommendations to Actions

Anne L. Coleman, MD, PhD, Director, Hoskins Center for Quality Eye Care, remarked that various studies have evaluated the reasons that lead to medical errors. Investigations in a Veterans Administration (VA) study from 2001 to 2006 found that communication problems were responsible for medical errors in 21% of cases. An extension of the study from 2006 to 2009 found that a lack of standardization of clinical processes and failure to follow clinical guidelines jeopardized patient safety.

Clinical guidelines are systematically developed statements based on evidence to assist the practitioner in making decisions about patient care, and such guidelines can improve the quality of eye care for patients. The Academy has created a set of evidence-based clinical guidelines, called Preferred Practice Pattern[®] (PPP) guidelines. Fully implementing these may be challenging and take several decades.

To move from clinical guidelines to action, the introduction of alerts or reminders in EHRs may help, for example, in the form of pop-up boxes to indicate that the patient has diabetes and needs a dilated exam. Data collected from the IRIS Registry may be useful in developing a higher level of evidence-based guidelines to replace many of the current consensus-based recommendations. Practitioners may then be more likely to incorporate the guideline recommendations into their clinical practice because the recommendations may be more clinically relevant and reflective of their own practice.

Several years ago, the Academy conducted a performance-improvement activity called the [Wrong-Site/Wrong-IOL Surgery](#) in a continuing medical education course developed by the faculty at University of California, Los Angeles (UCLA). It is currently on the Academy's [Ophthalmic News and Education \(ONE®\) Network](#) and is required at UCLA for ophthalmologists who perform an injection on the wrong eye or implant the wrong IOL. The course is designed to improve awareness and prevent operating theater mistakes related to wrong site, wrong patient, and wrong IOLs. It is an example of moving from clinical guidelines to targeted education for practitioners who made a medical error and may not have followed the recommended guidelines in the PPP.

Improving Safety by Measuring What We Do: The Potential Role of the IRIS Registry

The challenge of treating more patients in less time while staying abreast of medical advances is daunting, according to **Michael Chiang, MD, AAO IRIS Registry Executive Committee**. For ophthalmologists, the IRIS Registry can play a significant role in improving patient safety. It can measure the continuum of care from initial contact with

the patient through any interventions as well as follow-up visits. The research analysis derived from the registry helps to develop standards that are used to formulate guidelines to program the computers that provide dashboard guidance on safe patient care for doctors. Gaps in care can be identified from the research data and doctors can improve their performance accordingly. The Academy's [IRIS Registry](#) is currently available to U.S.-based Academy members and enables them to compare their care processes, patient outcomes, and professional performance with other ophthalmologists in the country.

For example, cataract surgery is considered to be a “safe” procedure. Data from the IRIS Registry in its first year indicated that 2% of cataract surgeries required additional procedures within 30 days. During the second year of the IRIS Registry, such incidences decreased to 1%. This type of improvement is not unprecedented in medical care. Long-term cohort studies like the [Framingham Heart Study](#) have helped us to understand the natural history and risk factors of heart disease. Similarly, long-term data from the IRIS Registry could help improve patient care in ophthalmology. Another important factor to consider is that EHRs are not used in a standard manner by everyone – some have check boxes whereas others require manual data entry. This may lead to inconsistencies in documentation. Therefore, it is important to enhance feedback of physicians' performance and improve the collaborative effort for patient safety.

Patient Perspective: What They Need to Know to Improve Their Safety

Drawing from his personal experiences, **Bertil Damato, MD, PhD, Professor of Ophthalmology, University of California, San Francisco**, elaborated on what patients must understand about how they can improve their own safety. Patients need to know whether their informed consent is truly informative and directly applicable to their personal condition. Patients often worry about whether they have comprehended everything the doctor has explained. Another concern patients have is about the doctor's experience and expertise. Does the doctor have the necessary training, and will the procedure be performed by the doctor or by a student or resident? If the procedure is being performed by a resident, is the resident being supervised adequately? Patients also want to know whether the hospital or clinic has the necessary equipment and staff to safeguard patient safety. One of the major concerns that patients have about seeking a second opinion is whether their original doctor will accept them back after seeking one. Dr. Damato argued that second opinions can be a win-win situation for everyone, because the patient will either return to accept the primary doctor's advice reassured or they may choose to receive better treatment elsewhere.

