Optimize Your Patient Experience: Lessons From the Waiting Room
SPE 21 - Oct. 11, 2019
South, Room 213 | 1:30 to 4:30 p.m.

Moscone Center | San Francisco, CA
AAOE Program of 2019

Master Class (SPE 21)
Optimize Your Patient Experience: Lessons from the Waiting Room

Presented by:

Senior Instructor
Sara B. Rapuano, MBA, CPC, COE, OCS

Co-instructor
Stephanie Collins Mangham, MBA, COA, OCSR

AAOE Program | Friday, Oct. 11, 2019 | San Francisco, CA
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Sara Burns Rapuano, MBA, CPC, OCS, COE

Sara Burns Rapuano is an ophthalmology practice management consultant. She has over 20 years’ experience at Wills Eye Hospital in Philadelphia working with physician practices as well as ASCs. In addition to the day to day financial and operational management issues, she has experience in implementation of practice management software and electronic health records, medical coding and compliance, third-party payer contracting, and medical practice consolidation. She has lectured both locally and nationally on operational and reimbursement issues.

Stephanie Collins Mangham, MBA COA, OCSR

Practice Administrator — Austin Retina Associates

Stephanie Collins is the Chief Operating Officer for Austin Retina Associates in Austin, Texas. Stephanie recently completed her MBA in Healthcare Administration from the University of Texas at Tyler and celebrated her 18th year with the practice. Her tenure with Austin Retina has provided her the opportunity to work in almost every job within the organization, allowing her a real insight into the needs of the patients and employees she encounters every day. Her stated focus for the group is innovation, increased efficiency, and to provide unparalleled patient and employee satisfaction.”
Optimize Your Patient Experience: Lessons from the Waiting Room

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Stephanie R. Collins, MBA, COA, OCSR
Financial Disclosure

Sara Burns Rapuano, MBA, CPC, OCS, COE, Practice Management Consultant

Stephanie Collins, MBA, COA, OCSR
• I have no financial interests or relationships to disclose relative to this topic.
Today’s Course Outline

1. Define the Patient Experience

2. Apply Lean Management Principles to Identify Opportunities for Patient and Staff Experience Improvement

3. Discuss Proven Strategies for Improving Patient Expectations

4. Review Tools for Measuring Your Patients’ Experience

5. Discussion: Putting it All Together to Manage Your Office Effectively
Defining Our Patients and Their Care Experience
Patient Care Experience

• The word “patient” comes from old French pacient (n.) Suffering or sick person under medical treatment.

• Our job as healthcare providers is to reduce patient suffering.
  o Inherent suffering - comes from disease and visual challenges and discomfort
  o External suffering - includes the fears and anxieties of the patient and their families

* Improving Patient Experience Means Reducing Suffering | Deirdre Mylod | TEDxWilmingtonSalon - https://www.youtube.com/watch?v=nDgKGo7B-IE
Ophthalmology Examples of Suffering

- Patient is referred to your office with a bad corneal ulcer
- Patient is in pain
- Patient is hard of hearing
- Family member had to leave work to bring patient to your office
- Patient has out-of-network health insurance
- Your technician turns on lights and checks pupils with a bright light
- Patient has to wait
- Doctor prescribes compounded fortified antibiotic drops – limited access, limited coverage
- Patient is asked to administer drops every hour through the night – do they have a good support system?
- Patient returns the next day and is fairly stressed out
- Out of network benefits are limited – daily visits cost is a financial burden
Patients May Differ by Age Group

- **Seniors**
  - Born before 1945
  - Want you to show courtesy and respect, e.g. use their last names
  - Known for long term loyalty
  - Want a person to interact with
  - They may get confused easily/need repetition

- **Baby Boomers**
  - Born between 1945-1964
  - They coined the term workaholic
  - Want quick responses, politeness and attentiveness to their needs
  - Want computer interaction

- **Generation X**
  - Born between 1965-1980
  - Question authority
  - Do not value long term relationships
  - Do not get referrals from other MDs, but use online reviews

- **Millennial**
  - Born after 1980
  - More cost sensitive in healthcare
  - Like retail and acute care clinics
  - Use mobile apps to schedule
Who Is Involved in Your Patient’s Care Experience?

- Operators/Call Center Personnel
- Parking garage attendants
- Security guards/coffee shop staff in building
- Registrars
- Technicians
- Photographers
- Residents or Fellows
- Optometrist or Ophthalmologist
- Optician
- Surgical Coordinator
- Billing office staff (patient insurance carrier)
Your Patient Care Experiences

• Consider your best and worst healthcare experiences….

• How did you suffer? (inherent or external suffering)

• How did your healthcare provider succeed or fail in alleviating that suffering?

• What part did communication play in each of these experiences?
Communication with Compassion

Definition of compassion:
Sympathetic consciousness of others’ distress (or suffering) together with a desire to alleviate it.

In ophthalmology, we need to deliver skill with compassion. This is what is embodied in the Wills Eye logo.
Your Patients’ Journey

• **Describe** each touch point of your patients’ journey.
• **Identify** where the patient may incur anxiety/concerns.
• **Think** about how patients differ in their expectations and needs and how that may increase or decrease their suffering.
• **Identify** how you and your team might alleviate those anxieties or concerns.
Using Lean Management Principles to Improve the Patient Care Experience
8 Wastes To Avoid

- Overproduction
- Defects
- Long Waiting Times
- Transportation
- Motion
- Inventory Excess
- Not Utilizing Talent
- Excess Processing
How Can I Identify Wastes?

- Staff Surveys
- Patient Surveys
- Referring Provider Surveys
- Utilize Lean Tools
Staff Surveys

“How likely are you to recommend a job at Austin Retina Associates to a friend or past co-worker?”
Staff Surveys

Baseline Results:

- Staff Satisfaction – 3/5
- “Not appreciated”
- “Stressful, long days”
- AM clinic end time 12:45 or later
- MD to supervisor “stress calls” 10/week
- Staff turnover 28%
Patient Surveys

How was your overall experience with our practice?

Tap a star

Poor | Excellent

Submit

We appreciate your feedback.

Your insight helps us improve our patient experience. Please select the link to leave a review.

Google

Facebook

To opt out of receiving email messages regarding surveys in the future, click here to unsubscribe.
Patient Surveys

How was your overall experience with our practice?

Tap a star

Poor   Excellent

What can we improve next time?

Select all that apply

- Quality of care
- Scheduling
- Wait time
Referring Provider Survey

Q5 When selecting a retina specialist to send your patient to, what is most important to you? Please rank each response in terms of importance.

<table>
<thead>
<tr>
<th></th>
<th>Not at all important</th>
<th>Not so important</th>
<th>Somewhat important</th>
<th>Very important</th>
<th>Extremely important</th>
<th>TOTAL</th>
<th>WEIGHTED AVERAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reputation</td>
<td>0.00%</td>
<td>0.00%</td>
<td>10.00%</td>
<td>20.00%</td>
<td>70.00%</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Personal relation</td>
<td>10.00%</td>
<td>10.00%</td>
<td>20.00%</td>
<td>30.00%</td>
<td>30.00%</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Research/commit to innovative treatments</td>
<td>0.00%</td>
<td>30.00%</td>
<td>20.00%</td>
<td>20.00%</td>
<td>30.00%</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Proximity to the patient/in-network with insurance carrier</td>
<td>16.67%</td>
<td>0.00%</td>
<td>33.33%</td>
<td>8.33%</td>
<td>41.67%</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Online ratings and reviews</td>
<td>30.77%</td>
<td>46.15%</td>
<td>23.08%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0</td>
<td>13</td>
</tr>
</tbody>
</table>

Kurt Anderson

Note: Quote for training training and lower cabinets in ER + CT - EMERGENCY OR

Austin Retina Associates Optometrist Survey May 2019

| Medical education/training | 8.33% | 16.67% | 66.67% | 0.00% | 12 | 3.42 |

20
Lean Tools

- Spaghetti Mapping
- Waste Walk and Time Studies
- Value Stream Map
- A3
- 5S
Spaghetti Mapping

Purpose:
- Shows Patient, Staff, and Physician workflow
- Identifies motion and transportation waste on a physical layout
- Shows ideal location for supplies and equipment to minimize excess movement
Spaghetti Mapping
Waste Walk and Time Studies

Purpose:

• Shows Patient, Staff, and Physician workflow
• Used to identify and calculate the entire cycle time, and separate value added from non-value added time.
Waste Walk and Time Studies

Steps to Perform Study:

- Define what is being studied
- Measure the time and steps
- Compile your data
- Consider exceptions
Waste Walk and Time Studies

Step 1: Define what is being studied

- Checking in New Patient
- Physician moving from room to room
- Processing a patient from start to finish (Cycle Time)
Waste Walk and Time Studies

Step 2: Measure the Time

- Patient Observation Form
- Use stopwatch and count steps
- Document accurately
- Competent Observer
- Multiple Observations
- Various people/ tasks.
Waste Walk and Time Studies

Step 3: Compile Data
Waste Walk and Time Studies

Step 4: Consider Exceptions

- Different patient types
- Work ins and Emergencies
- Observed behavior
  - Staff doesn’t like it
  - Staff work at different paces
  - Staff may make mistakes from pressure
Value Stream Map

Purpose:

• Map to help visualize the entire flow from beginning to end
• Focuses on the ENTIRE system, not just specific tasks
• Forces you to examine your processes through the patient’s perspective
Value Stream Map

Current State Map:
• Describes the essential operational process as it currently happens and assists in identifying which activities in the process are value added vs non-value added.

