HOSPITALS' BENEFIT TO THE COMMUNITY: RESEARCH, POLICY AND EVALUATION

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HOSPITALS' BENEFIT TO THE COMMUNITY: RESEARCH, POLICY AND EVALUATION

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EDITORIAL
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Editorial: Hospitals' Benefit to the Community: Research, Policy and Evaluation

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Editorial on the Research Topic

Hospitals' Benefit to the Community: Research, Policy and Evaluation

In the United States (USA), "community benefit" (CB) encompasses the expectation, first written in 1969, that non-profit hospitals provide services to the communities they serve in exchange for tax-exempt status. Fifty years later, this Research Topic in *Frontiers in Public Health* collects a range of articles showing the current status of federal, as well as state, policies requiring hospitals to contribute to their communities in return for exemption from taxes.

USA non-profit hospitals have been required by the Internal Revenue Service (IRS) to report detailed information about their community benefit activities since 2007. In 2009, an Academy Health pre-conference, "Community Benefit: The Research Agenda for the First Five Years," discussed the current state of non-profit hospitals' community benefit activities and offered a research agenda for the upcoming 5 years. Conference *Proceedings* (1) laid out critical issues to be examined as non-profit hospitals began reporting community benefit activities to the IRS as part of their annual tax return (IRS Form 990, specifically Schedule H). In 2010, the Patient Protection and Affordable Care Act (ACA) set forth further requirements for non-profit hospitals to maintain their tax-exempt status. These include the requirement that non-profit hospitals conduct a community health needs assessment (CHNA) every 3 years and develop an implementation strategy to address identified needs.

Now, more than 10 years after this inaugural conference and 50 years after the initial IRS ruling, detailed data on community benefit activities of non-profit hospitals and health systems are available to policymakers, researchers, and the public. CNHAs are ubiquitous and frequently involve not just hospitals but many organizations across the community. The activities outlined in hospitals' implementation strategies add numerous community-focused services to hospitals' portfolios. Evaluations analyze a wide variety of interventions, including health promotion and education programs, models of inter-entity collaboration, and the impact of social determinants of health on acute care. What do all these data, reports, and activities reveal? Have the research questions compiled in the 2009 Conference *Proceedings* been examined? What new information guides health policymakers and practitioners as they develop and implement policies related to non-profit hospitals' community benefit?

The 10 articles comprising the Research Topic shed light on the current status of non-profit hospitals' provision of community benefit. The 25 authors offer articles ranging from original research conducted on national samples of hospitals to personal perspectives. Twenty review editors and six associate editors contributed their own expertise in community benefit to the review process, enhancing the manuscripts. We thank all who contributed to this Research Topic in both formal and informal capacities.

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Rozier analyzed 96 peer-reviewed articles pertaining to CB published over the past decade. He found a wide variety of studies, but no comprehensive analysis of the impact of the policies nor a singular focus of existing research and evaluation studies.

Evashwick and Jackson present a brief review of the history of CB regulations in the USA and point to the lack of specific theories or models on which to base public policy. They showcase the difficulty in conducting definitive evaluations of the impact of any CB activities when the assumptions about cause and effect relationships are imprecise and multiple entities in a community are involved in collaborative or independent interventions. They recommend each hospital specify its own logic model as a guide to desired outcomes and the basis for the corresponding evaluation.

Barnett adds to the history of the federal CB requirement, elaborating on how states approach it. He provides examples of recent changes by states, both following the federal example and taking independent, state-specific approaches. He advocates for a broad view of community organizations working together to improve health rather than depending upon a single entity.

Several studies focus on the CHNAs required by the ACA to be conducted by non-profit hospitals at least once every 3 years. Santos compiled a national sample to compare hospitals' CHNAs with their subsequent implementation strategies. She also examined collaboration between non-profit hospitals and local health departments in conducting and responding to the CHNAs.

Bias et al. contrast the role of individual community hospitals in conducting CHNAs with the role of the region-wide corporate health system. They conclude that although individual hospitals might have more detailed knowledge of their local communities, the corporate level health system can contribute in ways that enhance a strictly local focus. Both perspectives are beneficial.

Kaplan and Gourevitch describe lessons learned from a CHNA in New York. They provide examples of how the results supported creating several different community-oriented programs. They also describe how the CHNA's infrastructure formerly conducted by the hospital's planning department evolved to a collaborative effort involving a structured partnership with an array of community organizations which established the foundation for ongoing collaboration.

Ruggles highlights how a small hospital in rural Vermont served as a backbone institution for a multi-faceted collaborative community initiative. This case study raises the concept of "collective impact." If a hospital works with other community organizations to improve health services or health status, can the hospital claim "community benefit" prowess, or do accomplishments belong to all the organizations? Reporting requirements have not been revised to reflect the value of collaborative efforts versus those of individual institutions.

Two articles bring the perspective of specialty hospitals. Carroll et al. consider how a rehabilitation hospital interacts with community agencies to address the multi-faceted needs of those with short-term and permanent disabilities. The hospital cannot meet all the needs of all its patients, but it can provide leadership to mobilize community services. Franz and Cronin explain how children's hospitals act differently than typical community hospitals because those they serve are likely to come from a much broader geographic area, encompassing multiple local communities, while focusing on one population segment—children and their families. To date, CB reporting and policy requirements have not been designed to recognize the differences that apply to specialty hospitals nor to acknowledge the regional impact noted by both Carroll et al. and Franz and Cronin. Similarly, "leadership" is difficult to quantify and report.

Turner et al. take an entirely different approach to CB. Rather than looking out, they examine how community benefit actions can contribute to internal operations. They explore how the move to value-based financing can utilize CB expectations to improve population health, thereby positioning the hospital to succeed financially under new payment systems.

Fifty years after the IRS handed its Regulatory Ruling about CB to the American Hospital Association and 10 years after the 2009 conference to set the research agenda, the reporting system has become more sophisticated and the evaluation metrics more complex. The range of subjects covered in this Research Topic shows the breadth and the complexity of the ways in which the formal CB policy has been implemented.

Historically, hospitals have contributed to their communities in ways that the institution and the community deemed appropriate. These articles beg the question, how do we move to better evaluate the impact of hospitals' efforts to improve community health? Clearly, we can cite the standard conclusion of 'more empirical, data-driven research, evaluation, and policy analyses are needed', especially now that national-level data on hospitals' CB are available and our ability to measure the impact of collaboration between hospitals and their community partners has advanced. Stimulating additional research and policy analysis on the CB activities of hospitals and their community partners will require more motivation and funding from stakeholders, including regulatory authorities, government agencies, and the private sector. The future may lie in hospitals of all types continuing to follow historic precedent to contribute to their communities not because of external regulation, but rather based on their mission and values and the increased recognition of the importance of creating healthy communities.

AUTHOR CONTRIBUTIONS

CE wrote the first draft of the article. PJ, SS, and TS edited the manuscript. All authors met together to discuss final revisions. All authors reviewed, added edits, and approved of the final version of the manuscript.

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BRIEF RESEARCH REPORT
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The Importance of Individual-Site and System-Wide Community Health Needs Assessments

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In order to fulfill the Patient Protection and Affordable Care Act's Community Health Needs Assessment requirements, hospital systems sometimes vary in detail between individual hospital sites or locations and performing an assessment for the entire system. This article examines needs assessments and their accompanying implementation plans across a large university hospital system and finds support for conducting assessments at the local site-level but evidence that system-wide approaches may also have significant benefits, especially at the implementation phase. It suggests a hybrid approach to the needs assessment process where systems and their individual hospitals work together to maximize health benefits to the communities served.

Keywords: social determinants of health, physical determinants of health, community health needs assessment, non-profit hospitals, public health, affordable care act

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INTRODUCTION

Since the inception of the 2010 Patient Protection and Affordable Care Act's (ACA's) requirement for non-profit hospitals to conduct Community Health Needs Assessments (CHNAs) every 3 years, most hospitals should have completed at least two cycles of identifying health needs in the community, developing implementation plans, and working to improve the health of their local service areas. Large hospital systems, made up of multiple individual hospital locations, have differed in their approach to conducting these CHNAs. Some have completed one CHNA report and its accompanying implementation plan for all hospitals within the system whereas others have completed CHNA and implementation plans for each individual hospital within a system. The 2010 ACA required non-profit hospitals across the United States to complete Community Health Needs Assessments whereby the hospital gathers community input and examines other data sources to identify the most important public health issues facing their service areas. After identification, hospitals must choose health issues to prioritize and create implementation strategies to address those needs. This requirement is tied directly to the tax-exempt status of hospitals and must be completed every 3 years (1). Activities related to the CHNA implementation plan are reported on the Internal Revenue Service Form 990. Prior literature has indicated the wide variation of quality among CHNAs, (2) including a lack fo consistency in method and content (3).

While community benefit has been notoriously hard to capture by non-profit hospitals, it was estimated that spending in 2012 was over 60 billion dollars in the United States (4). This enormous influx of money, part of which should now be directed toward significant public health need in communities served by these hospitals, underscores the importance of further understanding best practices for CHNA processes and the need for clarity and consistency in CHNA reporting (5). There is wide variation in the amount of this spending across hospitals, and while research has shown that prior to the CHNA act much of this spending was patient-care related (6), there is

also some variation in how sites have moved this toward higher community benefit spending, tied directly to the level of CHNA implementation planning (7).

In light of these large sums of public health spending, the CHNA process has potential to be an important mechanism for improving public health at the population level and addressing systemic and environmental factors, including social determinants of health, that have proven to be difficult problems for public health practitioners to solve (8). Over the past decade there has been a tremendous growth in both the number of hospital systems (more than one hospital formally affiliated with each other) and the number of independent hospitals who have moved toward affiliation with a system (9). Hospital systems have the potential to reach large populations with both healthcare services and public health interventions through the CHNA process. Systems generally complete separate reports for each site affiliated with the hospital system, although in some cases system reports combine one or more sites into one report (10). The presence of one overarching report summarizing needs and implementation strategies across all sites within systems also varies from system to system.

Research has pointed to the importance of collaboration across hospital systems (11) and between hospitals and community partners, both through input from the public (12–14) and with local stakeholders such as health departments (15). The literature also emphasizes that increasing the scope of collaboration can help increase the resources brought to bear on projects and the benefits of expanded partnerships (11) and regional coordination (16). Potential areas where hospitals and other public partners could share needs assessment data have also been highlighted (3). Using the West Virginia University Medicine hospital system, we identify the variation in responses to the health needs identified by each local hospital siteindependently and determine which health needs were prioritized by each. Further, we attempt to cross-reference implementation strategies across each and discuss the potential for intra-system overlap and collaboration. The findings here, which will lead to a system-wide plan for the specific hospital system, also hold lessons learned for other hospitals who are a part of a larger healthcare system, but potentially also for hospitals who could coordinate or collaborate with other regional hospitals and community partners to extend resource availability for implementation around common public health goals.

MATERIALS AND METHODS

We examined eight hospitals within the West Virginia University Medicine system who went through a nearly-identical process of CHNA within the past 5 years. **Table 1** describes each hospital.

For each hospital we indexed all needs prioritized (prioritized needs were not given in order of importance in the reports) and each implementation strategy chosen by the hospital. We adopted the Healthy People 2020 (17) list of social and physical determinants of health and coded each hospital implementation strategy into one of the following categories as subcategories of each identified need (obesity strategies, substance abuse strategies, etc.): *Social Determinants included:*

TABLE 1 | Descriptive statistics of eight hospitals affiliated with the WVU medicine system.

Hospital (year of last completed CHNA)	Number of counties in self-defined service area	Total population of counties in service area	Number of beds
Barnesville Hospital (2016)	5	152,597	25
Camden Clark Medical Center (2017)	10	252,318	302
Jefferson/Berkeley Medical Centers (2018)	2	168,383	220
Potomac Valley Hospital (2018)	3	128,070	25
Ruby Memorial Hospital (2018)	1	105,030	684
St. Joseph's Hospital (2019)	1	24,415	51
Summersville Regional Medical Center (2018)	1	25,043	90
United Hospital Center	2	76,892	292

- Availability of resources to meet daily needs (e.g., safe housing and local food markets)
- Access to educational, economic, and job opportunities
- Access to health care services
- Quality of education and job training
- Availability of community-based resources in support of community living and opportunities for recreational and leisure-time activities
- Transportation options
- Public safety
- Social support
- Social norms and attitudes (e.g., discrimination, racism, and distrust of government)
- Exposure to crime, violence, and social disorder (e.g., presence of trash and lack of cooperation in a community)
- Socioeconomic conditions (e.g., concentrated poverty and the stressful conditions that accompany it)
- Residential segregation
- Language/Literacy
- Access to mass media and emerging technologies (e.g., cell phones, the Internet, and social media)
- Culture.

Physical determinants included:

- Natural environment, such as green space (e.g., trees and grass) or weather (e.g., climate change)
- Built environment, such as buildings, sidewalks, bike lanes, and roads
- Worksites, schools, and recreational settings
- Housing and community design
- Exposure to toxic substances and other physical hazards

- Physical barriers, especially for people with disabilities
- Aesthetic elements (e.g., good lighting, trees, and benches).

RESULTS

Results are presented as % of hospitals who identified and prioritized each need (**Table 2**) and the number of strategies addressing each need across the system stratified by physical and social determinants of health (**Table 3**). Since hospitals chose differing numbers of health needs to prioritize and differing numbers of strategies to address each need, the implementation planning numbers in **Table 3** can represent more than one strategy within a hospital.

DISCUSSION

Our scan of CHNAs in the West Virginia University Medicine system indicates substantial overlap in the needs chosen by each hospital in the system. Only six total issues were identified and prioritized across all eight hospitals, with each hospital generally choosing 2–4 strategies each. More than half of the hospitals chose obesity and related disease, cancer, and substance abuse issues indicating these are significant issues across large portions of the system. Three issues (smoking and related disease, access to care, and mental health), however, were chosen by only a few hospitals. These results indicate that there are both substantial overlaps within communities but also strengthen the idea that needs assessment should be done at the local level and not just across the system to identify needs that might exist within smaller pockets of a system's service area and might be best served by an individual hospital site rather than leveraging system resources. A combination of local level data collection [especially considering the need to link local population health data and rankings to the needs selected by individual hospitals (18)] and CHNA reports and a system-wide reporting and implementation planning mechanism would be a strong combination for healthcare systems looking to have an impact on large-scale population health. These findings reiterate findings in the literature speaking to the importance of regional planning for community benefit (16).

TABLE 2 | Health needs prioritized by hospitals in the WVU medicine system.

Health need prioritized in plan	% of hospitals prioritizing this need
Obesity and related chronic disease (diabetes, heart disease, etc.)	100
Substance use	87.5
Cancer	62.5
Smoking and related disease (COPD, asthma, etc.)	37.5
Access to care	25.0
Mental health	25.0

Turning to implementation planning, strategies to address needs varied considerably from site to site. This may be a result of the large differences found within the population size of service areas, the geographic reach of the service areas, and the size of hospital (illustrated in **Table 1** by the number of beds) which may also indicate the level of resources available at the local level. As implementation efforts continue, it is important to conduct evaluation of the impact of these efforts to determine which have a substantial impact on the needs identified within the communities. The overall hospital system is in a key position to communicate successful and unsuccessful efforts across the system and leverage additional resources toward successful interventions in order to have a stronger impact on the public health of hospital service areas. This may be especially true if resource-intensive strategies to address health concerns are evaluated and seen to have a larger impact. Small (and largely rural) sites may not have the ability to replicate successes of large hospitals due to lack of resources (19).

Across the system, the vast majority (96.6%) of implementation strategies addressed social determinants of health. Only two strategies addressed physical determinants

TABLE 3 | Implementation strategies chosen by hospitals for each prioritized need.

Determinants of health addressed by topic P indicates physical S indicated social	Number of strategies addressing across all hospitals
Drug Addiction	
Access to healthcare services (S)	11
Social support (S)	5
Social norms and attitudes (S)	5
Exposure to toxic substances and other hazards (P)	1
Mental health	
Access to healthcare services (S)	2
Social support (S)	1
Smoking and related disease	
Healthcare services (S)	2
Social support (S)	1
Obesity and related chronic disease	
Availability of community-based resources in support for recreational and leisure time activities (S)	6
Availability of resources to meet daily needs (S)	4
Social support (S)	4
Social norms and attitudes (S)	2
Built environment (P)	1
Access to healthcare services (S)	1
Access to healthcare	
Access to healthcare services (S)	3
Transportation options (S)	1
Cancer	
Access to healthcare services (S)	5
Social norms and attitudes (S)	3

of health. We hypothesize this may be a result of individual sites thinking about minimal resources they may have to leverage toward significant health issues. Coordinating a response across the system may increase the ability to address physical determinants of health, especially with the issue of obesity and related chronic diseases. At the same time, there may be other factors that keep hospitals from pursuing strategies related to physical determinants of health (20), so this issue may require more in-depth study.

These findings also point to a need to replicate a study such as the one conducted by Pennel, et al. (2) to revisit quality of CHNAs across individual hospitals. Further study could also scope out the varied ways systems are reporting individual site needs, implementation strategies, and how many are combining these into an overall system report.

The major limitation of this study was the ability to look at needs identified and priorities selected only among one hospital system. Further, the community health needs assessments and implementation plans were not all conducted by the same individuals or reported in the same format so there was some variation across plans that were compared.

The results presented above demonstrate both the need for individual sites to conduct their own community health needs assessments to identify unique local health issues, but also suggest there may bestrength in a system-wide approach to addressing common regional health needs. Moving forward, hospitals should consider a system-wide report that breaks down individual sites and looks at where the system could have the most impact on significant needs across its population served. Systems could leverage their larger regional resources to help shape the CHNA process developed by the ACA into a powerful public health tool.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

AUTHOR CONTRIBUTIONS

TB took the lead authorship on this manuscript including the conceptual idea for the manuscript, initial drafting, and majority of writing content. ES developed the data for the tables, conducted the data collection, and assisted with overall writing. CA assisted with conceptualizing the tables, wrote portions of the discussion section, and further developed the determinants of health methodology.

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Are Children's Hospitals Unique in the Community Benefits They Provide? Exploring Decisions to Prioritize Community Health Needs Among U.S. Children's and General Hospitals

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The Affordable Care Act expanded community benefit requirements for nonprofit hospitals, which now must demonstrate that they take into account the needs of their surrounding community in deciding where to make community benefit investments. No study to date has assessed the Community Health Needs Assessments (CHNAs) of a large sample of nonprofit hospitals to understand how hospitals determine the priority health needs that they include for their community or how prioritized health needs differ between general and children's hospitals. We analyzed the CHNAs of a 20% random sample of general hospitals in the United States as well as all children's hospitals. After identifying the five most common needs across all hospitals—mental health, substance misuse, social needs, chronic illness, and access to care—we used descriptive statistics and multivariate logistic regression to determine which hospitals were most likely to prioritize each of these five needs in their CHNA and the organizational, county, and regional factors associated with prioritizing a need. We found that children's hospitals were more likely than general hospitals to prioritize each of these five needs in their CHNA and that related county-level health indicators were significantly associated with hospitals prioritizing social needs and substance misuse as top needs in their CHNAs. County-level demographic variation, such as the percentage of white residents, and regional location were significantly related to whether hospitals prioritized a need in their CHNA. Our results suggest that children's hospitals are more likely to include a similar list of health issues on their CHNAs and that factors beyond county-level health indicators (e.g., organizational mission, regional health indicators, etc.) are operative in hospital decisions to include needs on their CHNAs.

Keywords: hospitals, children, pediatrics, community benefit, health policy

INTRODUCTION

Health services researchers have increasingly focused on the role that health care institutions play in not only providing health care services but also engaging entire communities to improve population health and reduce disparities. One mechanism by which scholars have studied this involvement is in the community benefit activities that nonprofit hospitals, which comprise almost two-thirds of hospitals in the United States, carry out in exchange for tax exemption. Subsequent to the Affordable Care Act (ACA), nonprofit hospitals have been subject to expanded reporting guidelines for their community benefit efforts. As such, there is an opportunity to better understand how general and children's hospitals are assessing needs in their surrounding communities, which likely impacts the development of new population health activities. Hospitals may tailor their community benefit activities to specific populations based on their organizational mission or other local factors. We explore the extent to which children's hospitals are unique in the community health needs they identify as compared with hospitals serving primarily adults. We therefore have an opportunity to assess the content of newly required community benefit reports and how the process of identifying and prioritizing health needs varies across between general and children's hospitals.

Although nonprofit hospitals have been subject to community benefit regulation since the mid-twentieth century, the ACA introduced new reporting requirements to encourage hospitals to focus their community benefit activities on local health needs in the broader community (1). Because more individuals were to be insured with the introduction of the individual mandate and new insurance exchanges and with Medicaid expansion, it was theorized that hospitals might shift some of the benefits they were providing uninsured patients to broader population health activities, which should be documented through the new reporting requirements. As of 2012, all hospitals that are registered as 501(c) (2) organizations must complete a Community Health Needs Assessment (CHNA) every three years and make this information publicly available. Hospitals must follow up this reporting process with a formal implementation plan outlining the subset of identified needs that their organization will address, along with an overview of programmatic goals and strategies (3).

The Internal Revenue Service (IRS), which oversees community benefit reporting, issued guidelines for hospitals to follow in their reporting process. Hospitals are required to identify the needs of their community, prioritize these needs into the most critical or pressing, and identify resources available to address these needs (2). Hospitals may use various methodologies to identify needs but must, at a minimum, consult the following: at least one public health department with knowledge of the community, local residents of the surrounding community, and feedback received on the previous CHNA and/or implementation strategy. The hospital must then undertake and document the process by which they synthesize these data and prioritize a list of the most significant community needs. Despite the guidelines to ensure standardized reporting, there is considerable leeway in the process. Hospitals may give significant weight to primary data, such as using survey or interview methods to include the perspectives of local residents, community leaders, or medical professionals. Hospitals may also rely significantly on secondary data such as county or state-level health indicators (4). Because there is flexibility in the process of identifying and prioritizing local health needs, hospitals within the same community may arrive at different sets of priority health needs. We have no systematic research, however, on the needs being identified by hospitals across the United States. This information is important because hospitals use this process not only to prioritize a set of critical health needs, but to guide population health activities. Whether they vary between children's or general hospitals or reflect county-level health outcomes is important for understanding the population health investments made by hospitals and the extent to which communities will benefit from the engagement of local hospitals around specific health needs.

Previous research on the content of CHNAs and implementation strategies shows that some needs are more commonly identified than others (1, 5–7). For example, social needs and social determinants of health are commonly prioritized as top needs in hospital CHNAs and hospital characteristics were associated with whether these needs were addressed by hospitals in their implementation strategy (8). Clinical needs such as access to care, insurance coverage, and mental health are also commonly identified as community needs, but not all hospitals addressed these necessities in their implementation strategies (9). Other studies have assessed the extent to which identified needs reflect secondary data on health outcomes in the community, and still others have assessed the extent to which community-level factors have shaped the CHNA process. For example, researchers have found that hospitals located in communities with the greatest health needs completed fewer community health activities than hospitals located in areas with lower need (10). Chaiyachati et al. (11) assessed a wide range of sociodemographic characteristics in the community and found that need was unrelated to the amount of spending on community development. Other studies have been conducted at the state level. Pennel et al. (12) analyzed the CHNAs of Texas hospitals and documented wide variation in how CHNAs were reported and in the quality of reports, whereas a content analysis by Beatty et al. (13) examined the degree of collaboration between hospitals and Local Health Departments in Missouri using CHNAs. Both studies described significant variation in the degree of collaboration to produce the CHNA reports. The relatively few studies that have assessed CHNAs after the ACA have not used large national samples or taken into account institutional differences, such as those found between children's and general hospitals in the United States.

Of the more than 6,000 hospitals in the United States, ∼230 provide care specifically for patients younger than 18 years of age. These institutions tend to serve large geographic regions (14). As such, their role as a community anchor often differs from general hospitals. Preliminary evidence suggests that children's hospitals dedicate more resources to community benefit efforts than general hospitals (7), but we know very little about the types of activities that children's hospitals undertake and if they are

different from other types of hospitals. To date, no systematic investigation has considered the CHNAs of children's hospitals or compared them with general hospitals in the United States.

Although no systematic comparisons exist between children's and general hospitals, the following case studies suggest that children's hospitals may be unique in the community needs that they identify. For example, Nationwide Children's Hospital in Columbus, Ohio, has identified upstream health issues, or the broader social environment that contributes to inequality and chronic disease, to address in their surrounding neighborhood. For example, Nationwide Children's hospital has developed initiatives to improve the quality of available housing, improve employment rates, and elevate neighborhood safety (15, 16). These upstream social determinants of health which the hospital is addressing are associated with a number of chronic diseases including asthma, hypertension, and infant mortality (17–21). The hospital also has implemented an accountable care organization called Partners for Kids, which uses population health strategies financed primarily through Medicaid funding for a much larger population of 330,000 children served by the hospital. This initiative focuses on establishing long-term funding for population health to address community needs identified in their CHNA (22, 23).

Boston Children's Hospital, like many other U.S. general and children's hospitals, was conducting regular CHNAs to guide population health planning before the ACA's new requirements. Based on results from their 2003 CHNA, they developed an innovative asthma initiative that leveraged existing partnerships and networks and included a socioecological approach to addressing child asthma. The activities they've adopted include fostering collaboration with public health departments, providing health education, undertaking case management, and engaging in policy advocacy to reduce health disparities (24). Like Nationwide Children's Hospital, they developed an innovative payment model for high-risk pediatric asthma patients, which has shown a positive return on investment and has allowed them to advocate for health care reform related to pediatric asthma.

A third case study from Children's Hospital Colorado provides data on the ability of Health Impact Assessments (HIAs) to be used as part of the CHNAs to make effective recommendations for programs and policy changes that would have a positive impact on population health outcomes. Because hospitals are asked to develop strategies to address identified needs, this approach may help hospitals meet the broader community benefit goals of addressing the most critical local issues related to community health. At Children's Hospital Colorado, they conducted pilot case studies using HIAs to inform the community benefit decision-making process. The case studies included specific needs related to children's health: the relationship between parental marijuana use and child abuse or neglect and on adolescent behavioral health. A third case study focused on a specific community served by the hospital. Preliminary findings from the use of HIAs suggest that this approach helped to synthesize feedback from multiple partners and strengthen ties between stakeholders in the process of determining the priority list of needs. The case studies also suggested that this process was effective at identifying evidence-based strategies to address community health needs (25). This approach may be an effective way to move hospital community benefit activities upstream through the use of evidence-based programs and policy advocacy.

The available case studies suggest that children's hospitals are undertaking novel approaches to population health that transcend the traditional focus on charity care and patient engagement in community benefit investments. These case studies suggest that children's hospitals are undertaking approaches aimed at general population health improvement and the reduction of health disparities as part of their community benefit process. In other words, hospitals are responding to the social and non-medical needs identified in their CHNAs with new strategies to elevate local health outcomes above and beyond the acute medical care they provide. The goal of the present study is to assess whether children's hospitals are unique in their approach to identifying community needs and which community and organizational characteristics are associated with decisions to prioritize needs in their federally mandated CHNAs.

METHODS

Sample

To build a data set of hospital community benefit practices, we brought together several types of data, including hospitals' prioritized needs from their CHNAs; organizational characteristics; and variables related to the county, state, and region. Data on hospitals' needs were gathered from the publicly available CHNAs of all nonprofit children's hospital members of the Children's Hospital Association ($n = 234$) and a 20% random sample of all nonprofit general, nonspecialty hospitals in the United States generated from the American Hospital Association Annual Survey ($n = 617$) (26). We combined these two samples for inclusion in the data set, which represented 851 hospitals. We downloaded each hospital's CHNA and implementation strategy. If these documents were not publicly available on the organization's website, we e-mailed and/or called the contact listed to request a copy of the report. If we were unable to make contact with the hospital, they were dropped from the sample. After dropping hospitals with missing information, the total sample was 737. All CHNAs and implementation strategies were collected and coded in 2018 and 2019. Because hospitals complete the reporting process every 3 years, and had the option of starting in either 2012 or 2013, the CHNAs and implementation strategies included in our data set range from 2015 to 2018. Data on organizational characteristics came from the 2015 American Hospital Association Annual Survey and 2015 Children's Hospital Association Population Health Survey. To assess community characteristics, we included the county in which each hospital is located. Data on county health characteristics came from the 2015 County Health Rankings database and the Centers for Disease Control and Prevention's National Vital Statistics System (27, 28). Additional community and county characteristics were sourced from the Area Health Resource File with data from 2015 (29).

Coding

The authors and a research assistant reviewed and coded each CHNA for the hospital's list of prioritized health needs and the corresponding implementation plan for whether a prioritized need was addressed with a specific intervention strategy. Hospitals are not required to address each need that they prioritize, but they must provide an explanation if they do not address a prioritized need. For most CHNAs, prioritized needs are clearly listed along with the process described for selecting these top needs. In a few situations, the CHNAs did not contain a clear list of health needs. In these cases, we met as a research team to review the CHNAs and collaboratively code them. In addition, we selected a number of CHNAs to code independently to ensure reliability. At several points during the coding process, we coded the same files independently to ensure reliability. Our end result was a list of the top five health needs identified by each hospital.

After coding the top needs for all hospitals, we determined the five most commonly identified health needs across the adults' and children's samples, and for each of these five health needs (see **Table 1**) we created dichotomous variables for whether each condition was ranked in the top five on a hospital's CHNA. We chose to take a 20% random sample of nonprofit general hospitals, rather than assess all general nonprofit hospitals, because the process of retrieving and coding CHNAs for this number of hospitals was very labor-intensive. To confirm that our analytic sample was representative of the population, we compared the organizational characteristics of the 737 hospitals within our sample to those of the 2,779 nonprofit hospitals captured in the 2015 American Hospital Association Annual Survey. We found that our sample was highly comparable to the general nonprofit hospital population across a range of characteristics (bed size, system membership, rural or urban location, critical access status, and academic medical center designation).

TABLE 1 | Descriptive statistics for analytic sample by children's and general hospitals.

	Children's hospitals		General hospitals	
	N	**%**	***N***	**%**
Hospitals	175	23.74	562	76.26
Hospital community health need assessment items				
CHNA: access	113	64.57	236	41.99
CHNA: chronic illness	136	77.71	329	58.54
CHNA: mental health	137	78.29	281	50.00
CHNA: substance use	60	34.29	153	27.22
CHNA: social needs	75	42.86	128	22.78
Key county characteristics	**Mean**	**SD**	**Mean**	**SD**
Primary care providers per population	1,129	334		
Age adjusted premature death	336	73	340.66	84.21
Poor mental health ms	3.41	0.51	3.32	0.97
Drug overdose rate	17.24	5.7	15.59	6.24
Severe housing problem	20.69	5.24	16.96	5.88
Hospital characteristics	***N***	**%**	***N***	**%**
Bed size: fewer than 50	14	8.00	172	30.60
Bed size: 50–199	84	48.00	194	34.52
Bed size: 200–399	37	21.14	119	21.17
Bed size: >400	40	22.86	77	13.70
Hospital system member	132	75.43	405	72.06
Community characteristics	***N***	**%**	***N***	**%**
State expanded Medicaid	107	61.14		
County rural	2	1.14	199	35.41
Region: Northeast	35	20.00	107	19.04
Region: Midwest	45	25.71	200	35.59
Region: South	59	33.71	144	25.62
Region: West	36	20.57	111	19.75
	Mean	**SD**	**Mean**	**SD**
Non-Hispanic white population	65.93	15.99	79.25	17.21
Median age	35.9	2.98	3.9	4.5

N = 737.

