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## **2010s**

Kirby J, Sharma R. The Availability of Community Health Center Services and Access to Medical Care. *Healthcare (Amsterdam, Netherlands)*. 2017. S2213-0764(15)30074-9.

This study utilized data from 2008 to 2013 to determine the relationship between health center availability and access to care. Health center availability was measured by determining the health center “penetration rate” of a geography’s low income population. The authors found that health center availability was positively associated with a having a usual source of care among uninsured patients, finding that those living in areas with a 100% penetration rate were 16% more likely to have a usual source of care than those living in 0% areas (57% vs. 41%). Similar positive associations between health center availability and having a usual source of care were found for Medicaid and privately insured patients. The authors also found a positive association between health center availability and having one office visit per year among uninsured patients. This study found that availability of a health center increases access to health care services among uninsured patients, as well as Medicaid and privately insurance patients. The authors conclude that health centers could play an important role in ensuring that increases in insurance coverage translate into increased access to quality primary care.

Han Q, Luo Q, Ku L. Medicaid Expansion And Grant Funding Increases Helped Improve Community Health Center Capacity. *Health Affairs*. 2017. 36(1):49-56.

This study compared capacity changes of federally funded health centers in Medicaid expansion states and non-expansion states. The authors assessed patient volume, type of insurance, and visits by service category between 2012 and 2014. The authors found that health centers in expansion states grew by an average of 1,000 more patients per center than health centers in non-expansion states. The authors also found that Medicaid expansion status was associated with an average increase of 1,500 patient visits overall and an average increase of 1,000 mental health visits, compared to changes at health centers in non-expansion states. In addition, increased federal grant funding was associated with increases in both patients and visits. The authors conclude that changes to both the Medicaid program and federal health center funding would likely affect health centers and their capacity.

Laiterapong N, Kirby J, Gao Yue, et al. Health Care Utilization and Receipt of Preventive Care for Patients Seen at Federally Funded Health Centers Compared to Other Sites of Primary Care. *Health Services Research*. 2014; 49(5):1498-1518.

This study compared the health care utilization and the receipt of preventive care services between health center patients and non-health center patients, with a focus on the uninsured. The authors used five panels from the 2004 to 2008 Medical Expenditure

Panel Survey, selecting patients who were age 18 or older, had visited one clinic during the first panel year, and who lived within 20 miles of a health center. Health center patients had fewer office visits and hospitalizations and were three times as likely to receive breast cancer screening compared to non-health center patients. Uninsured health center patients had fewer out-patient visits and emergency room visits and were more likely to receive dietary advice and breast cancer screening than non-health center patients. This study suggests that health centers lower rates of utilization among disadvantaged groups and provide greater access to preventive care.

McMorrow, S., Zuckerman, S. Expanding Federal Funding to Community Health Centers Slows Decline in Access for Low-Income Adults. *Health Services Research*. 2014; 49(3): 992 – 1010.

This study explores whether increased federal funding under President Bush's Health Center Growth Initiative improves access to care for low-income adults. Using data from the Bureau of Primary Health Care's Uniform Data system and the National Health Interview Survey from 2000 – 2008, they examined individual-level measures of access and use, such as having a usual source of care, various types of visits, and unmet health care needs. The authors found that while access to care declined for low-income adults throughout the US, areas with increased federal health center funding slowed the decline in access. Health center funding increases the probability that a low-income adult has a usual source of care and having at least one office visit and a general doctor visit while decreasing unmet needs in regards to dental care and frequent emergency department use. Overall, health centers provide access to care for those in need and in times of need.

Saloner et al. The availability of new patient appointments for primary care at federally qualified health centers: Findings from an audit study. *The Urban Institute*. 2014.

This study investigates whether differences exist between FQHCs and non-FQHCs in terms of new patient appointment availability and wait time and patient insurance status. This report utilized data from an audit study conducted from 2010-2013. Individuals posing as new patients with either private, Medicaid, or no insurance called a random sample of FQHCs and non-FQHCs in ten states to obtain an appointment and inquire about cost of appointment for those uninsured. FQHCs were 24% more likely to schedule an appointment for Medicaid patients and 39% more likely to offer an appointment to uninsured patients for less than \$75. Non-FQHC providers were slightly more accommodating in terms of wait time for Medicaid patients, with a median wait of three fewer days. These findings suggest that FQHCs play a substantial role in ensuring that uninsured and Medicaid patients can access primary care. The slightly longer wait times at FQHCs suggest that these providers face challenges associated with a growing capacity of populations in need of healthcare.

Lebrun LA, Shi L, Zhu J, et al. Racial/Ethnic differences in clinical quality performance among health centers. *Journal of Ambulatory Care Management*. 2013; 36(1):24-34.

