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Original Scholarship

Population Health Innovations and Payment to Address Social Needs Among Patients and Communities With Diabetes

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Policy Points:

- Population health efforts to improve diabetes care and outcomes should identify social needs, support social needs referrals and coordination, and partner health care organizations with community social service agencies and resources.
- Current payment mechanisms for health care services do not adequately support critical up-front investments in infrastructure to address medical and social needs, nor provide sufficient incentives to make addressing social needs a priority.
- Alternative payment models and value-based payment should provide up-front funding for personnel and infrastructure to address social needs and should incentivize care that addresses social needs and outcomes sensitive to social risk.

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Context: Increasingly, health care organizations are implementing interventions to improve outcomes for patients with complex health and social needs, including diabetes, through cross-sector partnerships with nonmedical organizations. However, fee-for-service and many value-based payment systems constrain options to implement models of care that address social and medical needs in an integrated fashion. We present experiences of eight grantee organizations from the Bridging the Gap: Reducing Disparities in Diabetes Care initiative to improve diabetes outcomes by transforming primary care and addressing social needs within evolving payment models.

Methods: Analysis of eight grantees through site visits, technical assistance calls, grant applications, and publicly available data from US census data (2017) and from Health Resources and Services Administration Uniform Data System Resources data (2018). Organizations represent a range of payment models, health care settings, market factors, geographies, populations, and community resources.

Findings: Grantees are implementing strategies to address medical and social needs through augmented staffing models to support high-risk patients with diabetes (e.g., community health workers, behavioral health specialists), information technology innovations (e.g., software for social needs referrals), and system-wide protocols to identify high-risk populations with gaps in care. Sites identify and address social needs (e.g., food insecurity, housing), invest in human capital to support social needs referrals and coordination (e.g., embedding social service employees in clinics), and work with organizations to connect to community resources. Sites encounter challenges accessing flexible upfront funding to support infrastructure for interventions. Value-based payment mechanisms usually reward clinical performance metrics rather than measures of population health or social needs interventions.

Conclusions: Federal, state, and private payers should support critical infrastructure to address social needs and incentivize care that addresses social needs and outcomes sensitive to social risk. Population health strategies that address medical and social needs for populations living with diabetes will need to be tailored to a range of health care organizations, geographies, populations, community partners, and market factors. Payment models should support and incentivize these strategies for sustainability.

Keywords: diabetes, health disparities, payment system design, population health, underserved populations.

Social determinants of health (SDOH) are important structural drivers of health and well-being throughout the life span. Individuals with unmet social needs (e.g., food

insecurity, unstable housing) are at increased risk for chronic diseases such as diabetes and hypertension and poor control of those diseases, with subsequent increased health care utilization and health care costs. Within this context, health care organizations are implementing and evaluating new interventions to improve outcomes for patients with complex health and social needs, through cross-sector partnerships with nonmedical organizations, to include social service agencies, food delivery systems and transportation services.[1] However, fee-for-service (FFS) and many value-based payment (VBP) systems constrain options for health care organizations to implement models of care that address social and medical needs in an integrated fashion.

The Centers for Medicare and Medicaid Services (CMS) Accountable Health Communities (AHC) Model provides funding to community bridge organizations that link persons with health-related social needs to matching community services.[2] Demonstration projects with state Medicaid agencies and Medicaid managed care organizations have also addressed SDOH by aligning financing and coordination between health and social service systems.[3,4] In the absence of such initiatives, it is difficult to sustain interventions that integrate medical and social care.

Nonetheless, some health care organizations are restructuring care delivery to address the social needs of individual patients and the structural needs of communities that affect patients' health.[5,6] They often adopt such models in the face of uncertainty about how they will access the funding needed to sustain them over time. However, organizations are motivated by the potential to improve health outcomes and reduce health care costs, and the policy momentum is shifting toward payment reforms that support such actions.[7–12] Policymakers face the challenge and responsibility of designing payment reforms that enable health care organizations, within a range of contexts, to succeed in their efforts to address social needs.

The Camden Coalition's care transition program, a team-based targeted case management system for high utilizers of health care, highlights critical challenges with improving care for patients with complex social and medical needs. In a recent randomized controlled trial, patients in the care transition program did not have lower hospital readmission rates when compared with patients who received usual care.[13] Care coordination and navigation to services are important, but insufficient alone for improving health for patients with persistent social needs.[14] Community-based resources such as housing must also be

adequate. In addition, we must adjust our expectations about the time required to improve health for patients with severe and complex medical and social conditions. In many cases this complexity has accumulated and intensified over the life course and defies a quick fix. For example, a patient with diabetes, substance use disorder, and housing insecurity might require long-term mental health and substance use disorder treatment, as well as collaborative medical and social care from organizations experienced in trauma-informed care. Hospital readmissions represent an important but limited metric for capturing the effects of interventions that address social needs; future studies should evaluate additional outcomes beyond utilization, including quality of life and patient-reported experience.[14,15]

It has generally been assumed that the shift from FFS payment to VBP and alternative payment models (APMs) will facilitate efforts to address social needs. However, today's VBP programs usually reward traditional clinical performance metrics rather than measures of population health or efforts to address social needs, and most current APMs have relatively modest indirect incentives to address social needs. Thus, robust performance measures of modifiable social needs are needed to help align payment models with interventions to address social needs.

In addition, generic, one-size-fits-all payment approaches are unlikely to succeed in highly variable ecosystems throughout the country, and little work has examined how payment and care delivery solutions will need to be tailored to different contexts. For example, federally qualified health centers (FQHCs), community hospitals and clinics, integrated delivery systems, and critical access hospitals have different organizational structures, funding streams, regulations, patient populations, and cultures. Local market factors such as the density of managed care, policies of state Medicaid programs, and the collaborative environment between state Medicaid and managed care organizations create different opportunities and challenges when addressing medical and social needs. Geographic factors, sociodemographic characteristics of patient populations, and availability of community resources offer additional considerations. For example, rural settings will need solutions that account for geography, limited access to resources, transportation barriers, and other factors that may differ substantially from urban settings.

The Bridging the Gap: Reducing Disparities in Diabetes Care Initiative

In this paper we present the experiences of eight organizations across the country from the Bridging the Gap: Reducing Disparities in Diabetes Care initiative (hereafter referred to as the initiative) that are transforming primary care to implement integrated strategies to address SDOH, with evolving payment models to support these transformations. We describe (1) programs to identify and address patients' social needs, (2) community partnerships to address structural drivers of health, (3) current mechanisms to fund these efforts, and (4) opportunities for payment mechanisms that would sustain such efforts. These organizations represent a broad range of payers and payment models, health care delivery settings, market factors, geographic areas, patient populations, and community resources. The sites have different levels of managed care penetration and incentives for value-based payment. The states span the political spectrum and serve populations ranging from white rural Appalachian residents, to urban and frontier communities in the Pacific Northwest, to urban African American and Latinx immigrant patients.

