ADVANCING INTEROPERABILITY THROUGH FHIR APPLICATIONS

MARK GINGRICH, CHIEF INFORMATION OFFICER
THE ROAD TO HEALTHCARE INTEROPERABILITY IS COMPLEX AND CHALLENGING...
...but we’re seeing progress through e-prescribing with more than 73% of prescriptions digitized.

- 4.4 million electronic prescriptions daily
- 1.6 billion electronic prescriptions in 2016
- 10.9 billion transactions in 2016

Rate of e-prescribing nationwide
ENHANCE PRESCRIBING

Specialty Medications

Prior Authorization

Benefit Optimization

E-Prescribing

INFORM CARE DECISIONS

Medication History

Clinical History

Clinical Direct Messaging

Insights & Alerts

ACTIONABLE INTELLIGENCE AT CRITICAL POINTS IN CARE
Providers are able to locate and exchange John’s records, and treat him with the full picture.

Record Locator & Exchange facilitates retrieval of patient documents by providing:

1. A list of care histories and contact info
2. Electronic coordinates to enable point-to-point retrieval
3. A hub and spoke structure for full document exchange

*Response type depends on connection.
RECORD LOCATOR & EXCHANGE
PROCESS FLOW

Patient arrives at Healthcare Organization (HCO)

HCO asks Surescripts where the patient has been seen

Surescripts Network

REQUEST LOCATIONS

SEND LOCATIONS

Surescripts provides location information to HCO

HCO discusses past visits and prior records with the patient

Surescripts retrieves documents on behalf of HCO

HCO queries peer-to-peer

HCO contacts locations not enabled for query
HOW FHIR HELPS RECORD LOCATOR & EXCHANGE DELIVER KEY BENEFITS

1. INCREASED LOCATIONS
By adding FHIR as a way to exchange patient data, Surescripts increases the pool of health systems that can exchange data.

2. EXPAND BEYOND CAREQUALITY
By adding FHIR, Surescripts makes it easier to connect Carequality members to non-Carequality systems.

3. EASE FOR IMPLEMENTERS
By adding FHIR, EHRs with modest development budgets can implement and integrate Record Locator & Exchange in a shorter timeframe.
RECORD LOCATOR & EXCHANGE USES FHIR

- **Bridge IHE and FHIR Interactions**
  - Both IHE to FHIR and FHIR to IHE supported
  - Record Locator & Exchange abstracts the differences between the standards

- **Patient Resource**
  - Search using Patient-Match Operation
  - Return a patient resource if a match is found

- **DocumentReference Resource**
  - Find all available documents for a patient at any location across the country

- **Documents**
  - Currently returned as CDAs for maximum interoperability
  - Future enhancements to return discrete resources

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WE DELIVER MEDICATION INSIGHTS FROM PAYERS DIRECTLY INTO THE PROVIDER’S EHR

<table>
<thead>
<tr>
<th>INSIGHTS FOR MEDICATION ADHERENCE</th>
<th>RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gaps in Care and adherence summaries (using Portion of Days Covered by disease class)</td>
<td>Over 4% increase in medication adherence in first 3 months&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

1. Walsh, Andrew, Report from MediCenter Pilot Study, Health Monitoring Systems, 2010. Study demonstrated that using Medication History identified these drug types at rates greater than the average rates at which they are reported using the patient interview process only.
FHIR STANDARDIZES LOCAL AND NETWORK DATA TO IMPACT DECISION-MAKING AT THE POINT OF CARE

Payers
Sends Portion of Days Covered ratios and patient specific messages

EHRs
Adherence summaries integrated with existing workflows

Providers
Information is displayed within provider’s EHR

Patients
More informed care for better outcomes

SMART on FHIR Standard
INSIGHTS FOR MEDICATION ADHERENCE

FHIR RESOURCES

Adherence summaries

Medication Adherence

Missing Medications

High Risk Medications

Med Adherence, Missing Med and High Risk Messages:
- Message Header
- Communication Request
- Contraindication
  - Text
  - Medication Prescription
  - Medication
  - Severity
- Patient
- Practitioner
- Organization

Adherence Summary:
- Message Header
- Communication Request
- Observation
  - Medication Dispense
  - Medication Prescription
  - Medication
  - Extension (disease category)
  - Value (PDC score)
- Patient
- Practitioner
- Organization
EXAMPLE DISPLAY OF MESSAGE DETAIL FOR A PATIENT

Sollors, Harry

MEDICATION ADHERENCE MESSAGE
SOLLORS, HARRY 08/24/1952

Received: 09/13/2017

Payor ABC records indicate this patient may have discontinued taking niacin as instructed. Please discuss adherence with your patient.

PLEASE RESPOND:

Is adherence a confirmed issue?

[Yes]  [No]

List of relevant Medication Adherence summaries by disease classification

<table>
<thead>
<tr>
<th>Medication</th>
<th>Adherence</th>
<th>09/07/2017</th>
<th>Supply</th>
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<tbody>
<tr>
<td>Cholesterol</td>
<td>58%</td>
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<tr>
<td>niacin, 1000mg</td>
<td>Filled</td>
<td>07/29/2017</td>
<td>90 days</td>
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<td>NDC: 0093-7394-98</td>
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</table>

<table>
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<th>Medication</th>
<th>Adherence</th>
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<th>Supply</th>
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<tbody>
<tr>
<td>Diabetes</td>
<td>64%</td>
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<tr>
<td>No medication details received</td>
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</table>

<table>
<thead>
<tr>
<th>Medication</th>
<th>Adherence</th>
<th>09/08/2017</th>
<th>Supply</th>
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<tbody>
<tr>
<td>Hypertension</td>
<td>96%</td>
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<tr>
<td>propranolol, 60mg</td>
<td>Filled</td>
<td>08/08/2017</td>
<td>60 days</td>
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<td>NDC: 54868-5564-0</td>
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</table>
ENHANCE PRESCRIBING

- Specialty Medications
- Prior Authorization
- Benefit Optimization
- E-Prescribing

ACTIONABLE INTELLIGENCE
AT CRITICAL POINTS IN CARE

INFORM CARE DECISIONS

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- Clinical History
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- Insights & Alerts
A NEW ENROLLMENT SOLUTION WILL ENABLE THE SPECIALTY PRESCRIBING PROCESS TO GO ELECTRONIC

- Enrollment forms are FHIR (STU 3) Questionnaire resources
- Argonaut has guidelines for exchanging clinical information using FHIR resources
- Condition-specific information required for all specialty enrollment (e.g., CRP & ESR for RA, and LFTs for Hepatitis C)
THE PATIENT ENROLLMENT SOLUTION INTEGRATES INTO THE PROVIDER’S EHR WORKFLOW

Standardized forms across Specialty Pharmacies by disease state/drug for prescriber to select from.

Prepopulates enrollment form with patient information, including demographic, insurance, clinical and lab data.
EXAMPLE – BODY HEIGHT (QUESTIONNAIRE)

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"linkId": "PatientBodyHeight",  "text": "Body Height",
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