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This is a story of D2Hawkeye, a medical data mining company located in Waltham, Massachusetts.

The company was founded by Chris Kryder, a medical doctor who was an MIT physician in the 1990s.

The company was founded in 2001.

I have been in the board of this company since 2002.

The company combines expert knowledge and databases with analytics to improve quality and course management in health care.

The company was located in Waltham, Massachusetts.

It grew very fast and was sold to Verisk Analytics in 2009.

The overall process that D2Hawkeye uses is as follows.

It starts with medical claims that consist of diagnoses, procedures, and drugs.

These medical claims are then processed via process of aggregation, cleaning, and normalization.

This data then enters secure databases on which predictive models are applied.

The output of predictive models are specific reports that give insight to the various questions that D2Hawkeye aspires to answer.

The company tries to improve health care case management.

Specifically, it tries to identify high-risk patients, work with patients to manage treatment and associated costs, and arrange specialist care.

Medical costs, of course, is a serious matter both for the patient as well as the provider.

Being able to predict this cost is an important problem that interests both the patients as well as the providers.

The overall goal of D2Hawkeye is to improve the quality of cost predictions.

D2Hawkeye had many different types of clients.

The most important were third party administrators of medical claims.

Third party administrators are companies hired by the employer who manage the claims of the employees.

Now the type of clients were case management companies, benefits consultants, and health plans.

The company grew and by 2009, it analyzed monthly millions of people through the analytic platform it built.

This corresponded to thousands of employers that were processed monthly.

To analyze the data, the company used what we call a pre-analytics approach.

This was based on the human judgment of physicians who manually analyze patient histories and developed medical rules.

Of course, this involved human judgment, utilized a limited set of data, it was often costly, and somewhat inefficient.

The key question we analyze in this lecture is "Can we use analytics instead?"