Measures

In this study, our dependent variable is whether a hospital identified one of the five most common needs in its top five prioritized needs. We ran a separate model for each of the most commonly identified needs across the sample: mental health, access to care, chronic illness, substance misuse, and social needs. Our focal independent variable is whether the hospital is a children's hospital. We also controlled for county-level health outcome characteristics that were directly related to the identified needs considered within the study in order to assess the extent to which hospitals rank needs that are evidence in available secondary health data at the county level. We chose to use county-level data because hospitals often use counties as their service area and in their definitions of the surrounding community (4). After reviewing the available county-level measures, we selected one overlapping health variable to pair with each need. Although in some cases there were multiple needs that were related, we ran *t*-tests to determine if variables had a relationship with the identification of a need in hospitals' CHNAs and then met as a team to determine the variables that fit based on their conceptual and/or statistical compatibility. See **Table 2** for the county-level variables that were paired with each CHNA-identified need. In addition, we controlled for county-level demographic characteristics, including whether hospitals were located in a rural county (compared with located in metro counties) based on data from the Area Health Resource File and the rural–urban continuum codes from the U.S. Department of Agriculture. Median age in a county, percentage of white residents in a county, whether the state had expanded Medicaid access after the ACA, and the broader region of the hospital served as control variables as well. We selected this set of control variables based on prior conceptual work suggesting a relationship between community-level demographics and institutional investments (30). In addition, we build on previous studies of community benefit which suggest that broader county and state environments shape hospital decision making (31).

TABLE 2 | Logistic regression health need recognition by hospital and community characteristics.

	Odds ratio (SD)	[95% Confidence interval]	Odds ratio (SD)	[95% Confidence interval]	Odds ratio (SD)	[95% Confidence interval]
Mental health						
Children's hospital (Ref: General hospitals)	3.63 (0.73)***	2.44–5.40	3.61 (0.75)***	(2.40–5.42)	4.31 (0.97)***	2.78–6.69
County poor mental health days	0.93 (0.08)	0.79–1.10	0.92 (0.08)	(0.77–1.09)	0.95 (0.08)	0.80–1.13
Bed size 1 (Ref: >400)	–	–	1.14 (0.29)	(0.70–1.87)	0.85 (0.24)	0.48–1.49
Bed size 2 (Ref: >400)	–	–	1.35 (0.32)	(0.85–2.13)	1.14 (0.28)	0.70–1.84
Bed size 3 (Ref: >400)	–	–	1.09 (0.28)	(0.66–1.79)	1.01 (0.27)	0.60–1.69
System membership	–	–	1.41 (0.24)*	(1.00–1.97)	1.45 (0.26)*	1.02–2.06
State Medicaid expansion	–	–	–	–	0.84 (0.19)	0.55–1.30
Population white	–	–	–	–	1.13 (0.07)*	1.00–1.28
Median age	–	–	–	–	1.00 (0.02)	0.96–1.05
County rural	–	–	–	–	0.96 (0.22)	0.62–1.50
Region: Northeast (Ref: Midwest)	–	–	–	–	0.92 (0.22)	0.58–1.47
Region: South (Ref: Midwest)	–	–	–	–	0.60 (0.15)*	0.37–0.97
Region: West (Ref: Midwest)	–	–	–	–	1.48 (0.36)	0.92–2.38
Access						
Children's hospital (Ref: General hospitals)	2.63 (0.49)***	1.83–3.78	2.65 (0.50)***	1.84–3.84	2.56 (0.52)***	1.72–3.82
Primary care provider rate per 1,000 county residents	1.00 (0.00)	1.00–1.00	1.00 (0.00)	1.00–1.00	1.00 (0.001)	1.00–1.00
Bed size 1 (Ref: >400)	–	–	1.13 (0.29)	0.68–1.85	1.18 (0.34)	0.68–2.07
Bed size 2 (Ref: >400)	–	–	1.11 (0.25)	0.71–1.73	1.16 (0.28)	0.73–1.86
Bed size 3 (Ref: >400)	–	–	1.17 (0.30)	0.72–1.92	1.18 (0.31)	0.71–1.96
System membership	–	–	1.20 (0.21)	0.86–1.68	1.11 (0.20)	0.78–1.58
State Medicaid expansion	–	–	–	–	1.04 (0.23)	0.69–1.60
Population white	–	–	–	–	0.87 (0.05)*	0.78–0.98
Median age	–	–	–	–	1.02 (0.02)	0.97–1.07
County rural	–	–	–	–	1.22 (0.28)	0.78–1.92
Region: Northeast (Ref: Midwest)	–	–	–	–	0.62 (0.15)*	0.39–0.99
Region: South (Ref: Midwest)	–	–	–	–	1.35 (0.32)	0.85–2.16
Region: West (Ref: Midwest)	–	–	–	–	1.83 (0.43)	1.16–2.90
Substance use						
Children's hospital (Ref: General hospitals)	1.34 (0.25)	0.93–1.93	1.42 (0.28)	0.97–2.08	1.79 (0.40)**	1.16–2.76
County drug death rate	1.03 (0.01)*	1.00–1.06	1.03 (0.01)*	1.00–1.06	1.04 (0.02)**	1.01–1.07
Bed size 1 (Ref: >400)	–	–	1.47 (0.40)	0.86–2.50	1.28 (0.40)	0.70–2.35
Bed size 2 (Ref: >400)	–	–	1.43 (0.36)	0.88–2.33	1.2 (0.32)	0.73–2.06
Bed size 3 (Ref: >400)	–	–	0.64 (0.19)	0.36–1.15	0.59 (0.18)	0.32–1.08
System membership	–	–	0.73 (0.13)	0.51–1.05	0.78 (0.15)	0.53–1.13
State Medicaid expansion	–	–	–	–	0.92 (0.22)	0.58–1.46
Population white	–	–	–	–	1.36 (0.10)***	1.17–1.57
Median age	–	–	–	–	1.02 (0.03)	0.96–1.07
County rural	–	–	–	–	0.53 (0.13)*	0.32–0.86
Region: Northeast (Ref: Midwest)	–	–	–	–	1.78 (0.44)*	1.09–2.88
Region: South (Ref: Midwest)	–	–	–	–	0.99 (0.27)	0.58–1.68

(Continued)

TABLE 2 | Continued

	Odds ratio (SD)	[95% Confidence interval]	Odds ratio (SD)	[95% Confidence interval]	Odds ratio (SD)	[95% Confidence interval]
Region: West (Ref: Midwest)	–	–	–	–	0.66 (0.19)	0.38–1.15
Chronic illness						
Children's hospital (Ref: General hospitals)	2.49 (0.50)***	1.68–3.69	2.20 (0.45)***	1.47–3.30	1.89 (0.41)**	1.23–2.91
Age adjusted premature death	1.00 (0.001)	1.00–1.00	1.00 (0.001)	1.00–1.00	1.00 (0.001)	1.00–1.00
Bed size 1 (Ref: >400)	–	–	0.60 (0.15)*	0.37–0.99	0.85 (0.24)	0.48–1.49
Bed size 2 (Ref: >400)	–	–	1.15 (0.28)	0.72–1.84	1.36 (0.34)	0.83–2.23
Bed size 3 (Ref: >400)	–	–	0.92 (0.24)	0.55–1.53	0.96 (0.25)	0.57–1.62
System membership	–	–	0.85 (0.15)	0.60–1.20	0.85 (0.16)	0.59–1.23
State Medicaid expansion	–	–	–	–	0.82 (0.18)	0.53–1.27
Population white	–	–	–	–	0.96 (0.06)	0.85–1.09
Median age	–	–	–	–	0.99 (0.02)	0.94–1.04
County rural	–	–	–	–	0.69 (0.16)	0.44–1.08
Region: Northeast (Ref: Midwest)	–	–	–	–	1.81 (0.46)*	1.10–2.96
Region: South (Ref: Midwest)	–	–	–	–	0.95 (0.25)	0.57–1.58
Region: West (Ref: Midwest)	–	–	–	–	0.83 (0.20)	0.52–1.33
Social needs						
Children's hospital (Ref: General hospitals)	2.26 (0.43)***	1.56–3.28	2.27 (0.44)***	1.56–3.33	2.39 (0.50)***	1.59–3.59
County percent with severe housing issues	1.03 (0.01)*	1.01–1.06	1.03 (0.02)*	1.00–1.06	1.05 (0.02)*	1.00–1.09
Bed size 1 (Ref: >400)	–	–	0.82 (0.23)	0.47–1.42	0.73 (0.23)	0.40–1.35
Bed size 2 (Ref: >400)	–	–	0.79 (0.19)	0.49–1.28	0.74 (0.19)	0.45–1.22
Bed size 3 (Ref: >400)	–	–	1.00 (0.27)	0.59–1.69	0.90 (0.25)	0.53–1.55
System membership	–	–	0.82 (0.16)	0.57–1.20	0.77 (0.15)	0.53–1.13
State Medicaid expansion	–	–	–	–	1.45 (0.36)	0.89–2.36
Population white	–	–	–	–	0.99 (0.08)	0.85–1.16
Median age	–	–	–	–	1.06* (0.03)	1.00–1.11
County rural	–	–	–	–	0.76 (0.21)	0.45–1.30
Region: Northeast (Ref: Midwest)	–	–	–	–	0.40 (0.11)**	0.23–0.70
Region: South (Ref: Midwest)	–	–	–	–	0.97 (0.26)	0.57–1.65
Region: West (Ref: Midwest)	–	–	–	–	0.88 (0.24)	0.52–1.50

Estimate [95% Confidence interval].
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.*
N = 737.

Analytic Strategy

To assess the relationship between hospital characteristics; county, state, and regional factors; and decisions to include needs in a hospital CHNA, we employed descriptive statistics to understand the percentage of hospitals identifying each need and then performed multivariate logistic regression to understand the impact of multiple factors on hospital decisions to identify each need. We constructed five models for each of the most common health needs and considered the odds of identifying each need, based on a variety of hospital and community-level characteristics. In each model, we assessed the relationship between identifying each need, whether an organization was a children's hospital as compared to being a general hospital, an overlapping county health outcome, and both hospital and community characteristics. All statistical analyses were conducted using Stata 16.

RESULTS

Descriptive analysis shows that 24% of the hospitals in our sample were children's hospitals. Children's hospitals were more likely to identify each of the top five most common community needs as compared with non-children's hospitals.

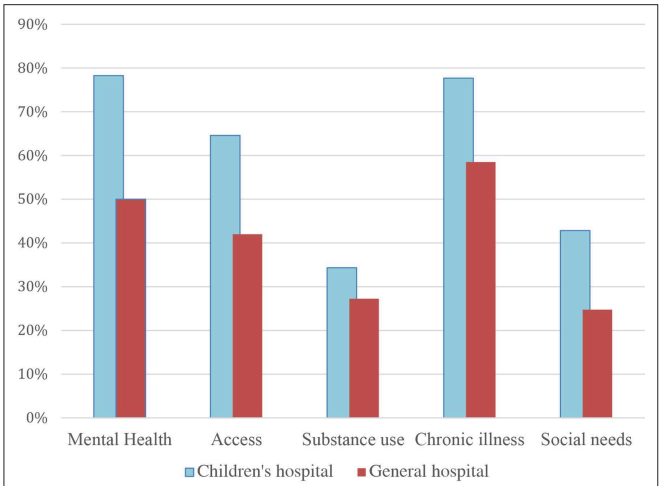

FIGURE 1 | Percent of hospitals identifying need on community health need assessment by children's and general hospitals. *N* = 737 hospitals.

TABLE 3 | Hospital need recognition on community health need assessment and prioritization on implementation Plan comparing children's to general hospitals.

	Mental health	Access	Substance use	Chronic illness	Social needs
Need reported on community health needs assessment (CHNA)					
Children's hospital	78.29%	64.57%	34.29%	77.71%	42.86%
General hospital	50.00%	41.99%	27.22%	58.54%	22.78%
Need included on implementation plan					
Children's hospital	68.15%	54.14%	27.39%	65.61%	24.84%
General hospital	41.85%	35.95%	22.40%	52.95%	14.73%

N = 737.

The gaps were largest for access and mental health (see **Figure 1**). For example, 65% of children's hospitals identified access compared with 42% of general hospitals. For chronic illness, 78% of children's hospitals identified this need vs. 59% of general hospitals. We found that 78% of children's hospitals identified mental health compared with 50% of general hospitals. Substance misuse was identified in the CHNAs of 34% of children's hospitals and 27% of general hospitals. Finally, 43% of children's hospital identified social needs compared with 25% of general hospitals.

Mental health is the need most prioritized on implementation plans by children's hospitals (68% of those who identified the need), whereas chronic illness is that need for general hospitals (53% of those identifying the need) (**Table 3**). All five needs were more likely to be represented on the implementation strategies of children's hospitals. If a need was prioritized on a CHNA, general hospitals were slightly more likely to have adopted one or more programs to address all needs—with the exception of mental health—in their implementation strategy. For both children's hospitals and general hospitals, social needs were the least likely to be addressed on the implementations strategy, despite being prioritized on the CHNA.

In terms of institutional characteristics across the sample, children's hospitals in our sample are more likely to be in the largest category of bed size: 23% of children's hospitals have 400 or more beds, whereas only 14% of general hospitals are in this category. Not surprising, children's hospitals are less likely to be in rural areas (only 1% compared with 35% of general hospitals). Key county-level characteristics are similar between the full sample and the children's hospital subsample (**Table 1**).

Our multivariate results provide a fuller understanding of how organizational, county, state, and regional factors relate to the identification of community health needs. Our results show that for the top five most common conditions across CHNAs in our sample, children's hospitals are more likely than general hospitals to identify each of these needs. Only two of the paired county health variables were significant, suggesting that hospitals are likely considering additional factors beyond whether secondary data indicate a critical health concern. For substance misuse, hospitals were more likely to identify this need if the county-level overdose rate was higher. Hospitals also had higher odds of including substance misuse as a top need if they were located in the Northeast, compared with the Midwest, or in counties where there was a greater proportion of white residents. Hospitals in rural counties were also less likely to identify substance misuse as a top need.

The county health ranking paired with social needs was also significant, suggesting that hospitals were more likely to identify social needs as a priority when there were more severe housing problems in the county. Hospitals also had higher odds of identifying social needs when the median county age was higher. Hospitals in the Northeast were less likely to identify social needs compared with hospitals in the Midwest. For access to care, hospitals are less likely to identify this need in the Northeast, compared with the Midwest, and when there are more white residents in the county. For chronic illness, hospitals are more likely to identify this need in the Northeast. In terms of identifying access to mental health, hospitals in systems and hospitals located in counties with a greater proportion of white residents are more likely to have mental health as a top need on their CHNA. Hospitals located in the South are less likely to identify mental health compared with hospitals in the Midwest. Finally, for social needs, children's hospital is significant and positive, as is severe housing problem, median age, and Northeast region.

DISCUSSION

Our findings provide important insight into the decisions that hospitals make to include health needs as top priorities in their CHNAs. A past study found that hospitals that ranked needs at the top of their list of prioritized needs are more likely to have accompanying strategies to address these needs in their implementation strategies (32). As such, hospital decisions to prioritize a need in their CHNA are likely related to the presence of actionable strategies in the corresponding implementation strategy. When looking at the top five needs identified in all sample hospital CHNAs (access to care, chronic illness, substance

misuse, mental health, and social needs), we find that children's hospitals have greater odds of including these particular needs at the top of their prioritized needs but that other organizational characteristics are not predictive of which needs the hospitals prioritize. These findings suggest that primarily adult-serving hospitals likely have greater variation in the needs they identify and therefore are less likely to include each of the most common needs in their prioritized list. Children's hospitals may simply be more similar to one another, given their unique mission and patient population.

For example, the most common conditions among admitted patients varies greatly between children and adults. While the top five conditions for children include respiratory conditions (pneumonia, asthma, bronchitis), mood disorders, and appendicitis, the top five conditions among hospitalized adults are mental illness (mood disorders, schizophrenia), skin infections, diabetes, and biliary tract disease (33). Although substance abuse is the number seven cause of hospitalization among adults, it does not appear in the top 10 for children. Mental health conditions appear in the top five conditions for both adults and children, but represent the top two conditions for adults and are only the 4th most common condition among children.

Children are most likely to be hospitalized at general hospitals (including children's hospitals within general hospitals), but when they are hospitalized at free-standing children's hospitals they are more likely to be neonates, have higher condition severity, and have longer lengths of stay (34). Admissions to freestanding children's hospitals are also more likely to be for children with medical complexity. In terms of patient populations, children's hospitals serve larger geographic regions (35) than their general hospital counterparts and therefore may see a subset of needs as essential overall to improving population health regardless of varying public health needs in their surrounding communities. General hospitals, by contrast, may be more willing to identify needs specific to their surrounding community.

To better understand the factors that hospitals may consider when deciding whether to include a health need in their prioritized list of top five health concerns, we included a number of variables in our multivariate models. For each of the most common needs, we paired a corresponding county health indicator to assess whether hospitals relied heavily on secondary health data when ranking top needs. In most cases, these county variables did not seem to influence hospital decisions. Two exceptions included substance misuse and social needs. We interpret these findings to mean that many hospitals, and children's hospitals in particular, may be including health needs that are broader than the immediate county or reflect other priorities, such as needs that are considered highly relevant by local residents or by the hospital. One previous study found a high level of overlap between county health indicators and the prioritization of needs in CHNAs among general hospitals (32). With children's hospitals included, our findings may reflect a broader focus on regional, rather than county-level, health needs. It is also possible that both general and children's hospitals may identify needs that are compatible with their mission or expertise rather than solely relying on available public health data for the surrounding county.

Other county-level and regional characteristics were significant and provide additional insight into how hospitals make decisions about which needs to prioritize in their CHNAs. The fact that hospitals were more likely to identify mental health and substance misuse if the county had a higher proportion of white residents suggests that the demographic profiles of a community may shape decision-making. Given that mental health and substance misuse are commonly identified non-medical needs that require expanded hospital expertise and community-based partnerships, hospitals may be less likely to acknowledge these needs in racially diverse populations. It is possible that implicit bias, a phenomenon well documented in medical institutions (36, 37), may impact decision-making at the organizational level or that this is an example of the institutionalized prejudices still prevalent in society. In a similar vein, we find that hospitals are less likely to identify substance misuse if they are in rural counties, suggesting that hospitals may be aware of resources that are limited in rural areas (38) when they make decisions to rank a need as a top priority in their CHNA.

Finally, we find strong evidence that needs vary across regions. Some of these differences may reflect the prevalence of health needs in a region, such as hospitals having higher odds of identifying substance misuse in the Northeast, where rates of opioid addiction are currently higher than in many other regions. Mental health is less likely to be identified in the South, however, which suggests that broader cultural values and stigma may be associated with decisions to identify certain health conditions as top community needs. Future research should assess the extent to which social, demographic, and cultural factors shape decisions to identify specific health needs as priorities on hospitals' CHNAs.

Limitations

Our findings provide insight into community benefit decision-making for a large national sample of hospitals, but they are limited for several reasons. We rely on self-reported data from hospitals to assess what needs they rank as the most critical in their communities. Hospitals come to these conclusions in a variety of ways, including through collecting community input and establishing a ranking process for prioritizing needs in the final CHNA. Based on our use of available secondary data, we are unable to assess reasons for prioritizing a need in the CHNA. Future research should include the use of qualitative methods to better understand decision making processes and opportunities to align hospital community benefit investments with local need. Although hospitals are required to make public their most recent CHNA, a number of hospitals did not post these documents publicly or respond to our requests for a copy and therefore had to be excluded from the sample. Our study focuses primarily on the prioritizing of top health needs within hospital CHNAs and does not analyze the odds of addressing prioritized needs in the hospital's corresponding implementation strategy. We do report results on the rate by which each need is addressed with new programs in the

implementation strategy, but future studies should consider which factors increase the likelihood that hospitals develop actionable and evidence-based strategies to address the needs that they identify in their CHNAs and if these differ by type of hospital. Additionally, we rely on county-level data to assess the broader community in which hospitals operate. Counties are an imperfect proxy for communities and it's likely that significant variation in health outcomes exists within counties, Nonetheless, using counties allowed us to include the most consistent source of local health data to include the health profile of counties where hospitals operate and are making community benefit investment decisions.

Public Health Implications

Because most hospitals in the United States are 501(c) (2) tax-exempt organizations, new community benefit requirements associated with the ACA aimed to increase accountability through new reporting guidelines that require hospitals to consider community health needs when making decisions about community benefit investments. Given the significant amount of flexibility that the IRS provides in completing CHNAs, our study provides insight into the factors associated with the designation of specific issues as priority health needs and how different types of hospitals may approach this task. For hospitals to contribute to population health improvement in their surrounding communities, policymakers should provide additional guidance, as well as relevant incentives to encourage hospitals to prioritize critical local health needs in their CHNAs and identify evidence-based programs to address prioritized needs.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

AUTHOR CONTRIBUTIONS

BF and CC contributed to the conception and design of the study and read and approved the submitted version. CC organized the data, performed the statistical analysis, contributed to manuscript writing, and edited the manuscript. BF wrote the first draft of the manuscript.

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The Evolution of Community Benefit: Perspective on Progress Toward Purpose

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To maintain exemption from federal taxes, non-profit hospitals in the USA are required to contribute to their communities an amount comparable to the taxes they otherwise would have paid. Since 2008, non-profit hospitals have had to file Form 990 Schedule H with the Internal Revenue Service (IRS) to document their "Community Benefit" (CB) activities. The purpose of this article is to present an overview of the evolution of hospitals' engagement with their communities and to examine how the policy enforced by the IRS has evolved. The IRS has not made explicit the assumptions underlying the CB policy. As a result, the evidence about the impact of CB policy and CB activities on the health of a community is sparse. Non-profit hospitals are spending millions of dollars in CB activities and reporting requirements annually, but if and how these expenses contribute to a community's health and well-being are unclear. Conceptual frameworks, such as logic models or Collective Impact models, could be used to explicate the assumed relationships. As the field has evolved and grown more complex, identifying and measuring the contributions of a single hospital or single program to the health status of a community have become more challenging. Collaboration—promoted by the IRS and CDC—has increased these challenges. Until assumptions about relationships are made explicit and tied to measurable goals, non-profit hospitals must continue to comply with IRS requirements but should use their own targets, metrics, and evaluations to ensure that the resources devoted to CB programs are being used cost-effectively.

Keywords: community benefit, non-profit hospitals, tax-exemption, hospitals and community engagement, hospital tax-exempt policy, IRS, hospital finance

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Community Benefit, as defined by the Internal Revenue Service (IRS), represents what non-profit hospitals contribute to their communities in lieu of paying federal taxes. Because the IRS has never articulated the assumptions upon which the community benefit requirement is based, nor desired outcomes, the regulation cannot be evaluated nor validated. Without a rationale and explicit goals or an underlying causal model, it is difficult ascertain how or if hospital community benefit activities have impacted individuals, communities, or institutions commensurate with the costs incurred. The leap to the ultimate question is also challenging: is the policy of requiring non-profit hospitals to provide community benefit as defined by the IRS improving the health status of the communities served? Or, are hospitals simply fulfilling a financial obligation by spending money on a variety of activities that the IRS deems "contribute" to the community?

This brief review of the evolution of community benefit demonstrates that the assumptions underlying the IRS regulation were not delineated in a way that supports a rigorous approach

to testing and evaluation. The intent of this paper is not to describe theories that could lead to evaluation methodology that would provide statistical outcome measures or to lead us to an evidence-based conclusion about the impact to date of community benefit activities. Rather, we intend to show that the community benefit regulation was implemented without the benefit of theories related to health behavior, measurable goals and objectives derived from health management, relationships expressed in Collective Impact models, or metrics for measuring impact on community health status. Without theoretical and statistical rigor, community benefit cannot be expected to succeed in changing the health status of a community or provide evidence about what does or does not work. By understanding the evolution of community benefit, we may find a way forward to make the policy effective in improving the health status of a community.

BACKGROUND AND BRIEF HISTORY OF HOSPITALS AND COMMUNITY BENEFIT

The history of the hospital's role in the community dates back hundreds of years to ancient civilizations in Mesopotamia, Egypt, Greece, and Rome. Not until the latter part of the twentieth century were US hospitals pressured to document contributions to the communities they serve. The requirement for hospitals to engage in activities to benefit their community in exchange for exemption from federal taxes was first articulated in 1969 to the American Hospital Association (AHA) by the IRS as Revenue Ruling 69-645, 1969-2. CB 117. It was neither legislation nor regulation—simply a letter of opinion. For decades, the AHA and its members argued that hospitals contribute to their communities in many ways, saying it was unnecessary to quantify their contributions. The AHA produced a document referred to as the "Gold Standard of Community Benefit," authored by Sigmond (1). While the "Gold Standard" was written, circulated, and discussed, it was never formally adopted by the AHA Board of Governors. Nonetheless, it provided guidance to hospitals on how they should interact with the communities they serve.

Although the AHA has focused on the issues deemed most salient by its members, which tend to be internal operations, it has always recognized hospitals' efforts to engage with their communities. For example, the AHA collaborated with the Robert Wood Johnson Foundation on Hospital Initiatives in Long-Term Care (2), an initiative focused on health systems demonstrating how they could expand their work with community providers to offer a broader scope of services to seniors and to those with complex, chronic problems. Also, the (then) Hospital Research and Educational Trust (HRET), AHA's research/demonstration arm, created the Office on Aging and Long-Term Care in 1981 (3). The advent of the prospective payment system by Medicare in 1982 gave visibility to this new unit, as it provided marked incentives for hospitals to work with seniors and the community-based services that helped prevent re-hospitalization. The AHA launched the Foster G. McGaw Award (4) and the Dick Davidson Nova Award (5), both designed to recognize health systems and individuals who are leaders in community engagement. They also created Community Connections, an annual compilation of succinct descriptions of hospital interactions with their community (6), which was maintained from 2005 to 2016.

In the 1980's the Catholic Health Association (CHA) countered challenges that hospitals and other health-related entities should not be exempt from taxes merely because of their religious affiliation. CHA initiated the "Social Accountability Budget" (7), which identified and categorized the types of hospital activities benefitting their communities. CHA also contracted with an accounting firm to develop an information system to report activities in ways that could be translated into quantifiable amounts and dollar values. The Community Benefit Inventory for Social Accountability (CBISA) evolved into the first management information system for reporting community benefit (8).

Also during the late 1980's, California's Public Health Institute conducted a national demonstration project on *Advancing the State of the Art of Community Benefit* (9). The project report provided guidance for structure and organization and identified key challenges of program planning and implementation.

Later during the 1990's, the American College of Healthcare Executives (ACHE), whose members are individual healthcare managers holding a range of administrative positions in hospitals and healthcare organizations, offered its perspective on community engagement. An ACHE policy statement on "the role of the healthcare executive within the community" (10) was first introduced in 1989 and has subsequently been revised several times (most recently in 2016). This policy articulates the rationale for healthcare executives to work with their communities, based on ethics rather than financial gain. In 1999, two ACHE senior executives conducted a study of hospital activities in their communities. The report of their exploration and interviews with key leaders is reported in the book, *Achieving Success Through Community Leadership* (11). The range of activities reported and the commitment of the leaders made clear the importance to health systems and hospitals of working with the community. "Lessons learned" were summarized; however, no quantifiable metrics were set forth as global or common goals for healthcare executives to pursue.

During the late 1980's and through the 1990's, several states joined in the crusade to require that hospitals document their involvement with their communities in order to maintain exemption from state taxes. California, Washington, Texas, and Illinois were among the leaders to advance strict provisions. The State of California, under SB697, requires goals and quantifiable impacts, including measurable objectives to be achieved within specified timeframes (12). However, since each state implemented its own requirements, these laws provide no multi-state consistency (13) about the quantifiable goals of community benefit.

In the 2000's, Iowa's Senator Grassley challenged hospitals about whether their contributions to their communities warranted their tax-exempt status. He convened hearings, and the resultant visibility raised the issue to such importance that the US Government Accountability Office (GAO) and Congressional Budget Office (CBO) examined the issues related to community

benefit and, respectively, produced notable reports (14, 15). In 2007, primarily as a result of the momentum created by Senator Grassley, the IRS added Schedule H to Form 990 and required that this be completed by all non-profit hospitals that desired to maintain their federal tax exemption. The reporting form was phased in, starting in 2008, with complete reporting required in 2009. Note that for-profit hospitals and government hospitals, as well as all other types of healthcare facilities, do not need to file Schedule H nor explain if or how they benefit the community.

In its rule-making for reporting community benefit on Form 990, the IRS adopted CHA's Social Accountability approach and used the definitions and categories from CBISA. As noted above, CBISA (and therefore Form 990) catalogs hospitals' efforts to contribute to their communities, with the inherent assumption that these activities would result in improving community health. Note that the majority of community benefit funds—85% by some accounts–are spent on charity care and uncompensated clinical care (16), leaving relatively few dollars to spread across a fairly wide range of internal and community-oriented activities.

Passed in 2010, the Affordable Care Act (ACA) required that non-profit hospitals conduct triennial community health needs assessments (CHNAs). The first full round was completed in 2012–13. The ACA also required that hospitals promulgate Implementation Strategies to describe how they would address needs identified in the most recent CHNA. By 2019, all non-profit hospitals wishing to maintain their exemption from federal taxes have reported at least two rounds of CHNAs and Implementation Strategies. Some non-profit hospitals have begun aligning Implementation Strategy goals specific to their institution with the Community Health Improvement Plan (CHIP) created by the local public health department or other local health and social service agencies.

Despite all of these efforts by the IRS as well as the hospital industry, no standardized short-term goals or long-term quantifiable impacts are required by non-profit hospitals in performing or reporting community benefit for federal purposes. Part VI of Schedule H does ask the reporting hospitals to comment on how well activities have worked in meeting community need, and Implementation Strategies are expected to include measures. However, the direct relationship between given activities and the health status of the community or a sub-set of the community need not be reported with a specific format or metric. Most hospitals have excellent quality and clinical metrics, but connecting these with community measures has been problematic. Hospitals invest community benefit dollars in programs and processes that often have well-documented value but are not usually measured in concert with cross-community investments and collaborations.

MODELS, FRAMEWORKS, AND EVIDENCE

Parallel to the practitioners' efforts to implement community benefits and report their expenses to the IRS, researchers and academicians working since the early 1970's in public health, healthcare management, and community sociology have advanced ways to think about the health system of a community and the health status of its members. The models presented here are just two of many having the potential to further the analysis of community benefit in an evidence-based way to improve the measurable health status of a community.

A "logic model" is a tool for guiding program evaluation (17). It has been embraced by the CDC to evaluate public health grant proposals to demonstrate that proposed interventions will succeed in accomplishing the changes or improvements in health behavior that the research proposes to investigate or that the implementation aims to achieve. The basic components of a logic model are Inputs (e.g., hospital, staff, community), Outputs (e.g., the types of activities performed by the hospital, the number of people participating, the number of procedures done—"process" measures), and the Outcomes, broken into Short-Term or Proximal (immediate outcomes), Middle-Term (more significant changes in behavior, policy, and community patterns), and Long-Term or Distal (sustained change at all levels). For the first fifty years, from 1969 to 2009, the description of community benefit was primarily only of outputs—numbers of activities, number of participants, number of dollars spent. **Figure 1** shows how the IRS requirements as expressed in 2007 would be displayed graphically in an elementary logic model.

Over time, the IRS and ACA began to add a degree of rigor to the flow of activities and expectations by requiring a community health needs assessment, selection of priorities based on needs, an implementation strategy, and an evaluation of interventions related to previously identified needs.

Collaboration among community organizations has been encouraged, particularly for conducting the CHNA. Multi-sector collaboration reflects recognition of the relevancy of social determinants of health (SDOH) to the health of a community, as organizations with different perspectives, such as housing and transportation, become involved with organizations primarily focused on health, including hospitals and public health departments. However, promoting such collaboration in general deters measurement of the contributions of any one organization. **Figure 2** shows a revised logic model with various organizations involved in affecting the health status of the community.

Those who work in research, program evaluation, or evidence-based program administration will quickly see that the logic model—which is much more explicit than the IRS ever explained–is nonetheless fraught with vagaries that undercut the documentation of any given program's impact on a community's health. When several hospitals work together on a community's CHNA, and then develop individual Implementation Strategies, sorting out the contribution of any one hospital becomes all the more challenging.

