



**eHEALTH INITIATIVE**  
Real Solutions. Better Health.

# **Innovative Connectivity Strategies**

**Dial-in Information:**

**800-894-8917**

**April 28, 2011**

# Housekeeping Issues

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- **ALL LINES ARE MUTED**
  - To ask a question or make a comment, please submit via the chat feature and we will address them in the order received at the appropriate time

# Housekeeping Issues

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- **Slides and Recording of Webinar**

- Members can access slides and replays of any webinar for free on eHI's members-only site
  - Non-members can purchase access to any webinar replay for \$25

Visit the eHI Store online at:

<http://www.ehealthinitiative.org/store/storeWebMat.html>

# About the eHealth Initiative

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- Mission is to drive improvements in the quality, safety, and efficiency of healthcare through information and information technology.
- Over 200 members of eHI
- In addition, EHI serves as a resource and tracks the progress of Regional Extension Centers, and 260 regional, state, and local initiatives working on health information exchange (HIE)

# eHI Membership

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- The eHealth Initiative members are some of the most informed and influential executives in the health care industry
- Membership is open to all interested organizations
- Join online at our website [www.ehealthinitiative.org](http://www.ehealthinitiative.org) or contact Amy Eckenroth, 202-624-3265, [Amy.eckenroth@ehealthinitiative.org](mailto:Amy.eckenroth@ehealthinitiative.org)

# Take Advantage of eHI Events and Resources

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- 2011 National Forum on Health Information Exchange (HIE)
  - July 14, 2011 at the Omni Shoreham Hotel in Washington, DC
- Northwest Medical Informatics Symposium
  - September 19-20, 2011 at the Davenport Hotel in Spokane, WA

# Thank You to Our Sponsor

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# Session Moderator

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**David McCallie Jr., MD**

**VP Medical Informatics**

**Cerner**





# Overview of Our Agenda

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- **Introduction and Welcome (3:00 – 3:05)**
  - David McCallie Jr, VP Medical Informatics , Cerner
- **Overview of HIE in Oklahoma (3:05– 3:20)**
  - Robert Roswell, Senior Associate Dean, University of Oklahoma College of Medicine
- **SMRTNET (3:20 – 3:35)**
  - Mark Jones, Principal Investigator, SMRTNET
- **Providers, CDS and ACO Collide (3:35 – 3:55)**
  - Brian Yeaman, Chief Medical Informatics Officer, Norman Regional Health System
- **Panel Discussion (3:55 – 4:28)**
- **Closing (4:28 – 4:30)**
  - David McCallie Jr, VP Medical Informatics , Cerner

**Robert H. Roswell, MD**  
**Senior Associate Dean**  
**University of Oklahoma College of Medicine**





# Oklahoma's Health Information Exchange Governance Structure and Mission

Robert H. Roswell, M.D.

Chairman Oklahoma Health Information Exchange Trust

# Early Planning Efforts

- Governor designated:
  - Oklahoma Secretary for Health as lead
  - Oklahoma Health Care Authority (state Medicaid agency) as the state designated entity (SDE)
- Broad stakeholder participation in planning efforts
- Initial SHIECAP award of \$8.9M



# Creation of a Permanent Governance Structure

- Planning group drafted legislation creating a state beneficiary trust
- Unanimously passed Oklahoma House and Senate
- Signed into law by Governor in 2010

# Oklahoma Health Information Exchange Trust (OHIET)

- Seven Trustees appointed by Oklahoma Governor, Speaker of the House, and President Pro Tempore
- Five year staggered terms
- Broad background experience in health care, and information technology
- Large Advisory Board with extensive experience representing all key stakeholders
- Oklahoma Health Information Technology Coordinator serves as Executive Director



# Oklahoma Health Information Exchange Trust Mission

- Improve the health of all Oklahomans through the enhanced use and sharing of health information
- Assure that all Oklahoma healthcare providers have an opportunity to meet electronic health record meaningful use requirements



# Oklahoma Health Information Exchange Trust Philosophy

- Create a network of networks allowing all providers throughout the state to participate in the electronic exchange of health information





# Oklahoma Health Information Exchange Trust Operating Principles

- Facilitate dialogue, information sharing, and consensus among all stakeholders
- Leverage existing state efforts, both operational and planned
- Utilize grant funding to encourage development and adoption in underserved areas
- Develop an HIO certification process to assure interoperability and sustainability of activities

# Oklahoma Health Information Exchange Trust: Current status

- Transfer of state designated entity (SDE) status to OHIET being finalized
- Strategic and Operational plans have been submitted to the Office of the National Coordinator (ONC) where they await final approval
- Supplemental Challenge Grant award has brought total funding to \$10.6M
- Advisory Board and Trustees actively pursuing specific milestones outlined in operational plan

# **Mark Jones**

## **Principal Investigator**

### **SMRTNET**



# **SMRTNET**

## **Secure Medical Records Transfer Network**

**A Public Non-Profit Health Information  
Organization Utility Company**



# HIO Utility Company

- **Based on AHRQ Transforming Healthcare Through Health Information Technology-Eight Success Stories**  
<http://healthit.ahrq.gov.SuccessStoriesTHQIT>
- **Rapid cycle planning of networks (11)**
- **Multiple self governed networks (7 operational)**
- **“Network of networks” to share data through common management committee**
- **Share meaningful use data (over 3 million patients)**
- **Sustainable without government support (over two years)**
- **Wide disbursement (64 cities)**
- **\$ 5 million, 5 years**

