RxSafe: Using IT to Coordinate Medication Reconciliation

RxSafe Project

Lincoln City, Oregon

(also Ashland, Eugene, Corvallis, & Portland)

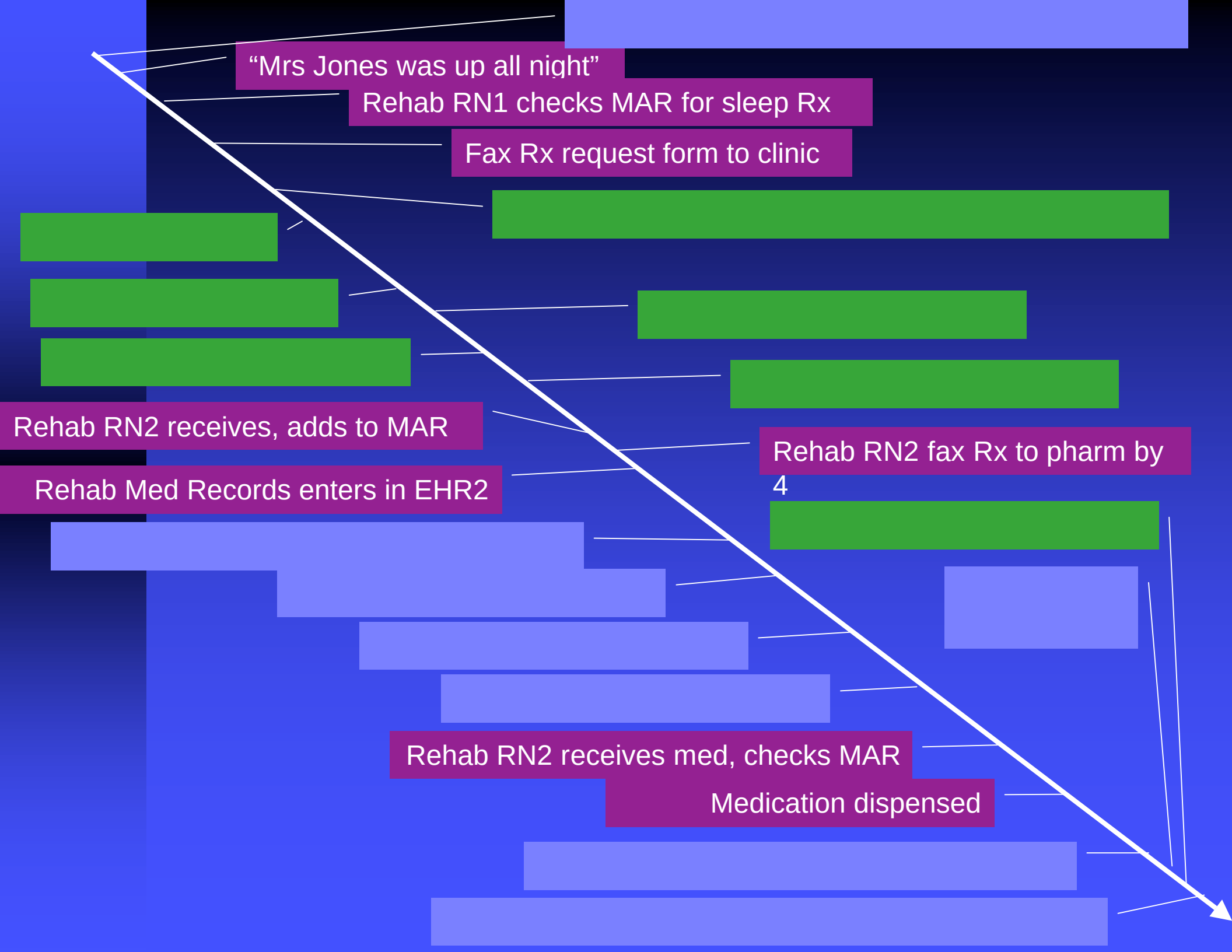
RxSafe Representatives

- James Wallace, *nursing*
- 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
Rehab RN2 receives, adds to MAR
Rehab Med Records enters in EHR2
Rehab RN2 fax Rx to pharm by 4
Rehab RN2 receives med, checks MAR
Medication dispensed

