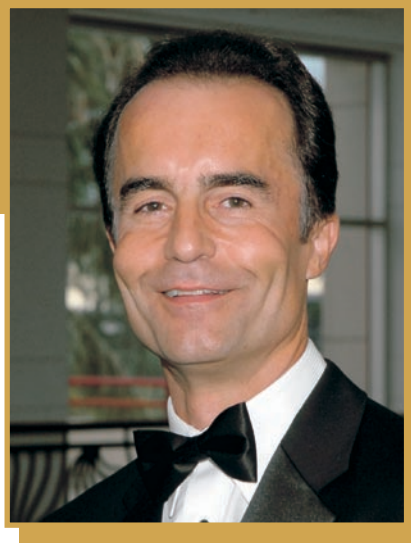

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Medical Information Technology

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Chronic Disease Management: Simple Technology Solution Saves Lives, Improves Care and Reduces Costs

The high cost of caring for individuals with chronic diseases is one of the most pressing issues in health care in the U.S. today.[i] The baby boom generation is aging, and advanced age is accompanied by costly chronic illnesses. As a result, Medicare and other health-related governmental programs will face demographic and epidemiological forces that will challenge their financial viability. According to a recent article[ii] published in *DiabetesCare*, the number of Americans with diagnosed and undiagnosed diabetes will increase from 23.7 million to 44.1 million over the next 25 years. The doubling of the diabetes case load will almost triple the expenditures for diabetes care. In other words, the annual spending related to diabetes is expected to increase from $113 billion to $336 billion (in constant 2007 USD). The authors emphasize that diabetes will grow in the coming decades, both in population size and costs, and will have significant impact on the lives of Americans and the financial viability of programs like Medicare. Forecasting models like this can help policymakers anticipate future burdens of chronic diseases and design targeted policies that fight these diseases in the most effective ways possible, both in terms of clinical effectiveness and cost-effectiveness.

Unfortunately, most physicians lack the tools to efficiently manage chronic diseases such as diabetes in their offices. Despite our increased knowledge and understanding of the pathophysiology and management of diabetes, patient outcomes have not shown a parallel improvement. A large gap exists between our knowledge and our performance. Based on excellent evidence, the American Diabetes Association (ADA) has set the following goals: hemoglobin A1c (A1C) < 7%, LDL cholesterol < 100 mg/dl, and blood pressure < 130/80 mmHg. At this point in time, less than 1/2 of diabetic patients nationally are achieving the goals set by the ADA. Only 48% reach the A1C goal, and 33% reach the LDL and blood pressure goals. Even more disturbing is the fact that only 7% are able to reach all three goals at the same time! Significant cost savings can be achieved if a patient reaches the ADA goal for the three quality parameters.

Many consider Electronic Medical Records (EHR) as a panacea to resolve the information quagmire and to provide patients with the optimal care and guidance for the prevention and treatment of such a disease. But nothing could be further from the truth! Most EHRs may meet formal certification criteria but do not offer integrated chronic disease management utilities.

But the Florida Academy of Family Physicians Foundation (FAFPF) has developed the Diabetes Master Clinician Program (DMCP) that is successfully addressing many of these issues.[iii] The DMCP was created by the FAFPF in 2003 to address the performance gap that exists in diabetes care. The program started with four practices, and currently 80 practices participate. Each practice team of a clinician and medical assistant (MA) or nurse receives evidence-based training through interactive group seminars, visits to the clinician's office, and receives educational e-mails during an 8- to 12- month period. Alumni meetings are held yearly. The office manager and other office staff also receive an orientation to the project. Training includes information about current published clinical standards of care, how to enter data into the Internet-based electronic diabetes registry, how to produce and interpret quality assessment reports, and how to conduct group visits.
The program is funded through grants, and there is no charge for participation. All guidelines and instruction manuals for the project are published on line at www.fafp.org. The guideline for group visits includes forms for privacy protection, documentation of the visit, appropriate ICD 9 and CPT coding, roles for the MA or nurse and the clinician, suggested curriculum, and information about how to prepare and follow up the group visit. The Internet-based diabetes registry is a relational database created in consultation with an information technology expert. Evidence-based quality indicators were obtained from the published guidelines of the ADA, National Cholesterol Education Project, and Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. These guidelines were used to guide the creation of the database fields. Practices are required to have a high-speed Internet connection and must agree to have an independent research assistant enter all of their patients into the database. The practices and the research assistants do subsequent updating of the database. The diabetes registry provides excellent reports that enhance care for one-on-one office visits and facilitate population management of all diabetic patients in the participating practices. Population management tools aid physicians with identifying patients who have not returned to the office for periodic diabetes evaluations, as well as those who may have been to the office but have not had the recommended periodic evaluations. Patients may be asked to obtain laboratory tests or go to see an ophthalmologist but fail to do so. Physicians have no way of recognizing this without a registry. Reminder systems are only of value if patients are being seen. Population management tools facilitate management when patients are not in the office. The widespread implementation of such a simple and well structured system can improve care and reduce healthcare costs. Unfortunately, many existing electronic health records do not contain robust disease registries that provide these types of reports. The challenge remains to create EHR interfaces, which can exchange patient information with such an existing chronic disease registry and management system. This should also include Patient Health Record (PHRs) systems to allow for the patient to upload vital signs (blood pressure, weight) and measurements (blood sugar) to such a disease registry.

Yes, we do have the technological expertise to implement those goals and now we need physicians to take the lead in quality improvement and cost control measures.

Let's not miss this opportunity!

I look forward to reading your comments and suggestions on our blog at http://miamimedblog.blogspot.com/ or send me a twit at http://twitter.com/dadedoc.

Next month: Practical EHR Solutions for your office.

Disclosure: The author is a practicing family physician, addiction specialist and computer consultant. In addition, he is a founder and managing partner of VirtualMed,LLC (www.virtualmed.com)

[i] DeVol R, Bedroussian A : *An Unhealthy America: The Economic Burden of Chronic Disease.* Santa Monica, California, Milken Institute, 2007.
[ii] Elbert S. Huang, MD, MPH, Anirban Basu, PHD, Michael O'Grady, PHD and James C. Capretta, MA, *Projecting the Future Diabetes Population Size and Related Costs for the U.S.* Diabetes Care December 2009 vol. 32 no. 12 2225-2229.
[iii] Shahady EJ, Diabetes Management: An Approach that improves outcomes and Reduces cost *Consultant.*2008;48(4):331-339.