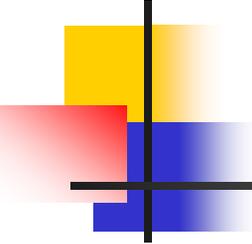


# Electronic Prescribing Using a Community Utility: The ePrescribing Gateway

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Gail A. Fournier  
MA – SHARE, CSC



# Research Team and Partners

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## **BWH and Partners Healthcare**

- Jeffrey Rothschild MD, MPH
- David Bates MD, MSc
- Tejal Gandhi MD, MPH
- Andrew Seger PharmD
- Carol Keohane RN
- Carol Broverman PhD
- Barry Blumenfeld MD, MSc

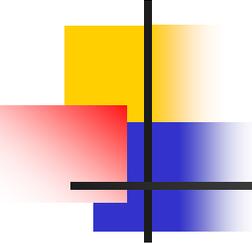
## **MA-SHARE / CSC**

- John Halamka MD
- Gail Fournier
- Greg DeBor
- Sachi Rath MD
- Dan Kearney
- Laurance Stuntz
- Vinod Muralidhar
- John Calladine

## **Blue Cross Blue Shield of Massachusetts**

**RxHub**

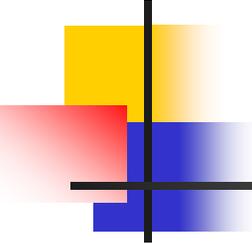
**SureScripts**



# Study Aims

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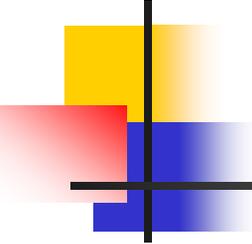
- To test the interoperability of the standards. (**Aim I**)
- To study and compare ePrescribing to CPOE without electronic submission with regards to:
  - safety, quality and efficiency (**Aim II**)
  - business processes e.g. provider efficiency and workflow (**Aim III**)



# Study Sites and Collaborators

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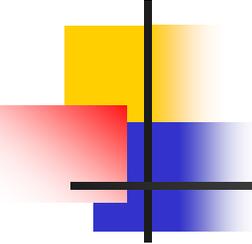
- **MA-SHARE** (Simplifying Healthcare Among Regional Entities)
  - CSC Consulting
  - eRx Gateway
- **BIDMC ambulatory medical clinics**
  - ACPOE system – webOMR
- **BWH and PHS**
  - Adverse drug event (ADE) outpatient monitoring system



# eRx Gateway

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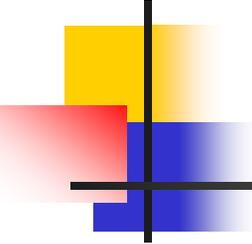
- Community infrastructure utility for providers, payers, and vendors, offering standards-based interoperability
- Target adopters—
  - Providers, payers, and vendors operating in MA to improve quality, reduce complexity, reduce cost
  - EHR vendors operating in MA to support customer needs
  - Others outside of MA, software provided free of charge



# Study Design: Aim I

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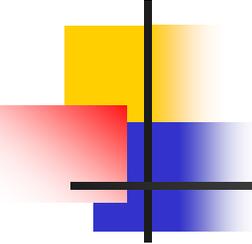
- Test interoperability of standards
  - Accuracy—right data/right information
  - Completeness—all functions supported
  - Coherence—compatibility of standards
  - Usability—software specifications clear/understandable, infrastructure used efficiently, data well understood by users
- Test vocabularies and code sets
  - Semantic interoperability of drug identifiers and other key identifiers



# Study Design Aim I: Reporting

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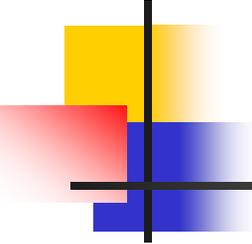
- Interoperability metrics
  - Accuracy
  - Completeness
  - Coherence
  - Usability
- Exceptions, issues, workarounds, recommendations
  - Design
  - Development
  - Testing
  - Operation



# Study Design: Aim II and III

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- Pre-post and RCT
  - Intervention group – ePrescribing added to existing ACPOE
- Outcomes of interest
  - **Aim II** – dispensing errors, other medication errors including preventable ADEs, formulary medication compliance, medication hx reconciliation, prescribing – dispensing efficiency
  - **Aim III** – prescription related calls, prescription-related call impact on office workload and office costs



# Study Design: Aim II and III

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- Case Finding
  - computerized ADE monitor
  - chart review
  - prescription to be dispensed review
- Office efficiencies and workload
  - direct observation and activity logs
  - time-motion techniques