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ECONOMICS AND POLICY IN DIABETES (AA BAIG AND N LAITEERAPONG, SECTION EDITORS)

Diabetes Management in Community Health Centers: a Review of Policies and Programs

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Abstract

Purpose of Review Community health centers (CHCs) provide care to millions of vulnerable patients in the USA, including a disproportionate number with diabetes. Policies affecting diabetes management in CHCs therefore have broad implications for clinical practice and patient outcomes nationwide. We describe prior policies that have influenced diabetes management in CHCs, discuss current policies and programs, as well as present emerging innovations and future directions for diabetes care in this setting.

Recent Findings Domains for current diabetes policies and programs in CHCs include coverage requirements, quality reporting and incentives, prescription discounts, healthy behavior incentives, and team-based care. Policies in these areas affect the management of diabetes at multiple levels, from organizations that support CHCs to individual health centers, and the providers and patients based there.

Summary Several domains of interrelated policies and programs impact CHC diabetes management at multiple levels. Stakeholders' understanding of these policies and programs may identify opportunities to improve diabetes care.

Keywords Community health center · Type 2 diabetes · Quality improvement · Health insurance · Community health worker · Diabetes self-management education and support

Introduction

More than 12% of US adults have diabetes, which ranks among the most common reasons for visiting a healthcare provider [1, 2]. Yet with 40% of affected patients failing to reach clinical targets for glycemic control [3••], diabetes remains a challenge for patients, providers, and society at large. Moreover, diabetes disproportionately affects racial/ethnic minorities and individuals of low socioeconomic status, contributing to health disparities in these groups [4].

Diabetes care is frequently delivered in community health centers (CHCs), which comprise a national network of federally funded safety-net clinics with special designation from the Health Resources and Service Administration (HRSA) [5] that collectively serve more than 29 million vulnerable patients. Twenty-one percent of patients served in CHCs carry

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a diagnosis of diabetes, which is nearly double the prevalence of diabetes among all US adults [6]. CHCs have gained recent attention for performing above national averages on ambulatory quality measures for managing diabetes and other chronic diseases. Further, CHCs deliver this high-quality care at a demonstrably lower cost compared with other clinical settings [7–9].

Because diabetes is a complex chronic disease, policies at local, state, and federal levels have broad implications for clinical practice and outcomes [10]. Diabetes policies directed toward CHCs are particularly relevant because of the prominent role CHCs play in diabetes care nationally. However, a comprehensive review of policies and programs relating to diabetes care in CHCs has not been reported in the peer-reviewed literature. In this paper, we review research and policies influencing diabetes management in CHCs, discuss current policies and programs, and present emerging innovations and future directions that may improve diabetes care in this important setting.

Community Health Centers

There are over 1400 CHCs across the USA that provide care in more than 12,000 clinic sites to more than 29 million patients [7]. CHCs serve many priority patient populations, including 13 million living in poverty, 8.7 million children, 1.4 million homeless, and 385,000 veterans [7]. Most CHC patients are publicly insured, with 48% enrolled in Medicaid and 10% in Medicare. Nearly 25% of CHC patients are uninsured, although this percentage varies widely by state, from 8% in Vermont to 52% in Utah [11]. By comparison, just 21% and 9% of US residents are enrolled in Medicaid and uninsured, respectively [12, 13]. Only 18% of CHC patients carry private health insurance, compared with 56% nationally.

CHCs are required to provide comprehensive preventive and primary care, as well as non-clinical services intended to promote access to care, including transportation and case management. CHCs must also accept all patients, regardless of ability to pay; be governed by a board where the majority of members are CHC patients; and serve communities designated as medically underserved. Meeting these requirements, among others, allows CHCs to access specific funding streams. They receive federal grant funding through Section 330 of the Public Health Service Act [14]; are eligible for cost-based reimbursement for services provided to patients insured by Medicaid, the Children's Health Insurance Program [15], and Medicare; receive medical malpractice liability protection through the Federal Tort Claims Act; and are also considered "covered entities" in the HRSA-administered 340B pharmacy program, which requires pharmaceutical manufacturers to provide prescription medications at discounted prices in order to assure reimbursement for prescriptions filled by Medicaid beneficiaries [16]. Taken together, approximately 45% of CHC revenues are received through Medicaid reimbursement, whereas 30% are supplied through Section 330 grants and other grants and contracts; however, CHC revenue mix varies widely by state (see Appendix Fig. 2) [17].

