Unlock Your **Clinic’s Full Potential** with The Lean Practice

Session 8A: 9:10 AM - 11:30 AM

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Financial Disclosures: Wiggins

• None
Financial Disclosures: Suneja

• Book royalties from *Make Your Clinics Flow with Synchrony* and *Lean Doctors*
• Royalties from AAOE Online Training - *The Lean Practice: Mastering the Art of Lean On-Demand Class*
• FlowOne Lean Consulting, LLC - President and CEO
Definition of A Lean System

1. Identify what the CUSTOMER Values
2. Map VALUE STREAMS
3. Create flow by ELIMINATING WASTE
4. Let the customer PULL value
5. Pursue PERFECTION
CUSTOMER: The Patient

VALUE STREAM MAP: A Visit

Total Visit: 88 MIN
Total Value: 26 MIN
Wasted Time: 62 MIN
Footsteps: 180
Two Types of Activities In Patient Value Streams

- **Value Added Activity**
  Activities that the customer cares about such as **physician or staff time** with the patient

- **Waste or Non-Value Added Activities**
  Activities that take time, resources or space but do not provide any value to the **patient** or the **staff** such as moving the patient from room to room; searching for supplies or staff; waiting; confused about the next patient in line, etc.
Lean Ophthalmology

A Lean Patient Visit

Patient checks in at 9:00 AM
Patient checks out at 11:00 AM

WASTE

Patient checks in at 9:00 AM
WASTE
Patient checks out at 10:00 AM
Any Customer, Any Value Stream

WORKFLOW AS USUAL

START → WASTE → UNPREDICTABLE → END

WORK SMARTER

START → PREDICTABLE → END

AMERICAN ACADEMY™
OF OPHTHALMOLOGY
Lean Paradigm Shift

**Traditional Focus:** Do each process step efficiently!

**Lean Shift:** Reduce waste in all parts of the process, both process steps & delay times.
8 Categories of Waste

1. Overproduction
2. Inventory
3. Motion
4. Waiting
5. Transportation
6. Overprocessing
7. Rework/Defect
8. Underutilization
Overproduction
Overproduction

To produce or provide too much, too early, or “just in case”

• Overbooking for no-shows
• Opening supplies prior to patient demand (i.e. injections, FA’s, IOLs for surgery)
• Uneven loads in clinic
• ER call scheduling
Inventory

Service, work in progress, supplies, equipment, or finished goods which does not have value added to them

- Medications (Anti-VEGF, Botox)
- Optical/CL inventory
- Conductive Keratoplasty Cards
Motion

Unnecessary movement of people
Motion

- Paper chart search
- Location of equipment (BP cuff, lensometers, shared copiers/printers, FAX)
- Non-standardization of lanes
- Reference material in proximity of exam rooms (e.g. Epocrates)

Movement of people/individuals
Waiting

• Waiting for a work cycle (or service) to be completed or to begin
Waiting

People that wait for a work cycle (or service) to be completed or to begin

- Patient/Staff/Physician waiting
  - Waiting for an appointment
  - Waiting on hold
  - Waiting to be called to exam room
  - Waiting in the exam room
  - Waiting for an open exam room
  - Waiting for patients to arrive
  - Waiting for doctor to arrive
  - Waiting for techs to work up patients
  - Waiting for medical records/test results
Transportation

Unnecessary movement of anything or anyone between processes
Transportation

Unnecessary movement of anything or anyone between processes

- Movement of patient from tech work up room to waiting room to physician exam room
- Transport of paper charts from medical records room to clinics, doctors’ offices, etc.
- Sharing Equipment: Auto refractor, Lensometer
- Transport of patients to check out desk
Over Processing

Processing beyond the standard required by the customer (patient).

Sweeten Creek Print Job Cost
Jan - July 2012

(Comparison Total Group Cost vs Cost per Group)
(Note: Network printers only. Does not include any Printers directly connected to PC)

- Clinical Group: $9,703
- Testing (Diag & VF): $761
- Corrective Vision (Contacts & Optical): $2,281
- Patient Relations (Check out): $3,104
- Business: $3,119

Total Group Cost:
- Clinical Group: $18,968
- Testing (Diag & VF): $18,968
- Corrective Vision (Contacts & Optical): $18,968
- Patient Relations (Check out): $18,968
- Business: $18,968
Over Processing

Processing beyond the standard required by the customer (patient). By improving processing efficiency, we ultimately use less resources to achieve the same customer service.

Encounter forms - duplicates

Keeping paper charts along with the electronic chart

Opening exams on computers outside and then again inside the room.

