Agenda

12:30 Welcome/Introductions
12:45 Health IT, NDHIN Overview and Update
1:00 Demo of Direct, Clinical Portal, Patient Portal, other functionality
3:00 Break/networking
3:20 Onboarding and Implementation, Project Approach
4:15 Q&A, additional demonstrations as requested
OVERVIEW & UPDATE

Sheldon Wolf, ND Health Information Technology Director
Health Information Exchange

Why is Health Information Exchange Important?

The ability to exchange health information electronically is the foundation of efforts to improve health care quality and safety. HIE can provide:

- **The connecting point** for an organized, standardized process of data exchange across statewide, regional, and local initiatives
- **The means to reduce duplication of services** (resulting in lower health care costs)
- **The means to reduce operational costs** by automating many administrative tasks
- **Governance and management** of the data exchange process
Health Information Exchange

Benefits: A Few Examples
• Provides a vehicle for improving quality and safety of patient care
• Provides a basic level of interoperability among EHRs maintained by individual physicians and organizations
• Stimulates consumer education and patients' involvement in their own health care
• Helps public health officials meet their commitment to the community
• Creates a potential loop for feedback between health-related research and actual practice
• Facilitates efficient deployment of emerging technology and health care services
• Provides the backbone of technical infrastructure for leverage by national and State-level initiatives
HITECH Programs and Goals: Where Are We Today?

- **Regional Extension Centers**
  - Workforce Training
    - 84 Community College Partners
    - 3,600 Graduates Spring 2011

- **Medicare & Medicaid incentives**
- **State HIE Grants**
  - 56 Approved States/SDEs
  - 10 Challenge Grants
- **Beacon Communities**
  - 17 Communities

- **Adoption of EHRs**
- **Meaningful Use of EHRs**
  - Improved individual and population health outcomes
  - Increased transparency and efficiency
  - Improved ability to study and improve care delivery
- **Exchange of health information**

- **Research to Enhance HIT**
  - 4 Awardees

- **Standards & Interoperability Framework**
  - Hundreds of Certified EHR Products

- **Security & Privacy framework**
Federal Health IT Strategic Plan 2011-2015

Better Technology → Better Information → Transform Health Care

Goal V: Achieve Rapid Learning and Technological Advancement

Goal IV: Empower Individuals with Health IT to Improve their Health and the Health Care System

Goal III: Inspire Confidence and Trust in Health IT

Goal II: Improve Care, Improve Population Health, and Reduce Health Care Costs through the Use of Health IT

Goal I: Achieve Adoption and Information Exchange through Meaningful Use of Health IT
Health Information Technology Advisory Committee

*Chair-Lisa Feldner, CIO State of North Dakota, Information Technology Department
*Vice-Chair-Lynette Dickson, Associate Director Center for Rural Health, UND School of Medicine and Health Sciences
*Barb Groutt, CEO North Dakota Healthcare Review
Courtney Koebele, Director of Advocacy North Dakota Medical Association
*Caryn Hewitt, CIO Sanford Health System, Fargo
*Dan Kelly, CEO McKenzie County Healthcare System
Dave Molmen, CEO Altru Health System/Chair Hospital Association
Janis Cheney, Executive Director AARP
Jennifer Witham, IT Director North Dakota Department of Human Services
Jerry Jurena, President North Dakota Healthcare Association
Jim Long, CEO West River Health Systems
Jon Rice, MD Consumer Representative
Laurie Peters, RHIT, Past-President North Dakota Health Information Management Assoc.
Lisa Clute, Executive Officer First District Health
*Tony Tardugno, CIO BCBS of North Dakota
*Nancy Willis, Medicaid HIT Coordinator NDDHS-ITS
Neil Frame, Operations Director Metro Area Ambulance
Representative Robin Weisz North Dakota Representative
Senator Judy Lee North Dakota Legislature
Shelly Peterson, President Long-term Care Association
Tami Wahl, Sr. Policy Advisor-HHS Governor’s Office
Darrin Meschke, North Dakota Department of Health
Todd Bortke, Director of Information Systems, St. Alexius Medical Center

*Executive Committee
Domain Workgroups

- Technical Infrastructure
- Finance
- Legal and Policy
- Clinical
- Communication and Education
- Data Use

If you want to participate on a workgroup, let us know!
Legislative Update

• House Bill 1435
  • Bill relates to medical identity theft and breach notification. Language was added for alternative compliance indicating “A covered entity, business associate, or subcontractor subject to the breach notification requirements under title 45, Code of Federal Regulations, subpart D, part 164, is considered to be in compliance with this chapter.”

