### Governance Work Group Meeting Agenda

**Meeting Date:** January 5, 2009  
**Teleconference #:** 1-888-394-8197  
**Passcode:** 931255  
**Facilitators:** John Evans  
Sue Frechette

**Time:** 2:30-4:30  
**Place:** Conference call/Web-ex  

**Topic 1:** Items to approve:
- Governance Work Group Charter (Guiding Principles) (5 min)

**Topic 2:** Items to review and refine
- Prioritization of clinical/business requirements (Biz Ops WG, 20 min)
- Proposed backbone services and preliminary technical architecture plan (Tech WG, 20 min)

**Topic 3:** Items to review
- Examples of statewide HIE Governance Models (50 min)

**Topic 4:** Work group update:
- Finance (5 min)
- Technical (5 min)
- Business Operations (5 min)

**Topic 5** Next steps (5 min)

**Topic 6** Public comment (5 min)
Making technology work

MiHIN Governance
Work Group

- January 5, 2010
Today’s Agenda

- Approve Governance WG Charter Guiding Principles (5 min)
- Review and refine
  - Prioritization of clinical/business requirements (20 min)
  - Proposed backbone services and preliminary technical architecture (20 min)
- Review examples of statewide HIE Governance Models (50 min)
- Work group update (15 min)
- Next steps (5 min)
- Public comment (5 min)
Today’s Objectives

- Understand initial approach and recommendations for clinical priorities, backbone services and the conceptual technical architecture for the MiHIN
- Gain an increased understanding of governance models
- Approve Governance WG Charter/ Guiding Principles
Guiding Principle 2: The MiHIN will leverage existing and planned information technology.

- Health information exchange will be made accessible to all naturally occurring and commerce-defined communities of providers by leveraging, and to the extent possible not duplicate, existing and planned information technology investments – State of Michigan, regional, community, private and other HIE initiatives.

Guiding Principle 6: Adoption and use of the MiHIN is critical to success

- Since the benefit of statewide health information exchange comes from adoption and use, the MiHIN should be attractive to a broad range of healthcare stakeholders throughout Michigan and be designed and implemented in phases to deliver early results to support increased adoption.
Making technology work

Discussion / Vote
Making technology work

HIE Services/Clinical Use Case Overview
Business Operations Objectives

• Two chief objectives of the business operations workgroup are to prioritize:
  o ONC HIE services
  o Specific use cases to be supported within priority HIE services

• With outcomes including:
  o List of priority statewide HIE services
  o List of priority use cases
  o List of other clinical priorities for future consideration (parking lot)
Overview: What We’ll Cover

• Overview of ONC HIE service areas
• Mapping Use cases to HIE Services
• Next steps
  o Prioritize use cases
  o Identify Value propositions
Develop or facilitate the creation of a statewide technical infrastructure that supports statewide HIE. While states may prioritize these HIE services according to its needs, HIE services to be developed include:

• Electronic eligibility and claims transactions
• Electronic prescribing and refill requests
• Electronic clinical laboratory ordering and results delivery
• Electronic public health reporting (i.e., immunizations, notifiable laboratory results)
• Quality reporting
• Prescription fill status and/or medication fill history
• Clinical summary exchange for care coordination and patient engagement
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<tbody>
<tr>
<td>1</td>
<td>Electronic clinical laboratory binding and results delivery</td>
<td>Yes (calculation)</td>
<td>Yes (data transfer)</td>
<td>Moderate Population</td>
<td>Yes</td>
<td>No</td>
<td>Proven</td>
<td>Proprietary through BLS for direct patient interaction</td>
<td>Large</td>
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<td>2</td>
<td>Electronic public health</td>
<td>Yes (free solution)</td>
<td>Yes (demonstration, no operational feasibility)</td>
<td>Moderate Population</td>
<td>Yes</td>
<td>Unknown</td>
<td>Calculated by method [Not yet published]</td>
<td>Small</td>
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<td>3</td>
<td>Quality Reporting</td>
<td>Yes through analytics, response to trends and best practice development (evidence based medicine)</td>
<td>Yes (standardize procedure reduces cost of compliance (operationally and implementation of ability to report))</td>
<td>Moderate Population: benefits are indirect.</td>
<td>No</td>
<td>Yes</td>
<td>Believed</td>
<td>Current proprietary method [claims modifiers, entry via web portal]</td>
<td>Small</td>
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<td>4</td>
<td>Clinical summary exchange for care coordination and patient engagement</td>
<td>Yes (better outcomes through shared data)</td>
<td>Yes (fewer resources needed for data gathering)</td>
<td>Most Population</td>
<td>No</td>
<td>Yes</td>
<td>Unknown</td>
<td>None-early stages of CCD use of Certified EHRs</td>
<td>Moderate</td>
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<td>5</td>
<td>Electronic eligibility and claims transactions</td>
<td>No</td>
<td>Yes (less work to process claims, higher assurance of payment with eligibility checking)</td>
<td>Most Population</td>
<td>No</td>
<td>Yes</td>
<td>Proven</td>
<td>BCBSM, Clearinghouses</td>
<td>Small</td>
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<td>6</td>
<td>Electronic Prescribing and refill requests</td>
<td>Yes (accuracy of Rx, ability to check for interactions)</td>
<td>Yes (most population)</td>
<td>No</td>
<td>Yes</td>
<td>Proven</td>
<td>Surescripts, DR. First-etc</td>
<td>Small</td>
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<td>7</td>
<td>Prescription fill status and/or medication fill history</td>
<td>Yes (ensure meds are taken, drug interactions)</td>
<td>Most Population</td>
<td>Yes</td>
<td>Proven</td>
<td>Small</td>
<td>ROHUB</td>
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Electronic clinical laboratory ordering and results delivery
Electronic clinical laboratory ordering and results delivery (cont’d)

- Replace current manual processes, consolidate work in automated fashion within HIE
- Directly engages physician practices
- Incremental step towards moving providers into information-based practice
- The service providers and others who are responsible for delivering clinical results benefit by reducing results delivery costs
- Providers benefit by receiving results in a consolidated, more timely fashion
- By re-using HIE infrastructure, the HIE can facilitate this service at lower cost
• The disease burden of a community must be known to address the public health issues; disease burden is largely determined using information collected from clinical care processes.

• Clinical care processes under-report to public health
  o Reporters overburdened/under-resourced
  o Reporters lack knowledge, willingness
  o Clinical data is scattered across disparate settings in different (non-standard) formats

• Public health reporting opportunities includes:
  o Electronic laboratory reporting of notifiable conditions
  o Immunization data exchange
  o Disease surveillance
Electronic public health reporting: ELR Completeness

4,785 total reportable cases
INPC– 4,625 (97%)
Health Dept – 905 (19%)
Hospitals – 1,142 (24%)

Mapping Use Cases to HIE services

- Electronic clinical laboratory ordering and results delivery
  - Incorporate lab test results into EHR (improved timeliness and workflow efficiency)
  - Leverage HIE framework to reduce complexity of delivering clinical results
Mapping Use Cases to HIE services

- **Electronic public health reporting**
  - Receive histories and recommendations from immunization registries using EHR’s and MCIR
  - Deliver newborn screening results to public health and clinicians via results delivery
  - Automatically transmit reportable condition data to the Michigan Disease Surveillance System from laboratory systems and EHR systems
  - Deliver public health decision support or public-health alerts directly to physicians and other care providers’ EHR
  - Provide electronic syndromic surveillance data to the Michigan Syndromic Surveillance System according to applicable laws
What is a Use Case?

