2-16-2010

The Economic Stimulus: Gauging the Early Effects of ARRA Funding on Health Centers and Medically Underserved Populations and Communities

Peter Shin
George Washington University

Brian K. Bruen
George Washington University

Emily Jones
George Washington University

Leighton C. Ku
George Washington University

Sara J. Rosenbaum
George Washington University

Department of Health Policy

Geiger Gibson /
RCHN Community Health Foundation
Research Collaborative

Policy Research Brief No. 17

The Economic Stimulus: Gauging the Early Effects of ARRA Funding on Health Centers and Medically Underserved Populations and Communities

Peter Shin, PhD, MPH
Brian Bruen, MS
Emily Jones, MPP, PhD [cand.]
Leighton Ku, PhD, MPH
Sara Rosenbaum, JD

February 16, 2010

Support for this analysis was provided by the United Health Foundation and the RCHN Community Health Foundation

THE GEORGE WASHINGTON UNIVERSITY
SCHOOL OF PUBLIC HEALTH AND HEALTH SERVICES

About the United Health Foundation

Guided by a passion to help people live healthier lives, United Health Foundation provides helpful information to support decisions that lead to better health outcomes and healthier communities. The Foundation also supports activities that expand access to quality health care services for those in challenging circumstances and partners with others to improve the well being of communities. Since established by UnitedHealth Group [NYSE: UNH] in 1999 as a not-for-profit, private foundation, the Foundation has committed more than $170 million to improve health and health care. For more information, visit *www.unitedhealthfoundation.org*.

About the Geiger Gibson / RCHN Community Health Foundation Research Collaborative

The Geiger Gibson Program in Community Health Policy, established in 2003 and named after human rights and health center pioneers Drs. H. Jack Geiger and Count Gibson, is part of the School of Public Health and Health Services at The George Washington University. It focuses on the history and contributions of health centers and the major policy issues that affect health centers, their communities, and the patients that they serve.

The RCHN Community Health Foundation, founded in October 2005, is a not-for-profit foundation whose mission is to support community health centers through strategic investment, outreach, education, and cutting-edge health policy research. The only foundation in the country dedicated to community health centers, the Foundation builds on health centers' 40-year commitment to the provision of accessible, high quality, community-based healthcare services for underserved and medically vulnerable populations. The Foundation's gift to the Geiger Gibson program supports health center research and scholarship.

For more information about the Geiger Gibson / RCHN Community Health Foundation Research Collaborative, please visit *www.gwumc.edu/sphhs/departments/healthpolicy/ggprogram* or *www.rchnfoundation.org*.

Executive Summary

During times of economic crisis, community health centers and other health care safety net providers become even more vital to the communities they serve. The current downturn, with its high levels of unemployment and enormous impact on family incomes, carries major implications for health insurance coverage. The American Recovery and Reinvestment Act (ARRA), signed into law on February 17, 2009, provided slightly more than two billion dollars to community health centers for capital improvements, expansion (or retention) of personnel and services, and adoption of health information technology. All of these uses not only support health centers' mission to serve populations with limited access to health care, such as the uninsured, low-income populations, minorities, and the homeless, but also generate new economic activities in communities hit hardest by the recession:

- More than 1,100 health centers throughout the United States have received ARRA funding to date. These centers are projected to serve 21 million persons in 2011, including nearly three million new patients as a direct result of ARRA funding. By targeting health centers, ARRA effectively provides needed health resources to populations at higher risk of poor health.

- Community health centers receiving ARRA funding tend to be located in areas with higher rates of unemployment and recent job losses. The average unemployment rate among counties with health center ARRA grantees was 9.6 percent compared to an average rate of 9.0 percent in all other counties; the average unemployment rate grew by 4.4 percent in counties with health centers compared to 4.0 percent in all other counties.

- The $1.85 billion invested to date in health centers under ARRA translates into $3.2 billion in new economic activity in these communities, suggesting that health centers are able to rapidly transform an infusion of funding into new services and expanded jobs.

These findings indicate that ARRA has achieved its goal of directing resources into those communities that tend to bear the heaviest burden of an economic downturn, and have low community incomes, a disproportionate percentage of low wage workers, inadequate primary care access, and elevated health risks. However, the challenge lies in sustaining this expansion and assuring that the ability of health centers to respond to community needs is maintained even as overall economic circumstances begin to improve. Reforms contained in both the House and Senate bills, such as expanded Medicaid coverage for low income patients and direct investment in health center expansions, hold the greatest promise for operational sustainability and growth.

Introduction

The severe economic downturn has resulted in the loss of approximately eight million jobs and a doubling of unemployment from 5.0 percent to 10.0 percent over the past two years.[1] The recession has had an enormous impact on family income, and while 2009 data will not be available for several more months, the downturn clearly carries major implications for health insurance coverage. Indeed, prior research shows that every one percent increase in unemployment triggers health insurance loss for a million additional people.[2]

The American Recovery and Reinvestment Act (ARRA), signed into law on February 17, 2009, had three main goals: 1) to create and save jobs; 2) to spur both short- and long-term economic activity; and 3) to increase government accountability and transparency.[3] Inherent in these goals is the objective of providing funding to the individuals and communities most affected by the recession and community health centers are an efficient vehicle for ARRA funding. During times of economic crisis, health centers and other health care safety net providers become even more vital to the urban and rural communities they serve, which are generally poorer than other neighborhoods and where families incomes are lower overall. ARRA provided slightly more than two billion dollars for community health centers. The Administration, in turn, has, to date, allocated approximately $1.9 billion in funding through four major initiatives (See Table 1).