Current Policies and Programs

Methods

We conducted a search of current literature, policies, laws, and public and private initiatives focused on diabetes management in CHCs. Based on this review, we developed a conceptual framework to describe how policies and programs in this area are related.

We queried PubMed and Google Scholar, combining MeSH headings and keywords related to diabetes (i.e., "diabetes mellitus," OR "type 2 diabetes,"), CHCs (i.e., "community health center"), and policy (i.e., "policy"). We reviewed articles from January 1, 2000 to present, using articles between 2000 and 2014 to provide historical context for policies relating to diabetes management, and using articles between 2015 and present to understand the current policy landscape and its implications. We then conducted targeted searches for diabetes policies on websites of the following stakeholders: Health Services and Research Administration (HRSA) [18], Centers for Medicare and Medicaid Services (CMS), National Association of Community Health Centers (NACHC), Centers for Disease Control [19], American Heart Association (AHA), National Conference of State Legislatures (NCSL), Henry J. Kaiser Family Foundation (KFF), American Diabetes Association (ADA), and National Association for Quality Assurance (NCQA). We also reviewed websites and published materials from other private non-profit and academic institutions using a conventional internet search approach. Additionally, we obtained more detailed information about specific diabetes-related policies and programs through personal communications with local and state leaders. The authors used an iterative process of group discussion and mapping of relevant policy domains to build a conceptual framework for policies that affect diabetes management.

Conceptual Framework

Five domains of policies and programs were identified (i.e., coverage requirements, prescription discounts, quality reporting and quality incentives, healthy behavior incentives, and team-based care), which affect diabetes management at three distinct levels: CHC support organizations, CHCs, and providers/patients (Fig. 1). Each of these is described below.

Level 1: CHC Support Organizations A variety of organizations support and influence the diabetes policy environment in CHCs. At the national level, HRSA's Bureau of Primary Health Care administers the health center program, which allocates Section 330 grant funding to CHCs, monitors CHC compliance with program requirements, and administers programs to improve healthcare quality and access in CHCs. Another national entity, the National Association of Community Health Centers (NACHC), serves as an advocacy organization for CHCs, offering them training and technical assistance. At the regional level, many CHCs participate in networks that provide administrative capacity, data infrastructure, and/or quality improvement assistance. These organizations, such as Health Center Controlled Networks (HCCNs) and state Primary Care Associations (PCAs), play an important role in mediating and moderating the effects healthcare policies on diabetes care in CHCs. HCCNs/PCAs and CHCs have developed interdependent roles in terms of financial solvency and quality of care [20].

Level 2: Health Centers Many policies and practices affect CHCs directly, which in turn impacts diabetes care. Because CHCs represent the largest share of primary care delivery to underserved patients in the USA, most policies are directed at CHCs. Some policies and practices interact with both CHCs and CHC network organizations together, and others interact with both CHCs and their providers and patients.

Level 3: Providers and Patients Some policies, in addition to affecting CHCs or CHC network organizations, directly impact patients, providers, or both. For example, insurance company and 340B formularies influence which treatments are available for a provider to prescribe to a patient, directly affecting the care received.

Policy Domains Relevant to Diabetes Care in CHCs

Coverage Requirements

The CHC program has grown steadily since the first clinic opened in 1965; however, following coverage expansions of the Affordable Care Act (ACA), CHC growth has accelerated [21]. For example, the number of CHC patients increased from 19.5 million in 2010 to 29 million in 2019 [7, 14]. The CHC diabetes patient population has increased by 25% since 2013, accounting for more than one in seven CHC patients [6, 3••]. Therefore, ensuring access to high-quality diabetes care is a priority for CHCs.

