

medicaid  
and the uninsured

A PROFILE OF FEDERALLY FUNDED  
HEALTH CENTERS SERVING A HIGHER  
PROPORTION OF UNINSURED  
PATIENTS

*Prepared by*

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Center for Health Services Research and Policy

The George Washington University Medical Center

June 2002

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commission on

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**The Kaiser Commission on Medicaid and the Uninsured serves as a policy institute and forum for analyzing health care coverage and access for the low-income population and assessing options for reform. The Commission, begun in 1991, strives to bring increased public awareness and expanded analytic effort to the policy debate over health coverage and access, with a special focus on Medicaid and the uninsured. The Commission is a major initiative of The Henry J. Kaiser Family Foundation and is based at the Foundation's Washington, D.C. office.**

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## EXECUTIVE SUMMARY

This study examines the characteristics of health centers that serve an unusually high rate of uninsured patients.<sup>1</sup> It explores what external factors influence uninsured patients to seek care at these centers and assesses the impact of a disproportionately high volume of uninsured patients on these centers' finances and operations.

Data from the federal Uniform Data System (UDS) demonstrate that health centers that serve a high proportion of uninsured patients are generally:

- more likely to be located in the South and in the West;
- more likely to serve a higher proportion of nonelderly patients who are poor and minority;
- more likely to have special service missions targeted on populations who are exceedingly likely to be uninsured – in particular, homeless and migrant patients;
- more likely to provide specialty care services on-site; and are
- more likely to rely on grant funding than any other source of revenue.

Interviews were conducted with ten randomly selected health centers serving high proportions of uninsured patients. These interviews focused on the external factors associated with uninsured patients seeking care at the centers, and assessed the impact of high loads of uninsured patients on these centers' financial and operational situation. Study participants stated that:

- their high number of uninsured patients was related to above average rates of uninsurance in their state as compared to other states; additionally, their specific mission targeting populations more likely to lack health insurance, such as the homeless and undocumented persons, was also important in explaining why their clientele was mainly uninsured; a third contributing factor was the conditions of the local market, including the lack of other sources of care in the community and the segmentation of the market between providers serving the insured and those serving the uninsured; and
- a high uninsured patient load affected the way they ran their clinical and financial operations, with almost half of the centers providing more services that they can afford to, leading to financial instability.

The findings presented in this report confirm the association between the overall geographic patterns of uninsured, nonelderly persons and the responsiveness of the health centers program. The results of this analysis confirm that health centers function as would be expected given their mission. As the rate of uninsured persons increases, the number and proportion of health centers with high uninsured levels also increases. Although health centers have care to the uninsured as a central part of their missions, they are particularly sensitive to uninsured patterns in the general population and highly sensitive to the existence of state insurance programs aimed at low income persons. Indeed, centers where uninsured patients make up a smaller percentage of their total patient population have been able to rely on Medicaid revenues to support their mission.

Second, in the South and West, where poverty is the highest and insurance rates the lowest, the survival of health centers along with other safety net providers is critical because of the need for subsidized primary health care. Yet, the findings from this study suggest that the very regions of the nation that exhibit the greatest need for such support are also the regions where the greatest concentration of centers with high levels of uninsured patients and limited revenue bases are located. The link between location in high uninsured regions of the country and the presence of high level uninsured centers raises questions regarding how best to support the safety net in these regions. With so many uninsured patients, these centers have a greater than average need for operating revenues to enable them to furnish subsidized health care. Yet these are the centers least likely to be able to generate the Medicaid revenues needed to help offset the cost of overall operations (because eligibility levels often fall below national averages in these regions). Furthermore, high-level uninsured centers are more likely to have special missions related to the care of patients disproportionately at risk for a lack of coverage, such as migrant farmworkers and homeless families.

Given the use of health centers by Medicaid beneficiaries, efforts to expand coverage in these states could be expected not only to directly aid more uninsured persons but also to indirectly aid support of health care to uninsured patients. As the proportion of patients insured through Medicaid rises, the infusion of revenues can be expected to strengthen the overall operating capacity of health centers. Despite the fact that virtually all children who use health centers have low incomes and should qualify for some public coverage, 35 percent of all pediatric patients served at health centers were uninsured in 1999.

Indeed, better enrollment outreach and outstationing efforts for Medicaid and CHIP could be expected to have a major impact on the long-term economic health of these health centers. A 1998 study of outstationed enrollment at health centers found that less than half reported any outstationing activities and that the overwhelming cause of limited to no outstationing efforts was a lack of revenues to support such activities. The impact on health centers of high levels of uninsured patients underscores the need for additional revenues aimed at finding and enrolling insured patients.

Finally, the findings from this study underscore that even were coverage rates to increase and payments per covered person to rise, these health centers that have been assigned special care missions, such as services to migrant and homeless families, can be expected to generate very little in the way of third party revenues. Along with their role in the provision of care to low income non-citizens, health centers are singular in their statutorily-based involvement with such high risk populations. Even the most efficiently operated health centers need significant supplemental revenues to carry out this mission. Thus, the continued increase in funding for the operation of health centers remains essential to their success. Programs that offer merely startup capitalization cannot succeed in light of the large number of patients whose care will require ongoing subsidization.

## INTRODUCTION

Increasing numbers of uninsured patients, coupled with limited revenues, are a challenge for safety net health providers.<sup>2</sup> This analysis examines the experiences of one particular group of safety net providers: federally funded community health centers that, compared to federally funded health centers generally, treat particularly high levels of uninsured patients. In this analysis, these health centers will be referred to as “high level uninsured centers.”

This analysis builds on an earlier health centers study conducted for the Kaiser Commission on Medicaid and the Uninsured<sup>3</sup> which identified a group of health centers that, even when compared to other health centers, reported an unusually high rate of uninsured patients, defined for purposes of this study as more than 62 percent of all patients.<sup>4</sup> This analysis more closely examines this subset of safety net providers. While they represent a small proportion of all health centers, high level uninsured centers are a pivotal source of care in their communities, and their survival is a matter of great importance.

This study has two purposes: (1) to examine the characteristics associated with clinics that—even within a group of providers known for the high volume of uninsured care they furnish—stand out as exceedingly high providers of health care to the uninsured; and (2) to assess the impact of a disproportionately high volume of uninsured patients on centers’ overall ability to maintain their operations for their communities. The analysis is built on two sources of information: data from the federal Uniform Data System (UDS);<sup>5</sup> and supplemental telephone interviews with center staff.

This study begins with a background and overview of the federal health center program and presents data on the characteristics of health centers generally. The second section presents the study’s principal findings, including data on the characteristics of health centers serving high proportions of uninsured patients, and the final section discusses the implications of these findings for health centers and other safety net providers serving a high proportion of uninsured patients.

## THE COMMUNITY HEALTH CENTERS PROGRAM

***In general:*** Begun as a demonstration program in 1965, the community health centers program was conceived as a strategy to bring comprehensive primary health care to urban and rural medically underserved low income communities. Because the program coincided with the origins of Medicaid, the early health centers served populations that were pervasively uninsured; with the enactment of Medicaid however, federal policy makers assumed that over time Medicaid would expand to cover virtually all low income persons and thus would provide health centers with virtually all necessary operating revenues.<sup>6</sup> In fact, however, with the exception of children, pregnant women, and certain other groups of elderly persons and persons with disabilities, Medicaid never grew into a general source of coverage for the poor; indeed, in 1999 less than 40 percent of all poor nonelderly persons qualified for coverage.<sup>7</sup> As a result, health centers and other safety net providers depend on various sources of public and private financing in order to maintain operations.

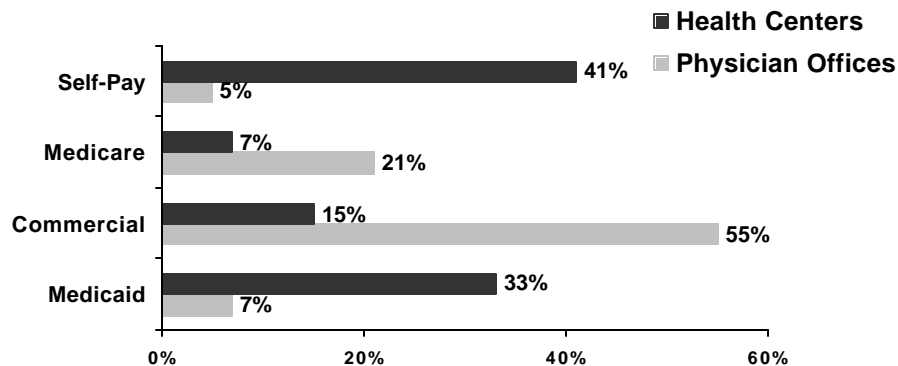
The health centers program has grown enormously over the past 35 years, from a small demonstration into one of the nation's most important health care networks for lower income and medically underserved persons. Despite this growth, health centers today retain the basic characteristics of the original health centers program. As a federally administered grants program, health centers by law are structured to provide services to populations and communities designated as "medically underserved" (an indicator that combines indicators of primary health care shortages with measures showing reduced health status among the target population).<sup>8</sup>

Furthermore, as a condition of eligibility for both startup grants and ongoing federal operating funds, health centers must provide a defined set of primary medical and health services, serve all residents of their service areas, prospectively adjust their charges to reflect the economic circumstances of their patients, and apply only nominal charges in the case of low income patients. The services furnished by health centers consist of not only preventive health care, but also treatment for acute and chronic conditions and services that improve access to care (e.g., outreach and transportation) as well as the effectiveness of care (e.g., education, referrals to other social services). Finally, health centers by law must be governed by community boards, a majority of whom uses the services of the centers.

