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Summary of "The Relationship between Electronic Health

Record Use and Quality of Care over Time"

This study was a questionnaire based survey seeking to determine whether or not electronic health record use improved the quality of care over time (2000 and 2005). The focus was on the state of Massachusetts. This state was likely chosen because of the Healthcare Effectiveness Data and Information Set (HEDIS) has been aggregated for approximately 75% of the population. The HEDIS database only holds information for commercially insured patients. The data in HEDIS attempts to describe the quality of care in a standardized way. A physician's performance was defined as patient throughput. Although HEDIS data defines 18 quality measures, the study grouped them into six. The six are as follows: asthma care, behavioral and mental health, cancer screening, diabetes care, well child and adolescent visit, and women's health.

The researchers collected half the data by sending questionnaires to 1,884 practices, 1 physician per practice in a random way. The questionnaire gathered information pertaining not only to EHR use within the practice, but also demographic information. To determine extent of EHR use, the survey requested information on which features are in place and how long the system has been available. Only 71% of the physicians responded to the survey. Of those 1,345 physicians only 1,181 provided sufficient EHR information. The sample narrowed even further because only 506 physicians had patients with at least 1 year of data and only 445 had four years worth. The sample population shrank in this way because the researchers needed to correlate the questionnaires answers with their HEDIS scores. A note under Table 2 indicates a further restriction on the data sampling, indicating that only physicians who practiced pediatrics and family medicine were included. Also, to be included in a clinical category, a physician must have at a minimum five patients for the group. The other half of the data came from aggregated HEDIS. The quality of care measurement provided by their HEDIS score is the primary outcome measure. The HEDIS information comes from claims data, not patient surveys. The scores physicians received were weighted to level any data spikes.

Because the physician may not have provided all information pertaining to EHR features, a feature is assumed to have been available the entire time period. The researchers also assumed the features were being used.

The researchers found that there was no well defined improvement of quality of care from those physicians with EHR system. Even with the small sample their findings were on par with Linder et al's national study. Because it does match a previous national study, there is more validity to the study even with the various limitations: including the quality of care definition, small population, and insignificant EHR usage. Other interesting statistics they discovered include: physicians in the study were younger, and had graduated medical school more recently. The physicians were also not in hospitals and were more likely women.

Upon first read I had many reservations with the results. It's strictly Massachusetts and very few doctors participated. They claim that those that did respond come from a nice sample of the population. Another major concern I have is their definition of qualify of care appearing to be throughput. This is defined as the number of patients they saw by how many needed to be treated. I'm not certain getting patients through the system is a particularly good system for determining quality. I'd like to see the national study information before their being backed by it is valid. If the national study made the same assumptions and had the same issues than it isn't terribly effective to validate against.