• Senate Bill 2021
  • Appropriation for the NDHIN and the HIT Office

• Senate Bill 2065
  • Added “A health care record may be released to the subject of the document, the subject’s agent, or the subject’s health care provider” to the advance directive statute.

http://www.healthit.nd.gov/legislative-updates/
Legislative Update

• Senate Bill 2250
  • Three Options of HIE Participation
    • In (Default)
      • Allows the individually identifiable health information on an individual to be searchable by a provider
    • Opt-Out of Participation
      • Individual’s identifiable health information may not be accessed by search by a health insurer, government health plan, or healthcare provider other than the provider who originally created or ordered the creation of the individually identifiable health information
    • Conditional Opt-Out
      • Information is not available for search, like the first option. However, if a health care provider determines access is required because of a medical emergency, the health care provider can “break the privacy seal” and search for the information
Connectivity Grant Program

• Purpose: Provide funds to providers to connect their electronic health record system to the NDHIN
• Funds Available - 1 to 1.3 Million Dollars
  • Hospitals - $30,000
  • Clinics and Other Providers - $10,000
  • Pharmacies - $5,000
Connectivity Grant Program (Continued)

• Allowable Expenses
  • Contractual/Consultants
    • Vendor, legal, workflow, technical
  • Salaries directly related to connecting
  • Other Costs
  • Hardware / Software (Pharmacy)

• Application Deadline Dates
  • June 3, 2013
  • July 1, 2013
  • August 2, 2013
  • TBD

• Information and Application – [www.ndhin.org](http://www.ndhin.org)
Community Assessment - 2012

- What comes to mind when you hear HIE?
  - Continuity of care
  - Improved quality
  - Improved efficiency
  - Sharing of complete information between providers

- Concerns
  - Security
  - Challenges of change
  - Restrictive nature of government (State and Federal) regulations
Community Assessment – 2012 (Continued)

- What comes to mind when you hear EHR?
  - Access health care services in the US
  - Do not have to repeat information multiple times
  - Paperless/digital
  - Legible record
  - Financial benefits – reduce duplication of services
Community Assessment – 2012 (Continued)

• If you were told that your medical record would be available electronically to your provider(s) that you gave permission to, anywhere you went for care, how supportive would you be of efforts to accomplish that?
  • Very supportive – 75%
  • Supportive – 25%
  • Not Supportive – 0%
Community Assessment – 2012 (Continued)

• What do you believe would be the best method(s) of communication to inform, educate and reach ND Residents
  • Provider/healthcare system
  • Media
  • Community Forums
  • Brochures
NDHIN Videos

- Pixels
- ER Visit
- Off to College
• Would you at this point choose the option of opt in or opt out for North Dakota?
  • All but three participants chose the opt out option.

• Who should run the organization
  • 68% preferred an entity made up of a combination of a state agency and non-profit structure.
Vendor Update

• Mutually terminated the contract with Axolotl/Optum in February
• Released a request for proposals in February
• After the evaluation process, contract was awarded to Orion Health in March
• Contract was negotiated and signed April 22
• Statement of Work was negotiated and signed May 6
• Project Plan was developed and accepted May 8
• Direct Infrastructure is being installed/configured
• NDHIN Direct will be operational for participants as soon as possible, but no later than June 3
Direct Secure Messaging (DSM)

• DSM Web
  • Web-based Direct Messaging
  • Resides in Clinical Portal
  • Send Structured and Unstructured Messages - Securely

