COMMENTARY

The Gordian Knot of Chronic Illness Care

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According to legend, when Alexander the Great arrived in the kingdom of Phrygia in what is now central Turkey, he was faced with a unique challenge. The gods had assisted Gordius, the king of Phrygia, with tying his ox-cart to a pole with an intricate knot. The man who could undo the "Gordian Knot" would rule all Asia. When Alexander could not untie the knot, he unsheathed his sword and sliced it with one stroke, producing the "Alexandrian Solution."

Family physicians today are faced with a similar set of circumstances. Numerous studies have documented gaps between current knowledge and outcomes of care for patients with chronic diseases.[1–3] As the number and complexity of our patients with not 1, not 2, but multiple chronic illnesses rises, the challenge may seem to present a knot with no solution. Disturbingly, a recent report found that close to 60% of nonelderly adults report having one or more serious major chronic conditions, including hypertension, diabetes, emphysema, heart disease, asthma, or stroke.[4] When combined with the elderly population and the growing complexity of managing each of these chronic conditions, it is no wonder that solutions to improving outcomes do not seem obvious. For example, one study has shown that if the typical family physician were to follow current guidelines for the 10 most common chronic diseases, the amount of time required would exceed the time we currently have for direct patient care overall, leaving *no* time for acute illnesses or delivery of preventive services.[5]

Several of the studies in this issue illustrate the challenges faced by family physicians in the management of their patients with chronic illnesses, especially those with diabetes. In his study of hypertension control before and after the release of Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure 7 Guidelines in May of 2003, Jackson found that, over the same time period, the proportion of patients with good blood pressure control increased by 15% among those without diabetes but only 6% among patients with diabetes.[6] The gap seems to be growing. One explanation for this gap is that the level of competing demands during the encounter pose a significant challenge to achieving adequate blood pressure control in patients with diabetes in a manner similar to that documented with glucose control.[7] Given that the average patient with diabetes seen in family physician offices is on more than 6 oral medications, and that good blood pressure control in the United Kingdom Prospective Diabetes Study required an average of 3 or more antihypertensive medications, who among us has not encountered the patient who complains that they are already on too many medications when we suggest that another medication is needed to achieve adequate blood pressure control.[8,9]

The study by Shani et al[10] seems to suggest that the physician caring for the patient with diabetes is an important predictor of good glucose control, but none of the measured physician characteristics were significant predictors. Furthermore, clinic size was an important predictor, with a higher propor-

This article was externally peer reviewed.
Submitted 3 September 2008; revised 3 September 2008; accepted 4 September 2008.
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Funding: Dr. Parchman receives support from the National Institutes of Health (R18 DK075692) and the Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development Service (HSR&D IIR 06-063).
Conflict of interest: The views expressed in this article are those of the authors and do not necessarily represent the views of the Department of Veterans Affairs.
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tion of patients seen in intermediate-size clinics under good control. Other studies have also suggested that the setting in which a patient is seen might be an important predictor of chronic disease outcomes independent of the attending physician.[11,12] Is it possible that some settings design their care processes in a manner that overcomes competing demands when a patient presents with multiple, complex chronic disease, including diabetes? Much more research is needed to answer the question, How do we redesign the family physician office of the future in manner that optimizes chronic disease outcomes?

Many continue to believe that technology is the answer to improving chronic disease outcomes. The case study by Boronat[13] about the malfunctioning insulin pen device points to the danger of placing all of our eggs in this basket. It was not until this patient's primary care physician took the time, after 3 patient visits to the emergency department, to have the patient demonstrate in great detail her injection technique that the problem was uncovered. This patient-centric approach to care—one that family physicians excel at—is critical for patients with a complex chronic disease like diabetes.

Who among us has not ordered a comprehensive metabolic panel only to discover unexplained elevated liver function tests? In their analysis of a large national sample of community-dwelling adults in the United States, Mainous et al[14] suggest that some of these people may have impaired fasting glucose or undiagnosed diabetes. It is possible that these patients have nonalcoholic steatohepatitis caused by their abnormal glucose metabolism, leading to mildly elevated liver function tests.[15]

Finally, the alarmingly high prevalence of hypertension and prehypertension among a healthy population of active duty military personnel reinforces the concern about the growing burden of chronic illness care.[16] Such a burden will require a primary care workforce that currently does not exist, as illustrated by the primary care capacity crisis in Massachusetts with expansion of health insurance coverage.[17]

The Gordian Knot of chronic illness care in the United States will require creative "out-of-the-box" thinking, like that demonstrated by Alexander the Great. One speaker at a recent primary care research conference was introduced as someone ". . . who not only thinks outside the box, he frequently is not even in the same room as the box." Although a single sword stroke is unlikely to undo this knot, *all* of us have a responsibility to tell our story if we are to redesign a health system that will facilitate our ability to do so, rather than one that raises obstacles to improving chronic disease outcomes. Only then will we unleash the full potential of the family physician to truly make lives better.[18]

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