Access barriers have been identified for diabetes management in CHCs, including affordability of home glucose monitoring, accessibility of retinal screening, provider time for diabetic teaching, and coverage for treatments/services [22–24]. While the ACA removed preexisting condition exclusions for offering coverage to patients with diabetes, the law did not enumerate specific diabetes-related coverage requirements [10]. Consequently, states vary in diabetes-related

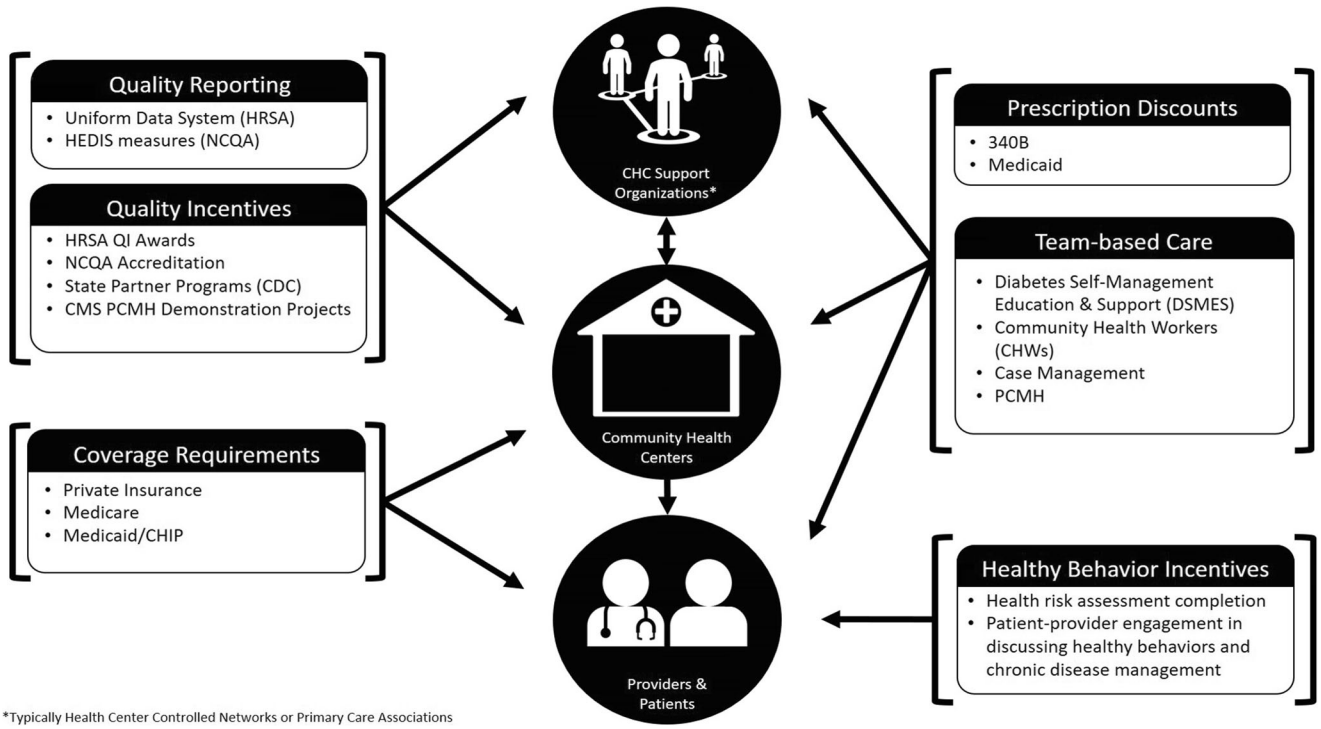

Fig. 1 A conceptual framework for policies and programs affecting diabetes management in community health centers. CHC, community health center; PCMH, Patient-Centered Medical Home

treatments and services they require private insurers to cover. Although most state Medicaid programs cover a majority of diabetes medications, there is no federal requirement to do so [23, 25].

Most states currently have laws requiring specific coverage for diabetes management by both private insurance and Medicaid; however, several do not. For example, according to a 2016 report from the National Conference of State Legislatures, Alabama, Idaho, North Dakota, and Ohio do not have diabetes coverage requirements for private insurers, while Kentucky and Mississippi lack comprehensive requirements for diabetes management in Medicaid (see Table 1) [26]. Podiatry and prescription coverage are optional Medicaid benefits in all states, and seven states do not currently cover podiatry services [23]. Medicare provides coverage for diabetes management through part B (outpatient services) and part D (pharmacy services); however, some services are not covered, such as weight loss programs, orthopedic shoes, or eye exams for glasses [24, 27]. Additionally, beginning in 2018, CMS began to recognize chronic care management (CCM) as an independent billable claim when 20 or more minutes of CCM are provided, which can be provided during an office visit or separately [28]. For CHCs, this allows for additional billable encounters for managing chronic diseases, including diabetes.