• DSM Connect
  • 3rd party EHR Direct Connectivity (NDHIN as HISP)

• DSM Direct
  • EHR Connectivity for EHRs without Direct functionality

• Alerts/Notifications
Direct Secure Messaging 2.0

If you download an attachment you are responsible for using appropriate safeguards to prevent improper use and/or disclosure of any personal identifying information (PII) including patient protected health information (PHI). You also agree not to use or disclose PII or PHI contained in a downloaded attachment other than as permitted or required by applicable law.
NDHIN Update

- 87 Participation Agreements
- 360 DSM Users
- [http://www.ndhin.org/providers/participating-providers](http://www.ndhin.org/providers/participating-providers)
Orion HIE Videos

- Interoperability, Sustainability, Clinical Adoption
- Interoperability
- Sustainability
- Clinical Adoption
Data Feeds to HIE

- VPN Connection to Data Providers
- HL7
  - Admission, Discharge, Transfer (ADT)
  - Labs
  - Radiology Reports/Documents
  - Clinical Documents
  - Immunizations
- CCD/CDA Exchange
Integrated Health Data Architecture

**MPI**
Demographics
Patients
Providers

**Normalization**
Normalization
Semantics
Codeset Mapping

**Data Repository**
Demographics
Encounters
Labs, Rads
Allergies, Diagnosis
Documents
Medications
Procedures

**HIE Module**
CCD Exchange
Notifications
Privacy & Consent
Record Locator

**Healthcare Service Bus**
Parsing
Validation
Transformation
Routing
Acknowledgements

**Clinical Portal**
Case Management
EMR Life
Business Intelligence
Web-based Imaging
Direct Secure Messaging

**Patient Portal**
Clinical Summary
Secure Messaging
Health Library
Circle of Care
Advanced Directives

**External Systems**
NwHIN
HIEs
Medicare
Medicaid
Known Registries

**NDIIS**

**Labs**
EMRs
EHRs
Laboratory
Radiology
HIS

**Source Systems**

**eHealth Exchange Gateway**

**HL7 Web Services**

**HL7**

**HL7 CCD SSO XDS**

**HTTPS**

**Notifications & Subscriptions**
Secure Inbox
E-Mail
Mobile

**NDHIN**
North Dakota Health Information Network
NDHIN Clinical Portal

- Comprehensive View of Patient Information
- Customizable User Interface
- Notifications/Subscriptions
- Timeline View
- Normalization of Data
  - Lab Results
  - Problems
  - Allergies and Medications
INTRODUCTION

I, John Cardinal (name)
3437 Masonic Drive, Alexandria, LA 71301 (address)

understand this document allows me to do ONE OR ALL of the following:

PART I: Name another person (called a health care agent) to make health care decisions for me if I am unable to make and communicate health care decisions for myself. My health care agent must make health care
Example Integration (Epic)

Single Click access to Clinical Portal
Example Integration (Cerner)
Single Click access to Clinical Portal
CCD Exchange

Continuity of Care Document
Created On: July 3, 2012

CARDINAL, John Q
Male/62y, 12-Nov-1949 (DOB)
84568-4564 (MRN)
841 Chester Ave
Pasadena, CA, USA, 91175
(239) 555-1515

Electronically generated by PPHC on July 3, 2012

Results

<table>
<thead>
<tr>
<th>Result Type</th>
<th>Result Name</th>
<th>Result</th>
<th>Units</th>
<th>Reference Range</th>
<th>Effective Date</th>
<th>Abnormality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest X-Ray</td>
<td>Report (Report)</td>
<td>History of cough and right sweats with hemoptyysis. There is a right sided pleural effusion, and some suggestion of right apical scarling. The films are otherwise normal.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Impression (Impression)</td>
<td>Consistent with clinical diagnosis of primary Tb. Other possibilities include fibrosing alveolitis and possibly an early right upper lobe pneumonia.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest x-ray</td>
<td>Findings (Fin)</td>
<td>&quot;image/jpeg&quot; content is embedded</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Summary Final (Sum)</td>
<td>No signs of heart failure. No recent abnormality shown in the lungs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>CBC</td>
<td>WBC (WBC)</td>
<td>12</td>
<td>10^9/L</td>
<td>3.8-10.8</td>
<td>Above high normal</td>
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<td></td>
<td>RBC (RBC)</td>
<td>4.56</td>
<td>10^12/L</td>
<td>3.6-5.1</td>
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<td>Hb (Hb)</td>
<td>13.6</td>
<td>g/L</td>
<td>11.1-15.5</td>
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</table>
Notifications