Table 1: Amount and Type of ARRA Funding to Improve Health Center Infrastructure and Operations

Type	Name	Funding ($ millions)	
		To Date	Total
Infrastructure: Capital Projects[4]	Capital Improvement Program *(CIP)*	851	1,500
	Facilities Investment Program *(FIP)*	509	
Operations: Increasing Access	New Access Point *(NAP)*	155	500
	Increased Demand for Services *(IDS)*	338	
	National Health Service Corps *(NHSC)*	75	300

Source: U.S. Department of Health and Human Services. (2009). Health Resources and Services Administration: Community Health Centers - Capital (Construction, Renovation, and Equipment, and for the Acquisition of Health Information Technology (HIT)). Accessed at: http://www.hhs.gov/recovery/reports/plans/healthcenterscapital.pdf

Note: The amounts allocated to date represent the amount passed through to health centers and do not include administrative costs (estimated to be 0.5% for the CIP and FIP projects).

[1] Bureau of Labor Statistics. (2010). "Employment Situation Summary, January 8, 2010." Accessed at: http://www.bls.gov/news.release/empsit.nr0.htm

[2] Holahan J and Garret B. (2009). "Rising Unemployment, Medicaid, and the Uninsured."Kaiser Commission on Medicaid and the Uninsured; George Washington University. "Examining the Economic Consequences of the 2008-2009 Recession." Accessed at: http://www.gwumc.edu/sphhs/about/rapidresponse/download/Rapid_HlthRecs_Final.pdf

[3] United States Federal Government. (2010). "The Act" Accessed at: http://www.recovery.gov/About/Pages/The_Act.aspx

[4] Includes 88 HIT grants totaling $125 million to date.

Early evidence based on data submitted to the federal government suggest that health centers are on track to meet ARRA targets related to the number of new patients served and the number of jobs created or saved.[5] This research brief focuses on the extent to which the economic stimulus funding has, in fact, reached the populations and communities that are most in need.

Overview

ARRA and HRSA Implementation

ARRA provides two types of funds aimed to strengthen and expand community health centers (See Table 1):

- Nearly $1.5 billion in capital investment funding for construction, renovation, and health information technology adoption; and

- $500 million to expand services to additional patients in need.

Most of the $1.5 billion allotted for health center capital costs has already been obligated, mainly through two programs:

- In June 2009, every grantee received a one-time award under the Capital Improvement Program (CIP) for construction, renovation, repair, and equipment purchases, including health information technology. The base amount of $250,000 per grantee, was increased by $35 for every patient served, up to a $2.5 million ceiling; additional competitive awards were made, bringing the total disbursement to $851 million.[6]

- Funding for the other capital program, the Facility Investment Program (FIP), was awarded competitively in December 2009. Eighty-five health centers received a total of $509 million for capital projects, with awards ranging from $792,700 to $12 million.[7] These funds can be used either to improve the utility of existing health center space through renovations or equipment installation or to increase square footage through the construction of a new or expanded service site.

---

[5] National Association of Community Health Centers. (2010). "One Year Later: Health Centers' Accomplishments Under the Stimulus." Accessed at: http://www.nachc.com/stimulus

[6] The White House, Office of the First Lady. (2009). "Press Release: First Lady Michelle Obama Announces Release of $851 Million from Recovery Act to Upgrade & Expand Community Health Centers, To Serve More Patients." Accessed at: http://www.whitehouse.gov/the_press_office/First-Lady-Michelle-Obama-Announces-Release-of-851-Million-from-Recovery-Act-to-Upgrade-and-Expand-Community-Health-Centers/

[7] The White House, Office of the Press Secretary. (2009). "Press Release: President Obama Announces Recovery Act Awards to Build, Renovate Community Health Centers in More Than 30 States." Accessed at: http://www.whitehouse.gov/the-press-office/ president-obama-announces-recovery-act-awards-build-renovate-community-health-cente

Another critical capital funding initiative is the Health Information Technology (HIT) grant program, which is slated to total $125 million; of which up to $88 million will be allotted to Health Center-Controlled Networks (HCCNs) to enhance their capacity to support health centers. These networks create, develop, and operate information technology infrastructure for member health centers at or below market costs to increase access and improve value and efficiency. In 2009, $36 million in funding was allocated to 53 HCCNs.[8]

In addition to these capital investments, ARRA includes measures to enable health centers to increase access by mitigating staffing shortages, extending hours, and adding new services. These funds have been disbursed via two separate programs:

- On March 2, 2009, HRSA allocated $155 million to fund the establishment of 126 "New Access Points (NAPs)," which are either new health center grantees or new locations that enable existing health centers to enhance access.[9] It was estimated that these funds would enable health centers to care for over 750,000 additional patients.

- Since increasing access requires workforce and practice redesign in addition to infrastructure, HRSA also allocated $338 million in "Increased Demand for Services (IDS)" grants in March 2009. Base awards of $100,000 were made to every health center, with an increase of $6 for every health center patient and $19 for every uninsured health center patient. IDS funds are used to increase health center staffing, extend hours, and expand existing services (construction and equipment costing more than $5,000 are not permitted under the IDS program). The Administration estimates that these funds will create or retain some 6,400 health center jobs.[10]

ARRA also increased funding for the primary care workforce by $500 million, including $300 million for the National Health Service Corps (NHSC). In addition, ARRA provides targeted Medicaid financing to incentivize the adoption and meaningful use of health information technology (HIT) by selected groups of Medicaid providers, including federally qualified health centers with "needy" patients (both Medicaid insured and uninsured patients) exceeding 30 percent of total patients. Virtually all health centers meet this threshold, although

---

[8] Id.

[9] White House, Office of the Press Secretary. "Press Release: President Obama Will Nominate Governor Kathleen Sebelius Secretary of HHS, Announces Release of $155 Million of ARRA Funds for Health Clinics Across America." (2010). Accessed at:http://www.whitehouse.gov/the_press_office/President-Obama-nominates-Governor-Kathleen-Sebelius-Secretary-of-HHS-Announces-Re/

[10] United States Department of Health and Human Services. (March 27, 2009). "Press Release: HHS Releases $338 Million to Expand Community Health Centers, Serve More Patients." Accessed at: http://www.hhs.gov/news/press/2009pres/03/20090327a.html

implementation has not been rapid due, in part, to the fact that the program is administered at the state level.

