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INNOVATIVE MANAGEMENT AND TECHNOLOGY CONSULTING

Patient Identification and Matching Initiative Stakeholder Meeting

December 16, 2013

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Agenda

- Welcome
- Overview of the Patient Identification and Matching Initiative
- Overview of the Environmental Scan
- Overview of Initial Findings
- Comments from HHS
- Comments from ONC
- Discussion/Feedback on Initial Findings

- Lunch (on your own)

- Discussion/Feedback on Initial Findings
- Next Steps and Closing Remarks

Judy Murphy, Deputy National Coordinator for Programs and Policy, ONC

WELCOME

Background

- Accurately matching patients has been identified has a significant challenge for the past decade.

- ONC began work in this area in 2009, with a whitepaper developed with the Regenstrief Institute.

- In 2011, the HITPC made an initial set of recommendations that included standardization of data elements and other best practices.

- In late 2012 and 2013, a number of industry groups began work to improve patient matching, including the Care Connectivity Consortium, CHIME, HIMSS, HealtheWay, and CommonWell.

- In 2013, ONC developed a proposed strategy and roadmap for improving patient matching that used the S&I Framework to develop improved patient matching techniques and would have run through 2015.

- Based on the near-term need for improved patient matching, an alternate strategy was developed.

Guiding Principles

Patient safety is the driving force for improvement in patient matching.

The real-world impacts on the workflow of administrative and clinical personnel must be carefully considered.

Patient matching is a complex problem; therefore, improvements will be multifaceted and incremental with no single solution or step that is final.

Potential improvements should apply all sizes and types of provider settings, a range of health IT adoption levels, and a broad set of "use cases."

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Project Overview

The project was designed to be an inclusive and transparent review of the spectrum of works to date. It included an in-depth formal environmental scan and informal discussions with a broad set of stakeholders.

The key project components included:

- Literature review

- Environmental scan

- Initial draft recommendations

- A series of review and feedback loops

An important part of the project was determining what was in scope versus out of scope.
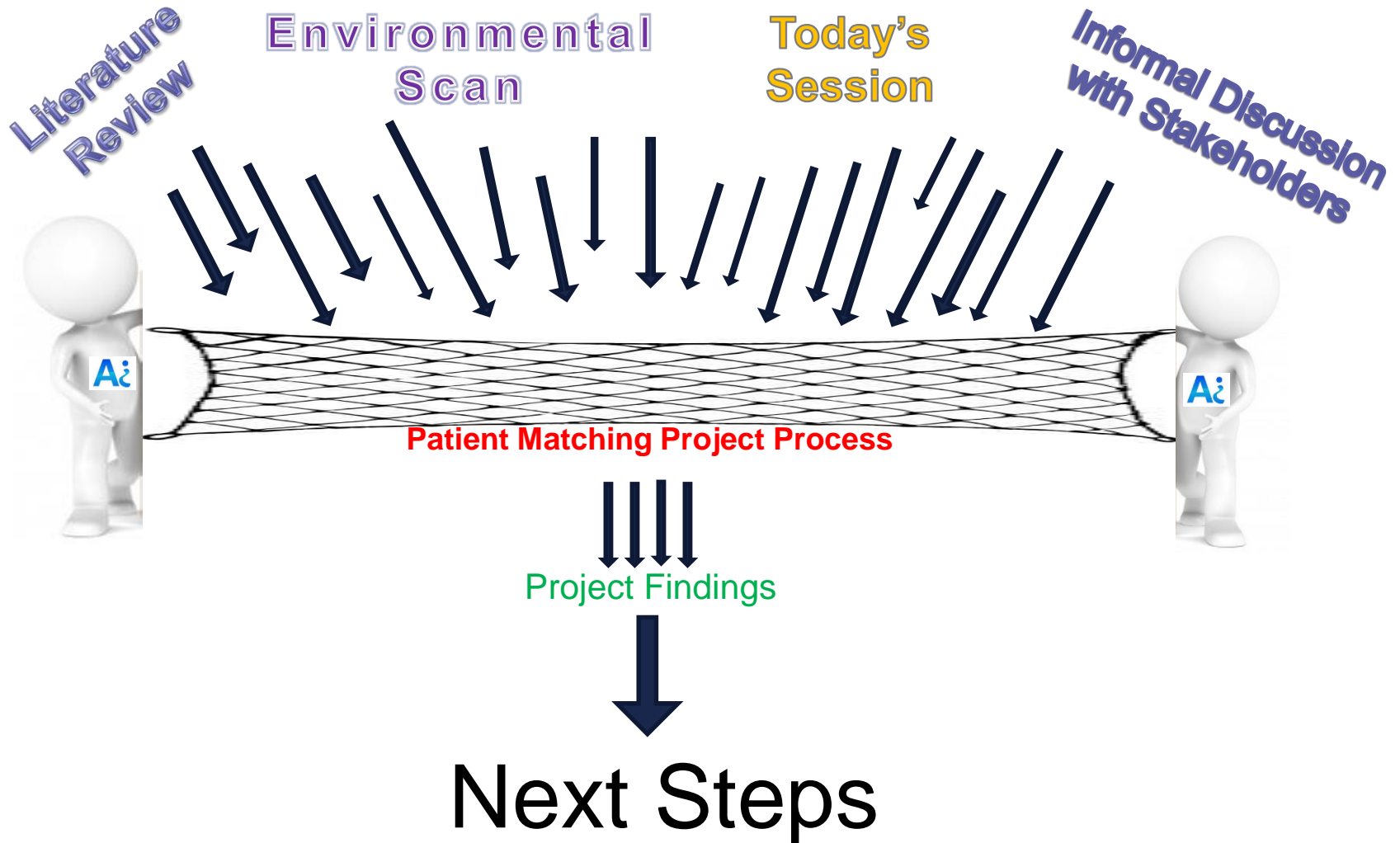
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Who's Involved?

