

Optometry Supply Process



Team Leader:

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Project Overview

Problem Statement:

Twice weekly "near" misses in Optical Support Unit (OSU) spectacle production might lead to decreased training readiness and is a safety concern. Supply delivery delays have resulted in \$11K annual expenditures for tracking and correcting supply-related deficiencies. An excess inventory projected at \$105K for lenses and \$11k in frames is currently on-hand in OSU supply storeroom.

Business Case:

Type I : "Right-sized" OSU Inventory
Assumptions: OPTAR savings may be available; able to increase range of lenses provided onsite
Type II: Streamline Supply Ordering and Delivery
Assumptions: Cost avoidance possible from non-added value time used for tracking and rework
Type III: Optimize Spectacle Delivery Steps
Assumptions: Improve customer satisfaction thru faster delivery; improve employee morale

Timeline:

Phase	Planned	Gate Approval
Define:	01DEC07	15DEC07
Measure:	30JUN08	
Analyze:	31MAY08	
Improve:	30JUN08	
Control:	31JUL08	

Project Goal:

Metric	Baseline	Initiation	Goal
Metric: MS# FABRICATION			
Unit: Hours	7 hr	8 ¼ hr	6 hr
Metric: SUPPLY ADMIN			
Unit: Hour / day	2 hr	2 hr	1/3 hr
Metric: NIS LENSES			
Unit: Lenses (out of stock)	9	0	0

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Define Phase Overview

Define Takeaways:

- Supply delivery delays have resulted in significant OSU staff cost-to-quality expenses, increased customer waiting time, possible decreased training availability, and safety concerns.

• Excess OSU inventory should be "right-sized" to produce Type I savings.

Process: Optometry Supply Process

Process Start: Spectacle Rx written

Process Stop: Supplies Received

Includes: Doctors, Supply PO, Medical Logistics Clerk, Lens Distributor, OSU Staff

Excludes: All non-optometry patients

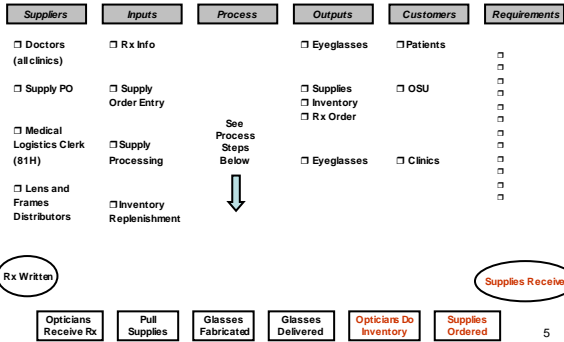
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Charter

Project Charter - Spectacle Fabrication for Clinics	
Business Case	
There has been several "near" misses where the OSU cannot do not from spectacles for patients when needed which could lead to decreased training readiness and is also a safety issue. (2 times a week in Summer months). In addition, there has been supply delays and significant time spent on researching supply issues resulting in rework. (2 hours per day) totaling cost to quality of \$11,000 yearly. Finally, there is excess inventory in the supply of lenses and frames (Valued at \$105,000 for lenses, \$11,250 for frames)	
Opportunity Statements	
Inconsistent supply ordering and tracking No quality assurance checks to verify ANSI standards Decreased morale (working at max capacity) Decreased turnaround times (order to delivery for eyewear) Lengthy spectacle fabrication times Strain on OSU capacity (unable to complete all required activities to include fabrication, supply and QA) Arbitrary spectacle re-substitutions outside of ANSI standards No batching of spectacle orders from clinics No ability to increase accounts	
Cost Dimensions	
Have 0 "not in stock" lenses and frames in the 21-day supply area (have \$180 for lenses, 0 for frames, and many "critically low") QA lenses (0 now to 10 a day in future) Reduce order tracking / rework related to supply to 1 hour per day from 3 hours per week Conduct inventory audits daily and reorder daily Increase capacity to do all "critical" department activities without adding an FTE Streamline fabrication process (reduces constraints or move to end of process) All continue to get correct rx before 1400 each day of processing without near misses No arbitrary spectacle re-substitutions No batching of orders from clinics Ability / Capacity to increase accounts in the event of a central supply redistribution	
Project Scope	
From Dr. releasing spectacle Rx to delivery of spectacles to clinic Not in scope "Vertical" supply ordering process	

