

TRENDS

Health Center Trends, 1994–2001: What Do They Portend For The Federal Growth Initiative?

Expansion of community health centers under this initiative will likely bring us closer to the elimination of primary care–sensitive health disparities.

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ABSTRACT: The Federal Health Center Growth Initiative aims to increase community health centers' (CHCs') capacity by 60 percent from 2002 to 2006. This study investigates how primary care delivery changed and sustained its growth during 1994–2001. Findings reveal a rise in the number of patients and maintenance of their visit rate. People ages 41–64 accounted for the highest percentage of visits in 2001, and continuity of care improved. There were no disparities in visit-based preventive services delivery by race/ethnicity or insurance status. Continued growth under the initiative is likely to help reduce health disparities and improve care for the underserved.

COMMUNITY HEALTH centers (CHCs) provide primary care to people in medically underserved areas. About one in twenty U.S. primary care visits occur at CHCs; this proportion is much higher for the uninsured and minority racial and ethnic groups.¹ CHCs are one component of the Consolidated Health Center Program, supported for more than thirty years by the Bureau of Primary Health Care (BPHC) in the U.S. Department of Health and Human Services (DHHS), Health Resources and Services Administration (HRSA).²

Between 1994 and 2001, the Consolidated Health Center Program (which includes CHCs and health programs for migrant farm

workers, homeless people, public housing residents, and school-based health centers) grew by 40 percent (from 7.3 to 10.3 million patients served).³ In 2002 the government launched the Federal Health Center Growth Initiative, which earmarked federal funds for a five-year expansion to serve 6.1 million additional patients (a 60 percent increase) in 1,200 communities.⁴ Specifically, the initiative calls for (1) expanding health centers by increasing the number of primary care access points, people served, and services provided within the network; (2) strengthening the health center safety net by increasing its clinical, managerial, and financial efficiency; (3) improving the quality of care for patients and families in the

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network; and (4) mobilizing the primary care network workforce by monitoring state planning efforts. Although the initiative applies to all health centers, this paper focuses specifically on CHCs, the largest of the component programs.

Nearly 90 percent of CHC patients have family incomes at or below 200 percent of the federal poverty level, two-thirds are from minority groups, and 40 percent are uninsured.⁵ While serving these vulnerable populations, CHCs provide high-quality care, as evidenced by fewer hospitalizations and emergency department (ED) visits for ambulatory care-sensitive conditions among CHC patients compared with similar people living in the same areas who seek care elsewhere.⁶ CHCs also meet or exceed prevailing practices across other health care settings for otitis media, diabetes, asthma, and hypertension and for the delivery of evidence-based preventive services.⁷ Expanding CHCs therefore has the potential to improve access to high-quality care for some of the most vulnerable Americans.

Despite this major federal initiative to expand the primary care safety net, few data are available to inform its ongoing implementation. Which population groups are most likely to benefit from the expansions? Is the quality of care likely to suffer as CHC capacity increases? Is the expansion likely to moderate health care disparities, a core mission of the Health Center Program? This paper attempts to answer these questions.

Data And Methods

■ **Study data and methods.** The BPHC sponsored two parallel surveys of nationally representative samples of visits to CHCs during 1994 and 2001. Chart abstraction occurred in 1995 for the 1994 visits and in 2002 for the 2001 visits. The two surveys' methodologies were the same and were adapted from the National Hospital Ambulatory Medical Care Survey.⁸ All CHCs that received BPHC Section 330 funding and provided primary care were included in the sampling frames.⁹ Temporary clinics, clinics open for less than one year, school-based health centers, and specialized

clinics (other than primary care-linked obstetrics/gynecology, or OB/GYN, clinics) were not eligible. Nine strata were formed based on census region and urban/rural designation, and a tenth was formed for CHCs with large proportions of managed care patients. Selection was carried out with probability-proportional-to-size methodology within a stratum. Of 501 CHCs eligible in 1995, 48 (9.6 percent) were selected; of 581 eligible centers in 2002, 69 (11.9 percent) were selected.¹⁰