It is often difficult for patients to find meaningful information about doctors and hospitals and to know whether they are receiving the best possible care. Patients worry about repercussions if they complain about the quality of care, whereas complaints and suggestions should, in fact, be encouraged. A nurse who acts as a patient advocate can help to safeguard patients' interests and improve patient safety. Patients enthusiastically support Dr. Damato's proposal of a "bill of rights" specific to their particular condition,

which would help them to know what to expect when they see their doctor and to check whether the care they are receiving is adequate. For example, patients should always be informed of any pigmented fundus lesions that are detected on routine examination, and if there is diagnostic uncertainty, the merit of surveillance should be emphasized because the lesions could represent possible malignant melanoma. This would ensure that patients do not default from follow up.

Teaching Accountability and Responsibility to Our Residents

In his presentation on teaching accountability and responsibility to residents, **Eduardo Mayorga, MD, Honorary Chief of Ophthalmology, Italian Hospital, Buenos Aires**, stated that there is no doubt that residents should receive training about how to prevent unintended harm. He explained that this can be considered under three headings: what to teach, how to teach, and how to assess.

- What to teach: [the patient safety curriculum](#). The WHO website provides material on this curriculum, which can be incorporated into daily practice. It is necessary to consider whether these generic curricula can be adapted to ophthalmology or whether a specific curriculum needs to be developed.
- How to teach: Are ophthalmology teachers focusing on patient safety when training residents or do they need training themselves? Are they ready to be role models for their residents in practicing patient safety? Are ophthalmologists practicing safety or speed when performing surgery? Are they training their residents to reduce medical errors and complications? Is there a culture of analyzing

complications and taking complications seriously, or do residents treat complications frivolously and joke about them?

- How to assess: Will a carrot-and-stick model work? Should questions on patient safety be included in all resident assessments?

Dr. Mayorga's recommendations include the following:

- Developing an ophthalmology-focused online patient safety course
- Training and assessing residents on patient safety
- Creating a culture of patient safety during resident training and making every day "patient safety day"

Ministries of Health and Governments: How Do They Effect and Influence Patient Safety Issues?

Ivo Kocur, MD, MA, MSc, MBA, Medical Officer, World Health Organization, explained that the WHO is governed by the ministries of health of member states. In 2002, one hundred and ninety-four members acknowledged the need for and endorsed a resolution on patient safety. Since then, a number of tools and documents have been developed at the national as well as international level. This year, high-level political representatives (not medical representatives) of member states convened to discuss patient safety and what needs to be done. It was proposed that September 17 should be identified as Patient Safety Day, although not all countries have recognized the need for this yet. Subsequently, WHO issued "[Patient Safety: Making Health Care Safer](#)," a 20-page brochure that illustrates the importance of safe care for everyone.

More specific to ophthalmology is the WHO's "[Eye Care Service Assessment Tool](#)" and the global action plan "[Universal Eye Health: A Global Action Plan 2014–2019](#)." The tool can help assess the status and functionality of a country's eye care service based on six aspects of the WHO framework for strengthening health systems. The WHO also issued a series of brochures called WHO Global Patient Safety Challenge, the most recent of which is on [medication safety](#). WHO can engage in dialogue with ophthalmic societies on this new initiative.

