

Electronic Prescribing (e-RX) and the Medicare Modernization Act e-RX Pilot Evaluation



August 13, 2007

Presenters:

Tony Trenkle, Director, Office of eHealth Standards and Services
Centers for Medicare & Medicaid Services

Rochelle Woolley, MPH, MS
Woolley & Associates

Kevin Johnson, MD, MS
Vanderbilt University Medical Center

Moderator: P. Jon White, MD
Agency for Healthcare Research and Quality (AHRQ)



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov



Electronic Prescribing and Part D

Office of E-Health Standards and Services
Centers for Medicare and Medicaid
Services

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov



CMS E-Rx Mandated

- MMA 2003 creates an ambulatory electronic e-Rx for Part D Plans
 - E- prescribing foundation standards implemented January 1 2006
 - Pilot testing of initial standards in CY 2006
 - Pilot Report to Congress April 2007
 - Promulgate final uniform standards by April 1, 2008
 - Final standards effective no later than one year after promulgation of final uniform standards.

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Standards

- **Foundation Standard**
 - Adopted via industry “experience” in 2006 for Part D
 - For transactions between prescribers and dispensers
 - For eligibility and benefits inquiries and responses between prescribers and Part D sponsors
 - For eligibility and benefits inquiries and responses between dispensers and Part D sponsors

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Standards

- **Initial Standards – Tested in Pilots in 2006**
 - Formulary & Benefit Information
 - Exchange of Medication History
 - Fill Status Notification
 - Structured patient instructions
 - Clinical Drug Terminology
 - Prior Authorization Messaging

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Participants

- RAND Health
- SureScripts
- Achieve Health (LTC)
- Brigham and Woman's Hospital
- University Hospital Health System with Ohio KePro

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov



Core Evaluation Questions

- Are the right data being sent?
- Are the data usable and accurate?
- Are the data well-understood at all points of the transaction?
- Do the initial standards work well together and with the foundation standards? If not, why not and what workarounds were used?
- How can the initial standards be improved to address workarounds?
- How long does it take to conduct each transaction using the initial standards?
- Can all appropriate drugs and other therapies be ordered via electronic prescribing?

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov



Pilot Conclusions

- **Report To Congress issued April 2007**
 - Formulary and Benefits and Medication History are ready for Part D use
 - Fill Status Notification is technically sound but there is no pressing marketplace demand
 - RxNorm, Prior Authorization and Codified SIG still need work
 - LTC will be ready for e-prescribing with workarounds

Presented by Anthony Trenkle, Director



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Prescription for Healthier Future



ePRESCRIBING

Presenter:

Chelle Woolley, M.P.H., M.S.



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Agenda

10

WHAT IS A PRESCRIPTION
DEFINE e-PRESCRIBING
WHAT'S THE PROBLEM
WHO ARE THE PLAYERS
WHO CAN SOLVE THE PROBLEM
WHY NOW

4 Steps to Creating a Prescription

11

Pre-Scribing: (Physician-Patient)

The access of vital information real-time, at the front end of the process to provide physicians and other caregivers with the right information for making clinically appropriate decisions.

Scribing: (Physician-Patient)

The writing of an order for medication therapy based on physician and patient interaction.

Delivery: (Physician-Patient)