In 1999, approximately 700 federally funded health centers furnished services in more than 3,000 urban and rural locations to over nine million patients. (Approximately 180 "look alike" health centers certified as meeting all federal health center requirements but receiving no federal grant funding served an estimated 1.5 million additional patients.<sup>9</sup> Because of their federally certified status, these "look alike" health centers, like their federally funded counterparts, qualify as federally qualified health centers (FQHC) and thus for special Medicaid payments discussed below.) Forty-one percent of all health center patients are uninsured, 64 percent are members of racial or ethnic minority groups, 86 percent have family incomes below twice the federal poverty level, and 32 percent rely on Medicaid.

Compared to privately operated primary care physician group practices, health centers as a group experience eight times the rate of “self-pay” patients, nearly five times the rate of Medicaid patients, and approximately one quarter of the rate of patients with private health insurance (Figure 1).

**Figure 1. Health Center and Physician Office Patients by Insurance Status, 1999**



SOURCE: 1999 National Ambulatory Care Survey (visits); CHSRP Analysis of 1999 UDS data.

Health centers have evolved into a basic part of the U.S. health system. A comparison of patient care data to population estimates reveals that in 1999, federally funded and “look-alike” health centers furnished health care to an estimated 13 percent of low income Americans, 11 percent of all uninsured persons, ten percent of all rural U.S. residents, and 11 percent of all Medicaid and SCHIP beneficiaries (Table 1). Health centers, both federally funded and “look-alike,” served an estimated one in six low income children, and one in four low income, uninsured children in 1999. Births to health center patients in 1998 accounted for an estimated 20 percent of low income births nationally.<sup>10</sup>

**Table 1. Health Centers as a Source of Primary Health Care: Selected Patient Characteristics, 1999**

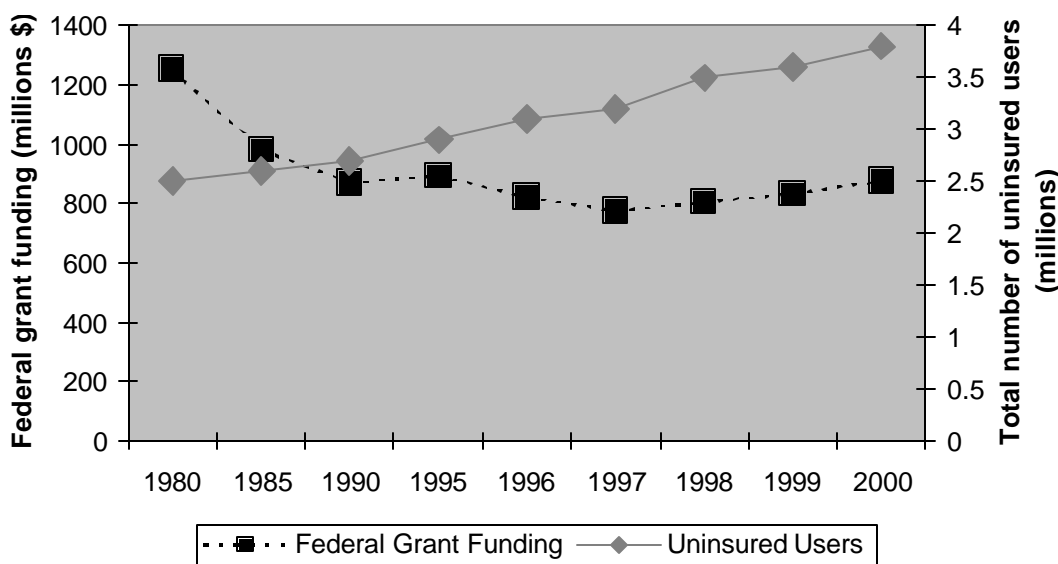
Patient Characteristic	Percent of Patients Served by Health Centers
<i>Rural</i>	10%
<i>Uninsured</i>	11%
<i>Low Income</i>	13%
<i>Medicaid/SCHIP beneficiary</i>	11%
<i>Low income children</i>	16%
<i>Low income and uninsured children</i>	25%
<i>Low income births</i>	20%

SOURCE: National Association of Community Health Centers, 1999.

***Growing challenges:*** In recent years, a series of trends—stagnating grant funding levels, declining rates of Medicaid coverage among patients, stagnating Medicaid revenues from Medicaid insured patients—have tested the limits of the health centers program.

***Stagnating grant funding levels:*** Between Fiscal Year 1980 and 2000 federal grant funding increased significantly in nominal terms; adjusted for inflation, however, total grant levels declined by 30 percent even though the number of health centers and of uninsured patients served by health centers grew by 22 percent and 54 percent, respectively (Figure 2).

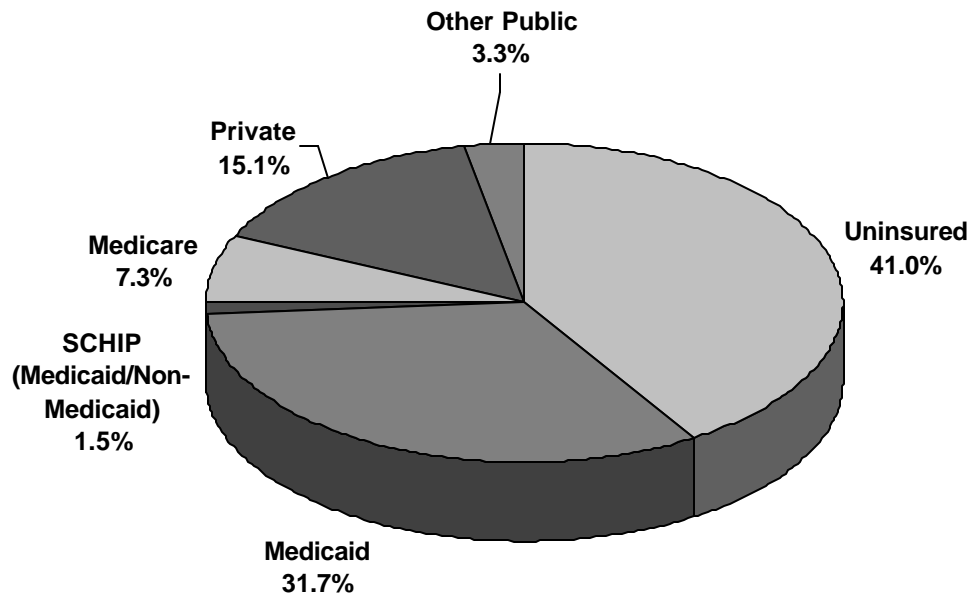
**Figure 2. Growth in Number of Uninsured Health Center Patients vs. Federal Grant Funding, 1980-2000**



Note: Federal grant funding was adjusted according to the CPI medical care component  
SOURCE: CHSRP Analysis of 1996-2000 UDS data; 1980-1995 estimates by NACHC.

***Declining rates of Medicaid coverage among patients:*** Medicaid represents the principal source of health insurance for health center patients (Figure 3). As a result, declining rates of Medicaid coverage among low income persons as a result of welfare reform and other factors<sup>11</sup> have affected health centers. Sixty-six percent of all health centers are located in states in which a woman working full time at the minimum wage and with two children could not qualify for Medicaid. In addition to declining rates of Medicaid eligibility among low income patients, an increasingly competitive system appears to have diverted Medicaid patients away from health centers and other safety net providers, with ever-greater substitution of uninsured patients as community providers have reduced the provision of uncompensated care.<sup>12</sup>

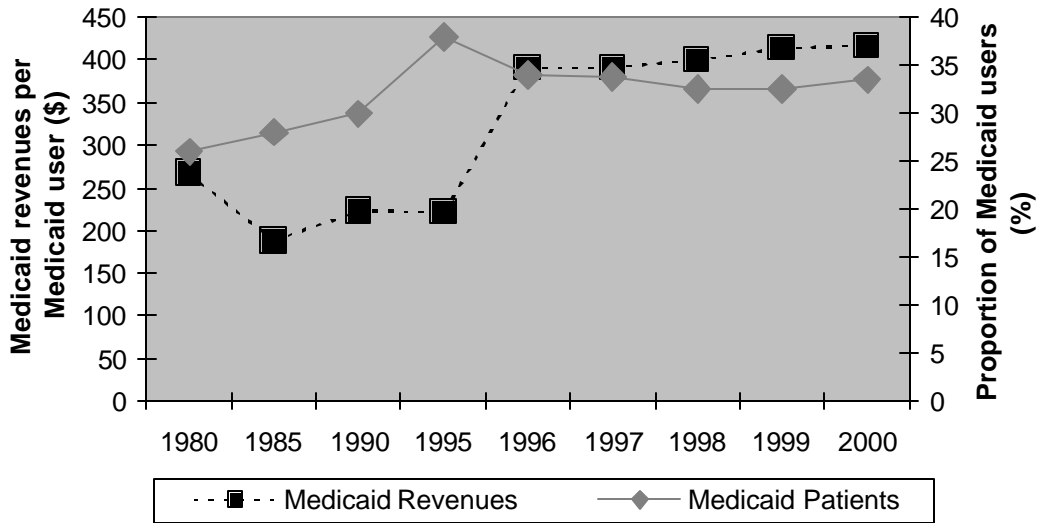
**Figure 3. Health Center Patients by Insurance Status, 1999**



SOURCE: CHSRP Analysis of 1999 UDS data.