Office of the National Coordinator Team

- OSCP: Lee Stevens - Lead
- OPP: Kate Black – Co-Chair
- OST: Lauren Thompson – Federal Partners Liaison
- OCPO: Kathryn Marchesini
- OCMO: Sandy Rausch
- OCOMM: Nora Super

Partners:

- Federal Partners/Federal Health Architecture
- EHR/HIE Interoperability Work Group (via Exemplar HIE Governance Grant)
- CHIME; HIMSS; EHR Association
- CommonWell
- Care Connectivity Consortium (CCC)
- AHIMA; WEDI; Center for Democracy and Technology
- Bipartisan Policy Center; Joint Commission

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The Process….

Literature Review

Environmental Scan

Today's Session

Informal Discussion with Stakeholders

Patient Matching Project Process

Project Findings

Next Steps

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ENVIRONMENTAL SCAN OVERVIEW

Overview

- Sought feedback before and during process to ensure partners and participants are aware of methodology and questions asked as part of the environmental scan.

- Interacted with 50+ organizations, including HIOs, health systems, IDNs, MDM and HIE vendors, EHR vendors, Federal Partners (VA, DoD, SSA), and trade associations to establish a baseline of what we know today about improving patient matching.

- Standard questions for formal interviews with health systems/IDNs, HIOs, MDM/HIE vendors, and EHR vendors.

- Informal conversations with Federal Partners, trade associations, consumer organizations and other key stakeholders.

Identified Barriers to Accurate Patient Matching

- Inconsistent formatting within data fields is widespread. Variation in how a name is styled makes it harder to make a match. Systems that use different fields have little in common with which to match.

- Mistakes in data entry, such as transposition, require sophisticated software to adjust or take them into account. Some such mistakes are typographical errors, others can be tied to inadequate training of staff members creating the record, particularly if they are not administrative staff with access to training and performance improvement on patient identity integrity.

- Smaller organizations and practices may not be able to afford sophisticated matching methods and algorithms, and their practice software may not offer such capability.