Collective Impact (CI) is a more recent framework that recognizes the complexities of a community's health by acknowledging that no institution can single-handedly change the health status of a given community (18, 19). The CI model has risen to prominence over the past decade, concomitant with the world-wide recognition of the importance of the social determinants of health. Using CI to address SDOH formalizes the collaborative effort of community organizations taking a multi-faceted approach that considers health assets,

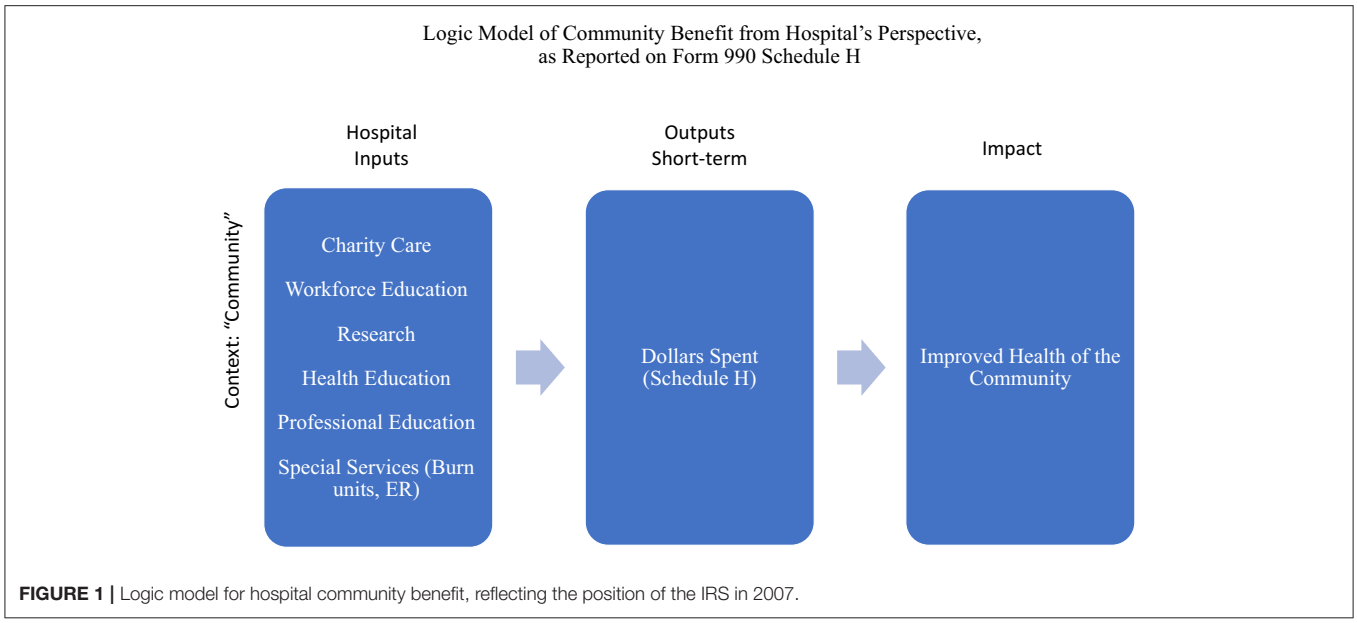

FIGURE 1 | Logic model for hospital community benefit, reflecting the position of the IRS in 2007.

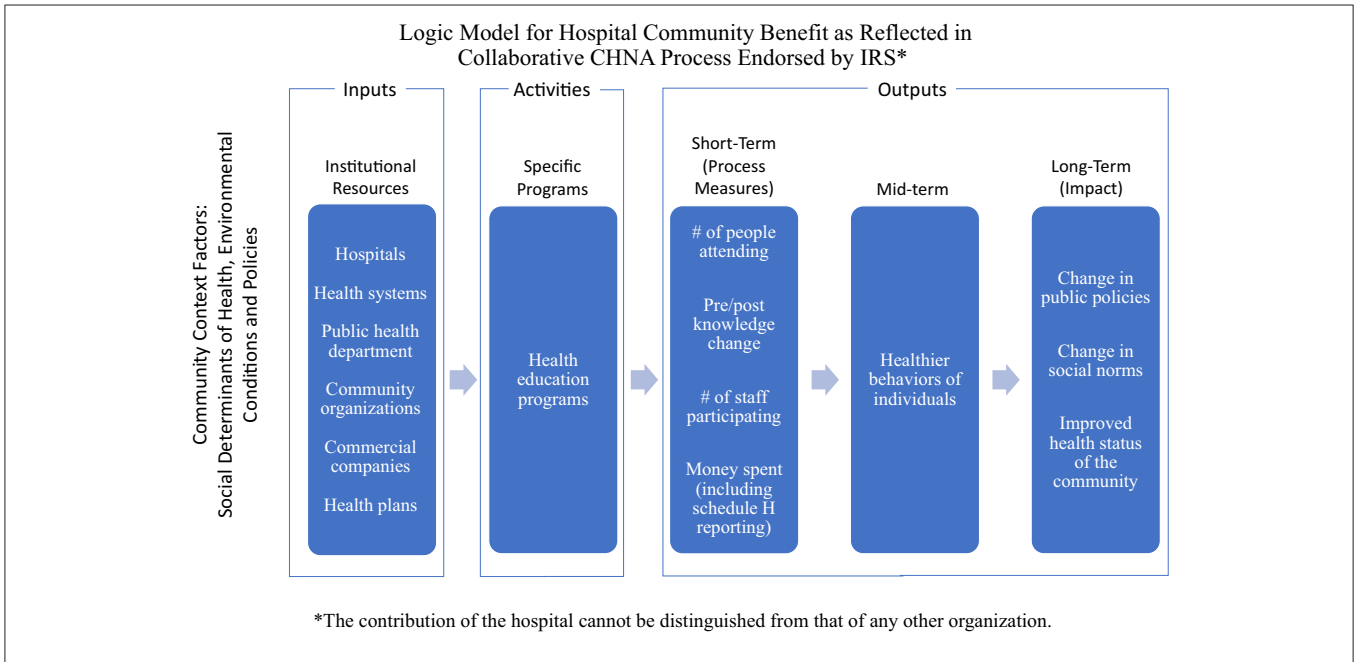

FIGURE 2 | Logic model for community benefit showing multiple agency involvement.

housing, transportation, food supply, employment, education, among other life facets. The CI model has five principles of participation—including shared goals, consensus on outcome measures, and constant communication. One principle is support by a "backbone institution," often the community's hospital. The benefit and drawback of a CI approach is that no single institution—including the hospital in the role of the backbone institution–can take full credit for a change in the health conditions or health status of a community, as the model acknowledges that change in social fabric is not the product of a single entity's actions, but the combined actions of all partners.

Results-Based Accountability (RBA) is a powerful tool many CI initiatives use in evaluating progress. Developed by Friedman in the 1980's, RBA is today held by the Fiscal Policy Studies Institute, which defines it as "a disciplined way of thinking and taking action that communities can use to improve the lives of children, youth, families, adults and the community as a whole" (20).

The essence of RBA is contained in three questions:

- How much did we do?
- How well did we do it?
- Is anyone better off?

All contributors to a CI initiative can use the RBA framework to evaluate the value of their individual efforts to the overall goal. This method enables quantifiable measures of activities to be related to quantifiable measures of results. The final question—is anyone better off—can be used as a proxy for improvement in community health status.

Both a refined logic model and a CI model can be used to document the impact of the community benefit activities of a given hospital—although the extent to which credit for change can be claimed by a single hospital can be challenged. Other models could also be used to move community benefit to an evidence-based approach, such as the RE-AIM model used by the public health field to focus on program evaluation and the Precede-Proceed model used in health education.

DISCUSSION

In 2009, not long after reporting of Schedule H began, a pre-conference to Academy Health was held to consider questions related to the impact of the new regulation. The conference, "Community Benefit: Moving Forward with Evidence-Based Policy and Practice," (21) called for rigorous evaluation and a research agenda. The mandate was largely ignored. The IRS engaged the CDC to convene a workshop in 2011 on issues related to community benefit implementation and measurement, but the results were not widely shared with either the practice or the research community.

The Health Research and Educational Trust (HRET) unit of the American Hospital Association compiled a report on the first wave of CHNAs (22), but the outcome was a description of types of needs identified, not action plans. Select research studies have examined how dollars have been spent. No thorough analysis of the impact of the regulatory policy itself has been conducted by government or private researchers.

A recent special issue of *Frontiers in Public Health Education and Promotion* on Implementation Science pertaining to public health includes several articles that expand upon the need for precision in articulating relationships of both actors to action and actions to outcomes for community-oriented activities that include multiple organizations. The likelihood of successfully attaining the desired outcomes and of the collaborative partnership arrangements being deemed a success, and therefore sustained, warrant clarity at the outset. In "From Classification to Causality" Lewis and colleagues (23) capture the fundamental challenge with the IRS approach to Schedule H, arguing that successful interventions should be built upon causal pathways, which themselves should be based in theory as well as observational outcomes. Huynh et al. emphasize the need for complex analyses that dissect the multiple factors that contribute to the outcomes of complex problems, such as those comprising the health status of a given community (24). Huang et al. (25) discuss the impact of partnerships on interventions. At the same time the field is pushing collaborations because of the increased recognition of SDOH, how can a single hospital take full credit for the results of an intervention? All of these studies suggest that the relationships between a hospital's activities and the health of its community are multi-faceted and complex. A simple reporting form that shows dollars allocated according to categories determined by tax forms is inadequate to indicate a valid measure of an organization's impact on a diverse and arbitrary or amorphous target.

In the decade since the passage and roll-out of the ACA, no causal pathway or theoretical model guiding the evolution of the CB requirement or measuring its impact as a policy has emerged. The presumed goal of improving the health of a community has not included objectives or measures reflecting the consensus of a given community. Compiling existing research allows us to synthesize the current state of the art and outline what should be done for the future to evaluate the impact of this policy on the nation's health. For the contribution of hospitals of all types to their communities to be evaluated and measured, precise organizational models or causal paths, supported by theory, must be established, adequate time allowed for impact to occur, expectations must be set out in advance, and precision must be used in measuring results based on metrics that are feasible to gather and for which the professional and lay communities agree that the driving activities have produced the changes.

Until community benefit evolves to the point where the definition of the community is not the purview of the individual hospital, the indicators of the community's health status are determined by national consensus and set as goals to be achieved through measurable objectives, and hospitals face penalties for failure to comply with the process and achievement of set target outcomes, the effectiveness of the IRS reporting requirement remains questionable policy. Moreover, as long as the vast majority of community benefit funds are devoted to charity care and uncompensated care, and the remainder spread across a variety of programs attempting to meet multiple community needs, the likelihood of any given activity changing the health status of the community in a measurable way is slim.

WAY FORWARD

In the absence of guidance from the federal regulatory agencies, non-profit hospitals must continue to submit Form 990 Schedule H and act with sufficient commitment to avoid any penalties that might be forthcoming in the future. Meanwhile, millions of dollars have been and are being spent in hopes of improving the health status of communities. Each hospital can take upon itself the obligation and opportunity to channel its activities in ways that are consistent with its missions and that make a documentable difference. Activities conducted under the auspice of CB, or with funds allocated to CB, should be selected from evidence-based programs and evaluated with specific measures. An example of a logic model for a program initiated by a single hospital to decrease obesity among its community

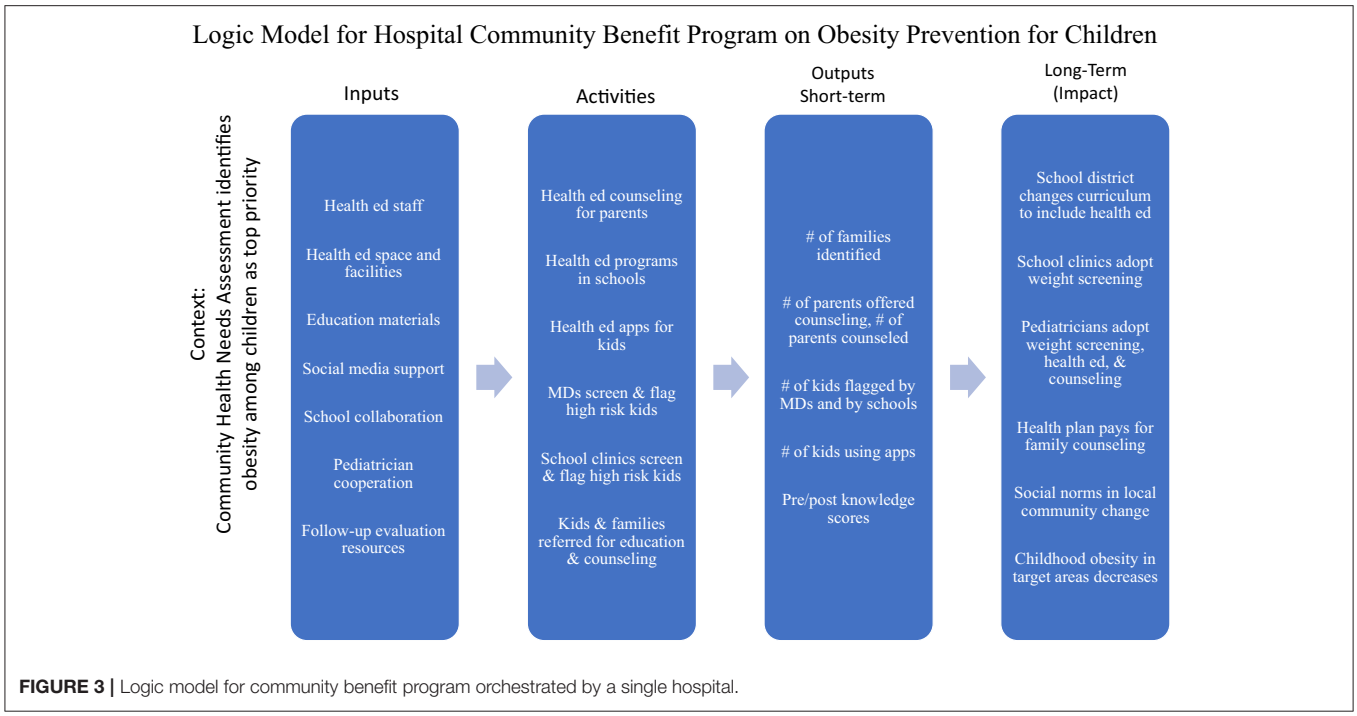

FIGURE 3 | Logic model for community benefit program orchestrated by a single hospital.

members is included in the **Figure 3**. This type of discipline should be used in structuring a CB program. This does not necessarily imply additional resources or increased burden of reporting, but rather, careful selection of what actions are taken and how.

Programs done in collaboration with other community organizations should also use an evidence-based approach to planning and implementation, and evaluation should be sufficiently rigorous and detailed to consider the environment and the contribution of individual organizations as well as the collective. Changes in the health status of a community take time and require evaluations appropriate for measuring long-term outcomes and impact. Institutional commitment must blend long-range perspective and resource commitment with short-term demands for regulatory reporting.

Going forward, we suggest the following approach:

For healthcare executives and institutions:

- Take the CHNA seriously, as evidenced by the consistency with mission, engagement of governance, management, and operation in response to the identified needs of the community.
- Prioritize areas where evidence-based programs offer confidence that interventions selected to be used have been proven to be effective in a similar context.
- Select measures of health status that are realistic, useful, available, and that can be tracked over time. Be realistic about the potential of measurable outcomes for programs with small Ns.
- Perform the required evaluations rigorously, with fewer done better rather than many done superficially.
- Engage the appropriate expertise at all phases; build awareness and capacity internally.
- Be cognizant of all the other factors and other organizations that might affect an intervention, positively and negatively.
- Don't over-promise to the community, board and other stakeholders.
- Report change frequently and accurately, to both internal and external stakeholders.

For policy-makers and researchers:

- Policy analysts should advocate for an evaluation of the CB reporting requirements to determine the costs and benefit of this regulation.
- The US Department of Health and Human Services should negotiate with the IRS to take responsibility for advancing and monitoring the implementation of the community benefit requirement.
- Schedule H should be revised to relate activities directly to measures of benefit to the community, including measures of health status, and to recognize the respective allocation of funds to allowable categories other than charity care and uncompensated care.
- The methodology for evaluating projects done using the Collective Impact approach should be refined to allow the results of the operations and contributions of individual institutions to be distinguished from the results of the collaborative effort.
- For-profit hospitals and government hospitals should be asked to contribute to the health of the communities they serve, independent from the IRS regulatory requirement for non-profit hospitals.

- The metrics and methods for measuring the health status of a community should be refined to enable consensus on accurate, efficient and time-sensitive measurements that can be used by all organizations in the community.

Non-profit hospitals are currently spending millions of dollars on activities counted by the IRS as "community benefit." A clear relationship between the activities undertaken by non-profits and measurable improvement in the health status of a given community is a worthy goal. Funding of community activities by hospitals of all types is to be encouraged, and removing the constraints forced by the regulation might improve rather than discourage hospital-community collaboration.

CONCLUSIONS

The purpose of this article is to put community benefit in perspective as a national policy warranting evaluation and to encourage actions by individual non-profit hospitals and health systems to implement required regulations within a framework that provides evidence of impact at the local level. At present, spending on community benefit might not represent the best use of scarce healthcare resources because no one can measure the outcome of the activities being funded as a result of the IRS specifications.

Hospitals ask the IRS, "Does this count?" "Are we doing enough?" We cannot answer these questions until the assumptions are examined and the expectations expressed as goals with measurable objectives. Only by taking the next step of rigorous evaluation mapped to specific objectives and long-term goals can we have hope that the myriad activities being implemented across the nation under the guise of community benefit will actually benefit the community.

AUTHOR CONTRIBUTIONS

The two authors wrote this jointly. CE and PJ contributed to the conceptualization, and reviewed and edited the final version of the manuscript. CE wrote the first draft. PJ revised and refined.

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SYSTEMATIC REVIEW
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Nonprofit Hospital Community Benefit in the U.S.: A Scoping Review From 2010 to 2019

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Background: U.S. nonprofit hospital community benefit recently underwent significant regulatory revisions. Starting in 2009, the Internal Revenue Service (IRS) required hospitals to submit a new Schedule H that provided greater detail on community benefit activities. In addition, the Affordable Care Act (ACA), which became law in 2010, requires hospitals to conduct community health needs assessments (CHNA) and develop community health implementation plans (CHIP) as a response to priority needs every 3 years. These new requirements have led to greater transparency and accountability and this scoping review considers what has been learned about community benefit from 2010 to 2019.

Methods: This review identified peer-reviewed literature published from 2010 to 2019 using three methods. First, an OvidSP MEDLINE search using terms suggested previously by community benefit researchers. Second, a PubMed search using keywords frequently found in community benefit literature. Third, a SCOPUS search of the most frequently cited articles in this topic area. Articles were then selected based on their relevance to the research question. Articles were organized into topic areas using a qualitative strategy similar to axial coding.

Results: Literature appeared around several topic areas: governance; CHNA and CHIP process, content, and impact; community programs and their evaluation; spending patterns and spending influences; population health; and policy recommendations. The plurality of literature centered on spending and needs assessments, likely because they can draw upon publicly available data. The vast majority of articles in these areas use spending data from 2009 to 2012 and the first cycle of CHNAs in 2013. Policy recommendations focus on accountability for impact, enhancing collaboration, and incentivizing action in areas other than clinical care.

Discussion: There are several areas of community benefit in need of further study. Longitudinal studies on needs assessments and spending patterns would help inform whether organizations have changed and improved operations over time. Governance, program evaluation, and collaboration are some of the consequential areas about which relatively little is known. Gaps in knowledge also exist related to the operational realities that drive community benefit activities. Shaping organizational action and public policy would benefit from additional research in these and other areas.

Keywords: hospital community benefit, IRS Form 990 Schedule H, Community Health Needs Assessment (CHNA), community health improvement plan, Tax Exemption

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INTRODUCTION

In 1956, the United States formalized the tax-exempt status for non-profit hospitals. The most prominent aspect of the Internal Revenue Service (IRS) ruling was that hospitals would be tax-exempt if they provided charity care or uncompensated care within their financial ability to do so (1). Less than a decade later, with the passage of Medicare and Medicaid in 1965, there was concern that there would be less need for charity care and tax exemption would no longer be justifiable. Therefore, in 1969 the IRS issued another ruling, which started the conversation about broadening community benefit (2). With this ruling, the IRS established a broader notion of charity, wherein "the promotion of health is considered to be a charitable purpose" and where acceptable activities went beyond charity care as long as the activities were "deemed beneficial to the community as a whole" (3). This ruling granted tax-exempt status to those organizations who met six specific criteria, including: operating an emergency department that cares for anyone regardless of ability to pay; participating in Medicare and Medicaid; creating a governing board that represents the community; and reinvesting surplus funds rather than disseminating them as dividends (3). These 1969 criteria were slightly relaxed in 1983 with a ruling that would remain the primary guidance on the tax-exempt status of hospitals until the mid-2000s (4).

Hospitals' tax-exempt status and the benefit they provide their communities were the subjects of hearings with the Senate Committee on Finance, resulting in a 2008 revision to the IRS code, which now requires hospitals to submit a more detailed accounting of their community benefit activities as part of their tax return (Schedule H, Form 990). The first of these returns were filed in 2009. In 2010, the Patient Protection and Affordable Care Act (ACA) drew additional attention to community benefit in at least three important ways. First, the ACA requires that non-profit hospitals conduct community health needs assessments (CHNA) and develop community health improvement plans (CHIP) to address the most important identified needs at least once every 3 years (5). Most non-profit hospitals in the U.S. conducted their first required CHNA in 2013. Second, the expansion of Medicaid and the inclusion of guaranteed issue creates an environment similar to that following the original passage of Medicare and Medicaid, wherein many question whether tax-exempt status is justified given the possible decrease in charity care (6–10). Finally, the ACA's promotion of population health, primarily through new payment mechanisms, creates a possibility of expanding the notion of community benefit to include social determinants of health. The two reforms—the 2008 IRS ruling and the ACA—are distinct but related. Some results, such as the regular CHNAs, are clearly related to one of those reforms. The 2008 ruling had a fairly narrow focus on stricter reporting guidelines, but the reporting itself could have changed hospitals' behaviors. Therefore, it is difficult to disentangle exactly which evidence is related to each reform.

This study seeks to determine what is known about community benefit since these major federal actions have come into effect. The question for this scoping review is: "What do we know about community benefit in U.S. non-profit hospitals 2010?" The results of this question not only describe the most important areas of knowledge, but also identify those areas with significant gaps.

METHOD

Scoping studies have often suffered from lack of consensus on terminologies and methodologies (11). This current study aims "to map the literature on a particular topic or research area and provide an opportunity to identify key concepts, gaps in the research; and types and sources of evidence to inform practice, policymaking, and research" (12). It does this mapping for non-profit hospital community benefit in the United States. One established framework for such work articulates five stages of work: identifying the research question; identifying relevant studies; selecting studies; charting the data; and summarizing and reporting the results (13). The first stage is found in the Introduction. The second and third stages are detailed in this section. The final two stages follow in the Results and Discussion.

This review was largely limited to peer-reviewed articles indexed by academic databases. Some gray literature was also included, particularly editorially-reviewed articles and papers cited by peer-reviewed work. The limitations of this choice are described in the Discussion. The timeframe of interest, 2010–2019, provided one key inclusion criteria for articles.

It can be challenging to identify articles about U.S. non-profit hospital community benefit, as noted by previous literature reviews (14). The challenge is 2-fold. First, the term community benefit is often used more broadly than what is intended in this study. So the search term "community benefit" generates many articles that fall outside the scope of interest. Second, many aspects of community benefit are published without being formally linked to community benefit. For example, articles on non-profit hospital charity care may never note that charity care is a major component of the hospitals' community benefit spending. Therefore, the term "community benefit" is both too broad and too narrow to easily identify articles on the topic.

The search included several strategies (see **Figure 1**). First, articles were collected using the method previously suggested by community benefit researchers, using the OvidSP MEDLINE search terms (14). Additional articles were collected using PubMed and a search of keywords often associated with community benefit literature. These keywords include: community benefit(s), non-profit hospital(s), charity care, tax-exempt hospitals, tax exempt(ion), community health need(s) assessment(s), schedule H. A final attempt to gather articles was made by conducting a SCOPUS search of the most highly cited articles in community benefit (8, 15, 16).

After reviewing the abstracts of all articles initially identified through the above search strategies, the author eliminated those that did not relate to the study's research question. The most common reason for exclusion was the article addressed hospitals' community health or population health work, but did not connect that work to community benefit. Some articles were excluded if they were published during the accepted date range but exclusively used data that preceded the IRS revision and the

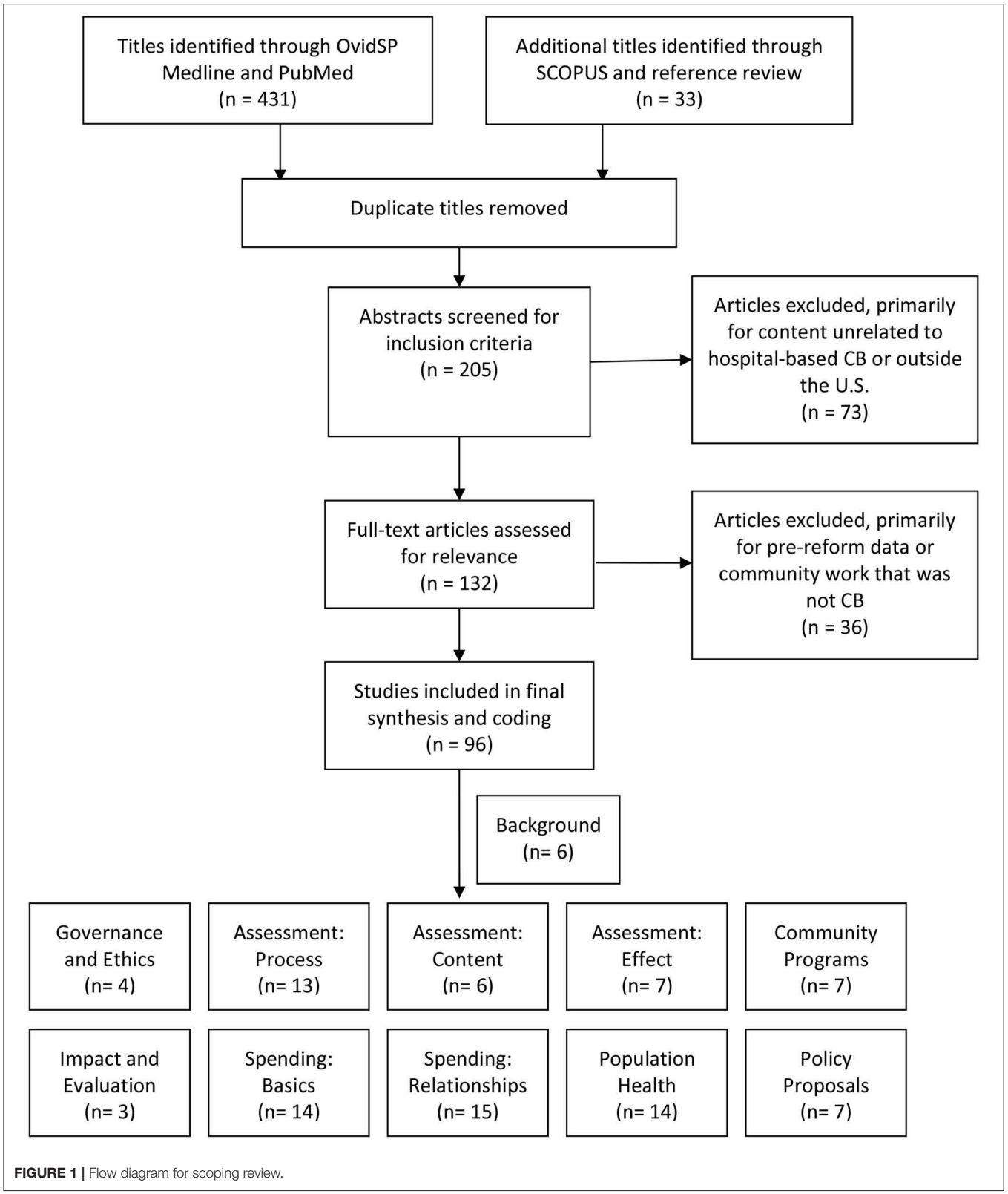

FIGURE 1 | Flow diagram for scoping review.

ACA. Others were excluded because they addressed community benefit in countries other than the U.S.

All articles were organized using a strategy similar to axial coding of qualitative data (17, 18). The initial topic areas arose from a working group held in 2009 that identified the most salient topics for community benefit scholarship: governance and leadership; ethics; finance and economics; planning, organization, and evaluation; community assessment and engagement; and public policy (19). After sorting into an initial set of topic areas, the articles were further sorted into subtopics. As a scoping review, this study identifies the major topic areas but does not claim to identify all the articles within a given topic area as a systematic review would. At the same time, it does aim to provide the entire map, including those areas that are sparsely populated at the moment.

RESULTS

Each section of the results begins with the research question that animates the studies in that section (see **Table 1**). There was also a set of articles that provided descriptive overviews of community benefit, largely explaining the new regulations and requirements. These articles responded to the need for researchers and practitioners to understand the new expectations emerging from the IRS revisions and the ACA. These included some early peer-reviewed overviews (44, 45), with others provided by organizations with interest in educating the public on community benefit, such as from The Hilltop Institute (2, 5) or Catholic Health Association (46, 47). Even several years after the new regulations, perspectives from sources such as *Health Affairs* and *New England Journal of Medicine* described either the current state of affairs for researchers (48) or ways in which new community benefit requirements could shape the provision of health care (49).

Governance and Ethics

"What is the role of hospital leadership related to community benefit?"

With increased public scrutiny, community benefit has taken on new relevance for governing bodies of non-profit health care. Most directly, organizations' tax exemption is dependent upon meeting the new requirements (50, 51). But Magill and Prybil suggested that the need for board oversight goes beyond legal compliance toward an ethical imperative, indicating that board engagement, deliberative communication, and performance measurement are essential markers of meeting the ethical demands of community benefit (20). A 2011 survey found that governing boards had not engaged at this level, with only 36% of systems surveyed having assigned responsibility for community benefit (52). However, this survey was early in the organizational adjustment to new community benefit requirements.

A small number of articles more explicitly addressed matters of ethics and community benefit. McCruden notes that the expectations for deeper community engagement align well with Catholic moral norms and should better orient Catholic hospital toward community health work and reducing health disparities (21). In general, the area of governance and ethics received minimal attention in the literature.

Community Assessment: Process

"What do we know from studying the process hospitals use to complete CHNAs and CHIPs?"

The new expectations related to CHNAs and CHIPs meant most hospitals had a new skill to learn and researchers had a new process to study. In 2011, the IRS issued a bulletin stating, "a CHNA must take into account input from persons who represent the broad interests of the community served by the hospital facility" (53). At a minimum, this includes, "persons with special knowledge of or expertise in public health; federal, tribal, regional, State, or local health or other departments; … leaders, representatives, or members of the medically underserved, low-income, and minority populations, and populations with chronic disease needs" (53). Most of the existing studies use data from 2012 to 2013, when most hospitals completed their first required CHNA and CHIP.

Several studies from this first cycle identified lessons to be learned in the area of community engagement. Pennel et al. scored 95 CHNAs published in 2013 from Texas hospitals to determine the level of community participation in the process. They found a variety of stakeholders engaged at different phases of the process, but very few hospitals working with a broad spectrum of community members throughout the entire process (54). Using an experience with Yale-New Haven from before the ACA-required CHNA process, Santilli and colleagues suggest strategies such as door-to-door surveys and investing in the workforce needed to carry out community-based work (55). Diaz et al. studied another community-driven prioritization process used by six hospitals in northern California which suggests the importance of integrating qualitative and quantitative data in the process (56).

Two articles ask specifically how the CHNA process can be used to engage vulnerable communities. Lightfoot et al. studied a four-hospital process in Lehigh Valley, PA and found that strategies such as identifying ambassadors from vulnerable communities and encouraging long-term memoranda of agreement were important for success (57). Grant and colleagues studied the CHNA process of Moffitt Cancer Center and concluded that an organization interested in reducing health disparities must engage organizational leaders and community members in an ongoing way and that conversations should be informed by data on demographics and disparities (58). Another did not investigate vulnerable populations but the most vulnerable communities. Singh, Cramer, and Young found that hospitals in communities with the lowest health needs based on County Health Rankings were more likely to have completed CHNA activities than hospitals in communities with the greatest health needs (59). For those interested in community benefit as a mechanism for addressing inequity, this data point could be concerning.