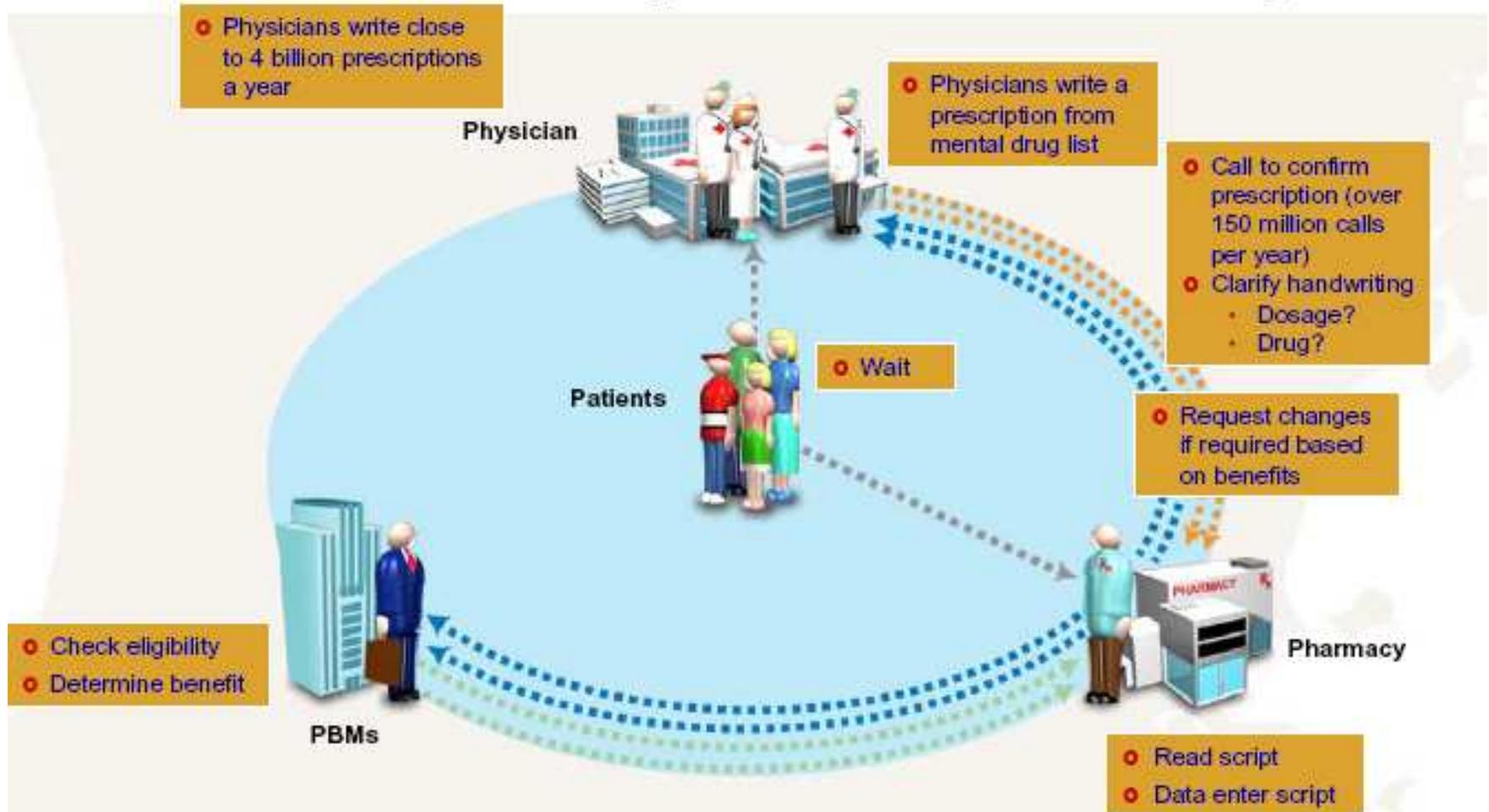
The movement of an “informed” prescription to patient’s choice of pharmacy at back end of the process.

Fulfillment: (Pharmacist-Patient)

The pharmacy of patient’s choice fills the prescription, generates label with instructions and refill information and dispenses the medication to the patient.

