

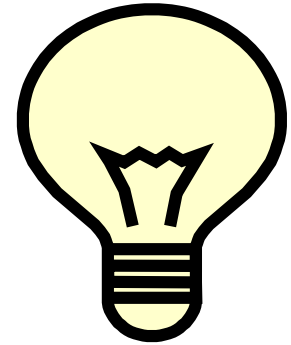
Using Lean process for improvement in Newborn screening

Washington State Department of Health

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What is Lean?



As explained on the 'Lean in Washington' website:

- The term "Lean" refers to a set of systemic management practices developed in the mass production era with Ford in the early 1900s and the Toyota Production System in the late 1940s.
- Lean provides proven principles that are helping Washington state government to create a culture that encourages respect, creativity and innovative problem solving to continuously improve and eliminate waste from government processes
- Lean works to align efforts across state agencies and deliver results that matter to Washingtonians

Identifying areas of improvement

- **Metabolic treatment product logistics**
- **Billing for specimens**
- **Receiving and accessioning specimens** ★



Central Receiving

3000 newborn specimens per week are received on average



Specimens are delivered via USPS, FedEx, and hospital couriers.

The LEAN Process

- Received 2 four-hour training sessions from a Lean consultant
- Team consisted of
 - 6 lab staff
 - 1 follow-up staff
 - 1 central receiving staff
- Several working sessions over six months
 - Identified and phased in changes
- Evaluated changes six month after implementation

Brainstorming Sessions

Key Performance Measures

Key Performance Measures

	Base	Target
① ^{Yrs} Decrease # of sps. lost from post <u>6 months</u>	20	0
② ^{Yrs} Reduce Amount of ^{trips} time spent in mail Room <u>between 9-11:00</u> - <u>Daily</u>		
③ ^{Yrs} Reduce the time spent in mail room counting sps. <u>Weekly</u>		
④ ^{Yrs} " Accuracy in counting sps - <u>Weekly</u>		
5. Reducing the ^{amt.} time spent between mail recd. & until punching ?		
6. Reduce errors in Accessioning - <u>Weekly</u> - to		

Current State of the Process

Current State of the Process

- Mail Receiving by mailroom staff
 - Postal
 - Courier
 - Fedex/UPS
 - STAT - received upon request

Postal	Courier	Fedex
<ul style="list-style-type: none"> - Is picked up at 9:00 - 9:15 a.m. - " " 10:30 - 10:45 - final check es 	<ul style="list-style-type: none"> 2 pick-ups staff check at their convenience } Prior to cut-off. - @ 12:00. 2:00 p.m. 3:30 p.m. 7:00 a.m. Next day 	<ul style="list-style-type: none"> Received from courier bucket in the mailroom between 9:45 a.m. - 10:15

