Geiger Gibson Program/
RCHN Community Health Foundation
Research Collaborative

Research Brief #4

Uninsured and Medicaid Patients' Access to Preventive Care: Comparison of Health Centers and Other Primary Care Providers

Avi Dor, PhD
Yuriy Pylypchuck, PhD
Peter Shin, PhD, MPH
Sara Rosenbaum, JD
August 13, 2008

Executive Summary

This issue of Research Briefs examines health centers' role in reducing disparities in preventive health care access by medically vulnerable and high risk populations. The analysis uses information from several national data sources to examine differences in the provision of preventive health care to Medicaid and uninsured patients between health centers and other primary care providers.

Key Findings

- Compared to those treated by other primary care providers, Medicaid and uninsured patients treated by health centers are significantly poorer, in significantly worse health, and in the case of uninsured patients, more likely to be members of racial and ethnic minority groups.

- Despite the higher risk nature of their patients, health centers achieve significantly higher levels of preventive health care for these patient populations in such key areas as screening for diabetes and hypertension, and preventive health screenings for breast and cervical cancer. Differences of as much as 22% between the receipt of preventive care in CHC and non-CHC settings are observed.

These findings illustrate the valuable role played by health centers in caring for Medicaid and uninsured patients, as well as the fact that even when patients are insured, income, race/ethnicity, and health status remain significant determinants of health care access, thereby necessitating a direct focus on access improvements as part of any health reform plan.

Introduction

This Research Brief from the Geiger Gibson/RCHN Community Health Foundation Research Collaborative at The George Washington University School of Public Health and Health Services examines (1) differences between health centers and other primary care providers where uninsured and Medicaid patients receive preventive health care, and (2) how much preventive care those patients receive. Following a brief background, we summarize our methods and present key findings and implications.

Background

Community Health Centers

In 2007 the nation's 1,067 community health centers (CHCs) furnished comprehensive primary health care to more than 16 million persons at approximately 7,000 sites in rural and urban communities designated as medically underserved because of the health risks of the population, a shortage of primary care health professionals, or a combination of these factors. By law, health centers must: (1) be located in or serve communities deemed medically underserved; (2) furnish comprehensive primary health care including services for both preventive and acute health care needs; (3) prospectively adjust their fees in accordance with patients' ability to pay; and (4) be governed by a community board.

Health centers serve a high risk population. In 2007, more than 67% of all health center patients were members of racial or ethnic minority groups, an estimated 27% spoke a primary language other than English, 39% were uninsured, and 91% had family incomes below twice the federal poverty level. Health center patients include some of the highest risk populations in the nation, including farmworkers and homeless persons.

Health center patients' characteristics place them at elevated risk of poor health and also diminish expected health literacy (Rosenbaum, Shin et al., 2007). At the same time, these populations stand to gain significantly from improved access to preventive care because of their greater health needs and the potential system-wide cost-savings that preventive care can generate.

Health centers are widely recognized for the quality of their care, their ability to reduce disparities in health and health care, and their demonstrated ability to meet or exceed national benchmarks in terms of quality performance (Shin, Markus et al., 2008). Similarly, health centers also demonstrate the ability to maintain chronic disease management programs that effectively reduce the risk of complications from chronic conditions (Chi et al., 2007).

Because of their mission and their location, health centers receive special coverage and payment recognition under the Medicare and Medicaid Federally Qualified Health Centers (FQHC) program. Medicaid agencies are required by law to pay health centers a prospective cost-related rate. Medicare payment rates also are linked to reasonable cost.

The Economic Impact of Preventive Health Care and Community Health Centers

The economic literature continues to indicate that appropriately targeted preventive services that are furnished at greater levels can yield large payoffs by offsetting future health care costs and reducing morbidity and mortality (Russel, 2007, Cohen et al, 2008). For this reason, economists have advocated generous financing of preventive health care, particularly in government programs serving at-risk populations (Chernew, Encinosa and Hirth, 2000, Dor, 2004).