Choose which notifications you want to receive and where to send them. Daily Summary and Email cannot contain patient information so the detail must be sent elsewhere.

Subscriptions for patients I have a relationship with

<table>
<thead>
<tr>
<th>Notification</th>
<th>Delivery Options</th>
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<tbody>
<tr>
<td>Clinic Appointment Completed</td>
<td>Use default Change</td>
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<tr>
<td>Inpatient Admission</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Inpatient Discharge</td>
<td>Use default Change</td>
</tr>
<tr>
<td>New Patient Problem Entered</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Patient is admitted to ED</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Patient is discharged from ED</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Final Radiology Report is available</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Now Imaging Report available</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Final Laboratory Result is available</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Final Microbiology Result available</td>
<td>Use default Change</td>
</tr>
<tr>
<td>Interim Microbiology Result available</td>
<td>Use default Change</td>
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<tr>
<td>New Shared File in Patient Portal</td>
<td>Custom Change</td>
</tr>
<tr>
<td>New Transcribed Document available</td>
<td>Use default Change</td>
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</table>
### Clinical Log

<table>
<thead>
<tr>
<th>Time</th>
<th>User ID</th>
<th>Event Type</th>
<th>Message</th>
<th>Patient ID</th>
<th>Patient Name</th>
<th>ID Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>21 Jun 12:10</td>
<td>jmartin</td>
<td>Open Application</td>
<td>User Messaging, New Message</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
<tr>
<td>21 Jun 12:10</td>
<td>jmartin</td>
<td>Open Application</td>
<td>HIE, View CCD</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
<tr>
<td>21 Jun 12:10</td>
<td>jmartin</td>
<td>Open Document</td>
<td>Continuity of Care Document</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
<tr>
<td>21 Jun 12:10</td>
<td>jmartin</td>
<td>Open Application</td>
<td>HIE, View CCD</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
<tr>
<td>21 Jun 12:09</td>
<td>jmartin</td>
<td>Open Application</td>
<td>Orion - Allergies &amp; Alerts, Allergies &amp; Alerts</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
<tr>
<td>21 Jun 12:09</td>
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<td>Open Application</td>
<td>Orion - Dynamic Patient Summary, Patient Summary</td>
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<td>Cardinal John</td>
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<tr>
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<td>Open Application</td>
<td>Orion - Encounter History, Encounter History</td>
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<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
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<tr>
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<td>Demo - Clinical Data, Key Clinical Information</td>
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<td>Cardinal John</td>
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<td>Orion - Medication History, Medication History</td>
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<td>Open Application</td>
<td>Orion - Patient Search &amp; Demographics, Demographics - Future</td>
<td>84568-4564</td>
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<td>Demo - Clinical Data, Active Problems</td>
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<td>Cardinal John</td>
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<td>21 Jun 12:08</td>
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<td>User Messaging, Received Messages</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
<tr>
<td>21 Jun 12:08</td>
<td>jmartin</td>
<td>Open Application</td>
<td>Orion - Allergies &amp; Alerts, Allergies &amp; Alerts</td>
<td>84568-4564</td>
<td>Cardinal John</td>
<td>Patient.Id.MRN</td>
</tr>
</tbody>
</table>
Imaging
NDHIN Patient Portal

- Provide patients secure access to their current medical records from all participating sources
- Improve communication between patients and providers
- Upload relevant documents (such as Advance Directives)
  - The NDHIN Clinical Portal will be the statewide Advance Directive Repository
- View who has accessed their Clinical Portal record
- Providers can:
  - Electronically delivering results
  - Confirm/Remind upcoming appointments
  - Provide patient reference information
DEMO