Physician Wellness and Its Impact on Patient Safety

Brad H Feldman, MD, AAO Secretary for Member Services detailed the impact of physician wellness on patient safety and explained that wellness has physical, mental, and social aspects. The Centers for Disease Control and Prevention defines [well-being](#) as judging life positively and feeling good. On the flip side is burnout, described as depersonalization, emotional exhaustion, loss of enthusiasm, and feelings of being overloaded with stress. The [Medscape Lifestyle 2017 Study](#) reported that 42% to 59% of physicians, depending on specialty, and 43% of ophthalmologists suffer from at least one symptom of burnout in the United States. Burnout leads to decreased productivity and depression. Studies indicate that the greater the level of burnout, the higher the incidence of medical error. Dr. Feldman noted that 39% of physicians report depression at some point in their career.

Strategies to address physician wellness involve individual focus and structural focus. Individual focus may include attending to our own well-being by visiting our physician, seeking health care and mental health services, practicing yoga and mindfulness, and creating a family and peer group network for support. Examples of structural focused strategies include decreasing duty hours for residents, formulating regulations to make maintenance of certification less burdensome, and freeing up more physician time to concentrate on direct patient care.

Roundtable Discussions

Following the symposium presentations, participants from regions around the world split into roundtable groups to discuss recommendations to resolve challenges in patient safety. Their responses to the questions below and comments constitute a preliminary action plan for moving forward.

Looking Ahead

Structure

- How can we ensure that the team in the clinic and operating room is dedicated to ophthalmology and/or the subspecialty?
 - Introduce protocols and audit results periodically.
 - If results do not conform to protocols, review gaps in medical practice and protocols.

- How do we ensure that decisions are made by the whole team and focused on the patient?
 - Involve the whole surgical team during the briefing before the start of surgical care.
 - Ensure that everyone on the team knows what is planned.
- How do we ensure that EHRs will be a helpful step and not a hurdle?
 - Document and record plans in the EHR prior to surgery to help reduce medical errors.
 - Use the EHR to help facilitate an effective time-out process in the operating theater as well as to alert the surgical team to any inconsistencies in the patient's care (i.e., a very different IOL power in the second eye).

Clinical Guidelines

- What is patient safety and how does it fit in the framework for quality assessment?
 - Patient safety is part of quality.
 - Key issues of safety include preventing errors, identifying potential errors, and putting in place measures to reduce errors.
 - Anonymous reporting of errors, without threat or risk of retaliation, should be encouraged and incentivized. (This may be more difficult to implement in smaller practices than in academic centers.)
- What are some of the active strategies that can be used to improve patient safety and quality of care?
 - Incorporate alerts into EHRs to identify potential errors.

- Use alerts as a tool for reporting potential errors to the IRIS Registry.
- Compare results with other physician practices nationwide as well as with national standards.
- Conduct intermittent spot audits across random states.

Registry and Outcomes

- How do we ensure that there is feedback about physician performance for improvements in quality and safety?
 - The IRIS Registry can provide automated feedback for physician performance.
 - Near misses of medical error need to be examined, reported, and analyzed for how these can be avoided in the future.
 - Ophthalmologists should decide whether feedback should be weekly, monthly, or annually.
 - Best-practice alerts in EHRs need to be incorporated based on individual physician requirements.
- How can we organize collaborative efforts to develop and implement quality measures?
 - Development has made great strides over the last decade.
 - Standardize and implement quality measures to improve accuracy.
 - Advocate for a culture of patient safety.
 - Train residents using a top-down approach.

- What do we see as the gradual cultural changes within medicine toward quality improvement and transparency, and how do we ensure that they continue?
 - Embrace a blame-free culture without fear of reporting errors, similar to the culture that exists in the field of aviation, where the fatality rate is low.
 - Encourage senior ophthalmologists to not “throw tomatoes” at junior colleagues for medical errors.
 - Introduce simulated training to ophthalmology, as used in the field of aviation.
 - Incorporate feedback from simulated training to improve performance irrespective of ophthalmologists’ years of experience and practice.
 - Teach a culture in which being vulnerable is accepted.