ARRA's direct investments in health centers are expected to provide significant relief to many communities hit hardest by the recession, since the factors that make a community eligible for a health center – elevated poverty, shortages of primary care, and elevated health risks – are also characteristics of communities that are disproportionately minority, have a lower-wage workforce and have experienced the highest rates of job loss.[11] A measure of the link between medical underservice designation[12] and the economic impact of the recession on poorer communities can be seen in a 2009 survey that found that health center visits increased by 14 percent between June 2008 and June 2009, and that total visits for uninsured patients increased by 21 percent, compared with only a six percent increase during the previous year.[13] Because lower income families tend to experience the harshest effects of economic crises,[14] understanding the impact of the ARRA health center investment can serve as an important barometer of the role of public investment during a time of economic challenge.

A Profile of Health Center Patients

In 2008, nearly 1100 health centers served one in six low-income U.S. residents, with clinical practice sites located in more than 7500 medically underserved urban and rural communities.[15] Health centers are of enormous importance to the low income population. Figure 1 shows that 70 percent of health center patients have family income below 100 percent of the federal poverty level, compared with 13 percent of the U.S. population as a whole, while 85 percent are low income (below 200 percent of the federal poverty level) compared to 32 percent nationwide. Approximately two-thirds of all patients served by health centers are

[11]Dorn S, Garrett B, Holahan J, and Williams A. (2008). "Medicaid, SCHIP and Economic Downturn: Policy Challenges and Policy Responses." Kaiser Commission on Medicaid and the Uninsured; Ricketts T, Goldsmith L, Holmes G, Randolph R, Lee R, Taylor D, and Osterman J. (2007). "Designating Places and Populations as Medically Underserved: A Proposal for a New Approach." *Journal of Health Care for the Poor and Underserved* 18: 567-589; Government Accountability Office. (1995). "Health Care Shortage Areas: Designations Not a Useful Tool for Directing Resources at the Underserved." GAO/HEHS-95-200.

[12] Two types of shortage designations are used to target federal resources for improving access to health care services: the Health Professional Shortage Area (HPSA), and the Medically Underserved Area/Population (MUA/P). More information available at: http://bhpr.hrsa.gov/shortage/index.htm (Accessed February 11, 2009)

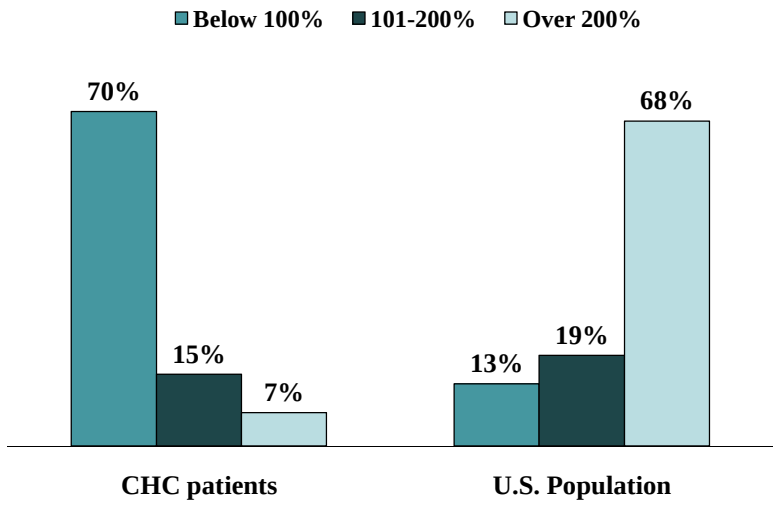
[13] National Association of Community Health Centers. (2009). "Fact Sheet: Recession Brings More Patients to Health Centers." Accessed at: http://www.nachc.com/client/documents/20090929_Rising_Patient_Demand.pdf

[14] Felland LE, Cunningham PJ, Cohen GR, November EA, and Quinn BC. (2010). "The Economic Recession: Early Impacts on Health Care Safety Net Providers." Center for Studying Health System Change.

[15] Based on estimated 15.7 million low-income health center patients and 96.0 million individuals with incomes less than 200 percent of the federal poverty level (HRSA Uniform Data System, 2008; United States Census, Current Population Survey, Annual Social and Economic Supplement, 2009).

members of racial or ethnic minority populations,[16] and health centers serve an estimated one in five members of racial and ethnic minority groups.[17]

Figure 1. Poverty Level of Health Center Patients and U.S. Population



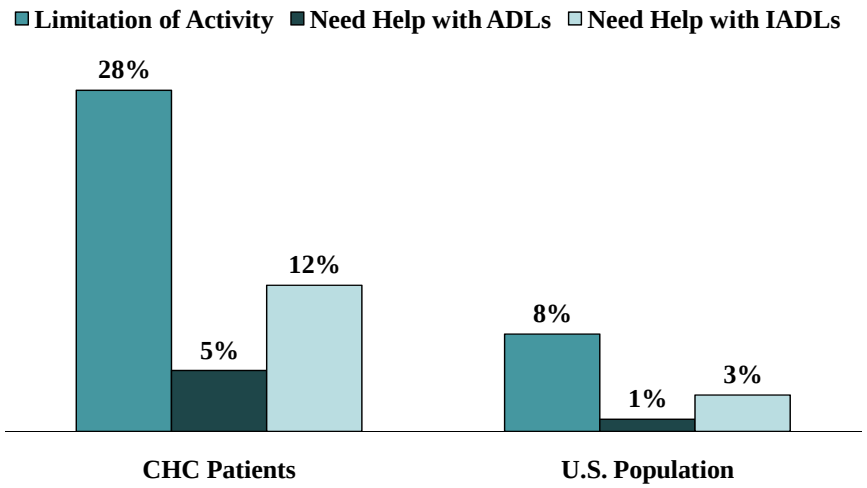
Source: The 2009 Census and 2008 UDS, HRSA

Twenty-nine percent of health center patients are women of childbearing age (15-44), while 33 percent are children under 18. Based on health center and census data, health centers served nearly one in five low-income women in 2008, [18] and health centers account for approximately one in eight low income births in the U.S.[19] Health centers serve one in 11 low-income elderly and one in 14 patients served is 65 or older.[20] Health centers also care for nearly one million homeless families and 834,000 migrant/seasonal workers and families who are at higher risk of poor health.