Studies on this topic often employed case-study methodology to describe hospital-community engagement, often in rural settings. For example, Becker looked across multiple examples using the Rural Community Group Model to determine

TABLE 1 | Summary of scoping review topic areas.

	Key Conclusions Related to Community Benefit	Representative Articles
Governance and ethics	• Boards should feel an ethical obligation in addition to a need for compliance • Requirements related to community health could deepen existing priorities of faith-based organizations	Magill and Prybil (20) McCruden (21)
Community assessment: process	• There is high variation in community-engagement during needs assessments • Vulnerable populations and communities often receive less attention during needs assessments • The process for needs assessments must be context-specific: rural/urban, local health department/not, level of community capacity	Beatty et al. (22) Becker (23) Pennel et al. (16)
Community assessment: content	• Root causes/social factors of community needs are rarely identified • Collaborative needs assessments are often of higher quality • Health equity is often noted as a need but rarely addressed directly by activities	Carroll-Scott et al. (24) Pennel et al. (16)
Community assessment: effect	• Collaboration on needs assessment can have other positive effects, including greater investment in community health activities and increased on-going collaboration • Community members who participate in needs assessments offer unique insights, are more satisfied with the product, and emerge with increased knowledge	Carlton and Singh (25) Franz et al. (26) Kuehnert et al. (27)
Community programs	• Programs typically focus on clinical interventions and address less stigmatized diseases • Aspects of the process that are more highly regulated (needs assessment, reporting) are more consistent across organizations that other aspects (programming, evaluation)	Burke et al. (28) Franz et al. (29) Rozier and Singh (30)
Program impact and evaluation	• Formal evaluation receives little attention at the program level • Community programs may have effects other than at the program level: positive, such as lowering readmissions and negative, such as medicalizing poverty	Chaiyachati et al. (31) Caffrey et al. (32)
Spending and finance: basics	• There is high variation in whether individual hospitals provide more community benefit than they receive in tax exemption, but overall community benefit exceeds hospital tax benefit • ∼7.5% of operating expenses go to community benefit, with ∼0.4% devoted to community health improvement • Non-profit hospitals generally provide more community assistance than for-profit peers	Bakken and Kindig (33) Rosenbaum (34) Young et al. (15) Valdovinos et al. (35)
Spending and finance: relationships	• Increased state regulation leads hospitals to favor spending on patient care over community health • There are weak, if any, associations between community benefit spending and community characteristics such as higher health needs or level of uninsured • The ACA, especially Medicaid expansion, may be positively associated with higher total community benefit spending; the relationship between bad debt, uncompensated care, and community health improvement is unclear	Begun and Trinh (36) Singh (37) Singh and Young (38) Singh et al. (39) Young et al. (40)
Population health	• The full potential of CB's connection to population health has yet to be realized • The distinction between 'community building' and 'community health improvement' is less relevant in an era of population health and social determinants of health • Population health would be more possible with collaboration, shared resources, and common measurement	Begun et al. (41) Corrigan et al. (6) Rosenbaum (34)
Policy recommendations	• Potential improvements include standardizing the CHNA, assessing outcome measures, and requiring more explicit work related to health equity • Policies should better incentivize investment in social determinants and population health	Gruber et al. (42) Rozier et al. (43) Rubin et al. (7)

challenges and opportunities for community engagement in rural settings (23). The author found group think to be particularly strong in rural communities where people know each other well (23), which may signal an important risk to be aware of in those instances where strong community health networks exist. Skinner et al. found through interviews representing 21 hospitals in Appalachia that rural hospitals struggle to hire staff for their CHNA process and often lack the resources to address the needs once they are identified (60). Sabin and Levin also provide a case study of a rural hospital meeting community benefit requirements and conclude that collaboration and identifying existing community assets are key to a successful program (61).

Several studies also looked specifically at the collaborative process with local health departments (LHD). In a statewide analysis in Missouri, Beatty, Wilson, and colleagues found significant variation in cooperation and no strong predictors of collaboration between the non-profit hospital and other organizations (22, 62). Laymon et al. provided baseline data from the first CHNA cycle in 2013 and reported that 53% of LHDs collaborated with hospitals on needs assessments, with likelihood increasing in areas of large populations (63). In a case study, Sampson, Gearon and Boe describe a process wherein a hospital-LHD partnership drew upon the local health department's long history of community collaboration and engaged 1,800 Polk County, WI residents in developing the CHNA, many of whom continue to be involved in workgroups to address the identified needs (64).

Community Assessment: Content

"What do we know from studying the content of CHNAs and CHIPs?"

The content produced by the assessment process provided another focus area of research studies. Most of these studies analyzed content from the 2013 CHNAs and CHIPs and were less

likely to be case studies than those that studied process. Several that were case studies or regional analyses often found CHNAs lacking in terms of the depth of collaboration or identifying root causes of community needs. Alfano-Sobsey et al. took in account both process and content as they described the collaboration of organizations in Wake County, NC and their method for prioritizing poverty, access to care, and behavioral health from nine initial areas of concern (65). Akintobi et al. offer another case study, this one with Morehouse School of Medicine Prevention Research Center, describing both the collaborative process as well as the priority areas, including health concerns such as hypertension as well as risk factors such as lack of social cohesion (66). Powell et al. analyzed the content of 15 CHNAs and 10 CHIPs from 2013 produced by Philadelphia-area hospitals. They found little regional coordination between organizations and the implementation strategies generally overlooked behavioral health and social factors, which often arose at top needs (67).

Several studies on content analyzed larger numbers of CHNAs, although most were still from the first cycle of reports. Pennel et al. assessed the quality of 95 Texas hospitals' 2013 CHNAs with 16 criteria, including stakeholder involvement, quality of the data, and clarity of communication. They found those reports done in collaboration with local health departments and those done by consultants were of higher quality (16). Caroll-Scott et al. used data from 2016 CHNAs and CHIPs, and identified a disconnect between CHNAs and CHIPs in the area of health equity. Of the 179 hospitals, 65% of the CHNAs included a term related to health equity, while only 35% of CHIPs did so, and only 9% of the organizations included an activity explicitly promoting health equity (24). Cramer et al. used a much larger sample ($n = 1{,}593$) to analyze whether organizational or community characteristics were associated with progress toward CHNA implementation (68). One key finding of this analysis is that hospitals reporting high levels of CHNA implementation spent more on community health improvement, which connects the topics of process, content, and effect of CHNAs.

Community Assessment: Effect

"What, if any, effect does conducting a needs assessment have?"

The CHNA process has the potential to have any number of effects on the organization itself, its collaborators, or the community. One group of studies focused primarily on the effect the process had on collaborating organizations. Carlton and Singh showed that LHD-hospital collaboration on CHNAs was associated with likelihood of coordination on implementation plans and greater hospital investment in community health improvement activities (25). Ainsworth, Diaz, and Schmidtlein found that a four hospital system in northern California approached the CHNA process with broader goals of collaboration in mind and that the effort had several positive effects, including regular meetings after the CHNA process and increased collaboration with other community organizations (69). Analyzing an experience from Lehigh Valley, Matthews, Coyle, and Deegan concluded that broad partnering for CHNAs allowed the group to better identify expertise, helped generate resources for health improvement, and mobilized community partners for the long-term, although the authors did not indicate how they measured these outcomes (70).

Other studies emphasized the effect the CHNA process has on community members. Gold et al. studied a public deliberation with Maimonides Medical Center in Brooklyn, NY and found that the participants emerged with greater knowledge of community health and 95% thought hospitals should use public deliberation to identify priority needs (71). Kuehnert, Graber, and Stone used a web-based survey, generating quantitative measures with Likert scales and qualitative insights from open-ended questions, to discover that those community members who were directly involved in the CHNA process were more satisfied with the final product than those who did not participate (27).

Additional studies assessed whether the CHNA process achieved its primary goal of identifying priority needs and leading to effective strategies to respond to those needs. Through three CHNAs in West Virginia, Bias et al. showed that community participation identified needs that hospital leadership had not identified and that strategies were modified based on the insights provided by community members (72). Additionally, a qualitative study of 21 hospitals in the Appalachian region of Ohio found that hospitals have been formalizing their CHNA processes, cultivating local partnerships, and developing an evidence base for their work (26). Although nearly all of the studies examining the CHNA and CHIP processes are from the first cycle in 2013, there is clearly a good deal of knowledge gained from these initial experiences.

Community Programs

"What do we know about the programs hospitals support related to community benefit?"

This scoping review did not identify any studies that provided a comprehensive review of the community programs hospitals have supported since the community benefit reforms went into effect. Olden and Hoffman conducted a literature review on hospitals' health promotion services and identified 25 articles, all published before the date range of this scoping review. However, the authors' findings that hospital size and collaborative networks were positively associated with more community programs and that state community benefit laws had no association with programs continue to be relevant. However, the concepts of evaluation or impact were not raised anywhere in the review (73). A literature review by Burke et al. showed that out of 106 programs that met inclusion criteria, over half occurred in the hospital facility and focused on clinical interventions (28).

Some researchers have taken a more targeted approach to the question and analyzed programs in specific areas. For example, Fleischhacker provides a commentary for those in food and nutrition as to how they might leverage hospital resources to increase support for evidence-based programs (74). LeRouge et al. use several hypothetical cases to suggest why telehealth ought to be considered as part of community benefit strategies, namely because telehealth increases access, improves community health, and advances medical knowledge (75). Franz, Skinner, and Kelleher analyzed the 2013 CHNAs at 21 hospitals in Appalachia and conducted interviews to determine why

substance abuse was less frequently prioritized compared to obesity and access to care (29). They identified several reasons including lack of resources, risk aversion, and stigma. Rozier et al. took a more theoretical approach to this question and conducted an experiment to determine what factors were most important to non-profit hospital leaders when prioritizing community heath activities. They found the severity of the need and the quality of partnership to be the most important factors for allocation (30).

The topic of community programs is broad and ill-defined, which may partially explain why less literature appears in this section than one might expect. To offer more data as to what is done, Rozier and Singh interviewed 38 directors of community health and mapped the process associated with community health improvement programs, from budgeting to reporting (76). They found consistent and formal processes in areas that are highly regulated, such as assessing needs and reporting dollars spent, but little consistency across organizations in other key areas such as budgeting, allocating resources, or evaluation. Overall, there is less scholarship on the types of community programs associated with community benefit than one might expect. However, this may be because these programs are being shared without being formally identified with community benefit.

Program Impact and Evaluation

"What effect do community benefit programs have?"

Formal evaluation of community benefit programs received relatively little attention in the literature. Rains et al. use their experience from St. Louis Children's Hospital to provide a methodology for measuring population health impact and showed an increase in process and outcome data for 6 of their 7 community benefit programs (77). It may be that this literature exists but is not readily identifiable as community benefit or it could be that it will take additional cycles of CHNAs and CHIPs for this work to emerge.

In addition to studies about community benefit program evaluation, some have considered other effects that community benefit programs may have on organizations or communities. For example, a recent study analyzed data from 1,405 non-profit hospitals to identify an association between increased community-directed spending and lower preventable readmission rates (31). As another example, Caffrey et al. made an interesting observation that community benefit efforts might have the unintended effect of medicalizing poverty (32). They suggest that an unrepresentative sample of community participants could fail to identify pressing social needs such as employment and violence and that hospitals risk evaluating needs through their expertise of medical care.

Spending and Finance: The Basics

"How much money do non-profit hospitals spend on community benefit?"

Spending on community benefit constitutes the plurality of literature. This topic area is divided into two sections. The first focuses on those studies that analyze how much is spent and whether that spending changes over time; the second summarizes associations with or influences of spending.

To judge merit of tax exemption, the amount of community benefit spending is often compared to the value of tax exemption, which a national analysis puts at $24.6 billion for the year 2011 (8). Using 2012 data, Herring and colleagues suggest there is variation as to whether individual hospital's community benefit spending exceeds their tax benefit, with 62% providing more than they receive (78). An analysis by Turner et al. drew a similar conclusion with 2010–2012 data from Maryland, finding that hospitals provide more through community benefit than they would provide through taxes (79). However, given that Maryland has its own state-level CB requirements, these results may not hold in other states.

The most frequently cited article on community benefit is an analysis using 2009 data of 1,800 non-profit hospitals from across the country. In it, Young and colleagues found that on average hospitals spent 7.5% of their operating expenses on community benefit, with 0.4% allocated to community health improvement. The variation of total community benefit spending among hospitals was also quite large, ranging from 1.1% of operating expenses for the lowest decile to 20.1% for the highest decile (15). Leider et al. found only a slight increase from 2009 to 2012, with similar distribution across categories (80). An analysis of 2009 data from 127 Wisconsin hospitals found similar results to Young −7.5% of operating expenses were devoted to community benefit, with about 0.4% of operating expenses allocated to community health improvement (81). A study of 53 North Carolina hospitals found a much higher percentage, 14.6% of operating expenses, but this study included Medicare shortfall, which the state allows hospitals to do, but is generally not included in other studies. A state-by-state analysis show significant variation, from 3.8% of operating expenses in North Dakota to 11.9% in Wyoming (33).

One frequent question is whether non-profit hospitals actually provide more community assistance than for-profit hospitals (82). A major challenge with answering such a question is that the two groups are not required to follow the same reporting standards. Two studies, one using national data from 2006 and another using 2011–2013 from California found that non-profit hospitals provided significantly more charity care than their for profit counterparts (35, 83). Another, by Worthy and Anderson, showed that Texas hospitals claiming tax exemption spent more on community services than other hospitals (84). And another study by Coyne and colleagues showed that in Washington state, in 2011, among non-profit hospitals, church-owned hospitals provided more charity care as a percentage of gross revenues than did government or other voluntary hospitals (85). These conclusions align with studies that asked similar questions before the new regulations (86, 87).

The fact that so many studies on community benefit rely on Form 990 Schedule H raises the question as to whether these reports are valid. Rauscher (Singh) and Vyzas compared the self-reported community benefit expenditures from these forms for 218 non-profit California hospitals with other measures of charitable activity. These measures included charity care as reported in financial statements (adjusted with the cost to charge ratio), the Medi-Cal inpatient load, and measures of community orientation and provision of community health

services constructed from data in the annual AHA survey. The authors found a strong correlation between the self-reported spending and these other measures, indicating that despite strict standardization, the self-reports are likely an accurate measure of community benefit (88).

Spending and Finance: Relationships

"What influences how much non-profit hospitals spend?"

Along with knowing how much is spent, other studies have assessed associations with community benefit spending. Although federal laws and regulations are central to community benefit activity, state laws are a possible influence on community benefit spending. One might expect higher spending with state-level laws, but Singh warned about an unintended consequence of minimum thresholds actually lowering spending, in an article where she suggested that spending be just one component of assessing an organization's claim for tax exemption (89). The results on state influence are mixed. Singh et al. using 2009–2011 data, showed that hospitals often respond to increased regulation by favoring spending on patient care over community health improvement (39). According to an early study by Begun and Trinh, states with additional laws related to community benefit spending, hospitals spent less on community health improvement (36). Yet Johnson et al. found state laws increased total community benefit spending, but that rural hospitals responded to state community benefit laws to a lesser degree than did urban hospitals (90).

Another possible influence on patterns of spending is community characteristics, especially level of community health need. In a national analysis, Singh et al. created standardized measures of county health needs using the 2010 County Health Rankings and found that overall community benefit was higher for hospitals in counties with higher health needs, but that spending on community health improvement was not (91). This raises a question of whether there may be trade-offs between spending on charity care and other spending such as community health improvement. In an analysis of Maryland hospitals from 2006 to 2010, Singh found that there was no evidence of such a trade-off. Despite the fact that hospitals in the poorest areas of the state bear a larger burden of uninsured patients, they did not show evidence of such a trade-off. Moreover, a trade-off was not seen during the 2008 recession, wherein one may expect to see a reduction in spending on community health programs to compensate for the increase in charity care (37). Given that Maryland has state-level CB requirements and a Medicare waiver that standardizes reimbursement across all payers, the results may not be entirely generalizable. There was also no relationship between governmental public health spending and community benefit spending on community health improvement (38, 92). Beahr et al. also found no association between community need and per capita community benefit expenditures (93). Another study by Chaiyachti, Qi, and Wener found neither total community benefit spending nor community-directed contributions varied based on community characteristics such as percentage of uninsured and education levels (94).

Several recent studies have examined whether the ACA influenced the amount or patterns of spending on community benefit. This question was largely precipitated by the idea that increased insurance coverage would lessen the need for uncompensated care (95) and create the possibility of increased spending on community health improvement (96). Nikpay, Buchmueller, and Levy found that early Medicaid expansion in Connecticut resulted in more Medicaid discharges, but no change in uncompensated care (9). The only nationwide study of the ACA's effect on community benefit spending found a modest increase in total spending, from 7.6 to 8.1% of operating expenses, from 2010 to 2014, but no effect on community health spending (40). And yet, in an analysis of just teaching hospitals, Alberti, Sutton, and Baker found between 2012 and 2015, charity care decreased by 16.7% but total spending increased 20.1% (97). Those in Medicaid expansion states increased spending on Medicaid shortfall and subsidized health services more quickly than non-expansion states.

Finally, in a time of ever-shrinking operating margins and greater dependence on non-operating incomes, Song, McCullough, and Reiter show that non-operating income does not influence total spending on community benefit (98).

Population Health

"How does community benefit interact with the increased attention to population health and population health management?"

Although many of the articles in this topic area could be included either with evaluating impact or with policy recommendations, the large number of articles specifically relating to population health warranted its own section. Two empirical articles illustrate early skepticism on community benefit and population health. Pennel et al. assessment of 2013 CHNA content and interviews with stakeholders led them to believe that non-profit hospital involvement in population health was unlikely (99). Along the same lines, after analyzing 23 organizations' CHIPs and finding that very few were addressing the structural causes of health inequity, Begun et al. proposed a 5-point scale to help organizations focus on higher-impact, population health activities (41). But other articles, some from advocacy organizations, continue to suggest that non-profit hospitals should take a larger role in population health improvement and to use community benefit as cornerstone of such work.

The Democracy Collaborative (100), Catholic Health Association (101), Community Catalyst (102), and the then-Institute of Medicine (103) are just some of the organizations to note community benefit's potential in advancing population health. Sara Rosenbaum suggested that the definition of community benefit be expanded to include community building activities (34, 104) and that the IRS be more directive in hospitals reallocating resources for community health improvement (104). Bakken and Kindig did projections to show that community health spending would increase 3-fold if hospitals were required to spend a certain percentage of community benefit dollars on community health improvement (10% minimum, which would increase as hospital profitability increased) (105). But this kind of shift does not just happen, which is why other articles, often appearing in gray literature, offer suggestions as to how an

organization can best manage community benefit's relationship with population health.

Early on, one industry publication noted the need to use evidence-based interventions in order to maximize effectiveness of community benefit programs (106). Another early article noted that if an organization wanted to commit to population health, it would need to develop a comprehensive strategy that addressed cultural and structural, including adopting community well-ness as a strategic priority (107). Corrigan, Fischer, and Heiser also wrote about strategy, but focused on the need for regional collaboration, shared resources, and common measurements (6). Several organizations have also built tools to help organizations in this effort. For example, Community Catalyst developed a dashboard tool to assess a community benefit program's commitment to equity and engagement (108) and Health Resources in Action created a tool for strategic planning and cultural alignment (109).

Policy Recommendations

"What changes to policy could improve community benefit?"

With the major changes to community benefit in 2009 and 2010, increased attention and experience with the new requirements have created an opportunity for scholars and practitioners to offer suggestions as to how community benefit-related policy might be further modified. An early summary of policy proposals suggested three categories: transparency, accountability, and population health (7). This scoping review found leveraging community benefit for population health to be the most frequent policy recommendation. Several suggested this should be done by modifying the CHNA. Crossley suggested that better alignment with community health could arise with more transparent and accountable guidance related to CHNAs (110), with Gruber and colleagues going even further to suggest a standardized CHNA format would increase accountability for health outcomes (42). Rubin, Singh, and Young suggested that assessing outcomes such as community-level health measures would be a better approach than assessing inputs such as CHNAs or spending (111). Other authors have suggested that population health goals would benefit from clarifying the 'community building' category so that non-profit hospitals are better incentivized to invest in the social determinants of health (43, 112).

In addition to population health, several articles recommended policies that facilitate better coordination of community benefit efforts. Some have noted that non-profit hospitals and local public health agencies could coordinate their efforts if their compliance activities, such as needs assessments, were better aligned (43, 113). Rozier, Goold, and Singh, who offered better coordination with public health as one of four policy proposals, also suggested that health equity be made an explicit expectation of community benefit activities (43). Rubin, Singh, and Jacobson make a case for greater accountability, specifically suggesting that the IRS assess population-health performance measures which are already included in the required CHIPs (111).

DISCUSSION

This scoping review identified a significant amount of literature published on community benefit since the IRS revisions and ACA regulations, in all areas of scholarship identified by a 2009 working group (19). We know, for example, that overall spending is significantly greater than the amount that would be paid in taxes, although that is certainly not true for every individual hospital. We also know that spending as a percentage of operating expenses has remained relatively steady over the early years following new regulations and that there are very few factors, either organizational, or community, that are associated with amount or distribution of spending. Several proposed policies, however, are aimed at making it more likely that community-level factors, particularly community health needs, are more strongly associated with spending and spending patterns. Such an association would also make it more likely that community benefit activities better contribute to addressing health inequities.

In addition to standardized reporting on spending, the new regulations have a strong focus on increasing collaboration with communities and encouraging greater rigor in distribution of resources. Most studies in these areas use CHNAs, CHIPs, and the American Hospital Association's annual survey from 2013 or earlier. When studies using data from 2014 and beyond are more common, we will better understand whether there has been meaningful progress in quality of collaboration or selection of interventions. From the early years, we know that collaboration was quite uneven and that social determinants of health were not a central focus of community benefit efforts. Studies that evaluate second and third cycles of needs assessments and implementation strategies will hopefully illuminate whether collaboration has improved and whether there is greater rigor is program selection and program evaluation. It is also possible that studies in the coming years will consider whether there are meaningful improvements to community health indicators because of community benefit efforts, either from direct investment or from community benefit helping create community ecosystems that are more attuned to community health.

Many have suggested that the ACA would lead to new opportunities related to community benefit spending, namely a shift away from uncompensated care toward community health investment. Despite significant attention being paid to population health and headlines about hospitals and health systems investing in population health, we do not yet have meaningful data showing that health care organizations have been able to shift their spending away from clinical care toward community health and community building. This may still be in the offing, or it could be that most of uncompensated care for the uninsured simply shifted to shortfall from Medicaid and other means-tested programs. We must also consider that any changes, either in spending or other elements that rely on organizational support, may in part be a result of organizations developing better procedures for recording spending or communicating activity.

There is a reason that many of the articles in this review are proposing new regulations related to community benefit. It

seems that organizations have responded to the expectations set forth in the IRS revisions and ACA regulations, but that the changes had submerged goals such as improving health equity or shifting toward social determinants of health, that do not appear in the regulations. In reviewing the relationship between regulations and organizational behavior, it is often difficult to tell the degree to which organizations go beyond the minimum of what is required. For example, we know that boards are approving CHNAs and CHIPs, but we do not know how engaged governance structures are beyond the approval process. And we know that collaboration occurs during the needs assessment process and that the depth of collaboration is highly variable, but it is not clear how regulations could be amended to make meaningful collaboration during needs assessment and other stages of the community benefit process more likely. In part, some of the concerns that lead to new policy proposals could be ameliorated with better data on community benefit activities. However, other concerns will likely need to be addressed with new policy.

Gaps in Knowledge

This review shows there are still many areas of community benefit in need of further study. For those areas where public information is more easily available, namely in the forms of CHNAs, CHIPs, and Schedule H Form 990s, most of the current information come from the early years of this new community benefit activity. Studying changes in CHNAs and CHIPs over time will be more possible now that most hospitals have completed three full cycles. At the time of this review, there were no studies that took account of the 2019 CHNA cycle. Subsequent studies will hopefully do so. While there have been some studies that considered longitudinal aspects of spending, the significant changes to the U.S. health care system from 2012 and the greater openness of the IRS to include housing and other determinants of health as community benefit (114) offer additional opportunities to study patterns of and associations with community benefit spending. If community benefit spending truly remained consistent from 2010 to 2019, it would be about the only element of U.S. health care spending that did not meaningfully change during that time.

In addition, there are significant gaps in knowledge in the topic areas for which there is no standardized, publicly available data. Governance, resource allocation processes, and program evaluation are just some of the areas we know very little about. In general, internal operations related to community benefit largely remain a "black box." If we do no know about these areas, the information rarely extends beyond a case study. While case studies certainly have their place in building a base of knowledge, it would also be beneficial to have larger datasets in these areas that would allow for more generalizable conclusions. If health care organizations are interested in broadening the community benefit conversation beyond spending, as I suspect many are, it would behoove them to help researchers more easily secure the data necessary to answer questions associated with these other areas of community benefit.

Limitations

There are two major limitations to this scoping review worth noting. First, it was largely restricted to peer-reviewed literature. Many advocacy groups and industry associations have produced important work related to community benefit and only some of them have been cited in this review. The focus on peer-reviewed literature may have resulted in some topic areas not being as robustly represented as they could be, especially related to governance and policy recommendations. Second, some areas of research may be less likely to use traditional keywords associated with community benefit. For example, community programs and program evaluation that were, in fact, part of a hospital's community benefit portfolio, may never indicate that they were associated with the hospital's community benefit efforts. Therefore, this review may underrepresent the literature, particularly related to these topic areas. Finally, some may wish that this scoping review was a systematic review or that it accounted for the literature published before 2010, but this study maps the literature of an important moment in community benefit and provides areas where additional work can and should be done.

CONCLUSION

Most people in places where there is a non-profit hospital are likely interested in one question related to community benefit. "Are we better off because we have a non-profit hospital in our community?" From a strictly financial perspective, the answer is usually "yes." The research above shows that most non-profit hospitals contribute more back to the community than they would pay in taxes. However, if pushed, I suspect most people would want more. Most people would ultimately want to know, "Are we using the resources non-profit hospitals provide back to the community as wisely as possible?" The answer to that question is less certain. In order to get to yes, organizations will need to overcome organizational inertia to better identify root causes of illness, choose more effective programs, create stronger partnerships, do more rigorous evaluations, and much more. In order for these to occur, we need more research and perhaps new policies to shape behavior. Ten years after some major reforms to community benefit, we have learned many lessons in building healthier communities. Nevertheless, we have also learned there is a much to be done before the potential is fully met.

AUTHOR CONTRIBUTIONS

MR designed the study, conducted the analysis, and wrote the manuscript.

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Leveraging Population Health Expertise to Enhance Community Benefit

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As the Internal Revenue Service strengthens the public health focus of community benefit regulations, and many states do the same with their tax codes, hospitals are being asked to look beyond patients in their delivery system to understand and address the needs of geographic areas. With the opportunities this affords come challenges to be addressed. The regulations' focus on population health is not limited to a defined clinical population—and the resulting emphasis on upstream determinants of health and community engagement is unfamiliar territory for many healthcare systems. At the same time, for many community residents and community-based organizations, large medical institutions can feel complicated to engage with or unwelcoming. And for neighborhoods that have experienced chronic underinvestment in upstream determinants of health—such as social services, housing and education—funds made available by hospitals through their community health improvement activities may seem insufficient and unreliable. Despite these regulatory requirements, many hospitals, focused as they are on managing patients in their delivery system, have not yet invested significantly in community health improvement. Moreover, although there are important exceptions, community health improvement projects have often lacked a strong evidence base, and true health system-community collaborations are relatively uncommon. This article describes how a large academic medical center tapped into the expertise of its population health research faculty to partner with local community-based organizations to oversee the community health needs assessment and to design, implement and evaluate a set of geographically based community-engaged health improvement projects. The resulting program offers a paradigm for health system investment in area-wide population health improvement.

Keywords: hospital community benefit, health systems and community partnerships, hospitals addressing social determinants of health, community health improvement plan, departments of population health

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INTRODUCTION

On March 23, 2010, the Patient Protection and Affordable Care Act (ACA) added a new section 501(r) to the Internal Revenue Code creating "Additional Requirements for Charitable Hospitals" (1). Pursuant to these provisions, not-for-profit hospitals are required to undertake a community health needs assessment (CHNA) every 3 years and then develop an implementation strategy—a set of "community health improvement" activities—to address priorities that are identified through that process (2). A number of states have similar policies in their tax codes. For example, the New York

State Department of Health for many years has mandated that every not-for-profit hospital submit a Community Service Plan (CSP) to the State. Beginning with the CSPs that were due in the fall of 2013, the State sharpened its public health focus, requiring hospitals to align their plans with local health department priorities, which, in turn, were to align with the State's "Prevention Agenda" (3).

These federal and state regulations have been designed to: (a) open healthcare systems to greater community input; (b) foster "greater collaboration between state and local health agencies and hospitals serving the region;" (4) and (c) leverage hospital resources to advance area population health (3). Yet effective implementation of these requirements is typically challenging both for hospitals and for the community organizations with which they seek to partner. For many health care systems, focused as they are on the complexities of managing care within their walls, engaging with community partners and developing programs to improve population health call upon unfamiliar skills (5). At the same time, for many community residents and community-based organizations, large medical institutions can feel bewildering or unwelcoming. And for neighborhoods that have experienced chronic underinvestment in the upstream determinants of health—social services, housing, and education—the funds made available by hospitals through these community health improvement activities may seem insufficient and unreliable.

Community health improvement resources are one of the myriad assets that healthcare systems have —as clinical providers, employers, educational institutions, purchasers, and investors—that can be leveraged to strengthen the drivers of health in the communities in which they are located (6). Over the past few years, innovative health systems have begun to recognize these levers and look upstream to address social determinants of health—whether out of a sense of mission, to be in compliance with state regulations, to enhance reputation, to attract and maintain staff and patients, or to prepare for anticipated changes in reimbursement (7). Examples are beginning to emerge for how these efforts can be structured and sustained (8–10).

Based on the experience of one major academic health system—New York University Langone Health (NYULH)—we describe a model of how population health expertise can be brought to bear to address community health improvement requirements as part of a community-engaged approach that results in sustainable improvements in population health.

DEFINING AND ENGAGING COMMUNITY AND SETTING PRIORITIES

For academic medical centers, particularly those located in cities dense with other healthcare systems, defining a "community" can present a challenge. NYULH serves a broad geographic area: its primary service area includes the New York City boroughs of Manhattan, Brooklyn, and Queens, and its secondary service area extends into the borough of Staten Island, as well as Long Island, Westchester, and New Jersey. To enhance the impact of the CSP and create opportunities for synergy across programs, NYULH in 2013 narrowed the geographic scope of its CSP (previously the entire lower third of Manhattan) to focus on the closest areas of greatest need: the Lower East Side and Chinatown (together comprising Manhattan Community District 3). Following merger in 2017 with a community hospital (Lutheran Medical Center) and associated network of Federally Qualified Health Centers in Brooklyn, the CSP extended into the Sunset Park neighborhood of Brooklyn.

The three neighborhoods comprising NYULH's CSP catchment area—the Lower East Side, Chinatown and Sunset Park—share many characteristics and face similar challenges. Each is a microcosm for the social, economic, and linguistic diversity of New York City and has served as a first destination for immigrants, with high percentages of residents who are foreign born and with large Latino and Asians populations. Even as these neighborhoods gentrify, residents continue to experience high levels of poverty, low educational attainment, and health disparities.

At the same time, each neighborhood benefits from strong networks of community-based organizations (CBOs) that provide services and support for residents. Information about health status and trends in these communities, as well as our process for assessing assets and needs and setting priorities, can be found in our comprehensive Community Health Needs Assessment and Implementation Plan at https://nyulangone.org/files/chna-csp-final-8-5-19-complete-1.pdf.

Aligning with the New York State and New York City public health and community priorities, the NYULH Community Service Plan engages multiple sectors (e.g., healthcare, education, social service, faith-based organizations, and housing providers) in its goals of: (a) preventing chronic diseases by reducing tobacco use and preventing and addressing obesity, and (b) promoting healthy women, infants and children through programs focusing on parenting and teen health. These goals were selected based upon the CHNA we conducted, which analyzed and presented to the community primary and secondary data about community needs and priorities in Manhattan Community District 3 and in Sunset Park, including data from the New York City Department of Health and Mental Hygiene's Community Health Survey and the New York City Department of City Planning, as well as focus groups, surveys, interviews and meetings with residents and other community stakeholders. The priorities selected reflect continued community concern about ongoing health disparities, including tobacco use, obesity, early childhood development, and teen health. In addition, the connection between housing quality/security and health emerged as a growing concern, which led to the formation of the Brooklyn Health and Housing Consortium described below.