• A use case describes relationships between users and systems by detailing the user intention and system response for each step in a particular interaction
• A use case describes what the system will do (rather than how it is done) at a high-level, focused on users
• A use case can be written in both an informal (high-level) and formal (detailed) styles
• A use case can aid in capturing system requirements
**Name:** Order and Receive clinical results

1. Physician places order for clinical test using an EHR.
2. EHR transmits request to clinical service provider (e.g., microbiology lab).
3. Clinical service provider performs requested test.
4. Laboratory information system (LIS) transmits culture report to results delivery service.
5. Results delivery service verifies ordering physician and maps to appropriate electronic destination.
6. Result electronically delivered to ordering physician’s EHR.
7. Physician authenticates to their EHR and retrieves electronic result.
Prioritizing Use cases
Factors Informing Prioritization (review)

As we evaluate potential use cases, potential factors that can inform prioritization include:

- Potential to improve health outcomes
- Potential to improve workflow (does it address current “pain points”, is there a clear value proposition?)
- Existing evidence?
  - Cost Reduction?
  - Improved Outcomes?
- Magnitude of impact (many or few affected?)
- Does current capacity exist to support process?
- Support Incremental Growth of HIE in Michigan?
- Support Meaningful Use?
- Sustainable?
Next Steps

- Review/refine factors that inform prioritization of use cases
- Disseminate preliminary use cases for top priority areas
- Engage in vigorous electronic discussion
- Prepare short list to vote upon
Making technology work

Discussion / Questions
Making technology work

Backbone services and the conceptual technical architecture for the MiHIN
Technical WG Goals and Objectives

Develop a comprehensive statewide technical architecture that:

- Performs 4 main functions
  - Aggregating data and interconnecting providers via Community HIEs
  - Connecting Community HIEs through a MiHIN state-wide backbone
  - Provide shared clinical and administrative services and applications
  - NHIN connectivity for sharing data with other states and the federal government
- Meets prioritized clinical requirements for meaningful use (as defined by the ONC)
- Allows community HIEs and State systems to interoperate with the statewide architecture
- Supports auditing and other HIPAA security protocols
- Supports data analytics
- Is cost-effective to maintain
Conceptual Architecture

• The MiHIN will be implemented using a service-oriented architectural paradigm (SOA), implemented through web services operating through an enterprise service bus (ESB)

• Will utilize a four-tier protocol stack
  o Tier 1 Connectivity, Transport & Security
  o Tier 2 Message Standards (HL7, IHE, CCD, etc)
  o Tier 3 Terminology Standards (LOINC, RxNorm, SNOMED, etc)
  o Tier 4 Healthcare Services Orchestration (decision support, eRx, etc)

• Will reuse existing state and stakeholder systems as makes sense
Conceptual Architecture

- Will provide the following core services:
  - EMPI/RLS
  - Master Provider Index
  - Query for Documents (XDS)
  - Security
  - Service Registry

- Clinical and Business services will initially focus on the ONC HIE priorities of
  - Lab orders and results
  - Public health reporting
  - Eligibility checking and claims processing
  - Quality reporting
  - ePrescribing
  - Medication Management
  - Coordination of Care
Conceptual Architecture

- Will connect to the following State of Michigan Systems
  - Vital Records (Birth and Death Systems)
  - Michigan Disease Surveillance System
  - Michigan Syndromic Surveillance System
  - Michigan Care Improvement Registry
  - CHAMPS Medicaid System
  - State Lab Systems
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Discussion / Questions
Governance models – concepts and samples
Three Public Governance Models for Sustainable HIE

1. **Government-Led Electronic HIE:** Direct Government Provision of the Electronic HIE Infrastructure and Oversight of its Use
   - Public Authority (Delaware and Pennsylvania are models)
     - Government controlled corporation
     - Existing State Agency: (Washington Health Care Authority is model)

2. **Electronic HIE Public Utility with Strong Government Oversight:** Public Sector Serves an Oversight Role and Regulates Private-Sector Provision of Electronic HIE.
   - Public Authority
   - Existing State Agency (Rhode Island is model)

3. **Private-Sector-Led Electronic HIE with Government Collaboration:** Government Collaborates and Advises as a Stakeholder in the Private-Sector Provision of Electronic HIE.
   - Many variations, but 501 (c)(3) is most common entity

From the Report to the State Alliance for e-Health: Public Governance Models for a Sustainable Health Information Exchange Industry, 2009
Model 1: Government-Led Electronic HIE

Advantages

• Use/leverage existing IT infrastructure (space, equipment, computing capacity)
• Citizens may be more comfortable with a State entity managing their health information than a private entity
• Setting policies may be easier if the State takes lead and assumes responsibility for policy choices
• State may be able to access low-cost public financing
• If State assumes initial risk of developing HIE, may be easier to gain trust/commitment of stakeholders over long-term (alleviate competitive challenges)