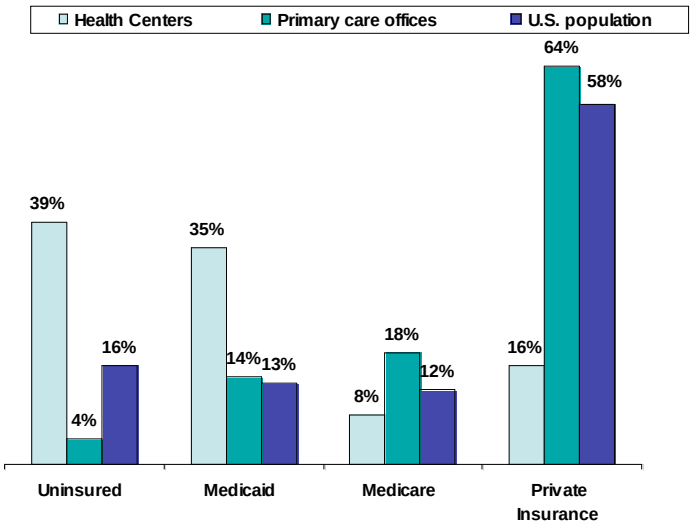
Located in areas at high risk for preventable health problems, health centers serve as an important source of preventive health care. As part of their primary care mission, CHCs are required to furnish a range of preventive services considered part of an appropriate clinical preventive care regimen (HRSA, 2008). The U.S. Clinical Preventive Task Force has identified many of these types of services as being of the type that can improve overall population health. Studies have shown that community-based providers, including CHCs, tend to reduce avoidable hospitalizations significantly (Hadley and Cunningham, 2004, Epstein 2001), and evaluation of CHC performance consistently shows health centers effectively improve access and health outcomes, particularly for traditionally underserved populations (HRSA, 2008; Shi and Stevens, 2008; Grossman and Goldman 1988). Key examples of such services are immunizations for both children and adults, preventive screening examinations for breast and cervical cancer, and testing for high-prevalence chronic conditions (e.g. diabetes, hypertension) (U.S. Clinical Preventive Task Force at http://www.ahrq.gov/clinic/USpstfix.htm).

As a result of improved access to preventive and primary care, health centers are capable of generating a significant return on investment (ROI) in the form of cost-savings and economic benefits to the health system. For example, in a comparison of costs between health centers and other primary care providers, CHCs spent, on average, 41% or $1,810 less per patient (NACHC, 2007). These savings, resulting from lower reliance on more costly emergency room and specialty ambulatory and inpatient care, translated into an estimated total savings of $10 billion to $18 billion in 2004 for providing care to 13 million low-income patients. Other studies have found that CHCs can also effectively prevent the onset of complications through early screening, detection, and management of costly chronic conditions (Chin et al., 2007). An analysis of one South Carolina health center found that Medicaid costs for patients with diabetes were $438 less than costs associated with other primary care settings ($1,340 in CHCs vs. $1,778 other ambulatory care practices) (Proser, 2007).

Comparing the Financing of Health Center and Physician Primary Care Practices

Primary health care physicians, like other medical professionals in private practice, furnish care predominantly to insured patients; studies also suggest that private primary care physicians furnish a relatively modest amount of care to uninsured patients and Medicaid patients (Cunningham, et al., 2006). **Figure 1** shows that privately insured patients account for 58% of all patients who use non-CHC primary health care practices, while uninsured and Medicaid patients make up only 4% and 14%, respectively. By contrast, uninsured and Medicaid-enrolled patients comprise nearly three-quarters of all health center patients (39% uninsured and 35% Medicaid). Thus, while the distribution of patients in private practice in relation to payer source tends to mirror the distribution of the U.S. population, the distribution of CHC patients by payer source reflects health center's special purpose.