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

Clinic RN receives fax (rehab form), checks EHR2

Form given to MD

MD writes Rx on form

MD gives form to clinic RN

Clinic RN fax form to NH

Adds Rx to clinic EHR2

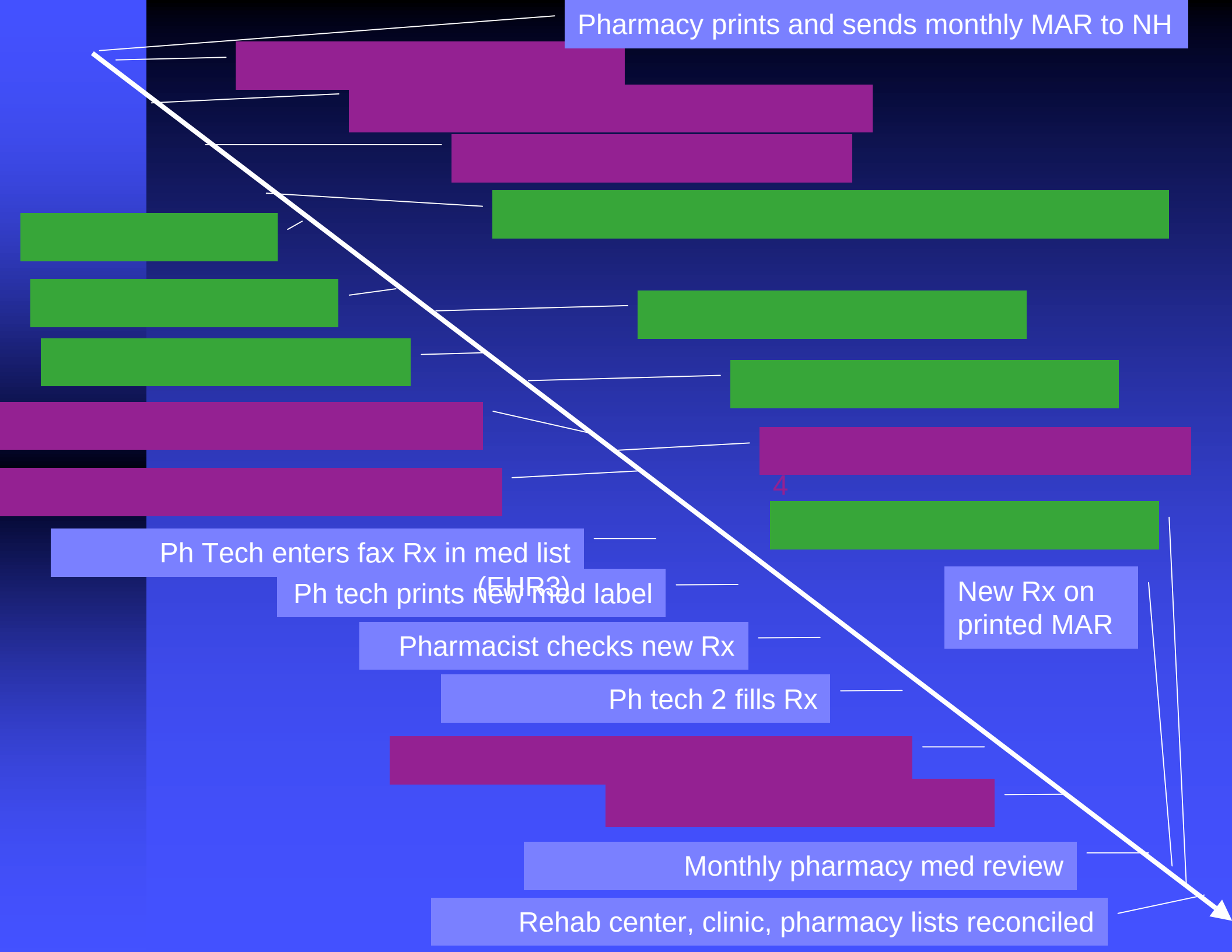
4

MD reviews Rx at next visit

Clinic Perspective

- Faxes (paper documents) low priority in office work flow → delays may be days.
- Faxes encourage hand annotated responses → 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."