***Stagnating Medicaid revenues from Medicaid insured patients:*** Health centers enjoy a special designation status as federally qualified health centers (FQHC) under the Medicare and Medicaid programs; this status entitles them to payment on a reasonable cost basis, a policy enacted by Congress more than a decade ago to ensure that deep discounts in Medicaid payment rates would not cause health centers to reduce services to uninsured patients in order to absorb Medicaid losses into their grant funding. Despite the requirement of cost-related payments, revenues from Medicaid insured patient have remained relatively flat over the past five years, as slow state implementation of the program and the growing pressures on health centers to offer discounts to managed care organizations as a condition of network participation have combined to limit Medicaid revenues (Figure 4).

**Figure 4. Growth in Proportion of Medicaid Health Health Center Patients vs. Medicaid Revenues per Medicaid Patient, 1980-2000**



Note: Medicaid revenues were adjusted according to the CPI medical care component  
 SOURCE: CHSRP Analysis of 1996-2000 UDS data; 1980-1995 estimates by NACHC.

Congress has taken steps to reverse these trends through both Medicaid reforms and increased federal appropriations. For FY 2001, Congress increased federal grant appropriations for the program by \$150 million (a 15 percent increase over the previous fiscal year), and President Bush has called for a doubling of health center support over the next five years. Additionally, amendments to Medicaid in 2000<sup>13</sup> revise the FQHC payment methodology to ensure more widespread compliance and bring the cost-based reimbursement payment system into greater alignment (through a formal supplementation process) with centers' managed care operations.<sup>14</sup> Whether these changes will reverse stagnating grant funding and Medicaid revenues remains to be seen; both improvements may be offset by a continued decline in the rate of Medicaid coverage among low income persons generally.

# HEALTH CENTERS WITH HIGH LEVELS OF UNINSURED PATIENTS

Even within the overall program, certain health centers have disproportionately high numbers of uninsured patients and can be expected to bear even greater burdens than health centers generally. Understanding where these high level uninsured centers are located, the characteristics of their patients, the factors that appear to be related to particularly high numbers of uninsured patients, and how centers with high rates of uninsured patients attempt to address patient needs is important in light of the growing strain on the health care safety net generally.

## Study Structure

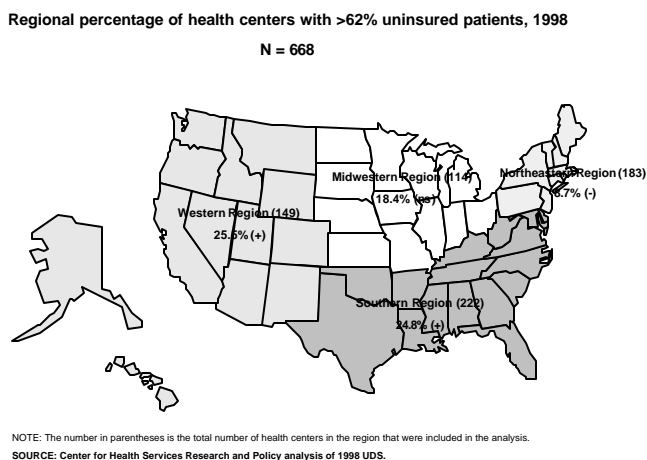
For the purpose of this study, high level uninsured centers are defined as those federally funded health centers that meet two basic characteristics. First, the center must have received at least one grant under the Public Health Service Act in any of the following categories of grantmaking: (i) community health centers, (ii) migrant health centers, (iii) health care for the homeless, or (iv) public housing primary care. Second, the center must have reported serving what is defined as a high level of uninsured patients under the Uniform Data System (UDS) for the year 1998. In this study, the term "high level" is defined as a reported number of uninsured patients that equals or is greater than 62 percent of all patients served for the year in question. This figure approximates the average proportion of uninsured patients health centers served in 1978 prior to the enactment of the Medicaid coverage expansions of the 1980's and the enactment of the State Children's Health Insurance Program (SCHIP) in 1997.<sup>15</sup> Thus, this study focuses on health centers that in 1998 were in the same position as the average health center was 20 years earlier, before the Medicaid expansions and the enactment of SCHIP.

In the first stage of the study, we used data from the UDS to identify high level uninsured centers. In the second, we interviewed staff at high level uninsured centers to gain a better understanding of how the extensive rate of uninsurance among their patients affects their practice.<sup>16</sup>

## Study Results

### UDS Analysis

In general, the UDS data show that a total of 130 health centers serving some 1,167,537 patients qualified as high level uninsured centers in 1998. The data show that these centers shared certain key characteristics with respect to geographic location, patient mix, staffing and service mix, and revenue mix.<sup>17</sup> More specifically, the key



predictors of being a high level uninsured health center were (a) location in the South and West, where the rates of uninsured nonelderly Americans were the highest, (b) service to a higher proportion of nonelderly adult patients (the group of Americans most likely to be uninsured), (c) on-site delivery of specialty care services; and (d) a revenue mix that was significantly tilted away from Medicaid revenues and toward grant revenues.

### Location

High level uninsured centers are located in all but ten states;<sup>18</sup> at the same time, however, they are more often located in the South and West than other health centers, an association that remained statistically significant in the multivariate logistic regression analysis. Figure 5 provides information on high level uninsured centers by region, with the nation broken into four quadrants. This figure shows that over 50 percent of all high level uninsured centers are located in the South and the West. These states also have the highest proportion of uninsured patients.

### **Figure 5. High Level Uninsured Health Center Regional Distribution, 1998**

Table 2 shows the extent of the uninsured as a proportion of total patients seen at health centers in these two regions. In general, 48 percent of all patients at Southern and Western health centers are uninsured, a figure that is higher than the proportion of uninsured nonelderly persons in these regions generally (19 percent overall); when only high level uninsured centers in the South and West are considered, the proportion of

patients without health insurance leaps to 76 percent, an indicator of the role of health centers in these regions as a means of cushioning the region's high uninsured rate.

**Table 2. Percentage of Uninsured in the South and West, 1998<sup>19</sup>**

Percentage of uninsured in the general population	Percentage of uninsured patients at all health centers in the region	Percentage of uninsured patients at high level uninsured centers in the region
<b>South:</b> 19.5% <b>West:</b> 19.3%	<b>South:</b> 49.8% <b>West:</b> 46.6%	<b>South:</b> 77.2% <b>West:</b> 75.6%
<b>Total region:</b> 19.4%	<b>Total region:</b> 48.2%	<b>Total region:</b> 76.4%

SOURCE: EBRI, 1999; CHSRP Preliminary Analysis of 1998 UDS data.

Because regional differences can mask important state differences, the data were broken down by state (Table 3). On a state-by-state basis, six states—California, Florida, Texas, Colorado, Louisiana, and Michigan—had the highest number of health centers reporting more than 62 percent of their patients as uninsured. However, when the measure used was burdened centers *as a proportion of all health centers in the state*, other states rose to the top.

**Table 3. High Level Uninsured Health Center Distribution by State, 1998**

States ranked by the overall number of high level uninsured health centers		States ranked by the total proportion of high level uninsured health centers	
<b>&gt; 10 centers with &gt;62% uninsured</b>	CA (11), FL (13), TX (13)	<b>States with 76-100% of centers with &gt;62% uninsured</b>	FL, OK, WY, (D.C.)
<b>5-10 centers with &gt;62% uninsured</b>	CO (6), LA (5), MI (6)	<b>States with 51-75% of centers with &gt;62% uninsured</b>	KS, MT
<b>1-4 centers with &gt;62% uninsured</b>	KS (4), MT (4), NY (4), OK (4); <4: AL, AZ, DE, GA, HI, IL, IN, IA, KY, ME, MD, MN, MS, MO, NH, NJ, NM, NC, ND, OH, OR, PA, RI, SC, TN, UT, VA, WA, WI, WY, (D.C.)	<b>States with 26-50% of centers with &gt;62% uninsured</b>	AR, CO, DE, IN, IA, KY, LA, ND, TX, OR, UT
<b>0 centers with &gt;62% uninsured</b>	AK, CT, ID, MA, MI, NE, NV, SD, VT, WV	<b>States with 0-25% of centers with &gt;62% uninsured</b>	AL, AK, AZ, CA, CT, GA, HI, ID, IL, ME, MD, MA, MI, MN, MS,

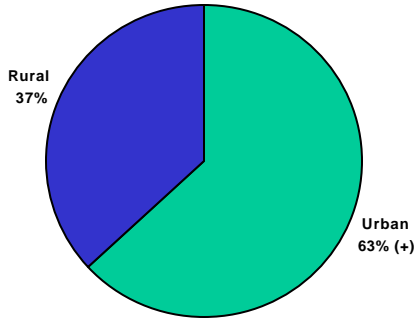
States ranked by the overall number of high level uninsured health centers		States ranked by the total proportion of high level uninsured health centers	
			MO, NE, NV, NH, NJ, NM, NY, NC, OH, PA, RI, SC, SD, TN, VT, VA, WV, WA, WI

SOURCE: CHSRP Preliminary Analysis of 1998 UDS data.