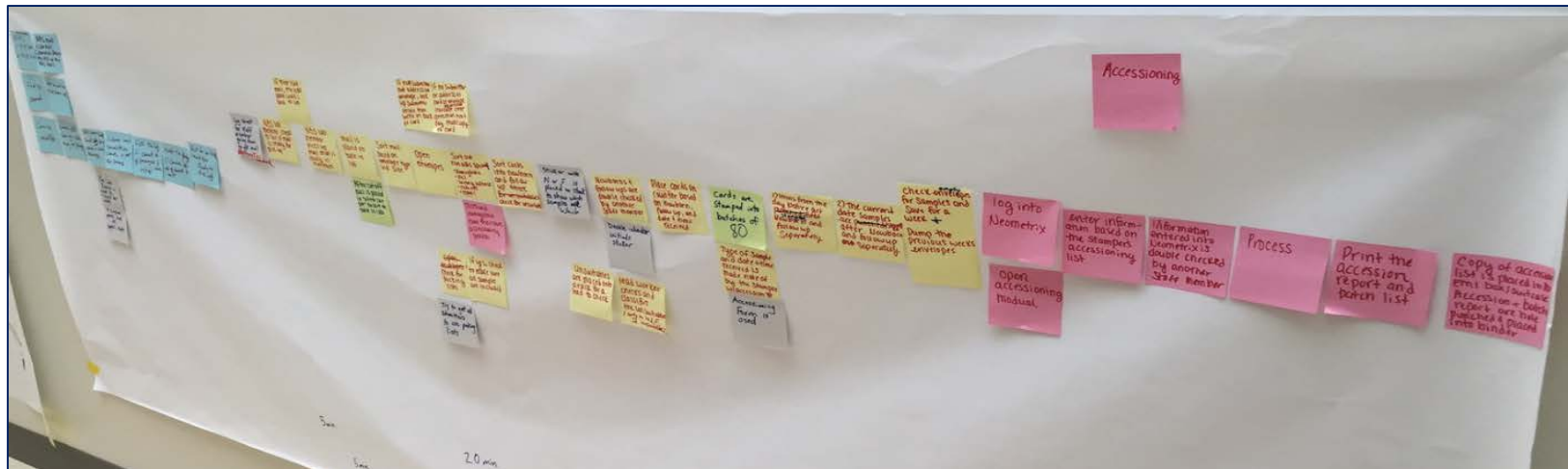
In NBS Lab

- Mail is opened - if checklist is present than the specimens are checked off.
- mail is sorted into Newborn & followup specimens and unsuitables.
- double checked by a different staff.
- Stamping - previous day sp. first except unsuitables. (done in groups of 80)
- (Julian Day) alternated by N/F from the current day.
- Punching is done simultaneously with stamping. Group 3 is done before Group 5 punch.
- Accessioning (Punching could be done prior to accessioning in Neometrics)

Identifying areas of improvement

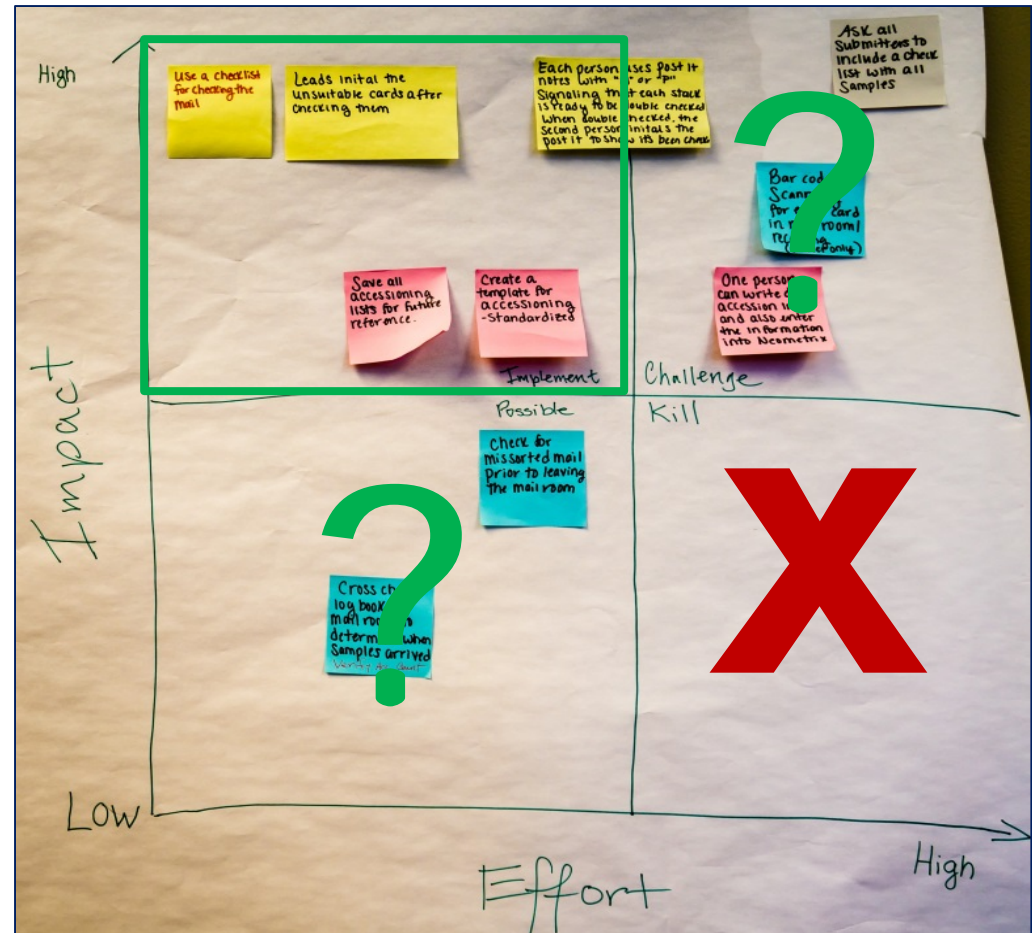
The Lean team:

- Mapped the current state of receiving and accessioning
- Identified areas that needed improvement



Mapping possible changes

- The Lean group worked to identify high impact low effort projects



Key Performance Indicators

Main objectives were:

- Decrease the number of courier specimens lost
- Increase the accuracy of counting courier specimens
- Reduce errors during specimen accessioning
- Reduce the amount of redundant staff time checking mail
- Reduce the amount of Operations staff time spent counting courier specimens



Improving Accuracy by Counting Cards

- All cards are counted by the courier and then recorded on the courier delivery log
- Receiving staff verifies the courier's count at delivery
- Newborn Screening Staff verifies the receiving staff count at pick-up