This study uses data from the 2009 Uniform Data System to show the extent of health disparities among health center patients of different races and ethnicities. Authors compared rates of inadequate hypertension control, poor diabetes control, and low birth weight across four racial/ethnic categories (non-Hispanic white, black/African American, Asian, and Hispanic/Latino) as well as certain health center characteristics. Results showed minimal differences and disparities among different races and ethnicities for these clinical indicators. Results also showed that health centers with higher patient volumes, longer durations of funding, or some managed care penetration generally reported better clinical outcomes. These findings show that health centers are successful in reducing racial/ethnic health disparities, especially when compared to disparities found nationwide.

Shi L, Lebrun-Harris LA, Daly CA, et al. Reducing Disparities in Access to Primary Care and Patient Satisfaction with Care: The Role of Health Centers. *Journal of Health Care for the Poor and Underserved*. 2013; 24(1):56-66.

This study uses data from the 2009 Health Center Patient Survey and the 2009 Medical Expenditure Panel Survey to examine satisfaction with and access to care among different racial/ethnic and insurance coverage groups among health center patients and in the U.S. low-income population. Across racial/ethnic groups, health center patients were more satisfied than the U.S. low-income patient population with the hours of operation and overall care received. The U.S. low-income patient population was also found to have significant racial/ethnic or insurance based disparities in access to primary care while health center patients had statistically none. These results show how health centers are meeting the health care needs of vulnerable populations and reducing disparities in access to health care.

California Primary Care Association. Value of community health centers study: Partnership HealthPlan of California case study. 2013 January.  
<http://www.cPCA.org/cPCA/assets/File/Announcements/2013-01-29-ValueofCHCStudy.pdf>.

This case study analyzes Medi-Cal claims data from 135,000 adults enrolled in a managed care plan in California to differentiate between healthcare system utilization of Federally Qualified Health Center (FQHC) patients and non-FQHC patients. The study population consisted of high utilizers of the health system who were continuously enrolled in Medi-Cal for two years, not over the age of 65, and not in Medicare. Compared to non-FQHC patients, FQHC patients had 64% lower rates of multi-day hospital admission, 18% lower rates of emergency department (ED) visits, 4.9% lower 30-day readmission rates, and only one-fourth of total inpatient bed days. Total healthcare costs for FQHC patients were also 20% lower than those for non-FQHC patients. These results show that investments in FQHCs' primary care bring value to the overall healthcare system through lower utilization of hospitals and EDs.

Shi, L., Lebrun, L.A., Hung, L., Zhu, J., & Tsai, J. (2012). US primary care delivery after the Health Center Growth Initiative. *J Ambulatory Care Manage*, 35(1):60-74.

The purpose of this study was to examine differences in patient socio-demographic makeup and performance on process measures across different care settings: health centers, physician offices, and out-patient departments. Authors used the 2006 National Ambulatory Medical Care Survey, the 2007 National Hospital Ambulatory Medical Care Survey, and the Uniform Data System. Health centers serve more minority, uninsured, and Medicaid/SCHIP-insured patients. Adjusted analysis demonstrated that health centers perform process of care measures with comparable or higher occurrence compared to physician offices. For example, health centers are 1.38 times more likely to prescribe medication during a visit, 1.68 times more likely to perform blood pressure checks during a visit, and 1.37 times more likely to order a laboratory test. Health centers experienced narrower racial/ethnic and insurance disparities compared to physician offices and out-patient departments, even after accounting for patient severity of illness and other factors. In some cases, disparities do not exist. For example, unlike physician offices and out-patient departments, there were no major disparities in the disease management offered to patients among different ethnic/racial and insurance groups at health centers.

Hawkins D and Groves D. The Future Role of Community Health Centers in a Changing Health Care Landscape. *J Ambul Care Manage* 2011 January/March; 34(1): 90-99.

The Affordable Care Act provides an opportunity to reinvent the health care delivery system to make it more accessible, patient-centered, and comprehensive, with an emphasis on prevention and primary care. This article demonstrates how community health centers can effectively implement provisions of health reform by expanding access to quality and affordable health care.

Hing E, Hooker R, and Ashman J. Primary Health Care in Community Health Centers and Comparison with Office-Based Practice. *J Comm Health* 2010 Nov; Epub ahead of print.

This study gathered information regarding clinicians and care provided in CHCs and office-based practices from the 2006-2007 National Ambulatory Medical Care Survey (NAMCS). Compared with office-based practices, CHCs were more likely to accept new patients, charity or no charge patients, Medicaid recipients, and Medicare recipients while CHC physicians were more likely to have evening or weekend hours than office-based physicians. CHCs also serve a more diverse population: only 39.4% of CHC patients were non-Hispanic white compared to 70.9% of office-based patients, while 45.3% of CHC patients were Medicaid/SCHIP recipients compared to 15.6% at office-based practices. These results highlight how CHCs can help reduce racial/ethnic and socioeconomic disparities.