# Development Network

■ Hospital	Tahlequah City Hospital
■ University	Northeastern State University
■ Public Health	OSDH/Cherokee County
■ Federal	Hastings Medical Center
■ Tribal	Cherokee Nation
■ Mental Health	Bill Willis Community MHC
■ Community Health Ctr	NEO Community Health Centers

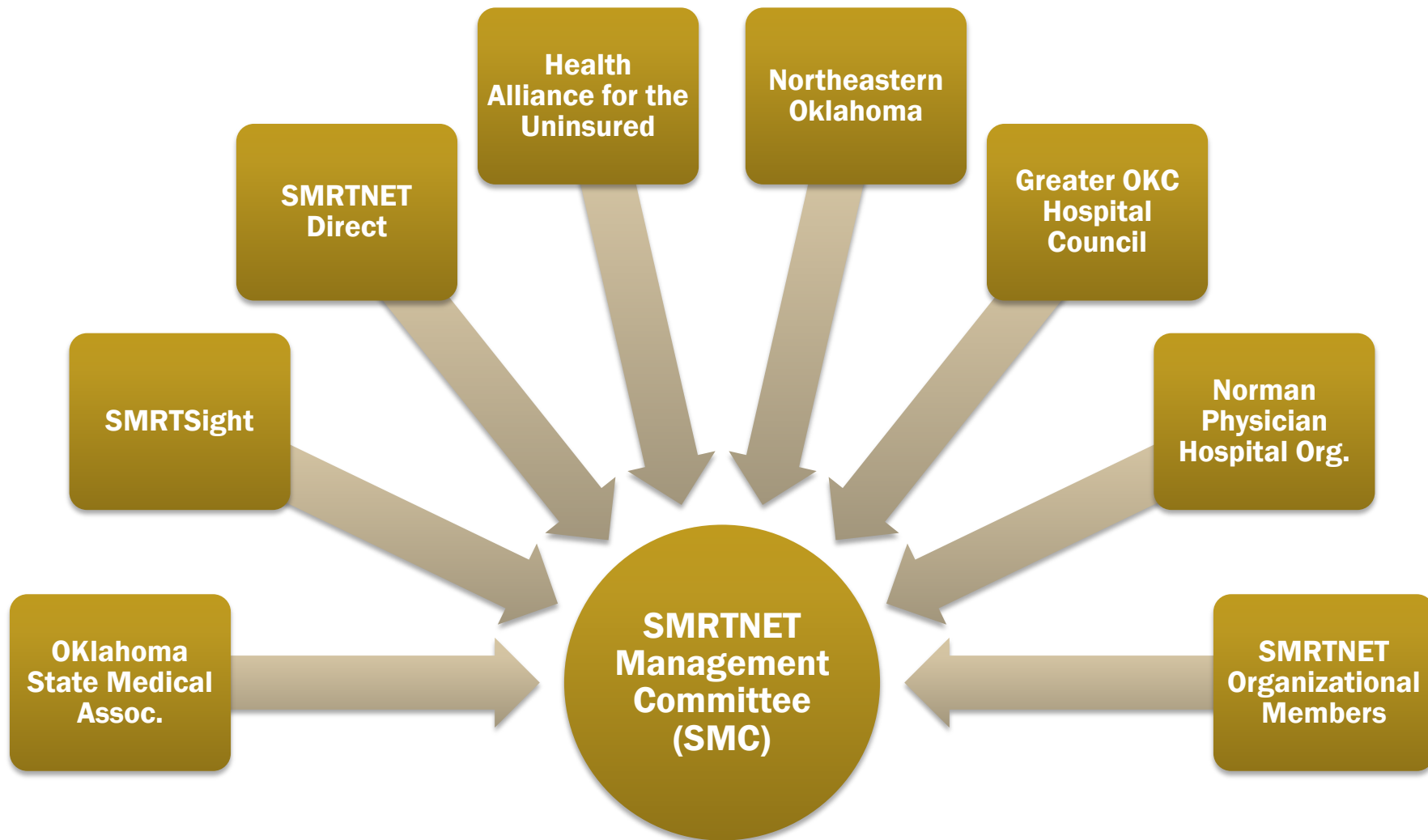
# Current SMRTNET Networks

Network	SMRTNET Planning Process	Sponsor	Status
<b>SMRTNET Direct statewide</b>	<b>Yes</b>	<b>SMRTNET Management Committee</b>	<b>Operational</b>
<b>Oklahoma State Medical Association</b>	<b>Yes</b>	<b>Oklahoma State Medical Association</b>	<b>Governance</b>
<b>SMRTNET Northeast</b>	<b>Yes</b>	<b>SMRTNET Management Committee</b>	<b>Operational</b>
<b>Greater Oklahoma City Hospital Council</b>	<b>Yes</b>	<b>GOCHC</b>	<b>Operational</b>

# Current SMRTNET Networks

Network	SMRTNET Planning Process	Sponsor	Status
Oklahoma Association of Optometric Physicians	Yes	Oklahoma Association of Optometric Physicians	Operational-pilot
Norman Physician Hospital Organization	Yes	Norman PHO	Operational
Health Alliance Uninsured	Yes	HAU/OSMA	Operational





