Diabetes Self-Care Behaviors: A Diagnostic Dilemma

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One of the defining skills of a young physician is the ability to generate a differential diagnosis for the set of signs and symptoms with which a patient presents. This clinical skill is first introduced in the third year of medical school, when physicians-in-training are expected to know the various causes of fever, anemia, hyponatremia, acid-base disorders, abdominal pain, and the like. Indeed, young internists practice this during "morning report," when they are asked to generate a differential diagnosis for a complex patient who presented the night before and describe the process by which they would narrow this differential. After all, the goal is a diagnosis, not a differential.

This is one of the crucial cognitive skills that differentiates physicians from other caregivers. Whereas implementing a strategy for managing patients is relatively straightforward once a diagnosis is made, generating a strategy depends on an accurate diagnosis. Without the right diagnosis, it is unlikely that a physician will be able to help a patient.

This same rigorous approach to generating a differential diagnosis

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is rarely applied to patients who are struggling with self-care management. Indeed, our approach rarely attempts to understand, but rather merely describes, the phenomenon. Often, our notes simply state that a patient is "nonadherent." It is hard to imagine writing a note simply stating that a patient is febrile without commenting on possible causes. The patient has stopped monitoring. The patient is no longer taking his or her metformin. The patient is no longer following his or her diet. The patient is has stopped being active (assuming he or she ever was active).

And our solution? We encourage these patients to resume taking their medication, follow their diet, and start monitoring. This seems to be a peculiar approach for a profession that is used to classifying anemia by the size of the red cell and generating three to five possible causes for each classification before ordering a colonoscopy to evaluate the microcytic anemia that is accompanied by low iron stores. Few of us, on the other hand, could state that knowledge/skills, environmental constraints, emotion, social norms, individual norms, perceived cost/benefit, self-efficacy, intent, cues to action, and other factors are common determinants of behavior variation, let alone have a plan to narrow that differential.

Part of the problem lies with our lack of training in behavioral theory. Whereas young physicians can quickly rattle off a differential for a gap acidosis, they are less likely to know the causes of behavioral variation. We still do not present common behavioral theories (many of which are simply different ways to capture the same differential diagnosis) to physicians-in-training, and certainly most of our physician teachers could not state the components of, for example, social cognitive theory. This seems to be an undesirable state for a society in which behavioral variation (whether in eating, physical activity, seatbelt use, gun use, unsafe sexual activity, or alcohol/drug use) is such a powerful determinant of health outcomes.

In this issue of *Clinical Diabetes*, Shelagh A. Mulvaney, PhD, touches on this issue by describing problem solving (a method to address behavioral variation) for the purpose of reducing barriers to diabetes self-management (ostensibly the cause) (p. 99). This carefully written article describes an attempt to get at the causes of behavioral difficulties by questioning patients and then taking a trial-and-error approach to possible options for correcting those causes. Although I believe that it is best to start by defining the behavior (for example, medication adherence) that is upstream from the clinical variable (for example, A1C) as the problem and then proceed to determining the cause of that problem, the rest of the article provides a nice summary of how one would diagnose and treat these seemingly refractory behavioral challenges that so frequently appear as part of clinical care. This approach is very useful, and more clinicians should be familiar with its application to address behavioral variation.

There are significant challenges to this approach, of which I will mention a few**.** First, as noted above, one ideally needs to know the universe of possible causes of behavior variation. Although one may stumble on a correct diagnosis, the process is simpler if you know what you are looking for.

Second, we tend to make easy diagnoses. It is much easier to conclude that patients lack knowledge or are depressed because there are relatively straightforward approaches to dealing with lack of knowledge (education) or depression (medication or counseling). At times, finding depression seems as easy as finding chest pain in an elderly veteran: ask and ye shall find.

Third, Ockham's razor tends to be dull. Whereas, inborn errors of metabolism or infectious diseases have one cause, behavioral variation is much more likely to have multiple simultaneous causes (in that way, anemia of chronic disease is a better analogy). One can be depressed, lack financial resources, and have a fatalistic outlook simultaneously.

Fourth, many of the etiologies do not lend themselves to easy solutions. Whereas postpartum hypothyroidism is a dream diagnosis (simple to make and easy to treat), patients who eat poorly because they are financially poor are not easy to treat.

Finally, the brainstorming sessions that are ideally employed to consider solutions for some of the barriers (see Mulvaney's Table 1 on p. 100 of this issue), are much more fluid than some of the other problem-solving processes and very operator-dependant. More than any other aspect of this paradigm, this aspect resembles surgery in that experience matters a lot.

Notwithstanding these challenges, many of which can be overcome, we need to expand our repertoire of skills to meet the ever-changing needs of our patients. Given the extraordinary effect of self-management behaviors on diabetes outcomes, any attempt to care for patients without a careful consideration of these variables will, at best, incompletely serve those who seek our care.