Shi, L. et al. Characteristics of Ambulatory Care Patients and Services: A Comparison of Community Health Centers and Physicians' Offices. *J Health Care Poor Underserved* 2010; 21(4): 1169 – 83.

This study compared patient characteristics and health care delivery at community health centers with that of private office-based care. Using data from the 2006 National Ambulatory Medical Care Survey, the study found that health center patients are much more likely than those of private office-based settings to be insured through Medicaid or be uninsured and identify as being a racial/ethnic minority. Health centers also had a higher prevalence of patients with diabetes, obesity, and depression than found in physicians' offices. Health centers, tending to serve more patients from communities with lower income and education levels, provided more health education and unconventional service hours compared with physicians' offices.

Weir R, et al. Use of Enabling Services by Asian American, Native Hawaiian, and Other Pacific Islander Patients at 4 Community Health Centers. *Am J Public Health* 2010 Nov; 100(11): 2199 – 2205.

This article focuses on utilization rates of enabling services at CHCs and the impact of these services on access to health care for Asian Americans, Native Hawaiians, and other Pacific Islanders (AANHOPi) in medically underserved areas. The authors collected data from four CHCs throughout the U.S. with high AANHOPi patient populations between January to December 2004. They found that more than half of AANHOPi patients used enabling services, most of whom were either covered by a public insurer such as Medicaid or were uninsured. The most frequently used services were financial and eligibility counseling (36%) and interpretation services (29%). Overall, the study found that enabling services helped underserved AANHOPi patients obtain more linguistically appropriate health care which may be related to improved patient satisfaction and CHC utilization rates.

Wells R, et al. Trends in Behavioral Health Care Service Provision by Community Health Centers, 1998–2007. *Psychiatr Serv* 2010 Aug; 61: 759 - 64.

This study examines the change in health centers' provision of behavioral health services following \$7.2 million in federal funding for behavioral health service expansion. Using Uniform Data System information from 1998 to 2007, researchers found that the number of CHCs offering behavioral health services increased by 27% before the availability of the funds (1998-2001) and increased by 77% after the initiative (2001 – 2007). For example, the number of CHCs offering 24-hour crisis mental health care and substance abuse treatment increased by 70% and 58%, respectively, from 2001 – 2007. The number of patients treated for mental health conditions at CHCs also rose by 119% from 2001-2007 which highlight CHCs commitment to providing comprehensive services.

Lo Sasso A and Byck G. “Funding Growth Drives Community Health Center Services.” *Health Affairs*. February 2010; 29:2.

The authors examined the impact of federal, state and local grants on Federally Qualified Health Centers’ ability to provide additional services, expand staff and provide more uncompensated care. Using data from the Uniform Data System for the years 1996-2006, the authors found that grant investments explain the increase in services offered to health center patients, including behavioral health treatment and counseling. Further, state grant funding allowed for health centers to increase staffing and provide additional uncompensated care. The authors conclude an increase in \$500,000 in federal granting would result in the ability for health centers to treat 540 more uninsured patients.

## **2000s**

Shi L, Tsai J, Higgins PC, Lebrun La. Racial/ethnic and socioeconomic disparities in access to care and quality of care for US health center patients compared with non-health center patients. *J Ambul Care Manage* 2009 Oct-Dec; 32(4): 342 – 50.

This article compares data on health center and non-health center patients to highlight existing health disparities amongst racial/ethnic and socioeconomic groups. Data from the 2003 National Healthcare Disparities Report (NHDR) along with the 2002 Community Health Center User Survey were analyzed according to race, ethnicity, income, and education. A total of 70 health centers were randomly selected and studied for various access and quality measures. Even though CHCs had fewer patients with health insurance than non-CHCs (59% vs 83%), they reported higher utilization rates of various health services. For example, more female CHC patients had received a Pap smear in the past three years compared with non-CHC females (85% vs 81%), more CHC patients 65 years and older had received an influenza vaccination in the past year compared with non-CHC patients of the same age range (70% vs 65%), and more CHC patients had received outpatient mental health services than non-CHC patients (22% vs 11%). In addition to higher utilization rates, CHCs also had no racial/ethnic disparities on several access and quality indicators while having lower education and income disparities compared to non-CHCs. Overall, CHCs were shown to significantly reduce health disparities related to access to care and quality of care.

Hossain MM and Laditka JN. “Using hospitalization for ambulatory care sensitive conditions to measure access to primary health care: an application of spatial structural equation modeling. [\*Int J Health Geogr\*](#). 2009 Aug 28;8:51.

The authors examined health care data from counties in South Carolina to determine how hospitalizations for ambulatory care sensitive conditions are associated with access to primary care. The authors found those counties with less access to primary care had higher rates of emergency department (ED) visits. Further, counties found to have the highest rates of ED utilization lacked a Community Health Center (CHC). Results

suggested counties might benefit from CHCs as they may generate health care savings by reducing ED use while increasing access to primary care.

