

Prince George's County Health Department

Maryland's Health Information Exchange

Chesapeake Regional Information System for our Patients:



CRISP



Ernest L. Carter, MD, PhD, Deputy Health Officer
April, 3, 2018



Rushern L. Baker, III
County Executive





CRISP is a regional health information exchange (HIE) serving Maryland and the District of Columbia and supporting West Virginia

- It is a non-profit organization advised by a wide range of stakeholders who are responsible for healthcare throughout the region.
- CRISP has been formally designated as Maryland's statewide health information exchange by the Maryland Health Care Commission (MHCC).





A Health information exchange (HIE) is an electronic system that allows clinical and other personal health information to move electronically between different health information systems such as between two electronic medical records.

The goal of an HIE is to deliver the right health information to the right place at the right time - providing safer, timelier, efficient, effective, equitable, patient centered care.



Vision – Mission – Guiding Principles



CRISP

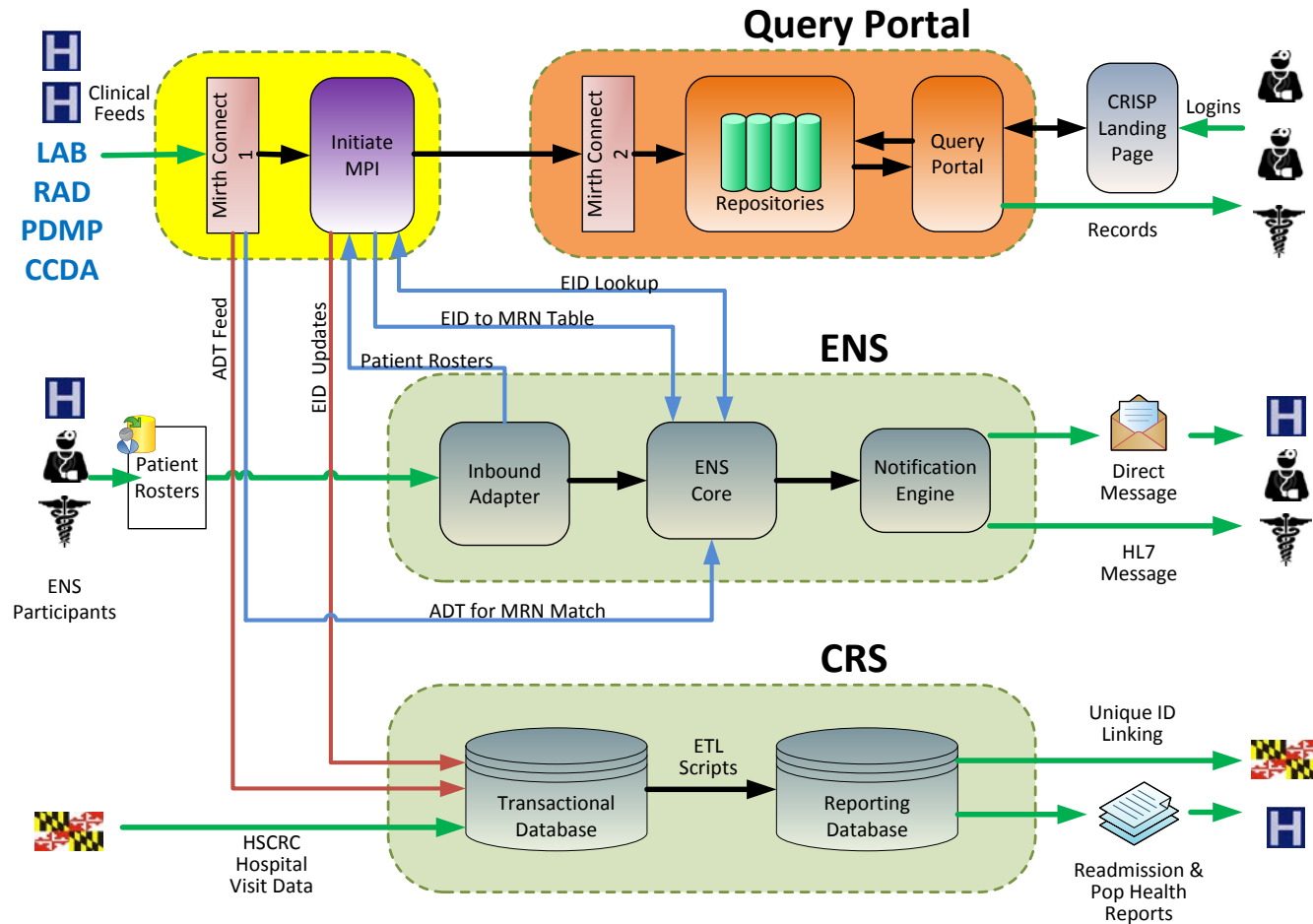
Our Guiding Principles

- **Our Vision**
 - *To advance health and wellness by deploying health information technology solutions adopted through cooperation and collaboration.*
 - **Our Mission**
 - *We will enable and support the healthcare community of Maryland and our region to appropriately and securely share data in order to facilitate care, reduce costs, and improve health outcomes.*
1. *Begin with a manageable scope and remain incremental.*
 2. *Create opportunities to cooperate even while participating healthcare organizations still compete in other ways.*
 3. *Affirm that competition and market-mechanisms spur innovation and improvement.*
 4. *Promote and enable consumers' control over their own health information.*
 5. *Use best practices and standards.*
 6. *Serve our region's entire healthcare community.*

History of CRISP

- **2006:** CRISP begins at a Spring meeting between John Erickson and the CIOs of Maryland's three largest hospital systems, asking how to make medical records for seniors available when they visit the hospital. Erickson Retirement Communities assigns part-time staff.
- **2007:** University of Maryland Shore Medical Center at Easton pilots a medication history service in the ED with CRISP
- **2008:** CRISP partners with MHCC to plan an HIE for Maryland, in a process which engages dozens of healthcare stakeholders. MHCC provides a \$250k grant, and the Erickson Foundation contributes another \$250k to expand the work.
- **2009:** CRISP finishes incorporation as a non-profit membership corporation, is named Maryland's designated statewide HIE (July), is awarded a \$10M HSCRC grant (August), and hires staff (September)
- **2010:** CRISP connects the first provider organizations (September) and wins a \$6M REC grant
- **2011:** Clinicians begin using the Query Portal (February) and every Maryland hospital is connected (December)
- **2012:** CRISP turns on the ENS service (August) and the Board is expanded (December)
- **2013:** CRISP begins sending CRS reports (January), goes live with the MHBE Provider Directory (September), connects the first District of Columbia hospital (November), and turns on PDMP services with Maryland DHMH (December)
- **2014:** Health plans begin accessing records through a new portal (March), and CRISP begins routing CCDAs at hospital discharge (June)
- **2015:** CRS monthly hospital reports grow from 2 to 17, Tableau reporting tool is turned on (March), HSCRC funds the ICN project to support care management (August), and image exchange goes live (December)
- **2016:** In-context Alerts go live (May), first Medicare data reports are released (September), West Virginia's WVHIN partners with CRISP (October), and CRISP DC subsidiary is formed (December)
- **2017:** CRISP begins administration of CCIP/HCIP care redesign programs (July), Epic in-context app completed (December)

