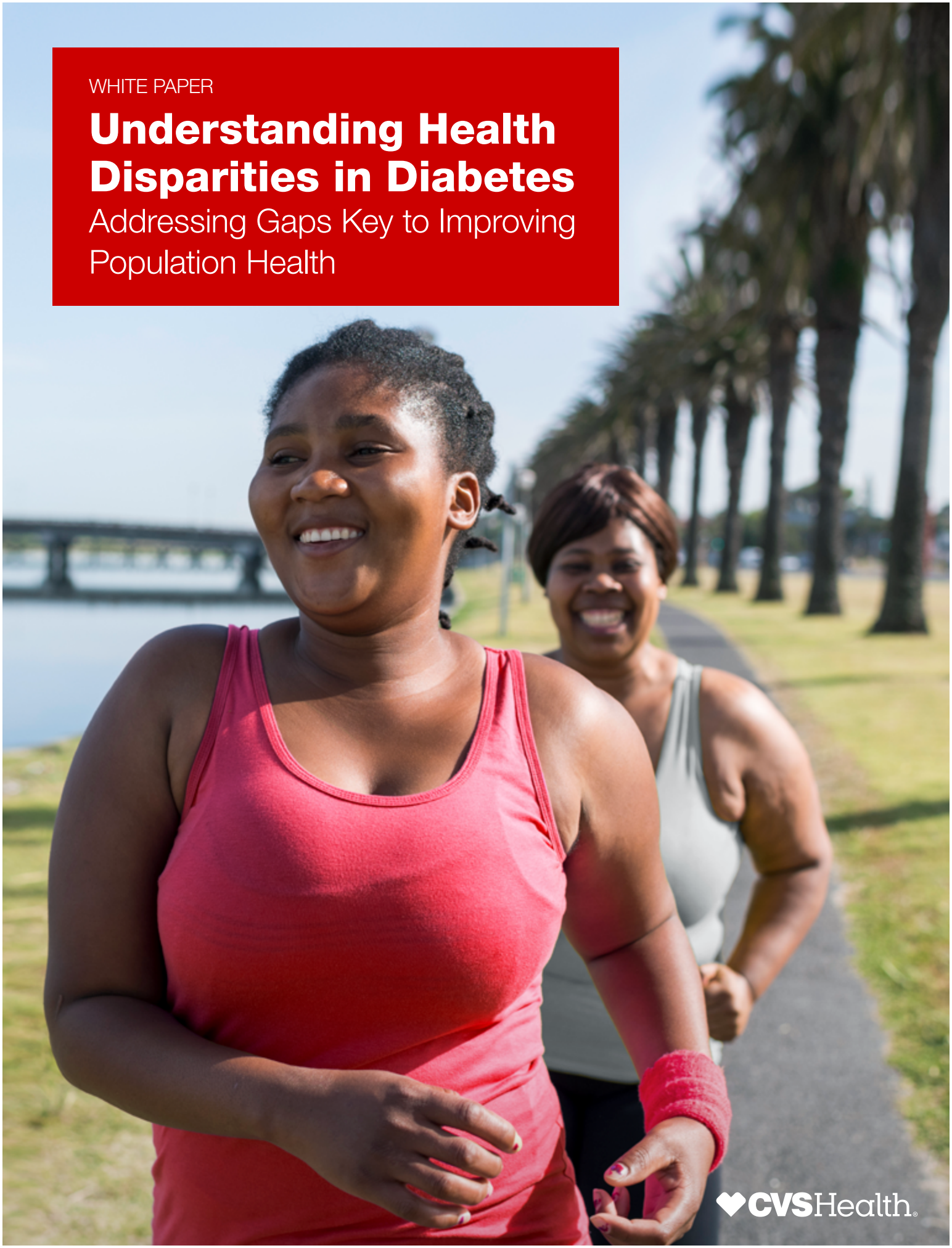
WHITE PAPER

Understanding Health Disparities in Diabetes

Addressing Gaps Key to Improving Population Health



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Introduction

There are more than 34 million Americans living with diabetes, a disease that costs the U.S. more than $327 billion per year.[1] However, the disease does not affect all segments of the population equally.

We have long known that health disparities exist among different populations based on demographics, race, ethnicity and other factors. Some populations are more adversely affected by certain conditions, while others may be at higher risk for a different illness or disease. In recent years, it has become clearer than ever before that significant disparities also exist in access to health care and outcomes for diabetes.