Prescription Discounts

To improve access to prescription medications, the Congress established the 340B prescription program in 1992 [16]. This program allows CHCs to receive medications from pharmaceutical companies at discounted rates, subsidizing the cost of care for CHCs and enabling uninsured or underinsured patients to obtain medications at discounted, affordable prices. Beginning in 2000, HRSA introduced Clinical Pharmacy Demonstration Projects in 18 CHC networks, which evaluated the effect of comprehensive pharmacy services and medications—including 340B pharmacies—as well as the impact of pharmacists on diabetes and its comorbidities [29]. In almost all cases studied during the 5-year project, hemoglobin A1c (A1c), systolic blood pressure, and LDL cholesterol levels significantly improved [30]. Perhaps as a result, the 340B program has grown substantially in the last decade; as of 2016, drug discounts provided through the program were valued at $16 billion [31].

Prescription discounts are currently granted to CHCs in two primary ways: through the 340B program and through Medicaid medication discounts. Medications provided through the 340B program are sold directly to CHCs from pharmaceutical manufacturers at a price set by HRSA. They may only be dispensed at an on-site pharmacy for each CHC. Medicaid medication discounts are collected after all Medicaid claims have been made in a fiscal year, based on the total number of fills for each medication by a given CHC [32]. CHCs must properly track these medications within the correct discount mechanisms used so that medications are not "double-discounted"—an error that may threaten a health center's FQHC designation. CHC support organizations often provide CHCs administrative assistance for maintaining these prescription discount programs [20].

Quality Reporting and Quality Incentives

Evaluating and improving the quality of diabetes care in CHCs represents a major area of attention for CHC research and policy. Beginning in the 1990s, adherence to diabetes-related quality measures—both in CHCs and other settings nationally—was found to be low [33]. In 1998, HRSA's Bureau of Primary Health Care [18] began a 10-year program known as the Health Disparities Collaboratives, which was

Table 1 Coverage policy limitations for diabetes care by state, 2016[a,b]

Private insurance				Medicaid		CHIP	
No diabetes coverage requirement	Coverage limitations among states with any diabetes coverage requirement			Restricted or absent diabetes coverage		Restricted or absent diabetes coverage	
	Medications	Nutrition counseling	DSMES	Insulin	Equipment/ supplies	Insulin	Equipment/ supplies
Alabama Idaho North Dakota Ohio	Iowa Oregon	Arizona Delaware Florida Hawaii	Arizona	Arkansas	Arkansas Kentucky Mississippi	Mississippi	Arkansas Kentucky Minnesota Mississippi

A more detailed version of this table is included in the Supplement. Represents state coverage requirements as of January 2016; more information available from the National Conference of State Legislatures at http://www.ncsl.org/research/health/diabetes-health-coverage-state-laws-and-programs.aspx#4

DSMES, diabetes self-management education and support; *CHIP*, Children's Health Insurance Program

designed to improve care quality in CHCs by incorporating a theoretical model and offering learning sessions/support [34]. The program was found to be cost-effective and was perceived as effective by program participants [35], providing evidence to maintain and subsequently expand quality improvement programs to address clinical services and management [14, 36].

Quality improvement initiatives have also provided a basis for CHCs to develop critical infrastructure to improve diabetes care. For example, the Chicago South Side Diabetes Initiative, started in 2009, brought 6 health centers together to improve care quality, patient activation, provider training, and community partnerships in caring for more than 7200 patients with diabetes [37]. Significant improvements were observed in self-reported dietary adherence, glucose monitoring, and foot care, with 3-month reductions in A1c from 8.24 to 7.33% [37–39]. The project also identified factors that motivate cross-sector collaborations in diabetes management, building interdisciplinary coalitions to connect CHC patients to community resources [40].