CRISP Infrastructure



CRISP Core Services

1. POINT OF CARE: Clinical Query Portal & In-context Information

- Search for your patients' prior hospital records (e.g., labs, radiology reports, etc.)
- Monitor the prescribing and dispensing of PDMP drugs
- Determine other members of your patient's care team
- Be alerted to important conditions or treatment information

2. CARE COORDINATION: Encounter Notification Service (ENS)

- Be notified when your patient is hospitalized in any regional hospital
- Receive special notification about ED visits that are potential readmissions
- Know when your MCO member is in the ED

3. POPULATION HEALTH: CRISP Reporting Services (CRS)

- Use Case Mix data and Medicare claims data to:
 - Identify patients who could benefit from services
 - Measure performance of initiatives for QI and program reporting
 - Coordinate with peers on behalf of patients who see multiple providers

4. PUBLIC HEALTH SUPPORT:

- Partnership with Maryland MDH
- Projects with the District of Columbia DHCF
- Support for West Virginia through the WWHIN

5. Integrated Care Network (ICN) Infrastructure Project

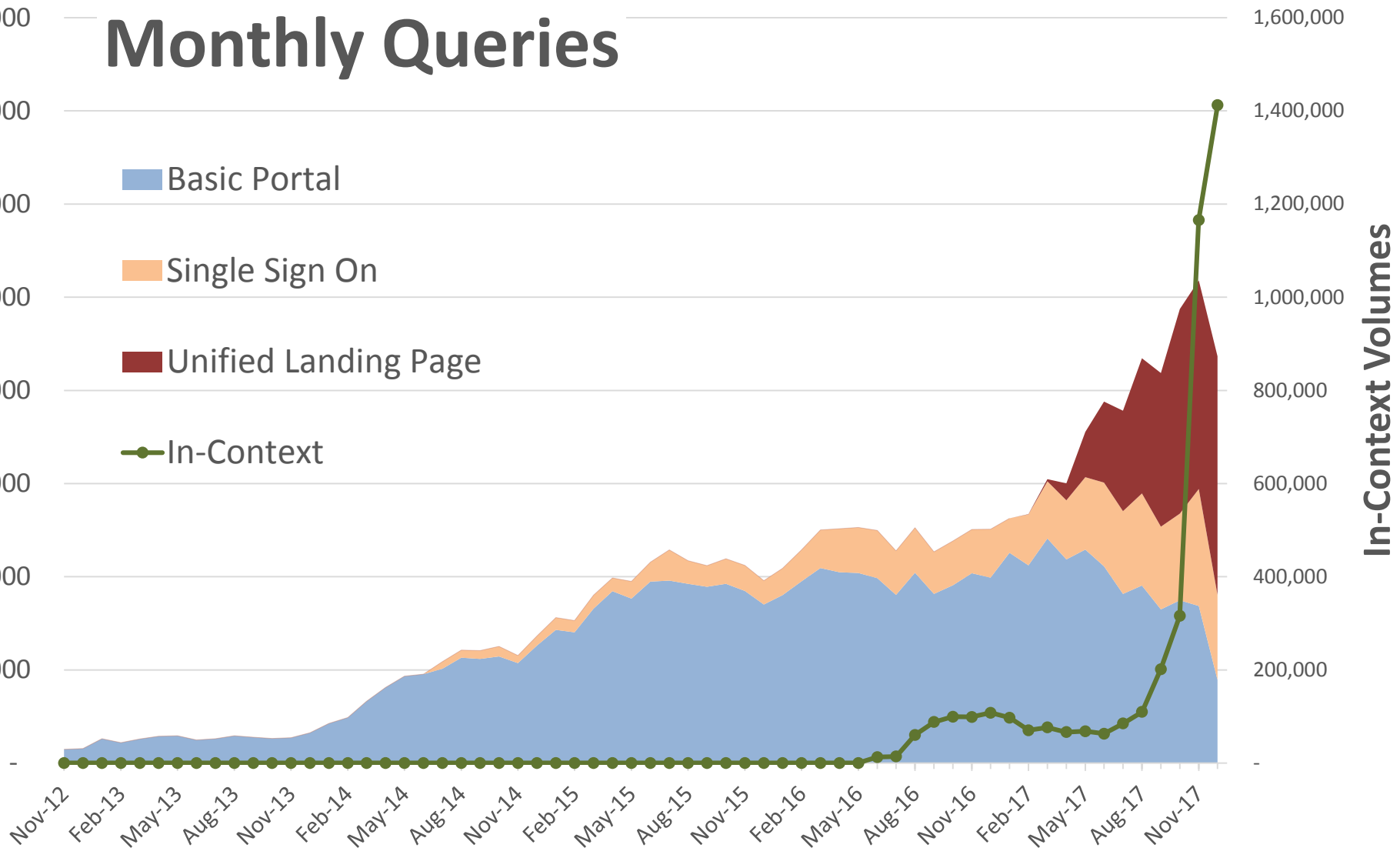
1 - Clinical Query Portal & Single Sign-on

The screenshot displays the 'Inpatient Summary' interface. On the left, a sidebar lists various medical categories: Diagnoses (10), Problems (16), Allergies/Intolerances (1), Medications & Fluids Administered, Home Medications (12), Immunizations (0), D/C Follow-up (1), and Patient Status Orders. The main content area is divided into several panels: 'Vital Signs' (Last 36 hours), 'Measurements and Weights (4)' (Weight, Height/Length, BSA, Body Mass Index), 'MedStar HIE' (Note: No new data has been received for this patient in the last 30 days), 'CRISP HIE' (Click here to access CRISP, Click here to view CRISP data sources), 'Flagged Events (0)', 'Intake and Output', 'MedStar HIE', 'CRISP HIE', 'Outstanding Tests, Exams (0)', and 'Patient Actions' (Back to List, Download Summary PDF, Show All Data). A red arrow points from the 'Click here to access CRISP' link in the CRISP HIE panel to the text on the right.

By securely sending a local user's credentials and the current patient medical record number (or other demographics), CRISP can send the user directly to the patient summary screen.

Single Sign-On (SSO) is an approach to enable faster and more efficient access to the query portal through the EHR.