This five-year initiative, supported by the Merck Foundation, aims to improve access to high-quality diabetes care and reduce health disparities for vulnerable populations with type 2 diabetes. The initiative supports eight grantees throughout the United States: Minneapolis Health Department, Providence Health & Services, Alameda County Public Health Department, La Clínica del Pueblo, St. Mary's and Clearwater Valley Hospital and Clinics, Trenton Health Team, UPMC Western Maryland, and Marshall University. Each grantee consists of health care organizations that actively collaborate with other health care organizations and nonmedical organizations to address medical and social needs in an integrated model. Grantees receive technical assistance (e.g., feedback on screening tools, provision of data collection infrastructure, support for local program evaluation) from the National Program Office (NPO) based at the University of Chicago, participate in a group learning collaborative, and are active in media and communications activities to promote population health strategies to address SDOH.

Methods

During years one and two (September 2017-August 2019) of the initiative, the NPO supported grantees during the early stages of intervention implementation. The NPO conducted monthly phone calls with each grantee to provide site-specific technical assistance and to collect information related to grantees' efforts at health care transformation, population health management, social needs screening processes, partnerships with community agencies, and the payment landscape. The NPO hosts annual meetings and monthly calls to convene a learning collaborative and discuss current and desired payment options for integrated care to address medical and social needs. This paper compiles information about the grantees from site feedback as well as from literature and publicly available data. Demographic statistics (e.g., age, gender, race, ethnicity) were obtained from service areas (e.g., zip codes, counties, or municipalities) defined by the clinical organization and extracted from US census data from the 2017 American Community Survey.[16] For FQHCs, insurance characteristics reported as part of patient characteristics were extracted from 2018 Uniform Data System (UDS) Resources data from the Health Resources and Services Administration.[17]

Results

In this section we review the sites and the specific interventions they use to support the medical and social needs of patients with diabetes. We also consider the market context and payer mix used to fund these initiatives. Finally, we discuss the challenges and opportunities these organizations face.

Grantee Site Characteristics and Interventions to Support Medical and Social Needs for Patients With Diabetes

The eight grantees represent a wide range of organizations that serve diverse communities, including Black and Latinx communities in

Alameda County, CA, low-income Latinx immigrant patients in Washington, D.C. and Prince George's County Maryland, and geographically isolated frontier communities in North Central Idaho (Tables 1a,1b). Participating sites are implementing population health strategies to support medical and social needs in ways that reflect the unique needs and strengths of the community ecosystems they serve. Yet they each have common components, including (1) primary care transformation, (2) social needs screening, referral, and information sharing, and (3) community partnerships (Tables 2a, 2b).

Through primary care transformation, sites bolster staffing models that address patients' clinical needs (e.g., team-based care, community health workers [CHWs]), implement information technology (IT) innovations (e.g., software platforms that securely facilitate social needs referrals), and use system-wide protocols to address medical and social needs (e.g., identifying high-risk populations and gaps in care). To support social needs screening, referral, and information sharing, sites implement workflows and utilize tools to universally identify and address social needs among patients. Alongside IT infrastructure, sites invest in human capital to support social needs referrals and coordination (e.g., embedding social service employees to staff a resource referral desk within clinics; engaging local emergency medical services in strategies to screen and refer for social needs).

Grantees work with a variety of nonmedical organizations to address food insecurity, transportation needs, housing insecurity, and legal needs, and to support access to social services and community resources. An important early lesson of the initiative pertains to tailoring the site of the intervention to meet local contexts. For example, an Idaho health system places CHWs in frontier food distribution sites to interact with particularly difficult to reach community members, and an Appalachian health system in western Maryland colocates a nurse intervention at a local shelter and meal site. However, beyond mere referrals, the codevelopment of cross-sector programs plays an important role in developing sustainable solutions. Thus, grantees implement solutions to tackle underlying structural social drivers of health tailored for their surrounding communities. For example, to address historical disinvestment in East Oakland, California, Roots Community Health Center prioritizes workforce navigation and job creation programs alongside health care

Table 1a. Characteristics of the Urban Participating Initiative Sites

	Minneapolis Health Department			Providence Health & Services			Alameda County Public Health Department		La Clínica del Pueblo		Trenton Health Team		
	NACC	NHS	SCHS	Gateway	Milwaukie	Tanasbourne	Roots	TVHC			HJAHC	SFMC	CHRMC
Type of organization	FQHC	FQHC	FQHC	Integrated delivery system			Community clinic	FQHC	FQHC		FQHC	Acute care teaching hospital	RMC
Urban/rural	Urban	Urban	Urban	Urban	Urban	Urban	Urban	Urban	Urban		Urban	Urban	Urban
State	MN	MN	MN	OR	OR	OR	CA	CA	DC	MD	NJ	NJ	NJ
Predominant Service Area Demographics													
Total population	27,972	149,531	31,313	30,374	35,965	53,582	177,258	184,735	672,391	159,172		373,362	
Sex, %													
Male	53.0	49.6	52.5	50.0	50.4	50.1	48.2	48.6	47.4	50.2		48.9	
Female	47.0	50.4	47.5	50.0	49.6	49.9	51.8	51.4	52.6	49.8		51.1	
Age, %													
20 to 34 years	34.8	26.2	45.6	23.1	22.5	27.2	24.0	22.5	31.4	25.2		20.5	
35 to 44 years	12.1	13.5	13.9	15.5	13.6	15.1	14.7	14.1	14.2	14.6		13.0	
45 to 64 years	20.3	22.2	17.8	25.7	26.2	23.0	23.5	26.6	21.7	23.3		27.2	
≥65 years	9.2	10.6	6.9	13.9	16.5	10.5	11.3	12.3	11.9	9.6		14.1	
Race/ethnicity, %													
White	45.1	53.2	63.3	65.4	88.4	73.7	26.2	46.0	40.7	18.6		63.4	
Black or African American	36.7	26.5	17.9	8.4	1.4	1.2	30.1	13.2	47.7	47.1		20.5	
American Indian and Alaska Native	3.8	1.3	0.7	1.2	1.1	0.2	0.8	1.0	0.3	0.4		0.1	
Asian	5.2	9.2	3.7	14.4	3.9	12.8	14.3	22.5	3.8	2.6		10.7	

Continued

Table 1a. *Continued*

	Minneapolis Health Department			Providence Health & Services			Alameda County Public Health Department		La Clínica del Pueblo		Trenton Health Team		
	NACC	NHS	SCHS	Gateway	Milwaukie	Tanasbourne	Roots	TVHC			HJAHC	SFMC	CHRMC
Native Hawaiian and Other Pacific Islander	0.0	0.0	0.0	1.2	0.1	0.7	0.7	0.9	0.0	0.0		0.0	
Some other race	6.2	4.2	9.8	3.6	1.8	4.7	21.2	10.6	4.6	28.8		3.2	
Two or more races	2.9	5.6	4.6	5.8	3.3	6.7	6.7	5.9	2.9	2.4		2.1	
Hispanic or Latino (of any race)	14.1	9.9	15.8	12.6	11.4	18.3	35.5	38.4	10.7	39.7		16.9	

Abbreviations: CHRMC, Capital Health Regional Medical Center; FQHC, federally qualified health center; NACC, Native American Community Clinic; NHS, Neighborhood HealthSource; SFMC, St. Francis Medical Center; SCHS, Southside Community Health Services; RMC, regional medical center; Roots, Roots Community Health Center; TVHC, Tiburcio Vasquez Health Center.

