

Otolaryngology Lifelong Learning Manual

3rd Edition

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Cleft Lip /Palate • Diseases of the Temporo





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3rd Edition

American Academy of Otolaryngology—Head and Neck Surgery Foundation

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Foreword

There is a native curiosity and unquenchable desire for knowledge that characterizes the medical profession. Every student who begins the journey to become a physician accepts the premise that continuing professional development (CPD) and lifelong learning will be an integral part of his or her professional life forever. The purpose of the *Otolaryngology Lifelong Learning Manual* is to assist otolaryngologists—head and neck surgeons and other clinicians—to engage in a practical approach to continuing professional development and learning in a systematic and integrated manner.

While essential, a work such as this must be accompanied by other elements to ensure that what is learned is applied, tested, improved, implemented, and the results measured and reported. Only when unbiased analysis at the appropriate level (individual, group, patient care, system, and global levels) of the total process is applied can we assure that our commitment to lifelong learning pays off in improved patient outcomes. Combining this process with identifying and filling gaps in knowledge and care leads to the most effective use of education resources.

The systematic approach to effective continuous education and professional development includes:

- knowledge-based learning of many types of unbiased and validated content
- methodology for applying or implementing what is learned
- methodology for documenting and reporting of learning and application
- methods for measuring the effect of applying knowledge to clinical care, reporting on improvement, and the results of care at patient level, system level, and global population level
- methods for increasing timely access to relevant information, including real-time, point-of-care access to clinical information
- decision support systems and methods
- links to evidence-based guidelines (EBG) and validated, relevant performance measures (PM)

- simulation, testing, and benchmarking where appropriate and data are available
- documenting the links between learnings, application to clinical care, improved patient outcomes, and improved population health
- CPD accreditation systems, including methods for developing and recognizing excellent education programming and CPD
- appropriate links to related clinical care accelerators, such as administrative, cost, capacity, structure, care coordination, communications, and team-based elements of care that require physician education, skill development, and integration for optimal clinical outcomes

The expectations of the physician of the future will be significantly different from today. At the American Board of Medical Specialties (ABMS) National Policy Conference in May 2014, Dr. George Thibault, president of the Josiah Macy Foundation, addressed how the changes in health care delivery will affect the need for interdisciplinary integrated education to match the requirements for integrated team-based collaborative care.

What physicians *know* will no longer be their distinguishing characteristic, but how they access information, work in teams, how resilient they are, and how effectively they can mobilize the right resources at the right time. Dr. Thibault describes the following ten elements of next generation medical skills:

Critical thinking skills. Physicians of the future will acquire exceptional analytical skills and the ability to use and sort information more effectively. This will allow them to generate hypotheses with greater accuracy and focus, with a more holistic approach to the health of the patient and the community.

Teamwork skills. The collaborative team-based care model of health care delivery may still include, but will increasingly replace the centuries-old tradition of the more intimate and private doctor-patient relationship. Interprofessional and interdisciplinary teams, along with interdisciplinary training

models, will improve patient care but require new approaches to maintaining privacy and confidentiality, while sharing necessary clinical information across disciplines and care sites.

Leading skills. Understanding and utilizing the unique professional skills of team members, physician and nonphysician alike, will be required. Leadership development will be part of the training and experience of successful physicians.

Following skills. Physicians will need to know when and whom to follow. Not only clinical, but administrative and systems support personnel will provide essential services to patients through teams. Knowing when critical expertise is missing, appreciating what others know, do, and offer, and knowing when to endorse the leadership of others is key.

Quality Improvement skills. Experience in and an understanding of the science of quality improvement (QI), patient safety (PS), and medical error reduction principles and protocols will characterize successful physicians.

Communication skills. Learning to excel in eliciting and sharing information and appropriately communicating necessary data with patients and family, with other caregivers, and with data systems, while respecting cultural sensitivity, eliciting patient preferences, and showing sincere empathy will be essential for the physician of the future.

Partnering skills. Tomorrow's clinicians will use individual and systems approaches to optimize care. Partnering in system design, implementation, and evaluation with patients, with family, with the community, and understanding community resources will foster more effective care, as well as improve population health through preventive services and lifestyle practices.

Advocacy skills. While physicians have traditionally seen and behaved themselves as patient advocates in a private sense, participation in legislative, regulatory, and other formal forms of advocacy have not been strengths of the medical profession. Skills in additional forms of advocacy for patients with other disciplines and in health care reform will grow.

