



Clinical Safety & Effectiveness Cohort # 22

Improving Efficiency In The Ophthalmology Clinic Team 6



Center for Patient Safety
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Educating for Quality Improvement & Patient Safety

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The Team

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- Team Member: Amber Martin, COA
- Team Member: Kendall Wannamaker, MD PGY-3, statistical analysis
- Team Member: Brian Planchard, MD
- Project Facilitator: Ventrice Shillingford-Cole, BA

Sponsor Department: Ophthalmology

Dan Johnson, MD, Chairman of Ophthalmology

What We Are Trying to Accomplish?

AIM STATEMENT

To improve efficiency in the ophthalmology clinic session time from 4.5 hours to 4 hours by 5/1/2018

Background



- **Context:**
 - Efficiency of **TIME** is an issue in ophthalmology clinic.
 - Increased efficiency may allow more appointment slots for increased patient access to care and/or more time spent teaching residents.
- **Rationale:**
 - Scribes have been shown to increase efficiency in medical practice⁴ thus implementing them should help our practice as well.

Background Data

- Why introduce a scribe to ophthalmology practice?
 - ❖ EMR adoption reduced the number of patients seen by ophthalmologists¹
 - ❖ Scribes support increased clinic flow, allowing physicians more TIME to see more patients²
 - ❖ Protect doctor by witnessing doctor-patient interactions³
 - ❖ More patients results in increased clinic revenue
 - ❖ Less time seeing patients can mean more time for resident teaching

How Will We Know That a Change is an Improvement?

- Types of measures

- Length of Session Times* [*Tracking the time from first patient to be seen by MD to the last patient in a given session (AM or PM)*]
- Length of Doctor/Patient interaction time [*per encounter*]
- Encounter type/template time* [*(i.e. new patient, post-op, pre-op) to monitor template time adherence*]
- Physician satisfaction
- Specific targets for change
- Decrease individual encounter times to in turn decrease session time