Clinical Portal/Direct Secure Messaging
Patient Portal
PROJECT APPROACH
Project Management Objectives

• Guide the project through a controlled and visible set of activities to achieve project goals
• Facilitate collaborative planning, execution, control and communication of the project
• Ensure ND project management standards and legislation are followed
Project Plan

• Developed jointly with Orion Health
• Aligns with the Statement of Work for Orion Health’s services
• Includes the scope, budget, and schedule for the project
• Includes management plans for controlling the project and managing issues, risks and changes
Project Scope

• Core Infrastructure and Direct (Deliverable 1)
• Core HIE Solution (2A)
• Core HIE Solution and Integration of Initial Participants (2B)
• Implementation, Integration and Onboarding with Additional Participants (3)
• Patient Portal (4)
Project Scope (continued)

- Public Health Reporting (5)
- Immunization Registry Integration (6)
- eHealth Exchange Gateway (7)
- DSM 2.0 with Health Provider Directory (HPD) (8)
- Business Intelligence Utilization Dashboard (9)
- User Adoption Services (10)
- Training Services (11)
# Project Schedule

<table>
<thead>
<tr>
<th></th>
<th>High Level Activities/Deliverables/Milestones</th>
<th>Planned Start Date</th>
<th>Planned End Date</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>NDHIN-Orion Health Project Schedule</td>
<td>Wed 4/22/13</td>
<td>Fri 3/14/14</td>
</tr>
<tr>
<td>1</td>
<td>Contract Execution</td>
<td>Wed 4/22/13</td>
<td>Wed 4/17/13</td>
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<tr>
<td>2</td>
<td>Planning</td>
<td>Thu 4/18/13</td>
<td>Thu 6/13/13</td>
</tr>
<tr>
<td>3</td>
<td>Execution</td>
<td>Mon 4/29/13</td>
<td>Thu 3/20/14</td>
</tr>
<tr>
<td>3.1</td>
<td>Core Infrastructure and Direct (Deliverable 1)</td>
<td>Mon 4/29/13</td>
<td>Tue 6/4/13</td>
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<tr>
<td>3.2</td>
<td>Core HIE Solution (Deliverable 2A)</td>
<td>Mon 5/13/13</td>
<td>Mon 9/30/13</td>
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<tr>
<td>3.3</td>
<td>Core HIE Solution and Integration of Initial Participants (Deliverable 2B)</td>
<td>Fri 5/17/13</td>
<td>Thu 12/19/13</td>
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<tr>
<td>3.4</td>
<td>Implementation, Integration and Onboarding with Additional Participant (Deliverable 3)</td>
<td>Wed 7/17/13</td>
<td>Thu 3/20/14</td>
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<tr>
<td>3.5</td>
<td>Patient Portal (Deliverable 4)</td>
<td>Tue 10/1/13</td>
<td>Wed 1/29/14</td>
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## Project Schedule (continued)

<table>
<thead>
<tr>
<th></th>
<th>High Level Activities/Deliverables/Milestones</th>
<th>Planned Start Date</th>
<th>Planned End Date</th>
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<td>Public Health Reporting (Deliverable 5)</td>
<td>Wed 7/17/13</td>
<td>Thu 11/14/13</td>
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<tr>
<td>3.7</td>
<td>Immunization Registry Integration (Deliverable 6)</td>
<td>Fri 5/17/13</td>
<td>Fri 8/30/13</td>
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<tr>
<td>3.8</td>
<td>eHealth Exchange Gateway (Deliverable 7)</td>
<td>Fri 5/17/13</td>
<td>Thu 3/20/14</td>
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<td>3.9</td>
<td>DSM 2.0 with Health Provider Directory (HPD) (Deliverable 8)</td>
<td>Fri 8/30/13</td>
<td>Mon 1/27/14</td>
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<tr>
<td>3.10</td>
<td>Business Intelligence Utilization Dashboard (Deliverable 9)</td>
<td>Fri 1/17/14</td>
<td>Tue 3/18/14</td>
</tr>
<tr>
<td>3.11</td>
<td>User Adoption Services (Deliverable 10)</td>
<td>Fri 5/17/13</td>
<td>Wed 1/22/14</td>
</tr>
<tr>
<td>3.12</td>
<td>Training Services (Deliverable 11)</td>
<td>Fri 5/17/13</td>
<td>Wed 1/22/14</td>
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<td>3.13</td>
<td>Transition to Phase 3, Implementation of Remaining Participants</td>
<td>Thu 1/23/14</td>
<td>Thu 3/6/14</td>
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<tr>
<td>3.14</td>
<td>Project Management, NDHIN Management</td>
<td>Thu 4/23/13</td>
<td>Fri 3/14/14</td>
</tr>
</tbody>
</table>
Project Controlling Activities