Informatics skills. Much of the progress in health care reform in the future will depend on optimizing data management. Future physicians will play a leadership role in designing and implementing improved

systems for getting and storing information, facilitating communication with colleagues, patients, and other data systems and optimizing resource allocation using that data.

Change management skills. This includes the ability to learn about, embrace, and lead change in the areas listed above, as well as others, including the use of social media, telemedicine, and new device and drug technological developments. Throughout the process of managing and facilitating necessary change, the skill of understanding one's limitations and a healthy dose of self-awareness and emotional intelligence will be required.

As a profession, physicians have been well respected for their flexibility. Every patient is different, and each clinical challenge is nuanced. In addressing lifelong learning, each physician will determine how to preserve the best of traditional values that should never change, while having the flexibility to lead needed change and improvement. As can be seen, continuous learning involves far more than accumulating new information or technical skills.

The concept of professionalism can serve as a foundation supporting lifelong learning. As defined by the Council of Medical Specialty Societies, professionalism entails: (1) altruism— putting the needs of the patient and public health ahead of personal interests; (2) voluntary self-regulation— educating, improving, and managing our patients' health care interests because it is the right thing to do, not because of externally imposed requirements; and (3) transparency—honestly and openly sharing what we know, being accountable to each individual patient and the public for our charge to reduce disease and suffering.

As you use the *Otolaryngology Lifelong Learning Manual*, recognize its place as a critical element in continuous learning, but commit to linking what you learn to implementing, measuring, and reporting outcomes to ensure that what we know is effectively being applied to improve the individual patient and population health.

David R. Nielsen, MD
Chief Executive Officer and Executive Vice President,
June 2002–January 2015
American Academy of Otolaryngology–Head and
Neck Surgery

Preface

Otolaryngology–head and neck surgery continues to evolve and advance at an outstanding rate. In order to keep pace with these changes, we all must remain current by engaging in ongoing personal and professional development strategies. For physicians with hectic schedules in an increasingly strained and demanding healthcare environment, lifelong learning remains one of our greatest challenges. The American Academy of Otolaryngology–Head and Neck Surgery Foundation (AAO-HNS/F) supports otolaryngologists throughout their careers by providing timely educational opportunities and resources designed to foster knowledge growth, skills advancement, and maintenance of competency in our field.

The aims of this third edition are no different from those of the first, published in 1998. The first edition’s chief editor, Dr. Jonas Johnson, visionary in his understanding of continuous professional development, challenged otolaryngologists to keep abreast of the ongoing changes in our field. The *Maintenance Manual for Lifelong Learning* was intended to “address issues of practical importance for otolaryngologists in improving patient care.”

In response to the recent advances in the field of otolaryngology–head and neck surgery, this manual contains substantial revision and additions to the content carried forward from the first edition. The

format and contents have been thoroughly analyzed. The chapters have been restructured to cover topics by subspecialty area, while also including the business of medicine and clinical fundamentals. Our goal has been to provide an efficient and easy-to-read, comprehensive reference manual to meet the needs of the practicing surgeon, and simultaneously serve the needs of the maturing resident.

The publication of this manual would not have been possible without the collective efforts of numerous individuals: the original contributors who formed a remarkable blend of experts and provided us with a truly broad perspective on our specialty and the current contributors who are members of the AAO-HNS Education Committees and actively involved in the advancement of otolaryngology. This latter group enthusiastically embraced the enormous task of reviewing, revising, and updating the content. Each offered expertise and numerous suggestions, enhancing the value and quality for the resident and practitioner. Finally, a resounding appreciation goes to Audrey Shively, who devoted countless hours and tireless support to this project.

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The Business of Medicine

1 The Quality Landscape

■ Introduction

In the last few decades, otolaryngologists, along with other medical providers, have become increasingly cognizant of health care concepts, such as quality improvement, patient safety, meaningful use, value-based purchasing, best practices, and a multitude of other buzzwords and acronyms (**Tables 1.1** and **1.2**).

With changes in health care progressing at a rapid pace, these previously abstract ideas are now quickly becoming realities, necessitating clear understanding, swift adaptation, and incorporation into daily practices. Although much of the current health care legislation deals with increased access to care, the focus on quality and value is also being aggressively addressed. It is of paramount importance for the modern-day practitioner to be aware of the increased focus on these issues.