Eligible visits included those in which the patient saw a physician or a nonphysician clinician (for example, a nurse practitioner, physician assistant, or nurse midwife), or both. Data were obtained by medical record review. A random sample of 2,878 unduplicated patient encounters was selected from forty-eight CHCs (mean of sixty visits per center) for the 1994 survey. For the 2001 survey, a random sample of 3,028 unduplicated patient encounters was selected from among sixty-nine CHCs (mean of forty-four visits per center). The overall completion rate among eligible visits was 98 percent for the 1994 abstraction and 100 percent for the 2001 abstraction.¹¹

■ **Data analysis.** The main analytic goal was to compare and contrast primary care visits occurring in 1994 and 2001. Sampling weights and statistical procedures that accounted for the multistage sample design, the probability of selection, and nonresponse were used to obtain national estimates.¹²

Diagnostic data recorded for each visit were analyzed using the Adjusted Clinical Groups (ACG) case-mix system.¹³ This system includes a validated methodology for categorizing all visit diagnostic codes as a chronic condition, defined as a health problem that is expected to last twelve months or longer.¹⁴

Population visit rates were expressed as visits per 100 Americans. The numerators were the weighted national estimates of visits from the survey data; the population denominators were obtained from U.S. Census Bureau estimates of the respective midyear civilian, non-institutionalized U.S. population.¹⁵

We obtained the number of patients seen at CHCs and eligible for the surveys from the

Uniform Data System (UDS)—a reporting system that provides uniformly defined data for major BPHC grant programs, including center, clinic, and patient characteristics, which can be compared with other national data.¹⁶

Study Results

■ Changes in CHC visit rates and patient mix: 1994–2001. From 1994 to 2001, the average number of CHC visits per patient remained constant, with slight increases per 100 Americans. For uninsured people and most racial/ethnic groups, visit rates remained constant (Exhibit 1). Population visit rates at CHCs were four to seven times higher for Hispanics and black non-Hispanics than for whites, and substantially higher for the uninsured than for the overall U.S. population. Nonelderly adults and people with chronic illnesses accounted for a larger proportion of all visits in 2001 than in 1994 (Exhibit 2). A smaller proportion of visits in 2001 were for new patients.

■ Changes in CHC resource use and workforce. Overall, CHC visits were more likely to include plans for follow-up in 2001 than in 1994 (Exhibit 2). Compared with 1994,

a higher proportion of visits in 2001 were with nonphysician clinicians. In both years, more than two-thirds of visits were with a physician. Patients with chronic conditions were much more likely to be cared for by physicians than by nonphysicians.

■ Changes in CHC preventive services.

Visits for routine care increased from 20 percent to 24 percent ($p = .001$) (Exhibit 2). Provision of immunizations increased significantly among children, as did vaccination for influenza and pneumonia among those over age sixty-five (Exhibit 2). Among women over age fifty, more visits resulted in the ordering of a mammogram in 2001 than in 1994 (data not shown). Among children, injury prevention counseling increased from 2.4 percent in 1994 to 4.8 percent in 2001 ($p = .004$); hearing testing, from 4.5 percent to 8.8 percent ($p = .0001$); and vision testing, from 6.7 percent to 12.5 percent ($p = .0001$) (data not shown). However, nutrition counseling for children declined during the period (data not shown).