# Common Planning and Certification Process

- **Governance (15 issues)**
- **Legal (14 legal functions)**
- **Privacy (27 guidelines)**
- **Clinical (Meaningful use plus other)**
- **Quality (identified per organization)**
- **Sustainability (no government or grant funds for basic operations)**
- **Over 500 health professionals for six hours each for 11 networks**

# Shared Data Between Networks

- **Seven networks**
- **Data on over 3.1 million patients**
- **2,600 providers**
- **Data from 113 sources and all future**
- **64 cities**
- **Many more in process**

# SMRTNET Networks User and Data Distribution



# How Networks are Similar

- **Security policies**
- **Fourteen legal documents**
- **Sixteen shared services**
- **Core data set for meaningful use**
- **Data on over 3.1 million patients**
- **Vendor neutral**
- **Core management committee common policy for all “network of networks”**

# How Networks are Different

- Can be committee, affiliate, or legal organization
- Separate governance committee
- Define membership
- Internal policies within SMRTNET boundaries
- May add additional services
- Richer data set than shared to others
- Confidential data reports for members
- Set pricing over core price
- Add staff
- Protect data

# Points of Interest

- **Beacon project in Tulsa**
- **Challenge grant in Norman**
- **AHRQ Task order 17 in Norman**
- **EMS**
- **Two pilots for Direct**
- **Planned hospital based network for northwest Florida**
- **Day long consultations to Iowa, Chicago, North Carolina**
- **Several others in process**

# **Brian Yeaman, MD**

Chief Medical Informatics Officer  
Norman Regional Health System







# HIE: Providers, CDS and ACO Collide

Brian Yeaman MD  
CMIO Norman Regional Health System



# Overview Session Goals

## EHR to HIE to ACO to Norman, Oklahoma

- Define how HIE and EHR interact around structured data
  - Clinical Workflow
  - Vendor and CCD Obstacles
  - Decision Support and QI
- Accountable Care Organizations and HIE
  - Hosting Organizations
  - ACO and HIE Footprints
- Norman HIE and ACO Model and CDS



# Sooners





# EHR to HIE



# EHR to HIE

## Structured Data Details

- Discrete data elements that can be exchanged across care settings and technology platforms via HIE
  - LOINC/SNOMED/ICD9/ICD10 etc
  - Current ONC efforts via Meaningful Use to create standards
- Who Owns the Data?
  - Patient
  - Doctor
  - Payer?
  - CMS?



# EHR Pros and Cons



*"My data system isn't speaking to  
your data system."*



# EHR to HIE

## Structured Data Barriers to Adoption

- Traditionally Vendors Have Given 2-3 Options For Documentation of Data
- Not All Fields Are Structured
- Free Text Boxes
- Option Overload For Providers, CDS, Order Sets, Structured Data, Demographics, Quality Measures, Formulary Checks, Drug Drug Drug Allergy Checking, HIE



# EHR to HIE

## Structured Data and Health Information Exchange

- Health Information Exchange SMRTNET Example
  - Crosswalk for Structured Data
  - eMPI
  - Direct and HISP Services
  - RLS
- Governance and Trust
- Legal
- Sustainability
- Use Case: Quality/Safety, Duplication, Transitions of Care Eligibility Checking?





# EHR to HIE

## Clinical Decision Support

- HIE the Enabler for Meaningful CDS
  - Evidence Base Medicine and Content Vendors
  - Clinical Rules
  - Order sets, next logical step is CDS imbedded in CPOE and in HIE data consumption
  - Quality Improvement Tools at HIE Level
  - Disease and Case Management
  - Personal Health Record Tools and Record Portability



# EHR to HIE

## Clinical Decision Support

- EHR Level Obstacles
  - Workflow to Access HIE
  - Workflow to Document Critical Data Elements
    - To Many Options
    - Not Always Intuitive
    - Hard Stops vs Soft Stops
  - CDS at the EHR Level Limitations
  - HIE CCD Import and utilization of Structured Data