[16] Health center minority estimates are based on 1999-2006 historical UDS records, HRSA.
[17] Health center minority estimates are based on 1999-2006 historical UDS records, HRSA. National estimates based on the 2008 Census.
[18] Based on 10.1 million female health center patients and 52.1 million low-income women (Current Population Survey, Annual Social and Economic Supplement, 2009).
[19] Estimates are derived from 4.3 million births in 2006 (CDC NCHS; Accessed February 12, 201 at: http://205.207.175.93/VitalStats/TableViewer/tableView.aspx?ReportId=15101) of which 44 percent are assumed to be low-income (based on ages 0-3; Accessed at: http://www.nccp.org/publications/pub_894.html). Approximately 23,000 prenatal care patients delivered in 2006 (UDS, HRSA).
[20] Based on 1.2 million elderly health center patients and 13.7 million low-income elderly (Current Population Survey, Annual Social and Economic Supplement, 2009).

By targeting health centers, ARRA effectively provides needed health resources to populations at greater risk of poor health. According to the 2002 Community Health Center User/Visit Survey and 2000 National Health Interview Survey, 23 percent of health center patients report that they are in excellent health compared with 38 percent of U.S. residents. Conversely, 26 percent of health center patients report fair or poor health, compared with nine percent of the population as a whole. These health status differences translate to activity limitations for health center patients at a much higher rate than that found among the total population. Twenty-eight percent of health center patients report activity limitations, compared with only eight percent of the U.S. population. Health center patients are five times more likely to need help with Activities of Daily Living (ADLs) and four times more likely to need help with Instrumental Activities of Daily Living (IADLs) than the population as a whole (see Figure 2).

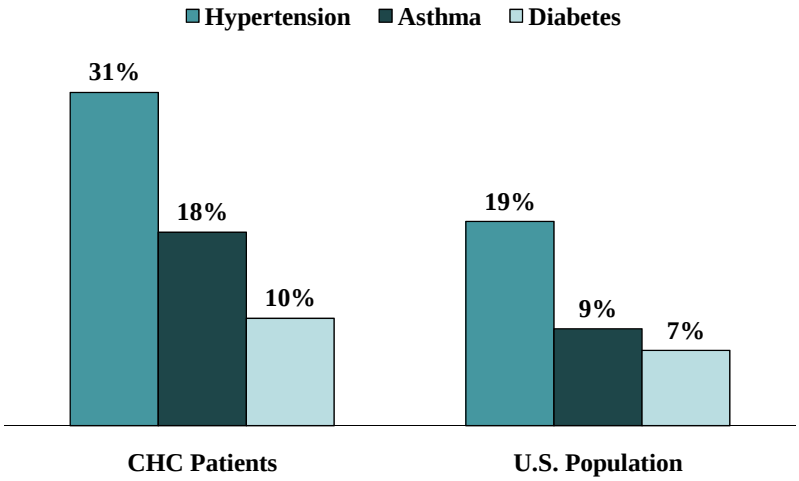
Figure 2. Activity Limitations of Health Center Patients and U.S. Population



Source: The 2002 Community Health Center User/Visit Survey, HRSA and the 2000 National Health Interview Survey

Figure 3 shows health center users are also more likely to suffer from hypertension, asthma, and diabetes than the general population; almost one in three health center patients has hypertension, almost one in five has asthma, and one in ten has diabetes.

Figure 3. Chronic Conditions: Health Center Patients and U.S. Population



Source: The 2002 Community Health Center User/Visit Survey, HRSA and the 2000 National Health Interview Survey

Between 1996 and 2008, the number of patients served by health centers more than doubled, from 8,250,000 patients to over 17.1 million. Over this same time period, health centers served an average of nearly 739,000 new patients annually, of whom approximately 40 percent were uninsured. Yet even with the considerable ARRA investment, health centers face significant workforce and financial pressures that limit their capacity[21] and that underscore the importance of looking beyond temporary ARRA investments toward longer term and sustained strategies for health center growth. For example, the surge in demand for care among Massachusetts health centers following enactment of comprehensive health reform in that state suggests a significant underlying unmet need for care, stemming from the lack of primary care access in lower income communities.[22]

[21] Felland, Cunningham, Cohen, November, and Quinn (2010); Rosenbaum S, Finnegan B, and Shin P. (2009). "Community Health Centers in an Era of Health System Reform and Economic Downturn: Prospects and Challenges." Kaiser Commission on Medicaid and the Uninsured.

[22] Ku L, Jones E, Finnegan B, Shin P, and Rosenbaum S. (March 2009). "How is the Primary Care Safety Net Faring in Massachusetts? Community Health Centers in the Midst of Health Reform." Kaiser Family Foundation & Geiger Gibson/RCHN Community Health Foundation Research Collaborative; Long S. (2008). "On the Road to Universal Coverage: Impacts of Reform in Massachusetts at One Year." *Health Affairs* 27(4): w270-84; Massachusetts Division of Health Care Finance and Policy. (November 2008). "Health Care in Massachusetts: Key Indicators."

Our Research Aims

In this analysis we sought to examine the potential effects of ARRA on patients, health centers, and communities by examining how the stimulus funds were targeted toward the neediest communities. We examined publicly available material on awards to health centers and analyzed how ARRA funds vary geographically, impacting access to health care as well as the economy.