Created in 1970, the Institute of Medicine (IOM) of the National Academies has been committed to improving the quality of health care in the United States by providing unbiased and authoritative information regarding our nation's health care delivery system. The IOM defines *quality* as “the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.” Other institutions, such as the Agency for Healthcare Research and Quality (AHRQ), describe quality care in broader terms, stating that it entails “doing the right thing, at the right time, in the right way, for the right person, and having the best possible results.” Regardless of the precise definition, most practitioners would agree that providing quality medical care should represent treatment that is appropriate and efficient and allows for the best possible clinical outcomes, while also minimizing medical error and maximizing value through the limitation of unnecessary and wasteful care.

Avedis Donabedian, often thought of as one of the primary architects within the field of health care quality and clinical outcomes research, helped bet-

ter define the approach to measuring and quantifying quality in health care. The “Donabedian Triad” divides quality measures into three main components: structure, process, and outcome:

- *Structure* refers to a health care system's characteristics, focusing on how a care system is organized.
- *Process* focuses on what providers within this health care system actively do and how they carry out these actions.
- *Outcome* describes what actually happens to the patient as the end result.

These three pillars form the basis of how health care quality is analyzed today. Yet measuring the quality of care through a combination of outcomes, processes, and structures can be a difficult task. Although outcomes are the end result of the care that physicians provide, most health care practitioners would agree that outcomes alone should not represent the sole metric used to evaluate, compare, and reward providers. The complexities involved in patient care outcomes must include appropriate quality measures that take into account both process and structure.

■ The Recent History of Quality Care

In 1996, the IOM's Committee on Quality of Health Care in America launched a concerted effort focused on assessing and improving the quality of health care in the United States. It aimed to close the gap between what was known to be good-quality health care and what actually existed in practice. The committee's first report, *To Err Is Human: Building a Safer Health System*, was released in 1999 and focused mainly on patient safety and its relationship to overall health care quality. This report used a wealth of data from the landmark Harvard Medical Practice Study, as

Table 1.1 Health care organizations, institutions, programs, and laws that deal with health care quality and safety (representative sample only)

ACA (PPACA)	The Patient Protection and Affordable Care Act (Affordable Care Act) of 2010—A federal statute that represents the largest regulatory overhaul of the U.S. health care system since the inception of Medicare and Medicaid and aims to increase affordability and accessibility of health care for all Americans
ACS–NSQIP	American College of Surgeons National Surgical Quality Improvement Program—A large, nationally validated, risk-adjusted, outcomes-based program to measure the quality of surgical care and promote quality improvement
AHRQ	Agency for Healthcare Research and Quality (formerly the Agency for Health Care Policy and Research)—A federal organization focused on health care quality improvement and patient safety and outcomes research. AHRQ is a division of the U.S. Department of Health and Human Services (DHHS).
CMS	Centers for Medicare and Medicaid Services—Established in 1965, CMS is a division of DHHS that is responsible for the administration of Medicare, Medicaid, and several other key health-related programs, such as the Health Insurance Portability and Accountability Act.
DHHS	U.S. Department of Health and Human Services—A cabinet of the U.S. government whose goal is to protect the health of all citizens and to ensure proper human services. DHHS consists of 12 agencies, including the AHRQ, CMS, U.S. Food and Drug Administration, and Centers for Disease Control and Prevention.
HQA	Hospital Quality Alliance—A public–private collaboration of various stakeholders that is committed to making meaningful and easily understood information about hospital performance accessible to the public. Hospital Compare, a Web-based tool for consumers, is one such project of the HQA.
IHI	Institute for Healthcare Improvement—An independent, nonprofit organization focused on health care improvement, education, and innovation
IOM	Institute of Medicine—A nonprofit, private organization that provides unbiased, evidence-based guidance to lawmakers, health care professionals and societies, and the American public on a variety of health- and science-related topics
JCO	Joint Commission Observer—Founded in 1951 with the aim to improve health care for the public, JCO is an independent, nonprofit standards-setting and accrediting body for health care organizations and programs. JCO has become a symbol of organizational quality and safety.
NQF	National Quality Forum—A nonprofit, nonpartisan, public service organization committed to the transformation of the U.S. health care system. NQF serves as a quality measure clearinghouse; it reviews, endorses, and recommends the use of various standardized health care performance measures.
PCPI	Physician Consortium for Performance Improvement—Convened by the American Medical Association, the PCPI is committed to the development, testing, and maintenance of evidence-based clinical performance measures and measurement resources for physicians.
QASC	Quality Alliance Steering Committee—A collaborative effort among existing quality alliances, providers, institutions, and accrediting agencies that work to improve the quality of health care. QASC works to ensure that quality measures are constructed and reported clearly and consistently to inform both consumer and practitioner decision making.
WHO	World Health Organization—A division of the United Nations responsible for providing leadership on global health matters. In 2007–2008, WHO demonstrated that surgical safety checklists can lower the incidence of surgery-related deaths and complications by one-third during major operations.

