Health System/Hospital Learning Collaborative
March 30, 2021
1. Introductions / Purpose / Scope of Attendees (Facilitator)  
2. Foundation: CRISP Solutions  
3. What / Why?: CRISP Priorities  
4. What / Why?: Health System/Hospital HIE priorities  
5. Next Steps: Based upon feedback from #4, specific solutions to work on.
CRISP Solutions
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:**
   - Deploy services in partnership with Maryland Department of Health
   - Enable practices with Vaccine Tracking services
   - Support COVID test scheduling, POC test result reporting to MDH

5. **PROGRAM ADMINISTRATION:**
   - Making policy discussions more transparent and data-driven
   - Supporting Care Redesign Programs
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<tr>
<th>Improving</th>
<th>Tools</th>
<th>Users</th>
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<td><strong>1. Point of Care</strong></td>
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<td><strong>Hospital Providers (ED, IP)</strong></td>
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<td>(Delivered via <em>In Context App and Unified Landing Page</em>)</td>
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<td><strong>Ambulatory Providers</strong></td>
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<td>• Patient Snapshot</td>
<td><strong>Post Acute Providers</strong></td>
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<td>• CRISP Health Records</td>
<td><strong>SNF, Home Health, Hospice</strong></td>
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<td>• Emergent Imaging</td>
<td><strong>Provider support staff</strong></td>
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<td>• Image Worklist</td>
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<td>• Care Alerts</td>
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<td>• Provider support staff</td>
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<td><strong>2. Care Coordination</strong></td>
<td>• Encounter Notification</td>
<td><strong>Case Managers</strong></td>
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<td>Service (ENS)</td>
<td><strong>Care Managers</strong></td>
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<td>• ENS PROMPT</td>
<td><strong>Transitions of Care facilitators</strong></td>
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<td>• SMART Alerts</td>
<td><strong>Medical Assistants</strong></td>
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<td>• Care Alerts</td>
<td><strong>Provider support staff</strong></td>
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<td>• E-Referral Tools</td>
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<td>3. Population Health</td>
<td>CRISP Reporting Services (CRS) Tools</td>
<td>• Population Health managers</td>
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<td>• HSCRC Case Mix Reports</td>
<td>• Regional Partnerships</td>
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<td></td>
<td>• Medicare CCLF Reports (MADE)</td>
<td>• Program planners</td>
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<td>• MDPCP Reporting Suite</td>
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<td>• Pre-Post Analysis Tool</td>
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<td>• All Payer Reports</td>
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<td>4. Public Health</td>
<td>• COVID Lab Results Viewing</td>
<td>• Infection Prevention</td>
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<td>• COVID Test Scheduling</td>
<td>• Quality Improvement</td>
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<td>• COVID Immunization Dashboards</td>
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<td></td>
<td>• Bed Capacity Dashboards</td>
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<td>5. MD Program Administration: Total Cost of Care</td>
<td>Hospital Population Based Revenue</td>
<td>• System of Care planners</td>
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<td>Care Redesign/ Model Programs</td>
<td>• Population health managers</td>
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<td>• Regional Partnerships</td>
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<td>Patient Centered Care – Quality Programs</td>
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<td>Pop Health - SIHIS</td>
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CRISP Priorities
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<tr>
<th>Timeframe</th>
<th>Accomplishments / Goals</th>
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| Last 12 Months  | **COVID Response**  
• Test orders and results  
• Comprehensive Reports  
• Acute and Post Acute capacity reporting  
• Vaccination status reporting (summary and patient level) | • e-Referral Tool  
• Patient Portal  
• Prior Hospitalizations Report  
• Pregnancy/ COVID-19 Surveillance |
| Next 12 Months  | • COVID Vaccination tools  
• InContext and ULP Parity  
• InContext Enhancements: encounter timeline, immunization, CCDA document display, multi-patient select, patient death date, imaging worklist, download to PDF, next of kin  
• Substance Use Disorder Care Team | • Consent Registry  
• Medicare Conditions of Participation compliance  
• Clinical Decision Support: (CDS ) Hooks  
• Support population health/ health equity/ regional partnership activities |
Evolution of CRISP Point of Care Data
### Data Available to Deliver within the Workflow