Patient Perspective

- Is my informed consent truly informed?
 - Studies indicate that a patient may not be able to comprehend all the information given despite being provided leaflets and having treatment plans explained in detail. It is therefore necessary to check patients’ understanding and to help them remember what they were told (e.g., by giving them audio-recordings and/or copies of their reports).
- How good is the care I’m receiving?
 - Compare individual physician data with IRIS Registry data.
 - Reassure patients that they are receiving the best standard of care and provide statistical data comparing physicians with their peers.

- Arrange for outside reviewers, such as patients, to perform departmental audits.
- Give patients a bill of rights specific to their particular condition so that they can assess whether standards have been met.
- What can I do to receive the best possible care?
 - Inform patients that they can request statistical data about success and complication rates of ophthalmologists.
 - Provide this information to patients, along with any physician conflicts of interest.
 - Encourage patients to give feedback and make suggestions.

Education

- What to teach? Are we training our trainers to focus on patient safety while teaching surgery? Should we? If so, how can we improve?
 - Use the curricula available on the [WHO website](#).
 - Incorporate these curricula into resident training while teaching surgery.
 - Create a culture of patient safety – practice what you preach.
- How to teach? Would an ophthalmology-focused, online, patient safety course be helpful? What else would be helpful?
 - A focused ophthalmology curriculum needs to be developed and provided to academic institutions for resident training.
 - Facilitators can then elaborate and further discuss this with residents.

- Safety should be taught continuously in morbidity and outcome clinics, during resident training, and through simulation.
- Role modeling plays a big role in resident training.
- How to assess? Is there a role for a carrot-and-stick model in building a culture of patient safety? Should there be recognition rewards or awards for following the safety recommendations, or should there be consequences for not following them? Or should there be both?
 - Assessment can be done in four ways:
 - ✓ Observe residents during the execution of their duties
 - ✓ Audit medical records
 - ✓ Use 360-degree feedback about residents' compliance
 - ✓ Show simulation videos of lapses in patient safety
 - ✓ Include patient safety questions on assessments and certifying examinations

Ministry of Health Issues

- What are existing tools (possibly software) that are used to improve quality of care at the individual eye care professional and/or eye care facility level?
 - Where the IRIS Registry is not currently available, it may be possible to model some parameters produced by the IRIS Registry within existing systems.

- The method of reporting, either self-reporting or system reporting for an internal audit, is another important factor. (For example, in Singapore, all surgeries are recorded for internal audit.)
 - Hospital systems should change from reporting serious adverse events alone to reporting quality of care. They should also report near misses.
 - Standardized, reliable data should be pulled automatically.
 - Manual data production is not sustainable.
 - All patients should be included in the system, otherwise the data will be incomplete.
- How is quality of care monitored and reported at the eye care facility level (e.g., eye care department reporting to the hospital management) and what quality indicators are used?
 - Scrutiny of medical errors and near misses is necessary.
 - Several hospitals and systems report medical errors without scrutiny.
 - Examine standardized outcomes. Some systems consider costs of surgery, complication rates, and so on, but data collection needs to be standardized.

Physician Wellness

- How do we change the culture of medicine to prioritize physician health and then make structural modifications to allow physicians to stay positively engaged?
 - Although many physicians do not like to admit to their own vulnerability, thus failing to address their own health issues, it is necessary to teach them that physician health is critical to patient care.

- This culture should be learned, encouraged, and emphasized early in medical school.
- How can we encourage ophthalmologists to seek timely care for stress, depression, and burnout?
 - The Academy can help start a helpline for physicians to call anonymously to discuss emotional and physical health.
 - This can be a way to address stress, burnout, and depression early.
 - The Academy can continue efforts at awareness to help decrease the stigma around these delicate issues.
- How do members of the eye care team recognize the signs of burnout in their colleagues? What should they do?
 - Peer support groups and mentors can help identify signs of burnout and help colleagues deal with their health issues.

Conclusions and Next Steps

(Discussed by Brad H. Feldman, MD, Symposium Co-Chair)

- Formulate further improvements in technology that enhance patient safety using data from the IRIS Registry to improve outcomes and manage safety using surgical simulation training. Examples include analyzing the information gathered from the IRIS Registry, incorporating Preferred Practice Pattern recommendations into the EHR, and using surgical simulation to improve outcomes for surgical trainees.
- Improve and revise guidelines based on clinical information provided by analyses of the data in the IRIS Registry.

