Can an electronic database help busy physicians answer clinical questions?

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Background: Practicing physicians need to seek answers for clinical questions during the course of patient care but are pressed for time. New electronic databases potentially make finding answers easier. We performed a pilot study to determine whether the use of an electronic database, UpToDate, increases the rate of answering clinical questions.

Methods: Study sites were 4 community primary care practices affiliated with the University of Chicago. Two sites (4 physicians) were randomized to the intervention of access to/training in use of an electronic database, UpToDate, and two sites (6 physicians) were randomized as controls. All physicians were practicing general internists, in practice a mean of 7 years. A trained interviewer visited each site for 4-5 weeks and questioned each physician following all patient visits regarding questions that the physician desired to answer. One week later the interviewer asked physicians whether they had found answers for questions. Resources used to answer each question and changes made in the physician's approach to care (i.e. clinical decision making) were recorded. We aggregated data for each physician and compared aggregate outcomes between the intervention and control physicians.

Results: We collected data on a total of 678 patient visits. The mean number of questions per visit was 0.21 for the control physicians and 0.18 for the intervention physicians (p*0.69). Most questions (*85%) pertained to diagnostic and therapeutic concerns. The percentage of questions answered by intervention physicians was 34.3% versus control 18.7% (p*0.17). Intervention vs control physicians reported that answers led to a change in patient approach 35% vs. 19.5% (p*0.23). Resources used most by control physicians were medical textbooks (10.7% of questions), computerized literature searches (e.g. Medline) (6.4%), information handbooks (e.g. Physician's Desk Reference) (2.9%), discussion with colleagues (2.9%), and use of medical websites (2.9%). None of the control physicians used electronic databases. Resources used most by intervention physicians were electronic databases (almost entirely UpToDate) (50%), medical textbooks (13.8%) computerized literature searches (12.5%), and discussion with colleagues (6.7%). The only statistically significant difference in resource use between the two groups was use of electronic databases (p<0.001).

Conclusion: Providing access and training in the use of an electronic database significantly increases its use. Further, use of the electronic database was associated with trends toward answering more questions and more answers leading to a change in clinical decision making. Though a larger study would be needed to evaluate this more accurately, our results suggest educational databases could provide valuable assistance to physicians in answering more of their clinical questions and in providing answers meaningful to clinical decision-making.

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