1. Patient Distribution By Payer Type, Health Centers and Other Primary Care Settings, 2007

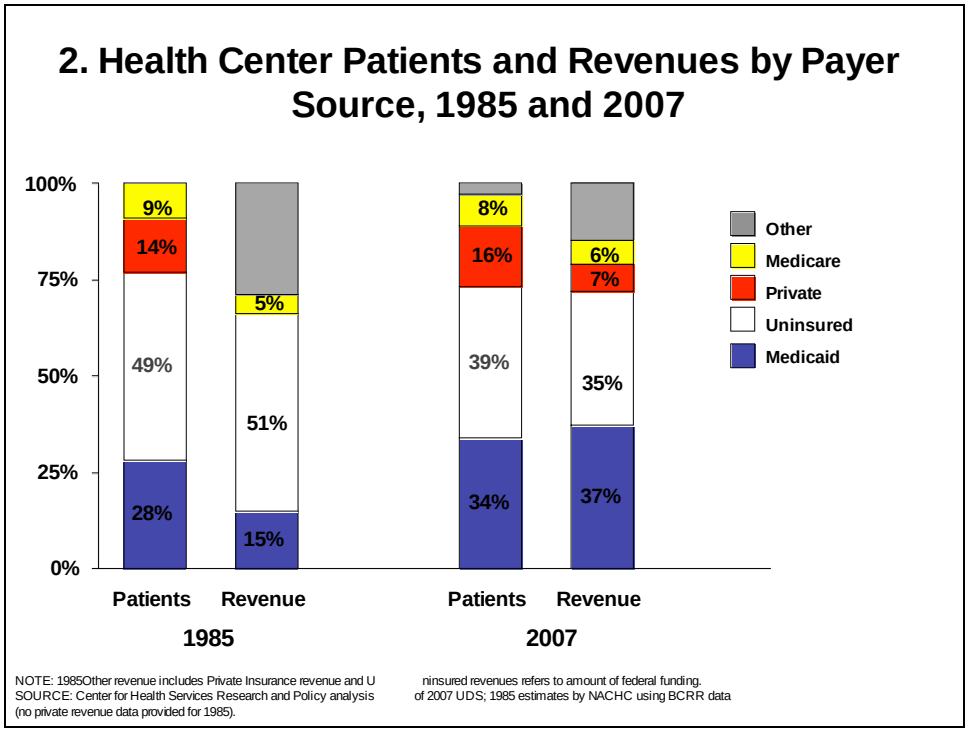


Source: Health center data from 2007 UDS, HRSA (patients). Popul ation estiamtes from Urban Institute and Kaiser Commission on Medicaid and the Uninsured estimates based on the Census Bureau's March 2006 and 2007 Curre nt Population Survey (CPS: Annual Social and Economic Supplement s). Burt CW, McCaig LF, Rechtsteiner EA. Ambulatory medical care utilization estimates for 2005.Adva nce data from vital and health statistics; no 388. Hyattsville,MD : National Center for HealthStatistics.2007

Although CHC operations are supported by a mix of funding sources, they are largely dependent on federal grants and Medicaid revenue. Data derived from the Uniform Data System, a nationwide reporting system covering all health centers and maintained by the Health Resources and Services Administration ("HRSA")[1] show that in 2007, 21% of health center revenues were derived from federal grants, while 36% came from Medicaid payments (HRSA, 2007). **Figure 2** shows that while Medicaid revenues tend to align with CHC patient distribution, private health insurance revenues tend to be more limited. Privately-insured patients account for 15% of all CHC patients, while private insurance

[1] A full explanation of the UDS can be found at http://bphc.hrsa.gov/uds/

revenues represent only 7% of all CHC revenues. This amounts to a per-patient payment level of $268 in 2006 for privately insured CHC patients, less than half of the average CHC per patient cost of $561 in that year (Shin, Finnegan et al., 2008).



Data and Methods

This study used data from the 2002-2005 pooled Medical Expenditure Panel Survey (MEPS) to compare use of preventive services by adults (aged 25-64 years) who visited community health centers and other sources of care. The MEPS is a national set of surveys of families, individuals, medical providers, and employers.

From the MEPS encounter file we identified three routine preventive services that apply to both men and women: cholesterol test, blood pressure check, and vaccination against influenza for adults aged 25-64; as well as three relatively common screening tests that are gender-specific: 1) screening tests for detecting cervical cancer (pap smears) for women aged 25-64, 2) a breast examination performed by the primary care provider, to detect breast cancer for females, aged 25-64, and 3) mammography for females, aged 40-64).

Using data from the 2002-2005 MEPS, we examined the utilization of preventive services in two populations (Medicaid-enrolled and uninsured patients) who together account for 75% of all CHC patients. First, we examined the extent to which Medicaid patients in CHCs utilize preventive services relative to patients who obtain preventive care from other ambulatory care sources. Second, we focused on the extent to which the