- Patient engagement efforts have not yet evolved to ensure that consumers can routinely access their demographic information to confirm and update it, either with the help of a staff member or independently via a portal.

Recurring Themes

- **Improve patient safety** with the right information, available at the right time for patient care.

- **Improve care coordination** as EHRs and health information exchange allow health data to be shared across multiple providers and among disparate organizations.

- **Empower patients and their caregivers** to be involved in ensuring health data is accurate and shared appropriately.

- **Implement standardization incrementally**, beginning with the most common demographic fields, while conducting additional research on adding fields over time.

- **Improve data quality** by focusing on technology improvements.

- **Improve data quality** by focusing on people and process improvements, such as training, data governance, data review policies, and best practices for data intermediaries to assist in identifying duplicates and mismatches.

BRYAN SIVAK
CHIEF TECHNOLOGY OFFICER, HHS

DOUG FRIDSMA, MD, PHD
CHIEF SCIENCE OFFICER, DIRECTOR, OFFICE OF SCIENCE AND TECHNOLOGY, ONC

JOY PRITTS, JD
CHIEF PRIVACY OFFICER, ONC

INITIAL FINDINGS

Initial Findings

1) Require standardized patient identifying attributes in the relevant exchange transactions.

2) Certification criteria should be introduced that require certified EHR technology (CEHRT) to capture the data attributes that would be required in the standardized patient identifying attributes.

3) Study the ability of additional, non-traditional data attributes to improve patient matching.

4) Develop or support an open source algorithm that could be utilized by vendors to test the accuracy of their patient matching algorithms or be utilized by vendors that do not currently have patient matching capabilities built into their systems.

5) Certification criteria should be introduced that require certified EHR technology (CEHRT) that performs patient matching to demonstrate the ability to generate and provide to end users reports that detail potential duplicate patient records.

6) Build on the initial best practices that emerged during the environmental scan by convening industry stakeholders to consider a more formal structure for establishing best practices for the matching process and data governance.

7) Develop best practices and policies to encourage consumers to keep their information current and accurate.

8) Work with healthcare professional associations and the Safety Assurance Factors for EHR Resilience (SAFER) Guide initiative to develop and disseminate educational and training materials detailing best practices for accurately capturing and consistently verifying patient data attributes.

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Initial Finding 1: Standardization of Data Attributes

Require standardized patient identifier content in the relevant exchange transactions.

- The recommendation does not require the standardization of the capture of the data elements, but rather the exchange of the data elements, which are commonly used for matching in HL7 transactions, IHE specifications, CCDA specification, and the eHealth Exchange.

- Data attributes and standards are detailed on the next slide.

Rationale

- The lack of data attributes that are populated consistently and in a standardized format within PID segments has been identified by the industry as a major impediment to more accurate patient matching.

- This method may also encourage vendors developing registration systems to conform to the enhanced PID segments, which would aid the patient matching process.

- This does not require vendors to modify the method their system uses to capture the data elements, reducing the cost of the modifications to only those required to update patient identifier information on HL7, CCDA, and IHE messages.

Initial Finding 1 (cont.)

Data Attribute	Strategy for Improvement
First/Given Name	1) Improve data consistency and normalize data
Last/Family Name	1) Improve data consistency and normalize data 2) Follow the CAQH Core 258: Eligibility and Benefits 270/271 Normalizing Patient Last Name Rule version 2.1.0 (Addresses whether suffix is included in the last name field.)
Middle/Second Given Name (includes middle initial)	1) Improve data consistency and normalize data
Suffix	1) Improve data consistency and normalize data 2) Suffix should follow the CAQH Core 258: Eligibility and Benefits 270/271 Normalizing Patient Last Name Rule version 2.1.0 (JR, SR, I, II, III, IV, V, RN, MD, PHD, ESQ) 3) If no suffix exists, should be null.
Date of Birth	1) YYYYMMDDHHMMSS 2) If hhmmss is not available, the value should be null 3) Precise year, month, and day are required
Current Address (street address, city, state, zip code)	1) Evaluate the use of an international or USPS format
Historical Address (street address, city, state, zip code)	1) Evaluate the use of an international or USPS format 2) If unavailable, the value should be null
Phone Number (if more than one is present in the patient record, all should be sent)	1) Utilize an ISO format that allows for the capture of country code 2) Allow for the capture of home, business, and cell phone.
Gender	1) ValueSet Administrative Gender (HL7 V3): M, F, UN