Today's Prescribing Process

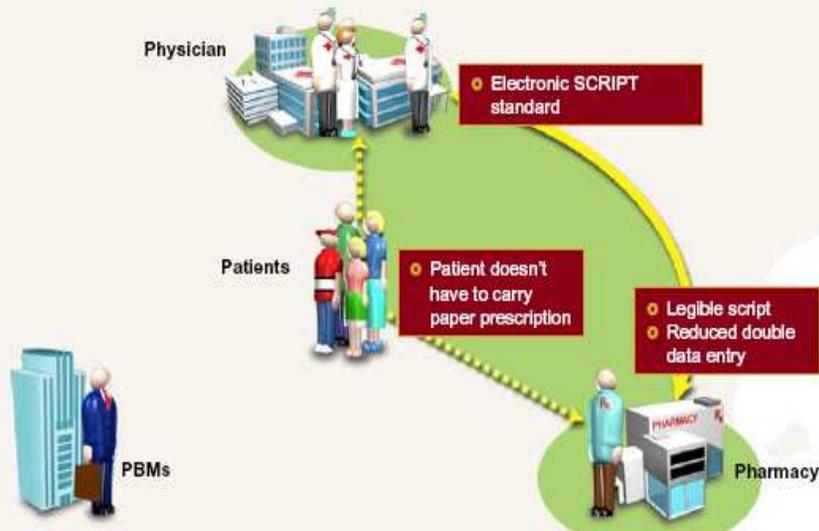
12



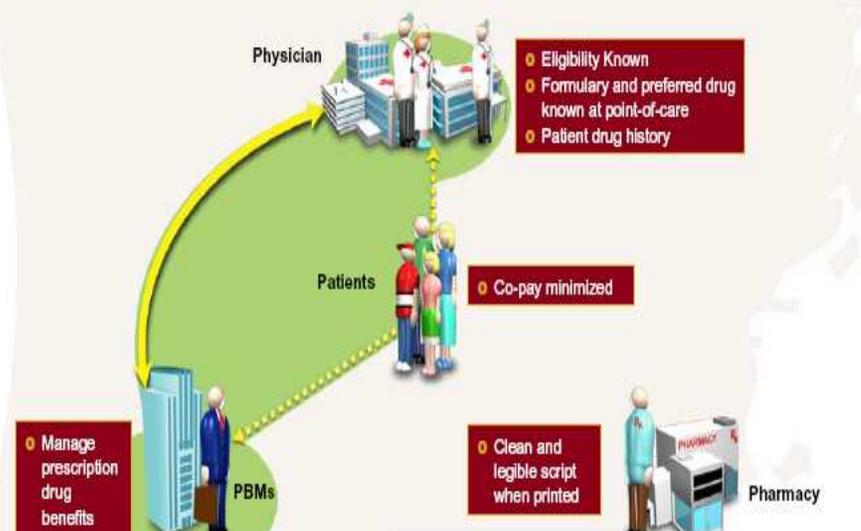
Many Players, Many Moving Parts

13

Connectivity from Physician to Pharmacy



Connectivity from Physician to PBM/Payer



What is needed is an interoperable, real time, end-to-end solution

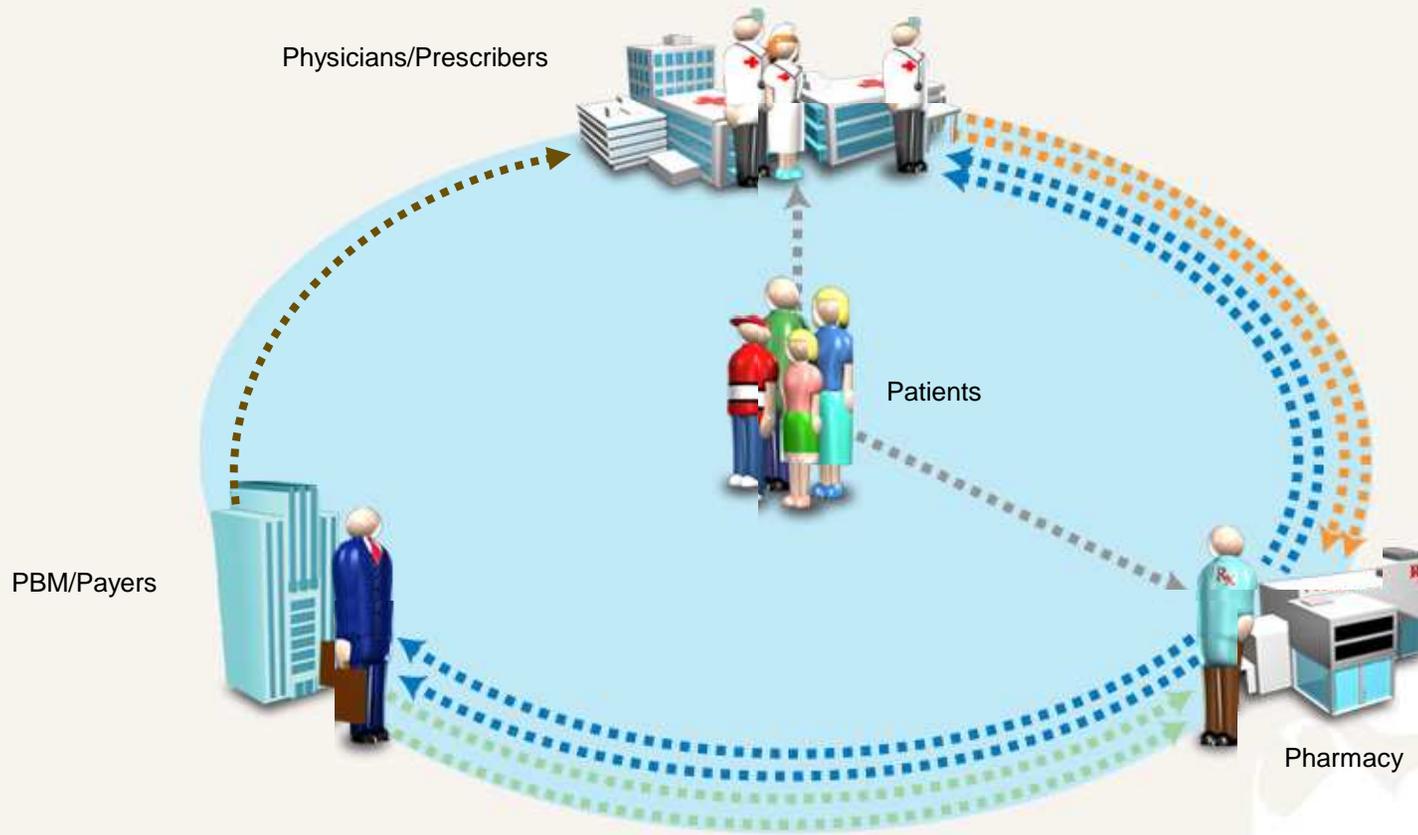
Chelle Woolley



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Real Time End-to-End Solution

14



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

What is e-Prescribing

15

A process that goes beyond today's current "writing" of a prescription. It incorporates a more comprehensive approach that involves:

- Access to clinical decision support information at the point of care
- Sharing of patient history facilitating coordination of care
- Facilitating a safer care environment via systems that are actually or virtually integrated
- Increasing practice efficiency for physicians, pharmacies, and hospitals
- Providing an efficient business framework through which prescription drugs are made affordable for all Americans

It's all about the *information* and how it's utilized...

The Stakeholders

16

- Physicians
- Pharmacies
- Patients/Consumers
- Payers/Pharmacy Benefit Managers
- Transaction Networks (RxHub & SureScripts)
- Technology Vendors
- Public Policy/Government

Value & Benefits- Physicians

17

- Access to patient's medication histories at the point of decision making for safer outcomes
- A single access for formulary information at the point of prescribing
- A single access to eligibility and pharmacy benefit coverage at the point of prescribing
- Ability to track compliance with access to Medication History
- Ability to identify potential abuse/doctor shopping
- Fewer callbacks and administrative overhead

Value & Benefits- Pharmacies

18

- Better prescription information that will reduce medication errors
- Prescriptions that are legible
- Prescriptions pre-checked for DUR & contra-indications
- Prescriptions that have been checked for eligibility and drug coverage requirements
- Pharmacy professionals spending more time with customers ensuring safer outcomes and less time on administrative third-party issues
- A work environment that promotes employee retention

Value & Benefits- Patients

