The availability of community health center services and access to medical care☆

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ABSTRACT

Background: Community Health Centers (CHCs) funded by Section 330 of the Public Health Service Act are an essential part of the health care safety net in the US. The Patient Protection and Affordable Care Act expanded the program significantly, but the extent to which the availability of CHCs improve access to care in general is not clear. In this paper, we examine the associations between the availability of CHC services in communities and two key measures of ambulatory care access – having a usual source of care and having any office-based medical visits over a one year period.

Methods: We pooled six years of data from the Medical Expenditure Panel Survey (2008–2013) and linked it to geographic data on CHCs from Health Resources and Services Administration's Health Center Program Uniform Data System. We also link other community characteristics from the Area Health Resource File and the Dartmouth Institute's data files. The associations between CHC availability and our access measures are estimated with logistic regression models stratified by insurance status.

Results: The availability of CHC services was positively associated with both measures of access among those with no insurance coverage. Additionally, it was positively associated with having a usual source of care among those with Medicaid and private insurance. These findings persist after controlling for key individual- and community-level characteristics.

Conclusions: Our findings suggest that an enhanced CHC program could be an important resource for supporting the efficacy of expanded Medicaid coverage under the Affordable Care Act and, ultimately, improving access to quality primary care for underserved Americans.

1. Introduction

Community Health Centers (CHCs) funded by Section 330 of the Public Health Service Act are an essential part of the health care safety net in the US, currently providing primary care to more than 21 million individuals.[1] With the expansion of Medicaid under the Patient Protection and Affordable Care Act, the CHC program may become even more critical. The Affordable Care Act's Medicaid expansion, currently implemented by 27 States and the District of Columbia, will result in millions of individuals gaining coverage.[2,3] Health insurance coverage, however, does not guarantee access to medical care; the success of the Affordable Care Act's Medicaid expansion depends, in part, on whether the capacity of local medical service markets is adequate to serve the influx of new enrollees. Previous research suggests that many providers may choose not to participate in the Medicaid program [4,5] and that those who do may curtail the provision of low cost or charity care to the uninsured.[6] Moreover, even after the Affordable Care Act is fully implemented, the Congressional Budget Office estimates that between 20 and 30 million people will still be uninsured.[3] The CHC program is therefore essential both for the success of the Affordable Care Act's Medicaid expansion and for providing access to the people who remain uninsured or underinsured.

Previous research documents the positive impacts that safety net providers have on the communities they serve. One study, for example, found that uninsured people living in close proximity to a safety net provider are modestly less likely to report unmet need and less likely to have an emergency department visit.[7] Conversely, another study found that reductions in safety net capacity were associated with increases in

emergency department visits.[8] In this paper, we update and extend previous research by describing the associations between the availability of CHC services in geographic areas and two key indicators of ambulatory care access – having a usual source of care and having at least one office-based medical visits over a one year period.

Unlike most previous research, we do not focus entirely on the safety-net population but, instead, examine a nationally representative one. This approach allows for the possibility that the availability of CHC services may benefit entire communities, including those with private insurance, not just those at which CHC services are primarily aimed. While a disproportionate share of people served at CHCs are on Medicaid or uninsured, CHCs will treat anyone and bill on a sliding scale according to one's ability to pay. Those with private insurance could choose to go to a CHC because it is particularly convenient, because there are no other sources of primary care nearby (as is the case in some rural areas), or because CHC care is more affordable for those with high cost-sharing plans. Alternatively, privately insured individuals could benefit from the availability of CHC services indirectly because CHCs provide care to vulnerable populations that would otherwise strain the primary care market in a community. The possibility of such a positive "spillover" effect has not been examined.

We further extend previous research by using an alternative measure of the availability of CHC services. Most previous research measures the availability of services based on the presence or number of CHCs in a community, though some studies have used distance to a CHC and funding levels.[7,9,10] However, CHCs vary widely in their service capacity and the geographic dispersion of patient care sites. In this study, we investigate an alternative measure of CHC service availability— the "low-income penetration rate", or the number of people in an area who used CHC services at least once divided by the number of residents with incomes below 200% of the federal poverty line. We suggest that this measure is one way to gauge the overall capacity of CHCs relative to the size of the populations they typically serve.

