

METAPHOR EXAMPLES

Public health professionals may find that explaining relevant public health issues through the lens of one of the explanatory metaphors can be especially effective. The following current examples, which have been developed by subject-matter experts in public health informatics, illustrate how public health professionals can make their points more clearly and connect with their audiences more effectively.

Use the *Public Health Information Translation* metaphor to talk about how informatics helps monitor and prevent diseases.

Idea: Public health data can come in many languages, and informatics is a translation discipline. It helps resolve differences in vocabularies that might otherwise inhibit effective communication and limit how well information can be shared and reused.

Example: A public health agency in a major US city wants to improve its estimates of the burden of hepatitis C in a community. The agency would like to get this information through electronic health records, but the data fields—or the “language” of the electronic health records—that health care clinicians and laboratories use are different from the language that public health systems speak. Public health informaticians work with the health care system to understand its “language” and figure out how to translate the electronic health record data so it can “talk to” the local and state public health surveillance systems. Informaticians also bring together groups of people who may be new to working together. In this way, informaticians also need to know how to “speak the language” of different disciplines, including clinical providers, health care administrators, software programmers and other IT professionals, as well as state and local public health practitioners.

By making sure people speaking different data and information languages can understand each other, informaticians help meet the information needs of everyone across public health. By enabling a shared understanding of the meaning of data, health care and public health can work together more effectively to monitor and prevent disease spread.

Use the *Public Health Data Logistics* metaphor to explain how informaticians deliver vaccine data from multiple sources to multiple recipients in a safe and secure way.

Idea: Just like the complex systems we depend on to ship and receive packages on time, wherever we are, informaticians ensure that people get the data they need quickly and efficiently. Informaticians understand that for data to be optimally valuable, they have to be able to be used for multiple purposes. Informaticians analyze the data senders, the recipients, and the possible transport options to help ensure that the data—just like packages—aren't intercepted or damaged, and that the data are delivered securely.

Example: A medical provider enters a child's vaccines in an electronic health record, which can then be sent to a health information exchange (HIE), which is a massive system set up to share important health data electronically. This vaccine data "package" in the HIE can then be retrieved by other providers, and it may also be sent directly from the HIE to the state's immunization information system. When the data package arrives in the state's system, schools can verify that students have their required vaccinations before they start the school year. Informatics ensures that the shipping of the information is done in reliable ways, so that the original package—a child's record of vaccines—arrives to multiple destinations safely, privately, and securely. It is crucial that this information be complete and accurate, so that health care providers can treat patients more effectively, and public health can better analyze the vaccine coverage of an entire community.

Use the *Public Health Knowledge Architecture* metaphor to explain how informaticians design the blueprints for systems to help reduce chronic diseases.

Idea: Informaticians are responsible for designing and building the processes and systems that enable public health professionals to do their jobs. Just like architects plan buildings to be safe and comfortable for the people occupying them, informaticians plan information workflows and systems according to the needs of all users.

Example: Monitoring and reducing chronic diseases in a community requires architecting a stable, efficient infrastructure for collecting and sharing data across many organizations, building protocols that fit easily within the workflows of those organizations, and thoughtfully engineering the functions of information systems to support users' needs. Working as part of a team, informaticians are like architects who can design a blueprint for a system and keep the big picture in mind. They can facilitate the design of protocols to trigger the capture and reporting of data to public health, or provide automated clinical decision support systems for clinicians. Addressing the burden of chronic diseases requires sophisticated infrastructures for sharing and using information. Informaticians can provide the blueprints for building these infrastructures by working with community partners to learn what they need from the structures, and how the structures can work best for them.