Data derived from authors' analysis of sites involved in Bridging the Gap: Reducing Disparities in Diabetes Care and US census data from the 2017 American Community Survey, Demographic Estimates.[16]

[a] Predominant service area is represented by census data from the zip code associated with the clinical site address or by a defined service area by the clinical organization by zip codes, counties, or municipalities.

Table 1b. Characteristics of the Rural Participating Initiative Sites

	St. Mary's Health and Clearwater Valley Health	**UPMC Western Maryland**	**Marshall University**
			MCHC
Type of organization	CAH, IDS	Community hospital	FQHC
Urban/rural	Rural/Frontier	Rural	Rural
State	ID	MD	KY
Predominant Service Area Demographics			
Total population	28,632	102,107	93,033
Sex, %			
Male	53.0	51.4	48.8
Female	47.0	48.6	51.2
Age, %			
20 to 34 years	14.0	19.7	17.9
35 to 44 years	9.7	11.4	12.5
45 to 64 years	30.0	27.5	29.1
≥65 years	25.2	19.7	16.3

Continued

Table 1b. *Continued*

	St. Mary's Health and Clearwater Valley Health	UPMC Western Maryland	Marshall University
			MCHC
Race/ethnicity, %			
White	92.7	90.9	96.6
Black or African American	0.2	5.9	1.5
American Indian and Alaska Native	3.5	0.2	0.1
Asian	0.4	0.7	0.5
Native Hawaiian and Other Pacific Islander	0.2	0.0	0.1
Some other race	0.8	0.2	0.3
Two or more races	2.3	2.0	0.9
Hispanic or Latino (of any race)	3.6	1.5	0.8

Abbreviations: FQHC, federally qualified health center; CAH, critical access hospital; IDS, integrated delivery system; MCHC, Mountain Comprehensive Health Corporation.

Data derived from authors' analysis of sites involved in Bridging the Gap: Reducing Disparities in Diabetes Care and US census data from the 2017 American Community Survey, Demographic Estimates.[16]

[a]Predominant service area is represented by census data from the zip code associated with the clinical site address or by a defined service area by the clinical organization by zip codes, counties, or municipalities.

Table 2a. Participating Initiative Sites and Interventions, Urban Sites

	Minneapolis Health Department			Providence Health & Services	Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	NHS	SCHS	Gateway, Milwaukie, Tanasbourne	Roots	TVHC		HJAHC, SFMC, CHRMC
Patient populations	Patients with type 2 diabetes			Medicaid and uninsured patients with type 2 diabetes at site clinics	African American and Latino populations with type 2 diabetes, focusing on low-income residents in areas of concentrated poverty		Latino, mostly immigrant, patients with type 2 diabetes	High-risk patients and community residents with type 2 diabetes
Primary Care Transformation Activities								
Care management activities		X	X	X	X	X	X	X
CDE-assisted activities	X	X	X	X				
Lay health workers		External CHW	External CHW		Patient navigators	Promotores	CHWs integrated into care teams	Peer leaders in DSME; CHW in care management team
DSME	X	X	X	X	X		X	X

Continued

Table 2a. *Continued*

	Minneapolis Health Department			Providence Health & Services	Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	NHS	SCHS	Gateway, Milwaukie, Tanasbourne	Roots	TVHC		HJAHC, SFMC, CHRMC
IT-supported social needs activities	Integrate NowPow (web-based community resource platform) into clinical workflow			EHR-supported social needs screening and referral to resource desk				Integrate NowPow into clinical and community organization workflows
IT-supported clinical activities				Identify and address care gaps via EHR; track progress through dashboards	EHR tracking	EHR tracking		Monitor and track quality compliance; HIE to integrate patient records in real time
Other activities	Group visits	CDE provides individ- ual visits and is part of care team	Videos re- inforcing DSME mes- sages; cooking classes, farmers market vouchers	Behavioral health services	Achieve ADA recognition for clinics; expand capacity for group medical appointments; partner lab tracks missed labs and high values		Strengthen medical care team skills and knowledge through Project ECHO training; care team conducts regular diabetes case review meetings	Coordinate and standardize care across the Trenton region using evidence-based guidelines; care team conducts regular diabetes case review meetings

Continued

Table 2a. *Continued*

	Minneapolis Health Department			Providence Health & Services	Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	**NHS**	**SCHS**	**Gateway, Milwaukie, Tanasbourne**	**Roots**	**TVHC**		**HJAHC, SFMC, CHRMC**
Activities to Support Social Needs Among Patients								
Screening tool for social needs		PRAPARE		5-question tool	26-question tool	PRAPARE	PRAPARE	18-question tool
Process to address social needs	Staff utilize NowPow to help manage referrals for social needs		Staff connect patients to community resources	Community resource desk is staffed by a local social service agency and colocated in each clinic	Referrals tracked and recorded; internal staff follow up	Referrals documented and handled internally or sent to support agency	Health educator in care team screens for social needs and provides direct referrals to support services	Community partners have access to NowPow to screen patients and manage referrals; NowPow integrated into HIE to allow providers to see which social needs are being addressed

Continued

Table 2a. *Continued*

	Minneapolis Health Department			Providence Health & Services	Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	NHS	SCHS	Gateway, Milwaukie, Tanasbourne	Roots	TVHC		HJAHC, SFMC, CHRMC
Communication between health care orgs and community orgs	Via NowPow		TBD	Community resource desk communicates across patient, external organization, and care team	Lay health workers screen and link patients to clinic-based and community-based resources		Health educator facilitates referrals with community organizations	Clinics and hospitals refer patients to THT's care management team to address medical and social needs; team utilizes NowPow to conduct screenings and facilitate closed-loop referrals

Continued

Table 2a. *Continued*

	Minneapolis Health Department			Providence Health & Services	Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	NHS	SCHS	Gateway, Milwaukie, Tanasbourne	Roots	TVHC		HJAHC, SFMC, CHRMC
Type of community partnerships to address social needs	Food insecurity Healthy food access Referral support		Food insecurity Healthy food access Physical activity	Referral support Economic support Transportation	Healthy food access Physical activity Reentry navigation Housing support Job training	Healthy food access	Legal services Healthy food access Food insecurity	Healthy food access Food insecurity Faith-based Housing support Community engagement

Abbreviations: ADA, American Diabetes Association; CDE, certified diabetes educator; CHRMC, Capital Health Regional Medical Center; CHW, community health worker; DSME, diabetes self-management education; EHR, electronic health records; HIE, health information exchange; HJAHC, Henry J. Austin Health Center; NACC, Native American Community Clinic; NHS, Neighborhood HealthSource; PRAPARE, Protocol for Responding to and Assessing Patient Assets, Risks, and Experience; SCHS, Southside Community Health Services; Roots, Roots Community Health Center; SFMC, St. Francis Medical Center; TBD, to be determined; TVHC, Tiburcio Vasquez Health Center.
Data derived from authors' analysis of sites involved in Bridging the Gap: Reducing Disparities in Diabetes Care.