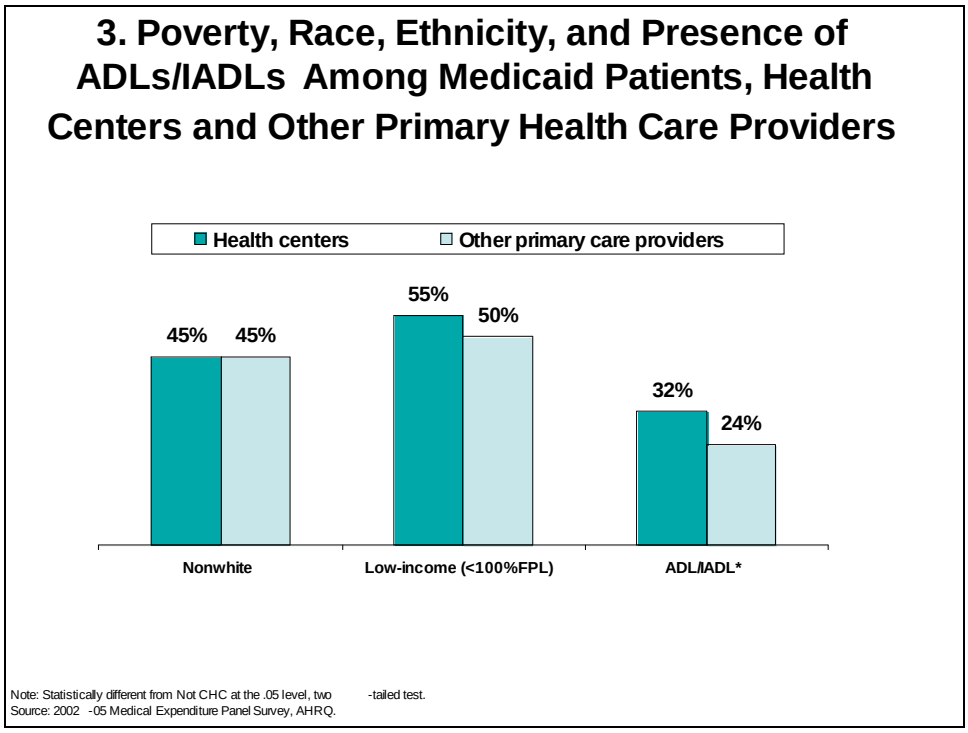
uninsured in CHCs utilize preventive services relative to other sources. Given the research and evaluation of CHCs as effective providers of care, as well as their special emphasis on preventive care, we expected to find that with respect to uninsured and Medicaid patients, CHCs furnish a greater level of preventive care than do other types of primary health care practices.

Statistical significance for the differences between CHC and the non-CHC patients were determined using Z-scores, adjusted for variances of proportions. All utilization rates were adjusted for MEPS sampling weights. We performed a standard adjustment for basic demographic characteristics: age, race, and, where relevant, gender. Descriptive analysis by available socioeconomic and health measures of ethnicity/race, poverty level, and limitations due to physical, mental, or emotional problems (as indicated by severe difficulty performing basic daily activities) are also shown to highlight major differences in patient characteristics in CHC and non-CHC practices. The findings are based on estimates after adjusting for basic demographic characteristics. Additional details of the methodology used to analyze MEPS data can be found in the Appendix.

Findings

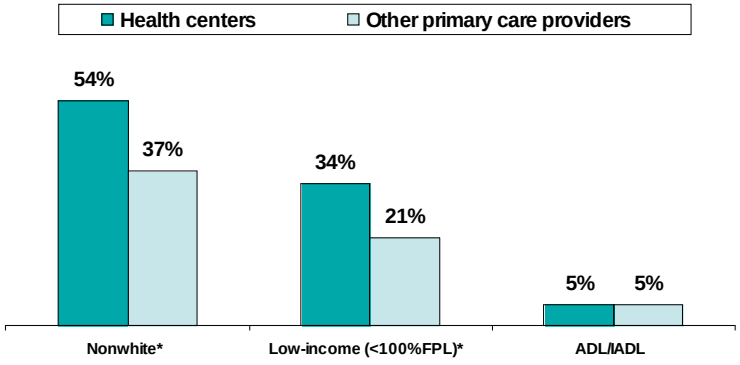
Key patient differences: CHC and non-CHC settings

Figure 3 shows key differences in patient characteristics between CHC and non-CHC patients. Although there is no difference in race or ethnicity and only small differences in financial status, 32% of CHC Medicaid patient visits involved patients with disabilities (as measured by the presence of one or more limitations in activities of daily living), compared to 24% of visits by Medicaid patients in non-CHC settings. The results tend to support the general literature, which show health centers appear to be significantly more likely to treat Medicaid patients with measurable physical or mental health conditions (HRSA, 2008).



Among uninsured patients, the differences in those who use health centers and those who use other types of ambulatory care are particularly notable. **Figure 4** shows that uninsured CHC patients are more likely to be nonwhite and to have family income below the federal poverty level than those who use other types of ambulatory care. Specifically, 54% of uninsured CHC visits were made by nonwhite persons, compared to 37% of uninsured visits in other ambulatory care settings. Similarly, 34% of CHC uninsured visits were by patients with incomes less than 100% of the federal poverty level, compared to 21% of those patients treated in other practice settings. Because the most severely disabled poor are eligible for Medicaid, it is not surprising that there were no significant differences in the ADL status of uninsured patients in CHC versus non-CHC settings. But the fact that health centers' uninsured patients are significantly more likely to be poor and nonwhite suggests health risks are higher compared to low income patients who receive care in other settings, given the association between deep poverty, racial/ethnic minority status, and health risk.

4. Poverty, Race, Ethnicity, and Presence of ADLs/IADLs Among Uninsured Patients, Health Centers and Other Primary Health Care Providers



Note: Statistically different from Not CHC at the .05 level, two -tailed test.
Source: 2002 -05 Medical Expenditure Panel Survey, AHRQ.