- Incorporate alerts in EHRs to help prevent potential errors and to help guide treatment decisions.
- Improve the informed consent process for patients and physicians alike to include more proactive patient involvement in the process and to bring about patient outcome expectations that are more realistic.
- Recognize how patient safety issues are affected by different health care settings (e.g., small clinics versus large academic centers).
- Compile a list of resources available for monitoring treatment outcomes at the eye care facility level.
- Compile case studies and lessons learned from them.
- Build and encourage a culture of safety, beginning with medical school education and continuing through residency, fellowship, and practice. Create a stringent patient safety curriculum.
- Develop an asynchronous online course for residency programs with recorded lectures, clinical scenarios, quizzes, concept maps, suggested readings, discussion forums, and assessments focused on patient safety oriented to ophthalmology (one section for residents and one for training the trainers). Consider making this course mandatory for all caregivers.

White paper by Gauri Mankekar, MD, a physician and medical writer based in Baton Rouge, Louisiana.

“Unresolved Challenges in Patient Safety: Finding a Way Forward” took place on November 12, 2017, at AAO 2017 in New Orleans, Louisiana.

Appendix

Presenters

Richard L. Abbott, MD, AAO Secretary for Global Alliances

Jan de Faber, MD, SOE President

Anne Coleman, MD, PhD, Director, Hoskins Center for Quality Eye Care

Michael Chiang, MD, AAO IRIS Executive Committee

Bertil Damato, MD, PhD, Professor of Ophthalmology, University of California, San Francisco

Eduardo Mayorga, MD, Honorary Chief of Ophthalmology, Italian Hospital, Buenos Aires

Ivo Kocur, MD, MA, MSc, MBA, Medical Officer, World Health Organization

Brad H. Feldman, MD, AAO Secretary for Member Services

Roundtable Discussion Leaders

Structure - Mr. R. D. Thulsiraj

Clinical Guidelines - Timothy W. Olsen, MD

Registry and Outcomes - D. Hunter Cherwek, MD

Patient Perspective - Martine J. Jager, MD, PhD

Education - Prashant Garg, MD

Ministry of Health Issues – Jeff H. Pettey, MD

Physician Wellness - Angela Maria Fernandez, MD

Participants

Benedictus G K Ajayi, MBBS

Ebtisam Al Alawi, MD

Abdelouahed Amraoui, MD

Sanjay Asrani, MD

George Bartley, MD

Robert Baehar, MD

Audina Berrocal, MD

Linda Butterfield, MD

Wallace Chamon, MD

Pik Sha Chan, MD

R V Paul Chan, MD

Naveed Chaudhary, MBBS

Philip Custer, MD

Kendall Dobbins, MD

Alaa Eldanasoury, MD

Marianne Feitl, MD

Maria Fernandez, MD

Birsen Gokyigit, MD

Dan Gong, MD

Enrique Graue Hernandez, MD

Neeru Gupta, MD, PhD, MBA

Angela Gutierrez, MD

Danny Haddad, MD

Aravind Haripriya, MBBS

Thomas Hwang, MD

Linda Kaplan, MD

Boon Khor, MBBS

Linda Lawrence, MD

Paul Lee, MD, JD

Richard Lindstrom, MD

Kevin McAuliffe, MD

Alan Morse, PhD

Olayemi Olatunji, MBChB

Peter Oligbo, MD

Ana Gabriela Palis, MD

Purnima Patel, MD

Shilpi Pradhan, MD

Lalitha Prajna, MD

William Rich, MD

Margaret Rose, MS

David Sanders, MD

Andrew Schachat, MD

Grace Sun, MD

John Sutphin, MD

Jacek Szaflik, MD

Ukeme Umana, MD

Cathleen Wirts, MS

Lihteh Wu, MD