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SIPOC



Critical to Quality

- Timeliness
- Accuracy
- Available Resources
- Communication

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Voice of the Customer

- “Accurate, right-sized, inventory and supplies received in a timely manner” – *OSU Staff*
- “One day turnaround on glasses, no not-in-stock lenses or frames, and glasses made correctly” – *Clinic Staff*
- “Two-week turnaround on receipt of supplies and feedback when problems occur” – *Supply PO*
- “Improved feedback from distributors” – *Med Logistics Clerk*

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Stakeholder Analysis

RACI			
Categories of Stakeholders:	Responsible	Accountable	Consulted, Informed
Name	Title	Use With	Notes
Name 1	Dept Head	Yes	Consulted & Informed
Name 2	Director	No	Informed
Name 3	Director	Yes	Consulted & Informed
Name 4	Vice President	Yes	Informed
Name 5	Medical Logistics	Yes	Informed
Name 6	Black Belt, Dept Head Optometry	Yes	Accountable
Name 7	Assistant Dept Head Optometry, Head OSU	Yes	Consulted & Informed
Name 8	Optician	Yes	Accountable & Consulted & Informed
Name 9	Supply, Clinic	Yes	Accountable
Name 10	Supply, Central	Yes	Accountable & Informed

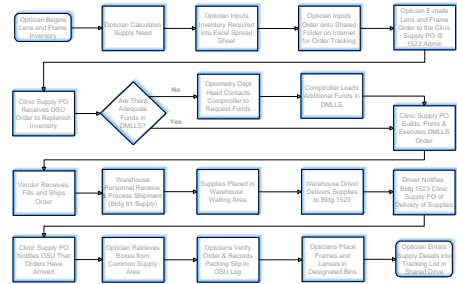
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Data Collection Plan

Objective (Why)	Measures/Data (What)	Data Collection Method (How)	Data Sources (Where)	Timing (When)	Responsible Party (Who)
1. Shorten the number of days between supply ordering and delivery	1. Excel spreadsheet to track when orders submitted and received	1. OSU staff enters order received into Excel spreadsheet 2. Supply PO places order into DMLLS 3. Medical Logistics Dept. (Bldg. 1523) receives orders from distributor	1. OSU apcs 2. BREC Local Community Pharmacy 3. Bldg. 0141	1. Twice weekly ordering and data entry	1. OSU Staff 2. Supply PO 3. Medical Logistics Dept.
1. Optimize spreadsheet ordering to delivery time	1. Excel spreadsheet to track when spreadsheet emails transmitted to OSU	1. OSU staff record number and frequency of BREC orders into Excel spreadsheet	1. OSU apcs	1. Daily Excel spreadsheet updates	1. OSU Staff
1. Eliminate out-of-stock optics for lenses in OSU	1. Excel spreadsheet to track when orders submitted and received	1. OSU staff conduct physical inventory of supply room	1. OSU Spares	1. Weekly updates to BREC and STAT supply order submitted	1. OSU Staff
1. "Right-size" OSU inventory of stock lenses	1. Conduct full inventory of OSU supply room 2. OSU Department Head obtains lens inventory data from distributor	1. OSU staff conduct physical inventory of supply room 2. OSU Department Head obtains lens inventory data from distributor	1. OSU apcs	1. Monthly inventory of OSU lenses 2. Lens exchange program initiation between April and June	1. OSU Staff 2. OSU Department Head

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Eyeglass Lens and Frame Ordering Process (Current State)