Urban location also appears to be related to higher proportions of uninsured patients, although the relationship is not significant (Figure 6). The elevated proportion of uninsured patients in urban location may be an indicator of the heavy reliance placed on health centers by non-citizen immigrant populations.<sup>20</sup>

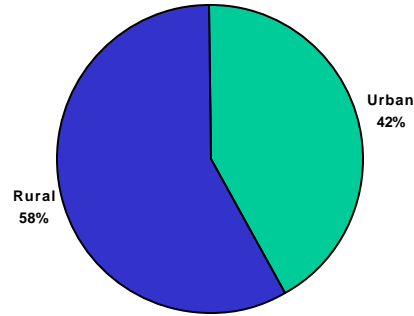
**Figure 6. High Level Uninsured Health Center Distribution by Urban/Rural Locations, 1998**

Health centers with >62% uninsured  
Location in urban vs. rural areas, 1998



SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

Health centers with <62% uninsured  
Location in urban vs. rural areas, 1998



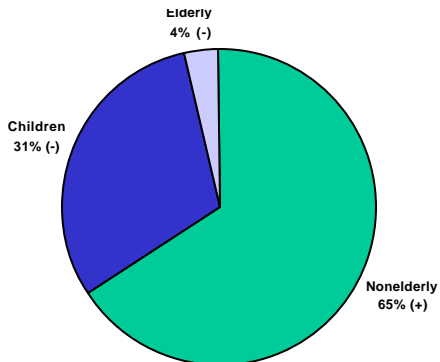
SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

**Patient mix**

Significant differences between high level uninsured centers and health centers that do not meet the “high level” threshold show up when patient mix is considered. High level uninsured centers showed a higher proportion of nonelderly adults and lower proportions of children and elderly patients (Figure 7). This result is consistent with the lack of health insurance among low income adults and the lack of access to public insurance through Medicaid or SCHIP.

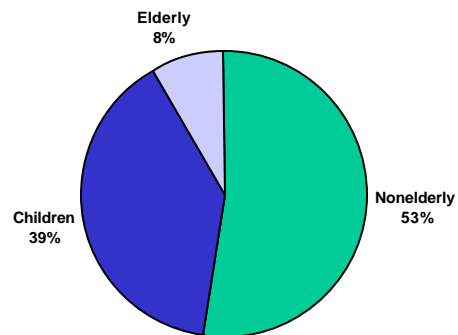
**Figure 7. High Level Uninsured Health Center Patients by Age, 1998**

Health centers with >62% uninsured  
Percentage distribution of users by age group, 1998



SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

Health centers with <62% uninsured  
Percentage distribution of users by age group, 1998

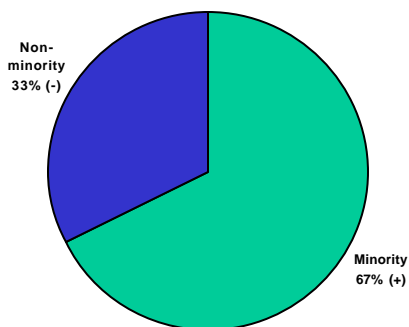


SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

While the racial and ethnic and income mix was similar within each group of health centers—i.e., each group had more minority than nonminority patients and more poor (i.e., with incomes below 100 percent of the federal poverty level) than nonpoor patients—the study group had a higher proportion of minority patients and poor patients than other health centers (Figure 8). However, the multiple regression analysis did not confirm these associations.

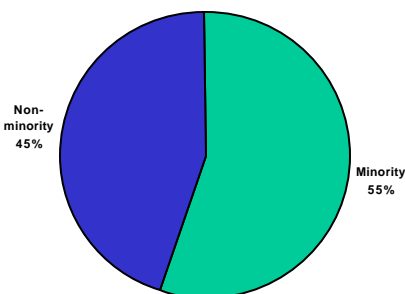
**Figure 8. High Level Uninsured Health Center Patients by Race/Ethnicity and Income, 1998**

**Health centers with >62% uninsured**  
Percentage distribution of users by racial/ethnic group, 1998



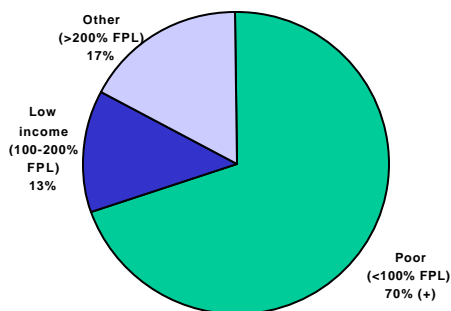
SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

**Health centers with <62% uninsured**  
Percentage distribution of users by racial/ethnic group, 1998



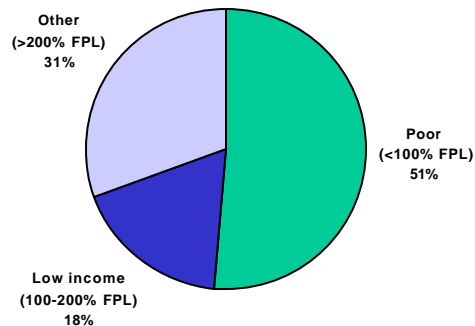
SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

**Health centers with >62% uninsured**  
Percentage distribution of users by income group, 1998



NOTE: Low income and Other were combined in the statistical analysis as Nonpoor (-). Interaction effect Minority and Poor,  $p < .0001$ , OR = 1.  
SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

**Health centers with <62% uninsured**  
Percentage distribution of users by income group, 1998



SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

Two proxies—percentage of users who were migrant workers or homeless and encounters by primary diagnosis—were used to capture special needs exhibited by health center patients (Table 4). Health centers in the study group served a much higher proportion of migrant and homeless patients than other health centers, a finding consistent with the barriers to health insurance faced by these two populations. These centers also had a higher proportion of encounters for TB, STD, and alcohol and drug abuse. However, these rates were not significant associations in the multiple regression analysis.

**Table 4. High Level Uninsured Health Center Patients by Special Needs, 1998**

Characteristic	Total/ Per center average	Health centers with >62% uninsured	Health centers with <62% uninsured
<i>Patients with Special needs</i>	<i>N = 8,139,236</i>		
Migrant (+)	6.3%	14.5%	4.2%
Homeless (+)	10.6%	37.3%	4.1%
<i>Encounters by Primary diagnosis</i>	<i>N = 7,349,326</i>		
Heart (-)	5.1%	2.7%	5.7%
HIV/AIDS (ns)	1.9%	2.5%	1.8%
TB (+)	0.6%	1.5%	0.3%
STD (+)	1.1%	1.9%	0.9%
Asthma (-)	6.5%	5.8%	6.7%
Bronchitis (-)	5.6%	4.7%	5.9%
Breast (ns)	0.3%	0.3%	0.3%
Cervix (ns)	1.1%	1.0%	1.2%
Diabetes (ns)	17.3%	16.3%	17.5%
Hypertension (-)	24.9%	22.9%	25.3%
Dermatitis (ns)	4.1%	4.6%	4.0%
Dehydration (-)	0.3%	0.2%	0.3%
Heat (ns)	0.1%	0.2%	0.1%
Otitis (-)	12.2%	9.1%	12.9%
Perinatal (-)	0.4%	0.2%	0.4%
Developmental (ns)	0.8%	0.8%	0.8%
Alcohol (+)	2.1%	5.0%	1.3%
Drug (+)	2.2%	5.1%	1.4%
Mental disorder (ns)	13.3%	15.0%	12.9%

SOURCE: Center for Health Services Research and Policy analysis of 1998 UDS.

### **Staffing and service mix**

The analysis further examined health centers' staffing and service mix used by health centers to take care of patients with unique characteristics (Table 5). Health centers serving more than 62 percent of uninsured patients were smaller on average than other health centers, with a total of 49 full-time employees compared to 74 full-time employees, an association that did not remain significant in the multiple regression. They also were more likely than other health centers to provide specialty care services on-site, an association that remained statistically significant in the multivariate logistic regression analysis.

**Table 5. High Level Uninsured Health Centers by Staffing and Service Mix, 1998**

Characteristic	Total/Per center average	Health centers with >62% uninsured	Health centers with <62% uninsured
N	668	130	538
<b>SIZE</b>			
Average number of FTEs (-)	69	49	74
<b>STAFF PRODUCTIVITY</b>			
Medical encounters per medical FTE (-)*	3,918	3,495	3,994
Nurse encounters per nurse FTE (+)*	1,335	1,484	1,301
Dental encounters per dental FTE (ns)	1,079	1,090	1,077
Enabling service encounters per enabling service FTE (+)*	595	861	524
Total encounters per administrative FTE (+)*	2,156	2,854	1,992
Total encounters per total FTE (ns)	764	823	750
<b>SERVICES ON-SITE</b>			
Primary care (ns)	664	98.4%	99.6%
OB-GYN care (-)	626	85.3%	95.7%
Specialty care (+)	348	60.7%	50%
Allied (-)	651	93.8%	98.3%
Dental (ns)	466	66.9%	70.4%
Mental health and substance abuse (ns)	529	77.6%	79.5%
Enabling (ns)	660	99.2%	98.7%

\* OR = 1

SOURCE: CHSRP Preliminary Analysis of 1998 UDS data.

### **Revenue mix**

The analysis also found that the revenue problems experienced at high level uninsured centers come not merely from pervasive uninsurance among their patients. In other words, the revenue problems appear to be a function not just of high rates of uninsured patients, but also of lower proportions of total revenues from third party payors, probably related to smaller size, lower staffing levels, and more limited services. Table 6 shows that the proportion of total revenues from Medicaid, the largest source of third party payments for health centers, is much lower at high level uninsured centers than at other centers (20 percent vs. 35 percent). In addition, a comparison of the proportion of Medicaid revenues to the proportion of Medicaid patients served at high

level uninsured centers reveals that Medicaid revenues are slightly above Medicaid caseloads (20 percent vs. 17 percent), which most likely reflects the high health care needs of the Medicaid users treated at those health centers.