Additional analyses found no disparities by race/ethnicity or insurance status in visit-based rates of use of certain preventive services (immunizations, Pap smears, cholesterol counseling, and weight reduction counseling)

EXHIBIT 1
Community Health Center (CHC) Visit Rates, 1994 And 2001

	1994	2001
Patients seen at eligible CHCs	5,130,474	6,115,097
Visits to eligible CHCs (weighted) ^a	13,050,911	15,681,407
Visits per CHC patient	2.54	2.56
CHC visits per 100 Americans per year	5.1	5.7
CHC visits per 100 uninsured Americans	8.2	8.9
CHC visits per 100 Americans by race/ethnicity group		
Hispanic	14.0	14.2
Black, non-Hispanic	11.1	11.0
Asian/Pacific Islander	6.4	1.5 ^b
White, non-Hispanic	2.0	2.6

SOURCES: 1994 and 2001 Community Health Center Visit Survey; Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA), 2001 Uniform Data Set (UDS) data; and 1994 and 2000 U.S. Bureau of the Census data for the noninstitutionalized, U.S. civilian population.

^a Counts of patients and of visits are weighted to reflect the multistage sampling design as well as nonresponse rates to obtain national estimates.

^b Rather than an actual shift in the Asian/Pacific Islander population served, the most likely reason for this change is the change in the response options for the Asian/Pacific Islander categories on the data abstraction forms from 1994 to 2001.

EXHIBIT 2
Patient, Service Use, And Provider Characteristics For Community Health Center (CHC) Visits, 1994 And 2001

	1994	2001	P value
Unweighted sample size of CHC visits	2,878	3,028	
Weighted estimate of CHC visits ^a	13,050,911	15,681,407	
Patient characteristics			
Age (years)			
Up to 18	37.9%	32.6%	
19-40	30.9	30.7	
41-64	20.6	26.2	
65 and older	10.4	10.0	<.001
Female	64.3	65.6	.171
Race/ethnicity			
White, non-Hispanic	33.3	36.3	
Black, non-Hispanic	29.8	26.7	
Hispanic	32.0	35.8	
Asian/Pacific Islander	4.8	1.2 ^b	<.001
Rural residence	47.7	46.6	.422
Chronic condition managed during visit	14.0	17.8	.003
Patient new to the CHC	15.1	12.0	<.001
Established patients seen for continuing care	48.0	62.4	<.001
Services and provider use			
Medication prescribed (all visits)	68.1	59.1	<.001
By age group (years)			
Up to 18	68.8	49.0	<.001
19-40	62.7	56.6	.008
41-64	73.4	69.6	.127
65 and older	70.9	72.3	.708
Disposition of the visit (could check more than 1)^c			
No follow-up	11.5	8.9	<.001
Specialty referral	5.6	7.2	.020
Return to clinic, appointment made	59.0	53.1	<.001
Telephone follow-up	1.2	2.0	.033
Return to clinic as needed	27.7	27.3	.831
Type of practitioner seen			
Physician only	71.0	68.5	
Nonphysician clinician only	19.5	26.1	
Physician plus nonphysician clinician	8.8	3.4	<.001 ^d
Practitioner caring for chronically ill patients			
Physician only	64.6	76.2	
Nonphysician clinician only	13.9	12.3	
Physician plus nonphysician clinician	21.5	11.4	<.001 ^d
General preventive services			
Visits for routine checkup/general medical exam ^e	19.7	24.0	<.001
Visits with immunization given (children ≤11 years)	7.7	24.1	<.001
Visits with immunization given (adults >65 years)	0.7	3.0	.030
Visits with preventive counseling/education given	15.9	19.2	.001

SOURCES: 1994 and 2001 Community Health Center Visit Survey; and Bureau of Primary Health Care (BPHC), Health Resources and Services Administration (HRSA), 2001 Uniform Data Set (UDS) data.

^a National estimates were calculated using sampling weights that account for the multistage sample design including stratification, clustering, and multistage sampling.

^b Rather than an actual shift in the Asian/Pacific Islander population served, the most likely reason for this change is the change in the response options for the Asian/Pacific Islander categories on the data abstraction forms from 1994 to 2001.

^c Abstractor could check more than one category for this variable, so total may exceed 100 percent.

^d P values presented for provider type comparison both within years and between years.