Wade et al “Access and utilization patterns of school based health centers at urban and rural elementary and middle schools.” *Conn Med* 2009 Aug 73(7) 427-428.

Research shows that the delivery of health care within schools may reduce the use of more expensive types of care while improving access and overall health among children. This article focuses on School-Based Health Centers (SBHCs) in eight urban and rural school districts. Enrollment trends and utilization rates for the 13,046 eligible elementary and middle school students were tracked and analyzed for three consecutive years (2000-2003). Urban students were significantly more likely than rural students to enroll in a SBHC. However, rural students had higher utilization rates than their urban counterparts. Additionally, students with public insurance or no insurance were more likely to enroll and utilize the SBHC compared with students under private insurance. The support and expansion of SBHCs may be a practical policy solution to improve access and quality health care in medically underserved communities.

Probst, J, et al. “Association between community health center and rural health clinic presence and county-level hospitalization rates for ambulatory care sensitive conditions: an analysis across eight US states.” *BMC Health Services Research*. July 2009; 9:134

The authors examined the extent to which the presence of community health centers (CHCs), rural health clinics (RHC), or both improves accessibility to primary health care, as measured by 2002 county-level rates of hospitalization for ambulatory care sensitive (ACS) conditions in 8 states (Colorado, Florida, Kentucky, Michigan, New York, North Carolina, South Carolina, and Washington). After adjusting for county characteristics, working adults exhibited significantly lower ACS rates in counties with a CHC as compared to counties with neither facility. Among older individuals, ACS rates were lower in counties with a CHC, an RHC, or both as compared to counties with neither. The authors suggested that CHCS and RHCS contribute to increased accessibility to primary health care, but that further research is necessary to clarify additional barriers to primary care, especially for vulnerable children and the uninsured.

Dor, A, et al. “Uninsured and Medicaid Patients’ Access to Preventive Care: Comparison of Health Centers and Other Primary Care Providers.” *RHCN Community Health Foundation*. August 2008; Research Brief #4.

This study compares Community Health Centers to other primary care providers in their provision of preventive health care to Medicaid and uninsured patients. By analyzing the 2002-2005 pooled Medical Expenditure Panel Survey (MEPS) national data set, authors find that Medicaid and uninsured patients seen by health centers tend to be significantly poorer, in much worse health, and in the case of uninsured patients, more likely to be members of racial and ethnic minority groups than Medicaid and uninsured patients of

other providers. However, health centers achieve considerably higher levels of preventive health care for these patient populations. Differences of up to 22% are seen in screenings for diabetes, hypertension, and breast and cervical cancer. The study explains that because health centers serve populations at elevated risk of poverty, poor health, and low health literacy, they exhibit a continuous need for federal subsidization for their services to remain economically feasible.

Candib, L, et al. "Creating Open Access to Exercise for Low-Income Patients Through a Community Collaboration for Quality Improvement: If You Build it, They Will Come." 2008 *J Ambulatory Care Management* 31(2): 142-150.

This article examines social determinants to health outcomes through a pilot exercise program collaborative between a community health center and a local YWCA in Massachusetts. As previous studies have indicated, lack of access to safe, available, and affordable settings for exercise are crucial reasons why patients do not exercise. The study found that when one community health center eliminated these obstacles, minority and low-income patients increased their utilization of exercise facilities. After two years of implementing the program, more than 1,000 health center patients had become the most frequent users of the YWCA. 74% of patients with diabetes who attended the program at least 3 times and adhered to their medical treatments experienced improved HbA<sub>1c</sub> outcomes. This study also illustrates the feasibility of community partnerships between healthcare and fitness organizations to address greater health goals for minority and low-income populations.

National Association of Community Health Centers, The Robert Graham Center, The George Washington University School of Public Health and Health Services. "*Access Transformed: Building a Primary Care Workforce for the 21<sup>st</sup> Century*." August 2008. [www.nachc.com/access-reports.cfm](http://www.nachc.com/access-reports.cfm).

This report examines current and future primary care workforce needs at Community Health Centers (CHCs). Authors studied current staffing patterns using provider-to-patient ratios calculated from 2006 Uniform Data System information. These ratios were compared to ideal standards based on staffing patterns in other health care systems. CHCs are currently short 1,843 primary care providers and 1,384 nurses. In order to meet the goal of serving 30 million patients by 2015, CHCs will require 15,585-19,428 additional primary care providers and 11,553-14,397 additional nurses. The authors present a multi-faceted strategy to meet health centers' staffing needs and strengthen the primary care workforce nationally.

Shin, P, et al. "How Does Investment in CHCs Affect the Economy?" *RHCN Community Health Foundation*. February 2008; Research Brief #1.