well as behavioral concepts and research related to human decision making, and latent conditions and errors. Although this report was by no means the beginning of the quality and patient safety movement in this country, it gained vast attention after it estimated that up to 98,000 people die each year due to medical errors. Furthermore, the report suggested that the majority of these errors resulted from a flawed health care system and medical culture, rather than individual careless or poorly trained providers. In our own field of otolaryngology–head and neck surgery (OHNS), it has been estimated that up

to 2,600 episodes of major morbidity and 165 deaths occur annually due to avoidable medical errors.

In a subsequent 2001 IOM report, *Crossing the Quality Chasm: A New Health System for the 21st Century*, six aims for health care system quality improvement were proposed: patient safety, timeliness, effectiveness, efficiency, equity, and patient-centeredness (**Table 1.3**). These six components were the framework for the report that called for an urgent and drastic change in the way health care was provided in the United States. Beyond the overarching concept of improved quality, the report

Table 1.2 Terms and acronyms commonly used in health care quality and safety (representative sample only)

ACO	Accountable Care Organization—endorsed by Centers for Medicare and Medicaid Services (CMS) and the Patient Protection and Affordable Care Act, ACOs are groups of providers and care delivery centers that voluntarily join together to give patients coordinated high-quality care with the goal of avoiding unnecessary duplication of services and preventing medical errors. Newly designed CMS reimbursement programs, such as the Medicare Shared Savings Program, are possible through ACOs.
CER	Comparative Effectiveness Research—Designed to inform health care decision making, CER aims to develop, expand, and use various data sources to provide evidence on the potential benefits and risks of various treatment options.
EBM	Evidence-Based Medicine—The conscientious use and application of current best evidence (based on relevant and valid research) when making decisions about individual patient care
EHR	Electronic Health Record—The systematic and unified collection of health information about patients and populations. An EHR is also known as an electronic medical record (EMR).
FFS	Fee-for-Service—The dominant physician payment method in the United States. Most FFS services are unbundled and paid for individually, and their cost is often related to the quantity of care, rather than the quality of care.
Lean	Lean—Coined in the late 1980s to describe Toyota’s business and production model, this term has now been adopted in the health care industry to represent quality improvement and the concept of efficiency through maximizing patient/consumer value while minimizing waste.
MU	Meaningful Use—A set of standards from CMS pertaining to EHR use by providers and institutions, whereby incentives are provided for meeting specific criteria (e.g., electronic prescribing (eRx), maintaining an updated problem list for individual patients)
PCMH	Patient-Centered Medical Home—Also referred to as the primary care medical home, PCMHs represent a promising model for transforming the organization and delivery of primary care by focusing on comprehensive, patient-centered, coordinated, accessible, safe, and high-quality care.
P4P	Pay-for-Performance—An increasingly popular reimbursement model whereby providers and institutions are incentivized according to preestablished performance measures, with the goal of rewarding high-quality care. Performance targets are often tied to delivery of quality care, cost of care, and patient satisfaction scores.
Six Sigma	Six Sigma—Similar to lean principles, six sigma is a more statistical/data-driven philosophy of quality improvement that places a high value on defect prevention and limiting variation in processes.
VBP	Value-Based Purchasing—Similar to P4P, VBP is a method for reimbursement that aims to reward for the quality of delivered care through the use of transparency and incentives. Providers and institutions are held accountable for the quality and cost of care that is provided.

addressed the following issues: defined performance benchmarks, enhanced patient–clinician relationships, expanded information systems, revamped alignment for incentives, and increased accountability. A systems approach to closing the quality gap, or chasm, that was detailed in the report was proposed, further acknowledging the inherent complexities in executing this change.