^e Percentage of visits for routine checkup/prevention comes from the Adjusted Clinical Groups (ACG) classification of visits.

within years (data not shown). Neither were there any significant differences by race/ethnicity or insurance status in rates of blood pressure monitoring among people with diabetes, hypertension, or obesity for either year (blood pressure was monitored at about 90 percent of visits).

■ **Changes in continuity of care and financing.** At the same time that CHCs cared

for more adults with chronic illnesses, they provided significantly more ongoing care of established patients. This suggests an increasing morbidity burden and greater levels of continuity in 2001 versus 1994.

Changes in the financing of CHC visits were most pronounced for children (Exhibit 3), a likely consequence of national expansions in Medicaid and the introduction of the State

EXHIBIT 3 Changes In The Financing Of Community Health Center (CHC) Visits, 1994 And 2001

	1994	2001	P value
Unweighted sample size of CHC visits	2,878	3,028	
Weighted population estimate of CHC visits ^a	13,050,911	15,681,407	
Total sample			
Insurance (payer)			
Medicare	12.2%	9.9%	.006
Medicaid	40.7	42.6	.129
Private	18.1	20.1	.049
Uninsured	25.2	22.7	.020
Unknown	3.8	4.5	.160
HMO visits, by insurance payer ^b			
All payers, percent HMO	16.3	17.7	.130
Medicare, percent HMO/managed care	7.7	5.0	<.001
Medicaid, percent HMO/managed care	18.4	26.0	<.001
Private, percent HMO/managed care	33.6	29.1	<.001
Percent of each racial/ethnic group that is uninsured			
White, non-Hispanic	26.8	22.0	.016
Black, non-Hispanic	22.2	25.7	.103
Hispanic	32.1	23.4	<.001
Percent of Hispanics, by age group, who are uninsured			
Up to 18 years	24.3	14.3	<.001
19–40 years	41.5	29.6	.001
41–64 years	39.7	34.8	.404
65 years and older	15.4	13.1	.749
Children and adolescents only (≤18 years)	(n = 1,092)	(n = 987)	
Insurance (payer)			
Medicaid	56.9%	58.5%	.049
SCHIP	0.0	2.7	<.05
Uninsured	22.2	13.5	<.001
Private	16.5	18.4	.240
Medicare (disabled)	0.7	2.4	.001
Unknown	3.6	4.4	.358

SOURCE: 1994 and 2001 Community Health Center Visit Survey.

NOTES: HMO is health maintenance organization. SCHIP is State Children's Health Insurance Program.

^a National estimates were calculated using sampling weights that account for the multistage sample design including stratification, clustering, and multistage sampling.

^b Interpretation of the percentage: For example, in 1994, 7.7 percent of Medicare-covered encounters were for people in Medicare managed care.

Children's Health Insurance Program (SCHIP). One-fourth of overall visits were by uninsured patients in 1994, compared with 23 percent in 2001 ($p = .02$). There was a significant increase in the Medicaid managed care visit rate, with concomitant decreases in Medicare and privately financed managed care, reflecting national trends (Exhibit 3).

Discussion

This study identifies several time trends in care provided by CHCs that can inform implementation of the new Federal Health Center Growth Initiative. Results provide information on the populations most likely to be affected, the effects of expansion on resource use and patterns of care, and the likely implications for the CHC workforce.

■ **Expanding capacity.** The 1994–2001 expansion was accomplished by a balance between increases in the number of CHCs, the creation of new practice sites within existing centers, and the addition of new health professionals. Assuming continued support at projected funding levels, the growth initiative is likely to follow the same pattern, given that funding is targeted toward similar objectives.

Our findings suggest that the increased size of the CHC safety net will have a positive and disproportionate impact on ethnic minorities and the uninsured: Ethnic minorities are much more likely than non-Hispanic whites to use CHCs for their primary care, and the uninsured at CHCs have primary care visit rates higher than those of the general U.S. population.¹⁷

■ **Strengthening the CHC safety net.** CHCs are improving their financial position by obtaining insurance coverage for eligible clients and participating in managed care.¹⁸ The proportion of CHC visits by children with Medicaid and SCHIP increased from 1994 to 2001. This change may reflect increased efforts to obtain coverage for uninsured children.