**Table 6. High Level Uninsured Health Centers by Revenue Mix, 1998**

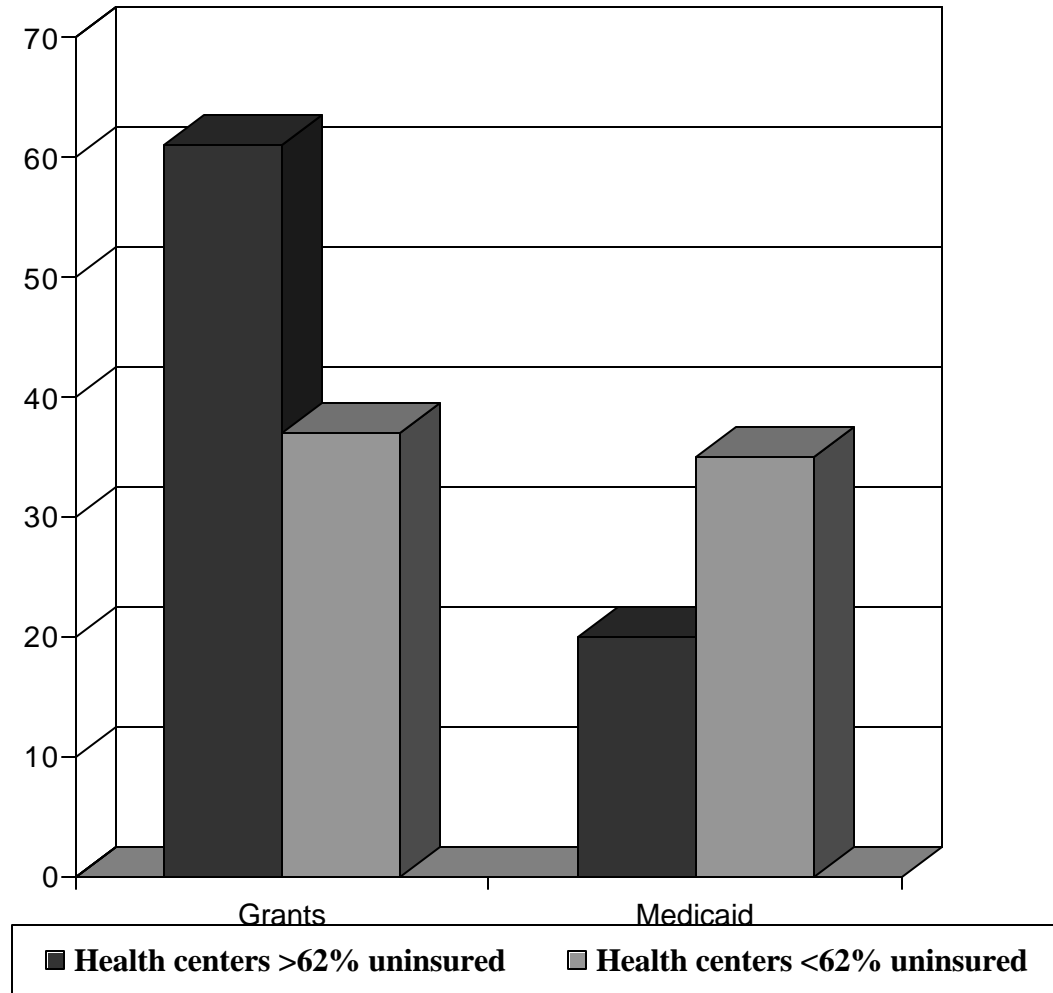
Characteristic	Total/Per center average	Health centers with >62% uninsured	Health centers with <62% uninsured
N	668	130	538
<b>TOTAL REVENUES</b>			
Total revenues per user	\$368.66	\$339.61	\$373.52
<b>TPP REVENUES</b>			
Medicaid revenues per Medicaid user	\$385.86	\$415.20	\$383.49
Medicare revenues per Medicare user	\$335.64	\$277.50	\$340.57
Other public revenues per other public user	\$298.08	\$479.33	\$284.36
Private revenues per private user	\$160.49	\$118.25	\$162.29
Total TPP revenues per insured user	\$315.42	\$352.92	\$312.76
<b>TPP AND NON-TPP FUNDING AS A PERCENT OF TOTAL REVENUES *</b>			
Medicaid	33%	20%	35%
Medicare	7%	3%	7%
Other public	4%	3%	4%
Private	7%	1%	7%
Grants	41%	61%	37%
Self-pay	7%	7%	7%
<b>NON-TPP FUNDING PER UNINSURED PATIENT</b>			
State and local grants	\$108.78	\$98.93	\$112.10
BPHC grants	\$211.26	\$152.51	\$231.07
Federal and non-federal grants	\$359.89	\$283.88	\$385.52
Self-pay	\$59.21	\$30.55	\$68.87

\* Percentages do not add up to 100 due to rounding; also exclude "other revenues," i.e. nonpatient related revenues not otherwise reported

SOURCE: CHSRP Preliminary Analysis of 1998 UDS data.

The weak ability to generate third party revenues on the part of high level uninsured centers means that a higher proportion of total operating funds comes from grants (Figure 9). Consistent with the lack of insurance funding, high level uninsured centers must rely more heavily on grant funds to manage their operations. In fact, the average grant level per user was twice as high at high level uninsured centers; however, when only uninsured users are considered, payments are lower at these centers than at other centers.

**Figure 9. High Level Uninsured Health Center Revenues by Payor Source, 1998**



Source: CHSRP Preliminary Analysis of 1998 UDS data.

### ***Interviews with Key Informants***

Interviews with staff at ten high level uninsured centers were conducted in order to more deeply explore the external factors that are associated with high levels of uninsured as well as their impact on center operations. The ten sites were selected based on certain factors, including their location in states with the highest number of high level uninsured centers, i.e., California, Colorado, Florida, Kansas, Louisiana, Michigan, Montana, New York, Oklahoma and Texas, and their location in different areas of the country. Four centers were the recipients of community health center

grants, four centers were health care for the homeless grantees (including one for children only), and two received both types of grants.

***Perceived Reasons for and Impact of a High Uninsured Patient Load***

Study participants described certain common factors, which they perceived as contributing to the high number of uninsured patients seen at their center. Table 7 shows the factors identified by respondents and the frequency with which each factor was reported. Eighty percent of the respondents said that a higher rate of uninsurance in the state and their specific mission aimed at very uninsured populations explained why they served such a high uninsured patient load. The third main reason, according to 50 percent of the respondents, were the conditions of the local market, including the lack of other sources of care in the community (two respondents) and the segmentation of the market between providers serving the insured and those serving the uninsured (three respondents).

**Table 7. Perceived Reasons for a High Uninsured Patient Load**

<b>Perceived Reasons for a High Uninsured Patient Load</b>	<b>Number of Reporting High Level Uninsured Health Centers</b>
Higher rate of uninsurance in the state	8
Specific mission aimed at very uninsured populations, such as homeless and undocumented persons	8
Conditions of the local market (lack of other sources of care in the community/market segmentation)	5 (2/3)

SOURCE: CHSRP, 2000.

***Higher rate of uninsurance in the state:*** Eighty percent of the respondents said that a higher rate of uninsurance in their state was an important factor contributing the size of their uninsured clientele. In fact, in 80 percent of the cases, the rate of nonelderly persons without health insurance exceeded the national average of 18.3. percent (range=20 percent-26.7 percent). Respondents linked higher rates of uninsurance in their service area to higher unemployment, a predominantly service-based economy, a large number of small businesses and self-employed persons, and low Medicaid eligibility levels.

***Specific mission aimed at very uninsured populations, such as the homeless and undocumented persons:*** Eighty percent of the respondents said that their specific mission aimed at very uninsured populations, such as the homeless and undocumented persons, was one reason why they served such a high uninsured patient load. Respondents noted that while area health providers accepted Medicare and Medicaid patients, virtually all uninsured patients were referred to them on the assumption that the centers have been specifically funded through federal grants to provide this service. Respondents consistently described their center as the only source of reliable care in the community for the uninsured. They stressed that their clinics offered the only community based care specifically oriented to underserved populations through adaptations such as language, hours of service, location of services, and clinical and support staff familiar with the health needs, customs and preferences of community residents. Respondents

also identified the existence of their prospective sliding fee scales as unique within their communities. Rather than seeking care and attempting to work out discounts, forgiveness and payment arrangements after the fact, residents could use the clinics with the full understanding that they would be expected to pay only an amount in relation to their ability to pay.

***Conditions of the local market, including the lack of other sources of care in the community and the segmentation of the market:*** Health center representatives described different local circumstances, but at least five health center representatives alluded to provider supply and/or changes in their local health care market as important contributors to the number of uninsured patients seen at their clinics. The shortage of providers in the health center's service area (two cases), and market changes that have led to a greater segmentation of the market between providers who treat insured patients versus those who treat uninsured patients (three cases) have meant that these centers have become the sole source of care for uninsured patients in the area. Interviewees also pointed to their role as the sole non-profit providers in the community, the only source of care that would remain continuously available to community residents regardless of changes in insurance status and ability to pay, the only source of specialized care for homeless patients, and the only geographically accessible providers in inner city areas where other sources of primary care have moved to the suburbs as an important factor explaining their status as high level uninsured centers.