Monthly Queries



2 - Encounter Notification Services



Outside Messages 0 unread, 1 total

From: ENS, User
Addressed To: Stephen Sisson, MD
Routed To: Jhoc Internal Medicine Clinical Support Staff
Context: CRISP Event Notification

Discharge Summary - CareEverywhere, Jackie (50 y.o. Female) As of Jul. 17, 2015

Patient Demographics			
Patient Address	Communication	Language	Race / Ethnicity
111 Main St Baltimore, MD 21222	Unknown	Unknown	Unknown / Unknown

Hospital Discharge Diagnosis	
Diagnosis Code	Diagnosis Description
X0220	personnel hx of venous thrombosis and

Chief Complaint and Reason for Visit	
AdmReasonCode	Dizziness

ENS PROMPT

Proactive Management of Patient Transitions

Notifications from: LAST 30 DAYS

Search

Shari Stanton (87775)

901-030-5837

DOB: 10/24/60
Address: 114 First Street
City/State: San Diego, MD
Race: Asian
Ethnicity: Unknown

MRN: A10010000
NPI: 0414765
AOC:

MOST RECENT EVENT

Event Date: 7/15/15 4:34 PM
Event Type: IP Admit
Event Location: Aris Burke County Campus
Hospital Service: LT LEO PAIN/FOOTBALL
Patient Discharge: LT LEO PAIN/FOOTBALL
Discharge to Location: HEAD INJ
Patient Complaint: HEAD INJ
Admit Source: Transfer from a hospital

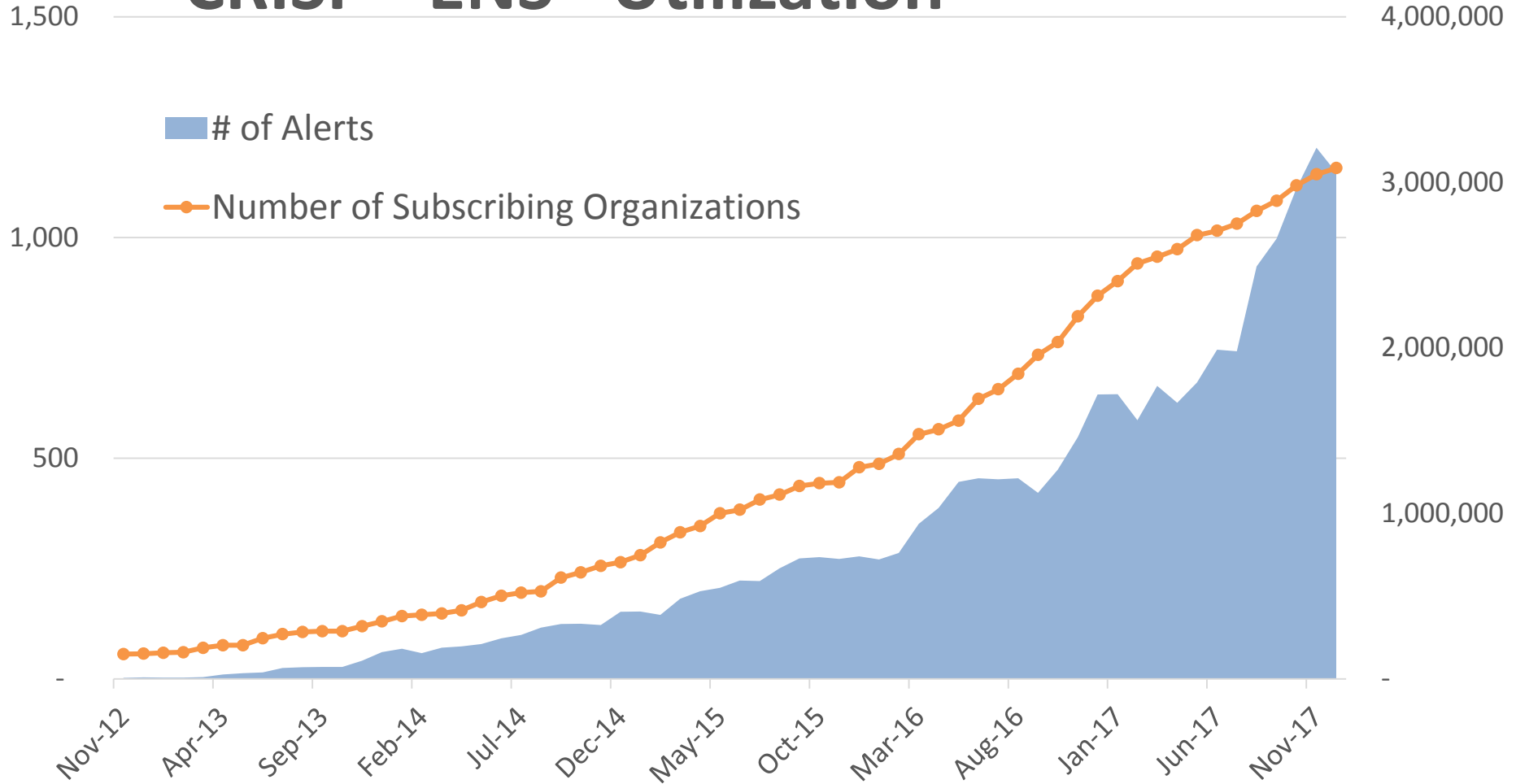
EVENT HISTORY

7/15/15 11:29 PM
Diagnosis: LOW B/P
Complaint: HEAD INJ
Aris Transford Campus
Admit