To oversee the need and asset assessments, priority setting, and implementation of the CSP, we formed a Coordinating Council led by the Department of Population Health and composed of NYULH faculty and staff, leadership and staff of partnering CBOs, community leaders (including community health workers, faith-based leaders, Community Board members), and a growing group of other stakeholders including researchers and policymakers. Beginning in 2017,

we fully integrated partners from the NYULH Brooklyn-based system, including its affiliated network of Federally Qualified Health Centers, the Family Health Centers at NYU Langone, which now co-leads the group.

Each CSP initiative has at least one faculty partner and one community partner. To enable full participation of community partners, we have sought to ensure that the CSP program budgets cover not only the time of CBO staff who work directly on the project but also a portion of senior management time, recognizing the importance of their supervisory roles and their participation as leaders on the Coordinating Council. As one community partner observed, in partnering with academic institutions, senior staff of community organizations are often asked to contribute their time *pro bono*, straining already tight budgets.

The Coordinating Council serves as the forum for coordinating across the CSP initiatives, identifying shared challenges and emerging community needs, and grounding the work in a community based participatory approach (CBPA). In the first year of the CSP, we reviewed principles of community engagement and sought to anticipate potential causes of tension (11). From our previous experience in community based participatory research (12–14), and from early conversations with key informants as part of the CHNA, we were acutely aware of the potential for misunderstanding between academic institutions and community partners. A small group of faculty and community leaders drafted a memorandum of understanding, which provided detailed language about collaboration in program development and implementation, data sharing, and the development of presentations and publications, including the expectation of co-authorship. More recently, growing out of two CBPA projects (an assessment of the health needs and priorities of the Arab American community in southwest Brooklyn and an asset and needs assessment of Red Hook, a neighboring community in Brooklyn) the Coordinating Council revisited and revised its guiding CBPA principles and is in the process of identifying the capacity building activities and skills that are needed to support the movement of our projects further along the spectrum of community engagement (15). The principles, which grew out of a review of the extensive literature on CBPA and academic-community partnerships (16–23), are currently being reviewed and revised by our community partners and with community residents, and will then will be posted and shared as a possible starting place for other community health improvement plans.

LEVERAGING POPULATION HEALTH EXPERTISE IN EVIDENCE-BASED PROGRAMS

State and federal regulations governing community health improvement projects require that hospitals select evidence-informed interventions that meet the needs identified in the CHNA, describe their anticipated impact, and set forth a measurement and evaluation plan (2, 3, 24). To take advantage of expertise in the design, implementation and evaluation of evidence-based programs, beginning in 2012, NYULH transferred responsibility for the CHNA and the development of its CSP from its corporate office of Strategy, Planning and Business Development to its academic Department of Population Health.

In developing an initial portfolio of community health improvement projects, faculty with population health expertise drew upon existing grant-funded evidence-informed programs designed to address the health needs of underserved populations, primarily low-income Latinx and African Americans. Building on this foundation, faculty partnered with community-based organizations to adapt those programs, tools and materials for implementation in their settings and to reflect the needs and preferences of their diverse populations, leveraging, and enriching faculty's understanding of cultural and linguistic translation, behavior change, and implementation science. The following two examples illustrate this process (A fuller picture of these and other CSP projects can be found at https://nyulangone.org/our-story/community-health-needs-assessment-service-plan).

ParentCorps

ParentCorps, an evidence-based program developed by NYULH's Center for Early Childhood Health and Development, is designed to buffer the adverse effects of poverty and related stressors on early child development by engaging and supporting both parents and teachers at children's transition to school. The program is implemented in early childhood education or childcare settings and includes professional development for teachers and other caregivers and a 14-session weekly group educational series for parents and children. Two federally-funded, randomized controlled trials with more than 1,200 poor, minority children found that ParentCorps results in more supportive and nurturing home and early childhood classroom environments, higher kindergarten achievement scores (reading, writing, and math) and, among the highest-risk children, lower rates of obesity, and mental health problems (25). A benefit-cost analysis indicates that ParentCorps has the potential to yield cost savings of more than $2,500 per student (26).

Through the CSP, ParentCorps has partnered with University Settlement Society, a large social service agency with three early childhood sites, and with elementary schools located in the CSP catchment area, training nearly 200 teachers and teaching assistants and over 100 other professionals including mental health professionals, social workers, and administrators. In addition, ParentCorps staff have implemented seventeen 14-session series of the Parenting Program in English, and in Mandarin and Cantonese for the first time, reaching 555 families, in the process translating and adapting materials so that they are culturally tailored and acceptable to this new population. Based on earlier studies, we estimate that the program will increase parent knowledge, skills, and engagement in school; decrease the percentage of children with behavior problems; increase healthy eating and physical activity; and decrease the percentage of children who are overweight/obese.

Tobacco Free Community

Despite the availability of safe and effective treatment for tobacco dependence, only a small proportion of smokers who try to quit each year use cessation therapies. This is particularly true among low-income adults and for non-English language speakers, contributing to growing disparities in smoking prevalence (27). The CSP navigator program is designed to address this gap, with a particular focus on Chinese American men, who have among the highest smoking rates in New York City. In partnership with Asian Americans for Equality (AAFE) and the Asian Smokers' Quitline (ASQ), experts from the Department of Population Health's Section on Tobacco, Alcohol, and Drugs are implementing a community navigator model that mirrors the patient navigator model developed, studied and implemented by the American Cancer Society (28). Results of this program have been comparable to other navigator programs (34% self-reported quit rate) and unusually, because of its roots in the community, AAFE has been able to reach many smokers who had never previously tried to quit or cut down.

PLANNING FOR SUSTAINABLE IMPACT

Neither the Internal Revenue Service nor the Affordable Care Act mandate a dollar amount or percentage of operating budget that not-for-profit hospitals are required to allocate to their community health improvement projects. Indeed, it has been estimated that nationally only about five percent of community benefit dollars are allocated to community health improvement programs (29). Although a large figure when aggregated nationally, locally, the modest scope of such funds can limit their impact, particularly when viewed in the context of longstanding, unmet community needs. Fostering the sustainability of initiatives launched through community health improvement efforts is a way of extending the impact of limited funds. There are several strategies that health systems can use to advance this goal: (a) building capacity among partners and within the healthcare system; (b) integrating programs into operational flow and procedures; (c) supporting public policies that maintain initiatives and facilitate their diffusion; and (d) leveraging existing or new funding and resources that can be braided into the stream of support (30).

Building Capacity

Academic medical centers can provide a wide array of capacity-building resources to CBOs in addition to providing direct funding for programs. For example, NYULH experts on tobacco cessation have led several in-depth training programs, reaching community health workers across the Community Service Plan partnership. Tobacco cessation experts from the medical center have also partnered with the Chinese American Medical Society to provide lectures on smoking cessation to their members for continuing medical education credit.

Through the Community Service Plan, the Family Health Centers at NYU Langone have also championed capacity building to support child development and school readiness. The ParentChild+ program (formerly known as the Parent-Child Home program), a national, evidence-based early literacy, parenting and school-readiness program, offers year-long training and support to Family Child Care (FCC) providers to promote school readiness for all children in their care. The impact of the program extends beyond the FCC environment. Parents whose children are enrolled at an FCC have reported changes in language and literacy behaviors at home, such as replacing screen time with book reading.

Academic medical centers can also support capacity-building by offering access to educational and professional development opportunities. Community partners are routinely invited to conferences to present their CSP-supported work, often with faculty co-authors; and NYULH faculty provide technical assistance and consultation on data analysis to support program evaluation and needs assessments. Recently, the CSP staff launched a series of monthly workshops inviting faculty, staff, and community experts to present on topics that reflect shared program needs and interests. The workshops have addressed survey development, in which partners were invited to bring draft instruments for review and discussion; m-health strategies in community settings; approaches to health literacy; and mindfulness for health professionals. As we have deepened our focus on CBPA, these sessions will be used to build capacity across all current, planned and future projects to do more deeply engaged community work. Emerging topics include: how to define the relevant community or communities; understanding community organizing principles and strategies; and tools and processes to promote trust, engagement, self-reflection, and equity. In addition, our quarterly Coordinating Council meetings foster cross-project learning, for example through discussion of strategies and approaches for community engagement and facilitating behavior change across cultures (31). These forums also provide an opportunity for CBOs to network with other organizations and with policymakers and potential funders.

As others have noted, the CHNA provides an opportunity for "community-engaged, health equity research" (32). Indeed, in partnering with community-based organizations, it is important for hospitals to recognize that, done right, capacity building is bidirectional. Through the discussions in our Coordinating Council, we are able organically to identify issues that have not yet emerged through more formal needs assessments or in existing data. These have included, for example, the intergenerational needs of Chinese American families in which children are raised abroad in their early years (33), and very early on we learned of the growing concern among undocumented immigrants who fear seeking care and accessing entitlements. These insights have generated new program approaches and opportunities for timely and important responses and research. In addition, partnerships can provide an opportunity to collect pilot data to support collaborative grant development. For example, as part of our Tobacco Free Community initiative, we conducted focus groups with residents in public housing about their attitudes toward the federally-mandated smoking ban being implemented in their apartment buildings, providing helpful information to the New York City Housing Authority as it rolls out its program and serving as pilot data for a large collaborative study (funded by the National Institutes of Health) of the impact of this new regulation.

Relationships with partners can also provide educational opportunities, including site visits for medical students and student research projects. Finally, an unexpected consequence of the Coordinating Council structure has been that it has facilitated productive relationships across divisions within the Department of Population Health, across departments within the medical center, and with other schools across the university.

Integrating Programs Into Operational Flow

Programs are more likely to be sustained if they are aligned with organizational culture and priorities and integrated into operational flow and standard operating procedures (34). For this reason, in implementing the Greenlight program, a practice-based obesity prevention program, we worked closely with colleagues at the Charles B. Wang Community Health Center to minimize burden on health care providers and to integrate the program into the flow of the busy pediatric practice of this Federally Qualified Health Center. This has meant collaboratively designing program implementation with administrators to take advantage of patient waiting times and working with existing staff who provide materials and coaching. The successes and core insights from the Manhattan implementation are being used to align the program with the pediatric workflow in the Seventh Avenue Family Health Center site in Sunset Park.

Similarly, AAFE now screens for tobacco use on all of its intake forms (for example, for housing, insurance, small business development) and provides information about smoking cessation at community meetings on a wide array of topics, having learned that people are more amenable to hearing about tobacco cessation when other services are being provided and other problems solved.

Promoting Policy Change and Program Diffusion

Engaging policymakers has been a core strategy of the Tobacco Free Community initiative. Growing out of and supported by the CSP partnership and the RCHN Community Health Foundation, the Charles B. Wang Community Health Center spearheaded the creation of a City-wide anti-smoking coalition, which helped field a street intercept survey in Chinese American neighborhoods, testified before the City Council, and worked with the New York City Department of Health and Mental Hygiene in developing and publicizing an *Epi Data Brief* that highlights cancer as the leading cause of death for Chinese New Yorkers, reflecting the persistently high rates of smoking among Asian American men (35). In response, the City Health Department launched an Asian language public awareness campaign. One of the Coalition partners, Korean Community Services, received funding from the City Council to support a tobacco navigator program in the Korean American Community, and the effort is now being expanded to include other immigrant-serving CBOs.

Leveraging Resources

Although the scale of community health improvement funding alone is insufficient to support sustainable and long-term change, these dollars can be used to leverage other resources. Some have suggested creating pooled "community health trusts" that might attract broader investment (36). Others have used community health improvement dollars to "unlock" capital investments (37). At a programmatic level, we have sought to pool support by linking to a wide range of resources. For example, the smoking cessation program uses existing relationships and forums to direct people to available resources: the New York State Smokers' Quitline and to the Asian Smokers' Quitline, both of which offer free coaching and nicotine replacement therapy. In addition, the Robin Hood Foundation provided substantial supplemental funding for the CSP Health + Housing Initiative, a pilot housing-based community health worker project in two affordable buildings on the Lower East Side (38). The initiative is now being sustained and expanded in two additional buildings by the owners of one of the buildings in which it was piloted, in continued collaboration with our community partner, Henry Street Settlement. This not only provides a potentially sustainable and replicable funding source, but it also gives our partners ownership over the initiative and allows them to tailor the program to meet ongoing needs.

Similarly, the Family Health Centers' Project SAFE, a peer education program employing an evidence-based youth development approach to prevent teen pregnancy and HIV/AIDS, was able to deepen their reach in schools through the Community Service Plan, which was then leveraged to acquire federal Substance Abuse and Mental Health Services Administration grant funding. Leveraging community health improvement funding to access outside support not only increases the pool of available dollars, but also helps to increase visibility and demonstrate program value to internal and external audiences.

CHALLENGES AND LESSONS LEARNED

In launching the CSP, we experienced a number of challenges. Within our own institution, there were tensions as the Department of Population Health applied a more rigorous set of criteria to the programs that would be funded through the plan. This meant eliminating some projects that had deep institutional roots but lacked a strong evidence base or were more focused on data collection and research than on service delivery. In addition, as noted above, we brought to the CSP a set of expectations about community engagement that differed from the traditional academic approach. We have found, however, that faculty and staff have relished the deep community relationships and the egalitarian nature of the Coordinating Council, which brings together community health workers and senior faculty, policymakers and staff (31).

Developing trusting relationships with community partners presented another challenge. The CHNA regulations are specifically designed to require that hospitals open their doors to community input. Our initial foray into the community was revelatory—and sometimes painful. Overtures to some prospective partners were met with a high degree of skepticism. Several were critical of the medical center and the university's role in the community, noting a previous lack of engagement.

Significant time was spent assuring community leaders of our commitment to true partnership. Fostering a strong community-based culture and identity within the Coordinating Council has been critically important to maintaining credibility with our partners and in the communities in which we are working.

The challenge of matching evidence-based community-oriented programs with community priorities has meant that our work is held together more by a set of principles and an approach than by a defined goal or outcome. Although each project has an evaluation component, "moving the needle" at a population level remains an elusive goal. This is complicated further by our geographic spread, spanning several diverse communities. A more laser-like focus on an issue or geographic area might have aligned our projects toward a single measurable outcome. But our approach has helped build the partnership and has allowed us to be responsive to needs and to generate new and promising initiatives as opportunities arise. For example, growing out of our work and deep community engagement, we have developed the Brooklyn Health and Housing Consortium, which engages health care providers, CBOs, and housing providers with the goal of developing relationships and infrastructure, and building capacity to support people with complex health and housing needs. Similarly, we have created a Community Health Worker Research and Resource Center to serve as a resource to CBOs, health systems, municipal agencies, and research organizations that are planning, or seeking to strengthen, initiatives that use lay health workers to enhance care, link services, and improve community health. These more recent efforts are evidence of a deeper level of engagement and lasting contribution to local health improvement capacity. The value of these initiatives would not likely be captured in a traditional cost-benefit approach.

CONCLUSION

Community health improvement funding provides an important resource to support community-based population health initiatives. But the absence of a required funding threshold and general lack of hospital expertise in partnering to address the upstream determinants of health, threaten to limit its impact. Despite the ACA requirement for a thorough needs assessment and implementation plan, and similar mandates in many state tax codes, many hospitals have not invested deeply in community health improvement. Moreover, although there are important exceptions, community health improvement projects have often lacked a strong evidence base, and true community collaborations are difficult to achieve and sustain (39).

As hospitals begin to develop departments of population health (40), they can leverage that growing expertise—in data collection and analysis, in implementation science, in partnering to promote health and wellness outside their walls—to guide their community health improvement programs and widen the lens from patients in the delivery system to residents in the community. In this way, community benefit resources can be deployed more effectively to address important community health priorities, build community and institutional capacity, and lay a foundation for long-term sustainable change.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

AUTHOR CONTRIBUTIONS

SK and MG contributed to the design and implementation of the programs described and to the writing of the manuscript.

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Enhancing Transitions From Rehabilitation Patient to Wellness Participant for People With Disabilities: An Opportunity for Hospital Community Benefit

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Pressure is increasing on not-for-profit hospitals to demonstrate that they provide sufficient benefit to the community to justify their tax-exempt status. Many industry observers have suggested that this community benefit should address unmet medical needs within the community, deficits in the social determinants of health, or health disparities within communities. We argue that one area of clear unmet need is assistance in helping bridge the transition that people with disabilities (PWD) must make from rehabilitation patient to wellness participant. Programs to bridge this transition are necessary because many PWD struggle to identify strategies to maintain and maximize their own well-being after discharge from the healthcare system. As a result, PWD have worse health outcomes than non-disabled individuals. To address these needs, we propose hospitals take a leading role in establishing new, community-based efforts to provide PWD with benefits that will support their effort to self-manage health. Hospitals are well-suited to lead the creation of these programs because of the important role they play in providing services to PWD and because of their ability to bring together multiple stakeholders required to make supportive programs sustainable.

Keywords: disability, community benefit, wellness, transitions in care, hospital, quality of life

INTRODUCTION

Regulators and other industry observers have recently suggested that not-for-profit hospitals should enhance their provision of community benefit (1). In some examples, these suggestions mean hospitals should be providing more charity care and/or outreach services (2). In other cases, calls for increased community benefit provision suggest hospitals do more to address the social determinants of health that can be barriers to improving health (3). Further still, requests for increased community benefit provision suggest hospitals should take action to address health disparities (4). Often, populations targeted as beneficiaries of "community benefit" programs have substantial resource constraints and limited access to the social determinants of health.

There is also another population whose health needs are being unmet, people with disabilities (PWD) (5). An estimated 30 million people in the U.S. have a mobility disability (6) accruing over

$53 billion in direct medical costs annually (7). This population has higher rates of hospitalization, often for preventable conditions (8). For instance, patients with spinal cord injuries are hospitalized 2.6 times more often that similar individuals without disabilities, and a significant percentage of these hospitalizations are for preventable conditions like pressure ulcers, urinary tract infections or pneumonia (9). This largely underserved population has characteristics matching many of the motivations for community benefit provision. They often have medical needs that most physicians are unaware of how to treat (10–12), face social and environmental barriers to maximizing their health status and quality of life (13–15), and experience health outcomes far worse than individuals who do not have a disability (16–19). One of the primary factors contributing to these problems is that few local provider systems offer PWD a smooth transition from acute care or inpatient rehabilitation to community-based programs that empower them to control their own well-being. For hospitals that treat a significant number of PWD and have adequate resources, creating programs to support PWDs' efforts to self-manage their health is one rarely considered form of community benefit with the potential to make a significant impact.

Hospitals have unique capabilities to address many of these unmet needs and, through the provision of specific community benefits, can lead the way in creating comprehensive systems that provide care and supportive services enabling PWD to reduce rehospitalizations and emergency room care while improving their quality of life. In this paper, we argue that hospitals are well-positioned to convene groups of stakeholder organizations including rehabilitation centers, disability advocacy groups, and community resources. We suggest that hospitals lead coalitions of these stakeholder groups in addressing the needs of PWD within a hospital's local community. Further, we illustrate these points by describing the experience of one health system engaged in a community benefit program to improve PWD's transition from rehabilitation patient to self-managed wellness.

BARRIERS IN PWDS TRANSITION FROM REHABILITATION PATIENT TO WELLNESS PARTICIPANT

One enormous challenge many PWD face after acquiring a disability or receiving medical care for a new secondary health condition (e.g., pressure ulcer and urinary tract infection) is transitioning back into the community and self-managing their health. Many individuals never make the transition from "patient" to "participant" (20, 21). They are anchored to a healthcare system focused on disease management, while their ability to self-manage health through wellness activities is usually non-existent.

There are internal and external barriers that inhibit PWD from engaging in self-management. These include a lack of information about how to manage health while living with a disability, a lack of access to community-based healthcare providers who understand mobility disabilities, financial challenges finding support for daily activities, transportation barriers, and a lack of social support from friends and family (5, 12, 13, 15, 22–25).

PWD often experience barriers to exercise and wellness beyond those experienced by the general population, including cost of fitness facility membership, access to public transportation, lack of information on accessible facilities and programs, lack of accessible exercise equipment, physical layouts challenging to people using mobility devices, and the perception that fitness facilities are unfriendly environments for PWD (26–31).

There is more that hospitals can do to ensure PWD experience a smooth transition from hospital care to community care. An ideal time to capture the attention and awareness of individuals who have acquired a new mobility disability (e.g., stroke, head injury, spinal cord injury, and limb loss), new diagnosis (e.g., multiple sclerosis and Parkinson's), or are receiving medical care for a new or recurring secondary health condition (e.g., joint pain, fatigue, edema, type 2 diabetes, reduced balance, pressure ulcer, urinary tract infection, and depression), is when they are receiving hospital care. This is often a time when they and/or their caregiver are aware of the need to improve their health after they return home from the hospital or healthcare facility (32, 33). Patients develop a trusting relationship with healthcare providers and may look to these individuals for guidance on how to maintain their health while outside the hospital.

Aside from interacting with patients during critical points in their recovery, hospitals have another unique characteristic that could improve the reach of wellness programs serving PWD. Relative to some of the community-based, voluntary organizations currently providing services, hospitals have a high degree of organization, administration, and sustainability. These characteristics could allow hospitals to help establish new systems that integrate the health services and community health portions of the care continuum; systems that would be difficult to achieve in less-structured collaborations between organizations currently serving PWD. For instance, hospitals' capacity for administration will be critical in establishing new approaches to data-sharing between providers that will be necessary to support a smoother care continuum for PWD.

Hospitals seeking to support the promotion of wellness among PWD as they reenter the community will find that there are a growing number of national organizations that could help sustain this important effort. For instance, the National Center on Health, Physical Activity, and Disability (NCHPAD) has been funded by the Centers for Disease Control and Prevention (CDC) for the past 20 years and has been active in developing resources to help communities become more inclusive places for PWD to pursue healthy lifestyles. These efforts include the development of the MENTOR program (Mindfulness, Exercise, and Nutrition to Optimize Recovery). MENTOR is a health coaching platform that is targeting PWD who have had a recent interaction with the healthcare system.

NCHPAD has also been active in supporting the efforts of stakeholder groups within 16 communities to coordinate efforts to improve the lives of PWD. The groups participating in these inclusive health coalitions (IHCs) are primarily volunteer and community-service-focused organizations. The IHC effort

has yielded notable improvements in the locations where IHCs exist, and the MENTOR effort has the potential to bring wellness benefits to PWD in communities across the U.S. However, partnerships with hospitals could dramatically increase the ability of these, and other existing programs, to serve PWD. Hospital partnerships could help community-based organizations connect with recently-diagnosed PWD earlier in their treatment process to create a smoother continuum between rehabilitation/healthcare and community-based wellness. Hospitals could also provide community-based organizations with the organizational support and funding required to pursue more ambitious strategies for providing benefits and organizing information technology infrastructure.

A COMMUNITY BENEFIT PROGRAM TAILORED TO PWD

While the need for additional support to PWD is real, and the potential for hospitals to meet this need is significant, there are relatively few examples of hospitals engaging in efforts to meet the post-discharge needs of PWD. However, for the past several years, one of the authors has lead an effort by a large academic health system in the southeastern United States, to meet the post-discharge needs of PWD. This health system has been in partnership with a not-for-profit organization (NFPO) dedicated to improving the lives of people with physical disabilities through physical activity and wellness. Working together, these two organizations have pilot tested several methods to transition PWD from skilled therapy to a community wellness program designed to improve patients' ability to self-manage. We offer detail about these efforts and insights gained from different approaches tested.

Benefits Provided

Initially, participants received skilled outpatient therapy services provided by the health system. Interventions included gait training, functional transfers, community outings, driving rehabilitation, and aquatic therapy, which were all delivered by a multidisciplinary team of occupational, physical, recreational, and speech therapists. All community activities and therapy interventions were provided with the goal of improving individuals' ability to function in the community setting and participate in a lifestyle of wellness. Those interventions were not often covered by participants' insurance, either because the therapy visits exceeded annual limits or because the category of therapy (e.g., in-car driving therapy) is not covered by insurance. The ability to engage in non-covered therapy made a valuable contribution to furthering participants' wellness. Driving therapy increased participants' independence. Recreational therapy (defined as therapy with the goal of helping individuals with functional limitations learn to engage in activities they enjoy) was helpful in improving participants' quality of life and served as a vehicle to pursue clinical goals like improving memory and cognition.

The second part of the pilot program offered participants a structured transition from pursuing outpatient therapy under the supervision of a skilled therapist (e.g., occupational or physical therapist) to pursuing therapy goals outside of skilled therapy sessions, in a fitness facility. The exact form this transition took changed over time, as therapy staff tested new transitions and adapted their approach. Initially, health system therapists provided PWD with written materials and education on the programs available at the NFPO. This approach appeared to be ineffective, with little follow through from PWD because they did not have a clear idea what services were available and which were appropriate for them given their unique mobility limitations and therapy goals. Health system therapists worked to improve the transition process by partnering with occupational therapy graduate students who took participating PWD on visits to the NFPO to more formally introduce them to resources available. Again, the transition was not as successful as anticipated. PWD participating in the pilot were still not consistently utilizing the NFPO recreational facilities.

Mostly recently, the health system and NFPO began experimenting with "warm transitions" from health system therapy to the NFPO. This transition model involves outpatient therapists from the health system meeting with fitness facility staff and pilot participants. The goals are to introduce pilot participants to fitness facility staff, and to identify fitness center activities that would help further goals set by the participants. Early results suggest that these "warm transitions" are successful ways to increase participation in activities that support the wellness of PWD. However, these structured handoffs did require a significant time commitment from outpatient therapy staff that was unreimbursed and that goes beyond the scope of services typically provided.

Program staff have identified a number of additional benefits that would have helped enable participants to pursue wellness goals. These included additional support for participants, family, and caregivers. Additional support for participants could include personalized help navigating care coordination issues or additional emotional support during the transition from skilled therapy to independent health management. In the future, the health system hopes to pair participants with peer "ambassadors" who have diagnoses similar to the participants they are assisting, and who have successfully navigated challenges of care coordination and self-management. Health system staff have also identified the need for benefits to support the family and caregivers of participating PWD, including respite care opportunities. These are especially needed for caregivers assisting in the care of a participant while also caring for children or aging parents. Activities like maintaining a network of peer ambassadors or arranging and funding child care all require the administrative capabilities hospitals possess, and could be valuable ways to provide community benefit that meets the needs of PWD.

Factors That Facilitate Program Success

Efforts to create a smoother care continuum were led by members of the health system's outpatient therapy department. Three factors have played a critical role in the success of these efforts: choosing the right participants, the availability of resources within the community, and the commitment

of both the health system and its community-based partner (NFPO) to the program. Program staff note that participants who are emotionally ready to take responsibility for the management of their health, and intrinsically motivated to participate seem to be more successful. This was an important realization since, for some PWD, it can take a few months to a few years after acquiring a mobility disability before being prepared to engage in a program like this one. In addition, initial program efforts focused on creating transitions for participants with few comorbidities requiring medical management, though future interventions may include more medically complex participants.

Another key to the success of the health systems' initial efforts has been offering access to a wide variety of community-based opportunities. For program participants, the NFPO offered several daily classes (e.g., fitness, yoga, balance, and Thai Chi) fully adapted to the needs of PWD. These resources allowed participants to choose activities that would foster progress toward their goals. Finally, both the NFPO and the health system committed to making the program work. This commitment is critical since the "warm transitions" that were most successful required changes to existing workflows and staff roles for individuals at both organizations.

Barriers Identified

Through the pilot, the health system identified several barriers to program success. Other hospitals looking to provide similar services are likely to face similar barriers. One of the primary barriers will be identifying funding for program services. The pilot population had funding from a unique source not available to most patients, but obtaining funding is likely to be a challenge. Many of the skilled therapy services are not covered by most insurance plans either because of limits on the annual number of therapy visits covered or because some skilled therapies are not covered at all. Other health systems pursuing this kind of community benefit program will have to identify the extent of their financial commitment to the program and may look to supplement the funding they provide with other sources of funding within the community.

Another barrier identified was communicating the health system's goals for the program to partnering NFPOs. Even though leaders at the health system and the NFPO agreed on a shared vision, communicating this vision to front-line staff was a challenge. Communication between health system and NFPO staff was also a problem. Initially, the two groups did not always understand each other's rolls. This problem was compounded by the lack of effective mechanisms to communicate information about participants' care plans, progress, and barriers. Ideally, the program would have used technology to facilitate sharing information about the participants' experience in the program. In addition, the health system and NFPO are considering ways to facilitate an improved understanding of the roll each group's staff members play. Other health systems could foster this understanding through unique forms of community benefit like providing health system therapists paid time to shadow staff at partnering community organizations.

Adapting the Pilot to Other Health System Settings

Several aspects of this program may be unique to the health system that began implementing it. Most important, the health system had the support of an NFPO with unusually deep experience working with PWD. As a result, health systems replicating this kind of community benefit program may need to consider ways to help their community partners (for instance, community recreation centers, or YMCAs), understand how to serve the needs of PWD. Resources to support this effort are available through the NCHPAD. For example, NCHPAD and the American College of Sports Medicine have developed a certification as an Inclusive Fitness Trainer. Similarly, NCHPAD is currently implementing an online health coaching program aimed at the needs of PWD (MENTOR–Mindfulness, Exercise, Nutrition To Optimize Recovery). Health systems will also need to address participant intake. Large numbers of participants are likely to complicate information transfer and participant selection. The health system described found that even with a limited participant population, a comprehensive intake process was required. The intake process should document participants' level of function, support systems, expectations of the program, interests, and activities in which they hope to participate. In addition, the intake process should include representation from both the health system and community partner. Finally, the intake process should set reasonable participant and family expectations and should document the roles and responsibilities of each team member, the participant and family members.

In **Figure 1**, we summarize the pilot program's lessons about the hospital characteristics required to successfully implement a community benefit program to promote wellness among PWD living in the community.

DISCUSSION

Hospitals are increasingly pressured to provide community benefits and to show that their efforts are making an impact on their communities. We argue that hospitals can have a significant impact on the lives of PWD by working to assist these individuals in making the transition from rehabilitation patient to wellness participant. This form of community benefit will require hospitals to provide initial financial funding and organizational support, acting as catalysts to bring together community stakeholders, many of whom may already be working to improve the lives of PWD. This role plays to competencies that hospitals possess, like extensive administrative capabilities and the ability to coordinate efforts between multiple stakeholders including healthcare providers, advocacy groups, and patients themselves.

One way for hospitals to consider reaching PWDs is to create or join an Inclusive Health Coalition (IHC) that galvanizes a community around key issues of need in promoting community health inclusion. Hospitals should evaluate their community for these types of potential partnerships. IHCs offer an existing organizational structure that can support the provision of wellness services. By providing these services

I. Hospital Context Within the Community
✓ Does your facility serve people with severe mobility disabilities?
✓ Is there an outpatient therapy department that already works with individuals to transition back into the community?
✓ Are there partners in the community capable of helping to meet PWD's post-discharge needs?
✓ Is there an existing healthcare/health coalition that can be used to start the program?
✓ Have you developed relationships with community partners that yield a shared vision for how transitional services could work and a shared commitment to providing these services?
✓ Are community partners committed to collaborating with the health system to improve the lives of PWD?
II. Organizational commitment
✓ Is the organization committed to providing staff and financial resources towards this cause? In particular, is your organization willing to provide dedicated staff time to the program?
✓ Is the organization willing to work collaboratively with community organizations that have differing cultures?
✓ Does your organization employ outpatient therapy staff that could manage the program? ✓ Are staff willing to engage in "relationship building" with external community organizations ✓ Does the health system have sufficient staff to allow some staff members time to pursue collaborative relationships with community partners?
III. Operational readiness
✓ Have you identified particular benefits that can be provided to participants?
✓ Have you defined intake processes?
✓ Are health system staff familiar with workflows and roles of their counterparts at partnering organizations?
✓ Are the staff at partnering organizations familiar with the roles and workflows of health system staff participating in the community benefit effort?
✓ Are processes established through which health system and community partner staff can communicate about participants' goals, participation, barriers and outcomes?