Findings

Impact on Access

To date, 1,100 health centers, including 23 located in U.S. Territories, have received one or more of the ARRA awards. According to recovery.gov, 2,361 ARRA grants were awarded in 2009 to support 1,167 access-related projects (IDS and NAP) and 1,194 construction (CIP and FIP) projects.[23] Table 1 shows the number and type of ARRA awards received by health centers in each state.

[23] United States Federal Government. "Award Summary." Retrieved from http://www.recovery.ca.gov/viewAwardDetails.do?tasNumber=75-0351&awardId=3963&isFederalAward=true&category=Health+and+Human+Services

Table 2: Number of ARRA-funded Projects, by State

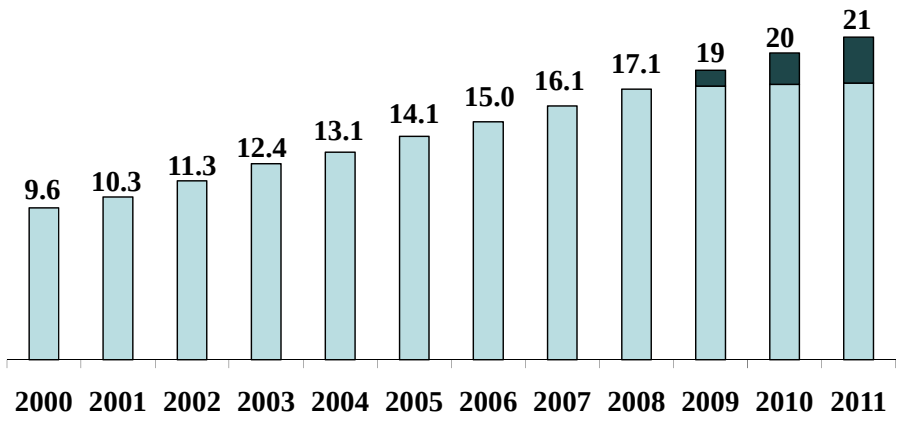
State	IDS and NAP	FIP and CIP	State	IDS and NAP	FIP and CIP
Alaska	27	28	Montana	16	16
Alabama	17	16	North Carolina	28	30
Arkansas	15	11	North Dakota	4	5
Arizona	16	17	Nebraska	6	6
California	115	122	New Hampshire	11	13
Colorado	16	17	New Jersey	20	23
Connecticut	13	11	New Mexico	15	16
District of Columbia	6	6	Nevada	3	3
Delaware	7	4	New York	54	56
Florida	41	46	Ohio	30	33
Georgia	31	30	Oklahoma	15	17
Hawaii	18	19	Oregon	25	26
Iowa	14	14	Pennsylvania	39	42
Idaho	11	11	Rhode Island	10	8
Illinois	37	40	South Carolina	20	22
Indiana	20	20	South Dakota	7	6
Kansas	13	11	Tennessee	25	23
Kentucky	21	18	Texas	63	65
Louisiana	26	23	Utah	11	11
Massachusetts	36	44	Virginia	25	25
Maryland	16	17	Vermont	9	9
Maine	20	20	Washington	26	26
Michigan	30	31	Wisconsin	16	16
Minnesota	16	16	West Virginia	30	28
Missouri	21	20	Wyoming	5	6
Mississippi	22	22	U.S. territories	29	29
			Total	1,167	1,194

Source: Capital Link (2010); ARRA awards for health centers as presented on the Health Resources and Services Administration (HRSA) website http://www.hrsa.gov.

Because health centers are recognized for their ability to effectively utilize federal grants to improve and expand patient access to medical, dental, and mental health services,[24] it is estimated that nearly three million new patients will be served with the funding provided by ARRA. Since 2000, the number of patients at health centers increased on average seven percent annually. Based on this trend and projections from HRSA and Capital Link, a national nonprofit organization that provides capital advisory and lending services to health centers, we estimate the number of health center patients will grow to approximately 19 million in 2009, and to 21 million in 2011 (see Figure 4).

[24] Lo Sasso AT and Byck GR. (2010). "Funding Growth Drives Community Health Center Services." *Health Affairs* 29(2):289-296.

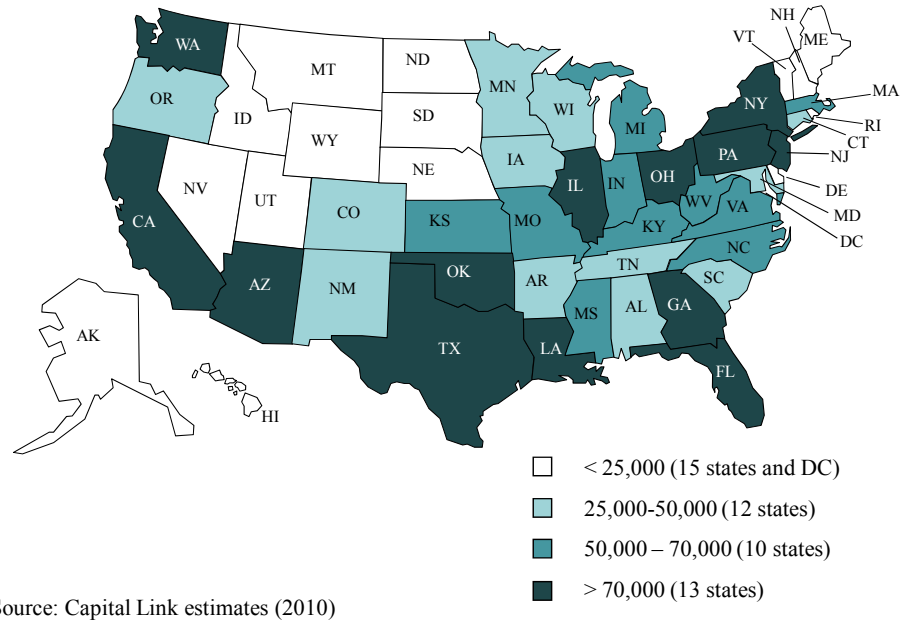
Figure 4. Projected Impact on Number of Total Patients Served (in millions)



Source: 2009-2011 projections based data from UDS, HRSA, Capital Link projections and HRSA estimates on number of new patients supported by IDS (2.1 million new patients) and NAP (750,000 new patients)

Figure 5 illustrates the state-by-state increases in the number of new patients supported by IDS and NAP grants through 2011 (see Appendix for state-by-state estimates by award type). The number of new patients ranges from 2,419 in North Dakota to 384,364 in California.