Future State Map:
• Describes the same process, but with the waste eliminated as the goal.
Value Stream Map

Value Added:

- Activities that a customer cares about and are willing to pay for, such as physician or staff time

Non Value Added:

- Activities that take time, effort, and/or space, but do not provide any value to the customer such as staff walking to get supplies, staff walking to get the next patient, or waiting for the OCT machine to free up.

Business Value Added:

- Activities that the organization needs, but the patient isn’t willing to pay for, such as obtaining a referral, fighting a denied claim, etc.
Value Stream Map
A3

**Background:** What is the problem?

**Current Condition:** Personal observations

**Problem analysis:** 5 Whys

**Target Condition:** Where/How you want it to work

**Implementation:** Changes, Trials, Who and When
POD 1 Creation

Patient perspective:
• Eliminates waste walk
• Team mentality
• Calmer environment

Staff perspective:
• Improves line of sight
• Improves communication
• Shared job duties
• Accountability
• Eliminates waste walk
• Team Mentality
5S

- Sort
- Straighten
- Shine
- Standardize
- Sustain
Culture Change

- Staff Empowerment
- Subsidiarity
- Small Scale Trials
- “Culture of Failure”

“What if we don’t change at all ... and something magical just happens?”
Trials since 2015

Staff Surveys

Post Lean Results:

• Staff Satisfaction – 4.5/5
• “they listen to my ideas”
• “less stress and more stability”
• AM clinic end time 11:45
• MD to supervisor “stress calls” 1/week
• Staff turnover 20%
Staff Surveys

100%

Austin Retina is focused on improving the patient experience by reducing their unnecessary wait times.
Staff Surveys

93.5%

Compared to my previous place of employment, I experience a more collaborative culture at Austin Retina where employees work together in solving patient throughput problems.
Patient Surveys

- “The staff is amazing and always helpful”
- “Well run”
- “Quick, efficient service”
- “The staff is so kind and professional”
- “Not sure what they’re doing but this place has become so efficient”
- “Everyone knows what to do”
Patient Surveys

findings

- outstanding patient experience: 4.8/5.0 Net Promoter Score
  - 1,336 responses / 5,625 patients contacted (24% completion rate) is astronomically high and speaks volumes about the patients’ affinity with the practice
  - appreciation for the doctor’s knowledge and skill is the single most consistent positive
  - when there is a complaint, it’s most often wait time, but many patients understand and don’t hold it against Austin Retina
Tools to Help You Assess the Quality of Your Patient’s Care Experience
Patient Surveys Tips

• In the June of 2018 MGMA poll, it asked “Does your organization conduct patient satisfaction surveys?:
  o 74% of respondents said they conduct surveys after each visit.
  o Only 3% reported never conducting patient surveys.

• Social media is already showing patient reviews of your office. It is better to get a complete picture before unsolicited surveys land on social media.
Unsolicited Patient Complaints

• The number of unsolicited patient complaints about a physician’s practice has been shown to correlate with increased malpractice risk. (Kohanim, S. Sternberg, P, et al Unsolicited Patient Complaints in Ophthalmology: An Empirical Analysis from a Large National Database; AAO 2016)

• Ophthalmology has significantly fewer complaints per MD than other nonophthalmic surgeons and non-surgeons in a large national database.

• 63% of ophthalmologists received no complaints.

• 10% of ophthalmologists accounted for 60% of the complaints.

• An academic setting was associated strongly with increased risk.
Elements of Your Survey

Questions typically will fall into five categories:

• Access to care
• Provider communications
• Lab/diagnostic testing services results
• Office staff
• Overall provider rating
Sending Your Survey

• You may send surveys on paper or hand them out in the office.

• You may have an application within your Practice Management software that can perform this function.

• You may build an engine in house if you are large enough.

• You may use outside companies to perform this task
  o PatientTrak - https://www.patienttrak.net/about-us/services/
  o SolutionReach - https://www.solutionreach.com/
  o Luma Health - https://www.lumahealth.io/specialties/
  o Phreesia - https://www.phreesia.com/solutions/ophthalmology/
Response Format

Options
- Numeric
- Strongly agree, Agree, Disagree and Strongly disagree
- Always, Usually, Sometimes, Never

Format all the questions, so the answers fit
Net Promoter Scores

• On a scale of zero to 10, with 10 being highest, what’s the likelihood that you would recommend our practice to a friend or colleague?

• Categorize the results into:
  o Promoters (scores 9-10) – Patients who are likely to pass on referrals and maybe post a positive review on line.
  o Passives (scores 7-8) – Patients who may not be totally satisfied, but also are not leaving you.
  o Detractors (Score 1-6) – Patients who had a poor experience and will likely tell others or post negative reviews on line.

\[
NPS = (\# \text{ Promoters} - \# \text{ of Detractors}) \times 100 \\
\# \text{ of responses}
\]
What Can We Learn from CG CAHPS?

• 97% of patient would recommend their provider if, within a given visit, they:
  - Had confidence in their provider
  - Perceived the care team worked well together; and
  - Felt the practice was organized to meet their needs.

• The number dropped 11% if the care team did not work well

• The number dropped 22.3% if they were not responsive to their needs
Lean Improvements Lead to Higher Scores

- Perceived the care team worked well together - lean processes improve the team
- Felt the practice was organized to meet their needs - if each trial is focused upon the impact on the patient, they will feel it.
- Lean improvements that benefit the staff culture will be visible to the patient.
- Lean improvements which reduce physician burnout will be noticed by the patient.
Other Tools to Improve the Patient Experience

Communicate, Communicate, Communicate!
Think About Your Communication Skills

<table>
<thead>
<tr>
<th>AIDET - Acknowledge/Introduce/Duration/Explanation/Thank You</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Acknowledge</strong> – make eye contact, make patient and family feel welcome, shake hands, address the patient by name</td>
</tr>
<tr>
<td><strong>Introduce</strong> – introduce yourself – including your role, your skill set, experience, etc</td>
</tr>
<tr>
<td><strong>Duration</strong> – Estimate the amount of time each step of the exam will take to set expectations</td>
</tr>
<tr>
<td><strong>Explanation</strong> – explain what you are doing as you do it. “Narrate” the process.</td>
</tr>
<tr>
<td><strong>Thank You</strong> – Thank the patient and ask of there is anything more they need from you today and transition to the next member of the team.</td>
</tr>
</tbody>
</table>

Figure 2.3 Acronym for AIDET- [www.StuderGroup.com.CGCAHPS](http://www.StuderGroup.com.CGCAHPS)
Call Center: AIDET Example

• **A** – *Hello. Wills Eye ____ department, This is Sara. How can I help you?*

• **I** – *This is Wills Eye ____ department, This is Sara. How can I help you?*

• **D** – *Ok before I make your appointment, may I ask a few questions to make sure I get you to the right doctor. This will not take long.*

• **E** – *We have many subspecialists here at Wills and we want to get you to the right one first. Did someone refer you to a specific doctor? ....... If you have your insurance cards handy, I would like to get that information so we can verify your insurance coverage and whether you need any referrals BEFORE the day of your appointment. We want you to be able to focus on your medical care when you arrive for the visit.*

• **T** – *Thanks so much for your patience. Please remember to request a referral from your PCP. We will contact you if we cannot retrieve it 2 days prior to your appointment. Do you need our address? Do you have any other questions? Thank you and we look forward to seeing you.*
Registrar: AIDET Example

• **A** – Good morning Mrs. Smith. Are you new to us today?

• **I** – I am Sara and I am going to get you checked in this morning. Please take your time filling out the paperwork and bring it back up to me with your ID, insurance cards and your $__ copayment. Please ask me if you have any questions or need any assistance with this.

• **D** – Thank you. This should just take me a few moments. I will need your signature for a financial release and a HIPAA acknowledgement and then I will issue you a receipt for your copayment.

• **E** – You will be seeing a technician this morning first. She will enter some of the information you have completed in the computer and do some preliminary testing. She should be with you in a few moments.