Table 2b. Participating Initiative Sites and Interventions, Rural Sites

	St. Mary's Health and Clearwater Valley Health	**UPMC Western Maryland**	**Marshall University**
			MCHC
Patient populations	Patients and community residents with type 2 diabetes	Underserved individuals with type 2 diabetes	Rural high-risk patients with type 2 diabetes
Primary Care Transformation Activities			
Care management activities	X	X	X
CDE-assisted activities	X	X	X
Lay health workers	CHWs, benefits counselors	CHWs; wellness ambassadors	CHW-based chronic care management
DSME	X	X	X
IT-supported social needs activities	EHR-supported social needs screening and referral tracking	Aunt Bertha platform to document social needs and facilitate referrals	
IT-supported clinical activities	Monitoring and tracking of high-risk patients via EHR, REDCap, and dashboard	Software identifies risk and tracks patients; remote patient treatment monitoring	

Continued

Table 2b. *Continued*

	St. Mary's Health and Clearwater Valley Health	UPMC Western Maryland	Marshall University
			MCHC
Other activities	Integrated behavioral health	Professional education on cultural competency, health literacy, and diabetes medications; SDOH screening, identification of urgent needs, referrals to resource agency, diabetes survival skills; twice-weekly huddle to review referrals for diabetes services	Care team conducts regular diabetes case review meetings
Activities to Support Social Needs Among Patients			
Screening tool	11-question tool	CMS-AHC; 13-question tool	CMS-AHC
Process to support social needs	Patients engaged by CHWs who provide social needs screening and send referrals to community organizations	Face-to-face and phone screening; closed-loop referral support from lay health workers and community support agencies	CHWs screen and refer directly to community support organizations

Continued

Table 2b. *Continued*

	St. Mary's Health and Clearwater Valley Health	UPMC Western Maryland	Marshall University MCHC
Communication between health care orgs and community orgs	Bidirectional between care team CHWs who connect patients with community resources to address social needs	Staff utilize AuntBertha to facilitate and track referrals to community resources; direct connection with some partners on sites, through partner meetings, and/or community work groups to address referrals	CHWs contact support agencies and facilitate communication between patients and community organizations
Type of community partnerships to address social needs	Food insecurity Economic support Older adult support Housing supportPublic health	Food insecurity Economic support Transportation support Housing supportCommunity engagementPublic health	Healthy food access Food insecurityPublic health

Abbreviations: CAH, critical access hospital; CDE, certified diabetes educator; CHW, community health worker; CMS-AHC, Centers for Medicare and Medicaid Services Accountable Health Communities; DSME, diabetes self-management education; EHR, electronic health records; MCHC, Mountain Comprehensive Health Corporation; SDOH, social determinants of health.
Data derived from authors' analysis of sites involved in Bridging the Gap: Reducing Disparities in Diabetes Care.

services. A stakeholder work group with more than a dozen organizations in Trenton, New Jersey, explores promising economic opportunities for local residents along with options to improve access to healthy, low-cost food. In Washington, DC, La Clínica del Pueblo serves primarily Latinx immigrants. In response, La Clínica partners with a legal services agency and collaborates with local organizations to improve the renewal process and duration of benefits for the medical assistance program, which provides health insurance to district residents regardless of immigration status.

Market Context and Payer Mix to Support Medical and Social Needs for Patients With Diabetes

Tables 3a and 3b highlight the payment arrangements and financing options for grantee organizations involved in the initiative and their breadth of dominant and supplemental payment structures. The market context and payer mix across the initiative sites vary widely. In general, the majority of health care systems' base funding comes from government (e.g., Medicare, Medicaid, Section 330 funding for FQHCs) and private (nonprofit and for-profit insurers and health plans) payers. A much smaller amount comes from supplemental sources of funding, such as grants and philanthropy. Blending and braiding funding with other sectors is another emerging funding possibility, opening up access to funding from multiple sources.[18] Blended funds are pooled into a single stream to fund interventions, while braided funds work synergistically to pay for different components of a single program.[18] Payment options such as per member, per month (PMPM) payments and targeted grant support can be conceptualized as flexible up-front funds that can be used to support infrastructure to address medical and social needs (e.g., CHWs, data systems linking health and social service systems). Payment options that can reward equitable, efficient, high-quality care, such as pay-for-performance or shared-savings plans with performance accountability metrics, can be conceptualized as retrospective payment. It can be difficult to obtain flexible up-front funding to support infrastructure for interventions.

Table 3a. Payer Mix and Current Payment and Funding Mechanisms, Urban Sites

	Minneapolis Health Department			Providence Health & Services			Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	NHS	SCHS	Gateway	Milwaukie	Tanasbourne	Roots	TVHC		CHRMC
% Medicaid	66	39	50	27	21	10	92	69	29	16
% Medicare	6	7	–	19	33	23	5	2	6	11
% Third party	10	24	9	50	41	41	1	2	30	65
% Self-pay/uninsured	17	30	41	4	5	5	1	27	35	8
Payment Structure										
Dominant payment structure	FFS, FQHC PPS[a], HRSA funding, tribal funding	FFS, FQHC PPS, HRSA funding	FFS, FQHC PPS, HRSA funding		FFS + value-based payment		FFS	FFS, FQHC PPS, HRSA funding	FFS, FQHC PPS, HRSA funding	FFS
Money at risk due to value-based components	~2%		Virtually none		~5-10%		~6%			15%-20% of revenue has value-based component, <10% payments are associated with value

Continued

Table 3a. *Continued*

	Minneapolis Health Department			Providence Health & Services			Alameda County Public Health Department		La Clínica del Pueblo	Trenton Health Team
	NACC	NHS	SCHS	Gateway	Milwaukie	Tanasbourne	Roots	TVHC		CHRMC
Retrospective value-based payment										
Shared savings contingent on meeting quality metrics					X					X
Pay for performance (hospital)					X					X
Pay for performance (provider/provider group)		X			X		X	X	X	X
Prospective payment										
Per member per month (PMPM)		X			X		X			X
ACO	X	X	X		X					X
Other Funding Sources										
Federal Section 330 grant	X	X	X					X	X	X
Other federal grants	X	X	X		X		X		X	
Private foundation grants	X	X	X		X		X	X	X	X
Non–health care sector grants	X	X	X				X		X	X
Philanthropy		X			X		X		X	X

Abbreviations: ACO, accountable care organization; CHRMC, Capital Health Regional Medical Center; FFS, fee for service; FQHC PPS, federally qualified health center prospective payment system; HRSA, Health Resources and Services Administration; NACC, Native American Community Clinic; NHS, Neighborhood HealthSource; SCHS, Southside Community Health Services; Roots, Roots Community Health Center; TVHC, Tiburcio Vasquez Health Center.