DEFINITIONS

**Session Time*: Time MD starts with first patient to time MD ends with last patient for a given AM or PM

**Template Time*: The time allotted in MDs schedule for a particular encounter type (i.e. post op, new patient etc)

Scribe Checklist: Sample

Provider: Dr. Waldman

Dr. Planchard

Patient

Type of Visit: F/u, Post op

NPV, DFE

Pre OP, Procedure

Gender: M/F

Age: 65

Ambulatory: Y/N

Language: English

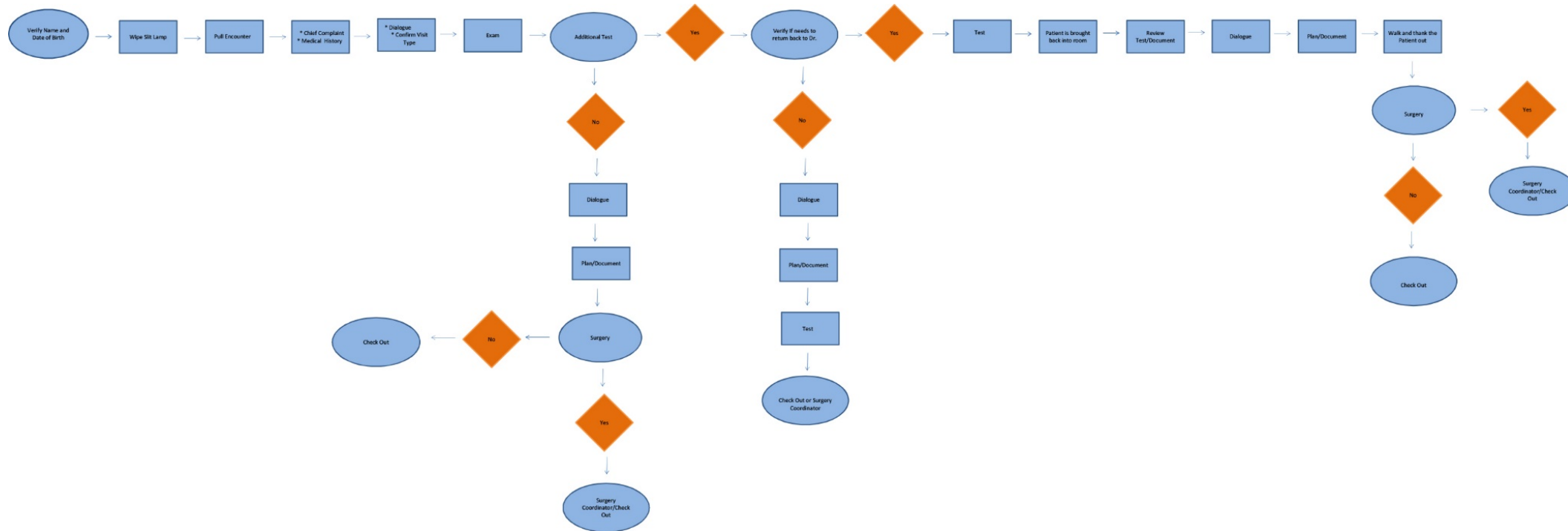
Add on Procedure: Punctal Plugs

Visit Start Time: 10:45

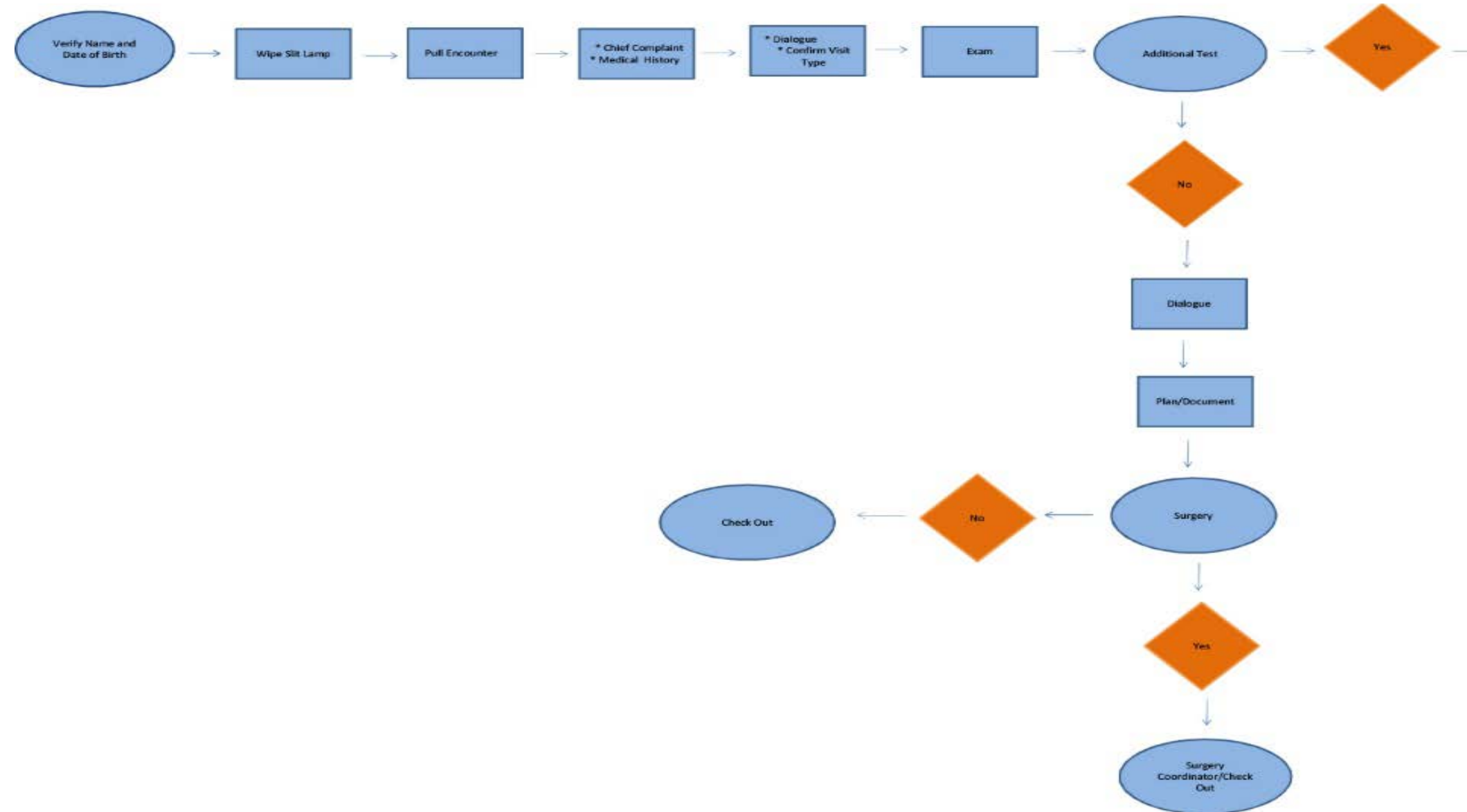
Visit End Time: 11:23

Scribe Checklist is
source of project
data

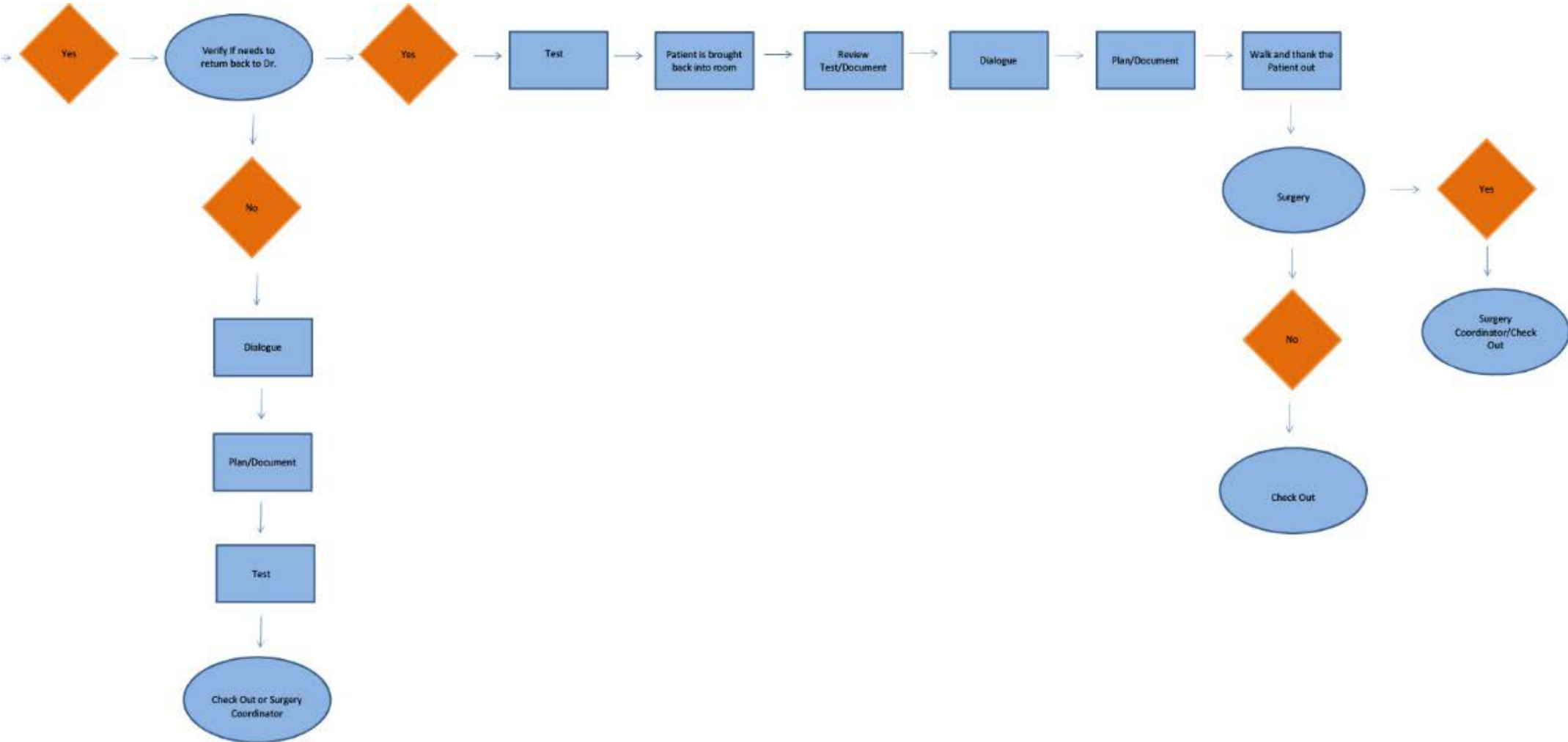
Process Flowchart



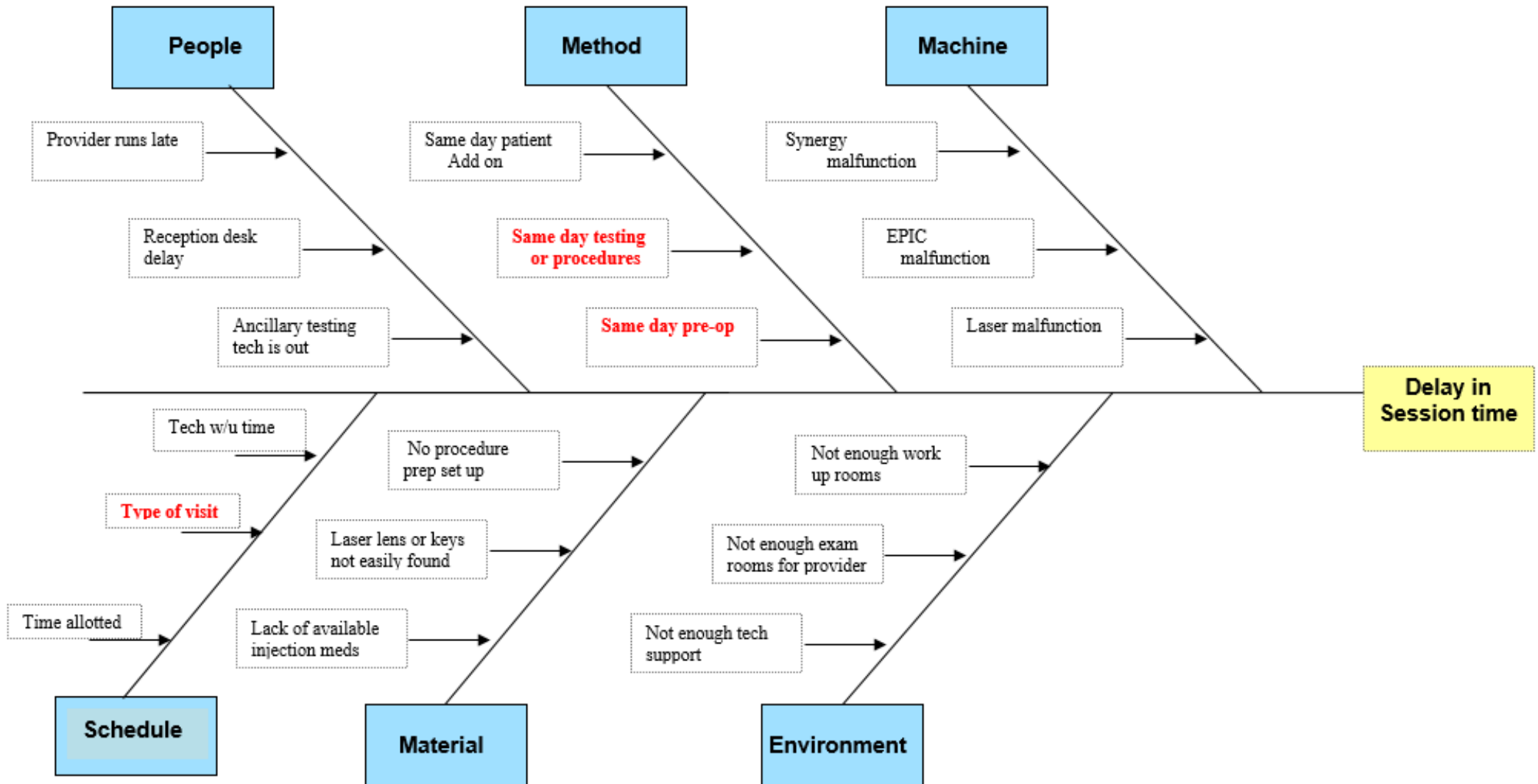
Process Flowchart: Zoomed



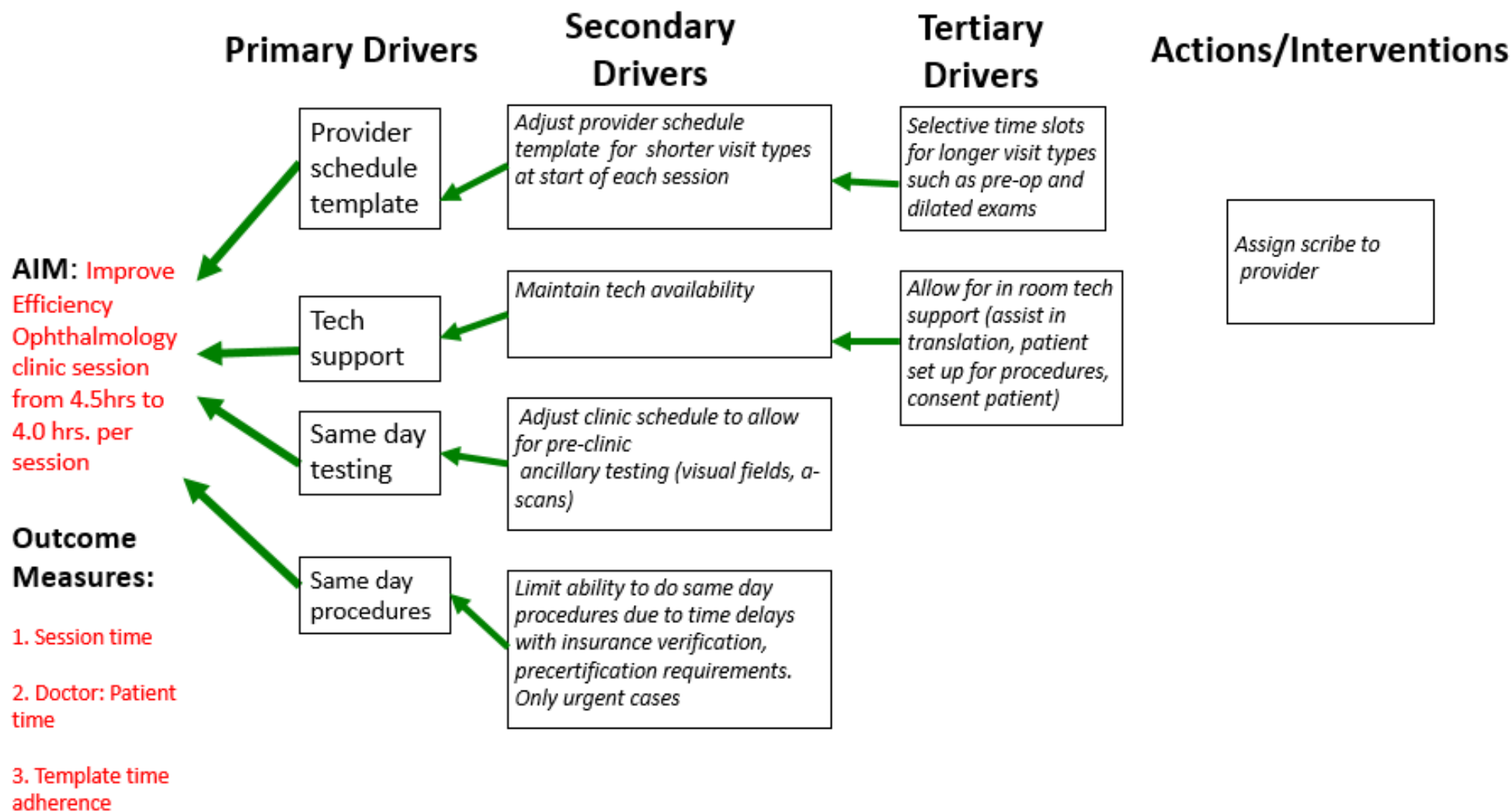
Process Flowchart: Zoomed



Fishbone Diagram



Driver Diagram



Methods

- 2 Attending MDs tracked:
 - Corey Waldman, MD; glaucoma and cataract
 - Brian Planchard, MD; cornea, glaucoma, cataract
- 2 locations: *MARC and Texas Diabetes Institute (TDI)*
- Both providers are of similar experience level, subspecialty, patient load, and visit types
- Measures:
 - Session Time (minutes)
 - Patients Per session
 - Doctor-Patient time (minutes)
 - Visit type

Baseline Data

- *83 patients*
- *17 sessions*
- *Average Patients per Session: 15*
- *Average Session Time*
 - Overall: 265 minutes (4.42 hours)
 - MARC: 272 minutes (4.53 hours)
 - TDI: 226 minutes (3.77 hours)
- *Average Doctor/Patient Time*
 - Overall: 15 minutes
 - Dr. Waldman: 15.8 minutes
 - Dr. Planchard: 13.3 minutes
- *% of Visits Exceeding Template Time: 27%*

