



Module 10: Health Information Technology

Part 5: The Power of Health Informatics

For the last module, we're going to talk about health information technology, and the power of health informatics. We're going to review the meaning and purpose of HIT. We're going to learn about super-utilizers, and learn about a function in health informatics known as predict modeling.

So one last time, the purpose of HIT is to improve efficiency and quality of care. Anything that enhances services and improves data collection through technology could be considered HIT.

What is a super-utilizer? A super-utilizer is someone who uses the health system frequently, usually has co-morbid diseases or multiple chronic illnesses, does not have a health care home, so no primary care provider, and usually has a need for other social services. These could be needs for basic things like housing or nutritional needs, or go beyond to things like addictive or mental health support.

Part of the problem is that once the patient presents with these illnesses, medical services can't treat the origin of the problem, it can only treat the effects of them. There is a disparity in use, meaning all clients are not the same, so the same solution is not effective for all patients.

How do we deal with it right now? The current way of addressing this is to load the sickest and most needy patients with the most services. This can be really expensive, especially when you're treating a patient who has multiple illnesses. The 80/20 rule sort of applies here, meaning that 20% of patients may contribute to the highest demand of services, and some research has shown that 5% users generate upwards of 35% of health care spending.

Can we do this differently? The answer is that it has to be done differently. The sicker minority is distorting the resource usage, and as we know today, it's not a sustainable model for health care systems and access.

So how can we do this differently using HIT and health data? The first part of a new solution comes by analyzing data to profile current super-utilizers. This is where health data really comes into play. When we have sufficient data on patients, we can mine that data for indicators we know are associated with super-utilizers. This is known as predictive modeling.

Once we know what contributes to being a super-utilizer of the health system, maybe we can use that data to predict ahead of time, what patients who are not currently super-utilizers, but could potentially become one in the future, and load that patient with cost-effective, preventative services.

Once future super-utilizers have been identified through predictive modeling, the health system could target that patient in a coordinated manner with the kinds of services that, if applied early, could actually circumvent



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the patient from becoming a super-utilizer in the first place. If we have data that suggests that there are many super-utilizers who are diabetic and low income, perhaps their diabetes is aggravated by not having access to nutritional support, education or foods that they need to regulate their diet in a way that keeps them out of hospital care.

So we could look at our current data for those patients with the same socioeconomic demographic, and health profiles, reach out to them preemptively and proactively and connect them with services and care that could help them avoid becoming a super-utilizer.

How do we do this? By having high quality health data readily available to providers, researchers, and policy makers via technologies like electronic health records and health information exchanges, HIT can continuously improve population health.

So again, we reviewed the meaning and purpose of health IT. We learned about super-utilizers and we learned about a function of health informatics known as predictive modeling.