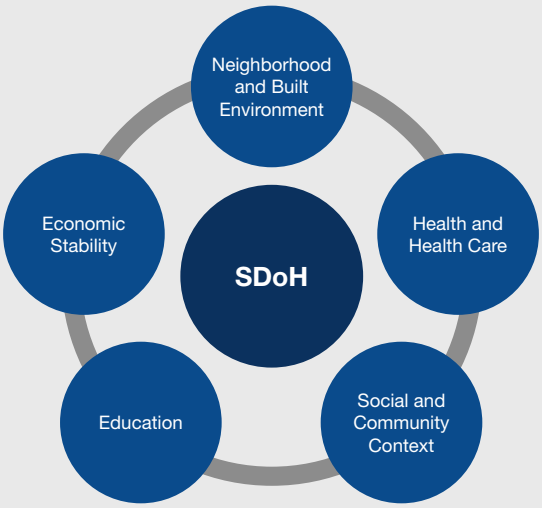
The National Institutes of Health defines health disparities as health differences that adversely affect disadvantaged populations based on one or more health outcomes.[2] To combat these disparities impacting specific populations, it is critical to understand how, where, why, and for whom they arise. Health and health care disparities have their roots in a complex matrix of influences, including genetic, biological, environmental, social, economic, and psychological. But perhaps the most significant factors impacting health disparities are what are known as social determinants of health (SDoH) — "conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health" as defined by the U.S. Department of Health and Human Services (HHS), Office of Disease Prevention and Health Promotion (ODPHP).[3]

ODPHP's Healthy People 2020 initiative states its goal as being to "create social and physical environments that promote good health for all," and identifies five primary categories for social determinants of health.

These social determinants affect every aspect of health and health care:

- Disease burden
- Access to care
- Outcomes

One of the clearest examples of the impact of SDoH on health disparities is in diabetes. To mitigate and eventually eliminate health disparities, an ambitious, focused, and practical program is needed.



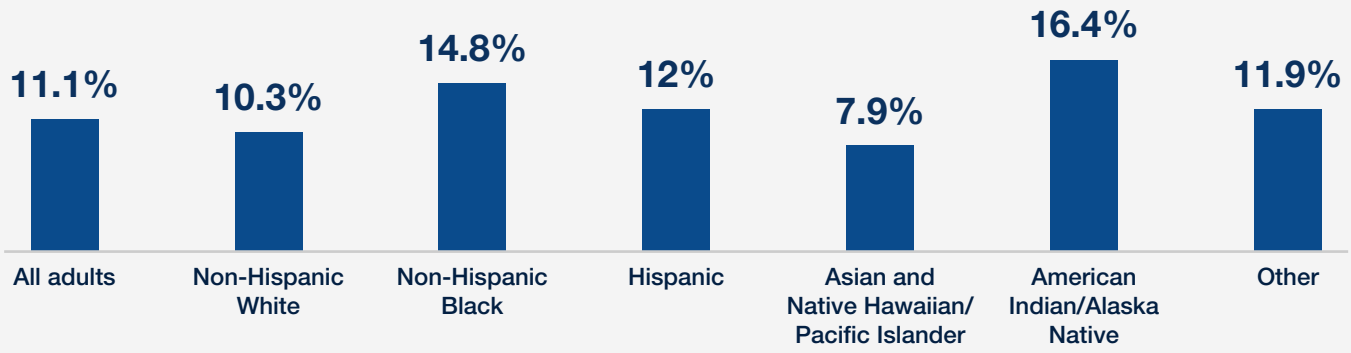
Diabetes Disease Burden Varies by Community

Diabetes prevalence varies and research has shown that it affects minority communities disproportionately. American Indian or Alaska Native adults have the highest rate of diagnosed diabetes.[4] The risk of being diagnosed with diabetes is 77 percent higher among African Americans and 66 percent higher among Latinos/Hispanics, according to the Centers for Disease Control and Prevention.[5] Non-White Hispanics tend to be diagnosed with diabetes at younger ages and exhibit higher fasting glucose levels, decreased insulin sensitivity, increased insulin response, and more severe forms of diabetes complications.[6]

Social factors such as educational attainment, employment insecurity, poverty, and access to nutritious food all have a profound impact on disease burden. Poverty has been shown to be a leading cause of type 2 diabetes.[7] In fact, living in poverty can double or even triple the risk of developing diabetes. Living in poverty during the two years prior to diagnosis increased the risk of developing type 2 diabetes by 24 percent.[7] Living in poverty at any time increased the risk by 26 percent. Many minority groups are disproportionately affected by poverty. Among African Americans, the poverty rate is 21.2 percent and 17.2 percent among Hispanics, compared to 9 percent among non-Hispanic Whites.

Differences in diabetes prevalence, both in the overall U.S. population and within racial and ethnic groups, are linked to socioeconomic position — which is defined by the level of educational attainment and the income-to-poverty ratio.[4] Prevalence of diabetes among those with less than a high school education is 12.6 percent, compared to 9.5 percent among those who have completed high school. Data shows that among African Americans, 87 percent are likely to have at least a high school education compared to 93.3 percent of Whites.

