



# EHR Use Issues and Challenges

July 2018

 Public Health  
Informatics Institute

## Data quality and use

### **Few indicators for public health**

Data collected in EHRs are oftentimes meant for clinical purposes and not public health purposes. As a result, many relevant public health indicators such as smoking cessation, travel history and other social determinants are not available for surveillance use.

### **Data gaps due to multiple providers**

Current public health surveillance systems that use EHRs depend on patients having comprehensive records from providers who are connected to specific EHR systems. However, if patients receive care from multiple providers who are not using connected EHR systems, information will be lost.

### **Lack of unique patient identifiers for linking**

Patients currently do not have a single unique patient identification number, and any proposal to create such unique identifiers is likely to encounter political opposition. The absence of a single, unique patient identifier makes the linking of multiple records difficult. Other methods must be used instead, such as probabilistic matching, which can have high error rates.

## IT standards

### **Divergent case definitions for diseases**

Current public health surveillance algorithms that use EHR data do not use unified case definitions of diseases. For information to remain consistent across populations, algorithms should use standardized EHR data elements and report a standardized set of data about each case.

### **Public health and clinical datasets not interoperable**

Standards that facilitate connections between EHRs do not always align with public health use cases for transport and semantic interoperability. HL7 implementation guides and certification standards for public health information exchange do not specify transport mechanism, so transport method varies by state/region.

### **Differing vocabulary interpretations across PHAs, HIOs and IT**

While document and vocabulary standards may exist, they are oftentimes interpreted differently across PHAs, HIOs and health IT developers. Ways to improve this problem may be to enhance implementation guides and to conduct regular meetings that involve all three parties.

## Technical infrastructure

### **Categorical funding creates information technology silos**

Many public health programs are categorically funded and prohibited from developing information systems that might also support the needs of other programs. Merging funding and resources across multiple public health reporting areas could improve exchange capabilities, but categorical funding restricts such merging.

### **Many local health departments still use paper records**

NACCHO's 2015 study, "The State of Health Informatics Capacity and Needs of Local Health Departments," found that 29% of LHDs still used paper records for storage of clinical data. Of the PHAs that do use EHR systems, there have been growing gaps between the kinds of systems used. Some PHAs have upgraded to modern systems while others keep outdated legacy systems.

## Legal and policy

### **PHAs underfunded compared to clinical sector**

Meaningful Use incentive funding under the ACA is intended to support EHR-based surveillance, but those resources are mostly allocated to the clinical sector. PHAs received only a fraction of the resources that the clinical sector did under HITECH.

### **Restrictions on public health data use**

Explicit state and federal authority for the collection and use of EHR data for public health programs varies by individual programs. There is also no clear legislation addressing privacy and confidentiality concerns related to EHR use for public health.

### **Legislative lag on new data sources**

New sources of electronic health data are rapidly becoming available, but the creation of new legislation to outline the proper use of those data struggles to keep up.

## Workforce

### **Understaffed leadership teams**

State and regional public health jurisdictions often cite a need for leadership with top- and second-tier champions who meet frequently and possess a range of technical and informatics skill sets. The attendance of leaders at regular and frequent meetings also ensures top-level buy-in and support. Public health jurisdictions with successful HIE integration report strong project management as a factor in their success.

### **Lack of technical expertise**

Many PHAs lack personnel with the technical skills to support EHR systems. LHDs especially lack staff who can manipulate and understand the data. Relevant skills include using and interpreting quantitative/qualitative data, designing and running reports from information systems, using statistical software, and using geographical information systems (GIS). NACCHO's 2015 study, "The State of Health Informatics Capacity and Needs of Local Health Departments," found that only 3% of small LHDs, 5% of medium

LHDs and 40% of large LHDs indicated that their staff were sufficiently skilled in informatics.

### **Labor-intensive system updates**

EHR-based surveillance systems use case detection algorithms that need constant and consistent system updates to keep up with new tests and changes to coding systems. However, algorithm development and validation are very labor-intensive and require time, expertise, interest and resources.

## **Acknowledgments**

This resource was created by Wendy Wen, MPH, during her time working with the Public Health Informatics Institute through the Emory University Rollins School of Public Health work-study program.

This document summarizes issues and challenges related to the use of electronic health record (EHR) data for public health surveillance purposes.

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