• **T** – Thanks so much. Do you have any questions?
# How to Manage Unhappy Patients

<table>
<thead>
<tr>
<th>What?</th>
<th>How?</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>C for Connect</td>
<td>We introduce ourselves.</td>
</tr>
<tr>
<td>A</td>
<td>A for Apologize</td>
<td>Be careful not to stray into excuses of placing blame.</td>
</tr>
<tr>
<td>R</td>
<td>R for Repair</td>
<td>Determine what it would take to make the customer happy.</td>
</tr>
<tr>
<td>E</td>
<td>E for Exceed</td>
<td>Attempt to go above and beyond the customer’s expectations.</td>
</tr>
</tbody>
</table>

Figure 2.8 CARE Service Recovery Model - [www.StuderGroup.com/CGCAHPS](http://www.StuderGroup.com/CGCAHPS)
Benefits of Improved Patient Experience through Lean Management Process

• Reduced patient suffering.
  o Reduction in wait times
  o Improvement in practice culture
  o Teamwork/communication is the key to a strong patient experience

• Reduced physician and staff burnout.

• Reduced malpractice risk.

• Increased bottom line.
Handouts & Resources

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https://www.aao.org/practice-management/annual-meeting-courses/master-classes
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Books on the Patient Care Experience


• Gawande, Atul. *Being Mortal: Medicine and What Matters in the End*. New York, NY: Henry Holt and Company, 2014. This book helps you to think about the way you talk with patients. How we need to listen to their needs. This would be more targeted to physicians. This author is also involved in the new healthcare venture created by Amazon, Berkshire Hathaway and JP Morgan, so it is interesting to understand his views on healthcare in general.

• Lee, Fred. *If Disney Ran Your Hospital 9 ½ Things You Would Do Differently*. Bozeman, MT: Second River Healthcare, 2014. While we do not want your office to feel like Disneyworld, this book helps to think about creating an experience rather than just providing medical care. It also talks a lot about the idea that one should shoot for excellence, not just better than average.


• Morris, Jeff, Hotki, Barbara & Bates, Matthew. *The CG CAHPS Handbook: A Guide to Improve Patients Experience and Clinical Outcomes*. Pensacola, FL: Fire Starter Publisher, 2015. Associated handouts available at [www.StuderGroup.com/CGCAHPS](http://www.StuderGroup.com/CGCAHPS) There are lots of tools in this book that are included in the handouts here. CAHPS has more experience in patient surveys than anyone and so using the CAHPS questions as a foundation for your survey is the best starting point. It should be noted that much of the data to date in CAHPS is not specialty data. We need to understand the research that went into CG CAHPS for primary care to help frame an ophthalmology specific approach to patient surveys.


• Sullivan, Kevin and Luallin, Meryl D. *Star-Studded Service: Six Steps to Winning Patient Satisfaction*. MGMA, 2013. Written by a team from a consulting firm which administers CG CAHPS and consulting services related to patient satisfaction. This is a quick read with a lot of useful information.
Patient Experience on YouTube's

  TEDxWilmingtonSalon 12/21/2016 [https://binged.it/2znloJg](https://binged.it/2znloJg)
  Powerful and relatable patient perspective from a woman who has spent much of her career working for Press Ganey.

Websites

- Hyken, Shep. *How Effective is Net Promoter Score (NPS)?* #GettingBuzz.
  December 3, 2016.
  [https://www.forbes.com/sites/shephyken/2016/12/03/how-effective-is-net-promoter-score-nps/#47a9e22c23e4](https://www.forbes.com/sites/shephyken/2016/12/03/how-effective-is-net-promoter-score-nps/#47a9e22c23e4)
  Description of the NPS and its use in many industries.

- [https://www.firestarterpublishing.com/chapter-tools/the-cg-cahps-handbook-chapter-tools](https://www.firestarterpublishing.com/chapter-tools/the-cg-cahps-handbook-chapter-tools)  This website has many of the self-assessment tests that can help you target your opportunities for improvement in patient experience ratings.

Great Books for Team Building

Lean Resources

Articles

- *Going Lean, Part 1: Creating Value in the Ophthalmology Practice*, Robert E. Wiggins MD, MHA, Academy Senior Secretary for Ophthalmic Practice
- *Going Lean, Part 3: Improve Patient Wait Times*, Leslie Burling-Phillips, Contributing Writer, interviewing Denise C. Fridl, COT, COE, CPPM, OCS, Dennis P. Han, MD, Aneesh Suneja, MBA, and Joy Woodke, COE, OCS

Books

- *A Lean Guide to Transforming Healthcare: How to Implement Lean Principles in Hospitals, Medical Offices, Clinics and Other Healthcare Organizations*, Thomas G. Zidel
- *Creating a Kaizen Culture*, Jon Miller, Mike Wroblewski and Jaime Villafuerte
- *Lean for Dummies*, Natalie J. Sayer and Bruce Williams
- *Lean-Six Sigma for the Healthcare Practice: A Pocket Guide*, Roderick A. Munro
- *Make Your Clinics Flow with Synchrony: A Practical and Innovative Guide for Physicians, Managers, and Staff*, Aneesh Suneja and Dennis P. Han, MD
- *Out of the Crisis*, W. Edwards Deming
- *The Lean Turnaround*, Art Byrne
- *The Machine that Changed the World*, James Womack, Daniel Jones and Daniel Roos
- *Toyota Kata*, Mike Rother
- *The Toyota Way*, Jeffrey Liker
- *The High-Velocity Edge* (formerly Chasing the Rabbit), Steven Spear
Videos

- The Lean Office [https://www.aao.org/annual-meeting-video/lean-office](https://www.aao.org/annual-meeting-video/lean-office)

Academy Resources

- **Webinar**: *Proven Tactics For Running A Successful Small Practice* (0125075U) [https://store.aao.org/webinar-proven-tactics-for-running-a-successful-small-practice.html](https://store.aao.org/webinar-proven-tactics-for-running-a-successful-small-practice.html)
Going Lean, Part 1: Creating Value in the Ophthalmology Practice

It is widely acknowledged that the U.S. health care system is facing significant challenges. Foremost among these are concerns about the value of the health care that’s delivered to patients, where value can be thought of as the quality-cost ratio.

Why policymakers are focusing on value. The share of the U.S. gross domestic product that is devoted to health care has increased from 7% in 1970 to 17.5% today, a figure that considerably exceeds the percentage in other industrialized nations. Yet most population health outcomes suggest that the U.S. health care system is not making the best use of the considerable resources devoted to it. In response, legislators and regulators have been ratcheting up the focus on value. The meaningful use program, for example, incentivized the adoption of electronic health records so that value can be measured more easily. And though the rules haven’t yet been finalized for the new Quality Payment Program, it is clear that CMS will be further shifting the emphasis away from fee-for-service toward value-based payment. (See aao.org/medicare for the latest information on this new program, which will include 2 payment systems: the Merit-Based Incentive Payment System and alternative payment models.)

Physicians need to take the lead on value. The complexity of these regulatory programs, along with downward pressure on reimbursement, has led to frustration on the part of many physicians as they try to address the challenges of today’s health care environment. Ophthalmologists need strategies for improving value in their practices, and the “going lean” approach has been proven to work in health care.

What Is Lean?

We’re becoming more accustomed to hearing about “doing more with less.” Yet if I were to ask you to see more patients with less staff, you might sneer as you asked, “And just exactly how am I to do that?”

Take the lean approach. The lean health care approach involves 1) identifying what it is that the patient values, 2) reviewing the processes that are used to provide that value and breaking each process down into its constituent steps (this is known as value stream mapping), 3) reviewing each step to look for waste, and 4) eliminating that waste.

No more muda. The Japanese, who developed the concepts of lean management in the manufacturing sector in the 20th century, have a word for waste: muda (pronounced “moo-dah”). Say the word a few times, and you’ll appreciate the unpleasant taste as it rolls off your tongue. That’s the point! The essence of lean is eliminating muda.

Nobody wants to pay for waste—not patients, insurers, employers, or ophthalmology practices.

Origins of lean. The ideas of lean management have been around for some time, as evidenced by the quote from Ben Franklin (see below). However, it was 1913 when the ideas were first put into practice on a wide scale. This is when Henry Ford, in Highlands Park, Mich., revolutionized the mass production of the Model T via a process that he called “flow production.” Kiichiro Toyoda, Taiichi Ohno, and others at Toyota expanded on Mr. Ford’s ideas before and after World War II. They created the Toyota Production System, which is the modern model of lean thinking in the manufacturing sector. The concepts have been co-opted successfully by a number of health care systems and are directly applicable to the challenges faced by today’s ophthalmology practices.

The Value Stream

In evaluating practice efficiency, focus on what the patient values. This might be a product (e.g., glasses) or a service (e.g., cataract surgery) that allows the patient to drive or read, or that otherwise empowers him or her to live a fuller life (hence the Academy’s
Understand the value stream. Your practice encompasses multiple processes that link together to provide patients with the products and services that they value. Many of these processes occur outside the domain of the ophthalmologist’s encounter with the patient. For example, the processes involved in a patient’s clinic visit include:

• Scheduling an appointment
• Checking in
• Being evaluated by a technician
• Undergoing any number of ancillary services depending on the problem
• Billing
• Scheduling a follow-up appointment

Each of these processes consists of different steps. The steps within these various processes, along with the way those processes are linked in order to provide value to the patient, are collectively known as the value stream. Lean is concerned with all of these processes and the continuous flow from one to the next.