<table>
<thead>
<tr>
<th>Data Type</th>
<th>Data Definition</th>
<th>Jurisdiction Availability</th>
<th>Returned As</th>
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</thead>
<tbody>
<tr>
<td>Advance Directives</td>
<td>End of life care documents</td>
<td>MD, WV</td>
<td>FHIR Document</td>
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<td></td>
<td></td>
<td></td>
<td>Reference or custom JSON</td>
</tr>
<tr>
<td>Care Alerts</td>
<td>Short pieces of information one provider identifies as valuable to communicate</td>
<td>DC, MD, WV</td>
<td>FHIR Flag or custom JSON</td>
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<tr>
<td></td>
<td>to other providers treating the patient</td>
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<tr>
<td>Care Team</td>
<td>Information on a patient's care team, including care manager, primary care</td>
<td>DC, MD, WV</td>
<td>FHIR CareTeam or custom JSON</td>
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<tr>
<td></td>
<td>provider, and care program information.</td>
<td></td>
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</tr>
<tr>
<td>Clinical Documents</td>
<td>From hospital and ambulatory providers</td>
<td>DC, MD, WV</td>
<td>CCDA</td>
</tr>
<tr>
<td>Diagnostic Report,</td>
<td>Provides access to transcribed documents, radiology reports, and laboratory</td>
<td>DC, MD, WV</td>
<td>FHIR DiagnosticReport,</td>
</tr>
<tr>
<td>Observation, Specimen, and</td>
<td>reports sent to CRISP via HL7 v2 documents.</td>
<td></td>
<td>Observation, Specimen and</td>
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<tr>
<td>Imaging Study</td>
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<td>ImagingStudy</td>
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<tr>
<td>Events</td>
<td>Inpatients, emergency and outpatient encounters from hospitals and ambulatory</td>
<td>DC, MD, WV</td>
<td>FHIR Encounters or custom JSON</td>
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<td></td>
<td>providers with an ADT interface with CRISP</td>
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<tr>
<td>Immunizations</td>
<td>Immunization information from Maryland Immunet</td>
<td>MD</td>
<td>FHIR Immunizations or HL7v2</td>
</tr>
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<td></td>
<td><a href="https://phpa.health.maryland.gov/OIDEOR/IMMUN/Pages/immunet.aspx">https://phpa.health.maryland.gov/OIDEOR/IMMUN/Pages/immunet.aspx</a></td>
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<tr>
<td>Medicaid Claims</td>
<td>Medications, Procedures, Encounters, and Diagnosis</td>
<td>DC, MD, WV</td>
<td>FHIR Medication Dispense, Procedure,</td>
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<td>Encounter, or Condition</td>
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<tr>
<td>Medicare Claims</td>
<td>Medications, Procedures, Encounters, and Diagnosis</td>
<td>DC, MD, WV</td>
<td>FHIR Medication Dispense, Procedure,</td>
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<td>Encounter, or Condition</td>
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<tr>
<td>Overdoses</td>
<td>Overdose notification discerned from ADT diagnosis codes; include the diagnosis</td>
<td>DC, MD, WV</td>
<td>FHIR Flag or custom JSON</td>
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<tr>
<td></td>
<td>code, diagnosing facility, and timestamp the notification was sent to CRISP</td>
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<tr>
<td>Patient Match</td>
<td>Demographic information from patient's most recent encounter</td>
<td>DC, MD, WV</td>
<td>FHIR Patient or custom JSON</td>
</tr>
<tr>
<td>PDMP</td>
<td>Schedule II-V dispensed drugs to patients. Available for Maryland residents only.</td>
<td>MD</td>
<td>FHIR MedicationDispense or custom</td>
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<td>JSON</td>
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<tr>
<td>Program Directory</td>
<td>Information on various programs operating in CRISP jurisdictions including a</td>
<td>DC, MD, WV</td>
<td>custom JSON</td>
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<td>description of the program, contact information for the program, and the</td>
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<td>regions served.</td>
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<tr>
<td>Public Health Alerts</td>
<td>Flags for patients with reportable conditions such as COVID19, CRE, Zika.</td>
<td>DC, MD, WV</td>
<td>FHIR Flags</td>
</tr>
<tr>
<td>SNF Directory</td>
<td>Information on whether a SNF facility is accepting patients, and what services</td>
<td>DC, MD, WV</td>
<td>TBD</td>
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<td>are provided by that facility.</td>
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Your Needs
• Respondents
Most Significant Health IT Data Challenge

- “Data assimilation from different sources”
- “Integration and reporting capability in real-time.”
- “Getting timely updates on COVID tests and immunizations into our system”
- “Lack of reliable, easily accessible and able to manipulate data.”
Gaps in Your EMR Vendor’s Strategy That CRISP Can Address?