Figure 5. Estimated Numbers of New Patients Supported by IDS and NAP Grants Through 2011



Source: Capital Link estimates (2010)

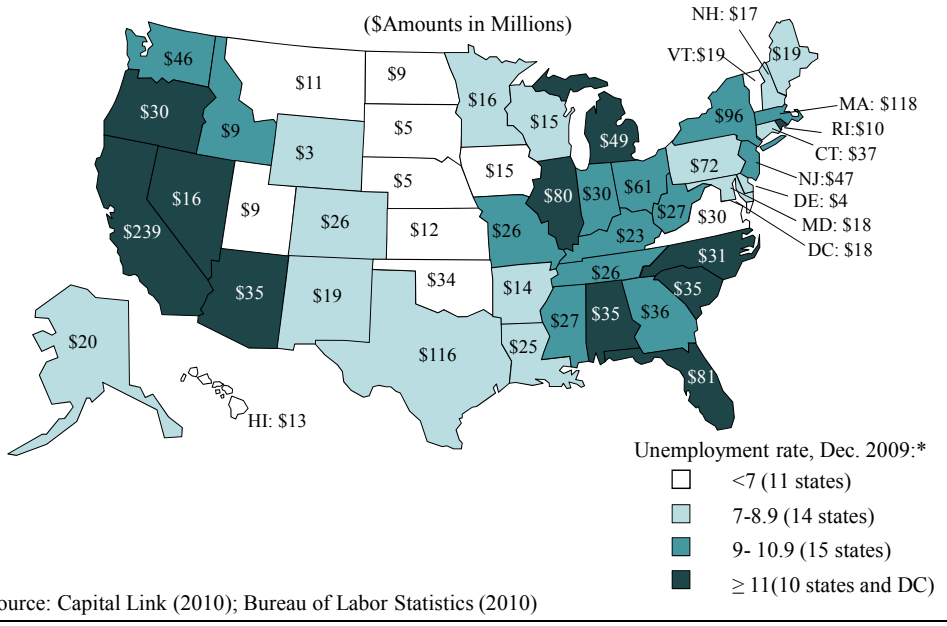
As construction projects are completed by 2011, the number of patients served is likely to grow at a faster rate. However, workforce shortages that limit capacity and continued cuts in state and local funding may offset some of the expected gains in access.[25]

ARRA Grants Vary with the Strength of the Economy

In addition to improving access and capacity, ARRA awards are intended to protect and stimulate some of the most economically depressed communities. As Figure 6 shows, states with higher levels of unemployment received greater levels of health center funding. The median amount of funding to those states with unemployment levels higher than 11 percent was relatively higher than that to states with lower unemployment levels. Health centers in states with the highest unemployment level received on average $35 million. Health centers in states reporting 9-11 percent unemployment received on average $30 million. Health centers in states with 7-9 percent and 4-7 percent unemployment received $19 and $12 million, respectively.

[25] National Association of Community Health Centers. (September 2009). "Weathering the Storm: State Funding for Health Centers During an Economic Crisis." State Policy Report #9. Retrieved from http://www.nachc.com/client/SPR29FINAL.pdf

Figure 6. ARRA Grant Funding Amounts and Unemployment Rates, by State



Source: Capital Link (2010); Bureau of Labor Statistics (2010)

Additional analyses at the county level further suggest ARRA grants to community health centers are well-targeted. Specifically, counties with health centers that received ARRA grants had higher rates of unemployment than non-grantee counties. Based on unemployment data for the first 11 months of 2009, the average unemployment rate among counties with health center ARRA grantees was 9.6 percent, compared to an average rate of 9.0 percent in all other counties. More than half of counties with health center ARRA grantees had unemployment rates over 9.0 percent and half of those (25 percent) had average rates of more than 11 percent. (See Appendix)

Furthermore, the county-level analysis indicates health center ARRA grants went to areas experiencing rising unemployment levels. Between 2007 and 2009, counties with health center ARRA grantees experienced higher-than-average unemployment growth. The average unemployment rate grew by 4.4 percent in counties with health centers that received ARRA grants compared to 4.0 percent in all other counties.

Impact of the ARRA on the Economy

States facing greater unemployment levels tend to benefit the most economically from ARRA grants.[26] Figure 7 indicates that the economic impact of ARRA funds, measured in millions of dollars, was highest for those states with higher

[26] The economic impact model includes basic direct, indirect, and induced economic activity concepts. The estimates include impacts from all health center operations related awards (NAP, IDS) and capital related awards (CIP, FIP).

rates of unemployment. On average, ARRA generated approximately $55.9 million in states with an unemployment rate greater than or equal to 11 percent. In states with relatively lower economic stress, defined as those with an unemployment rate of seven percent or less, ARRA funding generated $20.6 million on average.

Figure 7. Median State-Level Economic Impacts, by State Unemployment Rate

Source: Economic impact estimates from Capital Link. Unemployment rates from December 2009, BLS.

Estimates on the economic impact of ARRA funding to health centers provided by Capital Link suggest that for every one million dollars invested, an average of $1.7 million in new economic activity is generated. Table 3 shows the estimated range of economic activity that is generated for every one million dollars in health center funding for each state.[27] The estimated return ranges from $1.512 million in Wyoming to $1.814 in California for every one million invested through IDS, NAP, or construction awards (CIP/FIP).