Because Community Health Centers are located in regions severely affected by the economic downturn, researchers sought to determine the benefit of expanding their federal appropriations. By building off previous studies, they found that a \$250 million increase in appropriations would allow health centers to serve 1.8 million additional patients (a 12% increase). It would also allow them to generate an extra \$750 million in revenue – a four-to-one return on investment. The economic gains to the low income communities health centers serve would reach nearly \$1 billion in direct benefits, more than \$1.1 billion in indirect benefits, and 24,000 jobs. The authors note that these gains justify expanded investment even and especially during economic hardship.

Rust George, et al. “Presence of a Community Health Center and Uninsured Emergency Department Visit Rates in Rural Counties.” *Journal of Rural Health* Winter 2009 25(1):8-16.

Access to primary care plays a vital role in reducing rates of avoidable and costly emergency department (ED) visits. Additionally, health centers remain an important source of care for the uninsured. Given this context, researchers compared uninsured ED visit rates across rural counties in Georgia between 2003 and 2005. They found that counties with a community health center site had 25% fewer uninsured ED visits per 10,000 uninsured population than those counties without a health center site. Health center counties also had fewer ED visits for ambulatory care sensitive visits – those visits that could have been avoided through timely treatment in a primary care setting. These findings remained statistically significant even after controlling for poverty, percent of African American population, and number of hospitals. Researchers found no significant differences for the insured population. They also note that simple primary care provider to population ratios do not affect uninsured ED visit rates, suggesting that expanding access to care for the uninsured requires adequate capacity to serve them.

Felland LE, Lauer J, Cunningham PJ. “Community Efforts to Expand Dental Services for Low-Income People.” July 2008. Center for Studying Health System Change. Issues Brief No. 122. [www.hschange.com/CONTENT/1000/](http://www.hschange.com/CONTENT/1000/).

This issue brief highlights how communities across the country are working to expand access to oral health care for low-income people. Through site visits to 12 nationally representative metropolitan communities across the country, researchers from the Center for Studying Health System Change note that Federally-Qualified Health Centers (FQHCs) provide comprehensive dental services, including preventative, restorative, and emergency services. By 2006, approximately three-quarters of FQHCs provided preventative dental care, and health centers or other clinics in half of the 12 communities reported opening new dental clinics, expanding clinic sessions, and hiring new dental staff. Researchers note that despite recent expansions, demand for oral health care exceeds available resources. They note that policymakers and the dental community must work together to improve access to dental care.

Lewin, M and Baxter, R. "America's Health Care Safety Net: Revisiting the 2000 IOM Report." Sept-Oct 2007 *Health Affairs* 26(5): 1490-1494.

In 2006, the committee which authored the 2000 Institute of Medicine report, *America's Health Care Safety Net: Intact but Endangered*, reconvened to discuss the ability of the safety net to meet increased demands and challenges. The committee focused on four major issues: (1) financial burdens to the safety net; (2) impact of Medicaid managed care; (3) challenges in operating in an increasingly competitive technologically sophisticated, and performance-oriented environment; and (4) the capacity of the federal government to monitor the safety net. Most safety net providers remain financially strained with smaller health centers especially facing funding challenges. Points of agreement include the challenges in activating HIT, delivering mental health services, a lack of urgently needed capital investment, concerns over new Medicaid flexibility granted to states under the Deficit Reduction Act, challenges recruiting health professionals, increasing collaborations among providers, and the need for the federal government to track and monitor the safety net's ability to meet the needs of medically vulnerable populations.

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

Researchers analyzed survey data in order to compare the primary care experience of Community Health Center uninsured and Medicaid patients to similar patients nationally. Health center uninsured patients reported better primary care experiences in terms of access, having a regular source of care, and comprehensiveness than the uninsured nationally, and health center Medicaid patients reported better care than Medicaid patients nationally. Health center Medicaid and uninsured patients were more likely to receive preventive screening such as, papanicolaou test, breast examination, mammogram, and colonoscopy, than Medicaid and uninsured patients nationally. For example, health center Medicaid women aged 40 years and older were significantly more likely to have had a mammogram in the past 2 years than Medicaid women nationally (82% vs 56%). Furthermore, health centers were considerably higher than the Healthy People 2010 national goal for three of the four preventive screenings. Additionally, health center uninsured patients were much more likely to have had 4 or more visits to a general physician than uninsured patients (58% vs 40%). This is despite the fact that Community Health Center patients are significantly more likely to be below the federal poverty level and be in poorer health. New health center funding will increase capacity to serve more uninsured patients, but Medicaid cuts jeopardize these expansion efforts.

National Association of Community Health Centers, The Robert Graham Center. *Access Denied: A Look at America's Medically Disenfranchised*. March, 2007. [www.nachc.com/access-reports.cfm](http://www.nachc.com/access-reports.cfm).