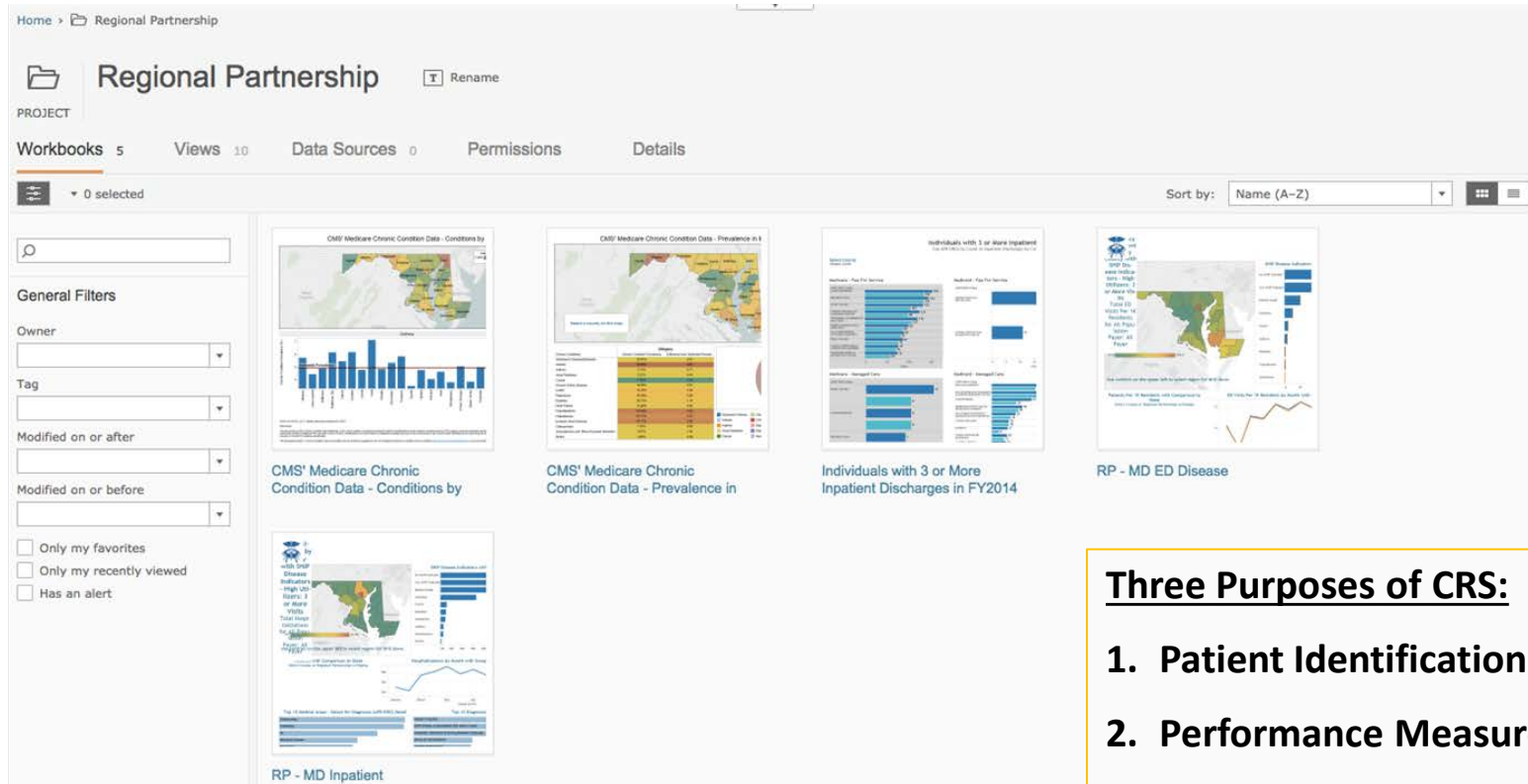
7/15/15 3:30 PM
Diagnosis: 1008 WPAH ON 80711 DECS
Complaint: HEAD INJ
Aris Transford Campus
Registration

- Subscribers submit a patient panel to CRISP and identify which types of alerts they would like to receive
- Phase 1 notifications included only demographic information and the event types; Phase 2 included chief complaint and discharge diagnosis; Phase 3 includes a CCDA summary of care
- Hospitals can auto-subscribe to 30 day real-time readmission alerts
- CRISP has ADT exchange partnerships with DHIN in Delaware and ConnectVirginia. Anytime a Maryland or DC resident arrives at a Delaware or Northern Virginia hospital CRISP receives the ADT and can route it to a subscriber.

CRISP - ENS[®] Utilization



3 - CRISP Reporting Services (CRS)



Three Purposes of CRS:

1. Patient Identification
2. Performance Measurement
3. Coordination of Services

4 - Collaboration with MDH

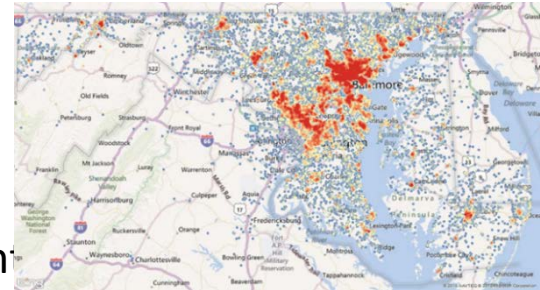
Prescription Drug Monitoring Program (PDMP)

- PDMP data available to providers and dispensers along side clinical data
- Close partnership with Behavioral Health Administration to support the continued development of the program and services
- Maryland Mandatory Registration and Use
- PDMP data available via In-Context Alerts
- Interstate Sharing with West Virginia, Virginia, Connecticut and Arkansas



Population Health Reports

- Geographic mapping for public health officials of hospital encounters and when married to HSCRC claims data, specific conditions
- Population health management reports and dashboards at county and zip-code levels available to Local Health Departments



4 - Collaboration with MDH

Support of State Medical Examiner and Fatality Review Teams

- CRISP serves as a source of clinical information in death investigations
 - Overdose Fatality Review
 - Maternal Mortality Review
 - Fetal & Infant Mortality Review
 - Child Fatality Review
- Provides administrative efficiencies and data in time-sensitive situations

Meaningful Use

- CRISP facilitates public health reporting and attestation for hospitals and providers
 - Routing Eligible Hospital data to DHMH
 - Providing MU Phone and Email Support to Eligible Professionals
 - Working on facilitating case reporting and PDMP as public health reporting options for EP's
- Developed a Registration Tool for tracking MU progress
- Developed a validation tool that incorporates HL7 and Maryland message requirements



4 - Collaboration with MDH

Disease Investigation

- Public Health Investigators utilize CRISP for Reportable Disease Investigation
 - Demonstrably more efficient and richer data source for hospital-reported conditions than previous methodology
- HIV Care Reengagement
 - Alert DHMH when HIV positive individuals encounter health system
 - Reconnect individuals to treatment and individuals who never learned status

Oz System

- Newborn alerting, to facilitate mandatory hearing screening

CALiPHR

- Clinical Quality Measure calculation tool for Medicaid Eligible Professionals and Hospitals, using EMR data to automate selected CQMs

ImmuNet Registry

- DHMH ImmuNet registry data available in CRISP Clinical Query Portal

4 - Collaboration with MDH

Coming Soon:

EMS Engagement

- Exploring use cases for access at the point of care and for Mobile Paramedicine (Prince George's County's EMS Mobile Integrated Healthcare Program)



Connectivity with Homeless Management Information Systems (HMIS)

- Working to receive patient/program attribution data for care coordination from Baltimore City Health Dept.

PDMP Functionality

- Expanded PDMP Interstate Sharing
- Notifications of prescription fills written by other prescribers
- Analytics and data visualization
- Exploring overdose surveillance options



