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Ending debate on EMR effectiveness?

New data is coming to the fore on EHRs

By Jack Beaudoin | July 28, 2014 | 07:58 AM













For at least the last decade, the health IT field has seen a scholarly back-and-forth on the effectiveness of electronic medical records. As soon as one study is published that finds technology has little impact on patient outcomes, another emerges that seems to show just the opposite.

These studies are frequently limited by the size of the data set or scope of the analysis. Take, for example, a June 2014 JAMA article that found meaningful users of electronic health records failed to deliver improved care for five chronic diseases. According to one news report, the new study cast "doubt on whether the tens of billions of dollars invested to encourage EHR adoption among healthcare providers is really enhancing patient outcomes."

The analysis, it turns out, included just three months of data from 818 physicians (about 1 percent of the 834,769 active physicians practicing in the United States) across seven clinical quality measures. By the way, all those physicians were employed by a single hospital or its affiliated practices.

[See also: An EHR 'buying spree'? Maybe not quite.]

And the variable being studied? It distinguished physicians who qualified for MU1 against those who did not. Considering the low bar set by MU1, the distinction might not signify all that much.

So what if, instead, you had a data set that drew from ALL the hospitals in the United States. And what if that data ranked healthcare IT adoption not on MU1, but on a multi-tiered scale, from no technology use to completely paperless systems? And what if the outcomes studies included 19 patient cohorts in five service lines, from heart failure and pneumonia to sepsis and stroke, with findings adjusted for risk and other differences in patient health status?

That study might be a little more authoritative when it comes to evaluating "whether the tens of billions of dollars invested to encourage EHR adoption among healthcare providers is really enhancing patient outcomes."

[See also: Consider the power of incentives.]

And the good news is, that study now exists and it has found that EMRs do have a measurable, positive impact on care as measured by clinical outcomes of riskadjusted mortality rates.

The preliminary analysis is the first fruit of an effort to connect data from the HIMSS Analytics Database, and its comprehensive EMR adoption model (EMRAM), with Healthgrades' own hospital performance database, which measures hospitals on mortality and complication rates across multiple service lines

Based on the joint study by HIMSS Analytics and Healthgrades, hospitals with high EMRAM scores showed improvement in the capture of data about the patient, measured by the predicted mortality rate in the Healthgrades model. And the actual performance (based on the actual number of mortalities) for hospitals with high EMRAM scores was significantly better than hospitals with low EMRAM scores in four specific conditions, indicating a relationship between the use of an EMR and the

One example is mortality from heart attacks. The mortality rate at high EMRAM



facilities (9 percent) is half that of heart attack mortality at low EMRAM facilities (18

Of course, not all cohorts and service lines were equally affected by differences in health IT adoption. With neurosurgery, there is no mortality difference between high and low EMRAM facilities. But overall, all five service lines studied show statistically significant positive relationships to EMRAM scores for at least one group of diagnoses

"For patients, they should know that the risk-adjusted outcomes – and the actual outcomes in some cases – are better at hospitals with higher EMRAM scores," says Healthgrades Senior Data Scientist William R. Wyatt.

In total, 4,583 facility records were selected from HIMSS Analytics data, a segment that represents the total number of facilities with complete data from 2010 through 2012. That three-year time period was chosen because it aligns with the most recent Healthgrades reporting period.

"This effort is quite remarkable," notes Lorren Pettit, vice president of market research at HIMSS Analytics. "By working together, we've been able to provide one of the most comprehensive and detailed analyses of the association between EMR capabilities and quality outcomes."

Wyatt and Pettit say the collaboration is likely to continue and grow. Researchers from Johns Hopkins are now working with Healthgrades and HIMSS Analytics on a grant application to the Agency for Healthcare Research and Quality to move beyond these preliminary findings and assess the impact of EMRs on other outcome measures.

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