Preventive health care performance: health centers and other ambulatory care providers

Despite their higher risk for poor health outcomes, Medicaid and uninsured patients served in health centers appear to receive greater levels of preventive care. **Figure 5** shows the percent difference in utilization by Medicaid CHC and non-CHC patients for the six categories of preventive health care. After adjusting for basic demographic characteristics, utilization was significantly ($p < 0.05$) higher among CHC users for all of the preventive tests and services considered. For example, Pap smears and exams for breast cancer were 14% higher among CHC patients, followed by mammography and cholesterol where utilization rates were 13% and 8%, respectively. Similarly, the utilization rate of CHC patients receiving blood pressure checks and flu shots was 5% a higher.

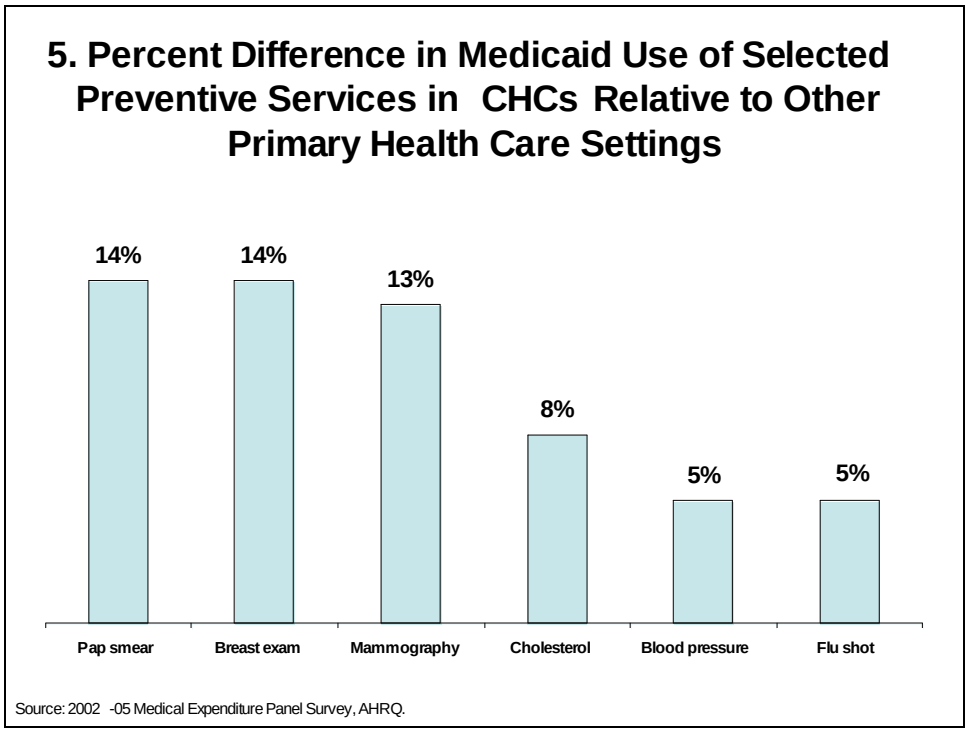
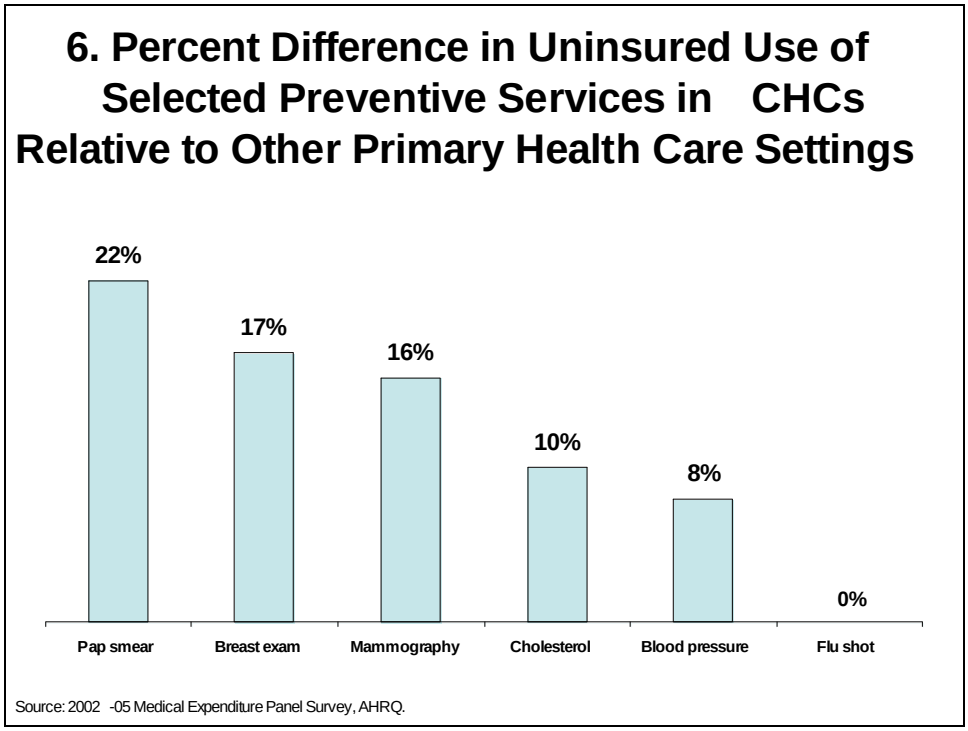