Behavioral Health Connectivity

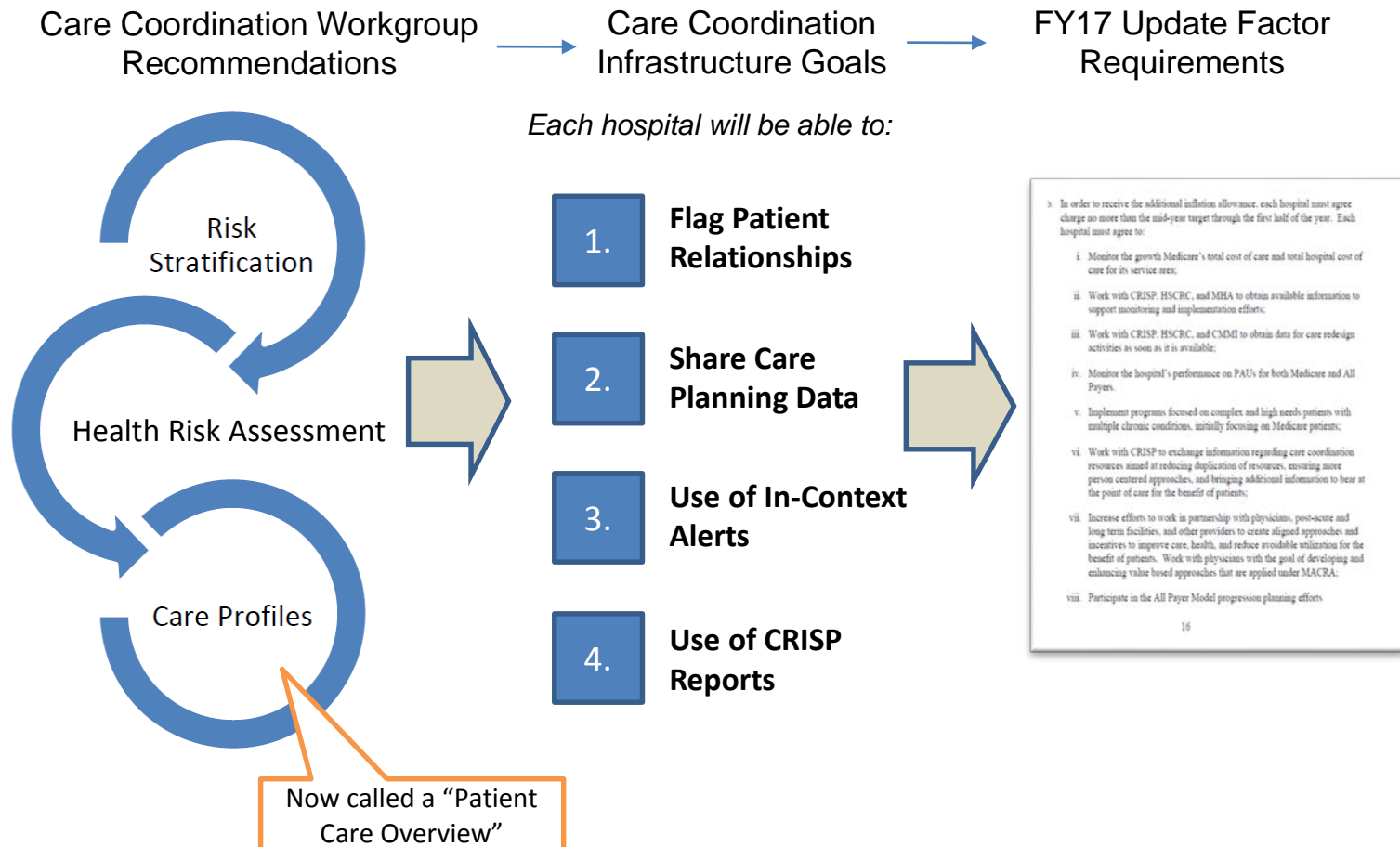
5 - Integrated Care Network (ICN) Infrastructure Project

- Why:** The Maryland all-payer waiver and global budgets will motivate new population-health efforts and care management initiatives...
- And:** Stakeholders will need new infrastructures and access to data to support these activities...
- It follows that:** Elements of these infrastructure could be shared, i.e. pursued cooperatively, both to avoid duplication of costs and to give care managers more complete data...
- And if so:** CRISP was chartered and is governed to be the place where health IT solutions are deployed through cooperation and collaboration.

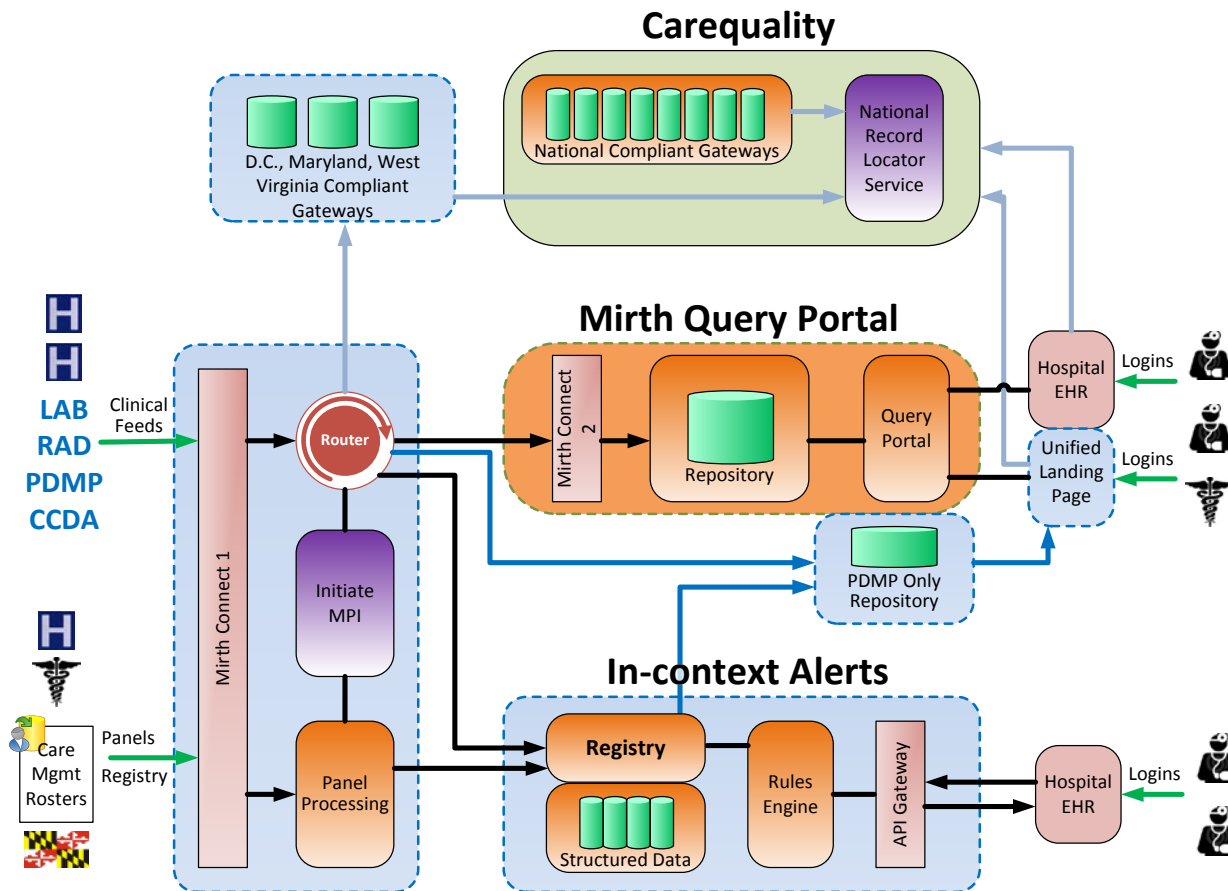
The Venues for ICN

- The goals of ICN are organized around the “venue” where information is provided and used. Broadly speaking, information and coordination is needed:
 - At the Point of Care
 - By Care Managers & Coordinators
 - By Population Health Teams
 - For Patients
- As specific Care Redesign Programs are being developed, a fifth venue is being added. Information is needed:
 - By Program Administrators, Provider Executives, and Policy Makers

