CMS/AHRQ
Long-Term Care e-Prescribing Pilot Study

NCVHS
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Presenters

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Thanks to all Sponsors

- AHRQ and Dr. Jon White
- CMS
- NCVHS
- Evaluation Contractors
- ASCP Foundation
- NCPDP
LTC e-Rx Project in Review

- Very Busy and Exciting 2006
- Started year with no infrastructure in place
- Focused development for H106
- Implemented Phase I in June – SCRIPT, Formulary Benefits and Telecom 5.1
- Phase II in October – Fill Status and ePA
- All SCRIPT changes pushed through NCPDP processes
Standards Tested

- Standards Testing:
  - SCRIPT 8.1 – NewRx, CanRx, Fill Status and ChgRx
  - Formulary Benefits and Eligibility
  - Prior Authorization

- Non Standards Testing:
  - Refills
  - Patient Safety Checks
  - Signatures

- Out of Scope:
  - Codified SIG
  - Medication History
  - RxNorm
Purpose of LTC e-Prescribing Pilot

Validate that the e-Prescribing standards work in a LTC setting

and

To study the effects of the electronic prescribing standards in long-term care on cost, quality and safety
The Infamous LTC Prescribing Slide

**Physician**
- **Start**
  - Decide on patient order
  - Written order
  - Physician writes order on Order Sheet
  - Faxed order
  - Verbal order
  - Evaluate order, clarify if needed
  - File in Patient Record
  - Physician signs copy of the order
  - Order Update (Phone or fax)
  - Clarify and update order with physician
  - Signed copy of order
  - File Signed copy in Pt. Record
  - Patient Allergies
  - Patient Orders

**Nursing**
- **Start**
  - Resident Status (phone call, fax, on-site)
  - Resident Change in Condition; New admission
  - Notice updated Order Sheet, evaluate order and clarify if needed
  - Check patient choice for pharmacy
  - Follow pharmacy-specific procedure including after hours rules
  - Update the MAR
  - Med
  - Administer and Chart
  - Resolve Discrepancy
  - Order Sheet
  - Patient MAR
  - Patient Record
  - Patient Allergies

**Pharmacy**
- **Drug Regimen Review or other Patient Status Review**
- **Consultant Pharmacist**
- Order (phone, fax, pickup by driver, auto-fax from SNF order management application)
- Receive new order
- Receive updated order
- Process order and dispense [includes payor verification and formulary compliance]
- Order Update (Phone or fax)
- Clarify and update order with nursing
- Order Question (phone or fax)
- MAR Update (optional)
- Med
  - Patient Allergies
  - Patient Orders
  - Patient MAR
LTC ePrescribing Nuances

- Three way communication between
  - Prescriber – Nurse – Pharmacy
- Less dependent on physician adoption
  - Nurse as an agent
  - Nurse Practitioners and Physician Assistants
- Most orders have no end date or quantity
- Refill requests represent 80% of orders
- Renewals are different than in retail
- Need unique formulary and benefit information
  - Part A, Part D and Medicaid
- Little or no connected pharmacies
The study included two geographically diverse treatments facilities (BHS) and two comparison facilities (non BHS).

Participants were chosen for demonstrated thought leadership in the areas of LTC technology adoption and electronic prescribing standards development.

Study focused on standards most relevant to LTC.
## Facility Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Test Facility A</th>
<th>Test Facility B</th>
<th>Comparison Facility A</th>
<th>Comparison Facility B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Community</td>
<td>Suburban</td>
<td>Rural</td>
<td>Suburban</td>
<td>Suburban</td>
</tr>
<tr>
<td>Number of Beds</td>
<td>75</td>
<td>109</td>
<td>94</td>
<td>105</td>
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<tr>
<td>Preferred Choice Pharmacy</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Electronic Medication Administration/Clinical Documentation System</td>
<td>Yes</td>
<td>Yes</td>
<td>Only MDS – Minimum Data Set</td>
<td>Only MDS – Minimum Data Set</td>
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<tr>
<td>Short Term Rehab Focus</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Traditional LTC Focus</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Extensive MD/Nurse Practitioner Involvement with Residents</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tbody>
</table>
Flow of Information

Achieve Hosting Services

- CPOE/EHR System (Achieve Matrix)
  - CPOE Client
  - Browser HTTPS

RxHub Hosting Services

- Formulary Benefits Switch
- SCRIPT Web Service
- RxHub

PHYSICIAN TOOLS

- Physician Tools
  - Script Web Service

FACILITY SYSTEMS (BHS)

- Nursing Station
- Browser HTTPS

PAYER COVERAGE DATA

- PDP
- Med History
- Formulary Benefit
- Eligibility
- Prior Authorization

PHARMACY TOOLS (Preferred Choice)

- Pharmacy Dispensing System
  - Dispensing System (RNA)
  - NCPDP 5.1 E1/B1

- Pharmacist DUR
  - Script Web Service
  - Browser HTTPS/Citrix

- Pharmacy Billing
  - Browser HTTPS/Citrix
  - FTP

- RNA eRxRequest Refill Scanner
- FTP

Dispensing System (RNA)
Facility Impacts of ePrescribing

- **Workflow**
  - Facilities currently using electronic Physicians Orders will see little change or disruption to current workflow
  - Integration with Clinical System (EHR) is critical to facility adoption
  - Ability to transmit orders directly to pharmacy yielded benefits in reduced rework
  - Prescriber adoption is vital as the capability expands
Facility Impacts of ePrescribing

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Pharmacy impacts of ePrescribing

- **Efficiencies**
  - Demographics pre-populated
  - Straightforward new orders
  - Discontinued orders
  - Readmissions

- **New challenges**
  - Combination orders
  - Protocols
  - Transcription accuracy
  - Timely transmission on admission orders
CMS Pilot Findings

- Nurse as an agent model works technically for e-prescribing
- Prescriber adoption is critical
- Leadership is critical for success – prescriber, facility and pharmacy
- Formulary benefits standards work unchanged
- Patient safety alerts are largely ignored when the nurse is the agent of the prescriber
- ePA is technical viable and relevant in LTC but requires physician adoption to gain full benefit
Observations (cont’d.)

- Data entry errors can still happen
- SCRIPT standard needs LTC enhancements including refills
- There is a need for demographic (ADT) messaging in the NCPDP standards
- Combination orders create a challenge
CMS Pilot Feedback

- **Bottom line**
  - Multi-system communication works technically
  - Electronic prescribing will continue to evolve as the standards are defined, but the core concept is valid
  - New challenges created by the e-prescribing process will require resolution
  - Standards need revisions for LTC (Most changes have been approved by NCPDP or are in process)
Closing Thoughts on LTC e-Rx

- Several non-standard projects are underway
- Industry capital availability is limited
- <10 LTC clinical software vendors represent >90% of technology implementations
- <5 LTC pharmacy systems represent >95% of technology implementations
- e-Rx standards are a key component of the larger EHR standard
- “Nurse as Agent” model can help bypass traditional issues with physician adoption
Closing Thoughts on LTC e-Rx

- CCHIT can use e-Rx standards compliance as a key element of EHR certification in LTC
- Timely legislation will limit the number of non-standard e-Rx implementations
- Government investment will help accelerate development by the ~15 key LTC technology vendors
- Government investment and reimbursement will help accelerate adoption by providers and pharmacies