Using Technology to Drive Operational Efficiency in Health Information

Seattle Children’s
Clinical Documentation Dept
Talking Points

- CPI and the link to LEAN manufacturing
- HIM’s role in communication with referring providers and families; now and future
- Workload and Capacity pressure, job satisfaction with manual repetitive tasks
- Leveraging Technology to automate tasks, and reduce errors and waste relative to report distribution
Our Vision: be the Best Children’s Hospital in the Nation
“Continuous performance improvement supports our mission to prevent, treat and eliminate pediatric disease. It has been transformative at Seattle Children’s, and we believe it can transform our national healthcare system as well.”

— Lisa Brandenburg, President, Seattle Children’s Hospital
Provider Relations

Referrals to Seattle Children’s Providers and Facilities

COMMUNICATION

3/28/2016
Patient/Family Experience

- Family experience is **extremely** important
- Many patients will see multiple doctors over their lifetime to coordinate care

Communication:
- Parents are sent copies of reports at the rate of about **200/day** via US Mail

3/28/2016
Our CPI Journey
Autoliv Plant Tour
- global provider of airbags

Driven for Life!

Autoliv is focused on one very important issue: saving lives.

Their products save 25,000 lives every year and prevent 10 times as many injuries.

Company founded in 1953.

Ogden, Utah
LEAN Manufacturing Focus

- **Heijenka** – Level production, Volume & Variety
- **Jidoka** – Stop and Fix Abnormalities
- **Kaizen** – Continuous Improvement
- **Kan Ban** – Signal (visual cue)
- **Yokoten** – Sharing Information Sideways
- **MUDA** – Waste removal
How do we apply the methods and scientific rigor of the Toyota Production System?

Standard work; one-piece flow
Workload & Capacity
Clinical Documentation Diagram

Dictation

I-phone/Droid app

Digital Voice Recorder

Voice Capture (2)

3M/CSMD

Intelliscript

Cerner

Print/Mail/Fax

Voice Recognition Datacenter - Boston

Transcriptionist

Patient Portal & HIE
1 FTE processing reports for distribution via US Mail

✓ Printing address labels
✓ Manually stuffing envelopes
✓ Researching returned mail
✓ Processing approx 200 envelopes/day

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Workload vs Capacity

- Workload
  - Minutes dictated
- Productivity
  - Lines typed/hour
- Documents distributed and supported
- Capacity (FTE’s)
  - Worked : Paid ratio

Consider
- PTO use
- Agency use
- Overtime
- Sick time
- Staff injuries
- Staff satisfaction
- Vacancy rate
FACTS:
- Increasing workload & stagnant staffing levels
- Low job satisfaction and employee turnover

QUESTIONS:
- Can we reduce re-work and waste?
- Is there technology to address this labor intensive process?
Autoliv: Stop and Fix Abnormalities

3/28/2016

Errors
+ Re-Work
= Waste
“Any activity that costs time & money & does not add value is...
What are the errors/re-work & waste?
(Where are our opportunities)

- Returned Mail-
  - **Incomplete address** collected at scheduling
    - Street/ Avenue/ Place
    - Directional (N, S, E, W, NE, SW, etc)
    - Apt number, Suite number, Lot number
  - **Family moved** since making appointment
- Provider **address incomplete**
  - PCP/Referring provider has **moved or retired**
- Can we get registrars to reliably confirm patient address at every check in? ...No
Technology Options?

• What are other industries doing?
• How are mass mailing systems built?
• Can we leverage postal pre-sorting to give us lower postage rates?
Bar Code use w/ billing services

ALDERWOOD WATER & WASTEWATER DISTRICT

Mail Payment
In enclosed remittance envelope to:
ALDERWOOD WATER & WASTEWATER DISTRICT
PAYMENT PROCESSING CENTER
P.O. BOX 34679
SEATTLE, WA 98124-1679

UTILITY BILLING

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46721 AV 0.388 4709 / 13-16-199
PAULA DASCHER
2424 240TH ST SE
BOTHELL, WA 98011-0535

Please do not mail other correspondence with your payment in the remittance envelope. Mail all other correspondence to the district’s main office. Thank you.

3/28/2016
Vendors and Solutions

**Neopost**: Software Vendor
- Sorts reports by recipient
- Barcodes reports
- Creates barcoded address page

**RR Donnelley**: 
- Window envelopes

**IKON**: Hardware vendor
- Supplies mail machine via lease
- Model M5500/DS75 desktop inserter

3/28/2016
Barcoded reports

✓ Recipient –
✓ Number of pages that belong together
✓ Page order
Reports are Barcoded

• Reports are printed to 3 files, **Provider** copies, **Parent** copies, **Letters**

• Staff process the reports by importing the data into a **SQL database** running on a computer workstation.

• As the documents are analyzed, barcodes are added, and an **address page** is created.

• If there are **multiple reports** to the same recipient, they are combined in one envelope to reduce postage cost
Addresses are Validated

1. Address is checked against a postal service database to ensure it is valid

2. Address is checked to see if a Forwarding Address has been filed with USPS

- If it is an invalid address, report goes to a Manual processing folder
- If there is a forwarding address, the address page is updated with the new address
Notes have multiple recipients, including copy to patient/family

Electronically Authenticated by
Sara M Handschin, PA-C 06/08/2011 02:47 P

Sara M Handschin, PA-C, Physician Assistant, Adolescent Med

SMH/Doc#2154387  d: 06/08/2011 02:32 P  t: 06/08/2011 02:32 P  (10395057-) Location:
cc: Paula Dascher, TEST
    Test Softmed
    esig test, Me, PhD

Test, Momma
Windowed Mailing Envelope
6 x 9 ½ inches
Neopost mail machine-200 envelopes/hour!

Insert address cover page & report
Machine stuffs and seals envelope
Labor reduction

• SW runs on a PC in the transcription office, no need for server space. No PM resource needed

• Mailing 10,000 pieces/month manually at 176 hrs/month labor → now 21.6 hrs/mo

• Automation provides a net time savings of labor ~155 hrs/month

88% reduction in labor
Return on Investment

- First year start up costs (incl. programming and implementation) $55,000
- Annual lease, maintenance, SW licenses: $11,000
- Labor savings: 155 hrs/month ($37-47,000 annual savings) - staff re-purposed to higher value tasks
- Addl postage savings from combined reports
- Reduction in returned mail = addl staff time savings

3/28/2016
Thanks!