The content in focus today briefly highlights some introductory topics regarding big data, RFID technology, and how they marry into products that can help advance health and safety.

Starting off with big data, there's not quite a textbook definition defining what it is, but it's pretty much a large collection of datasets.

Because these datasets are so large, they have the capacity to find complex correlations between variables that we may otherwise miss at a human computing level.

A classic example was back in 2009 during the H1N1 flu outbreak - which was comparable to the 1918 Spanish flu because of how quick it spread. One of the problems was that no matter how quickly doctors informed the CDC on new cases, the picture of this pandemic always emerged a few weeks late due to how information was processed; and some cases even went unreported because it could be mistaken for the common cold.

Now a vaccine was not yet developed …and without killing off 10 million people or waiting for the population to develop immunity, they needed to slow the spread… They did this with big data.

Prior to this outbreak, Google published a paper predicting the "seasonal flu" by doing a cross-sectional study. As you know, Google receives billions of search queries per day and saves them all.

[RECORDING BEGINS HERE]

Of those billions, they took only 50 million of the most commonly searched terms and compared them with CDC seasonal flu data between 2003 and 2008. The idea was to identify areas affected by the flu simultaneously with WHAT people Googled. In short, they found correlations between the frequency of certain specific searches and the spread of the flu over time and place. So for example, a spike in searches on how to cool down a fever THAT MATCHED an affected area in the nationwide flu figures suggested that type question was a strong indicator.

So by applying this similar methodology to the H1N1 outbreak in real-time, not only were public health agencies able to target geographical locations and resources efficiently, they also saved a lot of money because… imagine testing everyone with mouth swabs.