

Defining Data Elements Worksheet

One of the fundamental decisions you must make when developing an EHR-based surveillance system revolves around determining and defining the required data elements for the system and how they will be encoded. Structured data is key to consistency in data analysis and to support computer analysis. In addition, careful definition of the concepts and the values that represent the data elements ensure compatibility of data from different systems, or at a minimum, provide a way to map them to each other.

Surveillance system goals

First, articulate your surveillance goals in a way that makes clear what data you need to collect. As importantly, those goals should help you determine what data you don't need to collect; after all, every data element you collect costs you and your providers' time and money. Surveillance Program Goal(s): Population of interest Define the population being surveilled, in terms of characteristics such as age, gender, race and ethnicity, geography and condition to help further clarify required data elements.



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Surveillance indicators and reports

Describe any indicators to surveil and any reports that you want to generate to specifically define the data elements required by those reports. For example: Adults obese at most recent visit (BMI ≥30.0).					

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Data elements definition

Finally, refer to the tables below when defining the data elements that you need for your surveillance system. This serves a basic data model for your project, ideally once negotiated with your data trading partners.

Table 1: Surveillance System Data Requirements

Determine exactly what data elements your system needs to achieve the surveillance system goals. Include data needed to measure any indicators of interest, support specific analyses, or generate any desired reports. Then document the standard code system and value set for each of those data elements, when such a standardized vocabulary exists. Consider developing this data model as a collaborative activity with your data trading partners.

Concept Name	Concept Definition	Code System	Value set	Format	Required



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Table 2: Sending System Data Noting Discrepancies from Surveillance System in Bold

For each of your data trading partners, document the format and content of the data from their EHR systems. List any missing or incompatible concepts and value sets in Table 3 for further exploration.

Concept Name	Concept Definition	Code System	Value set	Format	Compatible?



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Table 3: Summary of Discrepancies/Need for Data Mapping or Missing Data Elements

Document where discrepancies exist between how an EHR system encodes the data and your data model. Note if you will need to map to the appropriate code system and value set. Create this table for each of your data trading partners.

Organization sending data:	
EHR system used:	

Surveillance System Concept Name	Surveillance System Concept Definition	Surveillance System Code System	Sending System Concept Name	Sending System Concept Definition	Sending System Code System