• Comprehensive issue, risk and change management process
• Weekly joint status meetings of the NDHIN-Orion Health team
• Monthly meetings of the NDHIN-Orion Health sponsors and managers for issues
• Quarterly meetings of the NDHIN Project Executive Steering Committee for approvals/issues
• Regular status and metrics reporting
• Biweekly communication to the HITAC and Domain Workgroups
ONBOARDING & IMPLEMENTATION
Participant On-boarding

Process Overview – Part I

1. Initiate On-Boarding

2. Participant Task Order
3. Readiness Questionnaire
4. Complete Readiness Questionnaire

5. On Kick off meeting
6. VPN Form

8. Complete VPN form

7. eMPI Load File

9. Process VPN request and set up VPN Tunnel
Participant On-boarding

Process Overview – Part II

10) Set up VPN tunnel and validate

11) Send HL7 Sample messages

13) Send HL7 Prod-quality messages

16) Adjust and correct

17) Set up for User Acceptance Test

19) Approve to move to Production

12) Validate HL7 Sample Messages

14) Validate HL7 Prod-quality Messages

15) Validation Results Report

20) Move to Production

21) Move to Production

18) Perform User Acceptance Test

Done
# Participant Integration

## Participant Preparation (In advance of Integration)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Integration Review with Participant</td>
<td>– confirm data and interfaces to be provided</td>
</tr>
<tr>
<td>Test Messages Provided per Orion HL7 Specification</td>
<td></td>
</tr>
<tr>
<td>Validate messages (Orion) and Feedback to Participants</td>
<td></td>
</tr>
<tr>
<td>Create EMPI and other Bulk Files</td>
<td></td>
</tr>
<tr>
<td>Create Code Set Mappings – if Participant is using Proprietary Code sets</td>
<td></td>
</tr>
<tr>
<td>Create User List (Based on Standard Roles and Groups)</td>
<td></td>
</tr>
</tbody>
</table>
## Participant Integration – Continued

<table>
<thead>
<tr>
<th>Participant Integration Tasks</th>
<th>Resource</th>
<th>Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant Preparation</td>
<td>Interface Resource</td>
<td>10 days (before connection)</td>
</tr>
<tr>
<td>VPN Connectivity</td>
<td>Network/Interface</td>
<td>1-5 days</td>
</tr>
<tr>
<td>Code Set Mappings and Bulk File Generation</td>
<td>Interface Resource</td>
<td>2-5 days</td>
</tr>
<tr>
<td>Participant Integration Testing in DEV and TEST Environments</td>
<td>Interface Resource</td>
<td>10 days</td>
</tr>
<tr>
<td>Integration Testing Signed Off</td>
<td>Participant</td>
<td></td>
</tr>
</tbody>
</table>