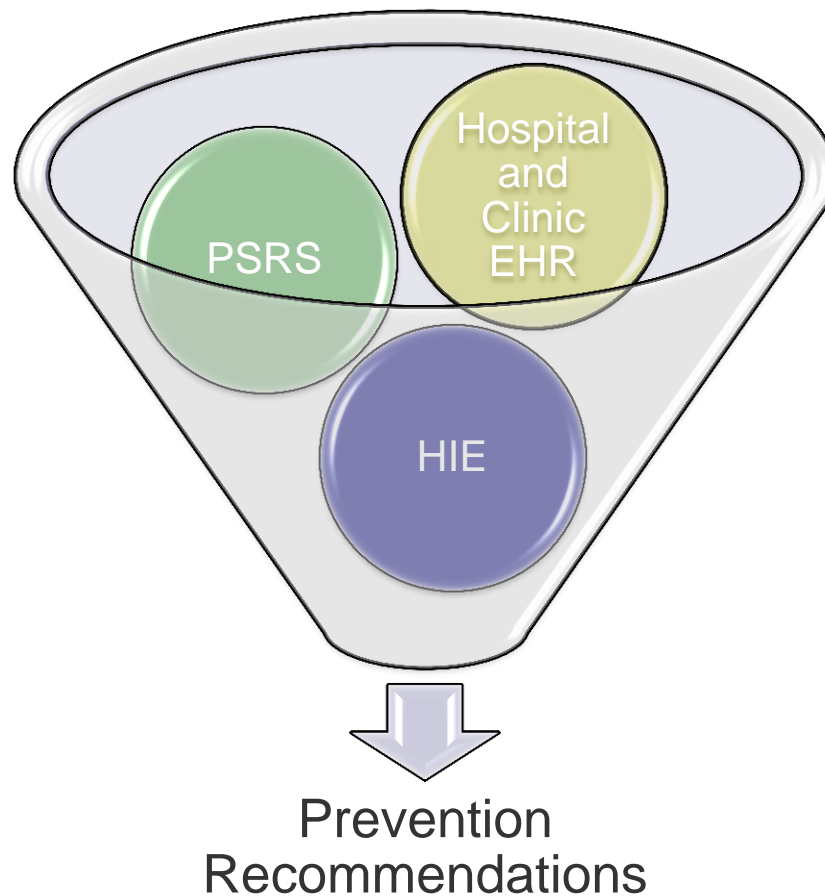
# Norman PHO Model

## AHRQ Project

- Imbed Clinical Decision Support In Ambulatory Clinics
  - Primary Care
  - Primary Prevention Services
    - Pneumovax
    - Influenza
    - Mammogram
    - Colonoscopy
  - Frequency of Testing
    - LDL, CMP, TSH
  - Efficiency of Prevention Documentation
    - Pre and Post HIE and CDS implementation
  - Learning Cycles