This report calculates the number and the proportion of the U.S. population without access to primary care due to local shortages of such physicians. This report defines these individuals as "medically disenfranchised." At least 56 million Americans, or nearly one in five U.S. residents, were considered medically disenfranchised in 2005.

Significantly, this number exceeds the number of uninsured. State-by-state analysis indicates that 21 states each have more than one million medically disenfranchised individuals. The authors describe how Community Health Centers are ideal providers to reach the medically disenfranchised, and the millions of other who experience additional barriers to care. In order to expand their reach, policymakers must increase investment in the Health Center Program, expand insurance coverage, and strengthen the primary care workforce.

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

Authors examined data the 2002 Community Health Center User Survey and the 2002 National Health Interview Survey (NHIS) to compare access to care for health center uninsured and Medicaid patients to uninsured and Medicaid-enrolled people nationally. This study found that health center patients tend to have poorer health than non-health center patients, yet access to care for health center uninsured and Medicaid-enrolled patients is as good as or better compared to their national counterparts, regardless of race/ethnicity, education level, and income level. Health center uninsured patients were 15.8 times more likely and health center Medicaid patients were 13.4 times more likely to have a regular source of care than their counterparts nationally. When looking specifically at health center populations by race, education level, and income, care was found to be better for these groups at health centers. For example, among African Americans, 94.5% of health center uninsured patients had a usual source of care compared with 62.7% of uninsured African Americans nationally. For Hispanics, 98.2% of health center uninsured versus 41.6% of uninsured nationally had a regular source of care. The study concludes that continued federal support for health centers and sustained Medicaid coverage are essential to ensure access to vulnerable populations.

Hurley, RE, Felland LE, Lauer J. "Community Health Centers Tackle Rising Demands and Expectations" December 2007. Center for Studying Health System Change. Issue Brief No. 116. [www.hschange.com/CONTENT/958/](http://www.hschange.com/CONTENT/958/).

This brief addresses the rising demand for health center care, such as medical, dental, and mental health services. In 2007, the Center for Studying Health System Change conducted over 500 interviews at community health centers (CHCs) in 12 nationally representative metropolitan communities. The interviews reveal that health centers are experiencing a number of market pressures, including rising patient numbers, recruiting and retaining health center staff, and cuts in state funded mental health services, and growing demand for dental and mental health care. In addition, they also face expectations for quality reporting and implementing electronic medical records. In spite of these challenges, over the past two years, CHCs have successfully met increasing demands for health care services among underserved and sought to address health care disparities.

Hadley J, Cunningham P, and Hargraves JL. “Would Safety-Net Expansions Offset Reduced Access Resulting from Lost Insurance Coverage? Race/Ethnicity Differences.” November/December 2006 *Health Affairs* 25(6):1679-1687.

This article simulated increased funding under the Bush Administration’s initiative to expand health centers as well as reductions in uninsurance to determine the effect on racial/ethnic disparities in access to care among the low income. Authors used survey data and health center grant revenues reported in the Uniform Data System, and adjusted data for intrinsic links between insurance coverage, health center capacity, and access to care. Authors found that people living in areas with greater health center capacity are more likely to have a usual source of care and an ambulatory care visit compared to those who living in other areas. Authors also found that both increasing insurance rates and health center capacity improve access to care and narrow access disparities. Findings were especially pronounced in the case of minorities. Moreover, health center expansion may offset much of the adverse impact rising uninsurance has on access. Expansions in both insurance and health center capacity most effectively improve access and narrow disparities.

Savageau JA, et al. “Characteristics of Frequent Attenders at a Community Health Center.” 2006 *Journal of the American Board of Family Medicine* 19(3):265-275.

As health centers struggle with increasingly challenging patient health care needs, they are hard-pressed to find solutions to improve health outcomes for frequent attenders. This study analyzed the medical records for 382 established patients at an urban family practice community health center in Massachusetts over a 30-month time period, from August 1998 to February 2001, and found 79% to be frequent attenders. Frequent attenders are defined as patients who make 5-12 more visits per year, contributing anywhere from 15-30% of all visits to CHCs. Statistically significant sociodemographic factors attributing to increased visits include age, zip code of residence, and insurance status. In summation, patients aged 45-64, living outside city limits, or covered under Medicaid or Medicare were more likely to be frequent attenders. 89.9% of frequent attenders had at least one chronic medical condition. Authors recommend developing interventions such as customized social report cards, applying elements of the Chronic Care Model, and productive interactions between informed patients as solutions to improve outcomes for both patient and health center.

O’Malley AS, et al. “Health Center Trends, 1994-2001: What Do They Portend for the Federal Growth Initiative?” March/April 2005 *Health Affairs* 24(2):465-472.