These high-profile reports served as catalysts for the reevaluation of the current U.S. system of health care delivery, and have subsequently led to a refined and vigorous focus on quality as it relates to the medical system in which we work. Since their release, extensive efforts have been established to monitor, measure, and reward practices consistent with these six quality and patient safety aims. In examining these efforts, it is important for clinicians to recognize that quality care is not simply synonymous with the provision of evidence-based medicine, but also

includes much broader issues, such as timeliness, equity, and patient-centeredness. This broader, comprehensive, systems-based approach to the analysis of health care delivery is new to many, but will continue to be the basis for ongoing evaluation of this complex system.

Originally created as the Agency for Health Care Policy and Research in 1989, the renamed AHRQ now exists as one of 12 agencies within the U.S. Department of Health and Human Services (DHHS). AHRQ represents the health service arm of DHHS and complements the biomedical research mission of its better-known sister agency, the National Institutes of Health (NIH). The AHRQ mission focuses on quality improvement and patient safety research, as well as outcomes and comparative effectiveness research. Another AHRQ goal is to encourage research efforts tied to clinical practice, technology assessment, and health care delivery systems.

Table 1.3 Crossing the Quality Chasm: A New Health System for the 21st Century

Safe	Avoiding injuries to patients from the care that is intended to help them
Timely	Reducing waits and harmful delays for providers and patients
Effective	Providing services based on scientific knowledge to all who could benefit and refraining from providing services to those not likely to benefit
Efficient	Avoiding waste (equipment, supplies, ideas, and energy)
Equitable	Providing care that doesn't vary in quality due to personal characteristics (gender, ethnicity, location, socioeconomic status)
Patient-centered	Providing care that is respectful of and responsive to individual patient preferences, needs, and values

Data from National Research Council. Crossing the Quality Chasm: A New Health System for the 21st Century. Washington, DC: National Academies Press; 2001.

The increased focus on research related to outcomes, value, and quality is in line with the legislative, policy, and cultural shifts recently observed in the U.S. health care system. Over the last 2 decades, AHRQ has been leading the way in generating effective research strategies, meaningful knowledge, and useful tools required for long-term improvement to the U.S. health care system, with 80% of its budget dedicated to grants and contracts in these areas.

■ A Changing Health Care Landscape

With various stakeholders focusing on the delivery of quality care, policy makers have taken notice and enacted legislation that is closely tied to these issues. Legislative reform efforts have been ongoing over the last decade; the most prominent has been the 2010 Patient Protection and Affordable Care Act (PPACA). In the PPACA, quality measures are defined as a “standard for measuring the performance and improvement of population health or of health plans, providers, and other clinicians.” It is clear that the PPACA focuses on the delivery of quality health care because two of the nine categories of the bill deal directly with quality care: “Quality, affordable health care for all Americans” and “Improving the quality and efficiency of health care.”

A section of the PPACA is also devoted to the development, collection, and public reporting of quality measures, and multiple groups, such as the National Quality Forum (NQF) and the Centers for Medicare and Medicaid Services (CMS), are working toward these goals. The quality measures that are currently being used and developed must reflect a multitude of complex metrics, including patient outcomes, processes of care, efficiency, perceptions of care and patient satisfaction, costs, and value. It is imperative that health care providers play an active role in defining and guiding implementation of

appropriate, meaningful quality metrics and performance measures that will be increasingly transparent to the general public.

The traditional fee-for-service (FFS) reimbursement model has been shown by many to be unsustainable in its current structure; health care spending is one of the fastest-growing components of our expanding national debt and is projected to soon represent over 20% of the U.S. gross domestic product. The basic FFS payment model links reimbursement to the quantity and volume of services provided, thus providing no financial incentive for necessary investments toward health care quality, efficiency, and value. Data have shown that “doing more” (interventions, diagnostics, etc.) does not necessarily lead to improved outcomes. Yet, FFS payment models are based on the premise that doing more leads to greater financial incentives for providers.

One strategy being used to counteract this phenomenon, and thus promote improved quality care for patients, is the Pay for Performance (P4P) reimbursement model. In this model, incentivized payments are tied to transparent performance measures closely aligned with the provision of quality patient care. The PPACA payment reform provisions, such as value-based purchasing (VBP), bundled payments, medical homes, meaningful use, and other various quality-based incentive programs, are just a few of the efforts tied to the P4P model.