While the problems noted are ones that confront all safety net providers, these findings suggest that it is the accumulation of these problems that separates high level uninsured centers from other health centers. In other words, being in the midst of high levels of uninsurance, catering specifically to the uninsured, such as the homeless and undocumented persons, and not being able to build an insured patient base, presumably because of the lack of other sources of care for the uninsured and patient skimming, can lead high level uninsured centers to a precarious state in which they face difficulties operating without losing so much of their revenue base that they become financially unstable. Indeed, respondents generally agreed that a high uninsured patient load affected the way they ran their clinical and financial operations. Four of the centers have been providing more services than they can afford to and have been destabilized from a financial standpoint by the higher number of uninsured patients. The remaining centers, though not financially destabilized, have been "scrambling since the beginning to provide uncompensated care," have always faced "a financial struggle," or are "concerned" about the future impact of decreasing Medicaid revenues. Representatives from one of these centers speculated that they would have been in very poor shape if the Bureau had not begun to reinvest dollars in community health centers with higher levels of uncompensated care.

## DISCUSSION AND CONCLUSION

This study examined the characteristics associated with a subset of health centers that serve higher proportions of uninsured patients than other health centers, explored what external factors influence uninsured patients to seek care at this subset of health centers, and assessed the impact of a disproportionately high volume of uninsured patients on centers' finances and operations.

The data analysis yielded several research findings regarding the characteristics associated with high-level uninsured centers. These findings confirm that health centers that serve a high proportion of uninsured patients differ from other health centers. They also show that these health centers share certain characteristics when compared to other health centers, including the following:

- they are more likely to be located in the South and in the West;
- they are more likely to serve a higher proportion of nonelderly patients who are poor and minority;
- they are more likely to have special service missions targeted on populations who are exceedingly likely to be uninsured, in particular homeless and migrant patients;
- they are more likely to provide specialty care services on-site, a finding consistent with the special service obligations for high risk groups which they have incurred; and
- they are more likely to have a higher proportion of total revenues from grants than from Medicaid.

The analysis of telephone interviews focused on the external factors associated with uninsured patients seeking care at ten health centers, and assessed the impact of high loads of uninsured patients on these centers' financial and operational situation. Study participants stated that:

- a higher rate of uninsurance in their state than in other states and their specific mission aimed at very uninsured populations, such as the homeless and undocumented persons, were equally important in explaining why their clientele was mainly uninsured. A third contributing factor related to the conditions of the local market, including the lack of other sources of care in the community and the segmentation of the market between providers serving the insured and those serving the uninsured; and
- a high uninsured patient load affected the way they ran their clinical and financial operations, with almost half of the centers providing more services that they can afford to, resulting in some financial destabilization.

When combined, these findings suggest that, even for health centers that receive federal grants, the accumulation of external influences—a high rate of uninsurance in the state, a specific mission aimed at very uninsured populations, and a lack of other sources of care in the community—may be too much to absorb presumably because of smaller size, lower staffing levels, and more limited services, characteristics which in turn may prevent them from securing a strong insured patient base.

Several major conclusions can be drawn from this study.

First, the findings presented here confirm the association between the overall geographic patterns of uninsured nonelderly persons and the responsiveness of the health centers program. The results of this analysis confirm that health centers function as would be expected given their mission. As the rate of uninsured persons increases, the number and proportion of health centers with high uninsured levels also increases. Although health centers have care to the uninsured as a central part of their missions, they are particularly sensitive to uninsured patterns in the general population and highly sensitive to the existence of state insurance programs aimed at low income persons.

Second, in the South and West, where poverty is the highest and insurance rates the lowest, the survival of health centers along with other safety net providers, is critical because of the need for subsidized primary health care. Yet the findings from this study suggest that it is the very regions of the nation that exhibit the greatest need for such support are also the regions where the greatest concentration of centers with high levels of uninsured patients and limited revenue bases are located. The link between location in high uninsured regions of the country and the presence of high level uninsured centers raises questions regarding how best to support the safety net in this region of the country. With so many uninsured patients, these centers have a greater than average need for operating revenues to enable them to furnish subsidized health care. Yet these are the centers least likely to be able to generate the Medicaid revenues needed to help offset the cost of overall operations. Furthermore, high level uninsured centers are more likely to have special missions related to the care of patients disproportionately at risk for a lack of coverage such as migrant farmworkers and homeless families.

Given the use of health centers by Medicaid beneficiaries, efforts to expand coverage in these states could be expected not only to directly aid more uninsured persons but also to indirectly aid support of health care to uninsured patients. As the proportion of insured patients rises, the infusion of revenues can be expected to strengthen the overall operating capacity of health centers. Of greatest importance perhaps is states' use of the Medicaid eligibility option that permits coverage to all low income family members in families with children, in order to improve coverage of adults. Of major importance also is the maximum possible rate of expansion for children in order to ensure coverage of all children served by health centers. Despite the fact that virtually all children who use health centers have low incomes, in 1999, 35 percent of all pediatric patients served at health centers were uninsured.

Similarly, better enrollment outreach and outstationing efforts could be expected to have a major impact on the long-term economic health of these health centers. A 1998 study of outstationed enrollment at health centers found that less than half reported any outstationing activities and that the overwhelming cause of limited to no outstationing efforts was a lack of revenues to support such activities. The impact on health centers of high levels of uninsured patients underscores the need for additional revenues aimed at finding and enrolling insured patients.

Finally, the findings from this study underscore that even were rates of coverage to increase and payments per covered person to rise, these health centers have been assigned special care missions, such as services to migrant and homeless families, that

can be expected to generate very little in the way of third party revenues. Along with their role in the provision of care to low income non-citizens, health centers are singular in their statutorily-based involvement with such high risk populations. Even the most efficiently operated health centers need significant supplemental revenues to carry out this mission. Thus, the continued increase in funding for the operation of health centers remains essential to their success. Programs that offer merely startup capitalization cannot succeed in light of the large number of patients whose care will require ongoing subsidization.



## APPENDIX - Methodology

Increasing numbers of uninsured, coupled with stagnating Medicaid revenues and federal grants, are challenging the long term ability of health centers to carry out their mission of caring for low income, underserved patients. While health centers serve, on average, a higher proportion of uninsured patients than do other providers, a subset of health centers serves extremely high proportions of uninsured patients. The purpose of this study is threefold: (1) to examine some of the characteristics associated with this subset of health centers, (2) to explore what external factors are associated with uninsured patients seeking care at this subset of health centers, and (3) to assess the impact of high loads of uninsured patients on these health centers' financial and operational situation.

### Study Design

The quantitative analysis (Part A) is a retrospective, cross-sectional design. It uses logistic regression analysis to examine characteristics associated with health centers serving extremely high proportions of uninsured patients. Data for the analysis were collected in 1998 by the Bureau of Primary Health Care (the Bureau), Health Resources and Services Administration, Department of Health and Human Services in its Uniform Data System (UDS). Explanatory variables include: location; patient mix; staffing and service mix; and revenue mix.

The qualitative analysis (Part B) relies on a qualitative design consisting of semi-structured telephone interviews with health center executive directors and medical directors at selected health centers. After obtaining potential interviewees' informed consent (see attached informed consent letter), the interviews were conducted between March and August 2000. They were informal, using the attached interview guide, and lasted 45 minutes on average. With interviewees' permission, the interviews were audiotaped; however, interviewees are not identified nor are they quoted directly (though in some cases some of their words were used because they best described the situation).

### Population Studied

Among the 668 health centers included in Part A, 130 health centers serve extremely high proportions of uninsured patients, defined as centers serving more than 62 percent of uninsured patients. The cut-off point of 62 percent represents the sum between the median percentage of uninsured served by health centers (41 percent) and one standard deviation (21 percent). This figure approximates the average proportion of uninsured patients health centers served in 1978 prior to the Medicaid coverage expansions of the late 1980's, and the enactment of the State Children's Health Insurance Program (SCHIP) in 1997.<sup>21</sup> Thus, this study focuses on health centers that today are in the same place as the average health center was exactly 20 years ago

before many uninsured health center patients gained coverage through Medicaid expansions and SCHIP.

The ten health centers included in Part B were selected based on four main selection criteria.

- 1) They reported serving a patient population of more than 62 percent of uninsured patients.
- 2) The data they reported in 1998 in the Uniform Data System showed that they had a relatively low proportion of elderly users, a relatively low proportion of Medicaid users, and a relatively high proportion of grant funding, all of which were found to be statistically significant in a preliminary multiple logistic regression analysis of factors associated with health centers serving extremely high proportions of uninsured.
- 3) They were located in states with the highest number of reporting health centers serving more than 62 percent of uninsured patients.
- 4) They represented states with varying percentages of their total health center population serving more than 62 percent of uninsured patients, from a very high percentage, to a high percentage, to a low percentage, to a very low percentage. They also represented different areas of the country.

The selection criteria reduced the list of health centers from which to choose by approximately half, from 130 to 70 health centers. Potential participants were randomly selected from that reduced list, which ranked health centers in descending order from those serving the highest to those serving the lowest percentage of uninsured patients, by selecting every eighth health center on the list (70:10=7). States already selected were skipped until all states were selected once.

## Research Questions

In order to examine the characteristics of the subset of health centers with a disproportionate number of uninsured patients and whether they differed from other health centers, as called for in Part A of the study, CHSRP developed a number of research questions that fell under four main categories. Of particular interest was whether there was an association between health centers serving extremely high proportions of uninsured patients (the dependent variable) and location, patient mix, staffing and service mix, and revenue mix (the independent variables). Specific questions focused on the strength and the direction of the association between the likelihood of health centers serving extremely high proportions of uninsured patients and

- Location in certain regions of the country, and in urban versus rural areas;
- Certain age groups, certain special needs groups, certain racial and ethnic groups, certain income groups, and certain diagnostic groups;
- Size, encounters per full time employee by class of provider, and delivery of services on-site;
- Third party revenues per user by source of payment, total revenues per user, third party and non third party funding as percentage of total revenues, and non third party funding per uninsured patient.