Authors reviewed health center patient records from nationally representative samples of community health centers in 1994 and 2001. Over this time, health centers provided more preventive services and treated more chronically ill, near-elderly, and uninsured patients while improving quality and continuity of care. Authors found no disparities by race/ethnicity or insurance status in delivery of preventive services. The authors conclude that these findings suggest that the Federal Health Center Growth Initiative

through 2006 will greatly improve access to quality care for underserved populations, while likely reducing national disparities for racial/ethnic minorities and the uninsured. However, health center expansion should coincide with expansions in insurance coverage and the primary care workforce.

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

Analyzed access to safety net services in 60 randomly selected and nationally representative communities to determine whether proximity to a safety net provider affects access to care by uninsured individuals. The authors find that uninsured people living within close proximity to an FQHC are less likely to have an unmet medical need, less likely to have postponed or delayed seeking needed care, more likely to have had a general medical visit, significantly less likely to have had an emergency room visit, and less likely to have a hospital stay compared to other uninsured. Thus, expanding health center capacity would reduce unmet need and increase the percent of uninsured with a usual source of care. At the same time, expanding health centers could improve the efficiency of the entire health care delivery system due to their ability to provide timely care and lower hospital and emergency room use, thereby offsetting the costs expanding health center capacity. The study estimates that current efforts to expand the number of health centers could ensure access to care for up to 7.5 million additional uninsured persons – more than half of the uninsured currently without access to a safety net provider. Certain challenges to the safety net, including ability to meet demand, provide specialty services, and staff shortages, likely indicates that a “much larger” safety net expansion than “what is currently being proposed” may be necessary. The authors conclude that significant access disparities would still exist between the publicly or privately insured and the uninsured, so that insurance is also essential for improving access to care.

National Association of Community Health Centers. *Nation's Health at Risk Part II: A Front Row Seat in a Changing Health Care System*. Special Topics Issue Brief #7. August 2004. [www.nachc.com](http://www.nachc.com)

This report is the second in a series of reports examining trends impacting access to affordable health care in America and straining the safety net. This report describes how health centers delivery high quality, cost effective care to 15 million patients nationally, and how both rising uninsured and limited resources have affected health centers. Specifically, the report reviews literature on how health centers produce significant savings to state Medicaid programs, and potential savings associated with redirecting non-urgent and ambulatory care sensitive emergency room visits to more appropriate settings nationally and for each state. In addition, the report reviews why the safety net is a crucial component of the nation’s health care system that will always be needed.

Brown ER, et al. "Effects of Community Factors on Access to Ambulatory Care for Lower-Income Adults in Large Urban Communities. Spring 2004 *Inquiry* 41:39-56.

Authors examined the effects of community-level variables on access to ambulatory care for low income adults in 54 US urban metropolitan statistical areas. Low-income residents, regardless of their insurance status, are more likely to have visited a physician if living in a metropolitan area with a greater number of health centers per low-income resident. Furthermore, a 10% increase in the number of health centers per 10,000 population would lead to a 6% increase in the probability of visiting a physician.

Schempf, A, Politzer RM, and Wulu J. "Immunization Coverage of Vulnerable Children: A Comparison of Health Center and National Rates" *Med Care Res Rev.* 2003 Mar; 60(1):85-100.

This study evaluates community health center (CHC) effectiveness in mitigating immunization disparities for kids. The authors compare national health center data from the 1995 User Survey, representing 1468 patients in 50 health centers, to the 1995 National Health Interview Survey. Although significant racial/ethnic disparities in childhood immunization rates exist nationally, these disparities are mitigated by or do not exist at CHCs. In addition, rates of vaccination among children reporting a usual source of care at a health center were uniformly higher than those of children with other another usual source.

Garg A, Probst JC, Sease T, Samuels ME. "Potentially Preventable Care: Ambulatory Care-Sensitive Pediatric Hospitalizations in South Carolina in 1998." September 2003 *Southern Medical Journal* 96(9):850-8.

Authors examined 1998 South Carolina hospital inpatient data in order to determine personal and community factors that influence ambulatory care-sensitive (ACS) hospitalizations among children under the age of 18. Those most likely to have a ACS hospitalization included children that were younger, male, non-white, Medicaid insured, and those living in counties that were rural, poor, and had a health professional shortage area designation. Counties with a health center had 55% fewer pediatric ACS hospitalizations, demonstrating the importance of health centers. In noting that poverty and the lack of a provider increases rates of ACS conditions, the authors support the President's call to increase the number of health centers to prevent ACS hospitalizations and related costs.

General Accounting Office (GAO). *Health Care: Approaches to Address Racial and Ethnic Disparities.* GAO-03-862R. July 8, 2003.

Recognized the Health Disparities Collaboratives as a promising federal program targeting health disparities that should be expanded.

Institute of Medicine (IOM). *Unequal Treatment: Confronting Racial and Ethnic disparities in Healthcare*. National Academy of Sciences Press, March 2003.

