

Researchers offer new model, helping clinicians prioritize recommended preventive

August 5 2013

With physicians facing increasing demands on their time, it can be extremely difficult to prioritize which preventive care methods should be used for their patients. Now, two researchers at NYU Langone Medical Center have developed a mathematical model that will save time, lead to enhanced care, and potentially save lives.

The two researchers, Glen Taksler, PhD and Scott Braithwaite, MD, MSc, have co-authored the lead article in the August 6th issue of *Annals of Internal Medicine*, entitled "Personalized Estimates of Benefit from Preventive Care Guidelines: A Proof of Concept."

Glen Taksler, PhD, a post-doctoral fellow in the Departments of Population Health and Medicine, and Scott Braithwaite, MD, MSc, professor, Departments of Population Health and Medicine and the chief of the Division of Comparative Effectiveness and Decision Science, saw the need for a new model when contemplating the list of United States Preventive Services Task Force (USPSTF) recommendations for 60 distinct clinical services.

While the delivery of preventive [health care services](#) has improved in the last decade, only about half of recommended services are provided. Utilization remains alarmingly low for some services (e.g., 48% are not screened for colorectal cancer), particularly among minorities.

"A more systematic approach to prioritizing guidelines could potentially save lives, and we suggest doing so through the use of personalized

models of health care," said Dr. Taksler. According to the researchers, personalized medical models ensure that medical decisions, products or practices are tailored to the individual patient. Though medicine has always been inherently "personal" to each patient (e.g. their symptoms, medical and family history and laboratory data), personalized models usually include the use of technology or discovery enabling a level of personalization not previously possible.

"Personalized models of health care may help physicians learn which preventive care guidelines have the greatest benefit for each patient," said Dr. Taksler. He also explained that personalization should become more popular as electronic medical records streamline information to physicians and other health care providers.

To facilitate personalized decision-making at the point of care, the two researchers undertook a demonstration project to mathematically model how much longer an individual could expect to live by following preventive care guidelines. Dr. Braithwaite said the approach "focuses on the whole patient and other patients just like him or her." The researchers highlighted a 62-year-old obese man who smoked, had high blood pressure, high cholesterol, and a family history of colorectal cancer. They found that it was most important for the patient to quit smoking, lose weight, and lower his blood pressure. Screenings for colorectal cancer and abdominal aortic aneurysm, while still recommended, were a lower priority. By contrast, if the same man also had type II diabetes, then controlling his blood sugar would become the top priority.

"While other investigators have attempted to personalize health care, we were the first to combine all major [preventive care](#) recommendations into a single, easy-to-use framework," said Dr. Braithwaite.

The researchers currently are incorporating this decision support model

in a busy primary care clinic as part of an ongoing pilot study. Using electronic health records to help pre-identify patients with the largest potential gains from personalization, a Nurse Practitioner discusses these personalized recommendations with patients, pursuing a shared decision about which goals a patient would like to achieve. A health coach then discusses practical means for achieving these objectives. The researchers look forward to learning the results after the study concludes in 2014.

Drs. Taksler and Braithwaite agree that "the era of personalized medicine is here to stay."

Provided by New York University School of Medicine

Citation: Researchers offer new model, helping clinicians prioritize recommended preventive (2013, August 5) retrieved 1 May 2024 from <https://medicalxpress.com/news/2013-08-clinicians-prioritize.html>

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