[a]The FQHC PPS is a bundled payment. FQHCs receive a single, bundled rate for each qualifying patient visit that pays for all covered services and supplies provided during the visit.

Data derived from analysis of US census data from the 2017 American Community Survey and data from HRSA's Uniform Data Systems for sites involved in Bridging the Gap: Reducing Disparities in Diabetes Care.[16,17]

Table 3b. Payer Mix and Current Payment and Funding Mechanisms, Rural Sites

	St. Mary's Health and Clearwater Valley Health	UPMC Western Maryland	Marshall University
			MCHC
% Medicaid	10	17	46
% Medicare	56	46	20
% Third party	29	35	29
% Self-pay/uninsured	4	2	5
Payment Structure			
Dominant payment structure	FFS with CAH[a] payment structure	Global Budget Revenue[b] as part of Maryland All-Payer Model	FFS, FQHC PPS[c], HRSA funding
Money at risk due to value-based components	Approximately 10% of revenue has a value-based component	+/- 2% revenue	
Retrospective value-based payment			
Shared savings contingent on meeting quality metrics	X		X (no additional quality metric requirement)

Continued

Table 3b. *Continued*

	St. Mary's Health and Clearwater Valley Health	UPMC Western Maryland	Marshall University
			MCHC
Pay for performance (hospital)	X	X	
Pay for performance (provider/provider group)	X	X	X
Prospective payment			
Per member per month (PMPM)	X	X	
ACO	X	-	X
Other Funding Sources			
Federal Section 330 grant			X
Other federal grants	X		X
Private foundation grants	X	X	X

Continued

Table 3b. *Continued*

	St. Mary's Health and Clearwater Valley Health	UPMC Western Maryland	Marshall University
			MCHC
Non–health care sector grants		X	X
Philanthropy	X	X	X

Abbreviations: ACO, accountable care organization; FQHC PPS, federally qualified health center prospective payment system; MCHC, Mountain Comprehensive Health Corporation.
[a]Critical access hospitals (CAHs)[30] are paid through cost-based reimbursement for Medicare services. Rather than receiving payment for the type or number of services provided, payments are based on each CAH's costs and the share of those costs that are allocated to Medicare patients. In some states, CAHs may also receive cost-based reimbursement from Medicaid.
[b]Global Budget Revenue (GBR)[29] methodology encourages hospitals to focus on population-based health management by establishing prospective fixed annual revenue caps for each Maryland hospital that participates in the GBR model. The GBR model is a revenue constraint and quality improvement system to provide hospitals with incentives to manage their resources efficiently and with flexibility to use yearly established global budgets to improve care for individual patients, support population health activities, and address health care costs. GBR hospitals receive an agreed-on amount of revenue each year regardless of the number of residents they treat and the amount of services they deliver.
[c]The FQHC PPS is a bundled payment. FQHCs receive a single, bundled rate for each qualifying patient visit that pays for all covered services and supplies provided during the visit.
Data derived from analysis of US census data from the 2017 American Community Survey and data from HRSA's Uniform Data Systems for sites involved in Bridging the Gap: Reducing Disparities in Diabetes Care.[16,17]

Limitations of Payment Mechanisms to Support Medical and Social Needs for Patients With Diabetes

Table 4 presents limitations of the payment mechanisms to support medical and social needs. We have identified three limitations:

1. *The majority of current payment mechanisms for health care services do not provide sufficient funding to support critical up-front investments in infrastructure to address medical and social needs*. Such infrastructure often includes CHWs, key elements of team-based care (e.g., outreach to patients between visits), and secure platforms that communicate and share data with community-based organizations. Payments are frequently made after services are delivered (FFS), after savings are realized (shared savings), or after performance metrics are achieved (pay-for-performance). Such retrospective payment systems make it difficult for health care organizations, particularly those with limited resources, to develop and implement strategies that address medical and social needs in an integrated system.
2. *Current base payment and supplemental payment systems often fund narrow, siloed services in health care*. For example, La Clínica del Pueblo funds diabetes self-management education (DSME) classes through a specific contract with a payer. These classes support patients with diabetes, but may not be sufficient to address social needs. Fortunately, the clinic also has PMPM payments that allow it to maintain an RN care management program for high-risk patients. Improved flexibility could allow more integration of medical and social care. In the absence of flexible funds, all participating Bridging the Gap: Reducing Disparities in Diabetes Care sites have used grant funds and special initiatives to support activities not adequately funded by their base payment systems.
3. *Current value-based payment systems are not explicitly designed to incentivize or reward care addressing social needs*. For example, pay-for-performance metrics are typically designed to reward traditional clinical performance measures. Development and implementation of population health metrics that include social

factors and measures of health equity are areas of ongoing national interest.[19]

Opportunities for Payment Mechanisms to Support Medical and Social Needs for Patients With Diabetes

Several models and opportunities exist for payment reform that support and incentivize health care that successfully addresses the medical and social needs of patients and communities (Table 4). These opportunities arise in two broad areas: state payment policies and partnerships between health care organizations and payers.[4]

State payment policies can incentivize prevention, population health management, and addressing social needs and structural drivers of health. Health care systems under the Maryland Total Cost of Care (TCOC) Model are held accountable for all health care costs of the surrounding service area, and thus have powerful incentives for addressing medical and social needs to reduce costly hospitalizations.[20] A key element of this model is the development of the Maryland Primary Care Program (MDPCP), which supports the primary care transformation and allows primary care practices to play an increased role in disease prevention, chronic disease management, and prevention of unnecessary hospitalization. For example, UPMC Western Maryland clinics will have a registered nurse transitionist embedded in their practice. The funding for this program is sourced from the savings the state produces from all TCOC initiatives, with the assumption of larger returns over time, as patients' overall health care costs are reduced.

In 2020, New Jersey's Medicaid accountable care organizations (ACOs) transitioned to a Regional Health Hub (RHH) model. Funded by the state, the RHHs provide the support (e.g., payment mechanisms, human capital) to build infrastructure to securely share health care data through regional health information exchanges (HIEs). These regional HIEs help providers and delivery systems identify and address patients' social needs through community referrals. Trenton Health Team (THT) represents one of four RHHs working to integrate, coordinate, and align siloed programs to improve patient care and outcomes. The THT experience exemplifies how effectively aligning and coordinating payment and care require a collaborative team approach.