Identify Waste

Once the processes (and steps within them) that provide value have been identified, it is time to eliminate waste from them. It is by eliminating waste that lean helps the bottom line.

Use “downtime” to spot 8 types of waste. First, it is necessary to recognize (and commit to memory, with the aid of the DOWNTIME mnemonic) the 8 types of waste.

1. Defects—this can include defective work that has to be redone (for example, rechecking a patient not seeing well with glasses).
2. Overproduction—for example, overbooking for no-shows.
3. Waiting—this can be a problem for patients, physicians, and staff members (for example, when a physician has to wait for the technician to complete a workup).
4. Nonused employee talent—not letting staff work to their full potential. For example, if technicians aren’t given a role in doing the refraction, that task will be performed by more highly qualified individuals. This could be undermining your technicians’ job satisfaction, and you are also failing to free up time for others to use their unique skill sets.
5. Transportation—this can involve moving people, objects, or information (for example, using paper to post charges rather than doing it electronically).
6. Inventory—for example, overstocking or losing track of intravitreal drugs.
7. Motion—wasted motion, such as searching for missing trial lenses.
8. Excess (over-) processing—for example, repeating measurements that an orthoptist has taken.

You’ll be surprised by how much waste you find. Currently in your practice, many instances of waste are probably going unnoticed, even though you look directly at them every day. But once you learn to recognize the 8 types of waste, you will start to see waste everywhere—especially if you are obsessive-compulsive, as I am.

What Can You Do Now?

Work on your practice, not just in it. Step back for a moment and look at workflow in your office. Although the delivery of ophthalmic care is organized around people (the ophthalmologists and staff), the lean perspective is that most problems encountered in practices relate to faulty processes.

Take the patient’s perspective. While looking at your workflow, you may notice something interesting. Focus on your patients and the processes they encounter, and consider which processes provide patients with a direct benefit. You’ll find they are receiving such care only a minority of the time; while the staff may be busy running around (e.g., looking for equipment or entering data), the patients often spend most of their time waiting.

Start with the low-hanging fruit. You don’t have to improve everything in your practice all at once. Use benchmarking to determine where you’re performing poorly compared with other practices. You can then focus on those processes that will have the greatest impact on improving your practice operations: Are your staffing costs out of line, are you seeing fewer patients than your colleagues, or is your billing operation inefficient? You can access these kinds of benchmarks by participating in the AAO/AAOE Academetrics program (aao.org/benchmarking). This includes a financial benchmarking survey that takes place each spring and an ongoing salary survey.

Start small. Test your ideas in a small way: on 1 patient, on 1 staff member, in 1 clinic, or 1 morning. After you see promising results, test the ideas on a larger population, and if they are successful, deploy those changes throughout the organization.

Make it a team effort. Involve your staff in how the practice can be more efficient by decreasing waste and adding value for your patients.

Hopefully, the lean concept has piqued your interest, and you’ve already begun thinking about how you can apply these ideas to your practice. The bottom line is that the lean approach to health care provides you with some powerful tools. Use them to improve operations in your practice and reap the long-term dividends.

A pplying lean principles to your practice results in lower staff turnover, more revenue, and less overtime, and improves teamwork among staff—just to name a few of the tangible benefits,” said Aneesh Suneja, MBA, the coauthor of Lean Doctors and founder of FlowOne Consulting.

“The lean health care approach identifies what is of value to the patient and eliminates waste from each of the steps expended to provide that value,” said Robert E. Wiggins Jr., MD, MHA, a pediatric and neuro-ophthalmologist at Asheville Eye Associates in Asheville, N.C. Last month, EyeNet provided an overview of the lean approach; this month, the experts discuss how to get started and describe 2 key tools: the “waste walk” and the 5S method for evaluating and improving work processes.

Getting Started

Choose lean champions. While lean principles can improve processes for an entire organization, the initial change begins with 1 or 2 people. “Some practices employ 80 to 100 staff members, which makes it impractical to teach or reach a consensus on waste,” said Mr. Suneja. “The best approach is to select 1 or 2 physicians to advocate that going lean is critical for practice improvement.”

Start small. To avoid the common issues associated with change, you should begin on a small scale and then slowly move to a larger scale, so you can tweak and perfect each process before expanding into a wider scheme, said Denise Fridl, COT, COE, CPPM, OCS. Suppose, for example, you are thinking of moving the scheduling of follow-up appointments from the check-out to the exam room. “If you have 9 locations and 20 physicians, consider testing the change with 1 doctor. Only when you achieve success should you implement a change throughout the practice.” Ms. Fridl is chief performance officer at Asheville Eye Associates.

Experiment with changes in a controlled manner. As with any experiment, do not change too many variables simultaneously because it will be difficult to assess the impact of any one, said Mr. Suneja.

Early success can help foster a lean mindset. “As each improvement becomes salient, the value will be recognized by staff and physicians, which makes it easy to support the reasons for the change. The effect is palpable and comes in stark contrast to the top-down approach of mandating change that often provokes skepticism and resentment,” said Mr. Suneja.

Look for Waste

“Waste is prolific in ophthalmology clinics, and identifying it is a critical element of any change management technique,” said Mr. Suneja. Fortunately, even small modifications can result in substantial improvements in patient, physician, and staff satisfaction—as well as benefits to your bottom line.

Perform a “waste walk.” In a waste walk, you can shadow patients, staff members, and physicians to identify waste, which is defined as use of resources that doesn’t add value. Identifying waste “is an important foundational step in the [lean] process. It does not
take long for the proverbial ‘lightbulbs’
to illuminate your problem areas. This,
in turn, causes a catalytic effect among
the staff to seek additional sources of
waste and motivates them to look for
ways to improve their processes,” said
Mr. Suneja.

“We assessed a patient encounter
by following the entire exam process—
from testing to optical to scheduling
and surgery,” said Ms. Fridl. “This
enabled us to identify areas of waste,
improve our processes, and become
more efficient,” she said.

Joy Woodke, COE, OCS, described
how the waste walk was conducted at
her practice, Oregon Eye Consultants.
“We interviewed those who were per-
forming certain daily tasks and asked
them to walk through each process
while we looked for instances where we
were duplicating tasks or were not per-
forming efficiently—and we eliminated
as many steps within these procedures
as possible. Then we tested the changes
and asked for feedback before making
permanent process modifications.
Equally important, however, is regu-
larly reexamining these workflows to
determine if there is a new or better
way to perform a process and eliminate
steps or waste.”

Look for 8 types of waste. Last
month’s Practice Perfect outlined
the DOWNTIME mnemonic, which
prompts you to watch for 8 types of
waste: Defects, overproduction, waiting,
nonused employee talent, transportation,
inventory, motion, and excess (over-) processing. Once you have identified
waste, it can, in many instances, be
relatively easy to eliminate. For exam-
ple, motion waste—defined as move-
ment that does not add value—can be
reduced by shifting supplies to a more
efficient location, keeping additional
supplies on hand, and placing regularly
used items in an exam room.

The 5S Tool for Reworking
Processes
Sort, stabilize, shine, standardize, and
sustain (or 5S) is Toyota’s system for
evaluating and improving workplace
organization. Applying this lean prin-
ciple alone can have an enormous impact
on reducing time expended on routine
tasks and boosting your revenue. Here’s
how it works.

1. Sort. Over time, a lot of items can
accumulate in the office. Survey the
accumulation, determine which items
you need, and remove those that you
don’t.

2. Stabilize (sometimes termed “set
in order”). After removing the clutter,
organize the remaining items to make
them easily accessible to those who
need them. Mr. Suneja said, “Simply
reorganizing your front desk area and
placing all the necessities within reach
of your check-in staff can result in a
huge cost savings. For example, if your
clinic sees an average of 100 patients
per day and you save just 1 minute
of a worker’s time to check in each
patient—that adds up to 100 minutes
saved per day. When you multiply that
over the course of the year, the net sav-
ings is approximately $9,000 in labor
costs. It is amazing how these numbers
can quickly add up.”

3. Shine. This doesn’t just mean
keeping things clean—you also need
to make sure that your practice’s tools,
equipment, and other inventory are
ready for use at any time.

4. Standardize. After you have
followed the first 3 steps of 5S to create
a leaner office, this fourth step ensures
that you maintain the new efficiencies
moving forward. This step can involve
implementing new procedures and
updating formal job responsibilities.
You might also start performing regular
checks to make sure that work areas are
meeting the new standards of clean-
liness, organization, and readiness.
And you should periodically reassess
workflow to see if new problems have
emerged or old ones have resurfaced.

5. Sustain. Nurture a culture among
physicians and staff that will help your
practice to sustain a 5S approach over
the long term.