Prior to the economic crisis, federal funds allocated to health centers would have provided a nearly four-fold return on investment.[28] The $1.85 billion invested to

[27] Figures are rounded to minimize uncertainty in calculating the direct, indirect, and induced economic effects and the misperception of precision and accuracy in estimating economic impacts.
[28] National Association of Community Health Centers, the Robert Graham Center, and Capital Link. (2008). "Access Granted: The Primary Care Payoff." Retrieved from http://www.nachc.com/client/documents/issues-advocacy/policy-library/ research-data/research-reports/Access_Granted_FULL_REPORT.pdf

date in health centers under ARRA translates into $3.2 billion in new economic activity. The returns are lower now since most of the gains in estimated economic activity are offset by higher unemployment levels and other effects of the recession.

Table 3: Economic Impact of a One Million Dollar Investment in Community Health Centers

State	Economic return on $1 million investment	State	Economic return on $1 million investment
Alabama	$1,641,000	Missouri	$1,808,000
Alaska	$1,554,000	Montana	$1,587,000
Arizona	$1,723,000	Nebraska	$1,653,000
Arkansas	$1,604,000	New Hampshire	$1,651,000
California	$1,835,000	New Jersey	$1,719,000
Colorado	$1,814,000	New Mexico	$1,670,000
Connecticut	$1,667,000	New York	$1,755,000
Delaware	$1,588,000	North Carolina	$1,691,000
District of Columbia	$1,301,000	North Dakota	$1,539,000
Florida	$1,788,000	Oklahoma	$1,682,000
Georgia	$1,774,000	Pennsylvania	$1,896,000
Hawaii	$1,554,000	Puerto Rico	$1,518,000
Idaho	$1,618,000	Rhode Island	$1,611,000
Illinois	$1,880,000	South Carolina	$1,606,000
Indiana	$1,696,000	South Dakota	$1,579,000
Iowa	$1,616,000	Tennessee	$1,769,000
Kansas	$1,721,000	Texas	$1,828,000
Kentucky	$1,719,000	Utah	$1,809,000
Louisiana	$1,639,000	Vermont	$1,586,000
Maine	$1,646,000	Virginia	$1,693,000
Maryland	$1,677,000	Washington	$1,746,000
Massachusetts	$1,713,000	West Virginia	$1,590,000
Michigan	$1,759,000	Wisconsin	$1,690,000
Minnesota	$1,826,000	Wyoming	$1,512,000
Mississippi	$1,616,000	Total	$1,732,000

Sources: Estimated return derived from economic impact estimates from Capital Link (2010).
Notes: The economic impact estimates were prepared by Capital Link with MIG, Inc. IMPLAN Software Version 3.0, 2008 structural matrices, 2008 state-specific multipliers, and data from various American Recovery and Reinvestment Act awards for health centers as presented on the Health Resources and Services Administration (HRSA) website http://www.hrsa.gov

Discussion

This study underscores that health centers are able to rapidly transform an infusion of funding into new services and expanded jobs. In this regard, the ARRA investment acts as an economic engine in targeted communities, with investments translated quickly into economic gain and an estimated return of nearly two dollars for every dollar spent.

This analysis also indicates that ARRA funds are effectively targeted to economically depressed states, with investments directed substantially toward those counties hardest hit by unemployment. By 2011, we estimate investments in patient care and service expansion through ARRA grants will enable health centers to care for nearly three million more patients than would have been served in the absence of ARRA funding, to meet rapidly escalating need.

In an earlier report on the effects of the 2006 Massachusetts reforms, we showed that health centers were able to respond to a new patient surge flowing from health reform.[29] In the current recession, health centers demonstrate a similar ability to respond to a surge of need, this time triggered by severe economic conditions, leading to unemployment and uninsurance. However, the challenge lies in sustaining this expansion and assuring that the ability of health centers to respond to community needs is maintained even as overall economic circumstances begin to improve. ARRA's special investments are meant to be short-term, yet the effects of the recession can be expected to linger for a long time, particularly in the highest need communities where recovery generally takes longer. To this end, the health reform investment, including expanded Medicaid coverage for low income patients and direct investment in health center expansions – contained in both the House and Senate measures – hold the greatest promise for ongoing operational sustainability and growth.

Importantly, with health reform legislation still pending in Congress, the President's FY 2011 budget would provide $290 million in funding to sustain the additional patient care load funded through the infusion of ARRA dollars. This spending request seeks to avert major reductions in service at a time when communities are still experiencing the worst effects of the recession. If Congress fails to act quickly, health centers could face significant budget shortfalls that cause them to curtail services, reduce staffing, or scale back service sites. An erosion of federal funding would further intensify the impact of reductions in state funding for health centers, which are already occurring. Although preliminary indicators show ARRA has achieved its goal of directing resources into communities that tend to bear the heaviest burden during an economic downturn, – those with low community incomes, a disproportionate percentage of low wage workers, inadequate primary care access, and elevated health risks – ongoing support is needed to sustain the benefits to the local economy and populations at greater risk of poor health, particularly as a consequence of unemployment.

[29] Ku, Jones, Finnegan, Shin, and Rosenbaum (2009).

