EDITORIAL AND COMMENT

Preventing Diabetes in High-Risk Patients: Time for a System-Level Approach to Disease Prevention

Julie A. Schmittdiel, PhD[1], Alyce S. Adams, PhD[1], and Richard Dlott, MD[2]

[1]Kaiser Permanente Division of Research, Oakland, CA, USA; [2]The Permanente Medical Group, Oakland, CA, USA.

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More than 1/3 of American adults have prediabetes, a condition of elevated glucose levels that increases the risk for developing type 2 diabetes.[1] While there is significant evidence showing lifestyle change and metformin use can both delay or prevent the onset of diabetes in those with prediabetes,[2] there is little evidence on how primary care doctors address prediabetes during office visits.

Wu et al.[3] have written an important study that sheds new light on how diabetes prevention is addressed by physicians in real-world care settings. Using data from the US National Ambulatory Medical Survey data from 2013 through 2015, they found lifestyle management through diet/nutrition, exercise, or weight reduction was addressed at fewer than 25% of visits involving patients with prediabetes. Metformin use for diabetes prevention was prescribed less than 3% of the time during these visits. This study is the first of its kind to leverage a large representative national sample, using weighted data that represents close to 100 million office visits across the USA.

The authors note their survey data may not capture all conversations between primary care physicians and their patients with prediabetes about diabetes risk management; undocumented lifestyle management counseling is likely happening in office visits which was not captured in their study. However, studies in other settings are consistent with their findings,[4] and support the authors' conclusion that the prevalence of lifestyle management counseling during office visits with patients with prediabetes is relatively low.

Physician advice is a key motivator for patient behavior change and a critical component in helping patients adopt and adhere to healthier eating and active living habits.[5] But while the patient/provider relationship is clearly an important factor in improving patient health, we cannot ask physicians to shoulder the burden of disease prevention alone. The chronic care model[6] is a widely accepted approach for addressing chronic illness management which prescribes team-based care, community-level involvement, and coordinated care to reduce the mortality and morbidity associated with chronic disease. Yet chronic disease *prevention* remains largely an isolated activity that does not yet have the resources or infrastructure to leverage population care principals. With physicians in the USA approaching epidemic levels of burnout and stress,[7] it is both unreasonable and likely ineffective to ask primary care doctors to assume responsibility for diabetes prevention without the full-fledged support of the health care system at large.

The good news is that we are making strides in population care delivery approaches that can help address diabetes prevention at the population level.[8] Integrated care delivery systems like Kaiser Permanente Northern California are using information technology to facilitate annual A1c ordering for patients with prediabetes to make prediabetes monitoring more consistent. By systematizing lab ordering, physicians and their patients should have more data to assess diabetes prevention efforts and provide an impetus for more lifestyle management discussions between physicians and patients.

Healthy lifestyle behaviors can be improved outside the traditional office visit as well. Wellness coaching and health education, particularly programs based on motivational interviewing techniques that support patient goals and autonomy, can effectively use non-physician staff and care providers to help patients lose weight.[9] Lifestyle management approaches that leverage contact and resources outside of the traditional office visit can play a larger role in disease prevention and in improving healthy lifestyle behaviors.

Payment and policy models may also be adapting to help health care systems address prediabetes care and lifestyle improvement. For example, national and state-wide policies now offer the reimbursement for Diabetes Prevention Program (DPP) participation to Medicare recipients,[10] and in some states for Medicaid recipients as well. Continued expansion of payment models to cover lifestyle management programs, and systematic support for facilitating referrals to such programs, is one strategy that policy makers can pursue to support diabetes prevention at a national level.

As close to 100 million adults in the USA have blood glucoses in the prediabetes range;[1] the health care system needs clear strategies to determine who can benefit most from a targeted approach to lifestyle management interventions. Data from Wu et al. suggest primary care doctors are somewhat responsive to diabetes risk levels, since those with comorbidities have slightly higher odds of documented lifestyle counseling interventions. However, some subgroups known to be at elevated risk for type 2 diabetes (e.g., racial and ethnic minorities) were not more likely to receive lifestyle management counseling in their study.

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Predictive models that assess risk across individual-, family-, and community-level factors can be an important tool to help physicians and health care systems determine which patients are in most need of interventions to reduce their diabetes risk. These models may serve as potential tools for effectively targeting high-risk subgroups for early intervention.

Wu et al.[3] have added important information to the evidence base on how primary care physicians address lifestyle management and metformin use during office visits with prediabetes patients. Preventing diabetes and other chronic conditions requires systematic population care approaches that support physicians in their efforts to increase healthy lifestyle behaviors among high-risk patients. Health care leaders and policy makers should continue to promote changes that create sustainable, system-level approaches to disease prevention, and future research should evaluate the impact of these changes on reducing diabetes incidence at the national level.

Corresponding Author: *Julie A. Schmittdiel, PhD; Kaiser Permanente Division of Research, Oakland, CA, USA (e-mail: Julie.A.Schmittdiel@kp.org).*

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