With the threat of losing Medicaid market

share in the mid-1990s, CHCs used numerous approaches to prevent such losses: Some established contracts with managed care organizations, some formed networks with other health centers and public hospitals, and some created their own nonprofit managed care organizations. In 1998, one-third of federally qualified CHCs participated in prepaid managed care arrangements.¹⁹ By 2002, more than two-thirds of CHCs participated in managed care at various levels.²⁰

“CHCs are improving their financial position by obtaining insurance coverage for eligible clients and participating in managed care.”

■ **Improving access and quality.** Overall, despite caring for an older population with more chronic conditions in 2001 than in 1994, process indicators of quality in CHCs such as continuity of care, visit rates for routine check-ups, and visits where immunizations were administered all improved during the study

period. While the average number of visits per patient remained the same, the percentage of those visits in which preventive services were delivered increased. The rate of visits among the uninsured, per 100 uninsured Americans, also increased during this period. In light of prior work demonstrating the unmet health care needs of uninsured people, the visits rates of the uninsured to CHCs point to these centers' role in providing access to the neediest Americans, who otherwise would go without care or receive substandard care.²¹ These are important findings, because they suggest that service delivery improved in tandem with access expansions.

In the United States, there is ample evidence of disparities in preventive services use by race, socioeconomic status (SES), and insurance status.²² However, among CHC patients, such disparities are greatly reduced, and the quality of care at CHCs is equal to and in some cases better than care in other settings serving low-income people.²³ Also, we found no disparities in rates of preventive services delivery at CHC visits among whites, blacks, and Hispanics or between insured and uninsured groups. This finding demonstrates an

association between primary care access via CHCs and reduction in disparities among people living in medically underserved areas.

■ **Mobilizing the workforce.** An important factor in fulfilling the growth initiative is CHCs' ability to recruit and retain primary care physicians. Physicians provide the majority of care for the general CHC population, especially for the chronically ill. In light of the maldistribution of physicians and the shortage of primary care physicians relative to subspecialists, others have proposed that nonphysician clinicians play an increasing role in the delivery of routine care.²⁴ Increased incentives for primary care physicians to practice in medically underserved areas are also necessary.

■ **Study limitations.** Although the CHC visit and user surveys are useful methods for describing patients and some processes of care, they have some limitations.²⁵ First, they are a snapshot of care from a cross-sectional sample. Thus, they do not capture patients' care over time. Second, although visit data can describe patterns of care, they cannot directly assess whether there is a causal relationship between CHCs and the receipt of guideline-appropriate care. However, other studies designed to measure quality of care in CHCs have found them to deliver services at rates comparable to or better than care in other settings.²⁶ Third, the definition used for "Asian/Pacific Islander (PI)" changed from 1994 (one response option) to 2001 (ten response options indicating country of origin). This likely led to inaccuracies in chart abstraction on the Asian/PI response and is the probable cause of the change in percentages of visits for this group from 1994 to 2001. In support of this conclusion, the percentage of CHC patients who are Asian/PI from the UDS data do not change significantly during this period.²⁷

THE SURVEYS from which we presented results do not provide real-time information, which could greatly aid in the implementation of the Federal Health Center Growth Initiative. Nonetheless, our study indicates that CHCs have greatly increased the volume of vulnerable people served while also

improving continuity of care, delivery of preventive services, and overall access to care. Certain challenges remain, though, such as meeting the needs of an aging and more chronically ill patient population and ensuring an adequate primary care workforce. Thus, expansion of CHCs under the initiative—in tandem with increasing incentives for the pursuit of primary care careers and expanding insurance coverage—will likely bring us closer to the eventual elimination of primary care-sensitive health disparities.

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The views expressed in this paper are those of the authors and should not be attributed to the Department of Health and Human Services or any of its components.

NOTES

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