The Long-Term Impact of
Going Lean
How often does a physician have to
wait for a patient to arrive in the exam
room? If he or she loses 15 minutes per
clinic, that adds up quickly. Assuming
4 clinic sessions per week, that would
mean 1 hour lost every week. If this
time had been spent attending to
patients rather than waiting for them,
the same physician could have seen an
extra 300 patients during the course of
a year. Estimate an office visit at $200
per patient, and you are losing about
$60,000 per year. The bottom line: Fo-
cusing on the small things that impede
schedules can produce meaningful
results.

Ms. Fridl is chief performance officer at Asheville
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Mr. Suneja is president of FlowOne Lean
Consulting, based in Milwaukee, Wisc. Relevant
financial disclosures: FlowOne Lean Consulting:
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Dr. Wiggins is Academy senior secretary for
ophthalmic practice and is managing partner at
Asheville Eye Associates in Asheville, N.C. Rele-
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Ms. Woodke is administrator at Oregon Eye Con-
sultants in Eugene. Relevant financial disclosures:
None.

See the disclosure key, page 8. For full disclo-
sures, see this article at aao.org/eyenet.

Next month: Reduce patient wait times.
Going Lean, Part 3: Improve Patient Wait Times

The ability to reduce wait times without rushing the physician from patient to patient is the holy grail of patient satisfaction. This can be achieved by applying lean principles of practice management and removing the many and varied sources of waste from the health care delivery process,” said Aneesh Suneja, MBA, who is coauthor of *Lean Doctors* and founder of FlowOne Lean Consulting.

**Why you should focus on wait times.** “Wait times are a highly visible indicator of our performance. No other metric tells us the state of our process so clearly,” said Mr. Suneja. Furthermore, long wait times are a primary driver of patient dissatisfaction. (While Part 3 of this *EyeNet* series focuses on wait times, Part 1 introduced some key lean principles, such as the value stream, and Part 2 focused on the waste walk and the 5S method for evaluating and improving processes.)

**Identify the Problems**

“We used value stream mapping to determine what changes should be made,” said Dennis P. Han, MD, director of the vitreoretinal service at the Medical College of Wisconsin. As part of value stream mapping, you identify what is of value to a patient. Activities that directly contribute to that value are considered “value-added activities”; those that don’t are considered waste, and you should strive to eliminate them. Dr. Han and his staff went lean about 5 years ago under Mr. Suneja’s guidance—and experienced an 85% decrease in patient wait times.

**Perform a “waste walk.”** “Our entire staff followed a mock patient throughout a clinical encounter and measured wait times between value-added activities,” said Dr. Han. This procedure, known as a waste walk, enabled his staff to identify many underlying causes for delays and helped everyone to understand the entire process. “When everyone has a common understanding of the process, it becomes a team effort. Everybody can see how they are interlinked to produce better patient care and satisfaction. As a result, there is no longer finger pointing,” said Dr. Han.

**The goal is to improve patient flow.** Ideally, patients would move from one step of their visit to the next without any delays. But there are many factors that can interrupt patient flow, including scheduling problems (e.g., patients arriving late and patient emergencies), bottlenecks (e.g., waiting for equipment to become available), and other inefficiencies (e.g., supplies or equipment are stored far from point of use).

**Look for Solutions**

Once you and your staff start recognizing the impediments to smooth patient flow, you’ll start looking for solutions. Here are some of the changes that proved successful for 3 practices.

**Perceptions Matter**

Believe it or not, your waiting room’s appearance can affect patients’ perception of wait time. Ms. Woodke’s practice, for example, has 2 locations, and patients typically have the exact same wait time in both clinics. However, she said, “our new office is much larger, and our patients at that clinic have reported that they thought they did not wait as long, presumably because it did not feel so crowded, loud, and chaotic. When a patient walks into a full waiting room, they already think that you are behind, whether you are or not.”

**How to change perceptions.** Removing clutter can make your waiting room seem less cramped. You also can move some patients to a sub-waiting room. And Ms. Woodke recommends keeping patients occupied. “In my experience, patient satisfaction increases the more that you distract them from the waiting process. We have TVs in all our rooms, with the same program playing, so as they transition through the flow, they are able to continue the story during the next step.”

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**BY LESLIE BURLING-PHILLIPS, CONTRIBUTING WRITER, INTERVIEWING DENISE C. FRIDL, COT, COE, CPPM, OCS, DENNIS P. HAN, MD, ANEESH SUNEJA, MBA, AND JOY WOODKE, COE, OCS.**
Eye Associates in North Carolina conducted their value stream analysis, they noted that patients were waiting in line at the end of their exam to make payments and appointments. “To solve this problem, we moved collections to a pre-exam activity and moved the posting of charges and appointment follow-up scheduling to the end of an exam. These tasks are now completed by our technicians,” said practice administrator Denise Fridl, COT, COE, CPPM, OCS. By making minor changes in its processes, the practice eliminated several positions and increased its patients’ satisfaction.

Address bottlenecks. In a retina practice, patient flow slows in the photography and image acquisition areas, said Dr. Han. “To solve this problem, we moved our OCT imaging devices into the examination area.” (They had been located in a distant part of the clinic.) “This reduced the steps that had to be made by both my staff and my patients and improved our patient flow.”

Take advantage of technology. “Scanning insurance cards versus copying them, although a small modification, can make a big difference in practice flow,” said Joy Woodke, COE OCS, practice administrator at Oregon Eye Consultants in Eugene. “We have also embraced using our patient portal. Patients are able to register online, receive confirmations, and cancel appointments, for example, which has streamlined multiple processes and measurably improved our flow.”

Focus on changeover processes. The lean approach distinguishes between “value-added processes” and “changeover processes.” Physician-patient interaction provides value to a patient and, thus, is considered a value-added process. In contrast, changeover processes include tasks that need to be done as the physician moves from one patient to the next, such as getting the chart ready for the next patient, dilating eyes, and moving patients in and out of the exam room.

When the changeover processes are performed by the physician, it extends the time between value-added processes. Instead, whenever possible, these changeover processes should be handled by staff in parallel to a physician’s processes so that the physician is able to efficiently move from one patient to the next and devote every minute to hands-on health care, said Dr. Han. For example, Dr. Han’s practice stopped moving patients in and out of the exam room. “This reduced the amount of time that people were going to the waiting room and back in to the exam area. Our patients are screened by a technician, their pupils are dilated, and they are seen by a physician—all in one exam room. And while one patient’s eyes are being dilated, the team moves to the next exam room and repeats the process, so there is always a patient ready to see a physician. This considerably reduced the amount of time spent walking around needlessly for every-one,” he said.

Similarly, at Asheville Eye Associates, they “strive to have 2 workup rooms and 2 physician rooms per clinic. This allows for the system to move patients efficiently,” said Ms. Fridl. “This was also the smallest change we made that resulted in the greatest impact on wait times. Our patients do not feel they are waiting excessively because something is always being done.”

Deputize staff to troubleshoot problems with patient flow. “In each of our clinics, we assign ‘facilitators’ (usually a scribe) to work with a particular physician on certain days,” said Ms. Woodke. “These are our ‘traffic directors,’ and they ensure that our clinical traffic is moving fluidly. If one of our technicians gets behind and is not loading the rooms or working up a patient quickly enough, the facilitator assists with getting them back on schedule.”

Assess Performance Regularly

“What gets measured gets managed,” said Mr. Suneja. “Value-based payments are inevitable, so practices must make sure that patient satisfaction scores are good. Not only is this important in terms of compensation but it also reduces complaints from unhappy patients.” Dr. Han agreed, and added an easy rule of thumb for assessing wait-time performance: “We look at how long the last patient is discharged after their appointment. For instance, if our last morning clinic appointment is at 11:30 a.m., and the patient is discharged by noon, we have had a successful clinical session. Conversely, if the last patient is not discharged until 1:00 p.m., we have not, and we need to find the cause and make adjustments.”

Ms. Fridl is chief performance officer at Asheville Eye Associates in Asheville, N.C. Relevant financial disclosures: None.

Dr. Han is director of the vitreoretinal service at the Medical College of Wisconsin in Milwaukee. Relevant financial disclosures: FlowOne: C.

Mr. Suneja is president of FlowOne Lean Consulting in Milwaukee, Wisc. Relevant financial disclosures: FlowOne: C.

Ms. Woodke is administrator at Oregon Eye Consultants in Eugene. Relevant financial disclosures: None.

Improve Scheduling

If too many patients are scheduled in the morning or immediately after lunch, delays can occur, which can cause a domino effect of dissatisfaction throughout the clinic.

Allow flexibility. Paying close attention to the type of patient visit and allowing time for the unexpected are critical to keep the flow moving. “Within our retina practice, 1-month follow-up appointments tended to take up every single slot in our schedule,” said Ms. Woodke. “Now, we always leave room for consultations and emergencies. This helps us to avoid overbooking to the point that our clinic becomes behind.”