Table 4. Limitations and Opportunities to Improve Care Delivery and Payment to Address Social Needs

Limitations
1. **The majority of current payment mechanisms for health care services do not provide sufficient up-front funding to support an integrated approach to address medical and social needs**.
•Limited funding streams inhibit options to hire and retain key personnel (e.g., community health workers, peer leaders) and support associated costs such as training
•Lack of data structure and integration limits opportunities to identify and track social needs
•Lack of funding for social services and community partnerships constrains options for cross-sector collaboration
2. **Current base payment and supplemental payment systems often fund narrow, siloed services in health care**.
•Siloed service delivery creates barriers to integrated care addressing medical and social needs
•Many community-based organizations tend to rely on grants and do not have the experience or the expertise to meet the reporting requirements necessary to receive payments from hospitals or the state
•Limited funding for immigrants and the uninsured can limit access to entitlement programs and services, and often requires organizations to rely on grant funding to support services for these populations
3. **Current value-based payment systems are not explicitly designed to incentivize or reward care addressing social needs**.
•Few, if any, metrics reward population health or activities to address social needs
•Community and health care organizations are typically accountable to different metrics tied to funding, presenting barriers to cross-sector collaboration
•Lack of data systems to track costs of the uninsured

Continued

Table 4. *Continued*

Opportunities
1. **State payment policies can incentivize prevention of illness, development of population health management programs, and improved options to address social needs and structural drivers of health**. •**Maryland Total Cost of Care (TCOC) Model**:[51,52] Developed with the Centers for Medicare and Medicaid Services, this model holds Maryland fully at risk for the total cost of care for Medicare beneficiaries. It provides incentives for organizations like UPMC Western Maryland to proactively deliver preventive health care services and address population health and social needs in their communities, rather than focus primarily on acute care services. •**Medicaid Section 1115 waivers**: This feature gives states flexibility in program design. 1115(a) Medicaid waiver incentive-based payment models have also proven to be crucial sources of funding for providers to test services to improve care quality, address population health, and study impact on cost. 1115(a) Medicaid waivers have been used to establish care coordination infrastructure. For example, Oregon's coordinated care organizations (CCOs)[10] have integrated global budgets for behavioral health, physical health, and oral health, as well as flexibility to provide health-related services outside traditional medical services. The second iteration of CCOs will increase use of value-based payment, including social determinants of health metrics, and will require a health equity plan and incorporation of community health workers. •**Delivery System Reform Incentive Payment (DSRIP) programs**:[11] In this subset of the 1115 waiver, funding is linked to providers meeting performance metrics. Measures evolve along a spectrum from infrastructure development to system redesign, clinical outcome improvements, and population-focused improvements. For example, New Jersey participating DSRIP hospitals have focused on improving care management for common chronic conditions, including behavioral health, substance use disorder, cardiac care, diabetes, and obesity.

Continued

Table 4. *Continued*

Opportunities
•**DSRIP-like programs**: The Oregon Hospital Transformation Performance Program was designed and implemented to (1) advance health system transformation; (2) reduce hospital costs; (3) improve patient safety; and (4) mandate substantial monitoring and assessment activities. Outcome and quality measures across six domains focus on improvements in the hospital and coordination across hospitals and CCOs. The hospital-CCO coordination-focused domains support follow-up after hospitalization for mental illness and screening, brief intervention, and referral to treatment in the emergency department.
•**Medicaid Managed Care**: In addition to flexible funding to support care delivery, payers can prioritize strategies to address social needs. Medicaid managed care represents an emerging context to promote strategies to identify and address social needs. As of fiscal year 2020, 31 states will require managed care organizations (MCOs) to screen enrollees for social needs and provide enrollees with referrals to social services; 28 states will require that MCOs partner with community-based organizations, and 12 states will require MCOs to track the outcomes of social services referrals.[53]
•**State Innovation Model Testing Awards**[54]: These awards provide government funding for states to pilot and test innovative models of care. Minnesota and Oregon are implementing and testing strategies for payment and health system transformation that aim to improve quality of care and health of the population as well as lower costs.
•**Bundled payments**: Bundled payments shift the emphasis from a series of individual services toward a cohesive and coordinated approach to care delivery. Capital Health in Trenton, New Jersey, is using the Center for Medicare and Medicaid Innovation's Bundled Payments for Care Improvement Advanced (BPCI Advanced) Model. Capital Health is at risk for the 90-day total cost of care of patients admitted with a stroke diagnosis, providing incentives to enhance continuity, communication, and workflows for postacute care services, to improve quality and patient experience, and to decrease cost.

Continued

Table 4. *Continued*

Opportunities
2. **Funding streams to support key personnel and social needs can be created by improving on current reimbursement options and testing alternative payment models**. •**Marshall University**: Working directly with individual payers, Marshall University is piloting alternative payment models such as new per member, per month (PMPM) payment models and impact investment strategies that support a community health worker (CHW) chronic care management model for high-risk patients with diabetes in rural Kentucky federally qualified health centers (FQHCs). Care coordination fees are typically paid monthly, are not necessarily tied to payment for a specific service, and therefore provide up-front funding that can be used for care coordination infrastructure and implementation (e.g., staffing, technology).[55] •**Minneapolis Health Department**: Working with multiple stakeholders (e.g., clinical, community, policy), the Minneapolis Health Department is assessing optimal strategies to increase Medicaid reimbursement for CHW services, either through increases to minimum rates set by the Minnesota Department of Human Services or increases in payers' contracted rates with CHW providers, while also quantifying the resources required to fund the full scope of CHW roles beyond direct reimbursement for patient care (e.g., training, administrative functions, outreach to community organizations). •**Trenton Health Team**: As of July 1, 2019, Medicaid will reimburse for certified peer recovery services for opioid use disorder treatment in New Jersey; reimbursement is also available in Rhode Island, Minnesota, and Delaware. This model could be applied to other chronic diseases such as diabetes. •**La Clínica del Pueblo**: Ryan White funding for HIV services funds supportive services outside of primary care, such as transportation, legal services, and home-delivered meals. These public funds must be disbursed based on priorities set annually by planning councils, which include 33% of members who are consumers of services.