FIGURE 1 | Checklist for Hospital Preparedness. The following questions will help hospitals assess their readiness to begin offering a program to promote wellness among PWD within the community. The checklist identifies important hospital and community factors as well as operational questions that will need to be addressed. Hospitals should pay special attention to the "organizational commitment" questions, since this sort of program cannot succeed without identifying the program as a priority and providing staff and financial resources to support it.

and engaging healthcare delivery organizations in creating and disseminating these programs, IHCs can make progress in creating a unique continuum of care that meets the needs of individuals who have recently accessed the healthcare system. We propose that individual IHCs expand their missions to include a specific focus on patient transitions from healthcare to wellness, helping patients progress from medically managed care in which they receive services from healthcare providers, to full-fledged participation in long-term wellness.

AUTHOR CONTRIBUTIONS

All authors contributed to the conceptualization of the article. NC drafted the manuscript and AH, SF, MT, JW, and JR provided critical feedback and made substantive changes which improved the manuscript.

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Non-profit Hospital Targeted Health Priorities and Collaboration With Local Health Departments in the First Round Post-ACA: A National Descriptive Study

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We examined the community health needs assessments (CHNA) and implementation strategies of a national sample of 785 non-profit hospitals (NFPs) from the first round after the ACA. We found that the priorities targeted in the implementation strategies were well-aligned with the top community health priorities identified in CHNAs as reported in previous studies. The top five targeted priorities included obesity, access to care, diabetes, cancer, and mental health. We also found that 34% of sample NFPs collaborated with their local health department (LHD) to produce a single CHNA for their jurisdiction. Non-profit hospitals that collaborated with a LHD on the CHNA had higher odds of selecting behavioral health community issues (i.e., substance abuse, alcohol, and mental health), while hospitals located in counties with high uninsurance rates had lower odds of targeting these community issues. Our contribution was 3-fold; first, we examined a large sample of implementation strategies to extend on previous work that examined CHNAs only. This gives a more complete picture of which community issues identified in the CHNA are actually targeted for implementation. Second, this study was the first to present information on the status of NPF collaboration with LHDs to produce a single CHNA (from the NFP perspective). Third, we examined the association between targeted priorities with NFP and county-level characteristics. The community benefit requirement and Section 9007 of the ACA present an opportunity to nudge NFPs to improve the conditions for health in the communities they serve. The ACA has also challenged institutions in the health care sector to approach health through the social determinants of health framework. This framework moves beyond the provision of acute health services and emphasizes other inputs that improve population health. In this context, NFPs are particularly well-positioned to shift their contribution to improve population health beyond their four walls. Section 9007 is one mechanism to achieve such shift and has shown some promising changes among NFPs since its passage as reflected in the findings of this study. This study can inform future research related to NPF community benefit and local health planning.

Keywords: non-profit hospital, community benefit, implementation strategy, community health needs assessment, local health department, collaboration

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INTRODUCTION

Non-profit hospitals (NFP) are exempt under Section 501(c)(3) of the Internal Revenue Code. This tax exemption comes with a community benefit requirement which obliges NFPs to invest in the health and healthcare of the communities they serve. This community benefit requirement was first introduced in 1969 by the Internal Revenue Service (IRS) but the agency never specified what community benefit meant and what it should entail. Prior to that, the IRS required NFPs to provide charity care to the uninsured and underinsured. Hospitals had a relatively great degree of flexibility in determining the amount of charity care they would provide. This was a much narrower obligation compared to the concept of community benefit which was not limited to the direct provision of healthcare services but also included education, research, and activities that promote community health (1).

It was not until decades later, in the 1990s and 2000s, that many government organizations and advocates started voicing their concerns about the practices of NFPs in respect to this requirement. Their main concern was whether NFPs were making sufficient community benefits investments to justify their tax exemption. Public concern was well-justified considering the sizeable value of tax exemption for NFPs which was estimated to be $24.6 billion in 2011 (2). This study was deemed exempt from review by an Inter-Institutional Review Board.

In 2009, the IRS added Schedule H to Form 990 which all NFPs must file in order to keep their tax-exempt status. Non-profit hospitals are required to report their community benefit expenditures in eight categories under "Financial Assistance and Certain Other Community Benefits at Cost" (Part I of Schedule H), and nine categories under "Community Building Activities" (Part II of Schedule H). Schedule H was a clear improvement in increasing the accountability of NFPs through reporting; however, it still fell short on providing a clear definition of what was entailed in each of the new community benefit spending categories. It also did not provide clear guidance on how NFPs should allocate their community benefit dollars across categories. A 2011 study reported that NFPs spent ∼$62 billion on community benefit of which 92% went to charity care, subsidized health services, and education and research (2). While these areas of spending are beneficial to the community, they represent only a partial fulfillment of the community benefit requirement per the IRS (2–10). Non-profit hospitals are also expected to improve the overall health of the communities they serve by providing health care and prevention activities outside its four walls.

Section 9007 of the Patient Protection and Affordable Care Act (ACA) further defined the role of NFPs in improving population health through its requirements for a triennial community health needs assessment (CHNA) and implementation strategy; and further clarification of their financial assistance policies (11, 12). This was another regulatory attempt to steer NPFs toward higher levels of engagement in community health.

While this new requirement increased accountability and transparency, it left NFPs to decide how to approach the actual implementation of the CHNA. The IRS instructions for Form 990 and Schedule H explain that "CHNA must take into account input from…those with special knowledge of or expertise in public health…" (13). The IRS only loosely suggests that NFPs should engage experts in public health but leaves room for wide variation across NFPs in how they obtain such input. Furthermore, NFPs have a lot of flexibility when selecting priorities to target through interventions (i.e., as reflected in their implementation strategy).

Non-profit hospitals are required to make their CHNAs publicly available. While there's no requirement to make implementation strategies available, the majority of NFPs also make these documents publicly available on their websites. This has provided researchers with a wealth of data on how NFPs conduct their CHNAs, how community issues are prioritized, and importantly, which community health priorities are actually targeted in implementation strategies.

Many studies have conducted content analyses of CHNAs and implementation strategies to better understand how NPFs are engaging with their communities to improve community health (14–20). The majority of these studies focused on single states or specific community issues (e.g., violence) (16–19). There were two larger studies that examined a national sample of CHNAs, but not the accompanying implementation strategies (14, 15). The first one examined 300 CHNAs mostly from the first round after the ACA (14). It found that the top five drivers of community health needs identified by NFPs were: access to care, preventive and screening services, chronic condition management, socioeconomic factors (e.g., poverty, housing), and insurance coverage (14). The authors also found that the top five conditions identified in their CHNAs included: obesity, behavioral health, substance abuse, diabetes, and cancer (14). The second study examined 300 CHNAs by NFPs in the second round after the ACA. The coding framework was slightly different for the second study, but overall the findings aligned with the earlier study. For example, they found that the top five health conditions identified in the CHNAs were: obesity, behavioral health, diabetes, substance abuse, and chronic disease (cancer was ranked 6th) (15). Both of these larger studies examined only the community needs identified in the CHNA but not the priorities selected by NFPs for actual implementation.

Non-profit hospitals take into account many factors that go beyond the most prevalent community issue in order to select CHNA-identified priorities for targeting through interventions. Specifically, NFPs use a combination of the following criteria to prioritize and select community issues to address in their implementation strategies: prevalence and incidence, local stakeholder input, available resources and community assets, community readiness and engagement, needs of medically underserved/low income population, the hospital's expertise in the health priority, the hospital's mission, availability of evidence-based interventions, and an evaluation of whether other local organizations are addressing the health priority. The result of this process is that while the CHNA may identify several community issues, the NFP usually selects only a handful of local priorities to target during the ACA-imposed 3-year cycle. Sometimes the selected priorities are not necessarily the most pressing need in the community. One study of NFPs located in Pennsylvania

found that while 87% of hospitals in the sample identified dental health as a community need, none actually targeted dental health in their implementation strategies (17). Other examples from this study include 100% of study hospitals identifying access to primary care as a community need, while only 50% targeted interventions toward the identified need (17).

Our study seeks to fill a gap in the literature by examining both the CHNAs and implementation strategies completed in the first round post-ACA by 785 NFPs. We performed content analysis of implementation strategy documents and identified the top 13 community needs that were actually targeted for interventions. We described the organizational, financial, community benefit expenditures, and community characteristics of these NFPs. We also collected information on the number of community needs targeted per NPF, and whether NFPs and local health departments (LHD) worked together to produce a single CHNA for their communities in 2012–2013. Finally, we examined the relationship between the community needs targeted and hospital characteristics, community benefit spending, collaboration with LHD, and community characteristics.

MATERIALS AND METHODS

Data Sources

We obtained copies of publicly-available CHNAs and implementation strategies on the websites of NFPs between April 2019 and August 2019. All of these reports were from the first round after the ACA. More specifically, all CHNAs were conducted in 2012 and all implementation plans were completed in 2013. The study sample of NPFs represent diversity in geographic area (33 states represented in sample), urban/rural status, hospital size, system membership, and teaching status.

Data on hospital characteristics came from the Centers for Medicare & Medicaid Services (CMS) Healthcare Cost Report Information System and the American Hospital Association (AHA) Annual Survey. Data on community benefit spending by NPFs came from the IRS Statistics of Income database (Schedule H). On Schedule H, hospitals report net expenditures (cost minus offsetting revenues) for selected categories of community benefit. County-level demographic, socioeconomic, and labor market measures came from the American Community Survey. We also collected information from the Henry J. Kaiser Family Foundation and Center for Medicare and Medicaid Innovation to define Medicaid expansion status and State Innovation Model participation, respectively.

We used NFP and county-level data from 2013 for our main analyses because the implementation plans used in this study were completed in 2013 for all NFPs in our sample. We also ran analyses using 2012 data (results not presented here but available upon request) and the findings were virtually the same. On average, NFP organizational and financial characteristics do not change substantially from one year to the next. Some circumstances under which characteristics change more significantly include hospital mergers, closures, switching to for profit status, among other local market shocks that may influence hospital finances. The same applies to county-level characteristics. These tend to be stable from year to year, unless significant shocks occur. One example, would be the 2007 great recession in the US which had a significant impact on unemployment, uninsurance, and other county-level characteristics.

Methods

There were three main components to our methods including: content analyses and coding of NFP CHNAs and implementation strategies; descriptive statistics for the NFPs in the study sample; and bivariate analyses to examine the association between the priorities targeted by NFPs and a set of hospital and community characteristics.

We conducted content analysis of CHNAs and implementation strategy reports prepared in the first round after the ACA by 785 NFPs (i.e., 2012 and 2013). The inclusion criteria for this study were counties: (1) that had a 1:1 ratio of LHD to county; and (2) that had one to five NFPs. We wanted to ensure that counties were comparable from a public health resource and capacity perspective because the CHNA process is directly tied to both characteristics. Furthermore, we also wanted to identify whether NFPs collaborated with their LHDs to produce a single CHNA. This type of collaboration may be more straightforward in cases where there is only one LHD in the county. We did not limit to counties with only one NFP because it would have significantly reduced our sample size. **Figure 1A** shows the geographic distribution of study sample NPFs across the United States. As shown in **Figure 1A**, there is reasonable geographic diversity in the study sample.

We developed a coding framework based on previous studies of NFPs CHNAs and implementation strategies (14, 15, 17). Specifically, we grouped selected priorities under two main groups: drivers and conditions. Drivers include the structural and social factors that are associated with health status, while conditions are the diseases and health concerns experienced in the community (14, 15). Examples of drivers include access to care, care coordination, and public planning. Examples of conditions include obesity, diabetes, and cancer. We further collapsed the drivers using the County Health Rankings framework for clinical care which includes access to care. Access to care as conceptualized by the County Health Rankings framework includes areas such as transportation, insurance coverage, and primary care (17, 21).

We primarily used the 2013 implementation strategy reports because these documents include information on the selected health priorities and their respective initiatives to be implemented by NFPs over the 3 years following the CHNA. We used the 2012 CHNAs when the implementation strategy for 2013 could not be located. Some hospitals combine the CHNA and implementation strategy in one report, in which case, the targeted priorities and implementation plan can be identified. For a few cases, we identified NFP's 2013 targeted priorities and their respective implementation strategies using 2015/16 CHNA reports because the 2012 CHNAs were no longer available. Non-profit hospitals are required to report their progress on previously targeted priorities in subsequent CHNAs. The majority of hospitals for which we could not identify their selected 2013 health priorities included hospitals that closed

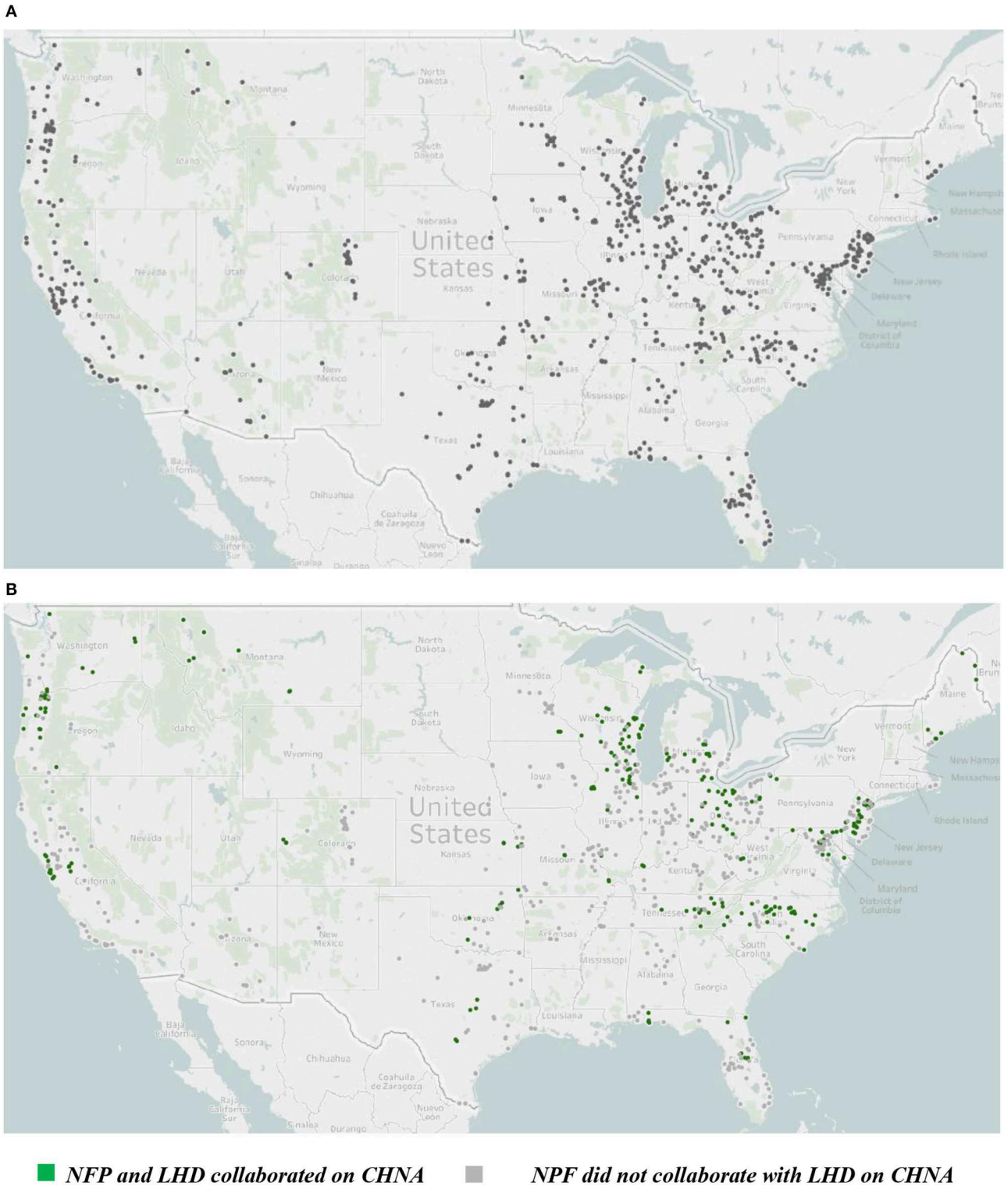

FIGURE 1 | (A) Geographic distribution of sample non-profit hospitals. **(B)** Geographic distribution of sample non-profit hospitals: by status of collaboration with local health department. Authors' analysis of data from the IRS, Centers for Medicare and Medicaid Services, and non-profit hospital (NFP) community health needs assessments (CHNA) and implementation strategies.

during the study period, opened after 2013, or switched to for-profit or public status.

The CHNAs and implementation strategies were coded by the author and a research assistant using Nvivo software (QSR International Pty Ltd., Version 11, 2015). Both researchers coded 44 randomly selected documents to compare the consistency of coding. Coding was compared through an iterative process until reaching agreement greater than 90%. All remaining reports were coded by the study author.

We provided the descriptive statistics of sample NFPs, county- and state-level factors. We also provided the descriptive statistics stratified by NPFs that collaborated with LHDs and those that did not. We compared the two groups using bivariate analyses (chi-square test for categorical variables and two-sample *t*-tests for continuous variables). We used two-tailed tests for these comparisons and report findings at the conventional 0.05 significance level.

Finally, we conducted logistic bivariate regression analysis to examine the relationship between the targeted priorities and a set of NFP and county-level characteristics. We report the two-tailed p-values at the 0.1, 0.05, and 0.01 significance levels.

TABLE 1 | Ranking of top 13 priorities targeted in 2013 implementation strategy.

Rank	Priority	Non-profit hospitals *n (%)*
1	Obesity	590 (75.2)
2	Access	557 (71.0)
3	Diabetes	400 (51.0)
	Cancer	419 (53.4)
4	Breast cancer	160
5	Colon cancer	82
6	Lung cancer	73
7	Prostate cancer	63
8	Cervical cancer	41
9	Mental health	397 (50.6)
10	Cardiovascular disease	307 (39.1)
11	Tobacco	303 (38.6)
12	Substance abuse	268 (34.1)
13	Alcohol	136 (17.3)

Authors' analysis of data from non-profit hospital community health needs assessments and implementation strategies.

Study Measures

We present the findings for the top 13 targeted priorities as reflected in implementation strategies including: access to care, obesity, heart, diabetes, cancer (prostate, lung, breast, colon, and cervical coded separately), substance abuse (use of prescription and/or illicit drugs), mental health, alcohol, and tobacco. Other categories were selected by a small percentage of sample NFPs (e.g., housing, oral health, and liver disease) which aligns with findings from previous studies (14, 15). We also coded whether or not the NFP and LHD produced a single CHNA for their jurisdiction. This information came primarily from the CHNAs, as well as additional Web searches to ascertain that both institutions had collaboratively developed only a single report. **Figure 1B** shows the distribution of jurisdictions in which NFPs and LHDs produced a single CHNA.

Hospital organizational characteristics were extracted from CMS' Healthcare Cost Report Information System and AHA's Annual survey. These included: hospital bed size, number of psychiatric beds, system membership, teaching status, church affiliation, rural status, critical access status, and whether the hospital was a children's hospital. Hospital financial indicators were extracted from CMS' Healthcare Cost Report Information System database. The financial indicators included: net patient revenues (total dollars earned from providing patient care after contractual allowances and charity care); operating margin (ratio of the hospital operating income to operating revenues); and total margin (ratio of the hospital total income to total revenue). We also included two indicators of community benefit spending by NFPs which were extracted from the IRS Statistics of Income database. The community benefit spending indicators included total community benefit spending and population health spending (total spending on community health improvement, cash and in-kind contributions, and community building activities). We standardized the community benefit spending measures by dividing each indicator by the NFPs total operating expenses. Hospital market characteristics included market concentration (Herfindahl-Hirschman Index, HHI). Data from CMS was used to calculate HHI.

County-level factors were extracted from the American Community Survey and included: uninsurance and unemployment rates, median income, and race distribution (white, black, and other). Finally, state-level indicators included Medicaid expansion status in 2014 (i.e., extracted from the Henry J. Kaiser Family Foundation) and participation in Round One State Innovation Models during 2013 (i.e., extracted from CMS' Center for Medicare & Medicaid Innovation). All study measures were operationalized using 2013 data with the exception of Medicaid expansion which reflected the state's decision to expand Medicaid in 2014.

RESULTS

Table 1 presents the ranking of the top 13 health priorities targeted by NFPs in 2013. Over three quarters of NFPs targeted obesity making it the priority that was targeted most often by NPFs in the 2013–2015 implementation cycle. Access to care was a close second with ∼71% of NPFs targeting interventions to address it. Diabetes was also targeted by the majority of NFPs, and ranked third for 2013 targeted health priorities. Interestingly, these findings align with previous studies that examined national random samples of NPF CHNAs (14, 15). The ranking order of the remaining 10 targeted health priorities was different in comparison to those found in previous studies; however, they were found to be among the top 10 priorities in the studies (14, 15).

Table 2 presents the descriptive statistics for all sample NFPs. We also stratified NPFs by whether they collaborated with a LHD to produce a single CHNA. Some notable differences exist between NPFs that collaborated with a LHD and those that did

TABLE 2 | Descriptive statistics: non-profit hospital and county- and state-level characteristics.

	All sample hospitals	Hospitals collaborated with LHD	Hospitals did not collaborate with LHD	Comparison[a]
	n = 785	*n* = 265	*n* = 520	*p*-value
COMMUNITY BENEFIT SPENDING (% OF OPERATING EXPENSES)				
Total Community Benefit, mean (SD)	8.96 (4.8)	8.56 (3.8)	9.16 (5.3)	0.12
Population Health, mean (SD)	0.66 (0.9)	0.62 (0.8)	0.67 (0.9)	0.51
HOSPITAL CHNA AND IMPLEMENTATION STRATEGY CHARACTERISTICS				
Total Priorities Addressed[b], mean (SD)	4.3 (2.2)	4.39 (2.3)	4.23 (2.1)	0.42
Hospital-LHD Collaboration[c], %	33.8			
HOSPITAL ORGANIZATIONAL CHARACTERISTICS				
No. of beds, mean (SD)	174.4 (127.8)	178.32 (128.2)	172.51 (127.2)	0.56
No. of psychiatric beds, mean (SD)	9.27 (17.6)	10.60 (18.9)	8.59 (16.9)	0.13
System membership, %	73.4	72.2	74.0	0.60
Teaching hospital, %	5.0	6.8	4.0	0.09
Church affiliation, %	24.2	22.3	25.2	0.36
Children's hospitals, %	1.3	0.8	1.5	0.35
Critical Access Hospital, %	9.8	8.7	10.4	0.45
DSH, %	67.1	67.2	67.1	0.99
HOSPITAL FINANCIAL CHARACTERISTICS				
Net Patient Revenues, mean in 1,000s (SD)	241,658 (287,891)	276,224 (360,572)	224,035 (241,122)	0.02
% Operating Margin, mean (SD)	−1.2 (17.8)	0.7 (13.2)	−2.1 (19.6)	0.04
% Total Margin, mean (SD)	5.3 (1.4)	6.9 (8.9)	4.4 (16.3)	0.02
LOCAL MARKET CHARACTERISTICS[d] (%)				
Non-metropolitan area, %	18.1	17.4	18.5	0.70
Herfindahl-Hirschman index, mean (SD)	18.6 (14.0)	19.19 (13.74)	18.3 (14.1)	0.41
% Uninsurance rate, mean (SD)	15.3 (4.6)	14.5 (4.3)	15.8 (4.7)	<0.01
% Unemployment rate, mean (SD)	7.5 (2.1)	7.3 (1.7)	7.6 (2.2)	0.02
Median income, mean in 1,000s (SD)	53,603 (14,548)	54,420 (14,935)	53,187 (14,344)	0.26
% Race, mean (SD)				
Black	8.2 (9.6)	8.4 (8.9)	8.1 (9.9)	0.75
White	81.7 (12.9)	81.0 (13.1)	82.1 (12.8)	0.26
Other	7.1 (7.2)	7.7 (8.1)	6.9 (6.6)	0.13
STATE CHARACTERISTICS (%)				
Medicaid expansion in 2014[e], %	58.3	53.2	61.0	0.04
State Innovation Model Participation[f], %	26.0	25.7	26.2	0.89

Authors' analysis of data from the IRS, CMS, the Center for Medicare and Medicaid Innovation, the Henry J. Kaiser Family Foundation, the Census Bureau, and non-profit hospital (NFP) community health needs assessments (CHNA) and implementation strategies. LHD stands for local health department. [a]p-values from bivariate analyses comparing two groups of NFPs (collaborated with LHD on CHNA vs. did not collaborate with LHD on CHNA); [b]Total priorities targeted in 2013 implementation strategies from top 13 priorities (detail in text); [c]NFP and LHD produced a single CHNA in 2012-13; [d]Local market characteristics are at the county level with the exception of HHI which is based on the hospital referral region; [e]Percentage of NPFs located in states that expanded Medicaid in 2014; [f]Percentage of NPFs located in states that participated in Round 1 State Innovation Models.

not collaborate. A higher percentage of NPFs that collaborated with LHDs were teaching hospitals (6.8 vs. 4.0%; $p = 0.09$). On average, NPFs that collaborated with a LHD performed better financially than their counterparts as can be seen by the hospital financial characteristics. For instance, total margin was 2.5 percentage points higher among NFPs that collaborated with a LHD. Non-profit hospitals that collaborated with LHDs tended to be located in counties with slightly lower uninsurance (14.5 vs. 15.8%; $p < 0.01$) and unemployment (7.3 vs. 7.6%; $p = 0.02$) rates. A lower percentage of NFPs that collaborated with their LHDs were located in states that later expanded Medicaid in 2014. All other characteristics were similar across the two groups.

Tables 3A,B present the results from the bivariate analyses. The factors that had more significant associations with each of the targeted priorities were whether a NPF collaborated with a LHD to produce a single CHNA, and county-level uninsurance rate. Non-profit hospitals that collaborated with a LHD had higher odds of targeting obesity (OR: 1.982; $p < 0.01$), mental health (OR: 1.442; $p < 0.05$), substance abuse (OR: 1.437; $p < 0.05$), and alcohol (OR: 1.841; $p < 0.01$), but lower odds of

TABLE 3A | Bivariate analyses: association of targeted priority with hospital and county characteristics.

A

	Obesity	Access	Diabetes	Cancer	Mental health
			n = 785		
HOSPITAL CHNA CHARACTERISTICS					
Hospital-LHD Collaboration	1.982***	0.782	0.795	0.797	1.442**
	(0.377)	(0.128)	(0.120)	(0.140)	(0.219)
HOSPITAL ORGANIZATIONAL CHARACTERISTICS					
Number of beds	1.000	1.000	1.000	1.000	1.000
	(0.0004)	(0.0002)	(0.0003)	(0.0002)	(0.0002)
Number of psychiatric beds	1.010*	1.000	1.006	1.003	1.003
	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)
System membership	1.040	1.552**	1.085	0.861	0.976
	(0.194)	(0.268)	(0.176)	(0.156)	(0.158)
Teaching hospital	3.028**	0.814	1.403	1.435	1.284
	(1.618)	(0.284)	(0.468)	(0.502)	(0.425)
Church affiliation	0.704*	0.881	0.782	0.836	0.944
	(0.131)	(0.160)	(0.131)	(0.162)	(0.157)
Children's hospitals	1.326	3.728	0.237*	0.309	0.977
	(1.054)	(3.941)	(0.188)	(0.327)	(0.622)
Critical Access Hospital	0.540**	0.734	0.549**	0.715	1.422
	(0.137)	(0.186)	(0.136)	(0.210)	(0.346)
DSH	1.310	1.000	1.608***	0.881	0.821
	(0.226)	(0.168)	(0.246)	(0.151)	(0.125)
HOSPITAL FINANCIAL CHARACTERISTICS					
Total Margin	1.256	1.284	1.172	0.165**	1.893
	(0.693)	(0.683)	(0.600)	(0.123)	(1.093)
LOCAL MARKET CHARACTERISTICS					
Herfindahl-Hirschman index	1.544	0.807	0.496	0.304*	1.698
	(0.939)	(0.449)	(0.255)	(0.191)	(0.872)
Non-metropolitan area	0.967	0.520***	0.861	0.711	0.764
	(0.206)	(0.100)	(0.160)	(0.159)	(0.142)
Uninsurance rate	0.942***	1.013	1.045***	1.003	0.960***
	(0.017)	(0.018)	(0.016)	(0.018)	(0.015)
Unemployment rate	0.992	0.971	1.025	0.941	0.932**
	(0.039)	(0.036)	(0.036)	(0.039)	(0.033)
Median income	1.000	1.000	1.000	1.000	1.000***
	(5.56^{-6})	(5.61^{-6})	(4.91^{-6})	(5.44^{-6})	(5.03^{-6})

targeting cardiovascular disease (OR: 0.667; $p < 0.01$). Non-profit hospitals located in a county with higher uninsurance rates had higher odds of targeting diabetes (OR: 1.045; $p < 0.01$) and cardiovascular disease (OR: 1.039; $p < 0.05$), but lower odds of targeting obesity (OR: 0.942; $p < 0.01$), mental health (OR: 0.960; $p < 0.01$), substance abuse (OR: 0.969; $p < 0.10$), and alcohol (OR: 0.914; $p < 0.01$). These patterns are almost exactly the inverse of one another (e.g., higher odds of targeting obesity for NPFs that collaborated vs. lower odds of targeting obesity for NFPs located in counties with a higher uninsurance rate). The number of psychiatric beds was not significantly associated with targeting mental health or substance abuse (illicit, prescription, alcohol, and tobacco). Non-profit hospitals located in a county with higher unemployment rates had lower odds of targeting mental health (OR: 0.932; $p < 0.05$), substance abuse (OR: 0.936; $p < 0.10$), and alcohol (OR: 0.893; $p < 0.05$).

DISCUSSION

Our study examined a sample of 785 NPFs CHNAs and implementation strategies from the first round post-ACA. To date, this is the largest sample of such documents to be examined. In fact, this is the first study to examine a large national sample of implementation strategies after the ACA and to describe the community priorities actually targeted through hospital interventions. Several studies have contributed to our understanding of the process used by NFPs for community needs assessment and prioritization,

TABLE 3B |

B

	Cardiovascular disease	Tobacco	Substance abuse	Alcohol
			n = 785	
HOSPITAL CHNA CHARACTERISTICS				
Hospital-LHD Collaboration	0.667***	1.017	1.437**	1.841***
	(0.105)	(0.158)	(0.226)	(0.353)
HOSPITAL ORGANIZATIONAL CHARACTERISTICS				
Number of beds	1.000	1.000	1.000	1.000
	(0.0003)	(0.0002)	(0.0002)	(0.0005)
Number of psychiatric beds	1.003	1.009**	1.006	1.003
	(0.004)	(0.004)	(0.004)	(0.005)
System membership	1.273	1.075	1.069	0.881
	(0.214)	(0.179)	(0.183)	(0.185)
Teaching hospital	1.346	1.535	1.515	1.240
	(0.444)	(0.505)	(0.503)	(0.506)
Church affiliation	0.962	0.829	0.731*	1.104
	(0.165)	(0.144)	(0.132)	(0.239)
Children's hospitals	-	-	0.211	0.527
	-	-	(0.223)	(0.557)
Critical Access Hospital	0.879	1.368	1.260	1.402
	(0.219)	(0.330)	(0.311)	(0.410)
DSH	1.340*	0.966	0.905	0.843
	(0.212)	(0.151)	(0.144)	(0.166)
HOSPITAL FINANCIAL CHARACTERISTICS				
Total Margin	0.192**	0.568	0.673	0.407
	(0.136)	(0.310)	(0.354)	(0.243)
LOCAL MARKET CHARACTERISTICS				
Herfindahl-Hirschman index	0.457	1.441	0.411	0.780
	(0.246)	(0.750)	(0.232)	(0.537)
Non-metropolitan area	1.259	1.488**	1.142	0.964
	(0.236)	(0.278)	(0.221)	(0.238)
Uninsurance rate	1.039**	0.989	0.969*	0.914***
	(0.017)	(0.016)	(0.016)	(0.021)
Unemployment rate	0.998	1.044	0.936*	0.893**
	(0.035)	(0.037)	(0.036)	(0.045)
Median income	1.000	1.000***	1.000	1.000***
	(5.11^{-6})	(5.52^{-6})	(5.10^{-6})	(5.99^{-6})

Authors' analysis of data from the Centers for Medicare and Medicaid Services, the Census Bureau, and non-profit hospital (NFP) community health needs assessments (CHNA) and implementation strategies. LHD stands for local health department. Results are reported as odds ratio. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

as well as the community issues most often identified in CHNAs (14–20). Our contribution was 3-fold; first, we examined a large sample of implementation strategies to extend on previous work that examined CHNAs only. This gives a more complete picture of how NFPs move from identifying all community issues to actual targeted priorities. Second, we also presented information on the status of NPF collaboration with LHDs to produce a single CHNA in the first round after the ACA, which hasn't been recorded in previous studies. Third, we examined the association between targeted priorities with NFP organizational characteristics and county-level factors.