Figure 6 demonstrates a similar pattern in the use of preventive services among uninsured patients; indeed, uninsured patients who received care from CHCs were more likely to receive preventive services. The Pap smear procedure was associated with the greatest difference, with a utilization rate 22% higher among CHC patients compared with non-CHC patients; this was followed by breast exams, where use among CHC patients was 17% higher. With the exception of the influenza vaccination, the use of preventive services among uninsured CHC patients was higher and the differences were statistically significant.



It is worth noting that while Medicaid CHC patients have a relatively higher utilization rate than non-CHC patients, less than one quarter of adults receive immunization. Similarly, the MEPS data indicate only 22 % of uninsured patients in CHC and non-CHC settings receive the flu vaccine.

Implications

These findings suggest two main conclusions. First, despite certain broad similarities, key characteristics are associated with patients who receive preventive treatment in various primary care practice settings. Second, in spite of similarities in clinical practice capabilities, different primary health care practice settings achieve significantly different patient care outcomes where use of preventive care is concerned. Specifically, despite a more vulnerable patient mix, health centers out-perform other types of ambulatory care providers with respect to both Medicaid and uninsured patients in their use of preventive care.

The evidence from MEPS indicates that Medicaid patients treated in CHC settings are more likely to have health limitations, while uninsured persons treated by CHCs are more likely to be extremely impoverished and to be members of racial and ethnic minority groups. The data also show that for both the Medicaid and uninsured patients, CHCs achieve a significantly higher degree of preventive health care utilization. Possible factors associated with higher preventive care utilization at CHCs may be their accessible locations, their emphasis on cultural competency and the elimination of language barriers and barriers created by low health literacy, and patient cost sharing that is prospectively adjusted by ability to pay. Higher preventive health care rates are particularly notable in the case of women's health services, but also are significant for preventive treatments associated with serious and chronic health conditions.

These findings hold several health policy implications. First, they suggest that health centers fulfill an important role in Medicaid, as not only the largest single source of primary health care but also as one that performs particularly well for Medicaid patients. Health center performance suggests the importance of the Medicaid prospective payment system (PPS), a special cost-related health care payment system required by federal law, which is designed to align health center payments with the reasonable cost of care. These findings suggest the continuing importance of using a payment methodology for low income patients that allows providers to align performance and costs, so that the provision of preventive care is incentivized.

A second implication relates to findings concerning the treatment of uninsured patients and similarly suggests the importance of financing care. Unlike health care providers that can select more affluent practice sites and patient populations in order to minimize their exposure to high economic risk, health centers, by law, must position themselves in the most accessible locations to the poorest and most at risk populations. The importance of subsidizing care for the uninsured to make economically feasible practice in the poorest and least well served communities can hardly be overstated.

A third implication flows from the key differences that can be found in nominally similar patient populations. This analysis underscores that neither Medicaid nor uninsured patients are all alike - health centers serve the most vulnerable subgroups within each patient group. This finding suggests that these patterns could be expected to continue, even were comprehensive health reform to be enacted. By their location choices and practice preferences, non-CHC providers could be expected to maintain a more "favorable" patient selection in relation to income and health care need, as well as different race/ethnicity patterns. These patterns of patient access, even among nominally "like" patient groups, demonstrate the ongoing need as part of any health insurance reform to assure the continuation of investments needed to create and maintain high performing access points in communities at risk for medical underservice.

A fourth implication has to do with health literacy. Low health literacy has been estimated to have an annual national economic impact of as much as $69 billion in avoidable expenditures per year (IOM, 2004). The findings from this analysis underscore the literature suggesting that the way in which health care providers interact with patients

with limited health literacy can help overcome the effects of low literacy. Specifically, greater use of preventive health care in practice settings such as health centers, which have been designed to overcome access barriers created not merely by travel distance and physician shortage, but language and cultural barriers to care, may lead to higher levels of health literacy. In this respect, the experiences of health centers in furnishing preventive care helps illuminate the importance of directly investing in the establishment and support of clinical providers, such as health centers, that tailor their services to hard to reach populations.