Disadvantages

• Government rarely considered leading-edge user or operator of technology
• May not place a priority on upgrades and maintaining state-of-the art capabilities
• May be reluctant to ask stakeholders to pay for HIE upgrades
• These factors might limit the potential use of HIE data
Delaware Health Information Network

- **HIE: DHIN**

- **Funding (initial)**
  - $5M: State of DE ($2M in year one, $3M year two)
  - $2M: Match from private sector (year one)
  - $4.7M: AHRQ SRD grant

- **Funding (ongoing)**
  - Private stakeholders/data providers charged on volume of transactions
    - costs are allocated as a percentage of total costs to the state authority
  - Per-member per-month (PMPM) fee for health plans
  - Subscription fee for value-added services to be implemented

- **Unique attributes**
  - Created in 1997 as a public utility to facilitate exchange of claims data
  - Shifted focus to clinical data in 2003
DHIN Services

Current services:
- Laboratory results
- Hospital admission, discharge, and transfer data
- Radiology reports

Next phase:
- Radiology images
- Electronic order entry
- Transcribed reports
- Medication history search function in emergency departments (evaluation)
DHIN usage

- More than half the providers in Delaware now use DHIN
- Over 85 percent of lab transactions in the state go through the system
- More than 80 percent of hospitalizations are reported in DHIN
- Clinical information from laboratory and hospital participants is automatically delivered through DHIN in real time to the ordering provider at the point of care
- Six hospitals currently participate and two more are considering joining, out of a total of nine in the state
DHIN is a state entity that has responsibility for both governance and operations of the statewide electronic HIE, acting as an HIO

- DHIN was established in 1997 under the umbrella of the Delaware Health Care Commission, but governs itself.
- Its board of directors consists of representatives from the hospital, physician, state, employer, consumer, and insurance worlds, of whom roughly 70 percent are from private organizations and 30 percent are from the public sector.
- DHIN governance structure is shifting more toward the private sector.
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Discussion / Questions
Model 2 – Electronic HIE Public utility with strong government oversight

**Advantages**

- Allows vendors to build and operate the exchange
- Allows use of private capital to finance the exchange
- Rate-setting process could be used to establish performance rewards and cover system upgrades
- Stakeholders could be involved in approving system costs

**Disadvantages**

- Private companies may not want to operate under the strictures of a utility arrangement
- Requiring the utility to operate as a self-financed entity may result in high initial user fees as regional/community/private HIEs get underway
- Entity chosen to operate the HIE could fail, requiring state intervention
• HIE: currentcare

• Funding
  - Agency for Healthcare Research and Quality SRD Contract ($5 million)
  - Foundation for eHealth Initiative
  - State of Rhode Island
  - Additional public sector support (details for sustainability under development)

• Unique attributes
  - Significant focus on legislation and consumer privacy
Today currentcare shares test results from medical laboratories and prescription drug records.

Over time it will include additional health information, including allergies, X-rays, and medical history.

Most emergency rooms and health centers in Rhode Island, and many nursing homes will be currentcare users in 2009.

Many doctors’ offices will become users by 2010.
The Rhode Island Quality Institute (RIQI) was designated by the state to serve as the governance entity of the RIHIE in 2004
• RI DOH serves as project manager for the HIE and develops regulatory structures to oversee the RIHIE
• RIQI acts as a multi-stakeholder governance entity with multiple committees to advise the electronic HIE operations
  o Initially, state representatives (Health and Human Services, Department of Health and Lt. Governor) served in leadership positions
  o Due to conflict-of-interest issues related to state funding, the state stepped down from board membership
Sustainable business model is a challenge
- Although benefits accepted, spread across stakeholders and difficult to create a sense of equity around funding
- Value impacted by consumer/patient adoption
- Early releases without fees limits options for charging fees in future
- Providers do not want to pay for HIE services
- Evaluating different models (claim tax, bed tax, other fees) and potential disadvantages (fees dissuade usage, etc.)
- Exploring additional services
Discussion / Questions
Model 3 – Private-Sector-Led Electronic HIE with Government Collaboration