In Part B, CHSRP developed an interview guide with some 30 research questions that fell under four main categories of questions:

- What are the characteristics of each health center by location, patient mix, staffing and service mix, and revenue mix?
- Why is the number of uninsured patients so high at this health center?
- What effect does it have on its operations (e.g., scope of services, hours of operation, retention of personnel, ability to expand or modify services to meet patients' needs, other aspects of operations)?
- What internal and external strategies might the health center be pursuing to stay afloat (e.g., participation in managed care arrangements, outstationing to increase enrollment in Medicaid and thus third party payor revenues)?

## Data

In Part A of the study, data for the analysis come from the Uniform Data System (UDS). The UDS, previously known as the Bureau's Common Reporting Requirements or BCRR, provides a wealth of aggregate data on various aspects of health center operations. The Bureau maintains the database. In 1996, the Bureau replaced BCRR with UDS to allow for the collection of additional data on patients by payer source, managed care enrollment, patient health risks as measured by encounters by selected diagnoses, and use of enabling services. As before, the UDS collects patient, revenue, and service data on a calendar year basis from over 700 health centers receiving federal grants. The UDS excludes an estimated 180 health centers receiving state and local sources of financial support, which are assumed to share similar patient and service characteristics as federally-funded health centers.

In Part B, data for the analysis came from interviews with selected health center representatives complemented by a combination of secondary sources, including the UDS, the state-by-state database developed by The Urban Institute as part of its "Assessing the New Federalism" program, and other policy and legal documents.

## Analyses

The model used in Part A of this study examined the association between independent variables postulated to have a substantial effect on the likelihood of health centers serving extremely high proportions of uninsured patients. The dependent variable, GROUP1, is binary, with GROUP1=1, if health centers served more than 62 percent of uninsured patients, and GROUP1=0, if they served fewer than 62 percent of uninsured patients. One hundred and thirty (130) health centers fell under GROUP1=1, while 538 health centers fell under GROUP1=0. Although previous analyses showed that the two groups shared a number of characteristics (e.g., they primarily served low income patients in underserved areas, they faced an increasing number of uninsured patients, etc.), this study assumed that the two groups were nonequivalent. The dependent variable was hypothesized to be a function of the following independent variables: location; patient mix; staffing and service mix; and revenue mix.

Several types of statistical analysis were performed in Part A of the study. First, frequency distributions were calculated to describe the characteristics of the 130 health

centers serving extremely high proportions of uninsured patients. Second, statistical tests of independence (t-test and chi-square) were applied to compare characteristics between the two groups of health centers, i.e., those serving more than 62 percent of uninsured patients and those serving fewer than 62 percent of uninsured patients. Third, bivariate logistic regression analyses were performed between each independent variable and the dependent variable. Fourth, multivariate logistic regression analyses were performed to estimate the effect of each independent variable on the dependent variable, while controlling for other contributing factors. SAS for Windows version 6.12 was the statistical program used to calculate the odds ratios and 95 percent confidence intervals for each predictor variable.

The conceptual framework used in Part B consisted of the examination of three components: the context surrounding each health center, the internal structure of each health center, and the interaction between the context and the internal structure in explaining why these health centers see so many uninsured patients and the impact a high uninsured patient load might have on these centers.

Part B uses descriptive analysis and a replication logic to delineate patterns across the ten health centers under study. It also compares each health center to another center picked randomly from the list of health centers serving fewer than 62 percent of uninsured patients.

## ATTACHMENT A – Independent Variables



## Specification of the independent variables

Variable	Specification
<p style="text-align: center;"><b><i>Location</i></b></p> <p>Urban vs. rural area—              Urban area              Rural area</p> <p>Region—              North East              South              West              Midwest</p>	<p>Dummy:      Urban = 1</p> <p>Dummies:     South, i.e., PHS regions 04 and 06; West, i.e., PHS regions 08, 09 and 10; Northeast, i.e., PHS regions 01, 02 and 03; (reference=Midwest, i.e., PHS regions 05 and 07)<sup>1</sup></p>
<p style="text-align: center;"><b><i>Patient mix</i></b></p> <p>Age—              Children (&lt;19)              Nonelderly (19-64)              Elderly (65&gt;)</p> <p>Special needs—              Migrant              Homeless</p> <p>Racial and ethnic background—              Minority              Nonminority</p> <p>Income—              Poor (&lt;100% FPL)              Nonpoor (&gt;100%FPL)</p>	<p>Continuous          Continuous          Continuous</p> <p>Continuous          Continuous</p> <p>Continuous          Continuous</p> <p>Continuous          Continuous</p>
<p style="text-align: center;"><b><i>Staffing and service mix</i></b></p> <p>Services delivered on-site—              Specialty services</p>	<p>Dummy:      Provided services on-site = 1</p>
<p style="text-align: center;"><b><i>Revenue mix</i></b></p> <p>TPP revenues as a percent of all revenues—              Medicaid              Medicare</p> <p>Non-TPP revenues as a percent of all revenues—              Grants</p>	<p>Continuous          Continuous</p> <p>Continuous</p>

<sup>1</sup> Northeast = Maine, New Hampshire, Vermont, New York, Pennsylvania, Massachusetts, Rhode Island, Connecticut, and New Jersey. South = Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina, North Carolina, Tennessee, Kentucky, West Virginia, Virginia, Maryland, and Delaware. Midwest = Minnesota, Wisconsin, Michigan, Ohio, Indiana, Illinois, Missouri, Kansas, Nebraska, Iowa, North Dakota, and South Dakota. West = Montana, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, California, Oregon, Washington, Idaho, Alaska, and Hawaii.



**ATTACHMENT B – Bivariate Analyses and Multivariate Model**



## Table of bivariate analyses

### *Location*

Region. Location in the South and the West significantly increased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .01$  and  $p < .03$ ) and location in the Northeast significantly decreased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ ). Location in the South and the West increased the odds of health centers serving extremely high proportions of uninsured patients by 62.9 and 58.9 percent, respectively, while location in the Northeast decreased the odds of health centers serving extremely high proportions of uninsured patients by 68.8 percent.

Urban versus rural area. Location in an urban area significantly increased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ ). It increased the odds of health centers serving extremely high proportions of uninsured patients by 139.5 percent.

### *Patient mix*

Age. An increase in the proportion of children and elderly patients decreased the likelihood of health centers serving extremely high proportions of uninsured patients by 5.5 percent ( $p < .0001$ ) and 25.1 percent ( $p < .0001$ ), respectively, whereas an increase in the proportion of patients aged 19-64 increased the odds of health centers serving extremely high proportions of uninsured patients by 8.9 percent ( $p < .0001$ ).

Income. An increase in the proportion of poor (i.e., with incomes below 100 percent of the federal poverty level) significantly increased the odds of health centers serving extremely high proportions of uninsured patients by 3.2 percent ( $p < .0001$ ).

Race and ethnicity. Changes in the proportion of minority patients were associated with the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ ). As the proportion of minority patients increased, the odds of health centers serving extremely high proportions of uninsured patients decreased by 1.3 percent.

Special needs. An increase in the proportion of migrant and homeless patients significantly increased the odds of health centers serving extremely high proportions of uninsured patients by 2.2 and 3.3 percent ( $p < .0001$ ), respectively. Receipt of Section 340 and 340(s) grants for homeless adults and children increased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ ). Receipt of homeless grants increased the odds of health centers serving extremely high proportions of uninsured patients by 474.4 percent.

Prevalence of selected diagnoses. An increase in the prevalence of heart disease, asthma, bronchitis, hypertension, dehydration, otitis, and perinatal conditions decreased the likelihood of health centers serving extremely high proportions of uninsured patients by 23.2 percent

( $p < .0001$ ), 5.6 percent ( $p < .03$ ), 5.6 percent ( $p < .01$ ), 1.7 percent ( $p < .04$ ), 73.6 percent ( $p < .0008$ ), 6.1 percent ( $p < .0001$ ), and 48.8 percent ( $p < .02$ ), respectively. An increase in the prevalence of TB, STDs, alcohol dependence, and drug dependence increased the likelihood of health centers serving extremely high proportions of uninsured patients by 27.7 percent ( $p < .0001$ ), 8.2 percent ( $p < .02$ ), 9.4 percent ( $p < .0001$ ), and 5.6 percent ( $p < .0001$ ), respectively.

*Staffing and service mix*

Staff productivity. An increase in the number of medical encounters per medical FTE decreased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ ). An increase in the number of nurse encounters per nurse FTE, enabling service encounters per enabling service FTE, and total encounters per administrative FTE increased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ ). However, with an odds ratio equal to 1, these factors essentially had no effect.

Services on-site. On-site delivery of obstetrical and gynecological care, and allied professional care decreased the likelihood of health centers serving extremely high proportions of uninsured patients ( $p < .0001$ , and  $p < .006$ ) by 77.9 percent and 74.1 percent, respectively. On the other hand, on-site delivery of specialty care increased the odds of health centers serving extremely high proportions of uninsured patients by 54.9 percent ( $p < .02$ ).