Baseline Data Interpretation

- Same day testing increases length of visit and doctor wait time
- Add on procedures increase length of visit
- Pre-op visits are too long
- Schedule templates could be improved

Primary Intervention

- A **scribe** was assigned to both MDs
- The objective of the scribe was to **facilitate** all aspects of visit
 - **Room** current and next patient
 - **Record exam** findings and plan while MD examines patient
 - **Assist MD** with any additional needs
 - **Spend extra time** with patient if needed while MD finishes documenting visit notes
 - **Escort** patient out of room

Additional Interventions

- **Schedule templates were adjusted based on baseline data and experience**
 - **Simple patients first** (i.e. pressure check or day one post op)
 - **No appointments past 3PM** → double book earlier ones
 - Limit add on procedures
 - **Limit same day testing** → perform testing only visits on separate day
 - **Increase front end assistance** from techs on pre-op visits
 - Fill out paperwork
 - Order post op drops

Implementing the Change

- First session including a scribe - **2/19/2018**
- Utilized Scribe checklist
- **Challenges**
 - Scribe **unfamiliar with provider** at first
 - Scribe required to **learn EMR**
 - Scribe may **not always be available**

Results

- 21 sessions
- 169 patient encounters
- **1° Outcome→Session time decreased**
 - Overall: 223 minutes (3.72 hours)
 - MARC: 222 minutes (3.7 hours)
 - TDI: 226 minutes (3.77 hours)
- **2° Outcome→Doctor:Patient time decreased**
 - Overall: 10.9 minutes
 - Dr. Waldman: 11.3 minutes
 - Dr. Planchard: 8.4 minutes
- **3° Outcome→% of visits exceeding template time:**
 - Decreased to 11%

