RxSafe: Using IT to Coordinate Medication Reconciliation

RxSafe Project
Lincoln City, Oregon
(also Ashland, Eugene, Corvallis, & Portland)
RxSafe Representatives

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- Karl Ordelheide, *physician*
- Victoria Starr, *pharmacy*
- Paul Gorman, *overview*
Problem: Mrs. Jones can’t sleep

- Mrs. J. an elderly white female
- Mild cognitive impairment
- Multiple stable chronic conditions
- Many, many medications
- Recently hospitalized, now in rehab center
- Rehab center administers medications
- Pharmacy dispenses medications
- Physician prescribes medications
- Each responsible for tracking medications
New Prescription
Rehab Center View
Mrs Jones was up all night
Rehab RN1 checks MAR for sleep Rx
Fax Rx request form to clinic

Clinic RN receives fax (rehab form), checks EHR2
MD gives form to clinic RN
Adds Rx to clinic EHR2
Rehab RN2 fax Rx to pharm by 4
MD reviews Rx at next visit
New Rx on printed MAR

Monthly pharmacy med review
Medication dispensed
Rehab RN2 receives med, checks MAR
Ph tech 2 fills Rx
Pharmacist checks new Rx
Ph tech prints new med label
Ph Tech enters fax Rx in med list (EHR3)
Rehab Med Records enters in EHR2
Rehab RN2 receives, adds to MAR
Clinic RN fax form to NH
MD writes Rx on form
Form given to MD

Rehab center, clinic, pharmacy lists reconciled
Pharmacy prints and sends monthly MAR to NH
Rehab Nursing Perspective

- Rehab center (RC) RN multi-tasking needs of numerous residents
- Rx issues may take more than one shift and several RNs to resolve
- Heavy documentation requirements in RC regarding resident assessment and treatment
- Use of computers is limited in RC settings and
- Most of the documentation and communication is in paper form and handwritten
New Prescription
Physicians’ Office View
Mrs. Jones was up all night.

Rehab RN1 checks MAR for sleep Rx. Fax Rx request form to clinic.

Clinic RN receives fax (rehab form), checks EHR2.

MD gives form to clinic RN. Adds Rx to clinic EHR2.

Rehab RN2 fax Rx to pharm by 4.

MD reviews Rx at next visit.

New Rx on printed MAR.

Monthly pharmacy med review.

Medication dispensed.

Rehab RN2 receives med, checks MAR.

Ph tech 2 fills Rx.

Pharmacist checks new Rx.

Ph tech prints new med label.

Ph Tech enters fax Rx in med list (EHR3).

Rehab Med Records enters in EHR2.

Clinic RN fax form to NH.

MD writes Rx on form.

Form given to MD.

Clinic RN fax form to NH.
Clinic Perspective

- Faxes (paper documents) low priority in office work flow \(\rightarrow\) delays may be days.
- Faxes encourage hand annotated responses \(\rightarrow\) illegible, abbreviated often lead to more faxed queries
- Poor legibility, little value as records so often not included in office EHR
- Lack of ownership: “When fax leaves my station I’ve done my job.”
Mrs. Jones was up all night. Rehab RN1 checks MAR for sleep Rx. Fax Rx request form to clinic. Clinic RN receives fax (rehab form), checks EHR2. MD gives form to clinic RN, adds Rx to clinic EHR2. Rehab RN2 fax Rx to pharm by 4. MD reviews Rx at next visit. New Rx on printed MAR. Monthly pharmacy med review. Pharmacy prints and sends monthly MAR to NH. Rehab RN2 receives med, checks MAR. Ph tech 2 fills Rx. Pharmacist checks new Rx. Ph tech prints new med label. Rehab center, clinic, pharmacy lists reconciled. Rehab Med Records enters in EHR2. Clinic RN fax form to NH. MD writes Rx on form. Form given to MD. Ph Tech enters fax Rx in med list (EHR3).
Pharmacy Perspective

- This looks very nice, however...
- Poor fax quality
- Missing information
- Order issues (conflicts, etc)
- Fax “conversation” back and forth
- Continuous process of reconciliation
Fax Graveyard

Pharmacy and rehab center both report they burnout fax machines
New Prescription
System View
System Perspective
Fragmentation: multiple isolated processes that serve local needs

Bad
- Redundant systems
- Duplicate processes
- Human error
- Paper documents

Good
- Redundant systems
- Duplicate processes
- Human expertise
- Paper documents
Silos of Data

- Secure systems meet local needs
- Different ages, structures, etc
- Connected by fax machines
- Fail to realize benefits of electronic medication lists
Added complexity

- Multiple disciplines
- Multiple organizations
- Multiple patients
- Multiple goals and constraints
Acknowledgements

BiMart
Safeway
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Preferred
Senior

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BFM
SCC
SPC
LCM C
Lincoln City Rehab
Hillside House
Lincolnshire

Lincoln City Partners
Statewide Partners

ORPRN
LC node
OHSU office

OHSU
PSU
OSU Pharm

Agency for Healthcare Research and Quality

Federal Partner
Overview: Information Flows
“Mrs Jones was up all night”

Rehab RN1 checks MAR for sleep Rx

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Ph tech prints new med label

Pharmacist checks new Rx

Ph tech 2 fills Rx

Rehab RN2 receives med, checks MAR

Medication dispensed

Monthly pharmacy med review

Rehab center, clinic, pharmacy lists reconciled

Pharmacy prints and sends monthly MAR to NH
Basic Steps in Medication Use
Each with different information, technology

Dispensing
Pharmacists
Proprietary Software

Administering
Foster Home Staff
Paper Med Admin Record

Prescribing
Primary Care Clinician
Electronic Medical Record

Monitoring
Attentive Daughter
Notebook
Clinical Problem
Everyone has different information

- Overmedication
  - duplications within class, between class
  - discontinued medications
- Undermedication
  - errors of omission
- Wrong medications
  - amaryl~reminy; foradil~toradol
- Interactions
- Chronically ill elders especially vulnerable
Technical Problem
Everyone has different technology

- Different types of institutions
  - Hospitals, Clinics
  - Pharmacies
  - Rehab & Assisted Living

- Different technology for different tasks
  - prescribing
  - dispensing
  - administering

- Miss opportunity to benefit from technology
  - e.g. interaction checking
Where We’re Going
Everyone On the Same Page

Dispensing
Pharmacists
Proprietary Software

Administering
Foster Home Staff
Paper Med Admin Record

Patient Centered
Medication List

Prescribing
Primary Care Clinician
Electronic Medical Record

Monitoring
Attentive Daughter
Notebook