A final observation is worth noting in the context of immunization. Health centers' limited provision of influenza vaccine in the case of both Medicaid and uninsured patients may be a reflection of several factors, including the low level of influenza immunization rates generally among adults, a shortage of the vaccine, and the fact that where Medicaid patients are concerned, state Medicaid programs may not have uniformly cover the vaccine during the study years in question. The low overall performance of ambulatory care practices where immunizations are concerned should be a focus of ongoing attention. In the context of health centers, low rates suggest the need for greater access to vaccine supplies from state health agencies and an adjustment of the Medicaid FQHC coverage and payment rules to specifically include adult vaccines recommended by the CDC and the cost of administration. In this way, potential financial barriers to improved immunization performance could be removed.

Reference:

Burt CW, McCaig LF, Rechtsteiner EA, 1007. Ambulatory Medical Care Utilization Estimates for 2005. *Advance data from vital and health statistics*; no 388. Hyattsville, MD: National Center for Health Statistics.

Chernew MW, Encinosa R, Hirth, 2000. Optimal Health Insurance: The Case of Multiple Treatment Options. *Journal of Health Economics* 19(5):585-609

Chin MH, et al., 2007. The Cost Effectiveness of Improving Diabetes Care in U.S. Federally Qualified Health Centers. *Health Serv Res* 47(6 Pt 1):2174-93.

Cohen JT, Neumann PJ, Weinstein MC, 2008. Does Preventive Care Save Money? Health Economics and the Presidential Candidates. *New England Journal of Medicine* 358 (7): 661-663.

Cunningham PJ, May JH, 2006. *A Growing Hole in the Safety Net: Physician Charity Care Declines Again*, Tracking Report No. 13, Center for Studying Health System Change, Washington, D.C.

Dor A, 2004. Optimal Price Rules, Administered Prices and Suboptimal Prevention: Evidence from a Medicare Program. *Journal of Regulatory Economics* 25(1):81-204

Epstein J, 2001. The Role of Public Clinics in Preventable Hospitalizations Among Vulnerable Populations. *Health Services Research* 36(2): 405-420.

Grossman M, Goldman F, 1988. The Impact of Public Health Policy: The Case of Community Health Centers. *Eastern Economic Journal*. 14 (1): 63-72.

Hadley J, Cunningham P, 2004. Availability of Safety Net Providers and Access to Care of Uninsured Persons. *Health Services Research*. 39(5): 1527-1546.

Health Resources and Services Administration (HRSA), 2008. *Health Centers: America's Primary Care Safety Net Reflections on Succcess, 2002-2007*. ftp://ftp.hrsa.gov/bphc/HRSA_HealthCenterProgramReport.pdf

Health Resources and Services Administration (HRSA), 2007. *2007 National Aggregate UDS data*. http://bphc.hrsa.gov/uds/2007data/National/NationalTable4Universal.htm.

Institute of Medicine, Committee (IOM) on Health Literacy. Health Literacy: A Prescription to End Confusion. (Nielsen-Bohlman L, Panzer AM, Kindig DA, Eds.) Washington, DC: National Academies Press; 2004.

National Association of Community Health Centers (NACHC), The Robert Graham Center and Capital Link, 2007. *Access Granted: The Primary Care Payoff*. http://www.nachc.com/client/documents/issues-advocacy/policy-library/research-data/research-reports/Access_Granted_FULL_REPORT.pdf

Rosenbaum S, Shin P, DeBuono B, 2007. Achieving Family Health Literacy: The Case for Insuring Children. http://www.gwumc.edu/sphhs/departments/healthpolicy/chsrp/downloads/health_literacy_062207.pdf

Russell LB, 2007 Prevention's Potential for Slowing the Growth of Medical Spending www.nchc.org/nchc_report.pdf

Shi L, Stevens GD, Politzer RM, 2007. Access to Care for U.S. Health Center Patients and Patients Nationally: How Do the Most Vulnerable Populations Fare? *Medical Care* 45(3): 206-213

Shi, L, Stevens, GD, 2007. The Role of Community Health Centers in Delivering Primary Care to the Underserved. *J Ambulatory Care Manage* 30(2):159-170.

Shi L, Starfeld B, Politzer R, Regan J, 2002. Primary Care, Self-rated Health, and Reductions in Social Disparities in Health. *Health Services Research* 37(3): 529-550.