In relation to cost, the concept of health care “value” is becoming more central to the discussion of health care quality. Most simply defined, value represents quality divided by cost, or the output achieved relative to the cost incurred. Providers of care are continually being encouraged to improve both the numerator (quality) and the denominator (cost) of the value equation. With the term *value* being mentioned in the PPACA a total of 214 times, a cost-conscious focus is now embedded into the fabric of our health care system and will continue to be a central focus of future health care delivery.

As part of the Medicare Improvements for Patients and Providers Act of 2008 and the PPACA of 2010, CMS has recently instituted numerous quality-reporting initiatives. The Electronic Health Record (EHR) Meaningful Use (MU), the Electronic Prescribing (eRx), and the Physician Quality Reporting System (PQRS) incentive programs are all part of the PPACA's increased focus on improved efficiency and quality care. Although many of these programs are currently incentive-based programs, most will eventually convert to penalty-based programs, cutting provider reimbursements up to 1 to 5% if certain measures are not met.

Nationwide quality improvement efforts are also focused on increased transparency and improved patient access to provider performance information. The CMS Physician Compare Website was developed in 2011, and the PPACA required physician data to be reported starting in 2013. Although very limited data are currently reported, increased breadth and volume of physician performance metrics will soon be made available to the general public. CMS is required to ensure that the data are statistically valid, reliable, risk adjusted, and physician reviewed. Multiple physician-advocacy groups are actively engaged in the ongoing development and expansion of the Physician Compare Website.

■ Otolaryngology–Head and Neck Surgery's Involvement and Efforts

Maintenance of Certification

Quality performance and patient outcome measures will also be used in the Maintenance of Certification (MOC) process, and there will likely be indirect financial consequences as a result. CMS and other payer entities may use participation in MOC programs as another quality measure of provider performance and tie this into physician reimbursement.

The American Board of Otolaryngology has instituted a four-part process for maintaining board certification for its members. The fourth part will consist of Performance Improvement Modules (PIMs). These PIMs will require physicians to submit data on a series of patients to an online database, and the data will then be compared with existing guidelines and quality/outcome measures. The physicians will then receive feedback on areas to improve their practice and will subsequently have the opportunity to submit data on new patients to demonstrate improvement. PIMs will typically need to be completed every 3 to 5 years.

Treatment Guidelines, Best Practices, and Clinical Consensus Statements

The IOM has identified guideline development as one of the three crucial tasks for a highly effective national health care system. In its simplest form, an effective clinical guideline is one that synthesizes the best evidence on a topic and generates recommendations whose aims are to promote best practice for the audience. The American Head and Neck Society created the Quality of Care Committee in 2007, and the group has systematically reviewed the literature to develop treatment guidelines and quality measures for laryngeal and oral cancers. Since 2006, the American Academy of Otolaryngology–Head and Neck Surgery (AAO-HNS) has published nine guidelines and has collaborated on other guidelines published through other medical societies as well. In 2013, Rosenfeld et al published a revised manual to help convey the importance behind effective clinical guideline development, stating that “a well-crafted guideline promotes quality by reducing health care variations, improving diagnostic accuracy, promoting effective therapy, and discouraging ineffective—or potentially harmful—interventions.”

Similar to treatment guidelines, “best practices” represent recommendations to practitioners to address the value of diagnostic and therapeutic interventions for various disease processes. The evaluation of potential benefits, risks, and value of interventions is usually addressed through the synthesis of best available evidence and is provided in a succinct “usable” format for clinicians.

Clinical consensus statements serve a similar purpose as practice guidelines, but they have several key differences. While still promoting quality practice, they typically have a narrower scope and often have a limited quality of evidence available for analysis and incorporation. Clinical consensus statements are products of organized expert opinions and evaluation of best evidence that are reviewed and refined in a standardized manner to converge on the “best” recommendations. In OHNS, clinical consensus statements exist on such topics as tracheostomy care, computed tomography for paranasal sinus disease, and diagnosis and management of nasal valve compromise. These tools represent necessary steps in the process of translating best evidence into best practices, as well as performance measurement and assessment (**Fig. 1.1**).