Printing the EHR exam

Repeating refractions due to lack of training
Rework/Defects

A service which the customer would deem unacceptable to pass the quality standard. Defects reduce or discourage customer service.
A defect is a service which the customer would deem unacceptable to pass the quality standard. Defects reduce or discourage customer service.

- Collections Process (denials)
  - Demographics/billing
  - Vision vs. medical plan
- Optical – Incorrect prescriptions
- Wrong site surgery
- History documentation
Underutilization of Employees

Not utilizing employees’ knowledge, skills, and abilities to the fullest
Underutilization (Employees)

- Staff management of correspondence
- Orthoptist to assess alignment and manage patients with amblyopia and strabismus
- Refractions by technicians
- Solicitation of front-line employee suggestions to improve efficiency
8 Categories of **Waste**

1. Overproduction
2. Inventory
3. Motion
4. Waiting
5. Transportation
6. Over processing
7. Rework/Defect
8. Underutilization
Identify Examples of 8 Wastes In Your Practice or Organization

Subgroup Activity (15 Min)
Any Customer, Any Value Stream

WORKFLOW AS USUAL

START → WASTE → UNPREDICTABLE → END

WORK SMARTER

START → PREDICTABLE → END
## Non-Lean: Work Is Not Balanced

<table>
<thead>
<tr>
<th>RESOURCE A</th>
<th>RESOURCE B</th>
<th>RESOURCE C</th>
<th>RESOURCE D</th>
<th>RESOURCE E</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Progress</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waiting</td>
<td></td>
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</tr>
<tr>
<td>Waiting</td>
<td></td>
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</tr>
<tr>
<td>Waiting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RESOURCE B** is busy / behind while resources A, C, D and E are free and waiting for work / patients to arrive.
Non-Lean: Work Is Not Balanced

<table>
<thead>
<tr>
<th>RESOURCE A</th>
<th>RESOURCE B</th>
<th>RESOURCE C</th>
<th>RESOURCE D</th>
<th>RESOURCE E</th>
</tr>
</thead>
<tbody>
<tr>
<td>In Progress</td>
<td>Waiting</td>
<td>Waiting</td>
<td>Waiting</td>
<td>Waiting</td>
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</tbody>
</table>

Then **Resource D** is busy / behind while resources **A, B, C** and **E** are free.
Lean Ideal: Service or Product Flows (Less Waiting For All)

<table>
<thead>
<tr>
<th>In Progress</th>
<th>RESOURCE A</th>
<th>RESOURCE B</th>
<th>RESOURCE C</th>
<th>RESOURCE D</th>
<th>RESOURCE E</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P III</td>
<td>P V</td>
<td>P VII</td>
<td>P IX</td>
<td>P X</td>
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<tr>
<td></td>
<td>9:08 AM</td>
<td>11:20 AM</td>
<td>1:40 PM</td>
<td>1:24 PM</td>
<td>0:14 AM</td>
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<tr>
<td></td>
<td>5:06</td>
<td>3:10</td>
<td>5:30</td>
<td>0:17</td>
<td>6:02</td>
</tr>
</tbody>
</table>

Respect Each Employee (Time, Ideas, Skill Set): All the resources (A, B, C, D, E) have tasks and are cross-trained to help each other as necessary.
Creating a Value Stream Map

Patient FLOW: BEFORE

BECOMING A SCIENTIST..
Capture Process Times (Actual)

HOW MANY MINUTES (PROCESS TIME) DID EACH STEP TAKE FOR THE PATIENT?

- CHECK IN: P/T = 3 Min
- TECH: P/T = 12 Min
- TEST: ?
- MD: ?
And the **Wait Times** (Actual)

HOW MANY **MINUTES** DID THE PATIENT **WAIT (W/T)** IN BETWEEN?
First Time Quality (FTQ%)

HOW OFTEN DOES EACH STEP GO IN AN IDEAL MANNER?

CHECK IN ➔ TECH ➔ PHOTOS ➔ MD

P/T = 3 Min
FTQ% = 85%
CUSTOMER: The Patient

CHECK IN
- Wait: Lobby
  - PT: 2 MIN
  - WT: 15 MIN

TECH
- Walk & Wait: Sub-Wait
  - PT: 9 MIN
  - FTQ: 80%
  - WT: 10 MIN

OCT/TEST
- Walk & Wait: Sub-Wait
  - PT: 3 MIN
  - FTQ: 95%
  - WT: 12 MIN

ROOMING
- Wait: Exam Room
  - PT: 1 MIN
  - FTQ: 100%
  - WT: 20 MIN

CHECK OUT
- Walk & Wait: Check Out
  - PT: 2 MIN
  - FTQ: 95%
  - WT: 5 MIN

SCRIBE
- Wait: Exam Room
  - PT: 2 MIN
  - FTQ: 95%
  - WT: 0 MIN

MD & SCRIBE
- PT: 7 MIN
  - FTQ: 80%

Total Visit: 88 MIN
Total Value: 26 MIN
Wasted Time: 62 MIN
Overall FTQ: 27.44%
Create a Value Stream Map
- Identify a customer or a process to map
- Map the process in your group
- Identify 8 wastes

Potential List
- Patient scheduling
- Front desk / check in
- Patient flow in the clinic
- Physician flow in the clinic
- Check out process
- Billing / collections process
- Hiring a new employee
- ....