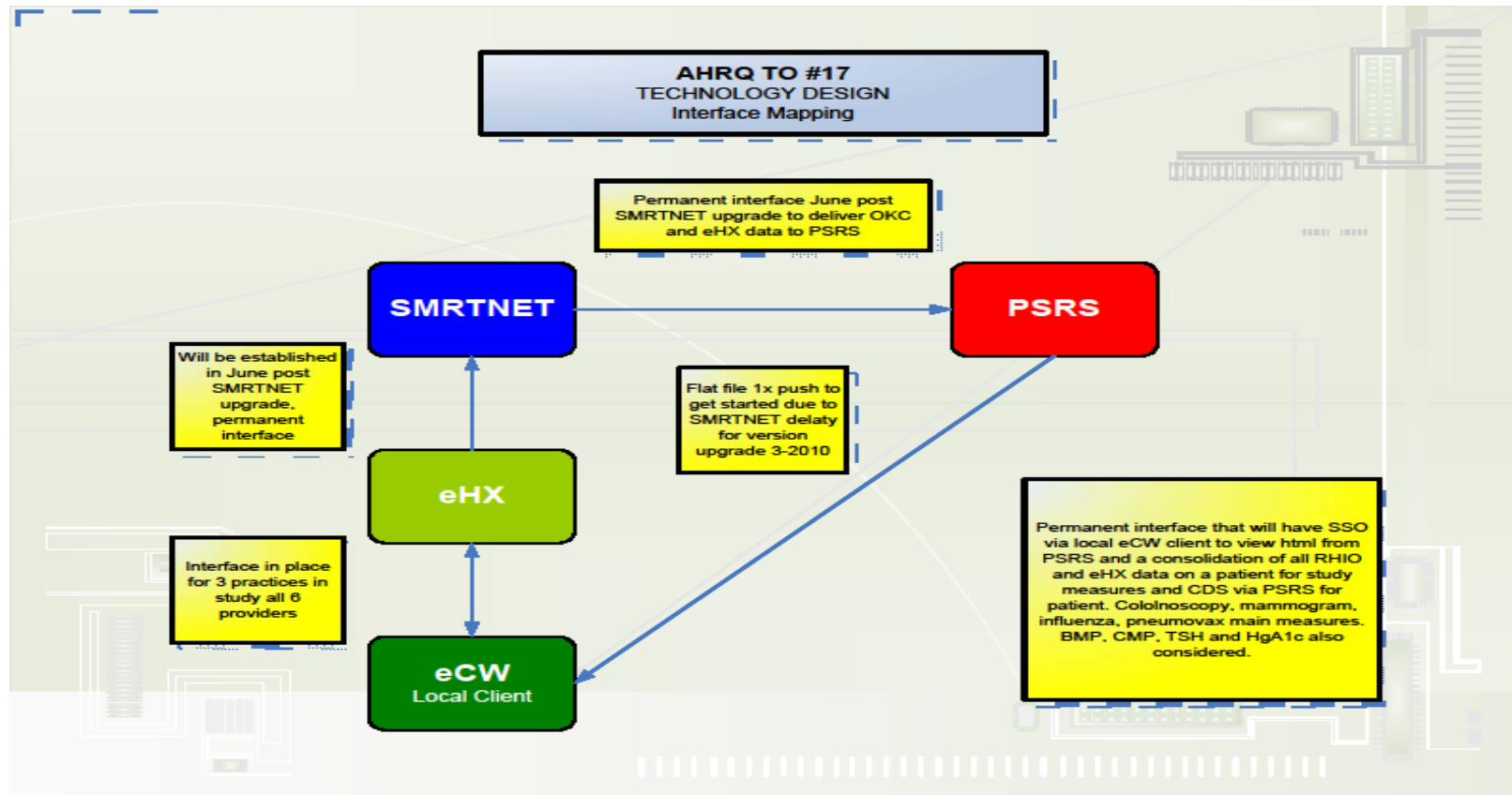


# CDS Live NPHO/SMRTNET HIE



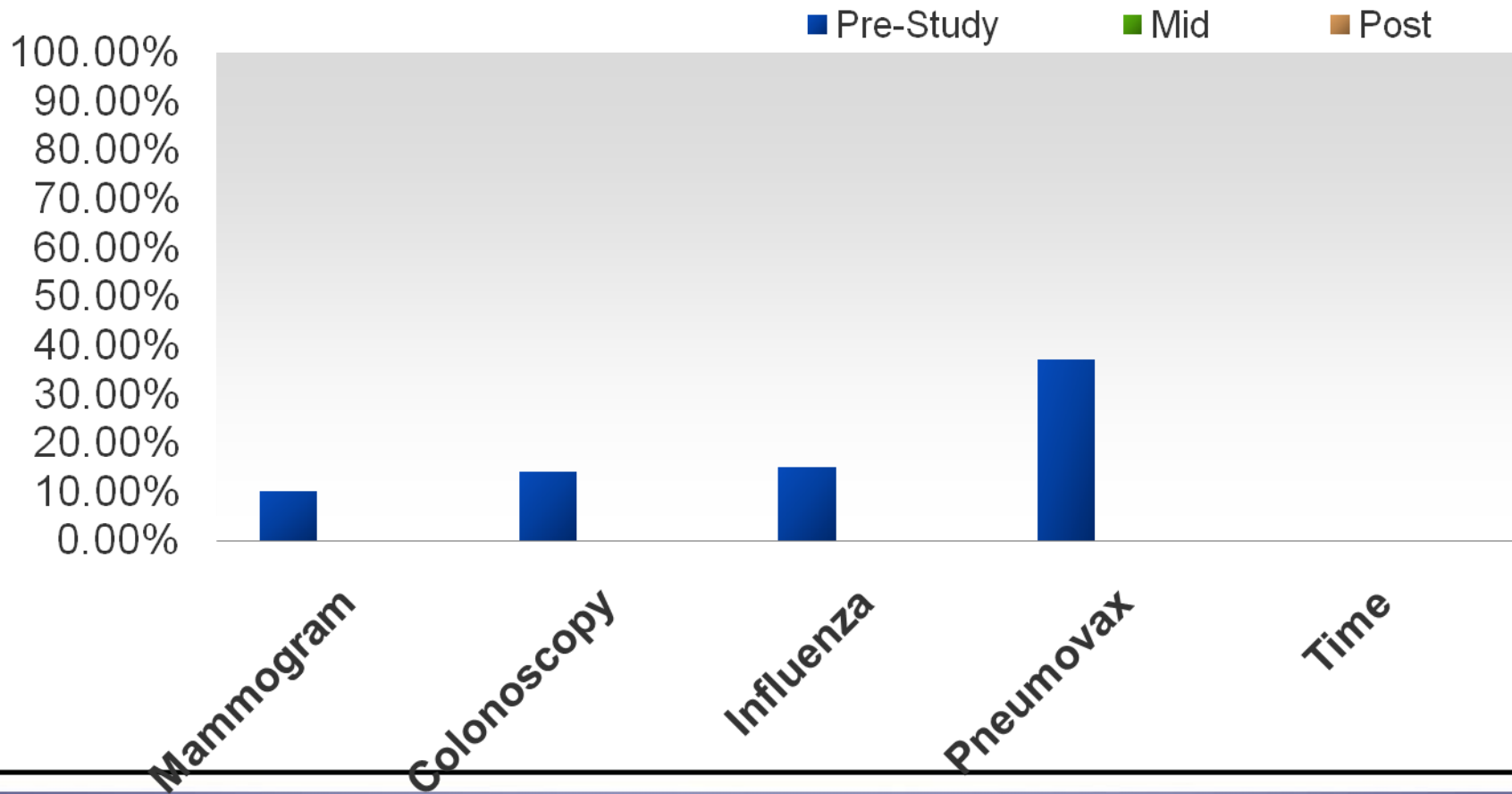
# Norman PHO Model

## AHRQ Project



# Norman AHRQ Project

## Pre-Measurement Results



# Norman PHO Model

## Barriers to HIE Data Collection

- EHR Variability
  - Many Locations To Enter the Same Data Points
  - Clicks
  - Different Elements of Prevention and CDS in Different Areas
  - Inconsistency Across Vendors
  - Standardization of the CCD
- Provider Variability
  - Workflow
  - Data Entry
  - Ease of Use
  - Embedded HIE and CDS
- Patient Contributions Through PHR





# Shakespeare





# HIE to ACO

## Ownership of the HIE

- Considerations and Stumbling Blocks
  - HIPAA
  - Governance
  - Legal
  - Patient Data
  - Patient Privacy
  - Reports Identified vs De-Identified



# HIE to ACO

## CMS ACO Priorities

- Negotiation of Reimbursements
- Flatten Out the Growth of CMS Expenditures While Expanding Enrolment
- Leveraging a Technology Infrastructure
- Construction of HIO's
- Bundled Payments
  - Improved Care Transitions
  - Improved Condition Management
  - Improved Quality Reporting



# HIE to ACO

## HIO and ACO Overlap

- HIO
  - Health Information Organization
    - Legal and Governance for HIE
    - Data Management/Control/Permissions
    - Contracts with HIE Vendor for Software
- ACO
  - Accountable Care Organization
    - HIO PLUS...
    - Quality, Performance, Transitions, Condition Management
- ACO Will Need to Subscribe or Create an HIO