**Advantages**
- Highly dependent on maturity and performance of the exchange organization to date
- If it does, then this approach avoids establishing new organization/governance structure and takes advantage of strong existing stakeholder relationships

**Disadvantages**
- Depends on ability of exchange organization to police itself
- Without strong state role public may question use of data and fairness of charges
- Question of responsibility should it fail after receiving public investments
- Question of competition -> this model doesn’t prevent competing exchanges entering the market
• HIE: VHIE

• Funding (initial)
  o $2.1M: VT Legislature
  o $2M: VT Department of Health
  o $1M: Community stakeholders

• Funding (ongoing)
  o Legislatively mandated funding from VT businesses and members of the public at 0.199 percent of medical claims – projected to raise $32M over seven years.

• Unique attributes
  o Infrastructure is designed to support HIE and Blueprint for health
  o Funding is allocated by project/pilot
Initial pilots:
  o ED medication management
  o Vermont Blueprint for Health (chronic care management)

Recent:
  o Lab results delivery

Planned:
  o electronic lab orders
  o radiology reports and orders
  o immunization records
  o clinical summaries (medications, allergies, diagnoses, and recent treatments)
VHIE Usage

Lab results delivery
- Four hospitals connected
- 40 providers receiving results
- 69,040 lab results delivered to date

Blueprint for Health
- Three sites connected
- 19 providers contributing data to the DocSite registry
- 878,816 transactions processed to date

EHR grants
- Nine independent primary care practice sites
- 37 providers who deliver health care to 74,000 Vermonters

Medication History
- 3 hospital emergency departments connected
- 100,576 medication histories delivered to date
Vermont Information Technology Leaders, Inc. (VITL) is a non-profit partnership between the public and private sectors

- VITL is a multi-stakeholder corporation formed by a broad base of providers, payers, employers, patients, and state agencies
- 501(c)(3) public charity, incorporated in Vermont on July 22, 2005
- Funding is allocated by the state on a project basis
Lessons learned

• Initial board in 2005 included 21 members – in 2008, revised by-laws and reduced board members to 11 to enable faster decision making
• Develop 1 approach to a statewide HIE solution
• Fully engage neighboring state where high cross-state medical trading area
• Financial model is good step toward long term financial sustainability
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Discussion / Questions
**Goals**

The New York eHealth Collaborative will galvanize health care systems improvement by promoting broad use of health information technology through a comprehensive and coordinated state policy agenda that:

Stimulates coordinated and collaborative efforts among health care stakeholders to identify and overcome barriers to widespread health IT adoption and use to enhance evidence-based practice by clinicians, as well as consumer engagement in health maintenance and management;

Advances health care performance measurement, public reporting and improvement supported by health IT;

Improves public health through effective prevention and management of chronic disease, as well as stronger public health surveillance and emergency response capabilities; and

Ensures accountability by measuring and evaluating health IT impact on health care systems, payers, providers, and consumers.
New York

• HIE: State Health Information Network – New York (SHIN-NY)

• Funding (initial)
  o $52.9M awarded from NYS DOH in 2006 for 26 health IT projects
  o $105M additional funding in 2008 from NYS DOH for 19 health IT projects
  o $35M grant funding in 2009 from NYS DOH to advance the development and implementation of New York’s health information infrastructure.

• Unique attributes
  o NYS has identified health IT as a key part of its health reform agenda
  o Strategy is to provide funding that enables RHIOs and CHITAs to implement the technology and achieve financial sustainability
  o In return, funded organizations must actively participate in: governance; development of and compliance with statewide rules, technology standards and privacy/security guidelines; approaches to measurement; and financial sustainability plan requirements
  o Exploring RHIO accreditation program as part of HIT strategy

Department Of Health

New York eHealth Collaborative Board

Education & Communication Committee

Policy & Operations Council (RHIOs, HSPs, CHITAs)

Strategic Partner Initiatives
- Financial Sustainability
- HITEC – Evaluation
- Consumer Advocacy Coalition