Continued

Table 4. *Continued*

Opportunities
3. **State-level policy changes can support regional investments in data infrastructure and integration between clinical and community partners.**
•**Trenton Health Team**: Through the prior structure of state accountable care organizations (ACOs) in New Jersey, health care and community organizations in Trenton work together as a Regional Health Hub (RHH) and have resources for (1) a health information exchange (HIE) to securely support providers with access to integrated patient records in real time to support treatment decisions and strategies; and (2) options to integrate the HIE with NowPow, to track social-need screenings, send referrals, and support bidirectional communication between health care and community-based organizations. As one of four RHHs in New Jersey, Trenton Health Team provides health care data infrastructure and analysis through Medicaid claims, supports care management, and convenes health care and community organizations that plan and provide population health interventions. ACO funding provided $145,000 to 7 community-based nonprofit organizations helping residents address complex health-related concerns, including trauma and housing conditions.
4. **Innovative partnerships between health care organizations and payers can establish and support critical infrastructure for addressing medical and social needs.**
•**Trenton Health Team**: Trenton Health Team: THT entered into a contract with Horizon Blue Cross Blue Shield of New Jersey to provide care management services to Trenton-area state employee beneficiaries. Horizon will apply a new analytic model to identify eligible beneficiaries and refer them for services, provide training in the University of Pennsylvania Center for Community Health Workers' IMPaCT Model, leverage NowPow as a social and community services resource directory and tracked-referral platform, and provide funds for direct reimbursement of goods and services to address members' social determinants of health needs.[56]

Continued

Table 4. *Continued*

Opportunities
•**Minneapolis Health Department**: Ten FQHCs in the Minneapolis–St. Paul area participate in the FQHC Urban Health Network (FUHN), a virtual integrated health partnership with the state's ACO initiative. Through managed care plans that contract with the state, FUHN provides services to Medicaid beneficiaries, participates in a shared-savings arrangement, and may distribute savings among FQHC members.
5. **Health systems and clinics can develop and implement an innovative, comprehensive vision to address medical and social needs and improve population health by pursuing diverse funding streams.**
•**St. Mary's Health and Clearwater Valley Health:** This system of hospitals and clinics participates in ACOs with both Medicare and private payers, leverages national grants, and invests health system resources to support innovative population health strategies.
•**La Clínica del Pueblo:** La Clínica funds diabetes self-management education classes through a specific contract with a payer, relies on care management payments to maintain a registered nurse care management program for high-risk patients, and pursues more flexible funds. La Clínica del Pueblo collaborates with academic institutions, foundations, and federal and local health and human services departments to conduct community-based and participatory evaluation of innovative programs.

Going forward, it may be necessary to modify state payment policies to adapt to the variability of organizational contexts, account for variation in population health across diverse geographies, and coordinate efforts to address structural drivers of health. This approach may allow local innovation to flourish and respond to regional population health needs. Even within a state, payment mechanisms need to be flexible enough to work for different kinds of health care organizations (e.g., community clinics, integrated delivery systems) and geographies.

Innovative partnerships between health care organizations and payers support critical infrastructure for addressing medical and social needs. Although payers have flexibility in how they structure payments, many payers need evidence to demonstrate savings in their beneficiary populations before they establish new payment models. Marshall University is exploring impact investment strategies with payers to scale a CHW-based chronic care management program. Drawing on experience with PMPM models with FQHCs in West Virginia, the impact investment funder pays a percentage of the PMPM and the payer pays the remaining, lesser percentage. As cost savings are identified among beneficiary populations, the payer pays an increasingly higher proportion of the PMPM. Thus, the impact investment strategy engages the payer in a process of graduated payments, allowing sufficient time to observe savings in a targeted population, with the goal that the payer will assume the full PMPM cost of CHW-based chronic care management.

Discussion

A key policy question for improving population health is how payment reform can support and incentivize care transformation that successfully addresses the medical and social needs of patients and communities.[21] Core components of health care services can provide the infrastructure and coordination to address social needs for patients with diabetes. FFS payments provide retrospective payments that are not designed to support needed investments for future care. VBP and APMs have potential for supporting and incentivizing the necessary care transformations that address medical and social needs of patients and communities, but must be intentionally designed to do so. Effective solutions will need to be flexible and tailored to different contexts. The eight Bridging the Gap: Reducing Disparities in Diabetes Care organizations come from

different payer, market, and political contexts, and consequently provide excellent examples of different care transformation interventions and payment mechanisms.

Key infrastructure and coordination to address social needs for patients with diabetes includes multidisciplinary team-based care, care coordination, IT infrastructure, and community partnerships. Multidisciplinary team-based care plays an important role in clinical management, patient education, and ongoing self-management support. Team members, including CHWs, navigators, and other trained peers, provide ongoing education and support visits to practice new skills and behaviors, develop problem-solving skills, improve self-efficacy, and address personal, social, economic, and environmental factors that may impact self-management goals. Care coordination across clinical and nonclinical encounters provides structure, processes, and interactions with patients to address medical, behavioral, and social support while also attending to individual unmet social needs. Care coordination through a CHW-based program for high-risk patients with diabetes in a rural Appalachia program, for example, facilitated decreased blood glucose among 63% of patients between baseline and 6 to 12 months after enrollment, with a mean decrease in HbA1c of 2.4 percentage points.[22]

Investment in IT infrastructure, addressing interoperability issues, and improving secure platforms will help organizations integrate data, coordinate resources, and align health care services and community resources across organizations and sectors. Trenton Health Team's experience with a regional HIE highlights opportunities to use real-time data to support treatment decisions and strategies, assess information about demographics and health indicators in the community, and develop programs to address community-specific interventions and disparities. Finally, strong community partnerships can be designed to address the distinct demographic and health needs of the specific communities. La Clínica del Pueblo engages multisectoral partners (e.g., policymakers, legal service providers, health care organizations) that recognize the opportunities and challenges to address structural barriers to health for Latinx immigrant patients in Washington, DC, and Maryland.[23] These partnerships intentionally focus on the health needs of the Latinx immigrant community with effective interventions and resources that address immigration as a social determinant of health (e.g., access to interpreters, trauma-informed services, and legal service providers; programs

designed to mitigate socioeconomic barriers due to exclusion from government programs and insurance benefits).

Unfortunately, current payment systems often do not pay for key infrastructure and coordination to address medical and social needs. Most grantees come from markets where FFS payment predominates, limiting their ability to develop integrated models of care to address both medical and social needs of the population. Traditional FFS payment covers physician's office visits, inpatient hospitalizations, and medications; it often does not pay for other supportive diabetes self-management services (e.g., CHW-supported home visits, navigation to other services and resources) and has limitations for the mode and frequency of self-management education. Retrospective payments are not designed to support up-front investment in program infrastructure such as staffing and technology. For example, to support social needs screening and referral, Trenton Health Team and UPMC Western Maryland have implemented software platforms that securely support referrals and communication across organizations working to address social needs (e.g., NowPow, Aunt Bertha). Grantees continue to encounter challenges with identifying and accessing flexible up-front funding sources to support infrastructure for their interventions (Table 3). Cross-sector interventions are rarely supported by current payment systems. The eight grantees and other collaborating organizations have implemented strategies to address medical and social needs through support from governmental and private payers, government programs, private grants, and other philanthropic initiatives.[2–4,10,24–28] However, relying on such a wide range of funding sources limits implementation of sustainable strategies. Organizations need to be able to rely on base health care financing structures to finance medical and social care.