Sub Group Activity #2
1. **PROCESS TIME (P/T):** PROCESS TIME IS THE ACTUAL ‘TOUCH TIME’ OR FACE TIME THAT IS REQUIRED TO COMPLETE THAT PARTICULAR TASK

2. **WAITING TIME (W/T):** WAIT TIME IS ANYTIME IN-BETWEEN PROCESS STEPS AND IT CAN BE IN SECONDS, MINUTES, HOURS OR DAYS - DEPENDING ON WHAT IS BEING MAPPED

3. **FIRST TIME QUALITY (FTQ%):** PERCENTAGE OF INSTANCES WHERE THAT STEP WENT IDEALLY THE FIRST TIME (WITH NO PROBLEMS OR ISSUES)
Case Study / Process Improvement
Case Study: The Lean Implementation of EHR
### Centralized Scheduling

<table>
<thead>
<tr>
<th>Split Name</th>
<th>Total</th>
<th>READY</th>
<th>WORK</th>
<th>BREAK</th>
<th>Avg. Speed of Answer (sec)</th>
<th>Longest Waiting Call (min)</th>
<th>Grade of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billing</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>0.22</td>
<td>0.00</td>
<td>57.5%</td>
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<tr>
<td>Appointments</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0.15</td>
<td>0.00</td>
<td>70.5%</td>
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<tr>
<td>Retail</td>
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<td>1</td>
<td>0</td>
<td>0.21</td>
<td>0.00</td>
<td>73.2%</td>
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<tr>
<td>Arden and H.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>78.4%</td>
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<tr>
<td>Western Co.</td>
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<td>0</td>
<td>0.00</td>
<td>0.00</td>
<td>0%</td>
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</table>

### Agent Detail Statistics

#### Arden and Henderson

<table>
<thead>
<tr>
<th>Position Number</th>
<th>Name</th>
<th>Line Status</th>
<th>Time in current state</th>
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</thead>
<tbody>
<tr>
<td>2984</td>
<td>Robyn Ben</td>
<td>ACD</td>
<td>1:22</td>
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#### Retail

<table>
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<tr>
<th>Position Number</th>
<th>Name</th>
<th>Line Status</th>
<th>Time in current state</th>
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</thead>
<tbody>
<tr>
<td>2215</td>
<td>Dejaunte S..</td>
<td>READY</td>
<td>2.16</td>
</tr>
<tr>
<td>2310</td>
<td>Betty H..</td>
<td>READY</td>
<td>4.36</td>
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#### Appointments

<table>
<thead>
<tr>
<th>Position Number</th>
<th>Name</th>
<th>Line Status</th>
<th>Time in current state</th>
</tr>
</thead>
<tbody>
<tr>
<td>2210</td>
<td>Alessandra</td>
<td>WORK</td>
<td>5.17</td>
</tr>
<tr>
<td>2216</td>
<td>Lisa Cable</td>
<td>ACD</td>
<td>0.09</td>
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<tr>
<td>2222</td>
<td>Katelyn Hallan</td>
<td>ACD</td>
<td>2.44</td>
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<tr>
<td>2343</td>
<td>Angel McLeod</td>
<td>ACD</td>
<td>8.09</td>
</tr>
<tr>
<td>2069</td>
<td>Agent</td>
<td>ACD</td>
<td>0.00</td>
</tr>
</tbody>
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![Image of a woman in a pink shirt sitting in front of a computer screen showing a call center interface with statistics and agent details.](image-url)
Check-In Process

Patient Arrives at Check-In

Appointment Verified

Demographics Verified

Consents Obtained

Encounter Form Printed to Clinic

Patient Directed to Seating Area

Patient Arrives at Check-In

Appointment Verified

Demographics Verified

Consents Obtained

Deductibles and Copays Collected

Encounter Form Printed to Clinic

Patient Directed to Seating Area

Copy Insurance Card

Review Vision vs. Medical Plan
Front Desk Customer Service Training

% of Obtained PCSS Certification

Oct-12 | Nov-12 | Dec-12 | Jan-13 | Feb-13 | Mar-13 | Apr-13 | May-13 | Jun-13
---|---|---|---|---|---|---|---|---
4% | 15% | 23% | 35% | 38% | 46% | 62% | 81% | 100%
Pre-Exam Collection Rate