While research demonstrates that diabetes-related quality improvement strategies over the last 20 years have been effective in improving diabetes care across settings, their effectiveness has begun to plateau [41–44]. Moreover, variation in quality by socioeconomic factors, such as insurance status, has also been observed [45, 46]. To support continued quality improvement in CHCs, the Centers for Medicare and Medicaid Services (CMS) sponsored the FQHC Advanced Primary Care Practice Demonstration (APCP) from 2011 to 2014. APCP funded 434 CHCs to adopt patient-centered medical homes (PCMH) and develop care coordination practices and infrastructure, which were seen as an opportunity to improve patient experience, process measures, and even quality of care [47, 48]. As of 2017, 75% of CHCs had received a PCMH designation [13]. Following PCMH adoption initiatives and general healthcare industry trends, CHC adoption of electronic medical records (EMRs) significantly increased during this period, with some evidence of improved quality in diabetes care as a result [14, 49, 50].

To further support CHCs in improving quality, HRSA leveraged an infrastructure of Health Center Controlled Networks (HCCNs) and primary care organizations (PCAs). These CHC support organizations help CHCs improve access to care, enhance quality of care, and achieve cost efficiencies through management, financial, administrative, technological, and clinical support services. HRSA's investment in HCCNs has been substantial, including $114 million awarded in fiscal year [51] 2010 alone [20]. HRSA has also funded the Community Health Applied Research Network—a research network comprising 18 large CHCs organized into four Research Nodes, each with an academic partner and a data coordinating center. The network represents over 1 million patients across 11 states and provides a data warehouse available for research and quality improvement in the CHC patient population, with diabetes as one of seven specified disease cohorts [46, 52, 53].

Today, CHCs are required by HRSA to report quality through the Uniform Data System (UDS), which is similar to National Committee for Quality Assurance (NCQA) requirements in other settings [54, 55]. UDS requires FQHCs to report the number of diabetes visits, the number of patients with a diagnosis of diabetes, and the percent of diabetes patients ages 18–75 with "poor" glycemic control (defined by A1c > 9%, or no testing performed within 1 year). Beginning in 2020, UDS proposes to add measures for completed eye exams, foot exams, and nephropathy screening. While use of these latter metrics represents standard practice, it is unclear whether these requirements will pass excessive costs to CHC patients, where coverage for such diabetes-related services is not universal (e.g., podiatry services).

CHCs with FQHC designation may also receive performance-based Quality Improvement Awards (QIA) through HRSA. In 2019, the QIA program announced $107 million in awards to 1207 CHCs in all 50 states, US territories, and the District of Columbia [36]. Rather than holding health centers to absolute quality measure targets, the QIA program aims to reward both relative improvement within a health center and excellent performance compared with other health centers and national benchmarks.

Over time, HRSA's initiatives have improved diabetes care: approximately 67% of CHC patients with diabetes currently meet national targets for disease control, while only 59% do so nationally [3••].

In addition to HRSA, the Centers for Disease Control and Prevention [19] also has quality improvement initiatives for diabetes care. In the last decade, the CDC has issued a number of small 5-year grants (typically $500,000–$1 million each) to state, county, and large city health departments designed to build infrastructure that supports diabetes quality measurement [56]. The CDC's programs have focused increasing use of information technology for diabetes management, cardiovascular risk factor tracking and management, and adherence to evidence-based guidelines and policies. The impact of these programs in CHCs is not well described.

Healthy Behavior Incentives

Since the ACA went into effect in 2014, Indiana, Iowa, and Michigan have incorporated healthy behavior incentives into their Medicaid programs [57, 58]. In Iowa and Michigan, Medicaid enrollees can avoid cost-sharing and receive additional financial incentives if they complete a health risk assessment and discuss it with their primary care provider [58, 59]. An objective of this process is to promote patient commitment to healthy behaviors, including diet, physical activity,

and medication adherence, that may improve management of chronic diseases such as diabetes [60].

Also beginning in 2014, CMS awarded $85 million over 5 years to 10 states to test the effectiveness of providing incentives directly to Medicaid beneficiaries, in a program called Medicaid Incentives for the Prevention of Chronic Diseases [61]. Six of the 10 states were awarded grants specifically targeting diabetes: Hawaii, Minnesota, Montana, Nevada, New York, and Texas. Other states have proposed behavior incentive programs that have yet to be implemented.

Outcomes of healthy behavior incentive programs on health behaviors and chronic disease management are mixed [62]. However, a recent study documented favorable experiences among providers engaged in healthy behavior incentive programs [59], and there is evidence that such programs may also be associated with higher levels of patient-provider engagement [63]. These data show promise for adopting and integrating healthy behavior incentives for diabetes management in CHCs and across care settings.