VBP and APMs must be intentionally designed to support and incentivize care transformations that enable organizations to proactively address medical and social needs and improve health outcomes across the continuum of care. Up-front payments in APMs (e.g., capitated payments, PMPM payment) have frequently been insufficient to support infrastructure for resources like CHW programs, data-sharing platforms, and community partnerships. Retrospective reward payment systems in VBP such as pay-for-performance programs and shared-savings models frequently have weak incentives to attain population health goals and address social factors. Incentives may be low in magnitude or may not be based on metrics that sufficiently reward addressing social factors.

Several key functional questions about payment influence the degree to which social needs are prioritized:

1. What populations are the health plan or health care organization responsible for (e.g., narrow insurance beneficiary pool or broader population)? What is at financial risk (e.g., outpatient care, inpatient care, total cost of care)? What is the magnitude of the incentive or financial risk? Of our eight grantees, UPMC Western Maryland has some of the strongest incentives to address SDOH under the Maryland TCOC payment system, which holds them accountable for all health care costs of the surrounding service area.
2. What are the mechanisms for up-front funding of infrastructure for addressing SDOH and complex medical needs? Up-front payment options established through APMs include accountable care organizations, global budgets, and other partial capitation arrangements. Seven sites participate in ACOs (Table 3), and flexible payments could support, for example, community health worker services such as in-home patient education and self-management support as well as assistance navigating community resources. Global budgeting funds and supports clinical transformation at UPMC Western Maryland (e.g., hiring CHWs, investing in community partnerships) while supporting organizations to prioritize the health of their patients and not just health care services. Challenges with the scope of narrow payments may be addressed in part by partial capitation arrangements.[29] To be most effective, however, capitation arrangements must be structured with sufficient resources and be aligned with accountability expectations that incentivize addressing social needs.
3. What are the performance metrics incentivizing behavior? All eight of our grantees receive pay-for-performance payments that usually reward traditional clinical performance metrics, reflecting a broader national payer environment in which pay-for-performance programs and shared-savings models frequently have weak incentives to attain population health goals and address social factors.[30] Performance metrics could be modified to prioritize health equity, reducing disparities, and accounting for social needs.[31–33] For example, metrics could incentivize

> team-based care activities that address social needs and advance population health. Metrics could reward a combination of absolute attainment of a performance standard, improvement compared to baseline, and reduction in disparities. These behavioral incentives could be accompanied by structural requirements. For example, just as health care organizations that receive Medicare or Medicaid funding must provide interpreters for limited English proficiency patients, perhaps health care organizations should be required to have adequate core infrastructure for addressing patients' social needs that impact their health.

Effective payment and care transformation solutions will need to be flexible and tailored to different contexts, including different payer, market, and political contexts. State-level leadership, decision making, and policy can all serve as catalysts to improve the capacity of both health care organizations and other sectors to address social needs and improve population health. For example, state leadership and policy changes to test and implement value-based payment structures have provided health care organizations like UPMC Western Maryland with both the resources and the accountability structure to improve population health. The eight-year TCOC waiver in Maryland provides tools and aligns financial incentives for providers, specialists, hospitals, and other facilities to coordinate and provide timely, proactive, patient-centered care.[34] The TCOC model also prioritizes opportunities to improve statewide population health across six high-priority health areas, including diabetes. Other states are making promising changes. In Pennsylvania, the Department of Human Services is now requiring the state Medicaid managed care organizations to require their providers to routinely survey social determinants.[35,36] Additionally, North Carolina is attempting statewide changes to improve population health through SDOH pilots and new VBP and APM models.[37,38] They are linking payment to total costs of care and performance measurements in contracts with five large health systems, supporting ACOs, increasing emphasis on primary care and prevention, investing in information systems that facilitate referrals to community social service agencies, and piloting projects that address social needs.[39,40]

Currently health care organizations all too often lack a strong business case to address their patients' medical and social needs and to engage in meaningful collaborations with community and social

service partners. The experiences of our eight grantees inform the types of care delivery required to address medical and social drivers of their patients' health, and the types of payment reforms that could enable these interventions to occur. Some wonder if addressing social determinants of health would further raise health care expenditures. The fundamental question is whether the role of the health care system is to equitably maximize health, or some other metric such as volume of services or high-technology procedures.[41] Our current health care delivery and payment systems undervalue prevention, primary care, and addressing social needs, and overvalue high-technology diagnostic and therapeutic procedures.[42,43] Moreover, despite evidence of the role of social conditions in determining health outcomes, investments in SDOH in the United States have mostly been modest in scale, temporary, siloed, and funded through time-limited grants or supported through pilot projects without a long-term strategy for sustainability.[44]

We also caution that payers and health systems should not be the lone actors in this effort and there are risks in over-medicalizing strategies to address social needs. There are concerns that health care organizations and payers will emphasize medical priorities when addressing social determinants of health and therefore undermine the expertise, skills, and capacity of the social services sector.[45–47] Therefore, ongoing effort to engage with social service sectors is also needed, including careful attention to governance of partnerships, blending and braiding of funding streams, and shared accountability metrics across sectors to align behavior. Other strategies to finance and support cross-sector interventions could clarify a business case for funding SDOH. For example, these investments could be viewed as public goods that align with a collaborative approach to financing across stakeholders.[48] While nonemergency medical transportation, Housing First, and nutrition assistance may offer returns in the first year or two for specific populations, other investments to address social needs require longer time horizons before returns are realized.[48] We need a range of influential stakeholders, including policymakers, payers, providers, and experts from other sectors to support synergistic interventions to address social needs and, in doing so, achieve meaningful outcomes for patients with chronic conditions like diabetes.

Conclusion

It is time to prioritize payment reform that incentivizes care transformation that can successfully address the medical and social needs of patients and communities. The eight innovative Bridging the Gap: Reducing Disparities in Diabetes Care grantees are testing promising solutions with creativity and persistence, and more examples with health and economic outcomes data are greatly needed. Such drive is necessary for health care organizations to address medical and social needs under current heterogeneous payment systems not designed for these purposes. Social needs related to chronic health conditions such as hypertension and diabetes have gained heightened attention during the COVID-19 pandemic, given the prevalence of adverse outcomes for these individuals.[49] Additionally, inequitable economic and social conditions (e.g., residential segregation, multigenerational households, overrepresentation in jails and prisons) perpetuated by an American legacy of structural racism and discrimination have contributed to COVID-19-related health disparities.[49,50] Our changing social conditions, frayed social safety net, and limited public health infrastructure underscore how social determinants of health are linked to health and illness. Our health care systems are not adequately equipped to respond to myriad unmet social needs that drive episodes of poor health. State-level policies and strategies can enhance opportunities for innovation in payment and care delivery intentionally designed to address medical and social needs. Flexible funding that can be tailored to local contexts will be crucial to the success and sustainability of these interventions. Such approaches show great promise for establishing responsive health and social systems that may improve our nation's health, especially among populations that historically have been marginalized and whose communities face structural inequities that contribute to poor health.[28]

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