Quality Measures, Checklists, and Clinical Care Pathways

It was not until 2010 that the first report of a quality of care project in a primarily surgical patient group was published in the OHNS literature. The project

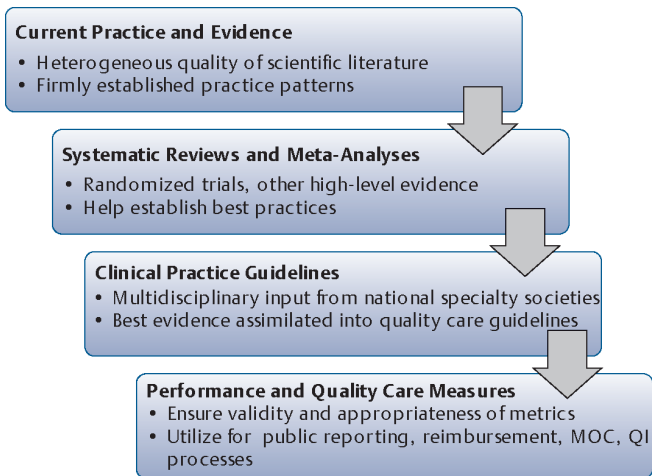


Fig. 1.1 Processes for translating evidence into practice and performance measurement.

involved patients with early-stage oral tongue cancer and had the objective of identifying measurable quality metrics for assessing how well cancer care adhered to accepted treatment guidelines. In a subsequent study, the same institution aimed to create a method for assessing surgeon performance and care outcomes that were risk-adjusted for procedure acuity and patient comorbidity. These progressive efforts have helped lay the foundation for other institutions to participate in self-assessment and analysis, and will certainly help identify and interpret meaningful quality measurements for OHNS in the future.

Checklists are increasingly used as quality tools in the health care setting to reduce variability, decrease human error, and improve patient outcomes. In a multinational study at eight hospitals in diverse economic settings, the use of the World Health Organization's Surgical Safety Checklist reduced major perioperative complications by 36% and mortality by 47%. In OHNS, multi-institutional application of an endoscopic sinus surgery safety and quality checklist was performed and was found to have standardized disparate practices and significantly increased the likelihood that individual safety tasks were performed during surgery.

A clinical care pathway is another quality care tool used to help streamline the sequence of perioperative care of patients. Aimed at reducing variation and, therefore, minimizing chances for adverse events, clinical care pathways have found their place in quality improvement processes. In OHNS, these pathways have been found to improve intraoperative work flow through the reduction of anesthesia and operative time, hospital costs, and length of stay in certain complex procedures.

Table 1.4 The AAO–HNS Choosing Wisely list

<p>Don't order computed tomography (CT) scan of the head/brain for sudden hearing loss.</p> <p>Don't prescribe oral antibiotics for uncomplicated acute tympanostomy tube otorrhea.</p> <p>Don't prescribe oral antibiotics for uncomplicated acute otitis externa.</p> <p>Don't routinely obtain radiographic imaging for patients who meet diagnostic criteria for uncomplicated acute rhinosinusitis.</p> <p>Don't obtain computed tomography (CT) or magnetic resonance imaging (MRI) in patients with a primary complaint of hoarseness prior to examining the larynx.</p>

Choosing Wisely Campaign

Initially conceived by the National Physicians Alliance, the Choosing Wisely Campaign has to date yielded lists of “Five Things Physicians and Patients Should Question” from more than 25 medical and surgical societies, including the AAO–HNS. The goals of this campaign have been to promote awareness and conversation about proper use of certain tests, procedures, and other treatments in an effort to promote overall improved quality of care. The items in each list are not necessarily intended to be used as a metric or to determine coverage by health plan carriers. The final items on the list from the AAO–HNS were determined by reviewing candidate items and by assessing the clinical evidence as well as the frequency of use of each test, procedure, or treatment (**Table 1.4**).

■ Conclusion

As health care continues to rapidly evolve in the 21st century, many established practices and systems of care have become stagnant and antiquated. New legislation has made the provision of high-value, high-quality health care a clear priority for the U.S. health care system. Innovative programs are being developed to help ensure effective processes are implemented into the evolving U.S. health care delivery system that both improve patient care and contain cost. The rapid changes that are ongoing can be overwhelming for everyday practitioners, yet it is imperative that we remain well informed about and receptive to this dynamic process. Providers and institutions will be required to continue to adapt at a rapid pace, so that ongoing quality improvement efforts can become firmly established within quality patient care.

■ Suggested Reading

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