19

- Received the safest prescription possible
- Paid lower fees out-of-pocket because the prescription utilizes your drug benefit
- More time for yourself because you had fewer hassles getting your prescription filled

Value & Benefits- Payers/PBMs

20

- Enhanced patient safety and reduced costs related to medication errors
- Significant adherence and compliance to formulary
- Measurably reduced plan administration costs

Current Status Shouldn't be Status Quo

21

- Only 10-15% of physicians are using e-prescribing but that number is ramping
- 45% physicians said it improved compliance with formularies
- 36% of physicians said e-prescribing improved efficiency
- 33% physicians said it had a major impact on quality of care

Source: Harris Interactive and Boston Consulting Group Poll, 2003

Impact of Status Quo

22

- Preventable errors in hospitals kill 44,000 to 98,000 people each year. *(Institute of Medicine)*
- According to a recent study more than 8.8 million Adverse Drug Events (ADEs) occur annually in ambulatory care of which over 3 million are preventable. *(Center for Information Technology Leadership)*
- More than 57,000 Americans die needlessly each year because they do not receive appropriate care. *(National Council Quality Assurance)*
- Over 7,000 deaths each year due to manual-process prescribing errors.
- Non-compliance with medication regimens causes more than 125,000 deaths annually. *(NACDS Annual Report, 2001)*

Workflow Accelerators

23

- Better management of patients
- Immediate access to value-add patient information @ POC
- Leadership commitment- physician champion
- New technology- more conducive to physician practice
- Enhance physician-patient interaction
- Save time in patient encounter
- Improve patient outcomes-enhance safety
- Reduce administrative re-work improving efficiency

Potential Drivers to Adoption

24

- Alignment of Incentives
- Sustainable Business Case & ROI
- Medicare Prescription Drug Improvement and Modernization Act
- Public Sector Grants
- Federal Legislation-HIT & Patient Safety
- Pay for Performance Programs
- Regional Health Information Organizations

Medicare Modernization Act

25

- Defined e-Prescribing Program
- Uniform standards
- Safe harbor
- Grants
- Pre-emption

The MMA Requires that...

