



HHS Public Access

Author manuscript

JAMA Intern Med. Author manuscript; available in PMC 2021 February 12.

Published in final edited form as:

JAMA Intern Med. 2019 October 01; 179(10): 1386–1387. doi:10.1001/jamainternmed.2019.2392.

Age and Age-old Disparities in Diabetes Care Persist

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As the morbidity, mortality, and costs of diabetes grow nationwide, a new analysis by Kazemian and colleagues published in this issue of *JAMA Internal Medicine*¹ shows that average-care goal achievement among adults with diabetes has remained stagnant over the past 12 to 15 years. Expanding on a previous report,² this study used data from the 2005-2008, 2009-2012, and 2013-2016 cycles of the National Health and Nutrition Examinations Survey to describe the care continuum from diagnosis to combined achievement of cardiometabolic care goals. The findings show that among American adults with fasting glucose-defined and hemoglobin A_{1c} (HbA_{1c})-defined diabetes, more than one-quarter were undiagnosed. Among those with diagnosed diabetes, 64% achieved individualized glycemic control targets based on age and comorbidities, 70% met blood pressure targets, 57% met a broad cholesterol goal of taking statins and/or meeting low-density lipoprotein cholesterol targets, and 85% were nonsmokers. An estimated 23% met all 4 care goals. The estimates remained stable over the study period. Of note, young adult, women, non-Hispanic black, and uninsured respondents fared worse than their counterparts. This report brings to light a number of key disparities and important challenges in trying to close care gaps, especially in the context of diverse, market-based health care delivery in the United States.

The report¹ offers some important analytical innovations. In addition to focusing on engagement and care goal achievement in adults with diagnosed diabetes, the authors provide sensitivity analyses that combined people with diagnosed and undiagnosed diabetes, which reflects the importance of considering the whole population affected by diabetes. These sensitivity analyses show largely similar results.

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The reasons underlying the observed trends are hard to explain. In 2010, the American Diabetes Association added HbA_{1c} of 6.5% or more to the diagnostic criteria for diabetes. This change occurred at the midpoint of these analyses. These revised criteria may have influenced the pool of people with diabetes in unpredictable ways. For example, this HbA_{1c} cutoff has lower sensitivity than fasting glucose tests, but clinicians may have started using the HbA_{1c} test more often owing to its practicality, and if so, this practice change may have subtly altered the population of patients with diabetes.³ The latter years of this analysis¹ also coincide with greater health care access for some people through Medicaid expansion and the advent of health insurance exchanges as part of the Affordable Care Act, which may have added adults with different sociodemographic and clinical characteristics in latter survey cycles. The authors undertook sensitivity analyses adjusting for health insurance and comorbidities. However, though the data show no differences in average-care goal achievement during the period of study, it is possible that policy, practice, and population changes have subtly influenced care in specific population segments, leading to subgroup variations that are hidden in the averages reported. Understanding these subtleties and changes remains an important area of study and intervention in the future.

The implications of these findings are manifold. After a 20-year decline in incidence of diabetes-related macrovascular complications, there appears to be an ongoing resurgence in complications.⁴ The reported findings foreshadow further increases in complications among younger, minority, and uninsured people with diabetes. Most of the disparities described are not new and remain distressing and complex to address. Some of the reported gaps may actually require more nuanced quality measures. For example, closing the cholesterol treatment gap through statin therapy may be inappropriate in women of reproductive age.

The authors¹ note that these findings occurred during a period when a number of newer glucose-lowering medication classes such as dipeptidyl peptidase-4 inhibitors, glucagon-like peptide-1 agonists, and sodium-glucose cotransporter-2 inhibitors have become available. The influence of these new medications on the observed trends is likely minimal because the penetration of these drug classes has been low this soon after trials and approvals, especially because these medications are expensive and not widely covered by all insurers. During the same period, the costs of known, off-patent insulins have skyrocketed,⁵ erecting even more access barriers for patients. That said, gaps in care are not just because of lack of access to treatment, but rather because of a confluence of patient-level, health care professional-level, and system-level barriers of varying degrees. The case of generic statin therapies highlights the multidimensional nature of challenges to better long-term care: it is not just access, but also lack of awareness and willingness of health care professionals to prescribe the therapy, as well as reluctance from some patients to take the medication owing to concerns about adverse effects, drug interactions, and other concerns related to prescription drugs.⁶ This analogy can be extended to our system-wide (eg, payers, health care systems and professionals, patients) lack of investments in healthy lifestyle changes that can improve diabetes care goal achievement and lower the need for medications.

Effective diabetes care is further complicated by the fragmentation of care and payment in America, which often disrupts continuity of care. As an example, yearly revisions of which medicines each insurer will cover lead to frequent medication switches for nonmedical

reasons, confusion, adverse effects, lapses in medication regimens and doses, and sometimes higher health care use.⁷ Care complexity is further increased by individual-level barriers to behavior change. For example, perceived discrimination, depressive symptoms, low health literacy, limited income, and adverse life experiences can all contribute to low medication adherence and poor self-management practices.⁸

Moving forward, application of innovative analytic techniques may help us more effectively target specific segments of the diabetes population by revealing the variation that hides within the dichotomous quality-of-care goals reported here. Local-level clinical care improvements, innovations, and incentives are important but do not address the underlying reality that people with diabetes spend a very small proportion of their lives in health care facilities. In addition to clinical innovations, we need to reach people where they live, work, and play. Achieving this community-clinical linkage in population health management remains a challenge in the context of what community services can and cannot be billed for. Furthermore, health policies in this area have been centered on quality bonuses and penalties for health professionals and health care delivery systems, which leaves the door open to gaming and cherry-picking. Organizational-level and system-level barriers are also why the business case for preventive services to support and sustain healthier lifestyle choices in communities remains unconvincing to and unfulfilled by payers. Misaligned incentives between payers and health care delivery systems are further exacerbated by the lack of local and national policies addressing other key aspects of Americans' lives that contribute to health disparities. For example, the social determinants of health such as education, the environment, and poverty perpetuate chronic stress and make it difficult to engage in selfcare and achieve a sense of well-being.

The results of the analysis by Kazemian and colleagues¹ depict a plateau in diabetes care quality nationally. The marginal costs and efforts to close the remaining 20% to 30% of gaps are likely to be high. Given this report's clear message of persistent and deep disparities in diabetes care, local-level innovations alone will likely be insufficient. In our view, without policy-level initiatives to address socioeconomic disparities, we will not be able to move the needle on diabetes care nationally. Much like the tax code, small amendments will worsen the situation. We need to boldly find ways to align the economic and health motivations of the key stakeholders in our society to revolutionize care for chronic conditions in America. The message of this report is clear: people are still getting left behind; we need to act now or they will slip (further) through the cracks.

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