Work plan with Maryland Hospitals



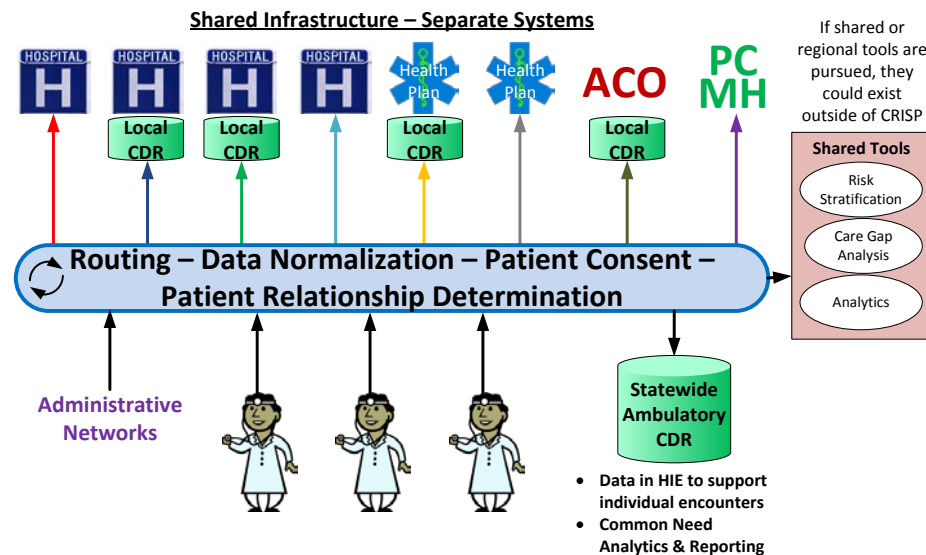
New Point of Care Infrastructure



Data Router and Non-Hospital Connectivity

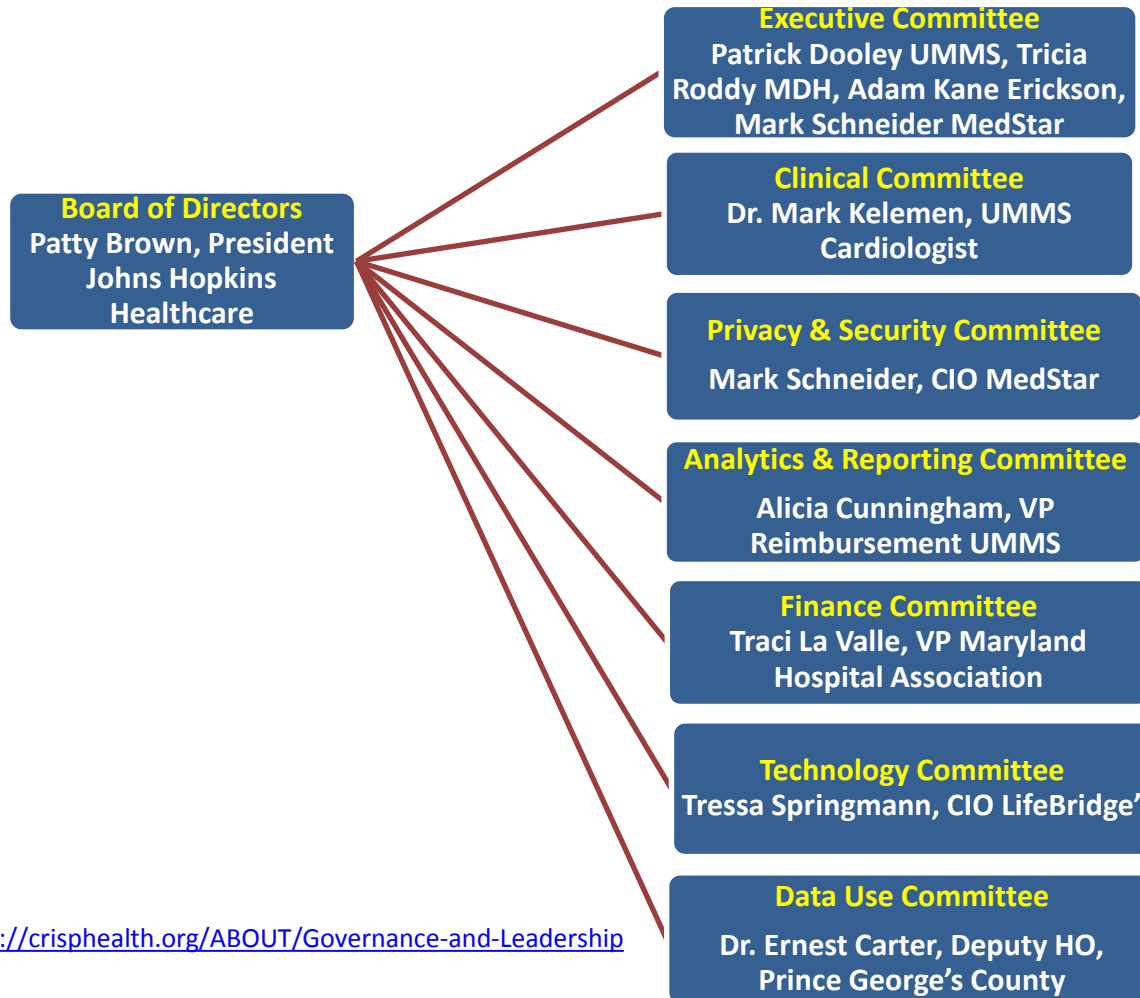
- **Key Functions include:**

- Consent management
- Data normalization
- Data routing
- Patient-provider relationships determination and management



Data Router - A service designed to move encounter data and clinical records from ambulatory practices to the care management systems which can ingest them and use them for care coordination

Governance



CRISP services are those best pursued through cooperation and collaboration. To make that possible 65 people participate in CRISP leadership through our governance committees.