# ACO Regulations

- Proposed CMS Rule For ACO
  - Implementation Timing January 2012 Start Date
  - CMS Expecting 150 Participants
  - 65 Measures of Quality
  - “One Side” Risk Model
  - “Two Sided” Risk Model
  - Benchmarks For Spending Over Three Years
  - Providers Assigned
  - Beneficiaries NOT Assigned
  - Emphasis on Primary Care Role



# PHR the Outlier for Sustainability

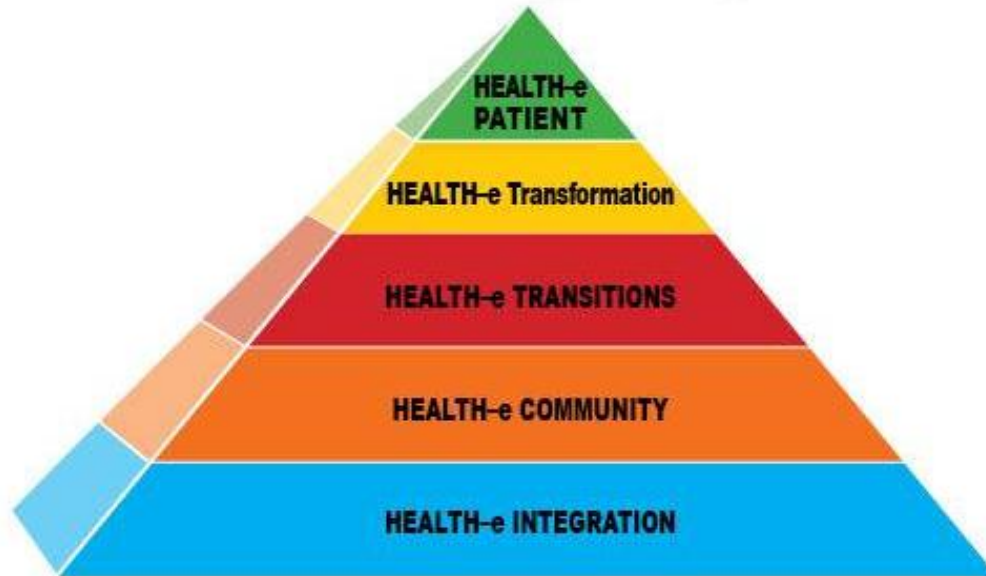
## PHR

- Patient Contributions
  - Health Improvement
  - Condition Management
  - Results Receipt and Communication Requests
- Clinical Decision Support For Patients
  - Education Resources
  - Group Education
  - Health Risk Appraisal Tools
- Patient Accountability
  - Where Is It? Employers? City Government? ACO?



# HIE Roadmap to ACO

## The **HEALTH-e** Pyramid Community Project



# HIE Roadmap to ACO

INITIATIVE	OBJECTIVES	GOALS
<b>HEALTH-e PATIENT</b> Enhanced Healthcare Delivery Model	Integrated Community Health Disease Management Prevention	<ul style="list-style-type: none"> <li>• Aggregate Reduction In Overall Healthcare Expenditures</li> <li>• Healthier Patients &amp; Community</li> </ul>
<b>HEALTH-e TRANSFORMATION</b> Sustainability And Continued Utilization Of The PHR	<ul style="list-style-type: none"> <li>• Points Store</li> <li>• Patient Accountability</li> <li>• Transparency In Transitions Of Care</li> <li>• Social Networking</li> <li>• Education Via The PHR</li> </ul>	<ul style="list-style-type: none"> <li>• Increase Patient Participation In Care</li> <li>• Greater Patient Adherence to Medications</li> <li>• Rewarded Healthier Behaviors</li> </ul>
<b>HEALTH-e TRANSITIONS</b> Integration Into Practice and Enhance Functionality Of HIT For Patients And Providers	Daily Health Not Episodic Care Patient Trainers Disease Management Condition & Immunization Reporting	<ul style="list-style-type: none"> <li>• Reduced Readmissions</li> <li>• Improved Transitions Of Care</li> <li>• Meaningful Use Criteria</li> </ul>
<b>HEALTH-e COMMUNITY</b> Patient Engagement	Health Age Education PHR & Home Vital Sign Monitoring Prevention	<ul style="list-style-type: none"> <li>• Improved Public Health</li> <li>• Reduced Unnecessary Admissions</li> <li>• Medication Reconciliation</li> </ul>
<b>HEALTH-e INTEGRATION</b> Beacon Community Eligibility	Electronic Health Records & Continuity of Care Documents Health Information Exchange	<ul style="list-style-type: none"> <li>• Fewer Duplicate Tests</li> <li>• Meaningful Use Criteria</li> </ul>