Results from this research will be of interest to policy makers deciding on how the substantial gains in insurance coverage under the Affordable Care Act can best be translated into real improvements in access to care and health outcomes. Two possible approaches to increasing the availability of services to the newly insured are: 1) increase the number of medical providers willing to accept Medicaid payments by incentivizing program participation and 2) increasing funding directly to safety net providers such as CHCs so that they can expand their service capacity. Results from this paper should shed light on the latter of these approaches by estimating the association between the availability of CHC services in an area and individuals' access to care.

2. Methods

2.1. Data Sources

Our analysis uses data from the Medical Expenditure Panel Survey, a nationally representative household survey collected by the Agency for Healthcare Research and Quality since 1996. The Medical Expenditure Panel Survey collects information on health, health care use and expenditures, experiences with the US health care system and basic sociodemographic characteristics and is representative of the US non-institutionalized population.[11,12] In this study, we created a large cross-section by pooling six years of data, 2008–2013. Our findings therefore pertain to the average associations between CHC penetration and our access measures over the study period. We link these data to characteristics of the Primary Care Service Areas in which individuals live using data from the Health Resources and Services Administration's Uniform Data System (2008–2013), the Bureau of Primary Health Care's Management Information System (2008–2013), the latest Area Health Resource File, and the Dartmouth Institute for

Health Policy and Clinical Practice's data files. A Primary Care Service Area is the smallest geographic unit that can be considered a discrete service area for primary care. Each Primary Care Service Area consists of a zip code tabulation area with at least one primary care provider, and all contiguous zip code tabulation areas in which the population therein obtains a plurality of their care from the same providers.[13] Currently, Primary Care Service Areas are constructed based on Medicare claims data.

2.2. Variables

The main outcome variables in this study are dichotomous variables indicating whether individuals had a usual source of care and whether they had at least one office-based visit to a medical provider during the year. Individuals were asked, "Is there a particular person or place to which you go when you are sick or have a question about your health?" Those who answer in the affirmative to this question are coded as having a usual source of care. Individuals were coded as having at least one office-based provider visit if they reported having a visit to any type of medical provider in an office setting (i.e. non-Hospital) during the year. These measures are widely used as benchmarks for access to ambulatory care services.[14] Our main independent variable is the number of unique patients reported by CHCs that reside in a particular Primary Care Service Area divided by the total number of residents with incomes below 200% of the federal poverty line (hereafter referred to as the CHC "penetration rate"). We consider this a proxy for the availability of CHC services relative to the population size of an area.

A variety of individual characteristics may be related to both CHC penetration and our outcome measures and therefore should be included in the analysis. One important characteristic is insurance coverage. In this study, individuals are classified into one of the following seven insurance categories: covered by a private plan all year, by Medicaid all year, by Medicare all year, by both Medicaid and Medicare all year, by both Medicare and supplemental private insurance all year, uninsured all year, or some other combination of insurance coverage. The "other insurance" category consists mostly of individuals who changed insurance status across these categories during the year.

Income is measured with dichotomous variables capturing household income relative to the federal poverty line. We also control for age, sex, race, and ethnicity, all potentially associated with living in underserved areas and with our access to care measures. Health status is the main driver of medical need and could be related to both access and residing in an area with high CHC penetration. Unhealthy people are more likely to have at least one office-based visit during a year and frequent contact with the health care system may make it more likely that they have a usual source of care. Further, CHCs are more likely to be placed in geographic areas that are underserved and, consequently, have poor access to needed care, which in turn may lead to worse health on aggregate. In our analysis, we control for subjective health (excellent, very good, good, fair or poor), the presence of the most expensive chronic conditions (angina, asthma, congestive heart failure, diabetes, chronic obstructive pulmonary disease, hypertension, myocardial infarction, other heart disease, and stroke), and whether a person has an activity or functional limitation (ADL or IADL).

Finally, we control for a variety of Primary Care Service Area characteristics that are related to CHC placement. These include the percent of residents in poverty, the percent of a population that is black and the percent Hispanic, all of which are important factors to guide the placement of CHCs. We also accounted for whether individuals lived in a Medically Underserved Area or a Health Professional Shortage Area. By program design, a CHC must be located in a Medically Underserved Area and be designated as a Health Professional Shortage Area. Together, these variables were included to examine whether penetration had an impact on our outcome variables independent of the site selection process of CHCs.