26

- All health plans and pharmacies participating in the new Medicare prescription drug benefit (Part D) support an e-prescription program,
- The Secretary of Health and Human Services (HHS) establish federal standards that all e-prescribers must follow for Part D eligible. The standards are published specifications that establish a common language, contain technical specifications, and provide other specific criteria designed to be used consistently as rules or definitions, and
- Six “initial” standards are pilot tested to investigate their interoperability with “foundation” standards as well as clinical and economic outcomes associated with eprescribing.

ePrescribing market summary: The Infrastructure is in Place

27

- The Medicare Modernization Act is promoting eprescribing
- States are removing roadblocks to eprescribing
 - *Over 45 states are good to go for true electronic prescribing*
- Pharmacies are ready
 - *Over 85% of the nation's pharmacies are certified to connect to pharmacy networks through SureScripts pharmacy health information exchange.*
- PBMs and Payors are ready
 - *PBMs and Payors representing over 165 million lives are able to share plan information, medication history, eligibility checks through RxHub's national patient health information network.*
- Incentives are helping to drive adoption
 - *Software, hardware, education, training, pay-for-performance; models are evolving and showing some early successes.*
- Technology Vendors are responding to industry demands
 - *Thousands of physicians are connected today and vendors representing tens of thousands of physicians are establishing connectivity.*

Future Impact

28

- PATIENT SAFETY-SAVE LIVES
- AFFORDABLE HEALTH CARE- SAVE COSTS
- CONVENIENCE & EFFECTIVENESS-SAVE TIME

Questions



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov



ePRESCRIBING

Presenter:

KEVIN JOHNSON, MD, MS



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

Barriers to Adoption



- Situational (economic and external factors)
- Cognitive/physical (skills or ability)
- Legal (regulated or unregulated practices)
- Attitudinal (behaviors or opinions)