Initial Finding 2: Capturing Data Attributes

Certification criteria should be introduced that require certified EHR technology (CEHRT) to capture the data attributes that would be required in the standardized patient identifier content.

- This finding would require CEHRT to demonstrate the ability to capture the following list of data attributes, not currently required in the 2014 certification criteria: middle name or initial, suffix, current address, historical address(es), and phone (including home, business, and cell)

- Improve the ability of CEHRT to demonstrate the ability to record apostrophes and hyphens in the first and last name fields.

Rationale

- Not all of the data attributes being recommended to be required on PID segments are currently captured by CEHRT.

- There is variability in the ability to capture apostrophes and hyphens in CEHRT's name fields. For systems using deterministic matching, the variability of hyphens and apostrophes could create a false negative.

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Initial Finding 3: Data Attributes Requiring Further Study

Study the ability of additional, non-traditional data attributes to improve patient matching.

- Data attributes include: email address, mother's first and maiden name, father's first and last name, place of birth, driver's license number, passport number, or eye color.

- Statistical analysis can be performed with these data attributes to assess their ability to improve matching.

- In addition to a statistical analysis, patient privacy and security implications would also be evaluated.

Rationale

- EHR systems do not currently have the ability to capture the majority of these data attributes, and would require significant changes to current registration processes and vendor system capabilities.

- While the data attributes seem unique and stable, statistical analysis is required to verify this assumption. It would be premature to require these data elements without further study, which was outside of the scope of this project.

Initial Finding 4: Patient Matching Algorithms

Develop or support an open source algorithm that could be utilized by vendors to test the accuracy of their patient matching algorithms or be utilized by vendors that do not currently have patient matching capabilities built into their systems.

- ONC should not require the use of a specific algorithm.

- ONC would need to evaluate development of a new open source algorithm or updating and supporting an existing open source algorithm that would require changes in order to accommodate the new required data attributes.

Rationale

- Vendors and health systems have spent time and resources developing their algorithms and utilize them as a business differentiator.

- A single mandatory algorithm would likely be unable to keep pace with technological innovations.

- EHR vendors that do not currently have the ability to perform patient matching would benefit from an open source algorithm that could be utilized in their products.

Initial Finding 5: Identifying Duplicates

Certification criteria should be introduced that require certified EHR technology (CEHRT) that performs patient matching to demonstrate the ability to generate and provide to end users reports that detail potential duplicate patient records.

- These reports provide a list of potential duplicate patient records to practices and hospitals, allowing them to review the records and update as appropriate.

- CEHRT should clearly define for users the process for correcting duplicate records, which typically requires the merging of records.

Rationale

- Identifying duplicate patient records within an EHR system or master patient index is important to ensuring accurate matching of patient records.

- Not all EHR systems currently provide these reports to their users.

Initial Finding 6: Data Governance Policies and Best Practices

Build on the initial best practices that emerged during the environmental scan by convening industry stakeholders to consider a more formal structure for establishing best practices for the matching process and data governance.

- Potential best practices identified through the environmental scan include: regular reviews of potential duplicates, data governance programs that work to establish current rates and then improve false positive and false negative rates, training programs that can be replicated, policies that apply across a health system with multiple sites, and processes for a central entity, such as an HIO or Accountable Care Organization (ACO), to notify participants of matching errors and corrections.

Rationale

- The environmental scan identified some methods with potential for use throughout the healthcare industry, but it is unclear whether these best practices could be universally utilized, particularly in small ambulatory practices. The best practices require additional review and build-out by the industry to ensure universal applicability.