Adults Who Report Ever Being Told by a Doctor that They Have Diabetes by Race/Ethnicity, 2019[8]



Increase in risk of developing type 2 diabetes:[7]

↑ **24%**
among those living in poverty 2 years prior to diagnosis

↑ **26%**
among those living in poverty at any time

Drivers of Disparities in Diabetes Care

For people with diabetes, improving outcomes requires effective management. Here too, racial and ethnic disparities prevail — affordability, awareness, accessibility and trust in the health system can all be a barrier to effective disease management.

Affordability

Achieving target blood glucose levels and appropriate management of cardiovascular risk factors have been conclusively shown to reduce diabetes complications, comorbidities, and mortality. There are a range of classes of diabetes medications and various formulations of insulin to help those with diabetes to achieve management goals. Insulin is the primary treatment for type 2 diabetes, the most prevalent kind. However, medication cost can often be a barrier to care, and minority communities are more likely to feel the impact of cost concerns.

For instance, the cost of insulin has nearly tripled in recent years.[9] Nearly 20 percent of African Americans and 17 percent of Hispanics with diabetes use insulin either alone or with other medications.[9] As we have noted, poverty rates among both of these minority groups are higher than the general population, so they are less likely to be able to afford the care or medications they need.

In addition to the high cost of medication, poverty and socio-economic status can also limit patients' ability to manage their diabetes by creating barriers to access to other needed supplies such as blood glucose monitors, test strips, syringes — often because they lack health insurance — as well as preventive health activities such as proper nutrition, healthy meals, and exercise facilities.

People with diabetes should also receive preventive care such as regular eye exams, periodic dental care, diabetes eye care, and periodic lab work to check lipids and A1c levels to prevent comorbidities. Here too, disparities persist. Research shows women and African Americans are less likely to receive these services for a variety of reasons, including associated costs, lack of insurance coverage, out-of-pocket expenses, and access to transportation.[10]

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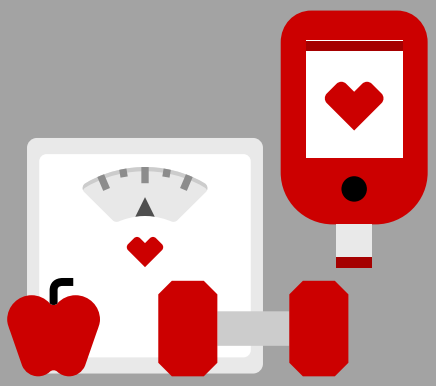

Just as a greater percentage of minority communities living in poverty contributes to a higher disease burden, and lack of access to care, it also impacts outcomes. Living in poverty can mean an ongoing struggle to make ends meet and higher stress levels leading to biological and psychological responses and poor health choices such as eating fatty or highly processed foods, alcoholism, and tobacco use. High stress has been known to contribute to higher blood pressure, blood sugar levels and obesity, as well as poor coping mechanism and decreased motivation leading to worsening of the disease.

Patient and family income directly impacts the ability to afford treatment and therefore leads to a lack of adherence, which plays a key role in diabetes outcomes. Both African Americans and Hispanics have lower adherence than non-Hispanic Whites. Whites had 8.4 percentage point higher adherence than Hispanics — equivalent of one less month of medication per year — over a 2-year period, in one study.[11] Other studies suggest health literacy may also play a role in adherence rates.[12]

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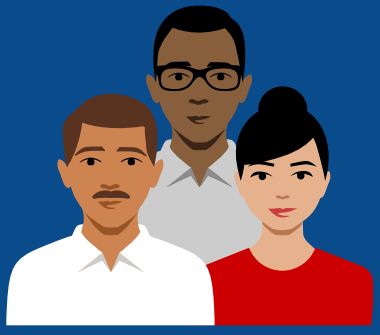
Awareness and Trust

Language barriers, lack of culturally appropriate diabetes educational programs, and time constraints can impact awareness among different patient demographics.[13] Treatment plans are often complicated and can include a range of self-management activities such as regularly checking blood sugar levels, self-injecting insulin, and calculating the amount of insulin required based on the amount of carbs consumed. Hispanics with type 2 diabetes, who lack proficiency in English may end up with poorer care.[14]

When minority patients do not seek regular or preventive care it may create the perception for providers that they do not care about their health. But this behavior could be the result of simply not understanding what they need to do. Varying cultural beliefs also impact effective self-care. The lack of culturally competent care can result in distrust and lack of acceptability of health advice among patients.



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Accessibility

In order to effectively manage their condition, patients with diabetes need access to sites of care and pharmacies and a way to get there, including safe and convenient transportation. Increasingly, the lack of transportation options is creating yet another access barrier for minority and disadvantaged populations compounded by the closure of rural hospitals, financially stressed urban hospitals that serve poor and minority communities, and a dearth of primary care providers willing to locate in those area.