New Prescription
Pharmacy Service View


Pharmacy prints and sends monthly MAR to NH
4
Ph Tech enters fax Rx in med list (EHR3)
Ph tech prints new med label
Pharmacist checks new Rx
Ph tech 2 fills Rx
New Rx on printed MAR
Monthly pharmacy med review
Rehab center, clinic, pharmacy lists reconciled

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	Good
Redundant systems	Redundant systems
Duplicate processes	Duplicate processes
Human error	Human expertise
Paper documents	Paper documents

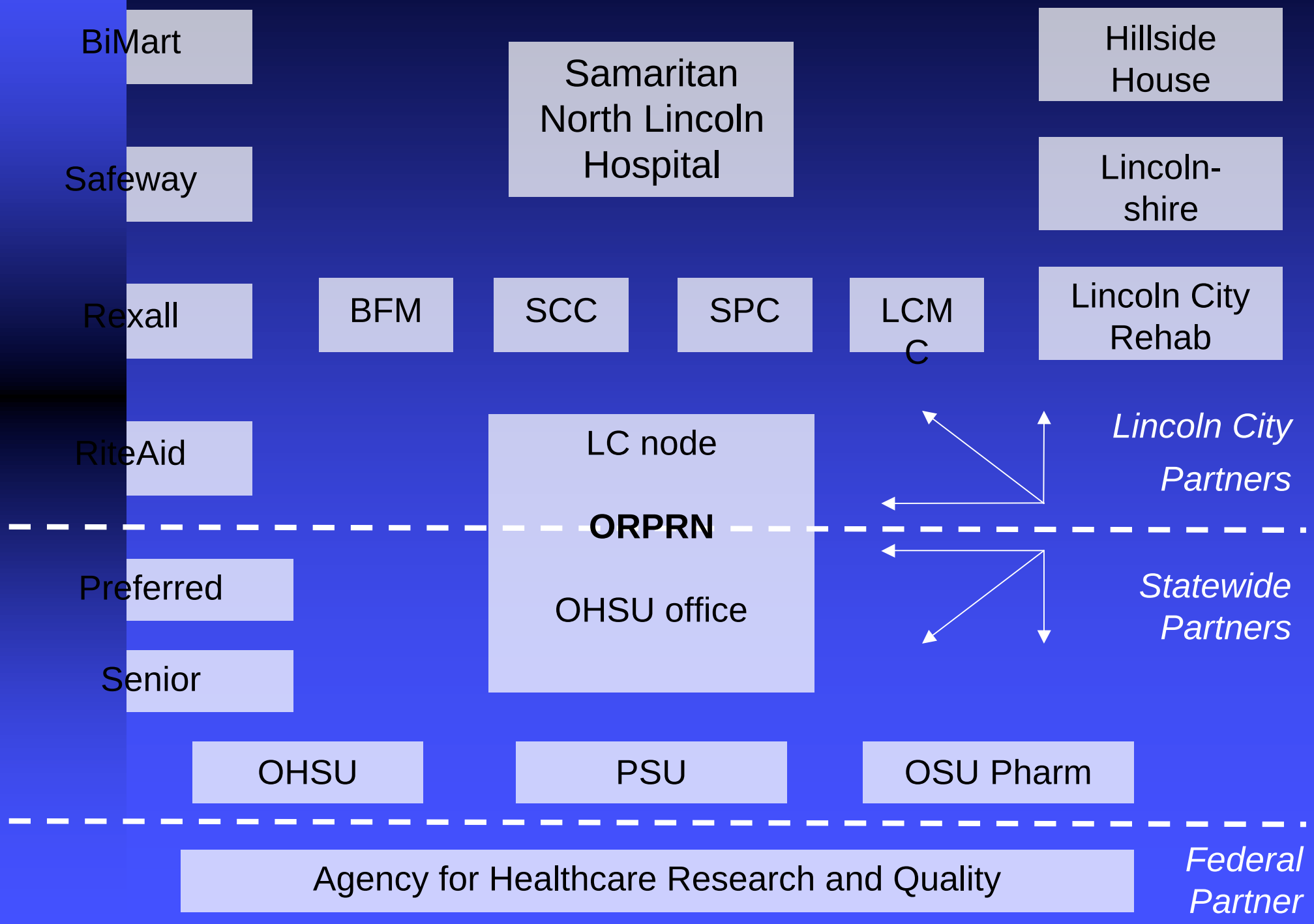
Silos of Data

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

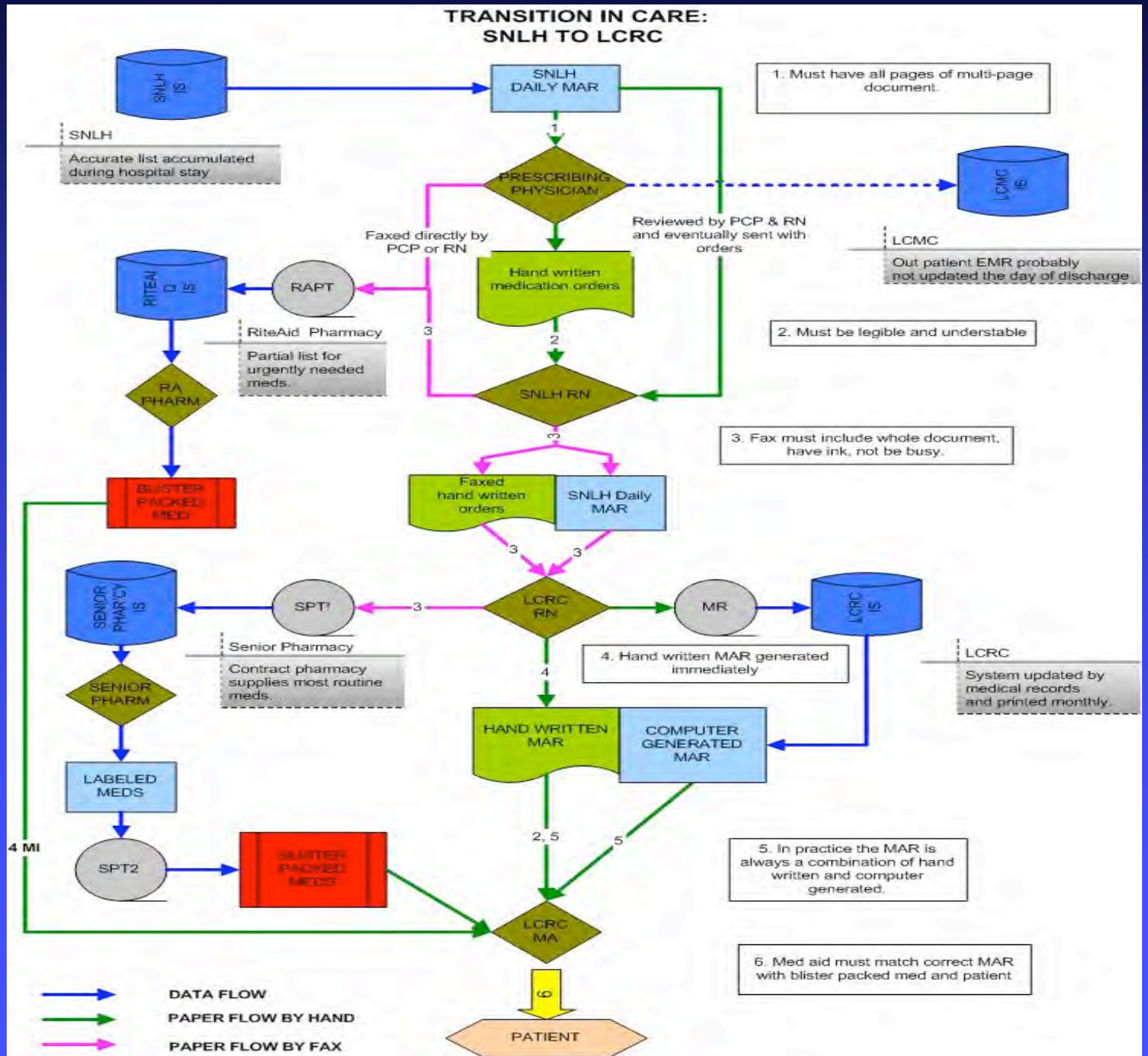
Added complexity