Team-Based Care

The CHC requirement to provide enabling services and the widespread adoption of patient-centered medical home designation among CHCs have promoted interdisciplinary care teams within CHCs, including case managers, social workers, pharmacists, nurses, physicians, and other CHC staff. Enabling services are designed to facilitate greater access to care and tailor care to individual patient context, including social determinants of health. Enabling services have been associated with increased utilization of preventive services, clinical follow-up, and patient satisfaction [64]; however, evidence for improved outcomes in patients with diabetes has not been established [65].

Team-based care has also given rise to diabetes self-management education and support (DSMES), an intervention defined as the "process of facilitating knowledge, skills, and ability necessary for diabetes self-care" [66, 67]. DSMES is usually provided by diabetes educators or specially trained nurses or community health workers as part of CHC primary care teams. DSMES interventions have demonstrated effectiveness in improving diabetes quality measures and reducing costs [68]. For example, in Alaska's Medicaid program, beneficiaries receiving DSMES improved care and generated savings compared with those who did not. The state estimated that if all adult Medicaid beneficiaries received DSMES services, the Alaska Medicaid program could save $36 million per year [69].

At least forty-one states and the District of Columbia require some level of private insurance coverage of DSMES [26, 69]. Diabetes is more prevalent in rural areas, yet most rural areas do not currently have DSMES programs [69]. To address that gap, the CDC has funded DSMES development programs to train diabetes educators in underserved areas [69] and increase DSMES access through community partnerships [70]. Community health workers are also increasingly providing DSMES [71–73]. Although CHCs are well positioned to implement DSMES, payment and reimbursement may be insufficient for CHCs to fund DSMES programs. For example, many CHCs in Hawaii have not implemented nor maintained DSMES because payment is often insufficient to support the true costs (personal communication with leadership in the Hawaii Primary Care Association). Other approaches, such as hiring health coaches or CHWs, may be more suitable alternatives to provide DSMES.

Community Health Workers (CHWs) are another member of CHC care teams, demonstrating promise for improving diabetes management among vulnerable populations [71]. CHWs work with CHC staff and state and local health departments to help patients navigate ancillary services and referrals, connect to community resources, assist with lifestyle interventions [74], and provide diabetes self-management education and support (DSMES). The role of CHWs in diabetes management has been reviewed elsewhere [75–78]. A large body of literature on CHW interventions for patients with diabetes has demonstrated modest improvement in glycemic control and other outcomes [79–84]. Much of this work has been conducted among racial/ethnic minorities and other priority populations served by CHCs. CHW interventions have also demonstrated cost-effectiveness for patients with chronic conditions or high medical complexity [85–87].

More than 50,000 CHWs are currently employed in the USA [88, 89]. Eighteen states have adopted Medicaid reimbursement policies for CHWs, and states are exploring other payment models for CHWs [90]. Only 16 states had CHW certification or statewide training requirements in 2017 [88]; and a similar number of states have passed legislation or are piloting community health programs designed to integrate CHWs into healthcare systems [91]. For example, in Louisiana, CHWs are being trained to assist patients with diabetes, or those at high risk of developing diabetes, to navigate community resources that may help prevent disease progression (personal communication with leadership in the Louisiana Department of Health). Other states, such as Maine and Kentucky, have similar initiatives underway, but the number of states with CHW-led diabetes interventions is not known.

Emerging Innovations and Future Directions

New Antidiabetic Medications

A growing body of literature demonstrates the benefits of novel antidiabetic medications, especially glucagon-like peptide-1 agonists (GLP-1) and sodium-glucose cotransporter 2

inhibitors (SGLT-2). Clinical trials and observational studies document lower rates of cardiovascular diseases, progression of kidney disease, and mortality associated with GLP-1 and SGLT-2 [92, 93]. These new medication classes are more expensive and less widely used than older diabetes medications, such as sulfonylureas [94]. But there is emerging evidence that GLP-1 and SGLT-2 comprise a growing proportion of antidiabetic prescriptions [95]. The use of GLP-1 and SGLT-2 in CHCs has not been examined, which represents an important area for future research. If uptake of these new medication classes is low among the vulnerable populations served in CHCs, ensuring access to these novel drugs—through 340B programs, Medicaid medication discounts, or other mechanisms—will prove an important strategy for improving diabetes care.

