Electronic Health Records
Background and Options Briefing
Target Populations and Geographic Scope

Office of the National Coordinator for Health Information Technology
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The following is a synthesis of data collected in collaboration with the co-chairs, expert members of the community, and other workgroup members. This information is for your careful review and intended to facilitate discussion and decision-making at the February 22, 2006 Electronic Health Record workgroup meeting. The goal of this meeting is to finalize the workgroup's recommendations for presentation to the Secretary and the American Health Information Community at the March 7, 2006 meeting.

Charges for the Electronic Health Record Workgroup

- **Broad Charge for the Workgroup:** Make recommendations to the Community on ways to achieve widespread adoption of certified EHRs, minimizing gaps in adoption among providers.
- **Specific Charge for the Workgroup:** Make recommendations to the Community so that within one year, standardized, widely available and secure solutions for accessing current and historical laboratory results and interpretations is deployed for clinical care by authorized parties.

  Laboratory results are critical factors in clinical decision-making and health care delivery. Many surveys and papers have highlighted the practitioner's strong desire to have laboratory data accessible at the point of service within their electronic health record. Fortunately, laboratory values are one of the very few pieces of clinical data that are, at least at one point in their lifecycle, electronic. Providing a standardized, widely available mechanism of supplying laboratory data to the clinician both achieves the specific charge, while enhancing the attractiveness of EHRs to practitioners. .

Critical criteria in development of specific charge recommendations:

- Feasible to implement in 2006.
- Accomplishes the specific charge, while facilitating the most direct path to the broad charge of widespread EHR adoption.
- Illuminates the significant barrier(s) that must be resolved to achieve breakthrough success (policy and technical).
- Delivers the value to the consumer over the next 1-2 years.

- Leverages all stakeholders, while appropriately balancing expectations, responsibilities and authority.
- Aligned with other breakthrough activities.

Options

The following is to facilitate the workgroup's discussion regarding potential options for achieving the specific charge, along with discussion of the most appropriate geographical locations, populations, data elements, and technical and policy barriers.

Option 1: EHRs uniquely interfaced with limited number of laboratories. (Peer to Peer). Represents present environment.

This type of direct interface is what is typical of the current EHR environment, and reuses legacy proprietary interfaces rather than current, open standards. Provides electronic access to electronic data only to those with EHRs.

- **Pros**
  - Supports the current market model, preserves current investments

- **Cons**
  - EHRs unable to retrieve data ordered by other clinicians, processed by labs other than those for which specific interface is built
  - Costly, unique, multiple interfaces
    The January 19, 2005, Health Affairs Article (Walker, J., et. al.) "The Value of Health Care Information Exchange and Interoperability", refers to this as Level 3 Interoperability: Machine-organizable data—transmission of structured messages containing non-standardized data. Level 3 interface development costs based on expert opinion- $50,000 per interface for labs and $20,000 per interface in group practice offices.
  - Limits providers from accessing information from different labs secondary to multiple expensive interfaces.
  - Limits the ability to support the PHR and Biosurveillance breakthroughs.
  - Only supports local level (point-to-point) sharing.

Option 2: EHRs interfaced to laboratories using an agreed upon, HITSP approved and normalized standard interoperability interface. (Standardized, Peer to Peer)

Standards not yet HITSP approved, though options exist. Electronic lab data only available to clinicians with EHRs.

- **Pros**
  - Supports Broad charge of EHR adoption by standardizing lab results exchange via EHRs.

- Standard interface would permit new business relationships with labs-providers/organizations.
- More efficient and less costly to the laboratories and practices over time.
- Slated for CCHIT certification of Ambulatory EHRs in Sept 2006.
- The January 19, 2005, Health Affairs Article (Walker, J., et. al.) "The Value of Health Care Information Exchange and Interoperability". Refers to this as Level 4 Interoperability: Machine-interpretable data—transmission of structured messages containing standardized and coded data.
- Level 4 interface development, using a HITSP approved, open standard, should decrease the point-to-point interface costs.
- Supports technical lab results reporting at Local, Regional and National levels.

- **Cons**
  - Unable to retrieve data ordered by other systems/providers.
  - Does not address the privacy, security or business/operational barriers to Local, Regional and National lab results reporting.

Option 3: Laboratory results access via a Portal/Web Access, which permits electronic interoperability with EHRs and access/viewing for those without EHRs.

- **Pros**
  - This model would support both those with EHRs and those without who still wish to access lab results electronically. This is the first option that has the ability to provide the ability to give the patient the ability to receive the labs or to designate a proxy, such as their primary care provider.
  - Those with EHRs would have their EHRs interface with the portal, rather than directly with the lab systems. Lab order entry would need to be a component in order to appropriately route the results the ordering practitioner's systems and link the data to the patient's record.
  - Those without EHRs, once authenticated to use the system, would have to access the portal and pull down lab results on their patients.
  - Portal can handle patient identification, user authentication, browsing, transmission and receipt of data.
  - Portal could also allow for patient data sharing agreements to be cataloged
    - Between Businesses
    - Patient Consents
  - Supports all levels of data sharing Local to National
  - Could support PHR and Biosurveillance breakthrough

- **Cons**
  - Facilitation of non-EHR users access to lab results via a portal may remove significant incentive to adopt EHRs.
  - Lab order entry is not presently part of the specific charge, but may be a necessary enabler to facilitate this model in order to appropriately catalog the transaction for others to query, to route the results to the ordering practitioner's systems, and link the data to the patient's record.
  - Time -feasibility of establishing a lab portal.
  - Time-feasibility in establishing protocols for user authentication and access to portal.
  - Could be so small/decentralized that could contribute to more silos.
  - Lab portal does not facilitate true interoperability and complete health record.

Option 4: Laboratory results access via a RHIO type collaboration, which involves multiple stakeholders and addresses issues of governance, sustainable funding, and flow of patient authorized information.

- **Pros**
  - A standard interface for labs and EHRs.
  - Incents EHR adoption and participation in a RHIO
  - Governance of the RHIO can extended access to those without EHRs
  - RHIO to help broker: business agreements, user authentication, patient permissions, interoperability specifications, ...
  - Technical access to complete data sets, including labs ordered by other physicians.
  - Moves to the broad charge and supports the NHIN infrastructure.
  - Multi-stakeholder governance
  - Record locater service

- **Cons**
  - Possible only in areas with fairly well established RHIOs
  - Possible in states with less stringent CLIA interpretations.
  - Lab order entry is not presently part of the specific charge, but may be a necessary enabler to facilitate this model in order to appropriately catalog the transaction for others to query, to route the results to the ordering practitioner's systems, and link the data to the patient's record.