Taylor J, 2004. The Fundamentals of Community Health Centers. NHPF Background Paper, August 31, 2004. National Health policy forum, The George Washington University.

Shin P, Finnegan B, Sharac J, Rosenbaum S, 2008. *Health Centers: An Overview and Analysis of Their Experience with Private Health Insurance*. Kaiser Family Foundation. http://www.kff.org/uninsured/upload/7738.pdf

Shin P, Finnegan B, Rosenbaum S. How Does Investment in Community Health Centers Affect the Economy? *Geiger Gibson/RCHN Community Health Foundation Research Collaborative. Research Brief #1*. February 2008.

Shin P, Markus A, Rosenbaum S, Sharac J, 2008. Adoption of Health Center Performance Measures and National Benchmarks. *Journal of Ambulatory Care Management* 31(1): 69-75.

Smith-Campbell B, 2005. Emergency Department and Community Health Center Visits and costs in an Uninsured Population. *Journal of Nursing Scholarship* 37(1):80-86.

Appendix: MEPS

MEPS is a household survey for the U.S. civilian non-institutionalized population conducted annually by the Agency for Healthcare Research and Quality (AHRQ). We focused on adults ages 25-64. The 2004 MEPS survey, for instance, collected information on 34,403 individuals belonging to 13,018 households. It provides information on health care use, expenditures, sources of payment, and health insurance coverage, as well as demographic and socioeconomic variables. Unlike other comparable surveys, MEPS identifies community health centers explicitly as a primary healthcare category, and is therefore uniquely suited to our study. Pooling several years of data was necessary given the relatively small number of respondents visiting health centers in a given year. Age group definitions corresponding to the different procedures in our analysis were based on standard medical guidelines[2]. For this study, data from the 2002-2005 surveys were pooled.

Respondents in MEPS were asked if they received these services anytime in the past year. Our interest was in comparing use rates in community health centers and in other sources of outpatient care for two groups in particular: Medicaid beneficiaries and the uninsured. MEPS identifies persons who had Medicaid any time during the year of interview. From MEPS we were also able to identify the uninsured as those having no public or private insurance coverage anytime during the year, namely those who were continuously uninsured. We further conditioned our sample on using outpatient care of any kind, including doctor office visits, outpatient clinics, and community health care centers. Emergency room visits to hospitals were excluded. This allowed us to perform a valid comparison between users of CHC services and individuals who used similar services in other settings.

Pooling the 2002-2005 resulted in a sample of 6,925 persons ages 25-64 with Medicaid, and 13,531 uninsured, of which 380 and 420 respectively visited community health centers. To assure a valid comparison between the CHC and non-CHC patients, persons who did not obtain any outpatient care or visits from office based providers were excluded from our analysis. In addition, samples became smaller once we subset to the relevant age and gender grouping. These were as follows:

Medicaid

Both sexes, age 25-64, N=5,580 of which 380 visited centers.
Females age 25-64, N=4,069 of which 301 visited centers.
Females age 40-64, N=2,246 of which 165 visited centers.

[2] Pap smears are recommended as of age 20. Cholesterol tests, blood pressure checks, and breast exams pertain to all ages in our sample. See www.Guideline.gov. We also explored PSA tests for prostate cancer among males over age 50. However, the sample sizes for CHC patients in the combined 2002-2005 MEPS data were too small for statistical comparisons (N < 50 in each payer group).

Uninsured

Both sexes, age 25-64, N=5,500 of which 420 visited centers.
Females age, 25-64, N=3,400 of which 342 visited centers.
Females age, 40-64, N=1,996 of which 175 visited centers

Utilization rates for cholesterol tests, flu shots, and blood pressure checks were adjusted for age, gender, and race (black, white, other), while utilization rates for pap smears, breast exams and mammography were adjusted for age and race only. Even after adjustment, utilization rates for CHC patients remain significantly higher compared to non-CHC users in both the Medicaid and the uninsured samples. Moreover, for the uninsured adjusting for basic demographic characteristics led to an even greater improvement in utilization rates for CHC patients than observed before adjustment. This suggests, for any individual of a given age, gender, and race, that community health centers are able to increase access to prevention services for both Medicaid and uninsured patients for outpatient care. We did not adjust for health status, which is a multi-dimensional concept that would involve numerous variables in MEPS. We leave this for more detailed multivariate analysis but it is shown as a descriptive indicator of more complex health care needs.

This brief was prepared by researchers at the School of Public Health and Health Services at The George Washington University. This research is sponsored by The George Washington University Geiger Gibson Program in Community Health Policy and the RCHN Community Health Foundation Research Collaborative. Conclusions or opinions expressed in this report are those of the authors and do not necessarily reflect the views of the sponsors or The George Washington University.