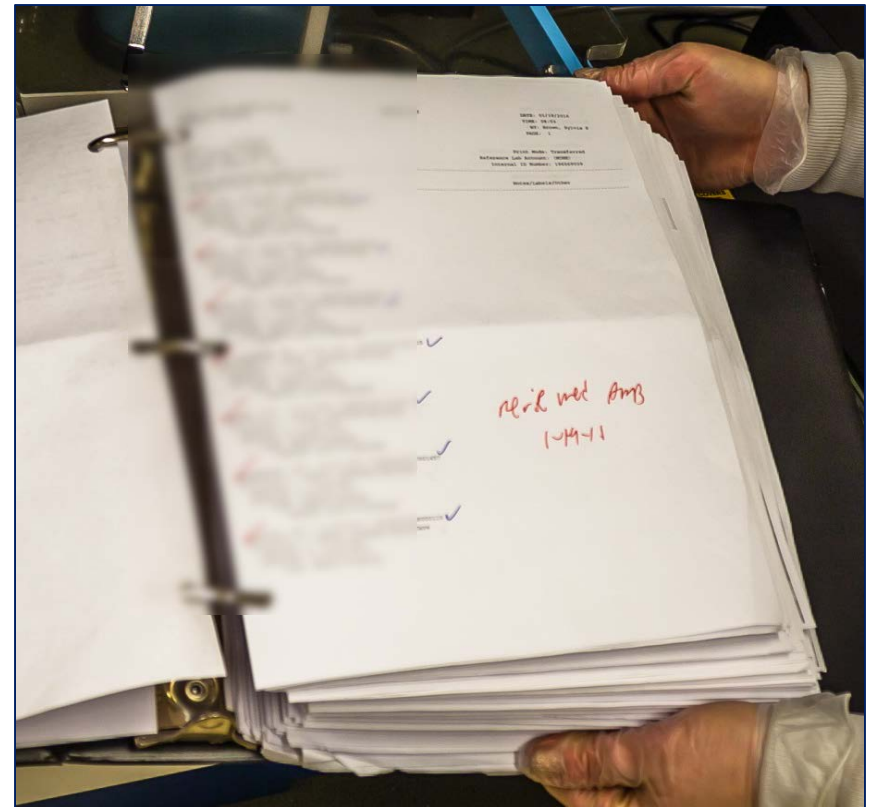
WA PHL Courier Delivery Log

For Courier Use Only						For PHL Use Only					
Rec. #	Date	Time	Courier Company	Courier Name	Packages	Verified Item #	Specimen Type	Rec. Init	Comment	NBS Count	Units
1	1-20	7:35 AM	Med Ex	1-104	5		NBS Cards Micro Specimens				
2	1-20	8:20 AM	SWA/WH	Chris	12 PKU	12			Rec 3 min	12	
3	1-20	8:47 AM	SWA	7	8	8			Rec 3 min	16	
4	1-20	9:07 AM	SWA	11	1	1					
5	1-20	9:29 AM	SWA/WH	AD	24 PKU	24				24	
6	1-20	9:30 AM	SWA	Appl N	3	11			SW 2 min	49	
7	1-20	10:20 AM	SWA	Vinly	1	1			DI	2	
8	1-20	10:45 AM	SWA	6	12						
9	1-20-16	11:45 AM	Swedish	Leo	1	1				1	
10	1/20	11:50 AM	Wagman	Sharon	1	1				18	
11	1/20	11:58 AM	SWA	Romya	1	1				12	
12	1/20	11:55 AM	SWA/WH	Karis	1	1				5	
13	1/20	12:05 PM	Paclan	Don	3	3				3	
14	1/20/16	12:10 PM	SWA	JAN	3	3				3	
15	1/20/16	1:40 PM	SWA	KLU	1	1				8	



Courier deliveries

- Tracking all courier deliveries
- Immediate confirmation of samples received
- Manifest check
- Written record for NBS follow up staff to use as reference



Blue: Mailroom staff checkmarks
Red: NBS staff checkmarks

Saving and checking envelopes



Envelopes checked with light box after initial opening

The envelopes are checked a fourth and final time before they are recycled



Envelopes are then saved for a week



Reducing Staff Time Spent

- Small changes were made to save time such as a white board showing who is going to receive mail
- Simple improvements made the process more efficient





Results after implementing Lean Changes

Key Performance Indicators	Before Lean	Results After Lean
Number of specimens lost during 6 month period after implementing Lean practices	11	0
Accuracy of courier specimen counts	Unknown	100%
Number of daily trips made to central receiving to check for specimens	12	8
Number of accessioning errors	13	0

Questions?

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**Washington State Department of Health
Newborn Screening Program**