Johnson KB, Arch Ped Adol Med 2001

Barriers to Adoption

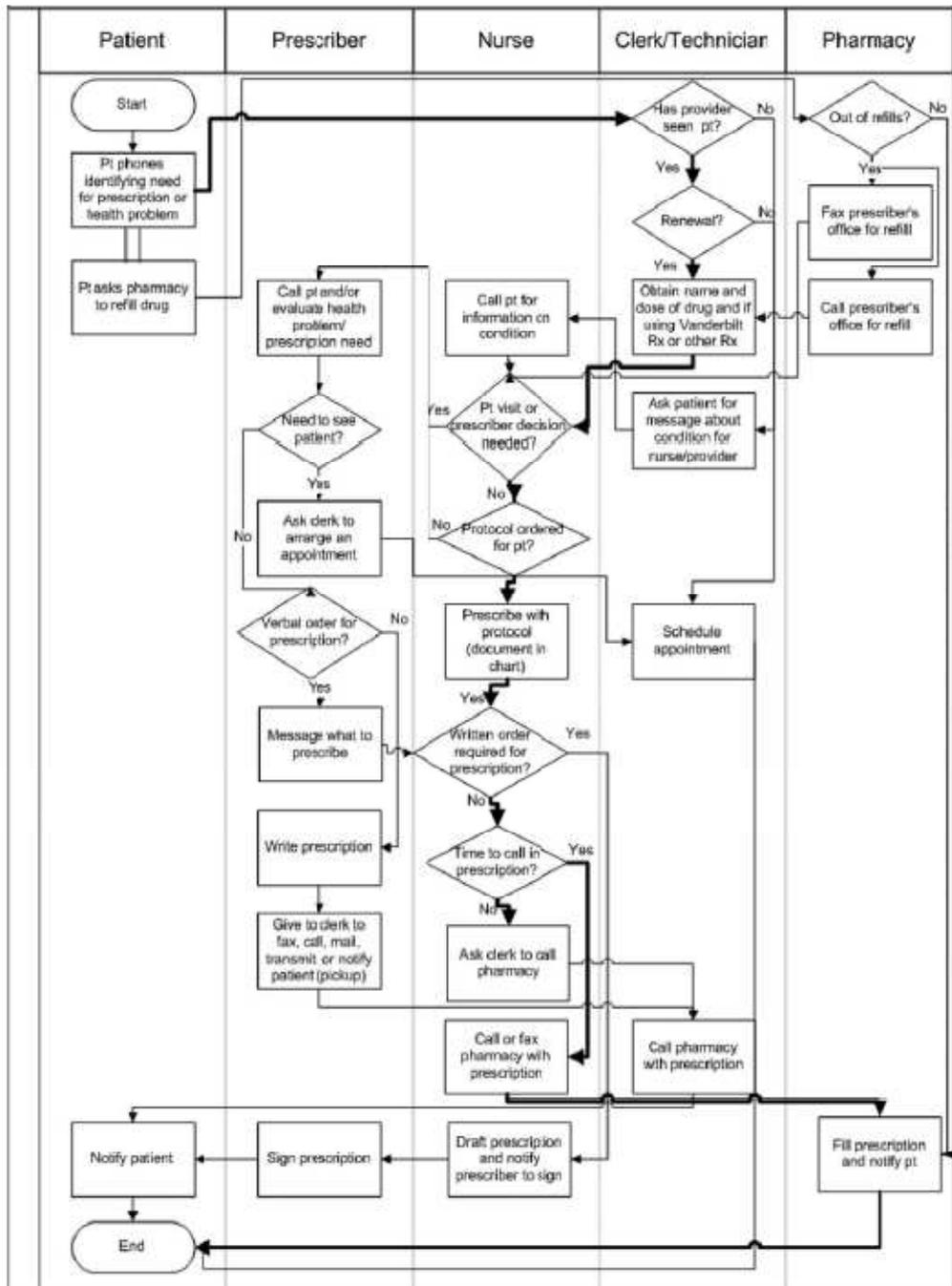
32

- **Situational:**
 - Cost of hardware, software, training, and maintenance
 - Disruption/change to office practice and lost revenue
 - Poorly developed software (e.g., mg/kg dosing in children)
 - Faxing to pharmacies is unreliable
- **Cognitive:**
 - Challenges with choosing the “best” software
 - Lack of comfort with technology (mobile computing)

Barriers to Adoption



- **Legal**
 - Liability (5 rights) concerns
 - State and local rules regarding nursing role in prescribing
 - Rules limiting e-prescribing of controlled substances
- **Attitudinal**
 - Not supportive of practice workflow
 - Apprehension about change
 - Misinformation about personal quality of care



Johnson KB, FitzHenry F JAMIA 2006



Agency for Healthcare Research and Quality
 Advancing Excellence in Health Care • www.ahrq.gov

The Tip of the Orderable...