Consider creating a call center. “We developed a centralized scheduling department for our 9 offices,” said Ms. Fridl. “These employees schedule all the appointments, triage phone calls, call in prescription refills, and direct all phone calls throughout the practice. We also developed an internal system to identify who is on hold for which office and how long they have been on hold so each employee can respond to these calls in an efficient manner—all of these changes contribute to decreased patient wait times.”
Full Financial Disclosures

Ms. Fridl  None
Dr. Han  Acucela: S; Alcon Research: S; Alkeus Pharmaceuticals: S; FlowOne, Lean Consulting: C; Neurotech USA: S; Tyrogenex: C.
Mr. Suneja  FlowOne: C
Ms. Woodke  None

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<td>C</td>
<td>Consultant fee, paid advisory boards, or fees for attending a meeting.</td>
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THE LEAN PRACTICE

Mastering the Art of Lean Ophthalmic Practice
Mastering the Art of Lean Ophthalmic Practice

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Introduction

Produced by the American Academy of Ophthalmic Executives (AAOE), this e-course book is a companion to the audio recording of Mastering the Art of Lean Ophthalmic Practice, the master class offered at the Academy’s annual meeting in 2016. Together, they provide a set of innovative principles and implementation steps that you can use to make simple and effective changes to the way your ophthalmic practice is managed. These changes can significantly improve your office’s efficiency, increase your bottom line and (perhaps most importantly) improve your patient satisfaction.

With the regulatory landscape shifting and payment networks becoming more narrow, practices are being challenged to do more with less. And new payment models place increased emphasis on patient satisfaction and improving quality in a cost-effective way. It’s important to lead efforts that will have a meaningful impact for your practice and your patients. By implementing the lean methods in this course, you can successfully position your practice to thrive in the new era of value-based health care.

The course is directed by Aneesh Suneja, a lean management “black belt” with over 17 years of experience in applying lean strategies within medical practice settings. The audio recording will cover fundamental lean concepts and present case studies from ophthalmologists and their practice administrators. These case studies speak to the challenges faced in the ophthalmic practice and demonstrate how the application of lean management techniques helped resolve them.

This companion e-course book provides you with the hands-on tools needed to implement key lean strategies into your practice. It presents three foundational concepts — value stream mapping, waste identification and thinking about the future state — each of which is clarified with examples and followed by a step-by-step action plan. Helpful worksheets are included for use in your practice assessment. After finishing, you will be able to map your current processes accurately, identify value-added activities and root out waste. These findings will focus you and your care team on identifying actual roadblocks and empower you to implement solutions that fit your practice’s needs. We recommend that you work through this book in sequential order, as each step builds upon the next.

Now, more than ever, going lean is best practice for ophthalmology. Start making efforts to improve the value of eye care you provide that will pay off for you and your patients!

Robert E. Wiggins Jr., MD, MHA
Academy Senior Secretary for Ophthalmic Practice
Section 1: Three Foundational Lean Principles

Key Point:

The three foundational lean principles are:

1. Value Stream Mapping
2. Waste Identification
3. Thinking About the Future State

The Current State

Long wait times top the list of most patients’ complaints. Due to the nature of the ophthalmic care process, patients in ophthalmology practices can have particularly long wait times. Technicians responsible for working up patients prior to physician consultations often work at their own pace, inadvertently creating a backlog of waiting patients who grow more and more dissatisfied as time passes. Patients may need additional imaging studies and other tests and procedures during the clinic visit, adding additional delays and another layer of unpredictability to the process. Clinic layouts can hamper team communication and scheduling systems can build delays into practice flow — again compounding the situation. Physicians, staff and patients alike become angry and frustrated by these inefficiencies.

Lean in Ophthalmology

Lean is about carefully observing the entire care process and determining the sources of waste. Once we know what is causing patients to wait and clinics to run late, we can implement improvements that remove the root causes of waste. The goal is to create a relaxed, orderly clinic process that enables physicians to focus on patients, end clinics on time and spend less time on tasks that do not add value.

To achieve a calm, orderly state in the ophthalmic care process, you need to start with three foundational lean principles: **value stream mapping, waste identification, and thinking about the future state**. These principles help you diagnose the current state of your clinic and determine which improvements will have an immediate and positive impact on your team and your patients.

In the next section, we will introduce you to the first powerful lean tool — value stream mapping — which belongs in every practitioner’s toolkit. Through value stream mapping, you will collect data based on direct observations of your patients’ entire care process from check-in to check-out.
Section 2: Value Stream Mapping

Key Points:

- The value stream map is the 40,000-foot view of all the steps that take place in your ophthalmic care process.
- Mapping begins and ends with the patient.
- This high-level view enables you to accurately assess your current process and identify improvement priorities.

What Is Value?

In lean management, we define value from the patient’s point of view: What does the patient care about? When we think about this question from the patient’s perspective, we can see that the patient is most concerned with outcomes and communication with the physician or care team. The rest of the care process — waiting to see a physician, walking from room to room, waiting for equipment availability, searching for needed information — is waste to the patient.

The 40,000-Foot View

The roles in the ophthalmic care team — front desk, technicians and physicians — are specialized and seldom overlap. Very often, no one in the clinic has observed and understood the entire process from beginning to end, which can lead to multiple points of view about why problems occur.

Value stream mapping is a useful tool to see the entire process in action, learn how all the roles fit together and discover where the problems arise. It provides a 40,000-foot view of the steps your patients take in your ophthalmic care process. It also shows where physicians and technicians interact with the patient and where the patient must wait for the next step in the process. This high-level view is essential when 1) determining the state of the entire patient care process, 2) identifying improvement priorities and 3) ensuring that any changes have a positive effect on the entire process.

When you create your value stream map, you will follow a patient from check-in to check-out and record what you see. This firsthand observation is important: As a lean practitioner, you need to experience the process as the patient does and not rely on historical data or the testimony of the care team. An hour or two of patient observations will give you an entirely new perspective on your clinic process.
Value Stream Mapping Metrics

Value stream mapping records three metrics: process time, wait time and first quality time, which are defined below.

<table>
<thead>
<tr>
<th>1. Process Time (PT)</th>
<th>How long did it take for the patient to receive needed care in each step?</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Wait Time (WT)</td>
<td>How long did the patient wait between steps (including walking time)?</td>
</tr>
<tr>
<td>3. First-Time Quality (FTQ)</td>
<td>What is the percentage of instances in which a particular step was accomplished perfectly the first time, without issues or errors?</td>
</tr>
</tbody>
</table>

Value Stream Mapping Symbols: The Process Box and Inverted Triangle

Record your observations using boxes to represent “processes” and inverted triangles to represent “wait times.” For each patient you observe, record the main process steps as boxes on your map. Check-in, photos and testing are examples of processes. A process box contains all the steps that happened without stopping. The process box for “Tech Workup” may, in fact, contain several tasks, but as long as the patient isn’t waiting for any of those tasks to occur, these multiple processes can all fall within the same box. An inverted triangle indicates a wait time for the patient.
Exercise A: Step-by-Step Guide to Creating Your Value Stream Map

**STEP #1: Capture the high-level process steps on paper for each patient you observe.** Observe and record the process steps and associated times using a watch and pencil and paper. The process time is the amount of time the patient *actually* interacts with the physician or technician and does not include time spent waiting for the process step to occur. The sample value stream map below shows the process boxes in a retina clinic as well as times collected during a patient observation.

![Value Stream Map](image)

Figure 1. Value Stream Map — Step 1.
STEP #2: Add the wait times that occur between each process step. Draw them on the map as an inverted triangle. Adding the wait times as shown below emphasizes where the biggest improvement gains can be made. Lean management focuses your improvement efforts on the wait times, rather than on the process times, because the wait times are usually much longer and can yield much more dramatic improvements.

![Diagram of process steps with wait times](image)

Figure 2. Value Stream Map — Step 2.
STEP #3: The final metric to record is first time quality (FTQ). FTQ is a measure of how frequently a step is performed correctly the first time — without errors, omissions or delays. For example, how often is the correct equipment and information available to the physician during a patient consultation? If the physician needs to leave the exam room to retrieve equipment or information 25% of the time, then that process step has a FTQ of 75%. On your value stream map, this can be an estimate; however, if you are able to complete a significant number of patient observations, record the observed FTQ.

When you have completed your map, use the FTQ percentage for each process box to calculate the overall FTQ. Overall FTQ measures how frequently a patient experience is ideal, or occurring without problems at any step of the process. To determine overall FTQ, multiply the FTQ percentages for each process box. In the example below, $0.95 \times 0.75 \times 0.50 \times 0.75 \times 0.90 \times 0.80 = 19\%$ FTQ for the entire care process.

![Figure 3. Value Stream Map — Step 3.](image-url)
**STEP #4: Add up all your metrics to complete your value stream map.** Process times and wait times are added together to arrive at the *total visit length*. Compare the total visit length to the total process time to gauge the percentage of the visit spent in value-added activity. In our example, the total visit length (process times + wait times) is 129 minutes. Of that, 69 minutes is value-added process time, so the value-added time is 53% of the visit length.