# Norman PHO Model

## Groundwork For Clinical Integration to ACO

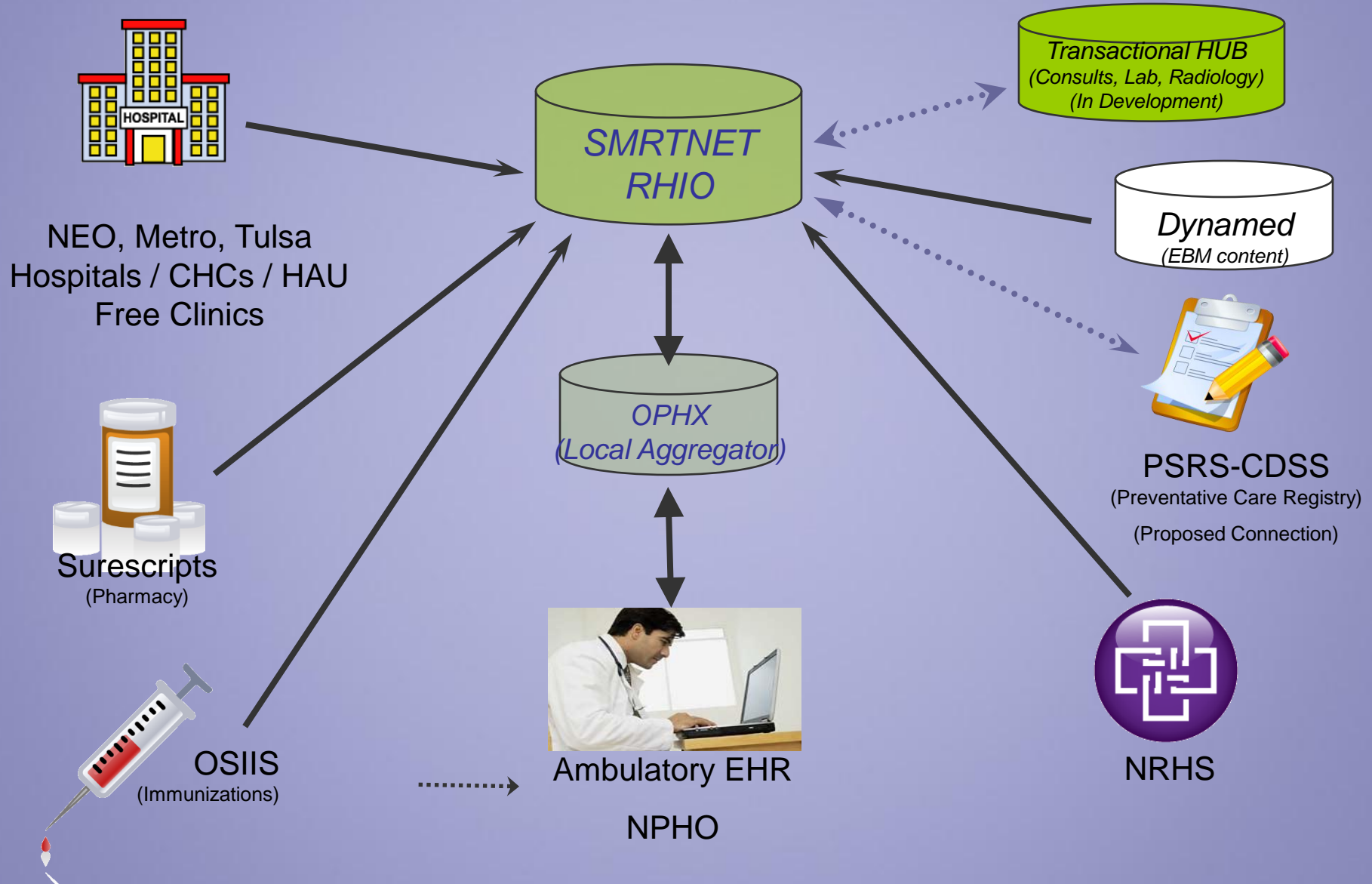
- OPHX
- SMRTNET HIO partnership
- Legal and governance
- Data usage





# HIE Norman to OKC to Statewide Adoption

(RHIO -> Local Networks/Hospitals -> Community Providers)



# Norman PHO Model

## Clinical Integration

- Clinically Integrated to Improve Quality, Performance and Cost Savings
  - HIPAA (SMRTNET)
  - Governance (SMRTNET)
  - Legal (SMRTNET)
  - Patient Data (Opt Out)
  - Reports Ident vs Deidentified (NPHO)



# Sustainability

- Sustainability through Shared Services
  - SMRTNET HIE Services to Hospitals and Doctors
    - Meaningful Use Qualification Phase 1
    - Shared cost amongst private providers and hospital organizations
  - Centralized Resources for 2,600 providers to do eMPI, HISP and Direct services with Credentialing
  - NPHO layered in a Quality Officer to sit at the HIE level for over 120 providers
- Added Value Services
  - CDS, Data Cubes, EBM Content, e-RX, ACO Enablement

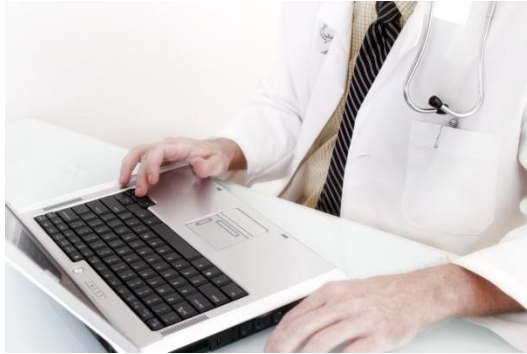


# Sustainability

- Greater Oklahoma City SMRTNET and NPHO
  - Live for three years Pre-ARRA
  - All private funding
  - Medical Director Locally
  - Local Network Coordinator
- Hospital Pricing 20-30 K total cost Per Facility
- Physician Pricing for SMRTNET 70/month
- NPHO Service with local HIE, CDS, QI Officer Plus SMRTNET
  - 125/month