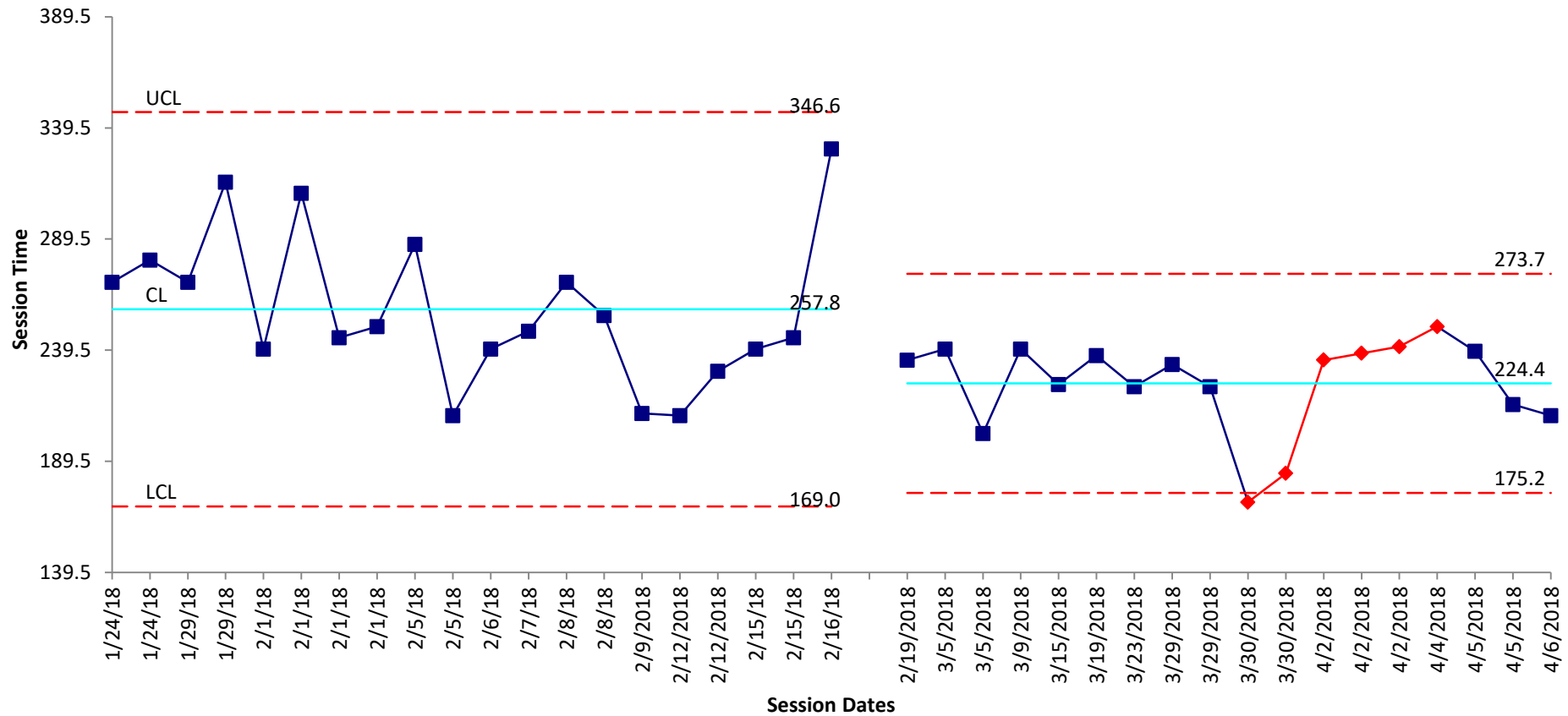
Summary Data Table

	Pre Scribe	Post Scribe	P value
Patients Per Session	15.8 ± 4.4	14.9 ± 2.8	P=0.45
Session Time (minutes)			
-Overall	265.0 ± 31.5	223 ± 19.9	P<0.001
-MARC	272.2 ± 37.0	222 ± 22.4	P<0.01
-TDI	256.9 ± 23.6	226 ± 9.34	P<0.05
Doctor:Patient Time (minutes)			
-Overall	15.0 ± 8.3	10.9 ± 7.0	P<0.005
-Dr. Waldman	15.9 ± 7.1	11.3 ± 7.3	P<0.05
-Dr. Planchard	13.3 ± 10.6	8.4 ± 4.0	P<0.05
-MARC	14.9 ± 8.8	11.9 ± 7.2	P<0.01
-TDI	15.2 ± 6.5	9.1 ± 6.3	P<0.05
Template time Adherence	73%	89%	P<0.001