Call in 40 of Pravachol daily

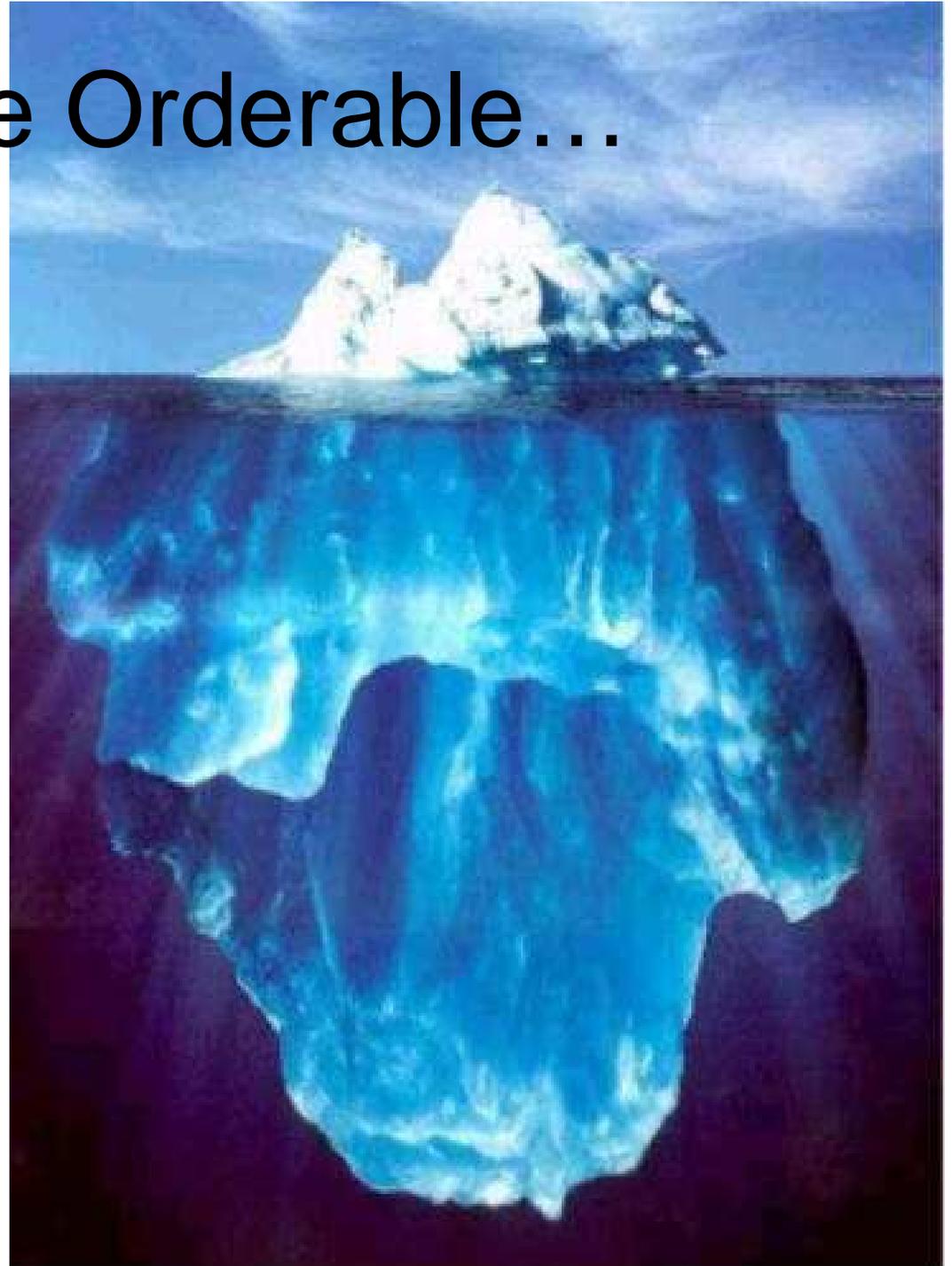
Order 40 **MG** of pravachol every day

Order pravastatin (generic) to minimize copay

Take Pravastatin 40mg tablets, 1 every night before bedtime with enough refills to allow a year's supply

Find out number of patient's favorite pharmacy and ask to speak to a pharmacist

Etc, etc.



Role of Computerized Physician Order Entry Systems in Facilitating Medication Errors

Results We found that a widely used CPOE system facilitated 22 types of medication error risks. Examples include fragmented CPOE displays that prevent a coherent view of patients' medications, pharmacy inventory displays mistaken for dosage guidelines, ignored antibiotic renewal notices placed on paper charts rather than in the CPOE system, separation of functions that facilitate double dosing and incompatible orders, and inflexible ordering formats generating wrong orders. Three quarters of the house staff reported observing each of these error risks, indicating that they occur weekly or more often. Use of multiple qualitative and survey methods identified and quantified error risks not previously considered, offering many opportunities for error reduction.

Conclusions In this study, we found that a leading CPOE system often facilitated medication error risks, with many reported to occur frequently. As CPOE systems are implemented, clinicians and hospitals must attend to errors that these systems cause in addition to errors that they prevent.

JAMA. 2005;293:1197-1203

www.jama.com



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov

The Cognitive Psychology of Missed Diagnoses



- **Context errors:** The physician inappropriately limits consideration to only one set of diagnostic possibilities, in lieu of others.
- **Availability errors:** The physician chooses the most likely diagnosis over conditions that are more rare, or they choose conditions they are most familiar with.
- **Premature closure:** Once a plausible condition is identified, other possibilities are not fully considered; we just stop thinking.

Redelmeier DA, Ann Intern Med. 2005 Jan 18;142(2):115-20



Agency for Healthcare Research and Quality
Advancing Excellence in Health Care • www.ahrq.gov



Questions