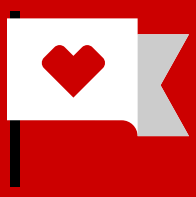
Racial and ethnic minorities are disproportionately impacted by access to care including proximity to a pharmacy, clinic, or health care provider.[15] As a result, they use more expensive, acute care facilities such as urgent care and emergency rooms for symptom-based care. This leads to inconsistent ongoing management.

Impact of Disparities on Diabetes Outcomes

Type 2 diabetes is associated with comorbidities such as hypertension, cardiovascular disease, stroke, kidney failure, and blindness. Not only do racial and ethnic minorities face a higher disease burden for diabetes and have inadequate management, they are also more likely to experience comorbidities and complications including faster progression, end-stage renal disease, retinopathy, amputations, and overall poorer outcomes. Faster disease progression is often compounded by a poor diet, obesity, and a sedentary life.[16]

African Americans, Native Americans and non-White Hispanics have a three to seven times higher incidence of kidney and liver failure, and two to four times the rate of amputations than Whites.[14]

Minority communities also have a higher diabetes mortality rate — disproportionately so, even when factoring in higher disease prevalence. Native Americans are diagnosed with diabetes twice more frequently than Whites, but have a 3.2 times higher mortality rate.[17] Diabetes is 56 percent more prevalent among African Americans than Whites but the mortality rate is 92 percent higher.[18] The disparity has remained virtually unchanged for nearly 20 years.[19] Among Hispanics, the death rate from diabetes is 50 percent higher than for non-Hispanic Whites.



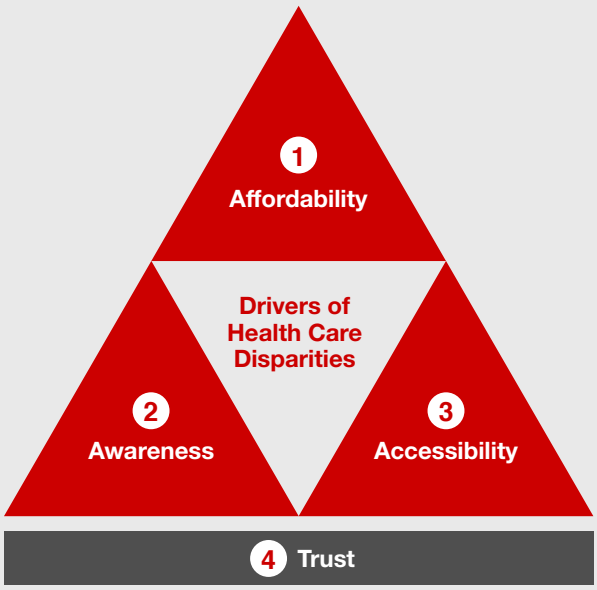
Much can be done in health care to close in the gap on such discrepancies. Care should align to how minority communities understand health, help break down language barriers, and where applicable, offer support services such as language translation services. Health care professionals understanding specific cultural barriers can also help deliver better care.

Approaches to Addressing Disparities in Diabetes Care

It is difficult to overemphasize the importance of addressing the social determinants of diabetes given their profound impact on morbidity and mortality. What's more concerning is that many of these disparities appear to only get worse year after year. Clearly, addressing these disparities will help control rising health care costs.

There are a range of strategies from health care disparity reporting, tailored medication management and delivery, improving medication affordability and community partnerships that can address disparities in diabetes care. The fact that certain subgroups among ethnic and racial minorities have better outcomes is encouraging and shows that it's possible to overcome the obstacles among other at-risk populations. Better understanding the drivers of health care disparities can help us address them.

Four Drivers of Health Care Disparities



1 Affordability

Ability for members to pay for their medications

Example Drivers: Insurance coverage and quality, availability and presentation of cheaper alternatives

2 Awareness

Knowledge of treatment options, health care system, and value of adherence

Example Drivers: Health care literacy and knowledge, language support, physician support

3 Accessibility

Proximity to and convenience of care and treatment through available channels. Ability to receive quality and equitable care as needed

Example Drivers: Internet and transportation access, physician training, community/social support

4 Trust

Level of comfort and confidence patients have in health care channels available to them

Example Drivers: Community engagement and partnership, diversity of external roles, language support

Addressing the disparities resulting from social determinants like race, ethnicity, lack of access, and cost barriers will take a large-scale effort by many stakeholders. Health care companies like CVS Health can play a crucial role by using their capabilities and nationwide presence for community-based health literacy programs, building a diverse and inclusive workforce that can serve the needs of all patients, and developing patient-centered quality improvement initiatives in areas of clinical vulnerability and disparities, such as diabetes and other chronic medical conditions.

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The source for data in this document is CVS Health Enterprise Analytics, unless otherwise noted.

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