*Revenue mix*

TPP and non-TPP funding as a percent of total revenues. An increase in the proportion of grant funding as a percentage of total revenues significantly increased the likelihood of health centers serving extremely high proportions of uninsured patients by 8.3 percent ( $p < .0001$ ). An increase in the proportion of Medicaid revenues, Medicare revenues, other public insurance revenues, and private insurance revenues (as a percentage of total revenues) significantly decreased the likelihood of health centers serving extremely high proportions of uninsured patients by 9.8 percent ( $p < .0001$ ), 26.2 percent ( $p < .0001$ ), 5.3 percent ( $p < .0001$ ), and 42.8 percent ( $p < .0001$ ), respectively.

Source: CHSRP Preliminary Analysis of 1998 UDS data.

### Multivariate logistic regression model

Independent Variables	Mean	Coefficient	Standard Error	Odds Ratio
<b>Location</b>				
Urban vs. rural area—				
Urban area	0.45	0.4288	0.3608	1.535
Rural area	---	---	---	---
Region—				
North East	0.27	-0.8443	0.6098	0.430
South	0.33	1.7874 *	0.4927	5.974
West	0.22	1.0727 **	0.4888	2.923
Midwest	---	---	---	---
<b>Patient mix</b>				
Age—				
Children (<19)	37.69	-0.0478 ***	0.0137	0.953
Nonelderly (19-64)	---	---	---	---
Elderly (65>)	7.49	-0.1831 ****	0.0559	0.833
Special needs—				
Migrant	6.24	0.0168	0.00925	1.017
Homeless	10.59	-0.00016	0.00643	1.000
Race/Ethnicity—				
Minority	57.47	0.00157	0.00648	1.002
Nonminority	---	---	---	---
Income—				
Poor (<100% FPL)	54.92	0.00655	0.00690	1.007
Nonpoor (>100%FPL)	---	---	---	---
<b>Staffing and service mix</b>				
Services delivered on-site—				
Specialty care	0.52	0.6442**	0.2965	1.905
<b>Revenue mix</b>				
TPP revenues as a percent of all revenues—				
Medicaid	25.70	-0.0437 **	0.0192	0.957
Medicare	6.57	-0.0674	0.0524	0.935
Non-TPP revenues as a percent of all revenues—				
Grants	48.43	0.0313 **	0.0140	1.032
<i>Intercept</i>		-1.1744		
<i>Number in sample</i>		665		
<i>- 2 Log Likelihood</i>		323.808		

\* SS at p<.0003; \*\* SS at p<.02; \*\*\* SS at p<.0005; \*\*\*\* SS at p<.001

Source: CHSRP Preliminary Multivariate Analysis of 1998 UDS data.



## ENDNOTES

<sup>1</sup> For the purpose of this study, these centers were defined as those with more than 62 percent of all their patients uninsured. A description of the qualitative and quantitative research design and methodology used to prepare this study is contained in the Appendix.

<sup>2</sup> The term “safety net” provider has the meaning ascribed by the Institute of Medicine in its study, *America’s Health Care Safety Net: Intact but Endangered* (NAS Press, Washington D.C., 2000).

<sup>3</sup> Rosenbaum, S., Shin, P., Markus, A., and Darnell, J. (2000). *Health Centers’ Role as Safety Net Providers for Medicaid Patients and the Uninsured*. Washington, D.C.: The Kaiser Commission on Medicaid and the Uninsured.

<sup>4</sup> A description of the qualitative and quantitative research design and methodology used to prepare this study is contained in the Appendix.

<sup>5</sup> The Uniform Data System (UDS), previously known as the Bureau’s Common Reporting Requirements or BCRR, provides a wealth of aggregate data on various aspects of health center operations. The Bureau of Primary Health Care in the Health Resources and Services Administration of the Department of Health and Human Services maintains the database. As before, the UDS collects patient, revenue, and service data on a calendar year basis from over 700 health centers receiving federal grants. The UDS excludes an estimated 180 health centers receiving state and local sources of financial support and assumed to share similar patient and service characteristics as federally funded health centers.

<sup>6</sup> For a general discussion of the early years of the health centers program and the early insurance assumptions made by policy experts, see Davis, K., and Schoen, C. (1977). *Health and the War on Poverty: A Ten-Year Appraisal*. Washington, D.C.: Brookings Institution Press.

<sup>7</sup> Kaiser Commission on Medicaid and the Uninsured. (2000). *Health Insurance Coverage in America, 1999 Data Update*. [Table 5] Washington, D.C.: The Henry J. Kaiser Family Foundation.

<sup>8</sup> According to the Bureau of Primary Health Care’s guidelines for MUA/MUP designation, designation of Medically Underserved Areas (MUAs) involves the application of the Index of Medical Underservice (IMU) to data on a service area to obtain a score for the area. The IMU scale is from 0 to 100, where 0 represents completely underserved and 100 represents best served or least underserved. Under the established criteria, each service area found to have an IMU of 62.0 or less qualifies for designation as an MUA. The IMU involves four variables—ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over. The value of each variable for the service area is converted to a weighted value, according to established criteria. The four values are summed to obtain the area’s IMU score. Designation of Medically Underserved Populations (MUPs), using IMU, involves the application of IMU to data on an underserved population group within an area of residence to obtain a score for the population group. Population groups requested for MUP designation should be those with economic barriers (low income or Medicaid eligible populations), or cultural and/or linguistic access barriers to primary medical care services. This MUP involves assembling the same data elements and carrying out the same computational steps as for MUAs, but the population of reference is the population of the requested group within the area rather than the total resident civilian population in the area. Verbatim from: Bureau of Primary Health Care. (1995). *Guidelines for MUA/MUP Designation*. Bethesda, MD: Health Resources and Services Administration, Department of Health and Human Services. Accessed at [bphc.hrsa.gov:80/dsd/muaguidelines.html](http://bphc.hrsa.gov:80/dsd/muaguidelines.html).

<sup>9</sup> National Association of Community Health Centers, Inc. (2001). *2000 Access to Community Health Care*. At [www.nachc.com](http://www.nachc.com)

<sup>10</sup> National Association of Community Health Centers, Inc. (1998). *Access to Community Health Care: A National and State Data Book, 1998*. Washington, D.C.: National Association of Community Health Centers.

<sup>11</sup> See, e.g., Hawkins, D., and Rosenbaum, R. (1998). The Challenges Facing Health Centers in a Changing Healthcare System. [Chapter 6] In *The Future U.S. Healthcare System: Who Will Care for the Poor and Uninsured*. Chicago, Illinois: Health Administration Press.

<sup>12</sup> See, e.g., Reed, M., Cunningham, P., and Stoddard, J. (2001). *Physicians Pulling Back from Charity Care*. Issue Brief No. 42. Washington, D.C.: Center for Studying Health System Change.

<sup>13</sup> Known as the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act or BIPA, Pub. L. 106-554 §702; 42 U.S.C. §1396a(aa). The Act establishes a permanent Medicaid Prospective Payment System.

<sup>14</sup> Under the Medicaid Prospective Payment System (PPS), which is applicable in all states, including states previously exempt from FQHC payment rules because they operated their Medicaid programs as Section 1115 demonstration programs, health centers will receive a per visit payment rate that represents 100

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percent of the average of the costs of providing Medicaid services in FY 1999 and FY 2000 with an adjustment for the increase or the decrease in the scope of services provided in FY 2001. Starting in FY 2002 the payment will be equivalent to the amount paid in the previous fiscal year but adjusted for the Medicare Economic Index for primary care and for the increase or the decrease in the scope of services provided that fiscal year. States may use alternative payment methodologies under certain conditions. Health centers that subcontract with managed care organizations will receive supplemental payments from the state, which represent the difference between the capitation rate and the rate to which the health center would be entitled under PPS.

<sup>15</sup> Communication with NACHC based on the HHS Budget Justification to the Appropriations Committees for FY 1979.

<sup>16</sup> A description of the qualitative and quantitative research design and methodology used to prepare this study is contained in the Appendix.

<sup>17</sup> The charts indicate the direction and the statistical significance of the relationships found in bivariate analyses: (+) positively associated; (-) negatively associated; (ns) not significant. See Attachment B for the results of the bivariate and multiple regression analyses.

<sup>18</sup> These ten states are: Alaska, Connecticut, Idaho, Massachusetts, Missouri, Nebraska, Nevada, South Dakota, Vermont, and West Virginia.

<sup>19</sup> South includes TX, OK, AR, LA, MS, AL, FL, GA, SC, NC, TN, KY, WV, VA, MD, DE, and West includes MT, WY, CO, NM, AZ, UT, NV, CA, OR, WA, ID, AK, HI.

<sup>20</sup> See, e.g., Lollock, L. (2001). *The Foreign Born Population in the United States: March 2000. Current Population Reports, P20-534*. Washington, D.C.: U.S. Census Bureau, and Ku, L., and Freilich, A. (2001). *Caring for Immigrants: Health Care Safety Nets in Los Angeles, New York, Miami, and Houston*. Washington, D.C.: Kaiser Commission on Medicaid and the Uninsured, which show that non-citizens and immigrants tend to concentrate in urban areas. The UDS does not provide any data on non-citizen and immigrant users and health centers do not query patients on their citizenship status. Indeed, health centers are specifically recognized under federal law as a source of ongoing health care for non-citizen populations under the 1996 amendments to welfare reform. Rosenbaum, S. (2000). *Medicaid Eligibility and Citizenship Status: Policy Implications for Immigrant Populations. Policy Brief*. Washington, D.C.: Kaiser Commission on Medicaid and the Uninsured.

<sup>21</sup> Communication with NACHC based on the HHS Budget Justification to the Appropriations Committees for FY 1979.

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