• “Data harmonization / making data compatible / trusted ingestion process”
• “State requirements for data (esp. related to COVID and Vaccination) are slow to happen in EHR vendor.”
• “Statewide Data”
Your EMR’s Best Feature to Promote Data Outside Its Platform

- “The way that database can allow access to external databases as needed.”
- “APIs / HL7 compliance”
- “Sharing data with other Epic hospitals and CRISP”
- “Analytical platform and ability to send data to other platforms is improving.”
How Frequently Have You Used CRISP Tools in Last 30 Days?
Discussion Questions

- What are your Health IT Data exchange priorities?
- How would you like to use this learning collaborative going forward?
- Are there common priorities that you would like to discuss in this forum?
- How Does Clinical Decision Support fit into your priorities?
- What can we work on collectively?
Next Steps: EMR Specific User Groups

• What: Derive solution visions based on Problem Identification/Definition.
• How: Technical considerations
• When: Align CRISP and Hospital/System work queues
Paul Cummings, paul.cummings@crisphealth.org
Paul Gleichauf, paul.Gleichauf@crisphealth.org
Cindy Gingrich, cindy.Gingrich@crisphealth.org
Recent Initiatives
**Problem:** Communicating accurate clinical and demographic information to ease transfer trauma and increase positive patient outcomes when a patient transferred from Post-Acute Care facility to a Hospital Emergency Department (ED).

**Solution:** It is believed Lorien Health Services collaborated with Howard County General Hospital (HCGH) to create the first edition of the Transfer Form (Form).

**Evolution:**
- The Form (paper version) was presented to Maryland Hospital Association which has promoted widespread use of the Form throughout Maryland.
- Hospitals and post acute partners have adopted and adapted Form to meet their particular needs.
- Lorien and HCGH studied utilization and found the Form reached ED direct care givers a minority of the time. Paper form would “disappear” at any of several touch points during the transfer (i.e. ambulance companies, ED registrars, etc.)

**Transfer Form v.2.0:** Electronic Form accessible in CRISP Unified Landing Page
SNF TO HOSPITAL TRANSFER FORM

Nursing Supervisor Phone #: ____________________________ Main Line #: ____________________________

Patient Name: ____________________________ DOB: ____________________________

Patient Emergency contact name and number: ____________________________

Transfer Date: ____________________________ Primary Language: □ English □ Other: ____________________________

Referring Clinical Provider: ____________________________ Telephone: ____________________________

What prompted transfer? □ N/V/GS/Drains □ Fall with Injury Evaluation
□ Cardiac/Respiratory Arrest □ Stroke-like Symptoms □ Abdominal Pain
□ Chest Pain □ Syncope/Near Syncope □ Pain (other): ____________________________
□ Shortness of Breath □ Altered Mental Status □ Lab/Imaging
□ Patient/Family Requested: ____________________________ □ Other: ____________________________

Interventions prior to sending to ED:

Vital Signs: BP: ____________________________ HR: ____________________________ RR: ____________________________
Temp: ____________________________ O2 Sat: ____________________________ Time Taken: ____________________________

Co-morbidities: □ CHF □ COPD □ CHD □ DM □ Cancer (active treatment) □ Dementia
□ Other: ____________________________

Allergies: □ None □ Yes, please list: ____________________________

History of COVID-19 RT-PCR Testing: □ Positive (last test date) ____________________________ □ Negative (last test date) ____________________________

Is the patient on Palliative/Hospice care?

Incubation Precautions: □ MRSA □ VRE □ C. diff □ Other: ____________________________

Baseline Mental Status: □ Alert/Oriented □ Mild confusion □ Moderate/severe confusion
□ Minimally responsive/Unresponsive

Baseline Functional Status: □ Ambulates independently □ Ambulates with assistive device
□ Ambulates only with human assistance □ Not ambulatory

What do you want the ED to do?

SNF to ED TRANSFER CHECKLIST: Print the following documents and include with this Transfer Form in the
order listed. Send entire packet with the patient to the hospital:
□ MOLST □ Facsheet □ X-Rays □ Medication List □ Lab Results □ Care Plan Goals □ SBAR □ Other Info.