We uncovered interesting findings, especially when contrasted with the other two larger national studies on NPF CHNAs. We found that most of the health priorities identified in the CHNAs were also targeted with concrete interventions in the implementation strategies. The ranking of these priorities was strikingly similar, especially related to community health issues. Obesity, access to care, diabetes, mental health, and substance abuse ranked in the top 5 for all studies, including our study. Non-profit hospitals have a high level of discretion when selecting priorities from the CHNA to target in their implementation strategies. The findings reported here may be indication that NFP community benefit work reflects

community priorities as opposed to a stronger focus on strategic organizational priorities which may not necessarily align with community needs. One of the goals of the ACA requirement for a CHNA was to engage NFPs with the communities they serve and to help them gain a more in-depth understanding of community needs. This improved understanding would then facilitate more targeted NFP financial and human capital investment on specific community issues, which hopefully can lead to improved population health. It is promising that there is an alignment between the top priorities identified in the CHNA and those targeted in the implementation strategies.

We also found that ∼34% of NPFs in our sample collaborated with their LHD to produce a single CHNA. Collaboration between NFPs and LHDs in conducting CHNA can avoid wasteful duplication of efforts and resources, especially in the context of LHDs seeking to be accredited by the Public Health Accreditation Board (PHAB). Prior to applying for accreditation, LHDs have a set of prerequisites that must be met, including: community health assessment, community health improvement plan, and a department strategic plan (22). The first two are equivalent to the requirement for NFPs to conduct a CHNA and develop an implementation strategy. According to National Association of County and City Health Officials (NACCHO), in 2016, 78% of LHDs had completed a community health assessment and 67% had completed a CHIP (23). This presents an unprecedented opportunity to engage NFPs and LHDs in meaningful collaboration in local health planning.

Non-profit hospital collaboration with LHDs holds the potential for more efficient and effective allocation of resources, and perhaps greater motivation for non-profit hospitals to financially invest in population health. We found some evidence of collaboration in local health planning by NFPs and LHDs; however, there is still much unrealized potential as many jurisdictions across the United States have yet to engage in this type of collaboration.

Some states have aligned their policies with Section 9007 to encourage collaboration between NFPs and LHDs in local health planning. For instance, the New York Prevention Agenda requires NFPs and LHDs to collaborate in local health planning, and has recently aligned the CHNA cycles for both institutions to be on a 3-year schedule (24, 25). Other state policies that are moving in a similar direction include Maryland's Local Health Improvement Coalitions, Maine's Shared Community Health Needs Assessment, and North Carolina's Community Health Improvement Collaborative (26–28). Ohio recently mandated all its non-profit hospitals to collaborate with their LHDs on CHNA and community health improvement plans by 2020 (29).

The state policies mentioned above reflect a common belief that collaboration between LHDs and NFPs may be especially important in improving community health and population health investment by non-profit hospitals. Based on NACCHO's Profile Studies, LHD collaboration with hospitals decreased by about 22 percentage points from 2008 to 2016 (23). These findings indicate that a requirement may need to be in place for LHDs and hospitals to work together.

We also examined the association of NFP and county-level factors with the targeted priorities. The two factors that showed a stronger pattern of association were NFP-LHD collaboration and county uninsurance rate. Non-profit hospitals that collaborated with a LHD had higher odds of targeting needs related to behavioral health (i.e., mental health, substance abuse, and alcohol) and obesity. County uninsurance rate showed an inverse pattern than collaboration. One explanation could be that addressing substance abuse and alcohol rely more heavily on resident insurance status. In other words, community resources (e.g., treatment, therapy, rehabilitation) are less likely to be available when there are higher rates of uninsurance (i.e., because of a lack of reimbursement for services). Consequently, NFPs may decide that it would take a substantial investment from their part to make a difference in those areas and may choose to invest on a different community issue. This rationale is further supported by the findings related to unemployment rate which followed a very similar pattern as uninsurance rate. Unemployment is closely related to uninsurance because most insured individuals obtain it through their employers. Furthermore, unemployed individuals do not have the means to afford behavioral health treatment. The lack of reimbursement (via insurance or directly purchased by residents) for behavioral health services may lead NFPs to determine that this particular community issue (i.e., behavioral health) is outside their means to reasonably address. This is one way to explain the results observed in our study, but we need to be cautious as these are cross-sectional bivariate regression analyses which are not reliable for causal interpretation.

Some areas for future research emerged from our study and we highlight a few here. The first one is to further investigate the organizational process of selecting priorities to be targeted from the list of several priorities identified in the CHNA. It would be interesting to better understand whether NFPs are targeting priorities that truly reflect community needs, if they give preference to community issues that align with their strategic planning and financial goals, or a combination of both. The second area is related to NFP collaboration with LHDs in local health planning. There are several interesting research questions related to this area. For instance, do NPFs invest more or less on population health when they collaborate with LHDs? Is NFP-LHD collaboration in local health planning associated with improved community health outcomes? As more states align their policies with Section 9007 to encourage NFP-LHD collaboration, we will have the ability to design rigorous studies to examine these and other questions, and to provide the evidence needed to sustain collaborative local health planning efforts. Finally, it will be key to understand the types of interventions being implemented by NFPs to address community issues. One approach would be to place interventions on the spectrum of down, mid, and upstream factors using a social determinants of health framework. This will give us an understanding of whether NFPs continue to focus most of their efforts on the downstream factors (e.g., provision of acute care services) or if some are also addressing the mid and upstream factors (e.g., investment in housing capital projects).

LIMITATIONS

Non-profit hospital reporting on CHNAs and implementation strategies is not standardized and NFPs may sometimes use a different approach for grouping health priorities. For instance, some NPFs group all substances under the umbrella priority of "substance abuse" which often can include illicit and prescription drugs, alcohol, and tobacco. Sometimes, substance abuse may be nested under "mental health". Another health priority that seems to vary widely in terms of what community needs are covered is the ubiquitous "access to care" which may cover insurance coverage, primary care, prescription drug costs and other needs. As a result, previous coding frameworks have differed especially for the priorities that fall under "drivers" (e.g., access to care), which is why we collapsed some drivers under "access to care" using the County Health Rankings framework (described earlier).

As previously described, in some cases we had to use 2015/16 CHNA reports to identify NFP's 2013 targeted priorities because the 2012 CHNAs were no longer available. While NFPs are required to report their progress on previously targeted priorities in subsequent CHNAs, we can't ascertain whether it includes information on all targeted priorities as listed in the previous implementation strategy.

Finally, the bivariate analyses are exploratory and do not aim to establish causality. In fact, there is a high likelihood of reverse causality. For example, NFPs may seek to collaborate with LHDs to implement interventions to address obesity, but they would have selected obesity as a target community need regardless of having collaborated with a LHD. As such, bivariate analysis results must be interpreted with caution.

CONCLUSION

The community benefit requirement and Section 9007 of the ACA present an opportunity to nudge NFPs to make larger investments in population health and to improve the conditions for health in the communities they serve. Population health has received a renewed focus since the passage of the ACA and its many provisions for health delivery and payment reforms that seek to move our health care system from a volume-based to a value-based one. The ACA has also challenged institutions in the health care sector to approach health through the social determinants of health framework. This framework moves beyond the provision of acute health services and emphasizes other inputs that improve population health (e.g., education, secure and safe housing, employment, etc.). In this context, NFPs are particularly well-positioned to shift their contribution to improve population health beyond their four walls. Section 9007 is one mechanism to achieve such shift and has shown some promising changes among NFPs since its passage.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, to any qualified researcher.

AUTHOR CONTRIBUTIONS

TS was the sole author of this study and manuscript.

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COMMUNITY CASE STUDY
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Frameworks for Community Impact - Community Case Study

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The Affordable Care Act of 2008 placed specific community health needs assessment and community benefit reporting requirements on US not-for-profit hospitals. The requirements are straightforward, but come with no expectation for synergy between the needs assessment and the community benefit spending, no direction on how to design systems to improve community health, and with surprisingly little accountability for improving health outcomes. With the help of diverse community partners, one Critical Access hospital in rural Vermont has successfully linked the needs assessment with community benefit dollars to address upstream contributors of health. In 2014, Northeastern Vermont Regional Hospital lead the creation of NEK Prosper: Caledonia and Southern Essex Accountable Health Community with a mission to tackle poverty as the ultimate root cause of poor health in the region. This article outlines how a hospital community health needs assessment ignited a change in how community partners worked together, aligned organizational strategies, and overcame industry jargon barriers to create regional system change to improve health. And how that same hospital has used community benefit dollars to accelerate action at the community level.

Keywords: community benefit, accountable health community, community health needs assessment, non-profit hospital, social determinansts of health

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INTRODUCTION

This article outlines how Northeastern Vermont Regional Hospital (NVRH) is able to use its community health needs assessment as both a catalyst to change how community partners work together, and to inform how best to spend the hospital community benefit dollars to impact community health.

NVRH is a 25 bed Critical Access Hospital in northern Vermont. The 2012 NVRH Community Health Needs Assessment (CHNA) identified poverty as one of the top health priority areas. Poverty, and the symptoms of poverty like inadequate access to healthcare, healthy food, transportation, and education, is a well-documented root cause of poor health (1, 2). Low income adults are more likely to suffer difficulties in their daily lives due to chronic illness, while children living in poverty are often left with risk factors that can affect their health throughout their lives (3) Consequently, tackling poverty in the hospital service area became a priority issue for NVRH and its leaders, particularly the CEO. As part of the 2012 CHNA implementation plan, NVRH committed to convene community leaders to address the issue of poverty as the upstream, systemic driver of poor health and health inequity.

Convened by invitation of NVRH, the leaders of the regional Federally Qualified Health Center (FQHC) and home health agency, designated mental health agency, community action agency, council on aging, and designated regional housing organization began meeting regularly at the

hospital. As they talked about what they each could do to address poverty and researched how they could work better together in a strategic and collaborative way, two models emerged: The Accountable Health Community (AHC) and collective impact (CI) models.

AHC is an emerging model gaining popularity across the US. An AHC is responsible for the health and well-being of everyone who lives in a geographic region. The AHC model recognizes that the health of a population is determined by multiple factors: healthcare, environment, socio-economic status, and individual behaviors. (4) The Center for Medicare and Medicaid Services (CMS) says the AHC model "addresses a critical gap between clinical care and community services in the current health care delivery system" (5).

The Prevention Institute has embraced the AHC model as a "promising vehicle toward reaching the full potential of the Triple Aim." The Prevention Institute has identified nine core elements of the AHC model: multi-sectoral partnership; integrator organization; governance; data; strategy and implementation; community engagement; communications; and sustainable financing (6).

The AHC model outlines one structure to foster collaboration (7). True collaboration requires multi-sector partners work well-together (8). This is where the collective impact model can help.

CI has been articulated as a method for solving large scale social problems by "a systemic approach to social impact that focuses on the relationships between organizations and the progress toward shared objectives." Successful CI initiatives have five conditions that together produce true alignment and lead to powerful results: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations (9).

CONTEXT

NVRH is located in Vermont's Northeast Kingdom, a region known for its rugged rural landscape and independent and spirited people. The primary service area for NVRH is Caledonia and southern Essex counties, with just under 30,000 people. Population density in Caledonia County is 48.1 persons per square mile and 9.5 persons per square mile in Essex County (10). Both counties are bordered by the Connecticut River and New Hampshire to the east.

The 25 bed hospital is the largest employer in the region, with over 600 employees. The hospital operates four rural health clinics and six specialty medical offices. A different entity operates three FQHC's and home health and hospice for the region. All the primary care offices in the region are recognized NCQA Patient Centered Medical Homes. Mental health services are provided by a regional designated mental health agency and many independent providers in private practice. There are several independent long-term care facilities in the area. Comprehensive cancer care services are located on the NVRH campus, but provided by the nearest (70 miles to the south) tertiary center. A private for-profit dialysis center provides services in a building owned by NVRH. Medically Assisted Treatment (MAT) for opioid addiction is provided by a private for-profit organization located down the road from NVRH. The mental health agency and several primary care offices operated by the hospital and the FQHC also provide MAT services.

NVRH has a long history and reputation for working collaboratively and embracing the idea that health happens outside the walls of the hospital. Over the decades, NVRH leadership has spearheaded the formation of prevention coalitions to address obesity and substance use, providing staff resources, meeting space, and funding for coalition initiatives. Both NVRH leadership and staff routinely works with local and state public health staff though the Vermont Department of Health on prevention and public health initiatives driven by the Vermont State Health Improvement Plan, and data like the Behavioral Risk Factor Surveillance Survey and the Youth Behavior Risk Survey collected by the Health Department, as well as local Department of Health priorities.

The NVRH service area was the first of two pilot communities funded by the Vermont Blueprint for Health in 2005, and the first Integrated Medical Home and Community Health Team pilot community created under Act 71 (11). The robust and active Blueprint for Health Community Health Team continues to provide a forum for coordinated care between direct service providers from healthcare, human services, and community-based organizations.

NEK PROSPER!

In 2014, NVRH lead the creation of NEK Prosper: Caledonia and Southern Essex Accountable Health Community with a mission to tackle poverty as the ultimate root cause of poor health in the region.

That initial informal group of community leaders convened by NVRH in 2014 has since added the state-wide foodbank and the regional United Way and become the leadership team. NEK Prosper has provided the forum for the leadership team decision makers come together to strategically align their organizations, something that did not happen prior to the formation of the AHC.

The leadership team embraced the frameworks provided by the AHC and CI models. There is a formal governance and decision-making structure, shared measures for success, and intentional methods for community engagement. Basic meeting etiquette and equitable participation is ensured by reviewing standard norms of behavior, such as "listening with intent" and "address issues directly and succinctly" at each meeting. Leadership team members have adopted norms of behavior for meetings. They have all signed a memorandum of understanding (MOU) that outlines the mission and purpose of the AHC, specific roles and responsibilities of the leadership team members, and a process for decision-making. Stewardship has been an important guiding principle for all members; the advice to "wear two hats – those of your organization and this partnership" is included in the norms of behavior.

Today, the AHC includes members from healthcare, human services, housing, transportation, mental health, community action, charitable food, funders, school districts, domestic violence agency, youth services, economic development

Leadership Team/Steering Committee

- Regional Hospital
- Statewide Foodbank
- Designated Community Mental Health
- Council on Aging
- Designated Regional Housing Organization
- FQHC & Home Health Hospice
- Community Action Agency
- Regional United Way

Members

School districts
Domestic violence agency
Youth services
Economic development and
Regional planning agencies
Banks & financial organizations
USDA
Town government leaders
Habitat for Humanity
Restorative justice
VT Department of Health
VT Department of Human Services
ACO representatives
Community members

FIGURE 1 | Member Organizations for NEK Prosper.

and regional planning, banks/financial organizations, town government, restorative justice, and State agencies including Vermont Department of Health and Vermont Department of Human Services (**Figure 1**). All NEK Prosper members sign a culture statement that encourages innovative thinking, sharing of resources, and working relationships based on trust and respect. Rather than creating another needs assessment, NEK Prosper officially adopted the hospital community health needs assessment (CHNA) as the official community needs assessment of the AHC in 2016.

The name NEK Prosper: Caledonia and Southern Essex Accountable Health Community was officially adopted in 2018. NVRH serves as the backbone organization for NEK Prosper.

Workgroups called Collaborative Action Networks (CANs) include community member participation and focus on each of NEK Prosper's five outcome areas: our community will be well–nourished, well-housed, physically healthy, mentally healthy, and financially secure. NEK Prosper and the CANs use Results Based Accountability™ to measure impact on health.

PROGRAMMATIC ELEMENTS

The purpose of the NVRH community health needs assessment is to identify initiatives at the individual, community, environmental, and policy level, as well as programs and services that meet the hospital's mission to improve the health of people in the communities it serves. When it came time for NVRH to complete the 2018 CHNA, the leading criterion for setting community health priorities was the ability to work within the NEK Prosper framework to best capitalize on existing community resources and assets.

The 2018 CHNA built on the foundation of the previous assessments. New for 2018, the CHNA used the framework of NEK Prosper. Additionally, the CHNA was advised by the data compiled and the community engagement work already done by NEK Prosper, and adopted the mission of the NEK Prosper to reduce poverty in the region.

The CHNA data collection identified low-income families, and older adults as the most vulnerable population. The CHNA validated the objectives of NEK Prosper that communities will be financially secure, physically healthy, mentally healthy, well-nourished, and well-housed. Consequently, the NVRH 2018 CHNA proposed that **over the next three years, NVRH will implement initiatives, and programs and services that work to meet these five objectives to improve health in the community, while intentionally addressing the underlying causes of health disparities.**

Like NEK Prosper, the 2018 NVRH CHNA Implementation Plan and Evaluation use Results Based Accountability™ (RBA) to measure impact, evaluate initiatives, and drive action and change. RBA provides a step by step process to get results. RBA defines both population level (whether we have achieved goals for a defined population) and performance level (how well a program or service is working) measures. (12).

In fiscal year 2019, with an intentional effort to use community benefit dollars to accelerate action, the hospital budgeted $93,000 from operations to fund initiatives of the five CANs of NEK Prosper. The initiatives and dollar amounts are outlined in the CHNA Implementation Plan. For that first year, not all the CANs had initiatives ready for funding. The same amounts were budgeted for fiscal year 2020.

The CANs are data driven and use a common template and tools to decide which community strategies to implement. The Well-Nourished CAN launched the Food Hero Social Marketing Campaign in May 2019. Food Hero is a program from Oregon State University Extension Service with funding from SNAP-ED.

The goal of the program is to increase fruit and vegetable consumption by creating and disseminating low cost, easy to prepare, and healthy recipes (13).

NVRH Community Benefit dollars purchased re-useable grocery bags with the Food Hero and NVRH logo. The bags are distributed at events sponsored by NVRH and the partner organizations of the Well-Nourished CAN. Large Food Hero banners attract attention at local events. Food Hero themed placemats are used at the hospital and senior meal sites.

Using Results Based Accountability™ (RBA) principles, the Well-Nourished CAN tracks the number of sites using Food Hero materials, social media engagements, and the number of Food Hero recipes distributed to measure performance level results. The CAN will use a Food Hero qualitative evaluation tool to measure behavior change in spring 2020. The CAN uses population level indicators collected by the Vermont Department of Health (fruit and vegetable consumption and the prevalence of hypertension) to measure long term impact.

Other CAN initiatives funded by NVRH community benefit dollars are the popular smoothie bikes for use at school and community events as part of the Physically Healthy CAN's community-based campaign to increase physical activity, and stipends for fitness providers to offer free pop up fitness classes in local parks. NVRH has funded a small pilot project that pays for complimentary therapies like acupuncture for people coping with mental health issues under the direction of the Mentally Healthy CAN. Every CAN initiative is evaluated for impact by using RBA performance measures of "how much, how well, and is anyone better off." Each CAN measures community wide impact by using population level indicators such as percentage of people getting the recommended amount of physical activity or regional rates of suicide. Impact dashboard for some of the CANs can found at the NEK Prosper website.

The partners in NEK Prosper are not stopping with community-based interventions of the CANs. Two wellness funds were created thanks to the strong culture of stewardship, and leaders focused on action to improve health by tackling poverty.

Working with local economic development and financial partners NEK Prosper members are ready to launch the NEK Prosperity Fund using a capital stacking approach to raise funds to free up almost a million dollars currently held by the regional Community Development Financial Institution (CDFI) to invest in small and emerging local businesses. The purpose of the fund is to act as an investment vehicle aimed at promoting economic development by offering loans to local businesses, as well as supporting the overall well-being of the employees and customers of the business. Loans will be given to businesses that might not qualify for traditional bank loans or other loans offered by the CDFI. These more "at risk" businesses will need a high level of technical assistance to be successful. An Advisory Committee of NEK Prosper will assist the CDFI in developing general policies for mission driven funding.

The NEK Prosper leadership team has committed to raising $200,000 for a loan loss reserve fund to protect the original capital loan fund assets, and to pay for additional business support services by the experienced CDFI staff. It is expected the money will be raised quickly with investments from the hospital, other leadership team organizations, and local businesses.

In spring 2020, NEK Prosper launched the Healthy Cents Fund. The Healthy Cents Fund is available for local organizations for innovative upstream interventions or investments that will create healthy and thriving communities and positive social, economic, or environmental impact. The fund aims to accelerate the work of NEK Prosper and move the AHC closer to the five outcome areas. The value-based payment environment was key to the creation of this fund. Funding for the Healthy Cents Fund comes from Medicaid capitated payments to NVRH paid through the Vermont All Payer Model and the state-wide Accountable Care Organization. Rather than wait for potential shared savings, NVRH takes 1% off the top of the per member per month capitated payments to finance the Healthy Cents Fund, or about $58,000 annually.

Both funds require community engagement activities, and must tie directly to the five outcomes areas of NEK Prosper and the health priorities of the CHNA. Social return on investment is measured using a modified logic model table linking funded activities to short and long term social outcomes.

DISCUSSION

In a value-based payment environment, hospitals have the financial incentives to keep people well and out of the hospital *and* the flexibility to use hospital resources to address the social determinants of health. It is time for hospitals to put resources into prevention and the social and environmental factors that make people sick (1). Nationally, researchers and policy makers are looking for ways for hospitals and partners to combine resources in a more systemic way (14, 15).

Hospitals already have a tool in place to identify the community needs and priorities: the CHNA. The data and community input gathered during the CHNA process provides the roadmap for where hospitals can best invest resources to make the most impact on health. The community benefit requirements of the Affordable Care Act make it possible for hospitals to get credit for their investments. Yet, few hospitals are investing in "community building" projects that address social determinants (2). Additionally, there is clear consensus that a comprehensive approach to improving health requires multisector partners working in sync. However, we are falling short of all we can do to truly improve health and well-being (8).

NVRH and the partner organizations in the region have used the promising models of collaboration of Accountable Health Community (AHC) and collective impact (CI) to align their strategies, organization resources, and funding. The models provide the structure to work collaboratively, while holding people accountable for their contributions to the goals of NEK Prosper. AHC and CI

have helped create an atmosphere of trust and a process for measuring results.

Leadership from the hospital CEO and the executive directors of other community agencies was a critical component to initiating and continuing the collaboration. Stewardship and trust are two additional elements that are essential. The CI model provides a model for identifying and incorporating these elements into concrete activities.

The role of the hospital was critical to the success of NEK Prosper. Despite its small size, NVRH is a leading force in the community. Additionally, the financial contribution provided through the community benefit funds enabled concrete actions that the community might otherwise have struggled to achieve.

Lessons Learned and Tips for Success:

- Don't reinvent the wheel. Use existing models and frameworks to create a community collaborative structure the works in your community.
- Be strategic in making your list of who needs to be at the table. Include traditional health and human service partners, community-based organizations focused on social determinants, local and state government, funders, and less traditional partners like for-profit business and economic development agencies.
- Finding common ground with less traditional partners may take some time; expect communication barriers. NVRH and NEK Prosper found that banks and economic development agencies wanted the same thing – a healthy prosperous community; however, industry specific jargon made it difficult to identify common goals. Engage these partners in your work by asking for their expertise in finding financial resources for projects and measuring financial return on investment. In exchange, health and human services can offer expertise in social return on investment measures, and provide specific services and programs to improve the health and well-being for employees of these partners and for the employers and customers they work with every day.

We inherently know that we are better together, stronger together, and can accomplish more together. Using current partnership frameworks like Accountable Health Community and collective impact, hospitals can provide the data - CHNA, the funding - community benefits, and the leadership to foster a culture of stewardship to truly create and maintain healthy communities.

CONCLUSIONS

As hospitals work to improve health in their communities, they must be intentional about improving the systems and structures within their organizations and regions to support health, well-being, and equal opportunities for all.

The recipe for success includes a strong foundation built on three models: Accountable Health Community, Collective Impact, and Results Based Accountability^{TM} to guide operations, keep community partners heading in the same strategic direction, and quantify and measure results. Adding three key ingredients: leadership, stewardship, and action to the foundational structure drives NEK Prosper toward high impact and a healthier, and potentially more prosperous, region.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

AUTHOR'S NOTE

This is a community case study as described by one author. The author has a unique perspective because of her involvement in the initial and ongoing operations of NEK Prosper. She is also the staff person at NVRH in charge of both the CHNA process and the community benefit reporting.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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Volatility and Persistence of Value-Based Purchasing Adjustments: A Challenge to Integrating Population Health and Community Benefit Into Business Operations

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With the passage of the Deficit Reduction Act of 2005 and the Patient Protection and Affordable Care Act in 2010, Medicare's Inpatient Prospective Payment System (IPPS) began a transition to value-based purchasing (VBP) that rewards or penalizes hospitals based on patient satisfaction, clinical processes of care, outcomes, and efficiency metrics. However, hospital-level volatility vs. persistence in value-based payments year-over-year could result in unpredictable cash flows that negatively influence investment behavior, drive underinvestment in community benefit/population health management initiatives, and make management of the factors that drive the VBP adjustment more challenging. To evaluate the volatility and persistence of hospital VBP adjustments, the sample includes VBP adjustments and the associated domain scores for the 2,547 hospitals that participated in the program from 2013 to 2016. The sample includes urban (74%), teaching (29.1%), system affiliated (46.5%), and not-for-profit (63.6%) facilities. Volatility was measured using basic descriptive statistics, relative risk ratios, and a fixed effect, autoregressive, dynamic panel model that robust-clustered the standard errors. There is substantial change in a given facility's total VBP score with an average standard deviation of 10.74 (on a 100-point scale) that is driven by significant volatility in all metrics but particularly by efficiency and outcomes metrics. Relative risk ratios have dropped substantially over the life of the program, and there is low persistence of VBP scores from one period to the next. Findings indicate that if hospitals receive a positive adjustment in 1 year, they are almost as likely to receive a negative adjustment as a positive adjustment the following year. Furthermore, using a fixed-effect dynamic panel model that controls for autocorrelation, we find that only 13.5% of a facility's prior year IPPS adjustment (positive or negative) carries forward to the next year. The low persistence makes investment in population health management and community benefit more challenging.

Keywords: value-based payment, population health, community benefit, healthcare financing, payment methodologies

INTRODUCTION

National healthcare expenditures have grown from $146 per person in 1960 to $11,172 per person in 2018. During the same time period, the percentage of the gross domestic product (GDP) devoted to healthcare has grown from 5% to over 17.7%. Healthcare spending projections from Centers for Medicare and Medicaid Services (CMS) continue to grow at rates that outstrip projected inflation rates and are projected to account for per person spending just under $17,000 (almost 20% of the GDP) in the next 7 years (1).

Payers, both public and private, have responded to the expense growth by altering incentives, manipulating benefits, increasing cost sharing, and limiting provider networks all in attempts to constrain risks and expense growth rates. More recently, there is a movement to accountable care organizations, shared savings programs, and value-based payments. There is also increasing attention being paid to community benefit reporting and the promise of community benefit and population health management (2, 3).

Not a new concept, population health focuses on "the health of a population as measured by health status indicators and as influenced by social, economic, and physical environments, personal health practices, individual capacity and coping skills, human biology, early childhood development, and health services. As an approach, population health focuses on interrelated conditions and factors that influence the health of populations over the life course, identifies systematic variations in the patterns of occurrence, and applies the resulting knowledge to develop and implement policies and actions to improve the health and well-being of those populations" (4). The interplay between the social determinants of health, the larger environment, and population health is well-documented by Kindig and Stoddart (5), McAlerney (6), the World Health Organization, and a host of more recent research (7). What is not clear is how healthcare payers and systems can successfully initiate and sustain population efforts while enhancing long-term viability and support within the new payment framework.

The Centers for Medicare and Medicaid Services (CMS) is moving more Medicare fee-for-service (FFS) reimbursements to an alternative payment model (APM) basis and aims to grow that percentage to 50% (8, 9). To date, CMS has instituted programs that identify and disseminate best practices, established bundled payments for comprehensive episodes of care, held providers responsible for total cost of care and overall quality, and established pay-for-performance (P4P) rewards and penalties for provider performance relative to preset metrics. With the passage of the Deficit Reduction Act of 2005 and the Patient Protection and Affordable Care Act in 2010, Medicare's Inpatient Prospective Payment System (IPPS) began an APM transition to value-based purchasing (VBP). The VBP legislation and subsequent CMS rules are intended to move hospitals from a payment system in which facilities are financially rewarded for volume to a P4P system that accounts for patient experiences, adherence to predetermined clinical protocols, health outcomes, and cost efficiency in the delivery of care.

Though voluntary in 2012, participation in the VBP program became mandatory in 2013 for hospitals receiving IPPS payments and meeting the minimum number of cases, surveys, or measures required to calculate the adjustment (psychiatric, rehabilitation, long-term care, children's, and cancer hospitals are exempt). The program works by adjusting the Diagnosis-Related Group (DRG) base rate up or down relative to performance on predetermined measures. Adjustments started at ±1% of IPPS hospital-specific base rates in 2013 and have increased by 0.25% per year. In 2017, the program put up to 2% of the Medicare IPPS at risk—the maximum at-risk percentage for the program. Because the program is revenue neutral, increases in the hospital base rate are equally offset by decreases at other hospitals with the average adjustment centered on zero. Those facilities that deviate the most positively or negatively from the mean receive the largest positive and negative IPPS adjustment.

In an environment where profit margins are already thin, ranging from 3 to 5% depending on hospital ownership, location, and teaching status (10, 11), fluctuations in the IPPS can have a direct and immediate impact. Moreover, the impact of the Medicare changes can then be compounded by commercial payers who tend to use Medicare payments and associated adjustments as a baseline for contractual language and payments.

While some prior work has examined the magnitude of the VBP adjustments and the associated relationships with quality and hospital profitability (12–14), this article attempts to quantify the volatility and persistence of VBP adjustments for participating facilities in the early years of the program. Previous research has addressed quality outcomes of the VBP program and the magnitude of the VBP adjustments; however, this study is the first to investigate the volatility and persistence of VBP payments since the inception of the program. Volatility in P4P payment results in unpredictable cash flows that negatively influence investment behavior (15, 16) and make management of the factors that drive the VBP adjustment more challenging (17, 18). In the balance of this article, we provide a brief review of the VBP/P4P literature before presenting: (1) an examination of the volatility of VBP adjustments as well as the components that influence the composite score, (2) a calculated measure of persistence that quantifies how much of a facility's prior year's adjustment carries forward to the next year, and (3) a discussion of the volatility and persistence of payments on community benefit and population health.

LITERATURE REVIEW

Prior literature on earnings persistence within the healthcare sector is largely absent. Outside of the sector, substantial efforts have been devoted to the relationship between measures of persistence and methods of improving security pricing (19–21), the negative impacts of earnings volatility on investment behavior (15, 16), the higher costs of capital and lower capital investment associated with low earnings persistence (22), and the impact on accounting accruals (23).

The prior research on the effects of P4P programs, including systematic reviews, is more robust, but the findings

are mixed (24). Some studies find no difference in health outcomes (25), whereas others have documented improvements in composite measures of quality (26). More recently, the Quality Incentive Program, the Medicare VBP program that is associated with end-stage renal disease, notes substantial improvement in clinical process measures (27). Briesacher et al. (28) also found that P4P increased access and improved outcomes in nursing facilities but increased costs. Several survey studies have shown P4P initiatives to be cost effective; however, the associated interventions have tended to be narrowly focused. Among the more narrowly defined P4P initiatives, Armour and Pitts found that physician bonuses/withholds reduced outpatient expenditures by 5% (29). Existing literature shows that the cost-effectiveness of a program appears to depend on the design of the interventions and incentives (30).