### Participant Verification

<table>
<thead>
<tr>
<th>Verification Testers confirmed</th>
<th>Resource</th>
<th>Effort</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verification Testers confirmed</td>
<td>Subject Matter Experts, Clinical SMEs approx 2 to 5 resources</td>
<td>10 days before Verification Testing</td>
</tr>
<tr>
<td>Training Webex Provided</td>
<td>SMEs</td>
<td>1 Hour</td>
</tr>
<tr>
<td>Complete Verification Testing</td>
<td>SMEs</td>
<td>10 Day Period</td>
</tr>
<tr>
<td>Verification Testing Signed off</td>
<td>Participant</td>
<td></td>
</tr>
</tbody>
</table>
## Interfaces

<table>
<thead>
<tr>
<th>Type of Data</th>
<th>Interface Approach</th>
<th>User Interface (Front end View)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Demographics</td>
<td>HL7 – ADT Demographics to EMPI</td>
<td>Homepage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patient Search</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patient Summary - Demographics &amp; Emergency Contacts</td>
</tr>
<tr>
<td>Encounter History</td>
<td>HL7 – ADT (PV1 segment) Inbound</td>
<td>Patient Summary – Encounter History Windowlet</td>
</tr>
<tr>
<td>Laboratory Results</td>
<td>HL7 - ORU Inbound - Numerical and Textual (e.g. Pathology and Microbiology)</td>
<td>Document Tree/Results Viewer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Normalized to LOINC</td>
</tr>
<tr>
<td>Radiology Reports</td>
<td>HL7 - ORU Inbound - Textual</td>
<td>Document Tree/Results Viewer</td>
</tr>
<tr>
<td>Clinical Documents</td>
<td>HL7 or MDM – Inbound or PDFs/Scanned documents</td>
<td>Document Tree/Results Viewer</td>
</tr>
<tr>
<td>Type of Data</td>
<td>Interface Approach</td>
<td>User Interface (Front end View)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------------------------------</td>
</tr>
<tr>
<td>Allergies</td>
<td>HL7 – ADT (AL1 segment) or CCD Inbound</td>
<td>Patient Summary - Allergies Windowlet Normalized to SNOMED</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>HL7 – ADT (DG1 segment) Inbound</td>
<td>Patient Summary – Encounter History Windowlet</td>
</tr>
<tr>
<td>Immunizations</td>
<td>HL7 – VXU or CCD</td>
<td>Patient Summary – Immunizations Windowlet</td>
</tr>
<tr>
<td>Medications (Current Inpatient and historical)</td>
<td>HL7- RDSO13, RDEO11, RAS017 and OMPO09 – or CCD Inbound</td>
<td>Patient Summary – Medications Windowlet Normalized to RXNorm or NDC</td>
</tr>
<tr>
<td>Problems</td>
<td>HL7-PPR or CCD</td>
<td>Patient Summary – Problems Windowlet Normalized to ICD 9/10 or SNOMED</td>
</tr>
<tr>
<td>Procedures</td>
<td>HL7 – ADT (PR1 segment) or CCD Inbound</td>
<td>Patient Summary – Procedures Windowlet Normalized to ICD 9/10 or CPT4</td>
</tr>
</tbody>
</table>
Relationships between patients and providers are captured from key fields within the ADT message feed

- Referring, Attending, Admitting, and Primary Care Providers, if present, within ADT messages are associated to the patient automatically for use with the Notification Module

Notifications

- Setup at the Provider level depending on Provider preferences
- Default settings can be set at the enterprise level
- Possible notifications include:
  - Inpatient Admission
  - Inpatient Discharge
  - New Laboratory Result (Final) is available
  - New Radiology Result (Final) is available
  - A new document is available
  - Interim Microbiology Result available
  - Patient is admitted to the ER
  - Patient is discharged from ER
Integration – Keys to Success

★ Complete production quality messages Day 1
★ Provides true validation to be performed for message layout, content, and display within the Portal
★ Ideally a production feed to the test environment

★ Proprietary codes are identified early on
★ Mapping proprietary codes to standards (i.e. LOINC, CPT, SNOMED, etc.) can be time consuming

★ Dedicated integration/interface resource
★ Allows for quick turn around during interface validation testing

★ Clinical resource identified
★ Allows for any clinical questions related to the data within interface feeds to be answered and resolved
★ Typically for translation/understanding of clinical data