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Cycle / Flow Time

Supplier (plant)	Order	Place	Cycle	Package Received	% Yield	Notes
1. BREC	Order generated	1523	10	10	100	Optician generates spreadsheet
2. BREC	Spreadsheet sent	1523	10	10	100	Optician spreadsheet
3. BREC	Order received	1523	10	10	100	Optician spreadsheet
4. BREC	Order received	1523	10	10	100	Optician spreadsheet
5. BREC	Order received	1523	10	10	100	Optician spreadsheet
6. BREC	Order received	1523	10	10	100	Optician spreadsheet
7. BREC	Order received	1523	10	10	100	Optician spreadsheet
8. BREC	Order received	1523	10	10	100	Optician spreadsheet
9. BREC	Order received	1523	10	10	100	Optician spreadsheet
10. BREC	Order received	1523	10	10	100	Optician spreadsheet
11. BREC	Order received	1523	10	10	100	Optician spreadsheet
12. BREC	Order received	1523	10	10	100	Optician spreadsheet
13. BREC	Order received	1523	10	10	100	Optician spreadsheet
14. BREC	Order received	1523	10	10	100	Optician spreadsheet
15. BREC	Order received	1523	10	10	100	Optician spreadsheet
16. BREC	Order received	1523	10	10	100	Optician spreadsheet
17. BREC	Order received	1523	10	10	100	Optician spreadsheet
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26. BREC	Order received	1523	10	10	100	Optician spreadsheet
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44. BREC	Order received	1523	10	10	100	Optician spreadsheet
45. BREC	Order received	1523	10	10	100	Optician spreadsheet
46. BREC	Order received	1523	10	10	100	Optician spreadsheet
47. BREC	Order received	1523	10	10	100	Optician spreadsheet
48. BREC	Order received	1523	10	10	100	Optician spreadsheet
49. BREC	Order received	1523	10	10	100	Optician spreadsheet
50. BREC	Order received	1523	10	10	100	Optician spreadsheet

→ Cycle Time = 44.26 hr

→ Flow Time = 300.6 hr

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Quick Win Overview – Lens Exchange

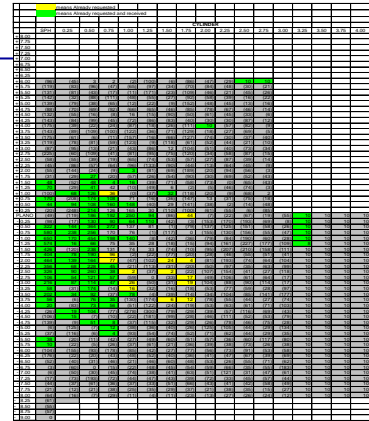
- Lens exchange program implemented between OSU & XXX Optical:
 - Tailor OSU lens inventory to military optical labs across the country using XXX Optical historical data
 - Maintain a 100-day inventory of lenses in OSU
 - Implement a two-bin inventory to ensure adequate lens stock and timely reorders
 - Generate a cost-avoidance by exchanging overstocked lenses
 - “Right-size” Lens Inventory

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Lens Exchange – Current Status

- 26,296 Lenses **Returned** for Exchange
- 14,912 Lenses **Received** on Exchange
- Type I Savings = \$35,491
- Lenses Remaining to be Returned Approx. 4,000 lenses
- Lenses Needed to Complete Right Size Inventory Approx. 2,200 lenses

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The image shows a large, complex grid or spreadsheet, likely representing a detailed inventory or tracking system for lens exchange. The grid is filled with numerous columns and rows of data. Some cells are highlighted in green, and others in yellow, indicating specific categories or statuses. The overall appearance is that of a dense data table with a header section at the top.

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Lens Ordering Tracking– Quick Win

- Tracked outlying clinics spectacle ordering practices
- Were Batching orders
- Problems with Batching
- Provided Feedback
- Control: Daily report and feedback if necessary of spectacle ordering requests

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Additional Space

- 5s cleanup of OSU
- Due to increased space, less waste have preliminary submitted plans to “Rehab” the OSU and utilize more production equipment to decrease total production time

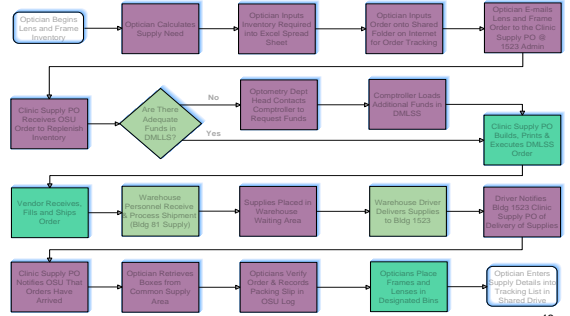
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FMEA