Collections

- 2010: 46%
- 1Q 2011: 59%
- 2Q 2011: 69%
- 3Q 2011: 78%
- 4Q 2011: 83%
- 1Q 2012: 85%
- 2Q 2012: 85%
- 3Q 2012: 88%
- 4Q 2012: 87%
- 1Q 2013: 86%
- 2Q 2013: 84%
- 2014: 87%
Completing the Medical record (Days)

1. Technician Calls Patient into Exam Room for
2. Physician Examines Patient
3. 3 Minute Rework - Refraction and History Taking
4. Physician Examines Patient
5. Competency training for technicians eliminating reworks
6. Technician Calls Patient into Exam Room for
7. Physician Examines Patient
8. Competency training for technicians eliminating reworks
9. Physician dictates utilizing voice recognition system
10. Physician transcribes to dictaphone
11. Transcriptionist transcribes and prints letter
12. Letter transported to physician for signature
13. Completed and signed letter scanned into EHR system
14. Completion in Real Time
**Scribes Posting Charges**

**OLD PROCESS**

1. Technician escorts patient to check out
2. Check out personnel schedules follow up appointment
3. Check out personnel collects payment
4. Encounter forms transported to billing
5. Billing verifies and posts charges
6. 2 min 51 seconds/patient
   Tech time to walk patient to check out and patient stand in line, tech time to overbook patient

**NEW PROCESS**

1. Technician schedules appointment and posts charges
2. Elimination of 2 posting personnel
3. Elimination of 2 check out personnel
4. Claims filed within 24 hours
5. >72 hours
   Claims filed due to encounter forms being hand posted and errors
<table>
<thead>
<tr>
<th>CPT Code</th>
<th>Date Range</th>
<th>Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>92136-26</td>
<td>January – April 2011</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>May – December 2011</td>
<td>578</td>
</tr>
</tbody>
</table>

Revenue Loss (Allowable) $16,774
Transportation, Motion, Over Processing, Over Production, Defects, Staff Underutilization, Waiting, and Inventory: Gone!
Billing/Accounts Receivable

- Claims filed within 24 hours
- >98% Clean Claims
- 2 position eliminated
- Denials <5%
- Phone calls decreased 58%
Lean and EHR: Return on Investment

<table>
<thead>
<tr>
<th>Position</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Records</td>
<td>$82,047</td>
<td>$109,489</td>
<td>$136,931</td>
<td>$136,931</td>
<td>$136,931</td>
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<tr>
<td>Transcription</td>
<td>$33,456</td>
<td>$33,456</td>
<td>$56,912</td>
<td>$100,358</td>
<td>$117,096</td>
</tr>
<tr>
<td>Billing</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$100,358</td>
<td>$137,099</td>
</tr>
<tr>
<td>Check In/Check Out</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
<td>$96,803</td>
<td>$96,803</td>
</tr>
<tr>
<td>Appointment Scheduling</td>
<td>$0</td>
<td>$0</td>
<td>$106,350</td>
<td>$106,350</td>
<td>$106,350</td>
</tr>
<tr>
<td>Additional Training (Overtime)</td>
<td>$(7500)</td>
<td>$(7500)</td>
<td>$(7500)</td>
<td>$(7500)</td>
<td>$(7500)</td>
</tr>
<tr>
<td>Total</td>
<td>$108,003</td>
<td>$135,445</td>
<td>$302,693</td>
<td>$533,320</td>
<td>$586,779</td>
</tr>
</tbody>
</table>

Prioritizing Ideas & Use an A3 Problem Solving Format

Subgroup Activity (30 Min)
Prioritize: Action Items

- High Impact
  - Easy Fix: Green stars
  - Harder Fix: Orange star

- Low Impact
  - Easy Fix: Green stars
  - Harder Fix: Red stars
A Simple A3 Problem Solving Form

- **Problem**
- **Current State (Personal Observations, Data)**
- **Problem Analysis (5 Whys)**
- **Target State (Vision, Options)**
- **Benefits**
- **Implementation Plan (To Do, Trials)**
Lean Wait Time Reduction: Trials! Trials! Trials!

Step I
Lean Training & Clinic Observations Data

Step II
Opportunities, Lean Solutions, Prioritize Changes

Step III
Quickly Make Changes & Set-Up The Trial With Front Line Staff

Step IV
See Patients in ½ or Full Day Clinic Trial

Keep Successes, Tweak As Needed