# Sustainability



- ROI for Members
  - Reduced Faxing and Medical Records Time and Duplication
  - Improved Workflow for Nursing and Physicians
  - Potential for Reduced Adverse Events
  - Meaningful Use Enablement
  - Active AHRQ Study at the NPHO to Measure These Factors



# State HIE Related Entities

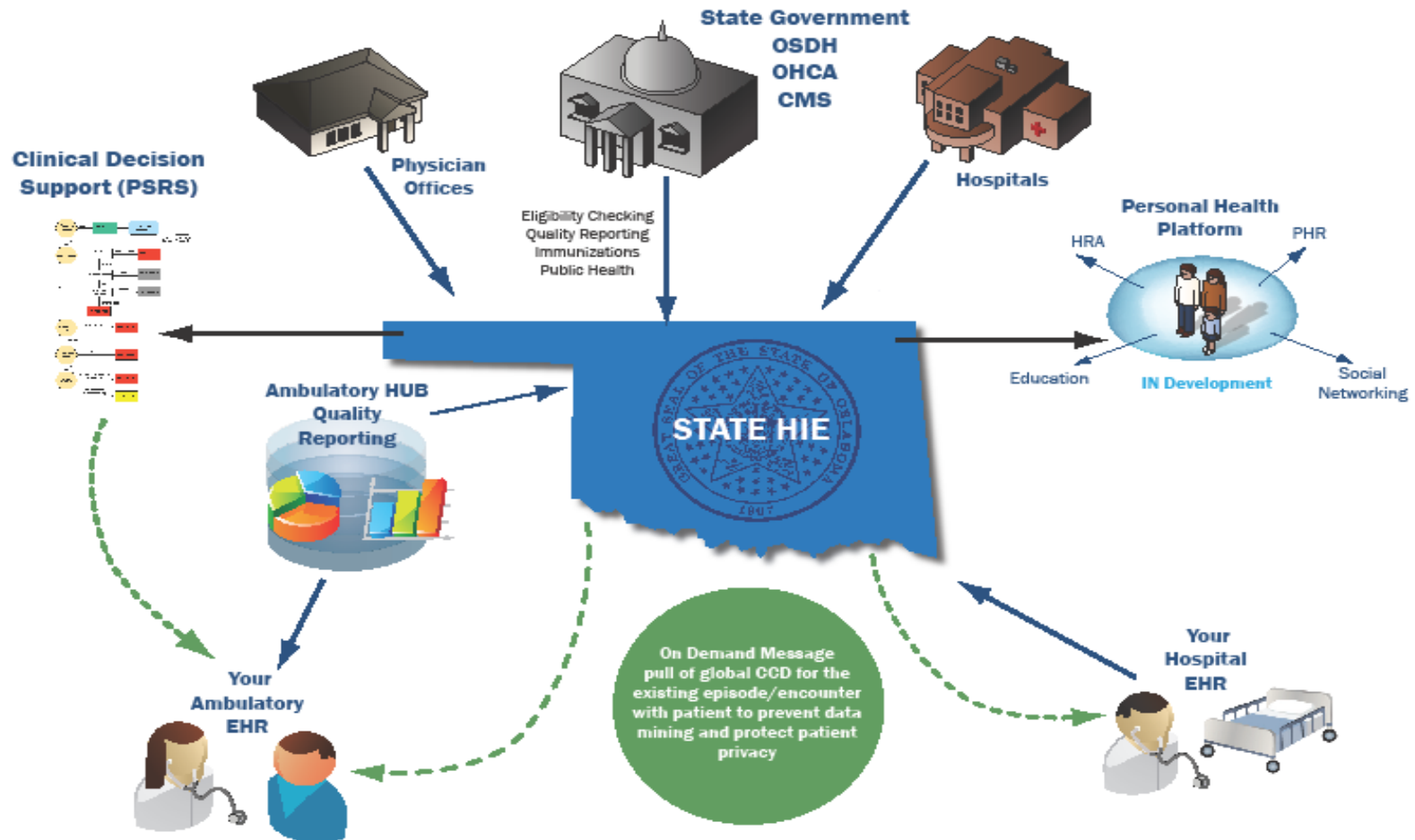
## OK the State to Watch For Rural/Suburban/Urban Mix

- OHIET
- SMRTNET
- Beacon Grant
- Health Insurance Exchange (Declined by Governor Fallin)
- Challenge Grant
- Regional Extension Center
- **Oklahoma ARRA Funding Around HIE**
  - **83 Million Dollars**
  - **Most Per capita of Any State**



# Oklahoma Health Information Exchange Trust

## FUNCTIONING OKLAHOMA HOSPITAL & AMBULATORY HIE MODEL





# **Panel Discussion**



# Thank You to Our Speakers

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- David McCallie, Jr., MD, VP Medical Informatics, Cerner
- Roger Roswell, Senior Associate Dean, University of Oklahoma College of Medicine
- Mark Jones, Principal Investigator, SMRTNET
- Brian Yeaman, MD, Chief Medical Officer, Norman Regional Health System

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[Genevieve.morris@ehealthinitiative.org](mailto:Genevieve.morris@ehealthinitiative.org)
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  - [ehlinfo@ehealthinitiative.org](mailto:ehlinfo@ehealthinitiative.org)

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