SPC Chart for Overall Session Time

Pre intervention

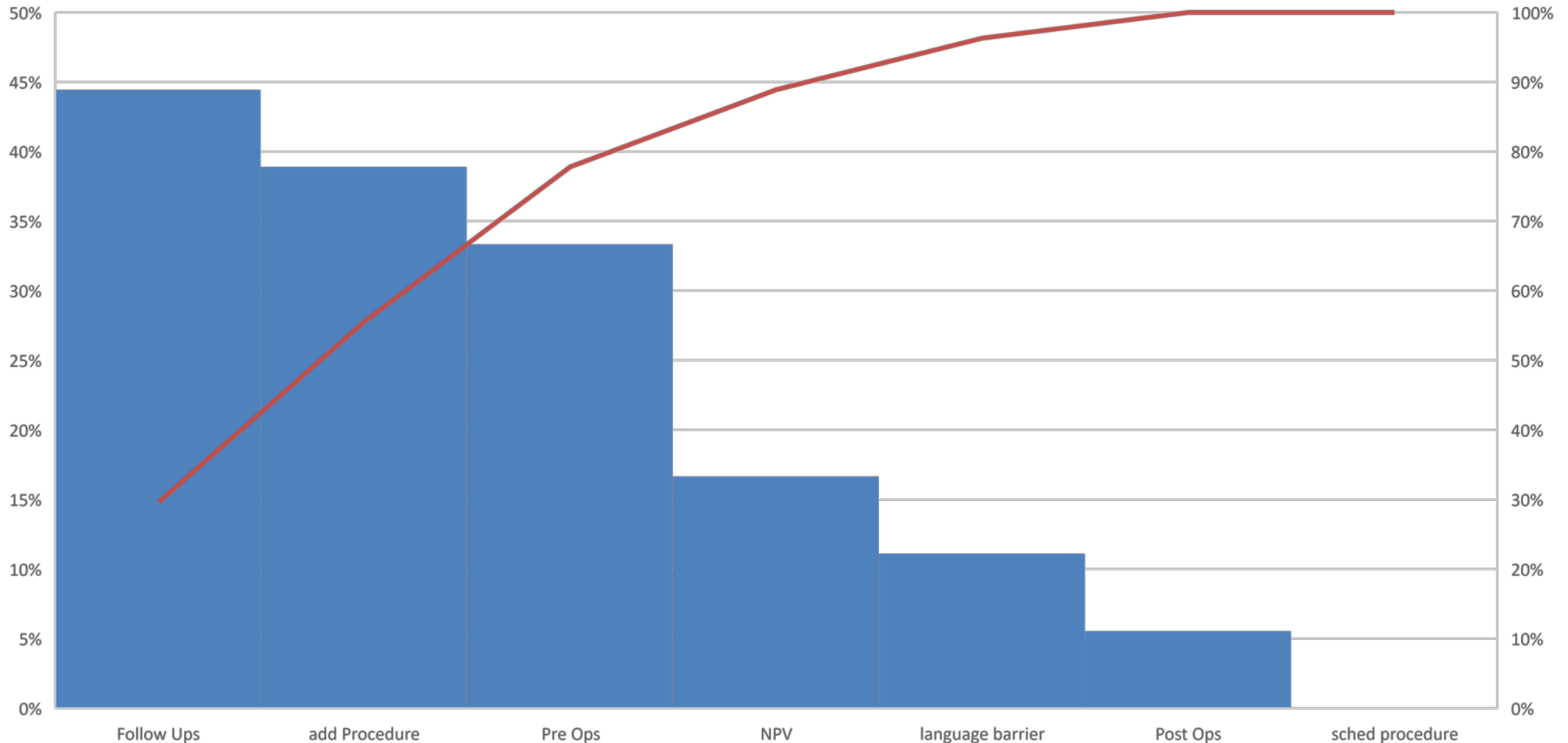
Post Intervention



Results: Visit Types

	Average	StdDev
Average Doctor-Patient Time	10.90	7.02
Average Follow up	10.52	6.58
Average Laser	10.00	2.37
Average New Patient Visit	15.32	8.55
Average Post Op	8.06	4.50
Average Pre Op	14.93	9.99

Breakdown of Visit Types Exceeding Template Time



Scribe Data

- The true stars of the show!

Scribe	Average Patient:Doctor Time
Amber	12.06
Lisa	9.18
Tarana	11.00

Results: Physician Satisfaction

- You heard it here first!



Return on Investment

- **Added** two 15 minute patients slots per **session** based on decreased session time
- **Investment** of a single scribe can be covered by adding **2 patients per day**
- **Teaching time** for residents (15 minutes) is now available based on increased efficiency

Return on Investment

- Technician cost: \$50,000
- Net visit revenue: \$148
- 365 days/ year – 104 weekend days – 14 holidays = 247 days
- $247 \times 2 \text{ patients/day} = 247 \times \$148 \times 2 = \$73,112$
 - Vacations/meetings (decrease ROI)
 - Downstream revenue i.e. surgeries (increase ROI)
- $\$73,112 - \$50,000 = \text{\textcolor{blue}{\$23,112 ROI per provider}}$ with a tech-scribe every clinic.

Expansion of Our Implementation

- Maintenance of scribes at both sites with 2 providers
- Future plans to implement scribe support for other providers in clinic
- Continue to hire and train more scribes

Conclusion/What's Next

- **Conclusions**

- Overall a huge success
- Session times and encounter times decreased
- Attending Physician satisfaction with clinic much improved
- Residents report more satisfaction with clinic experience

- **Future Directions**

- Assess impact on patient satisfaction and wait time
- Assess impact on resident teaching time
- Consider adding more patients per session
- Time gained from increased efficiency will be used for teaching
- ***Results submitted to 2018 AAO meeting***

Limitations

- Patient satisfaction was not measured
- Patient wait times were not taken into account
- Resident engagement/involvement was not measured, which could alter times
- Potential for reporting bias

References

1. Lam J. Lee B. Chen P. The effect of electronic health records adoption on patient visit volume at an academic ophthalmology department. BMC Health services Research. Jan 2016. <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-015-1255-8>
2. Carroll J. Your Ophthalmology Practice Needs a Scribe. Advantage Healthcare Consulting Blog. August 2017. <https://www.advadm.com/ophthalmology-practice-needs-scribe/>
3. Luthe R. Scribes to the Rescue: Why EMRs will make them only more indispensable in the practice. Ophthalmology Management. Volume: 16, Issue: December 2012, page(s): 29 – 34
4. Koshy S. Feustel P. Scribes in an Ambulatory Urology Practice: Patient and Physician Satisfaction. THE JOURNAL OF UROLOGY. Vol. 184, 258-262, July 2010

Thank you!



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