Failure Mode Name	Root Cause (or Causes)	Failure Effect (or Effects)	Severity (1-10)	Occurrence (1-10)	Detectability (1-10)	RPN	Control Plan
Optician begins lens and frame inventory	Optician begins lens and frame inventory	Optician begins lens and frame inventory					
Optician calculates supply need	Optician calculates supply need	Optician calculates supply need					
Optician inputs inventory required into Excel spreadsheet	Optician inputs inventory required into Excel spreadsheet	Optician inputs inventory required into Excel spreadsheet					
Optician inputs order onto shared folder on internet for order tracking	Optician inputs order onto shared folder on internet for order tracking	Optician inputs order onto shared folder on internet for order tracking					
Optician e-mails order to clinic supply PO @ local address	Optician e-mails order to clinic supply PO @ local address	Optician e-mails order to clinic supply PO @ local address					
Clinic Supply PO Receives OSU Order to Restock Inventory	Clinic Supply PO Receives OSU Order to Restock Inventory	Clinic Supply PO Receives OSU Order to Restock Inventory					
Does Things Adequate Funds in DMLES?	Does Things Adequate Funds in DMLES?	Does Things Adequate Funds in DMLES?					
Optometry Dept Head Contacts Controller to Request Funds	Optometry Dept Head Contacts Controller to Request Funds	Optometry Dept Head Contacts Controller to Request Funds					
Controller Loans Additional Funds in DMLES	Controller Loans Additional Funds in DMLES	Controller Loans Additional Funds in DMLES					
Clinic Supply PO Builds, Prints & Entouses DMLES Order	Clinic Supply PO Builds, Prints & Entouses DMLES Order	Clinic Supply PO Builds, Prints & Entouses DMLES Order					
Vendor Receives File and Ships Order	Vendor Receives File and Ships Order	Vendor Receives File and Ships Order					
Warehouse Personnel Receive Process Shipment (Blog #1 Supply)	Warehouse Personnel Receive Process Shipment (Blog #1 Supply)	Warehouse Personnel Receive Process Shipment (Blog #1 Supply)					
Supplies Placed in Warehouse Waiting Area	Supplies Placed in Warehouse Waiting Area	Supplies Placed in Warehouse Waiting Area					
Warehouse Driver Delivers Supplies to Blog #1 Tech	Warehouse Driver Delivers Supplies to Blog #1 Tech	Warehouse Driver Delivers Supplies to Blog #1 Tech					
Driver Notifies Blog #1 Tech Clinic Supply PO of Delivery of Supplies	Driver Notifies Blog #1 Tech Clinic Supply PO of Delivery of Supplies	Driver Notifies Blog #1 Tech Clinic Supply PO of Delivery of Supplies					
Clinic Supply PO Notices OSU that Orders Have Arrived	Clinic Supply PO Notices OSU that Orders Have Arrived	Clinic Supply PO Notices OSU that Orders Have Arrived					
Optician Retrieves Boxes from Common Supply Area	Optician Retrieves Boxes from Common Supply Area	Optician Retrieves Boxes from Common Supply Area					
Optician Verifies Order & Records Packing Slip in OSU Log	Optician Verifies Order & Records Packing Slip in OSU Log	Optician Verifies Order & Records Packing Slip in OSU Log					
Optician Plans Frames and Lenses in Computerized Blog	Optician Plans Frames and Lenses in Computerized Blog	Optician Plans Frames and Lenses in Computerized Blog					
Optician Enters Supply Details into Shipping List in Shipped	Optician Enters Supply Details into Shipping List in Shipped	Optician Enters Supply Details into Shipping List in Shipped					

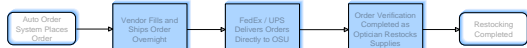
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Eyeglass Lens and Frame Ordering Process (Value Added / Non-Value Added)



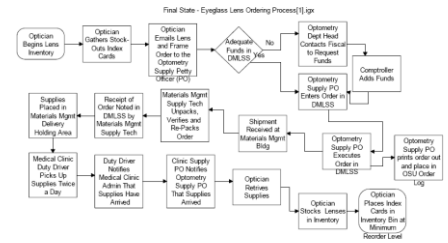
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Eyeglass Lens and Frame Ordering Process (Ideal State)



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Final State



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Implementation Plan



- After lens exchange is complete will conduct full inventory
- Will set up 2 bin system (reorder index cards set in bins to notify time to reorder)
- Cards will also have amount to reorder
- Will reduce time spent to conduct daily inventory significantly as well as make it more likely to occur on daily basis
- Write SOP on lens reordering to allow for future supply clerks to easily follow