Interagency Partnerships

In the current practice and policy environment, there are a number of new collaborative efforts to improve diabetes management in CHCs. In 2017, the American Heart Association (AHA) and CDC began an annual summit for diabetes and cardiovascular health [96]. Similarly, the AHA and American Diabetes Association have begun a joint effort to increase awareness of diabetes cardiovascular risk among the public, patients, and providers, referred to as "Know Diabetes by Heart" [97]. While these interagency collaborations do not focus on diabetes care within CHCs specifically, they will be able to leverage vast resources and impact all patients with diabetes, including those treated in CHCs. Future partnerships between CHCs and disease-specific or public health organizations—private or public—may create new opportunities for improving diabetes care.

Social Determinants of Health

The history and structure of the health center program have led CHCs to place strong emphasis on social determinants of health (SDoH) [98]. The health center program was founded in the context of social justice and community-oriented primary care movements of the 1960s and, from its founding, has provided social assistance and enabling services [99]. Recent evidence for the significant role of SDoH on chronic disease outcomes has spawned increased efforts to identify and address SDoH in clinical settings [100]. Among patients with diabetes, food insecurity and other material need insecurities have been associated with poorer glycemic control [101•, 102]. Many CHCs are now screening for SDoH using validated tools, such as the Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences (PRAPARE) [103, 104]. With greater provider awareness of SDoH among patients with diabetes, programs designed to address SDoH are increasingly becoming part of diabetes care; however, further research on their impact is needed [105, 106]. CHCs are ideally positioned to lead research and clinical care in this important area.

Shared Medical Appointments

Diabetes is a complex medical condition requiring regular patient education and follow-up. Shared medical appointments offer an opportunity to use economies of scale to provide high-quality education and training to groups of patients, rather than one-by-one [107]. In this model, patients also offer each other peer support and education. Research about the effectiveness of shared medical appointments on diabetes outcomes has been mixed [108–111]. However, a recent quasi-experimental study among Latinos showed that shared medical appointments significantly reduced hemoglobin A1c levels at 6 months, compared with controls [112]. Shared medical appointments represent one potential strategy for improving diabetes care in CHCs.

Virtual Care

Virtual healthcare technologies, such as mobile health (mHealth) or telehealth, are playing an increasing role in medical care, with potential to reduce health disparities among vulnerable populations [113]. MHealth employs the use of mobile devices to educate and engage patients in their medical care through text messaging and software applications. CHCs are a promising setting to deploy mHealth interventions for chronic disease management, given patients' high burden of chronic disease and more limited access to resources such as transportation. Current evidence for mHealth interventions has been favorable, with reductions in hemoglobin A1c of up to 0.8% compared with standard care or other non-mHealth approaches [114, 115]. Innovative mHealth interventions have the potential to be cost effective in diabetes care and can be expected to increase as technical infrastructure in CHCs develops over time.

Telehealth represents another type of virtual care that carries promise, especially for patients in rural areas or with barriers to transportation. Telehealth goes further than mHealth approaches by including the provision of healthcare through telecommunications technology. Forty-four percent of CHCs participate in telehealth nationally, with adoption by state as high as 81% [13]. Barriers to telehealth include restrictions from insurers about where these encounters originate, lack of clear definitions and standards for episodes of care, provider and patient training, and usability of telehealth technologies [116•]. Telehealth has the potential to improve access to diabetes care in CHCs, provide greater continuity, and ultimately improve quality and outcomes [117, 118]. CHC support organizations will play a prominent role

adopting and integrating telehealth into CHC-based diabetes care.

Conclusion

Diabetes remains a major contributor to morbidity and mortality in the USA, and CHCs provide care to a disproportionate number of patients with diabetes. State and federal policies have influenced the management of diabetes in CHCs for decades; and over time, research has informed those policies and programs to improve diabetes care. Understanding how these policies are interrelated and impact diabetes management will enable stakeholders to improve, reform, innovate, and transform programs and practices and improve patient outcomes more effectively.

Compliance with Ethical Standards

Conflict of Interest A. Taylor Kelley declares that he has no conflict of interest.