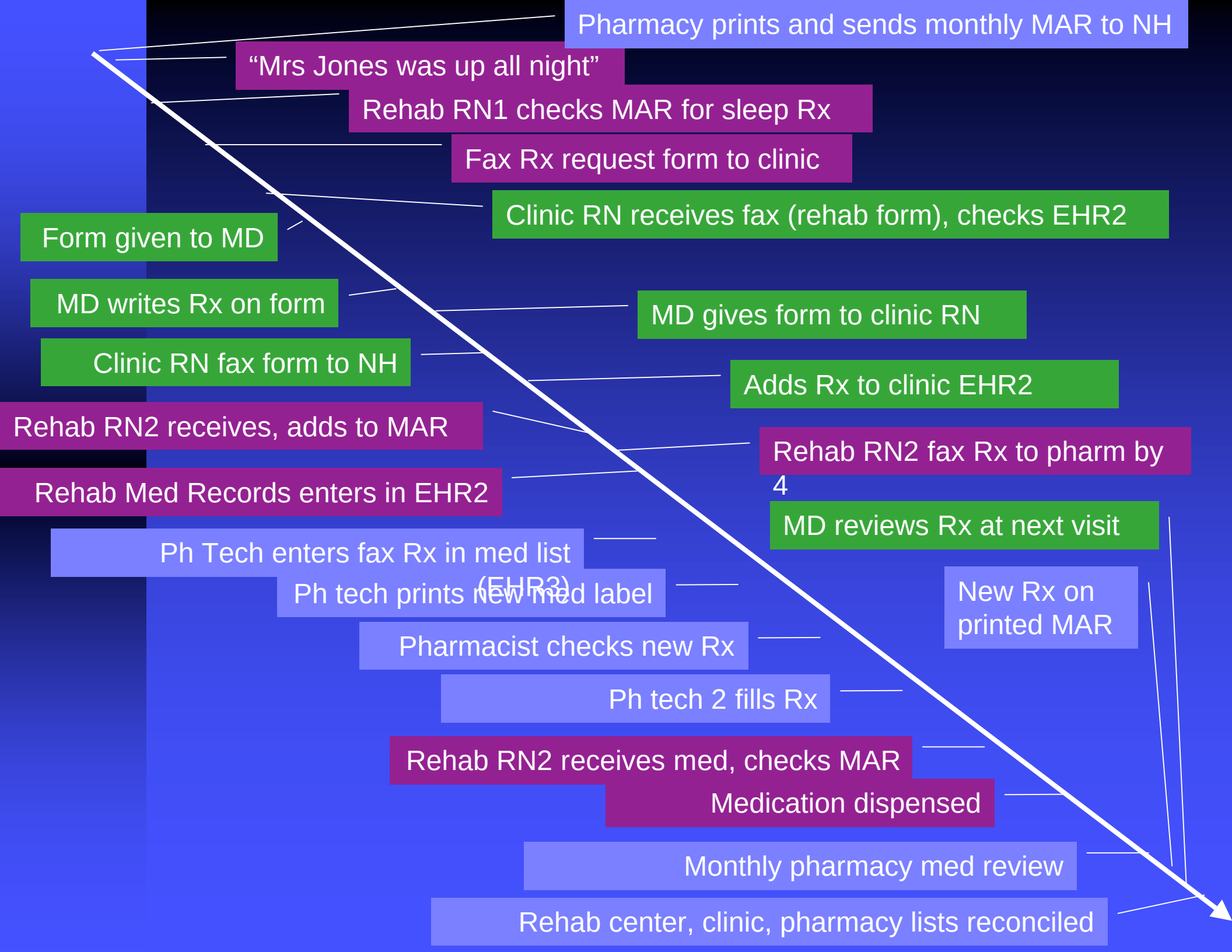
- Multiple disciplines
- Multiple organizations
- Multiple patients
- Multiple goals and constraints

Acknowledgements



Overview: Information Flows

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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~reminyl; 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