Please note, our SNF facility can do: □ IV A/V, Fluids □ EKG □ Blood Transfusion □ Wound Care
□ Wound Vac □ X Ray □ Dressings

ED DOCUMENTATION
Date: ____________________________ Time: ____________________________

ED Contact: ____________________________ Telephone: ____________________________

Interventions completed in the ED (brief progress note):

ED to SNF TRANSFER CHECKLIST: □ Call SNF and/or SNF clinical provider for handoff

Complete ED Documentation section and make a copy of completed form for hospital records. Print the
following documents, if applicable, and send to SNF with the original Transfer Form:
□ Patient Instructions/IVS □ Physician Notes □ Labs □ Radiology Results
# Transfer Form: ULP Version

## Transfer to Hospital

**Transfer Date:** 1/1/2020  
**Receiving Facility:** [Hospital Name]  
**Patient DNR:** [Yes/No]  
**Reason for Transfer:** [Select or complete all that apply]
- [ ] Cardiac/respiratory arrest
- [ ] Chest pain
- [ ] Shortness of breath
- [ ] Severe allergies
- [ ] Other pain
- [ ] Other

### Pre-Transfer Information

- **Interventions/Pre to Transfer:** [Details]
- **Vital Signs:**  
  - **Temperature:** 99  
  - **Respiratory Rate:** 19

### Contact Details

- **Nursing Supervisor Name:** [Name]
- **Nursing Emergency Contact Name:** [Name]
- **Receiving Facility Name:** [Name]
- **Nursing Facility:** [Name]

### Isolation Precautions

- **Diagnosis:** [Select or complete all that apply]
  - [ ] COVID-19
  - [ ] MRSA
  - [ ] MRONJ
  - [ ] Other

### Other History

- **COVID-19 PCR Test Result:** [Result]  
- **Last Test Date:** [Date]

### Co-morbidities

- **Select or complete all that apply:** [Leave blank if not applicable]
  - [ ] COPD
  - [ ] Cancer (active treatment)
  - [ ] Psychological condition
  - [ ] Dementia

### Allergies

- **Select or complete all that apply**
  - [ ] Penicillin
  - [ ] Non-penicillin

### Baseline Functional State

- **Select or complete all that apply**
  - [ ] Ambulates independently
  - [ ] Ambulates with assistance
  - [ ] Ambulates only with human assistance
  - [ ] Not ambulatory

### Baseline Mental Status

- **Select or complete all that apply**
  - [ ] Alert/oriented
  - [ ] Mild confusion
  - [ ] Moderate/severe confusion
  - [ ] Minimal responsive/unresponsive

### What do you want the ED to do?

- **Select or complete all that apply**
  - [ ] Print and send
  - [ ] Include
  - [ ] Exclude

### Specify any information that will be printed and sent with the patient.

- **Select or complete all that apply**
  - [ ] Medical history
  - [ ] Social history
  - [ ]care plan

### Specify procedures your facility is able to perform.

- **Select or complete all that apply**
  - [ ] X-ray
  - [ ] Lab results
  - [ ] Other

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Utilization of SNF to ED Transfer Form

Would your ED team be interested in encouraging SNFs that regularly transfer patients to your hospital to use the ULP version of this form to improve transitions of care?
2) CRISP Services Aligned with COVID Response Needs

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:
   - Deploying services in partnership with Maryland Department of Health, DC Department of Health, and West Virginia Bureau of Public health
   - Enabling researchers to appropriately access aggregated data and manage cohort studies
   - Housing the Prescription Drug Monitoring Program (PDMP) for Maryland

5. PROGRAM ADMINISTRATION:
   - Making policy discussions more transparent and informed
   - Supporting Care Redesign Programs

Core HIE services are incorporating COVID-19 data for existing use cases with minor enhancements

Reports are deployed with new data sources including real-time ADTs and labs

MDH relies on CRISP as a data source and technology integrator
Use Case 1: Integrating and Sharing Case Data

MDH sends to CRISP:

• Daily confirmed case files
• Automated Electronic Lab Reporting (ELR) feed

CRISP combines cases with clinical and claims data for:

• Case investigations by local and state health officials
• Protecting EMS first responders who interacted with positive patients
• De-identified research activities by academic medical centers
• **Contact tracing to prevent community spread**
Use Case 2: Provider and Patient Communication

Data at the point of care:
- Positive results are turned into Care Alerts and Public Health Flags for use in InContext App and Unified Landing Page
- All labs are posted in Health Records
- Push notifications are sent for positive results
- New Results View created to show consolidated list to ordering providers

Patient outreach and support:
- Texting pilots to encourage self-isolation while awaiting results
- Customer care team call center re-purposed for patient scheduling support
CRISP can receive lists of patients registered at vaccine administration sites, compare those populations with ImmuNet data, and return only those patients who were not already vaccinated at another site.

Providers can focus outreach on un-vaccinated patients.