Initial Finding 7: Consumer Engagement Policies and Best Practices

Develop best practices and policies to encourage consumers to keep their information current and accurate.

- Examples of best practices could include allowing patients to manage their own demographics via a patient portal, training registrars and clinicians to verify patient demographic information, and verification of a patient's identity via a photo ID and/or insurance card.

Rationale

- Patients are the primary source of demographic data used in matching and are often unaware of the importance of maintaining accurate demographic data with their providers.

- Currently, processes vary significantly across organizations for having patients update their demographic information.

- Meaningful Use Stage 2 places an increased emphasis on consumer engagement in healthcare.

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Initial Finding 8: Data Quality Policies and Best Practices

Work with healthcare professional associations and the Safety Assurance Factors for EHR Resilience (SAFER) Guide initiative to develop and disseminate educational and training materials detailing best practices for accurately capturing and consistently verifying patient data attributes.

- Data integrity programs should acknowledge the key role of the front office staff and registrars who are typically responsible for verifying the patient demographic information that is used in matching.

- Specific best practices to address the issue of data accuracy could be weaved into a broader campaign emphasizing the positive impact of accurate patient data on clinical quality, care coordination, and the efficiency of payment processes.

Rationale

- The accuracy of the data attributes themselves is important for minimizing false positives and false negatives.

- The level of training for registrars and front office staff, as well as monitoring of their data entry accuracy varies widely across organizations.

DISCUSSION/FEEDBACK

Standardization of Data Attributes

FINDING 1

Finding 1: Discussion Questions

- Is it workable?
- What are the implications of the current lack of standardization of how core data elements are captured?
- Are these the right data elements and the right standards?
- Should we consider other data elements?
- Is it feasible to capture historical address and represent it as additional fields in the existing PID segment preceded by ~?
- Do we need individual segments for home, business, or phone, or can it be represented by multiple phone numbers, all of which can be matched against?

COMMENTS AND QUESTIONS FROM REMOTE PARTICIPANTS

Capturing Data Attributes

FINDING 2

Finding 2: Discussion Questions

- Are there other data attributes listed above that aren't currently captured as discreet data fields?

- How many systems currently capture apostrophes and hyphens?

- Are there downstream impacts of capturing apostrophes and hyphens that we should be aware of?

COMMENTS AND QUESTIONS FROM REMOTE PARTICIPANTS

Data Attributes Requiring Further Study

FINDING 3

Finding 3: Discussion Questions

- What other data elements could improve patient matching?
- What is the best way to study these data elements?

COMMENTS AND QUESTIONS FROM REMOTE PARTICIPANTS

LUNCH
BE BACK BY 1:15 PM

Patient Matching Algorithm

FINDING 4

Finding 4: Discussion Questions

- What are the existing open source algorithms and could they be updated to accommodate the new data attributes?

- Is this something EHR vendors would fine useful?

- Could the algorithm be used to test against?

- Are there liability concerns for ONC that they would need to consider before developing or supporting an open source algorithm?

COMMENTS AND QUESTIONS FROM REMOTE PARTICIPANTS

Identifying Potential Duplicates

FINDING 5

Finding 5: Discussion Questions

- How many vendors currently offer these types of reports?
- Will ambulatory providers or small practices understand how to run the reports and how to use them to update their data?

COMMENTS AND QUESTIONS FROM REMOTE PARTICIPANTS

Policies and Best Practices

FINDING 6, 7 AND 8

Findings 6, 7 and 8: Discussion Questions

- Are there other best practices and policies that we're missing?

COMMENTS AND QUESTIONS FROM REMOTE PARTICIPANTS

Next steps

- Incorporate changes suggested today to findings.

- Gather additional written feedback.

- ONC decision on next steps for inclusion in Stage 3 MU, guidance, regulatory, long-term planning, etc.

Contact Information

- Send any additional written feedback to patientmatchingproject@gmail.com.

- For more information about the project contact Lee Stevens, lee.stevens@hhs.gov.

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Thanks for attending!