Despite the potential for adjustments of up to 1.75% in 2016, early evaluations of the VBP adjustment indicate that over 74% of hospitals nationally experience a change in IPPS reimbursement of >0.50% (12, 13, 31). Financially, earlier work did not find a significant relationship between VBP adjustments and facility profitability in the early years of the program, and there was no apparent change in quality of care (14, 32). More recently, Ryan et al. (33) found that there was no significant relationship between the aggregate VBP adjustment and improvements in patient experience or quality of care metrics. In some cases, favorable VBP adjustments are related to poor performance on metrics that are costly to improve being offset by savings in expense-related metrics (34). There has also been no relationship between bond rating and the factors that influence the VBP adjustment, with the exception of Medicare spending per beneficiary (MSPB) (35). From a bond perspective, Rangnekar et al. (35) found a positive relationship between high levels of MSPB, which will result in downward VBP adjustments, but favorable bond ratings, which will decrease the borrowing costs for facilities. Ironically, hospitals that operate more efficiently to improve their VBP adjustments will hurt their bond ratings in the process, resulting in a reduced ability to secure funding for furtherance of the organizational mission. Not surprisingly, hospitals affiliated with systems, that are able to learn from others, and that have a level of market control do better than their counterparts in hospital VBP adjustments (36). There also appears to be a significant and negative relationship between particular hospital lines of business and the hospital VBP adjustment. Trauma certified hospitals consistently score poorer on VBP metrics (37).

OVERVIEW OF P4P PAYMENT INCENTIVES FOR HOSPITALS

Unlike some prior P4P payment incentives that employ more targeted performance metrics and incentives, the VBP adjustment to the IPPS utilizes a wide variety of factors. In 2013, the first year of the program, the VBP adjustment was driven only by patient satisfaction and clinical process scores, with 70% of adjustment driven by the clinical process score. As the program matured, outcomes and efficiency metrics were added to the overall calculation and accounted for 40 and 25% of the overall adjustment, respectively. As detailed in **Table 1**, the 2013–2016 adjustments fall into four categories: person and community engagement, clinical processes of care measures, safety, and a measure of efficiency that is scored on a 0–100 scale (facilities at the top of the distribution receive a score of 100 and those at the bottom receive a score of 0). The 2016 program split 23 distinct measures across all four domains. The content of each of these VBP categories is highly varied and ranges from patient satisfaction with nurse communication and the cleanliness of the facility to central line–associated bloodstream infections and spending per Medicare beneficiary[1].

METHODS

Data

VBP adjustments and the respective unweighted domain scores for all hospitals in the United States were gathered from CMS for years 2013–2016. For descriptive and analytic purposes, hospital characteristics were gathered from HCRIS data (Hospital Form 2552-10) and matched on the unique provider identification. Inclusion criteria required VBP adjustments for all 4 years of the program and resulted in 2,547 hospitals and 7,641 observations. Hospital characteristics of those in the analysis are included in **Table 2** and include 742 teaching facilities, 1,184 facilities with system affiliations, 1,620 not-for-profit facilities, and 1,886 urban facilities. The analysis is limited to the 2013–2016 time frame due to reporting changes instituted by CMS. In more recent years, CMS substantively changed how domain measures were shared such that weighted and unweighted composite scores by domain were discontinued and replaced with a metric-specific number between 1 and 10. One of this study's limitations is that the newer scores do not carry the same resolution as the prior scale (0–100), are not aggregated at the domain level, and, as a result, limit the study's framework to the earlier years of the program.

Measures

The volatility of the IPPS adjustments was measured as the standard deviation and the relative standard deviation (standard deviation/mean) of their final VBP score (scored 0–100) prior to a financial adjustment being tied to a given score. The process was repeated for the associated VBP domains over the 2013–2016 time frame as long as the domain contributed to the final IPPS adjustment. Since unweighted domain scores are scored based on a 0–100 percentile achievement for all years in the study, they did not require standardization. However, the

[1]The hospital VBP program has continued to evolve and change. The 2020 domains largely remain the same with slight nomenclature changes. The number of metrics within those domains has been reduced to 20 and includes: catheter-associated urinary tract infection, central line-associated blood stream infection, *C. difficile*, methicillin-resistant *Staphylococcus aureus* Bacteremia, elective delivery prior to 39 completed weeks gestation, surgical site infection for colons and abdominal hysterectomies, AMI, heart failure 30-days mortality, pneumonia 30-days mortality, total hip arthroplasty and/or total knee arthroplasty, Medicare spending per beneficiary, communication with nurses, communication with doctors, responsiveness of hospital staff, communication about medicines, hospital cleanliness and quietness, discharge information, three-item care transition, and overall rating of the hospital.

TABLE 1 | Value-based purchasing domains, measures, and weighting 2013–2016.

	VBP components	2013	2014	2015	2016
Patient experience (HCAHPS)	Nurse communication	30%	30%	30%	25%
	Doctor communication				
	Responsiveness of staff				
	Pain management				
	Communication of medicine instructions				
	Hospital cleanliness and quietness				
	Discharge Information				
	Overall rating				
Clinical process of care measures	Fibrinolytic therapy within 30 min of hospital arrival (Acute Myocardial Infarction)	70%	45%	20%	10%
	Primary PCI received within 90 min of hospital arrival (Acute Myocardial Infarction) (Discontinued for 2016)				
	Discharge instructions for patients (Heart Failure) (Discontinued for 2016)				
	Blood cultures performed in ED prior to initial antibiotic (Pneumonia) (Discontinued for 2016)				
	Initial antibiotic selection for CAP in immunocompetent patient (Pneumonia)				
	Prophylactic antibiotic received within 1 hr prior to surgical incision (Healthcare-Associated Infections) (Discontinued for 2016)				
	Prophylactic antibiotic selection for surgical patients (Healthcare-Associated Infections)				
	Prophylactic antibiotics discontinued within 24 hrs after surgery end time (Healthcare-Associated Infections)				
	Cardiac surgery patients w/controlled 6 AM postoperative serum glucose (Healthcare-Associated Infections) (Discontinued for 2016)				
	Post-operative urinary catheter removal on post-operative day 1 or 2 (New in 2014)				
	Surgery patients on a beta blocker prior to arrival who received a beta blocker during the perioperative period (Surgical Care Improvement)				
	Surgery patients who received appropriate venous thromboembolism prophylaxis within 24 hrs prior to surgery to 24 hrs after surgery (Surgical Care Improvement)				
	Surgery patients w/recommended venous thromboembolism prophylaxis ordered (New in 2014 - Discontinued in 2015)				
	Influenza Immunization (New in 2016)				
Outcome measures	Acute myocardial infarction 30-days mortality rate		25%	30%	40%
	Heart failure 30-days mortality rate				
	Pneumonia 30-days mortality rate				
	Composite patient safety indicator (New in 2015)				
	Central Line-Associated Bloodstream Infections (New in 2015)				
	Catheter-Associated Urinary Tract Infection (New 2016)				
	Surgical Site Infection: • Colon • Abdominal Hysterectomy (New 2016)				
Efficiency	Medicare spending per beneficiary			20%	25%
	Potential Medicare IPPS adjustment to base rate	1.00%	1.25%	1.50%	1.75%

financial VBP adjustments increased from ±1 to ±1.75% over the 2013–2016 time frame and required standardization. To account for the change, every facility adjustment was standardized by the total potential adjustment in the respective year for a standardized adjustment of between−100 and 100% for every year in the sample. For example, a facility that received an upward adjustment of 0.75% in 2014 would receive a standardized score of 60% or (0.75/1.25). With an upward adjustment of 0.75, the facility received a total of 60% of the total potential upward adjustment for that time period.

Relative risk measures were also calculated for the 2013–2014, the 2014–2015, and the 2015–2016 time frames as an additional volatility metric. These metrics measure the relative risk of receiving a positive VBP adjustment where receiving a positive adjustment in the prior year is treated as the exposure. All measures of volatility are presented in **Table 3**.

$$\begin{aligned} Standardized\ Adjustment_{it} &= Intercept \\ &+ \beta_1 Standardized\ Adjustment_{i(t-1)} \\ &+ \beta_n Vector\ of\ time\ invariant \\ &\quad hospital\ characteristics + error \end{aligned} \tag{1}$$

Persistence of the VBP adjustment was measured as the β_1 coefficient associated with a lagged, standardized VBP

TABLE 2 | Hospital sample composition ($n = 2{,}547$).

Urban	1,886	74.0%
Teaching	742	29.1%
System Affiliated	1,184	46.5%
Not-For-Profit	1,620	63.6%

TABLE 3 | Relative risk and average standard deviation of hospital total and domain scores.

	Standard deviation	Coefficient of variation
Overall score	10.74	
Patient experience	8.56	0.247
Clinical processes of care	12.19	0.23
Outcomes	16.11	0.422
Efficiency	22.12*	1.19*
Relative risk ratio of receiving a positive adjustment given a positive adjustment in the prior year		
2013–2014	3.159	
2014–2015	1.499	
2015–2016	1.012	

*Excludes facilities where no efficiency score is calculated by CMS in both 2015 and 2016.

adjustment in a time series analysis (a dynamic panel model with maximum likelihood estimation) where time-invariant hospital characteristics are fixed (Equation 1). The standardized adjustment for a given period t and facility i serves as the dependent variable. The standardized score from the hospital's prior period (*t-1*) and a vector of time-invariant, hospital-specific characteristics serve as the independent variables. Standard errors were clustered at the facility level to adjust for within-facility correlations after Durbin–Watson tests indicated some small autocorrelations (38). The fixed effect and between group analysis of persistence is presented in **Table 4**. The analysis was also repeated with the unique provider identification serving as the fixed effect and found no differences in the estimates or standard errors.

RESULTS

The VBP adjustments are, by design, closely centered on zero with an average of 51.3% of facilities receiving a positive adjustment between 2013 and 2016. Over the 4 years of the study, facilities have experienced substantial variation in their total VBP score. The average facility has a standard deviation of 10.74 and an associated standardized standard deviation of 0.2438. Although each domain has variation that is not inconsequential, the deviations in total score appear to be driven by volatility in the efficiency and outcomes domains, which have standard deviations of 22.12 and 16.11, respectively.

Relative risk calculations also indicate substantial variation in VBP scores and the associated payment adjustments. If a facility received a positive adjustment in 2013, they were 3.159 times more likely to receive a positive adjustment in 2014. That positive association greatly attenuated over the subsequent years. Between 2014 and 2015, the same calculation yielded a relative risk of 1.499. By 2015–2016, a relative risk of 1.0118 indicates that facilities were almost as likely to receive an IPPS penalty despite receiving a positive adjustment in the prior year.

The persistence measure associated with VBP adjustments reinforces the volatility metrics. In the fixed-effects model where hospital characteristics and autocorrelation are controlled for, a β_1 of 1 would indicate that the facility received the same standardized adjustment in the current year that they received in the prior year. In short, persistence would be high since hospitals would receive the same standardized VBP adjustment from one period to the next. The prior year adjustment is a significant predictor of current adjustments ($P < 0.0001$), and our model estimated a β_1 parameter of 0.135. On average, 13.5% of a hospital's prior VBP financial penalty or reward carries to the next period.

When examined on a between-group basis, all of the time-invariant characteristics are significant predictors of the VBP adjustment persistence. Facilities that are affiliated with a system, designated as urban, and are teaching institutions have, on average, maintain slightly less of their VBP adjustments than peers. Not-for-profit firms maintain slightly more of their VBP adjustment. While all characteristics are significant at the <0.01 level, the adjustments are not operationally significant. The largest between-group difference is among urban and non-urban facilities where the parameter estimate is -0.0646. To put this in context, a -0.0646 parameter estimate indicates that urban facilities are able to maintain one-tenth of one percentage point ($-0.0646 \times$ potential adjustment of 0.0175 in 2016 $= 0.0011$) more of their VBP adjustment relative to non-urban facilities.

DISCUSSION

Hospitals participating in the VBP program have experienced significant volatility in their total VBP score and a lack of persistence in the associated IPPS adjustments. Hospitals that receive a positive adjustment in 1 year are now almost as likely to receive a penalty in the next. The lack of consistency from one period to another makes both financial planning and process management more challenging.

As discussed in earlier works (14, 39), because the VBP adjustment is designed to be revenue neutral with adjustments centered on zero, it makes it more difficult for hospitals to differentiate themselves from others participating in the system. To maximize their IPPS payment, facilities must achieve significantly better outcomes, patient satisfaction, and adherence to clinical processes at a lower cost per beneficiary. While above-average achievement in multiple domains is possible, regression to the mean and/or above average performance in one domain offset by below-average performance in another results in relatively tight clustering around zero (32) with over 74% of facilities receiving a bonus or penalty of $<0.05\%$.

The costs of compliance and metric improvement are also important to note. CMS expanded the VBP program to include

TABLE 4 | Dynamic panel regression with fixed effects.

	Within group estimates w/fixed effects				Between group estimates w/fixed effects			
	Parameter estimate	**Standard error**	**T-value**	***P*-value**	**Parameter estimate**	**Standard error**	***T*-value**	***P*-value**
Intercept	0.02558	0.000063	405.4	<0.0001	0.076282	0.00541	14.11	< 0.0001
Prior year score	0.13527	0.015989	8.46	<0.0001	0.890304	0.0112	79.82	< 0.0001
System affiliation					−0.01298	0.00456	−2.85	0.0045
Not-for-profit					0.016326	0.00455	3.59	0.0003
Teaching					−0.02617	0.00512	−5.11	< 0.0001
Urban					−0.06468	0.00527	−12.26	< 0.0001
		R-squared		0.6256		R-Squared		0.7338

23 separate metrics and added a new safety domain (weighted at 20% of overall score) in 2017. As metrics and domains are added, there are at least two direct impacts on hospitals. First, the relative weight of any given metric and the impact it can have on the overall IPPS adjustment diminish. The financial weight and resulting adjustments are spread over more domains and metrics. Second, as items are added to the evaluation protocol, hospitals must implement methods of tracking and improving those metrics[2]. Given the volatility of the scores and adjustment, the investment to report and improve may not generate a return or result in improved quality.

It is not clear that each domain and metric reinforce each other. For example, to score well on the MSPB metric, a facility would be interested in cost control and utilization management tools. As suggested by Das et al. (34), those cost control or utilization management tools may make clinical staff less available for patient interaction and drive down satisfaction scores. It is also conceivable that cost considerations could influence other domains.

From a community benefit perspective, the "two-canoe" problem of population health initiatives becomes more pronounced under the hospital VBP methodology. Providers have one foot in a canoe that is operating in the traditional volume-based system that incentivizes providing more frequent and more expensive care while the other foot is attempting to occupy a canoe operating in a value-based environment where there are efforts to constrain costs and reduce care that has little to no marginal benefit (40). As long as payment systems deploy diverging incentives with low persistence and high volatility, then health systems and providers will have a difficult time investing in community benefit and population health management. The findings this study coupled to the lack of a significant relationship between improvements and VBP adjustments (33) seem to support the diverging incentives put forth by others.

There is also a "wrong pocket problem" with a mismatch between investors and those who accrue the benefits of improved health. Providers and facilities may make significant investments of time and money to improve the health and well-being of the communities they serve and those benefits do not necessarily accrue to the investing providers. Efforts may be effective and even result in fewer patient visits or reduced facility occupancy, which has a negative impact on the bottom line. Not only is the healthcare provider incurring community benefit expenses, but they are also negatively impacted by a reduction of volume and frequency. It is also possible that the benefits of population health initiatives accrue to competing or nearby providers that did not make the investment.

In cases of a shared-savings program, the reduction in volume may be offset by payouts from the program. The programs themselves transfer significant health status (probability of falling ill and needing care) and medical care (cost of providing care) risk without an associated risk premium. Of the 32 pioneer ACOs that pursued shared savings program with CMS, only 8 remain with only 6 receiving a positive payout at an average rate of 1.37% of benchmark expenditures (41). There appears to be a mismatch between the upside of these programs and the risk being borne.

CONCLUSION

Although there was great interest in the initial years of the VBP program, each year there exists little financial reward for provider organizations (60% hospitals won or lost <0.5%) (42), and what little opportunity that exists comes at significant cost. Even for providers who earn them, VBP payments are not consistent, leaving organizations unable to plan on receiving them over time, thereby hampering strategic planning and future investment decisions. Moving forward, additional research on the relationships between hospital characteristics and quality metrics should be investigated. Specific and additional attention should be paid to the impact of cost control metrics (MSPB) and patient satisfaction, adherence to clinical guidelines, and outcomes. As the program continues to mature and administrations reevaluate current healthcare legislation, thought should also be given to: (1) increasing the financial incentive to influence behavior, (2) moving to a forced distribution of the VBP adjustment such that more facility revenue is at risk for poor performance, and/or (3) narrowing the number of metrics included in the program to focus facility efforts. An alternative method of improving safety and quality

[2]It is important to note that not only have some metrics within domains changed but the weighting of each domain has continued to evolve. In 2020, the impact of each of the four domains on the hospital VBP adjustment is equally weighted.

may include a more targeted approach that sets facility-specific performance targets (43).

Payment adjustments continue to be tightly distributed around zero with the majority of hospitals receiving an adjustment of <½ of percentage. What this means is that facilities may make investments in population health or value-based care but not realize any downstream payments from CMS. The resulting volatility of cash flows discourages investments to improve population, community health, and value metrics.

DATA AVAILABILITY STATEMENT

The datasets generated for this study may be made available upon request to the corresponding author.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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Community Benefit: Policies, Practices, and Opportunities at the Half-Century Mark

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In the 50 years since the expansion of the legal definition of charity for tax-exempt hospitals, there have been periodic regulatory actions at the municipal, state, and federal level to quantify charitable contributions and justify the deferral of tax revenues. The movement toward risk-based reimbursement in the last decade creates an incentive for a shift in hospital leadership understanding and approach to community benefit programs and services. The historical interpretation of community benefit as an issue of compliance with legal obligations is being questioned by forward-thinking hospital leaders, in recognition that more strategic resource allocation offers the potential to reduce financial risk associated with preventable emergency department and inpatient utilization. Recent actions in the policy arena to strengthen community benefit practices, as well as policies in related areas such as homelessness and behavioral health, challenge hospitals to strengthen their focus on prevention. At the same time, increased availability of data on health care costs, mapping of health care utilization patterns, and parallel overlays of hospital location, jurisdictional boundaries, and the social determinants of health offer significant potential for informed public dialogue at the regional level that builds an ethic of shared ownership for health across sectors. Local public health agencies can play an important role by establishing baselines, goals, and objectives in communities where health inequities are concentrated within county and municipal jurisdictional boundaries to align and focus the assets of health, community development, and business sector stakeholders.

Keywords: community benefit, state and national policy, municipal property tax, social determinants of health, risk-based reimbursement

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INTRODUCTION

The legal definition of charity for tax-exempt hospitals was expanded to the community benefit standard in 1969 with the issuance of IRS Revenue Ruling 69-545. The definition of charity moved beyond the "relief of poverty" interpretation to qualify hospitals that were "promoting the health of a class of persons that is broad enough to benefit the community"[1]. Impetus was provided in part by the prior passage of Medicare and Medicaid legislation, and an assumption that reduced demand for charity care would be insufficient to justify hospital tax-exemption.

The expanded standard has contributed to the development of a wide array of programs, services, and activities supported by hospitals across the country. Hospital engagement in these practices has become increasingly relevant in the context of the gradual and uneven, but inevitable movement toward risk-based reimbursement.

[1] Rev. Rul. 69-545, 1969-2 C.B. 117, paragraph 13.

As providers and payers assume increasing financial risk for keeping people healthy and out of inpatient settings, they are coming to terms with the practical realities that there are factors that have a significant impact upon health and well-being at the individual, family, and community level. Awareness of the social determinants of health (SDoH) as an area of focus for community benefit expenditures is increasing, and while addressing these factors is outside of what is historically considered the responsibility of health care providers, the assumption of financial risk for their downstream impacts is bringing them into focus.

A BRIEF HISTORY OF POLICIES

Throughout the five-decade history of community benefit, the primary focus in the policy arena has been on the volume of hospital expenditures, and there has been ongoing debate about how much is enough and what kinds of expenditures are most appropriate.

Early challenges to the community benefit practices of tax-exempt hospitals came with class actions by municipalities in the northeastern U.S. in the late 70s and early 80s. Key drivers were increased pressure associated with the loss of tax revenue with outmigration of more affluent populations to the suburbs, and decreasing social safety net funding from federal and state governments. As urban tax-exempt hospitals served growing populations outside the geographic parameters of the municipality, city leaders began to question the deferral of their property taxes.

By the mid-1980s, states began to explore options for the development of community benefit statutes. There are a total of seven states which have established minimum financial thresholds for community benefit expenditures, the most recent addition of which is Oregon with HB 3076 (2019), and including Utah (1990), Texas (1993), Pennsylvania (1997), Illinois (2011), Nevada (2013), and Virginia (2013). While minimum thresholds ensure that hospitals meet a level of reported expenditures, they serve in practical terms as a "ceiling" rather than a "floor" for expenditures and may be a disincentive to focus on the content, geographic focus, quality and impacts of charitable services and activities. If that level is easily reached through documentation of spending on medical care for uninsured and underinsured populations, there may be less motivation to deploy resources for more proactive investments in prevention. That observation is supported by the research finding by Singh et al. (1) that minimum thresholds may result in an increased spending on direct patient care and lower levels of spending on community health improvement services. The same study also indicated that more comprehensive regulations (i.e., reporting requirements and at least one additional regulation) yielded higher overall spending.

Other states (e.g., NY in 1990, CA in 1994, NH in 2000) established what are referred to as "reporting laws," which focus primarily on establishing a process for periodic assessment of community health needs, identification of priority content areas of focus, annual reporting on programs, services and activities, and establishment and description of institutional policies for financial assistance.

Community benefit standards received a major push at the federal policy level with the addition of the 501r elements of the Affordable Care Act, requiring community health needs assessments (CHNAs) and the development of formal implementation strategies, and revisions to the 990 Schedule H. The Schedule H revisions were driven by pressure from the Senate Finance Committee under the leadership of Charles Grassley, and reinforced by events in the field, not least of which were reports (2) of aggressive collection policies by Yale New Haven Hospital against patients who were subsequently judged to qualify for charitable support.

The revised Schedule H (form 990) includes a wide range of instructions[2] and guidelines for CHNAs and Implementation Strategies, but the language in many cases is vague. For example, while hospitals are required to describe in their CHNA report "the evaluation of the impact of any actions that were taken," (Part V, line 3i of Instructions), no further guidance is provided.

In another example, Section 501(r)(3) calls for hospitals to define their community of focus, taking into account "the geographic area served by the hospital," "target populations served," and "principal functions," but cautions that "a hospital facility may not define its community in a way that excludes medically underserved, low-income, or minority populations who live in the geographic areas from which it draws its patients (unless such populations are not part of the hospital facility's target population or affected by its principal functions). "In a 2014, study conducted for the CDC (3) that reviewed CHNAs and Implementation Strategies in 15 regions, two health systems excluded proximal low income census tracts from their defined community benefit service area. In response to an inquiry as part of the study, they reported that their geographic parameters focused on their primary service area and they didn't judge the excluded census tracts as geographic areas from which they drew their patients.

HB 3076[3] in Oregon represents a new level of oversight, one that offers both challenges and opportunities. It was passed in 2019 and will establish thresholds for individual or groups of hospitals and clinics within organizations to be reviewed and updated every 2 years. Criteria will include consideration of prior annual expenditures, community needs identified, workforce needs, financial status, demographics, spending on social determinants of health, taxes paid, public input, and reporting expectations for health professions education and research. This approach reflects an effort to accommodate the diversity in both hospital organizations and the communities they serve.

The language in HB 3076 gives attention to the SDoH as a priority, and explicitly includes "community building activities affecting health in the community" as a quantifiable community benefit [section 10 (2)(f)]. This is a subtle, but important move beyond the IRS 990 Schedule H requirements, which list

[2]https://www.irs.gov/pub/irs-pdf/i990sh.pdf
[3]https://legiscan.com/OR/text/HB3076/2019

community building categories in Part II of the reporting form as contributions not to be included in quantifiable totals. Hospitals are informed that "Some community building activities may also meet the definition of community benefit" and are instructed to document in Section VI "how the organization's community building activities, as reported in Part II, promote the health of the community or communities the organization serves." Hospitals seeking to report community building activities as community benefits must then reclassify activities as community health improvement services. These instructions send a message that subcategories within community building are unlikely to be viewed by the IRS as legitimate, and hospitals must reclassify them as community health improvement services, even if the subcategories do not provide more appropriate options.

Legislative actions in areas outside of community benefit can play an important role in accelerating hospital collaboration with competitors to address the SDoH. In California, passage of Senate Bill 1152[4] in July 2019 requires hospitals to establish a discharge planning policy and detailed written plan coordinating services, education and counseling and securing shelter for any patient for whom the absence of such services may result in negative health consequences. In a state with 26% of the homeless people in the U.S. (4), this new requirement has elevated the SDoH as an issue of immediate priority for both health care providers and payers there. A growing number of hospital collaboratives that have been formed there to co-invest in recuperative care centers, with active engagement and analysis of current social and related support service networks to better align and expand capacity.

Just as selected states have established minimum spending targets for primary care, some have suggested a need for similar thresholds for community health spending. Bakken and Kindig (5) offer projections to show that community health spending would increase three-fold if hospitals were required to spend 10% of community benefit dollars on community health improvement. Such an approach may address the concerns of some (6) that hospitals' interpretation of needs in CHNAs has the potential to medicalize poverty. A review of CHNAs will certainly include examples where stakeholders identify one or more SDoH as significant community needs, but a hospital may not select them as priorities based upon criteria that indicate a lack of expertise and experience within the hospital. That dynamic is shifting gradually as hospitals assume increasing financial risk for the downstream impacts of a lack of investment in the SDoH.

REVIEW OF PRACTICES

Hospital community benefit practices have undergone gradual change over the five decades of reporting, with examples of movement toward more evidence-informed interventions, increasing engagement of diverse community stakeholders to leverage internal resources, and the establishment of oversight structures. Most community benefit spending, however, involves a process of documenting the cost of providing services provided to uninsured, underinsured, and Medicaid patients, much of which involves high cost clinical services for preventable conditions.

In the 14 states that have not implemented Medicaid expansion, community benefit expenditures tend to be concentrated in the financial assistance reporting category. Predictably, for states that have implemented the Medicaid expansion, most of these expenditures shifted to Medicaid shortfalls. Among larger academic medical centers, net institutional costs associated with graduate medical education and research may represent the majority of community benefit expenditures[5]. Given the predominance of fee-for-service financing to date, there has been limited motivation for hospitals to move beyond a reactive approach to community benefit budgeting. One national study documented that only 5% of community benefit spending focuses outside of clinical settings, and only a small portion of that focuses on the SDoH (7).

The primary focus of research in the community benefit arena is on expenditures. For example, Singh et al. (8) found that overall spending is higher in counties with greater need, but there is not a corresponding increase in community health improvement services. This finding may reflect the practical reality that hospitals serving populations with greater needs (e.g., higher prevalence and acuity of chronic disease, behavioral health challenges), have lower margins due to higher percentages of Medicaid, and less discretionary dollars to spend on community health improvement services. Other hospitals have larger margins in part because their locations make them less likely to have low income people in their emergency departments. Without clear guidance and public expectations, hospitals located in more affluent communities are less likely to invest in prevention in communities not in their primary service area.

While there is limited evidence of a historical commitment by hospitals to address the SDoH (9), a recent study (10) documented 78 programs involving 57 health systems (representing 917 hospitals) with $2.5 billion in health system funds allocated, including $1.6B in housing interventions. There is growing evidence that federal agencies are interested in encouraging these kinds of resource allocations, reflected most recently in the public statements of Alex Azar, HHS Secretary (11).

Investment in research on health outcomes associated with community benefit expenditures has been constrained by a regulatory focus on the volume of expenditures. The institutional focus on compliance with documenting expenditures related to deferred tax revenue creates a disincentive for investment of hospital resources to evaluate impacts, to align assets across competitive and sectoral lines to scale efforts, and

[4]https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB1152

[5]For example, in 2017, The Johns Hopkins Hospital reported a total of $267M of community benefit expenditures, $187M of which was for health professions education (HPE) shortfalls; the University of Chicago Hospital reported a total of $194M, of which $70M was for HPE and $48M for research; Georgetown University Medical Center reported $63.7M, of which $49M was for HPE, Emory University Hospital reported $567M, $264 of which was for HPE and $118.7M in research, and University of Maryland Medical Center reported $192M, of which $166.7 was for HPE – Data source: Community Benefit Insight (http://www.communitybenefitinsight.org/)

to geographically focus assets where health inequities are concentrated.

There are, however, increasing opportunities to document reduced costs associated with preventable utilization in emergency department and inpatient settings. A 2013–2014 retrospective cohort study of community benefit spending showed that hospitals with the largest percentage of spending in community social needs had substantially lower readmission rates (12). A recent review of studies of expenditures on SDoH found 12 of 39 studies focused on housing, and 10 of those 12 documented improvements to health outcomes and/or reduced costs (13). Expansion of risk-based reimbursement, growing knowledge of the impact of the SDoH, increased transparency in health care costs, and attention to geographic patterns in service utilization are all key levers with the potential to change these historical patterns.

LOOKING AHEAD: THE NEXT HALF CENTURY

Public scrutiny into the charitable practices of non-profit hospitals is on the rise again, with cities in states such as New Jersey (14) and Pennsylvania (15) threatening to end tax deferments. One factor is evidence of high profitability among selected hospitals. A recent commentary (16) indicated that seven of the 10 most profitable hospitals in the U.S. are non-profits and since the passage of the ACA, revenue in more profitable hospitals has increased 15% while their charity care numbers dropped 35%. Though overall profitability among non-profit hospitals is low, reports of these outliers contribute to a negative public perception. Recent studies also suggest that hospitals in Medicaid expansion states provided less total charity care (i.e., financial assistance and Medicaid shortfalls) relative to net operating revenue (17), and that differences in non-operating income do not influence total spending on community benefit (18).

Growth in risk-based reimbursement presents significant challenges to providers to integrate clinical care management strategies with social services *and* community level interventions that address the SDoH. Challenges documented in a recent study of Accountable Care Organizations (19) include; (a) short funding cycles and different time horizons for return on investment, (b) limited knowledge of social service organizational capacity, (c) inadequate data on patient social needs, and (d) undeveloped local/regional partnerships. Recommended actions include policies to provide sustained funding to support deeper working relationships and data standardization. Even if strong partnerships and data systems are established, there is emerging evidence of diminishing returns from interventions that only address clinical and social service needs at the level of the individual patient (20).

Increased transparency (e.g., cost of services, use of GIS technology, data sharing across sectors), increasing timely access to quality primary care, and recognition of the importance of addressing the SDoH in a risk-based financing environment offer considerable potential to strengthen community benefit practices. Key actions moving forward include:

- Establish uniform criteria that clarify which services/activities qualify as community benefits, including a requirement for a primary focus in sub-geographic areas where health inequities are concentrated.
- Provide funding and related incentives for alignment of services/activities and ongoing monitoring and evaluation at the regional level across organizations and sectors.
- Give attention to comparative analysis of community benefit expenditures at the regional level related to facility proximity to low income communities, jurisdictional boundaries, and hospital payer mix.

There is growing evidence that non-profit hospitals are gaining knowledge and awareness of the important potential role they can play as partners, not just in providing high quality acute care, but in improving health and well-being in local communities. While public policy also has a role to play, much can be accomplished through strategic use of information technology and generative dialogue among community and institutional leaders in multiple sectors in communities across the nation. With the appropriate funding and collaboration with public and private sector partners, local public health agencies are well-positioned to support planning, design, and monitoring of more strategically aligned and focused resource allocations by hospitals and community partners. As the field of community benefit enters its second half century, hospitals leaders will be increasingly challenged to work across sectors and to share ownership for reducing costs and improving health in our communities.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

KB conceived this article, wrote, and revised it.

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