Robert Nocon reports personal fees from RCHN Community Health Foundation, personal fees and non-financial support from Health Resources and Services Administration, and non-financial support from National Association of Community Health Centers.

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Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

Appendix

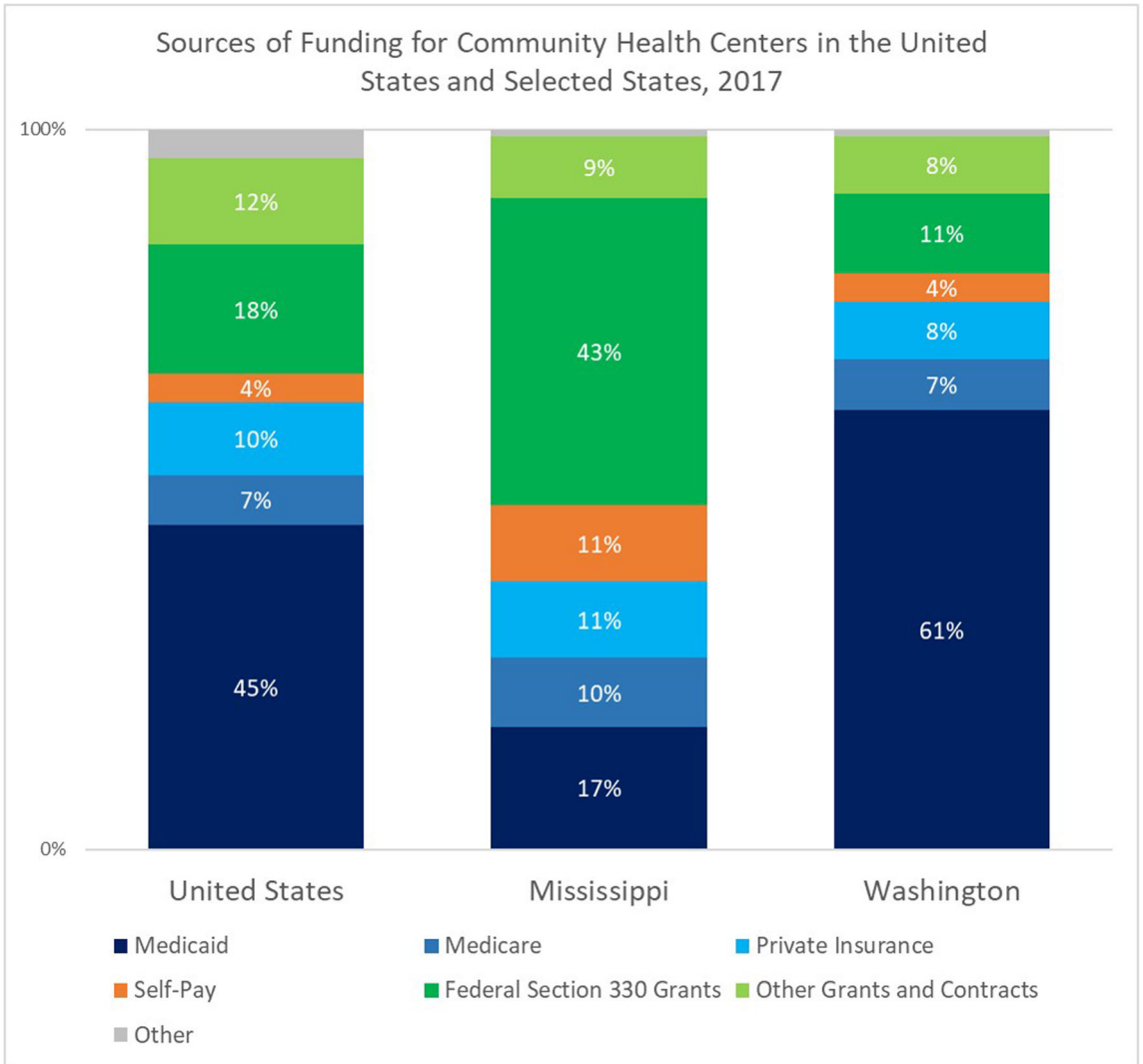

Fig. 2 Sources of Community Health Center funding shown as USA's average. For comparison, Mississippi and Washington also shown to highlight variability in funding mix across states

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- •• Of major importance

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