Specifically recognized the importance of community health centers, stating that “the community health center model has proven effective not only in increasing access to care, but also in improving health outcomes for the often higher-risk populations they serve.”

Politzer RM, Schempf AH, Starfield B, and Shi L. “The Future Role of Health Centers in Improving National Health.” 2003 *Journal of Public Health Policy* 24(3/4):296-306.

Discusses the importance of primary care in light of health disparities and poor health status among the nation’s most vulnerable populations. Examines how community-based primary health care that includes access to other social services effectively improves health outcomes at an individual and community level, and concludes that while there is no single remedy, health centers are such an effective model of care. The authors make the case for continued expansion of the health centers program.

Shi, L., Starfield, B., Politzer, R., Regan, J. “Primary Care, Self-Rated Health, and Reductions in Social Disparities in Health.” June 2002 *Health Services Research* 37(3):529-50.

Concluded that having a good primary care experience, as characterized by enhanced accessibility and continuity, is associated with improved self-reported health status as well as income disparities in ratings of overall health status.

Frick, KD and Regan J. “Whether and Where Community Health Centers Users Obtain Screening Services.” November 2001 *Journal of Healthcare for the Poor and Underserved* 12(4): 429-45.

Authors examine the socioeconomic status of adult community health center patients and their use of screening services for secondary prevention. Findings reveal that minority or lower socioeconomic status patients were not less likely to receive preventive screenings than other adult users, whereas nationally minority or lower socioeconomic status adults are less likely to receive preventive screenings than other adults. Screenings received by health center patients were most often at a health center. The study concludes that health centers are indeed providing preventive services to vulnerable populations that would otherwise not have access to certain services, and that health centers “appear to facilitate the use of timely screening services for minority and low socioeconomic status users.”

Carlson, BL et al, “Primary Care of Patients without Health Insurance by Community Health Centers.” April 2001 *Journal of Ambulatory Care Management* 24(2):47-59.

Carlson et al., compares uninsured Community Health Centers (CHCs) patients with the uninsured nationwide. Analysis of whether CHC uninsured patients have greater access and satisfaction in health care is also conducted. Findings create a favorable picture of CHC and the importance of their work with the uninsured. Even though health center uninsured patients are more likely to live in poverty-stricken areas, be poorly educated, and be members of a minority group than the uninsured nationally, they are much more likely to have a usual source of care than the uninsured nationally (98% vs. 75%). In addition, they are significantly more likely to receive health promotion counseling on smoking, drugs, alcohol, and sexually transmitted diseases than the uninsured nationally.

Politzer R, Yoon J, Shi L, Hughes R, Regan J, and Gaston M. "Inequality in America: The Contribution of Health Centers in Reducing and Eliminating Disparities in Access to Care." 2001 *Medical Care Research and Review* 58(2):234-248.

Reviews literature showing that health centers improve access to preventive services, health outcomes, and have been successful in reducing or eliminating health disparities. Health center prenatal patients are less likely to give birth to low birth weight babies compared to their counterparts nationally. When compared to uninsured patients who do not receive care at health centers, health center uninsured patients are much less likely to delay seeking care because of costs, go without needed care, or fail to fill prescriptions for needed medicine. Health center Hispanic and African-American women, as well as women patients who are low income, uninsured, and have Medicaid, are more likely to receive mammograms, clinical breast exams, and pap smears than comparable women not using health centers.

### **1990s**

Regan J, Lefkowitz B, and Gaston MH. "Cancer Screening Among Community Health Center Women: Eliminating the Gaps." October 1999 *Journal of Ambulatory Care Management* 22(4):45-52.

Because health center women are at a higher risk for morbidity and mortality associated with breast and cervical cancers, the authors compared rates of Pap smear testing, mammography, and clinical breast examination between health center women patients and comparable women nationally. Found that a higher proportion of health center Hispanic and African-American women as well as women below poverty level are up to date on cancer screening than comparable women not using health centers. Moreover, the authors found that health centers in most cases meet or exceed the Healthy People objectives.

### **1980s**

Fleming G and Andersen R. "The Municipal Health Services Program: Improving Access to Primary Care without Increasing Expenditures." 1986 *Medical Care* 24(7): 65-579.

The Municipal Health Services Program (MHSP) was created by 5 cities as networks of primary care clinics for the underserved. The evaluation found that MHSPs did reach most of the targeted groups, and may have improved improper use of emergency room services. However, MHSP did not provide continuity of care nor high patient satisfaction. Per capita expenditures for medical care for MHSP users were no about the same as for others. However, for Medicare eligible MHSP users, expenditures by Medicare were significantly less.

Freeman HE, Kiecolt KJ, Allen HM 2nd. "Community Health Centers: Making Health Care Less Expensive and More Accessible." August 1982 *Public Aff Rep.* 23(4):7.