Your completed value stream map should contain the following: 1) the final layout of the process boxes and wait symbols, 2) the duration of time associated with processes and wait times and 3) a final summary of data collection.

![Value Stream Map](image)

Figure 4. Value Stream Map — Step 4.
Sample #1: Value Stream Map

The following value stream maps were created by ophthalmology teams working in a variety of clinical environments and provide examples of the level of detail and process information you should capture on your own map.

Figure 5. This pediatric/strabismus team created its value stream map based on several patient observations.

Note: A range of times are listed for several of the process steps and wait times.
Sample #2: Value Stream Map

Simple tools — such as Post-it notes, flip charts and whiteboards — are extremely effective, easy to use and most likely already in your office supplies.

Figure 6. This comprehensive ophthalmology team created their value stream map based on the observation of a single patient.

Note: The clock times are recorded for each process step and the wait time in the process. This is a simple yet powerful way to conduct an observation.
### Action List: Key Steps for Creating Your Value Stream Map

<table>
<thead>
<tr>
<th><strong>STEP #1:</strong></th>
<th>Set aside at least 90 minutes during a representative clinic day for patient observations.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEP #2:</strong></td>
<td>Let your clinic team know that you are conducting patient observations and why.</td>
</tr>
<tr>
<td><strong>STEP #3:</strong></td>
<td>Select a patient to follow from beginning to end throughout the process. If time permits, select one patient from each type of patient that commonly visits your clinic.</td>
</tr>
<tr>
<td><strong>STEP #4:</strong></td>
<td>Observe the patient moving through the clinic process. On your map, capture the high-level process steps in boxes and wait times in triangles. There is no need at this point to observe the patient during interactions with the care team, including the physician. Remember, since most processes contain more waste than value-added process time, your first priorities are to understand the process from beginning to end and to identify the places in your process where patients stop and wait.</td>
</tr>
<tr>
<td><strong>STEP #5:</strong></td>
<td>Use a watch or stopwatch to capture process times and wait times at every step.</td>
</tr>
<tr>
<td><strong>STEP #6:</strong></td>
<td>Calculate the first-time quality (FTQ) for every step of the process.</td>
</tr>
<tr>
<td><strong>STEP #7:</strong></td>
<td>Add the process times and wait times to calculate the total visit length.</td>
</tr>
<tr>
<td><strong>STEP #8:</strong></td>
<td>Divide the total process time by the total visit length to determine the value-added percentage for your process.</td>
</tr>
<tr>
<td><strong>STEP #9:</strong></td>
<td>Share your value stream map and metrics with your physicians, care team and administrator.</td>
</tr>
</tbody>
</table>
Section 3: Waste Identification

Key Point:
Waste is any activity that takes up time, effort or space but does not provide value to the patient.

What Is Waste?

In the prior section, you created a value stream map to understand where patients move through your clinic process and where they stop and wait. Every triangle on your map indicates a potential source of waste in the process. In the lean sense, waste is any activity that takes up time, effort or space but does not provide value to the patient. We know the waste is there because the value stream map tells us that the patient has stopped and is waiting. However, people closest to the process are often the ones who have the hardest time seeing the waste. They are too busy managing the care process for the patient to step back and identify sources of these problems.

The 8 Wastes

Lean management categorizes waste into eight clearly visible categories:

1. Motion
2. Transportation
3. Inventory
4. Waiting
5. Defects
6. Over processing
7. Over production
8. Human Talent

But what does waste look like in an ophthalmology clinic?
The 5 High-Impact Wastes in Ophthalmology

For ophthalmology, we will be focusing on five high-impact wastes — motion, inventory, waiting, over production and human talent. These are the most common types of waste you will see in your practice.

Let’s take a closer look

Motion refers to staff footsteps (in contrast to transportation, which refers to patient footsteps). The waste of motion occurs any time a staff member walks unnecessarily to retrieve information, search for a physician or technician, fetch a surgery scheduler or find supplies or equipment. This type of motion indicates problems with facility layout, team roles and communication, and the stocking and location of supplies and equipment.

Inventory is considered a source of waste under these three conditions: 1) when it is located too far away from where it is needed, 2) when it is poorly labeled, organized and stocked, and 3) when there is no system for management and reordering, which can lead to over- or understocked medications as well as obsolescence.

Waiting is a source of waste and includes patients waiting to check in or out, patients waiting for doctors and staff, and staff and doctors waiting for patients or for rooms to become available.
Over production means that one step in the process produces more “inventory” than the next step can handle. For example, in ophthalmology, this often means that patients are backed up at a process step because too many patients were worked up and are now waiting for the physician or that a bottleneck has formed at another process step.

When human talent is wasted, the clinic loses the benefit of expert process input. Lean thinking teaches that the person doing the job is the one who knows it best. So, the first place to look for process improvement suggestions is the front-line care team. Failure to involve this team in process improvement efforts is more than just a waste of human talent; it is a sure way to derail your lean efforts.
Exercise B: Conduct a Waste Walk

The waste walk is a tool to help you see waste in your process. Waste walks can be conducted after you have created the value stream map and are aware of where patients stop and wait in your process. Remember, the goal is not to make the value-added steps more efficient, but to identify and eliminate the wait times between those steps. Once you have mapped out those wait times, walk through the process again by visiting the places where the work is being performed, actively looking for the sources of waste. Record as many examples of waste as you can, using the form on the next page. Please note that we have included all eight wastes for a thorough waste walk.

**STEP #1:** Print a copy of the waste walk form on the next page.

**STEP #2:** With the waste walk form in hand, walk through your clinic’s process. Record examples of as many categories of waste as possible.

**STEP #3:** Add these sources of waste to your value stream map.

**STEP #4:** Highlight potential areas for improvement.

**STEP #5:** Share and discuss your observations with your physician, staff and administrator team.

**STEP #6:** Work with the front-line team to identify one improvement to make based on the value stream map and waste walk exercise. Listen to the team’s ideas and get their buy-in for whatever change is made.

**STEP #7:** Trial the change in the clinic and collect data on the results. Keep the changes that work and discard those that do not.

**STEP #8:** Celebrate early wins with the team to build excitement for lean, and begin to create a culture of continuous improvement.
## Worksheet #1: The 8 Wastes

<table>
<thead>
<tr>
<th>The 8 Wastes</th>
<th>Your Observations of Waste</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Motion</strong></td>
<td>Some examples of motion waste:</td>
</tr>
<tr>
<td></td>
<td>• Staff person’s footsteps (e.g., the technician waiting, testing, doing an exam)</td>
</tr>
<tr>
<td></td>
<td>• Physicians searching for technicians</td>
</tr>
<tr>
<td></td>
<td>• Fetching surgery schedulers</td>
</tr>
<tr>
<td></td>
<td>• Walking to communicate</td>
</tr>
<tr>
<td></td>
<td>• Too many clicks</td>
</tr>
<tr>
<td><strong>2. Transportation</strong></td>
<td>Some examples of transportation waste:</td>
</tr>
<tr>
<td></td>
<td>• The patient’s footsteps</td>
</tr>
<tr>
<td></td>
<td>• Moving supplies and information over long distances</td>
</tr>
<tr>
<td></td>
<td>• Constant moving of equipment</td>
</tr>
<tr>
<td><strong>3. Inventory</strong></td>
<td>Some examples of inventory waste:</td>
</tr>
<tr>
<td></td>
<td>• Supplies located too far away</td>
</tr>
<tr>
<td></td>
<td>• Under-/overstocked medications</td>
</tr>
<tr>
<td></td>
<td>• Poor organization</td>
</tr>
<tr>
<td></td>
<td>• Poor labeling</td>
</tr>
<tr>
<td><strong>4. Waiting</strong></td>
<td>Some examples of waiting waste:</td>
</tr>
<tr>
<td></td>
<td>• Patients waiting to check in or out</td>
</tr>
<tr>
<td></td>
<td>• Patients waiting for the doctors or staff</td>
</tr>
<tr>
<td></td>
<td>• Physicians waiting for patients to be ready</td>
</tr>
<tr>
<td></td>
<td>• Staff waiting for rooms</td>
</tr>
<tr>
<td><strong>5. Defect</strong></td>
<td>Some examples of defect waste:</td>
</tr>
<tr>
<td></td>
<td>• Wrong patient — wrong day</td>
</tr>
<tr>
<td></td>
<td>• Poor-quality schedules</td>
</tr>
<tr>
<td></td>
<td>• Errors in medication, care or billing</td>
</tr>
<tr>
<td></td>
<td>• Incorrect spectacle prescriptions</td>
</tr>
<tr>
<td><strong>6. Over Processing</strong></td>
<td>Some examples of over processing waste:</td>
</tr>
<tr>
<td></td>
<td>• Constant confusion</td>
</tr>
<tr>
<td></td>
<td>• Variation in work causing work to be repeated</td>
</tr>
<tr>
<td></td>
<td>• Undocumented processes</td>
</tr>
<tr>
<td></td>
<td>• Solving the same problem continually</td>
</tr>
<tr>
<td><strong>7. Over Production</strong></td>
<td>Some examples of over production waste:</td>
</tr>
<tr>
<td></td>
<td>• Too many patients to be worked up or tested</td>
</tr>
<tr>
<td></td>
<td>• Too many patients waiting for the doctor</td>
</tr>
<tr>
<td></td>
<td>• Bottleneck at check out</td>
</tr>
<tr>
<td><strong>8. Human Talent</strong></td>
<td>Some examples of human talent waste:</td>
</tr>
<tr>
<td></td>
<td>• Front-line staff not tapped for ideas and problem solving</td>
</tr>
<tr>
<td></td>
<td>• Not fully utilizing staff to complete portions of the patient encounter</td>
</tr>
<tr>
<td></td>
<td>• One-size-fits-all approach</td>
</tr>
<tr>
<td></td>
<td>• No process for continuous problem solving</td>
</tr>
</tbody>
</table>
Section 4: Thinking About the Future State