Collaborative Work Groups
- Clinical Priorities
  - Medicaid
  - Quality Reporting
  - Public Health
  - Connecting NYs and Clinicians
- Protocols & Services
- Privacy & Security
- EHR Collaborative

Implementation
Policies & Standards

Projects
- HEAL Teams
- NHIN Team
- CDC Team

Feedback
NY – Lessons Learned

Lessons learned

- Very RHIO and CHITA – centric
- Substantial involvement of organizations and stakeholders across the state to drive all aspects, from governance to vendor requirements
- All awardees required to provide matching funds – ‘skin in the game’
- Slower to implement because dependent on progress of regional HIE efforts but within the next 2 years will achieve a substantial statewide HIE network
- Large number of projects allows all aspects of HIE to be developed from clinical priorities (medication history to transitions in care) to deployment (EHRs to statewide services)
- Costly to implement because are funding numerous initiatives at one time and significant resources are required to manage statewide collaboration process
- Benefitted from involvement with NHIN and CDC projects
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Discussion / Questions
Colorado

- **HIE: CORHIO**
- **Funding (initial)**
  - The Colorado Health Foundation – $1.4 million
  - Governor’s Building Blocks – $1 million, with State/Federal/Private Sector match
  - Point of care – $5M, AHRQ
  - Clinical decision support – $600,000, State (CCPD)
  - Privacy and security - $875K, federal (ONC)
- **Funding (ongoing)**
  - Considering a subscription model
- **Unique attributes**
  - Cultural preference for the market over government solutions
Point of Care Inquiry System (initial AHRQ-funded pilot) – live 12/1/08, evaluation due soon

When a patient comes to the emergency room at a participating organization (The Children’s Hospital, Denver Health & Hospital Authority, KaiserPermanente Colorado and University of Colorado Hospital) over 500 emergency department clinicians can access the CORHIO system for following medical information:

• Prescription drugs - both prescribed and dispensed
• Lab tests
• X-rays, MRIs and other imaging reports
• EKG reports and images
• Diagnoses
• Registration information

Biosurveillance pilot (2008)

• Evaluate emergency room patterns that might indicate naturally occurring or bioterrorist acts – public health “early warning system”
• Twenty (20) contributing hospitals could securely view daily community surveillance reports
Planned future services:

- **Clinical Messaging**
  - e-Prescribing
  - Laboratory orders & results
  - Patient referrals to and from a specialist
- **Immunization simplification (CDC grant)**
  - The Colorado Immunization Information System (CIIS) currently tracks children for vaccines, assists providers in recall efforts, and advises what the appropriate vaccines are for any child in the registry
  - Allows clinicians to rapidly access important immunization health information when and where it is needed leading to improved vaccine rates and reduced vaccine-preventable disease
  - Converting to new messaging standards will simplify its use making it more efficient and user-friendly
• State level collaborative partnership, engaging the public and private sectors as well as a broad range of individuals, organizations, agencies, and policy makers to develop and support statewide health information exchange

• Board: 21 members, 4 ex-officio (Medicaid agency, public health, state CIO, state QIO)
• Stakeholder Engagement/Committees
• Consumer Advisory
• Policy
• Technology
• AHRQ State and Regional Demonstration contract awarded (COHIE)

2004–5
• Stakeholders endorse vision for statewide HIE
• CORHIO Steering Committee deliberates and calls for statewide RHIO

2007
• CORHIO incorporated 3/07
• Legislative action supporting HIE development
  • Senate Bills 74 and 196; 208 Commission
• Cyber-insurance, 3rd party hosting, testing

2006
• CO participates in national HIE efforts (AHIC, HISPC, CCHIT, SLHIE) and state level initiatives (e.g. DOQ-IT, IPIP)
• Stakeholders endorse establishing CORHIO as 501(c)(3)
• Governance model developed, Board of Directors solicited

2004
• AHRQ State and Regional Demonstration contract awarded (COHIE)

AHIC: American Health Information Community
CCHIT: Certification Commission on HIT
HISPC: Health Information Security and Privacy Collaborative
SLHIE: State Level - HIE
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Discussion / Questions