<http://crisphealth.org/ABOUT/Governance-and-Leadership>

User Story Activities in FY2018

• **Prioritize**

1. Operationalize successes – e.g. Care Alerts, info at the point-of-care, PaTH
2. Expand ambulatory connectivity for encounter data and operationalize panel management at scale
3. Publish CCLF Medicare reports
4. Refactor/improve working technology, such as with an API gateway, improved matching
5. Support learning collaboratives and ways to improve use of tools
6. Offer core services to 42 CFR part 2 behavioral health providers

Go Slow – Low Spend

1. Ambulatory connectivity for CCDAs
2. Allowing patients more granular consent choices
3. Sending alerts to patient families/proxies
4. Capture encounter data from community resources, such as Meals of Wheels
5. Deploying new basic care management software
6. Expanding capacity for electronic clinical quality measures

No Spending

1. Standardizing interoperable care plan elements
2. Standardizing health risk assessments
3. Publishing weekly leading indicator reports from ADTs

Patient Privacy

- Privacy policies are foundational to Health Information Exchange
- CRISP operates under a combination of:
 - Federal law – HIPAA, 42CFR Part 2
 - State law and regulation – CMRA, COMAR, MHCC HIE Regulations
 - Stakeholder agreement – Participation Agreement
 - Data use agreements – HSCRC, MHBE, DHMH
- All participating organizations are required to
 - Update their HIPAA Notice of Privacy Practices to include a paragraph on their participation with CRISP
 - Make CRISP brochures and opt-out forms available at intake areas
 - Send patient panels for those services which are opt-in, and panels or ADT feeds to support CRISP auditing
- Patients who do not want their information available must opt-out, by contacting CRISP by phone, online, or by mail
- Information for care management, not at the point-of-care, is generally provided only after patients opt-in
- Patients have the right to contact CRISP and ask for a list of users who have accessed their information.
- CRISP is actively deploying more granular consent options for patients



With new use cases,
privacy policy and
management is
becoming much more
complex!

IT Security



Certification achieved November 2017

- SOC-2 Type II

Mirth data center

Expedient data center



Accredited

Testing with VA and SSA



Certified through SES

Exchanging ENS alerts across HISPs



HIEAP certified

MIRTH is also certified

- PDMP

Interstate sharing hub compliant (PMPi hub)

CRISP has made significant investments to secure the HIE infrastructure. Most notable are the implementation of a new SIEM tool (Splunk); full deployment of user behavioral analysis software (Protenus); contracting with a CISO consultant; and the addition of a dedicated Network Analyst to the CRISP Privacy & Security team.

Contact

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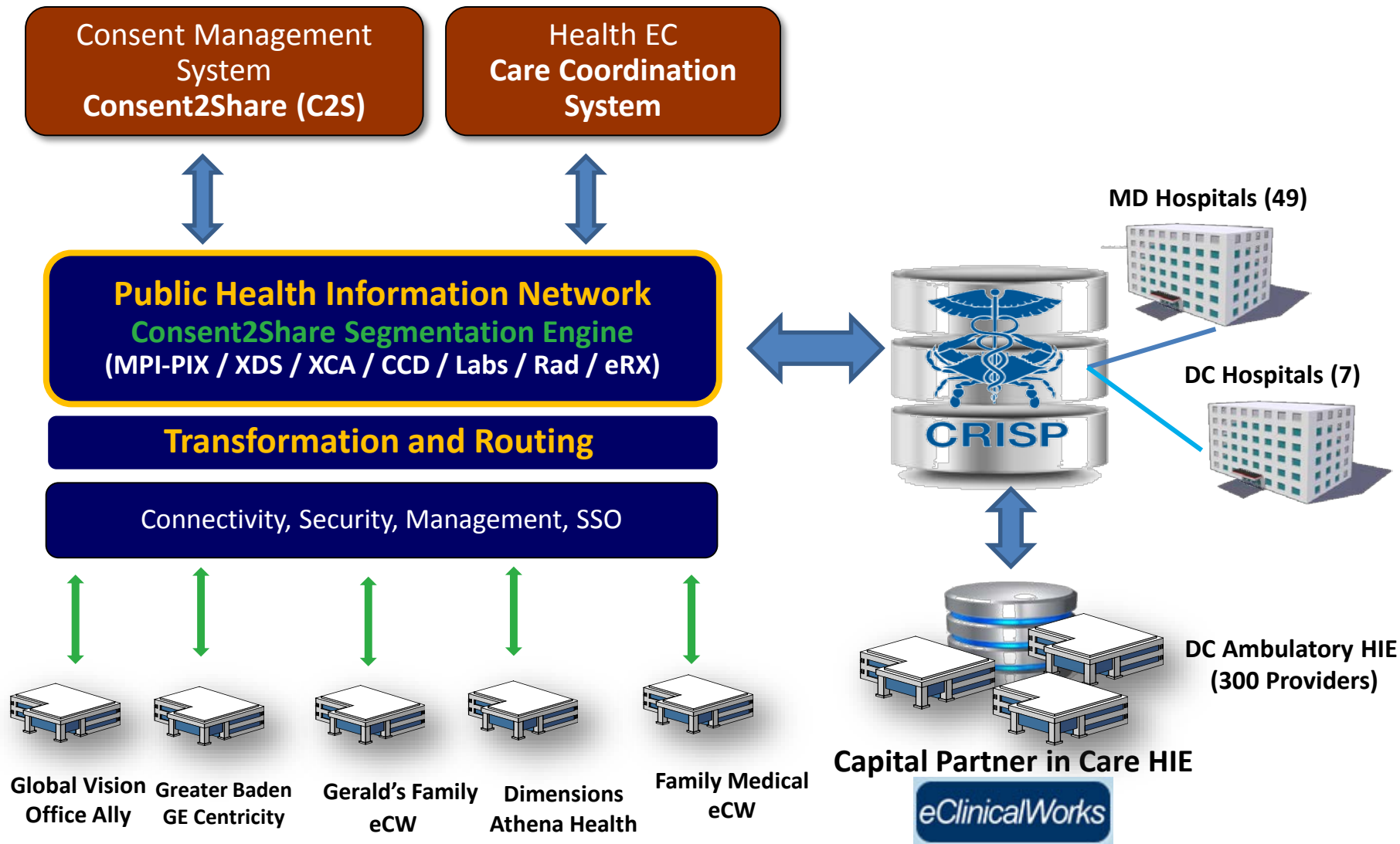
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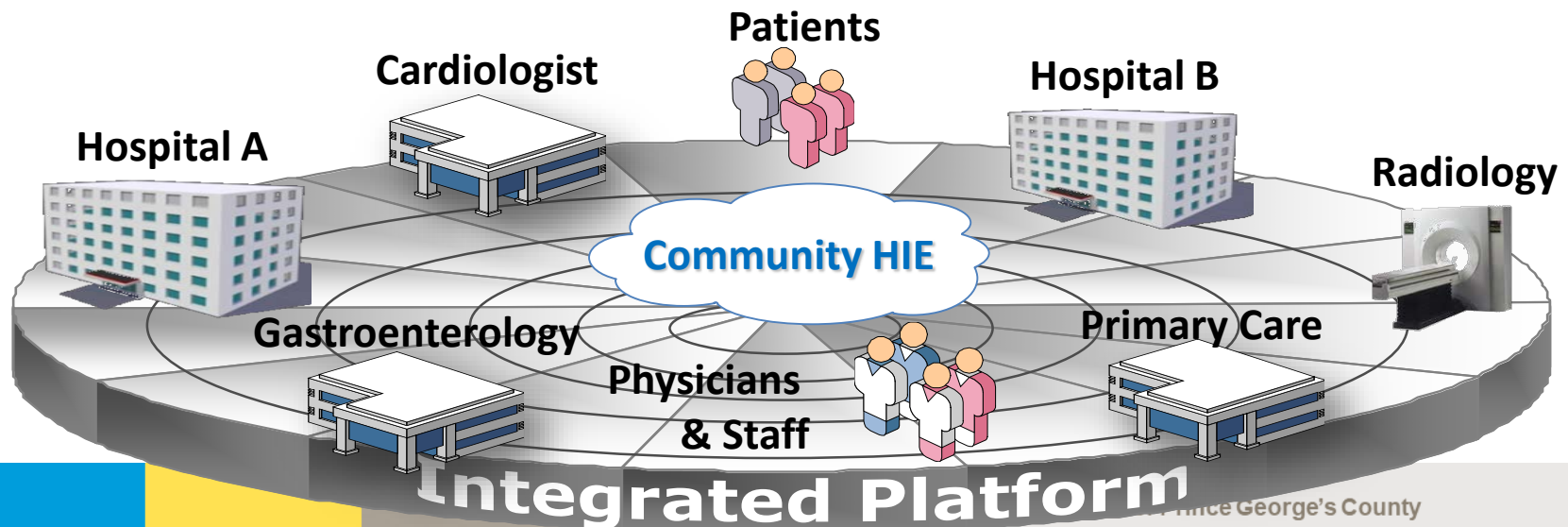
PGCHD: Public Health Information Network Health Information Exchange