Key Points:

- In a lean sense, the ideal state for the care process is one of uninterrupted flow.
- A cross-trained and flexible team, working in a dedicated pod with one-patient-at-a-time scheduling, can eliminate most sources of waste.

Flow Is Central to Lean

In a lean sense, the ideal state for the care process is one of flow — the patient does not stop moving from the beginning of the process to the end. If an ophthalmic clinic achieved flow, the patient would move continuously from check in to check out, and the value stream map would have only one process box.

![Image](image1)

Figure 12. The ideal state of flow in patient care.

In the actual clinical environment, however, there are many obstacles to achieving flow. Missing information or supplies, confusion about priorities, poor clinic layouts and inefficient scheduling can all interrupt flow, cause long wait times and late clinic end times and result in dissatisfied patients.

![Image](image2)

Figure 13. Impediments to flow in an ophthalmic practice.
Lean ophthalmic practitioners can use the tools of value stream mapping and waste identification to view their practice process objectively and begin to envision the future state. Envisioning the future state means diagnosing what’s wrong with the current process and recognizing alternative ways to set up the ophthalmic practice.

**The 4 Main Tools for Thinking About Your Future State**

For this discussion, we will focus on four main tools that have been tested and validated in comprehensive and subspecialty ophthalmology clinics. The goal is to acquaint you with these additional strategies for a lean clinic as you plan for your own future state.

**Tool #1: Workload Balancing**

Very often, the ophthalmologist has the longest and most variable process time with the patient. When the physician consultation time exceeds the time the technician needs to work up another patient, it is tempting for the technician to “stay busy” by working up more patients as they become available. This creates an imbalance in the system and results in a built-in delay for the physician, as well as the whole clinic. Once the bottleneck is created, the technicians appear to be standing around idle while the physician has an insurmountable backlog of full exam rooms. Work imbalances lead to frustration, resentment and burnout, not to mention angry patients.

Solving a work imbalance means shifting some of the work content from one member of the team to another. If the average physician consultation is 10 minutes, but the technician needs only five minutes to work up the patient, then five minutes of work content can be shifted from the physician to the technician. In practice, some clinics have created a scribe role for technicians, which shifts some documentation work from the physician to the technician in order to prevent overproducing.

**Tool #2: Schedules**

Sometimes, the bottleneck that gets the clinic behind schedule is not due to the technicians overproducing, but to the practice of scheduling patients in batches. If five patients are scheduled for the first-time slot in the clinic, it is likely that all five will be worked up at once and roomed for the physician, instantly creating a bottleneck that will set the clinic behind schedule for the entire clinic day. The addition of emergency and add-on patients will simply compound the delays.

The solution here is simple: Schedule one patient at a time. Doing so allows patients to flow through the process without bottlenecks. When the clinic doesn’t get behind due to batches and bottlenecks, it is easier to accommodate emergencies and add-ons and still end the clinic on time.

**Tool #3: Pods**

Many ophthalmology clinics are organized into departments in which members sit together in departmental workrooms. Technicians, physicians, photographers and schedulers might all have their
own workrooms where they are out of sight from one another. Physical organization of departments into separate units can result in work silos that do not communicate well with each other. People working in silos don’t see the effects of workload imbalances or poor scheduling; they may know that the waiting room is full, but may not be aware of what is causing the delay. When people cannot see or communicate with each other, they only know their own part of the process, impeding efforts to improve the entire patient experience effectively.

The lean clinic works in pods rather than silos. Pods are natural, cross-functional teams made up of the physician, technicians, schedulers and photographers. They all share a workspace and a dedicated set of exam rooms and jointly manage patient flow. Pods reduce wastes of transportation and motion, help to balance workloads and increase communication.

**Tool #4: Visual Communication**

In a traditional clinic — with its inherent workload imbalances, departments and silos — there are no mechanisms to communicate patient status immediately or identify bottlenecks as they occur. Communication in traditional systems tends to be verbal and inconsistent, often taking place in hallways and other informal settings. Ineffectual communication makes it difficult to track individual patients and their needs and also reduces the ability of the care team to manage the overall clinic process.

A lean system makes communication visual. All team members can see the same information about the clinic process and where each patient is located. This can be done with a whiteboard or electronic tool that communicates the status of each patient in real time and triggers the next step of the process. When the care team can clearly see the entire clinic process, they can adjust the pace at certain steps to avoid backups or deploy cross-trained resources to alleviate bottlenecks as soon as they form. A cross-trained and flexible team, working in a dedicated pod with one-patient-at-a-time scheduling, can eliminate most sources of waste from the process. This reduces patient wait times dramatically and greatly improves both staff and patient satisfaction.

**Exercise C: Think About Your Future State**

To diagnose your process and begin thinking about the future state, observe staff and patients towards the end of the clinic at 11:30 a.m. and again at 4:00 p.m. Use the “Think About Your Future State” worksheet on the next page to capture your data.
# Worksheet #2: Think About Your Future State

<table>
<thead>
<tr>
<th>Answer these questions:</th>
<th>11:30 a.m.</th>
<th>4:00 p.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. How many patients are worked up and waiting for the doctor?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. How long will it take the physician to see all the patients who are worked up and waiting?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. What time then will the clinic end?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. What are the technicians doing during this time period?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. What are some alternative uses for the technicians’ time to help the physician or patients through the process?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes/Observations:**
Summary

The three foundational lean principles presented here will enable you to see your clinic process with fresh eyes, diagnose the main sources of waste and take the first steps to make positive changes. When you map out your process, collect and share your process metrics, identify wastes and think about your future state, you are laying the groundwork for a lean transformation that will create a calm and efficient clinic environment.

Attendees at the Mastering the Art of Lean Ophthalmic Practice master class also took away the following insights:

- **Involve the front-line staff in the lean effort.**
  Staff buy-in for lean and for process improvement changes is critical: The team must be willing to make changes. One of the easiest ways to create commitment to lean is to involve the front-line team in process improvement efforts and use the results of the value stream mapping and waste walk exercises to identify “early wins.” Once the team experiences those early wins, their commitment to and excitement for the lean work will grow.

- **Observe the process firsthand.**
  Administrators, managers and physicians should observe the entire patient process and understand the steps involved before any changes are planned. When you invest the time in firsthand patient observations, you are demonstrating your commitment to understanding the process and improving it.

- **Create opportunities to train the staff in lean.**
  Lean training, as well as value stream mapping and waste walk exercises, can build the case for lean and begin to sow the seeds of culture change.

- **Share process information transparently.**
  As you begin with the steps outlined in this book, you will be collecting and analyzing a great deal of process information, all of which may be new to your clinic team. Information about how the process performs and how each individual team member impacts it should be shared with all staff. A team that shares a common understanding of relevant metrics can set common goals and work together to achieve them.
The Lean Practice: Mastering the Art of Lean Ophthalmic Practice

Produced by the American Academy of Ophthalmic Executives (AAOE), this e-course book is a companion to the on-demand recording of *Mastering the Art of Lean Ophthalmic Practice*. The course provides a set of innovative principles and implementation steps that can be used for making simple but powerful changes to your ophthalmic practice—changes that can significantly improve your office’s efficiency, increase your bottom line and (perhaps most importantly) improve patient satisfaction.

**Topics include:**
- Three Foundational Lean Principles
- Value Stream Mapping
- Waste Identification
- Thinking About the Future State

*About the American Academy of Ophthalmic Executives*

The American Academy of Ophthalmic Executives (AAOE), an affiliate of the American Academy of Ophthalmology, is the leading membership organization for ophthalmic practice management serving thousands of members. AAOE’s mission is to facilitate the business success of ophthalmic practices through accurate and up-to-date coding and practice management resources. Visit [aao.org/aaoe](http://aao.org/aaoe).