PGCHD Value for Healthcare Organizations

Public Health Information Network provides communities positive control!

- Establish a community focused coordinated care model
- Reduce antiquated methods of communication phones calls and faxing
- Records will become portable with change to physician's workflow
- HIE is transparent giving access to the right data at the right time
- Vendor agnostic with the ability to normalize data and grant authorized access
- Exchange data with local community and beyond and achieve true interoperability



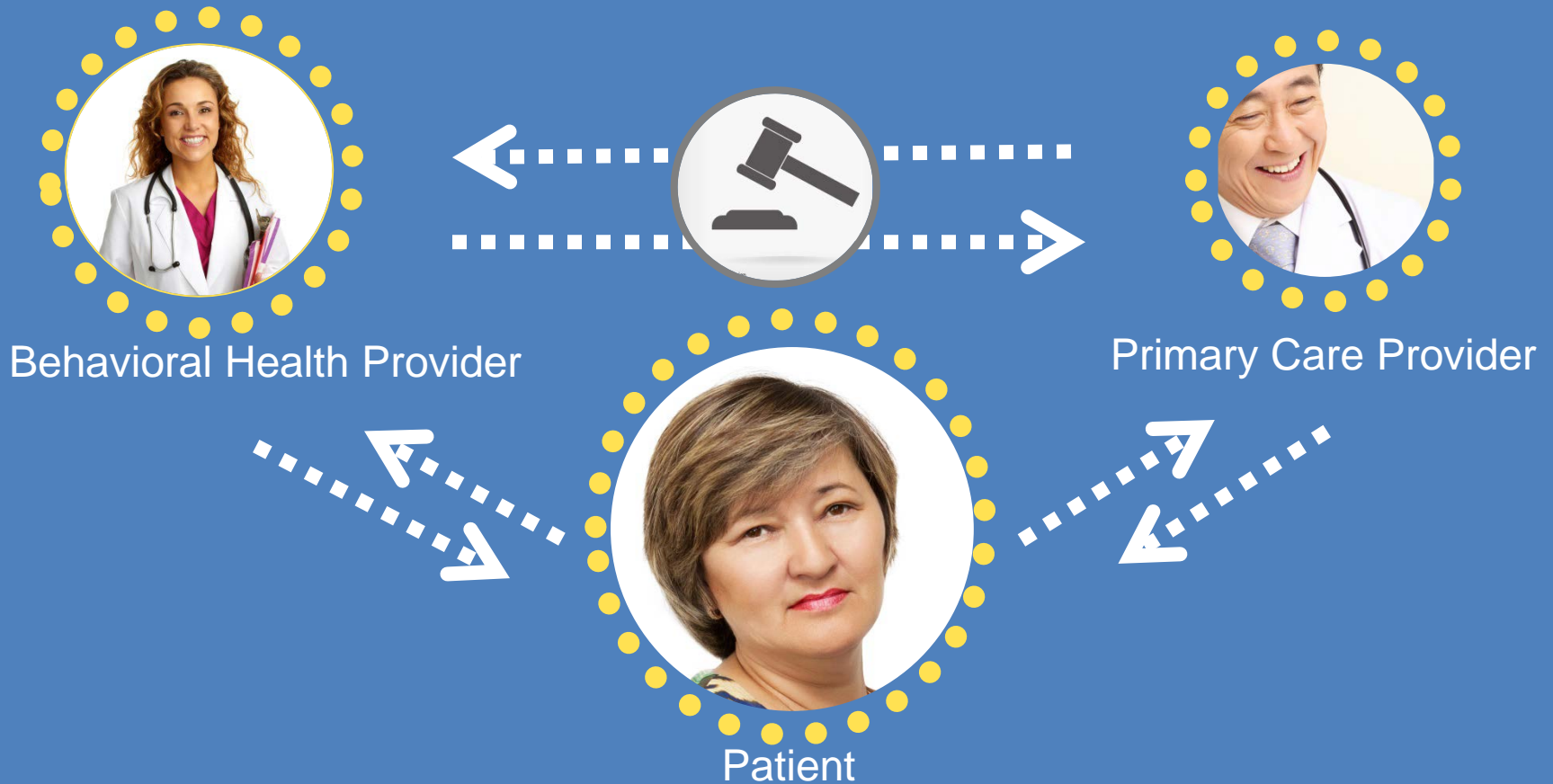
Consent2Share Pilot: PGCHD

Pilot: Prince George's County Health Department

- Pilot C2S in real-world environment
- Enable sharing data protected by 42 CFR Part 2
- Demonstrate how clients can establish preferences
- Utilize client portal and Health Information exchange



Consent2Share Communication Between Providers and Patients



Connecting the Docs



consent2share

C/S

CONNECT the Docs

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Our mind and the parts of our body are all connected. They work together to share the responsibilities that keep us alive and productive. Our doctors should do the same thing for our health and connect with each other to ensure that all parts of our health are working together.

We have a revolutionary secure way to share your protected health information with your providers. And you're in control! You choose what to share and who to share it with. [Ask your doctor about Consent2Share now!](#)

HEALTH DEPARTMENT
PRINCE GEORGE'S COUNTY

- The patient relieves the tension between providers by breaking down communication barriers
- Consent to Share harnesses Patient Empowerment by increasing
 - Patient Trust,
 - Health Literacy,
 - Investment in their own health.

Client Controls Information Exchange