Appendix

Table A1: Estimated Numbers of New Patients Served by Award Type, By State			
	NAP	IDS	
State	Estimated New Patients	Estimated New Patients	Estimated New Uninsured Patients
Alabama	12,140	27,969	16,516
Alaska	1,970	16,629	7,446
Arizona	13,010	59,814	21,987
Arkansas	12,280	16,335	10,643
California	80,890	303,474	148,376
Colorado	5,240	39,689	21,619
Connecticut	17,030	20,143	7,944
Delaware	5,680	5,207	3,303
District of Columbia		8,370	3,455
Florida	35,720	100,976	73,692
Georgia	31,420	45,191	24,798
Hawaii		14,969	4,619
Idaho		14,371	8,987
Illinois	30,560	66,421	31,032
Indiana	15,210	39,175	17,379
Iowa	7,950	17,988	7,836
Kansas	14,070	38,119	14,535
Kentucky	20,030	38,209	14,011
Louisiana	48,870	40,792	21,132
Maine	11,170	11,862	7,597
Maryland		34,347	14,268
Massachusetts	7,060	61,787	19,369
Michigan	13,890	53,749	27,621
Minnesota	10,140	20,362	10,384
Mississippi	9,340	45,400	22,639
Missouri	9,340	47,261	24,834
Montana	5,570	15,202	9,227
Nebraska		9,664	6,098
Nevada	2,770	6,432	3,716
New Hampshire	2,100	9,926	5,467
New Jersey	24,050	57,189	39,554
New Mexico		25,058	11,634
New York	45,230	89,524	31,137
North Carolina	11,520	41,288	26,889

Table A1: Estimated Numbers of New Patients Served by Award Type, By State			
	NAP	IDS	
State	Estimated New Patients	Estimated New Patients	Estimated New Uninsured Patients
North Dakota		2,419	1,285
Ohio	25,940	51,039	23,497
Oklahoma	42,640	30,136	13,254
Oregon		32,506	19,287
Pennsylvania	39,930	59,603	19,653
Puerto Rico	12,830	29,197	7,364
Rhode Island	7,380	16,607	7,028
South Carolina		28,163	17,923
South Dakota	2,100	3,621	1,731
Tennessee	10,740	37,894	20,344
Texas	55,920	149,445	93,021
Utah		14,572	9,321
Vermont	4,170	8,732	3,554
Virginia	24,390	37,513	15,986
Washington	5,800	72,034	35,301
West Virginia		55,852	20,820
Wisconsin	5,940	29,945	10,912
Wyoming		3,312	1,880
Total	729,200	2,076,285	1,034,541

Sources: Estimated impacts from Capital Link (2010).
Note: Due to reporting specifications, the number of uninsured patients supported by IDS is not a subset of new patients; uninsured patients include existing health center patients who lost coverage.

Table A2. Estimated Economic Impacts and Unemployment Rates, By State						
	Estimated Economic Impact of Awards, by Type (millions $)					Unemployment
State	NAP	IDS	CIP	FIP	Total	Rate, Dec. 2009*
Alabama	$5.5	$10.1	$22.8	$18.3	$56.7	11.0%
Alaska	$2.0	$5.8	$14.4	$9.3	$31.5	8.8%
Arizona	$7.0	$10.1	$27.4	$15.8	$60.2	9.1%
Arkansas	$5.3	$5.0	$11.5	-	$21.8	7.7%
California	$30.2	$93.4	$196.5	$118.0	$438.1	12.4%
Colorado	$2.4	$14.2	$30.0	-	$46.6	7.5%
Connecticut	$9.0	$7.0	$18.6	$26.3	$60.8	8.9%
Delaware	$2.2	$1.6	$3.2	-	$6.9	9.0%
District of Columbia	-	$2.3	$5.7	$15.6	$23.6	12.1%
Florida	$18.8	$34.1	$71.8	$20.8	$145.5	11.8%
Georgia	$9.0	$12.8	$28.7	$13.2	$63.7	10.3%
Hawaii	-	$5.2	$13.1	$2.3	$20.6	6.9%
Idaho	-	$4.6	$10.4	-	$15.0	9.1%
Illinois	$10.3	$30.0	$69.2	$40.4	$149.8	11.1%
Indiana	$4.7	$8.9	$20.4	$17.4	$51.2	9.9%
Iowa	$2.2	$5.4	$12.8	$4.1	$24.5	6.6%
Kansas	$4.6	$5.5	$11.2	-	$21.3	6.6%
Kentucky	$8.8	$9.1	$21.9	-	$39.8	10.7%
Louisiana	$14.2	$8.1	$19.3	-	$41.6	7.5%
Maine	$4.5	$5.9	$16.5	$5.3	$32.1	8.3%
Maryland	-	$7.6	$20.2	$1.8	$29.5	7.5%
Massachusetts	$2.4	$16.8	$47.1	$135.9	$202.2	9.4%
Michigan	$4.9	$16.1	$40.8	$19.8	$81.6	14.6%
Minnesota	$2.4	$6.6	$16.6	$3.8	$29.5	7.4%
Mississippi	$2.1	$10.3	$25.2	$6.3	$43.9	10.6%
Missouri	$4.9	$12.8	$30.4	-	$48.1	9.6%
Montana	$2.1	$4.6	$10.6	-	$17.3	6.7%
Nebraska	-	$2.6	$5.4	-	$8.0	4.7%
Nevada	$0.8	$2.4	$4.8	$17.6	$25.5	13.0%
New Hampshire	$1.6	$2.9	$7.5	$15.9	$27.9	7.0%
New Jersey	$4.7	$12.4	$28.8	$34.1	$80.0	10.1%
New Mexico	-	$8.6	$21.1	$2.0	$31.7	8.3%
New York	$13.3	$37.1	$91.2	$26.6	$168.2	9.0%
North Carolina	$4.6	$15.4	$33.1	-	$53.1	11.2%
North Dakota	-	$1.0	$2.9	$10.3	$14.2	4.4%
Ohio	$11.1	$14.1	$35.5	$41.5	$102.2	10.9%
Oklahoma	$13.1	$5.5	$13.2	$24.9	$56.7	6.6%

Table A2. Estimated Economic Impacts and Unemployment Rates, By State						
	Estimated Economic Impact of Awards, by Type (millions $)					Unemployment
State	NAP	IDS	CIP	FIP	Total	Rate, Dec. 2009*
Oregon	-	$10.7	$25.2	$15.4	$51.4	11.0%
Pennsylvania	$13.3	$18.9	$51.6	$53.5	$137.4	8.9%
Puerto Rico	$4.0	$8.0	$25.6	$22.1	$59.8	15.0%
Rhode Island	$4.1	$3.5	$8.7	-	$16.3	12.9%
South Carolina	-	$10.2	$24.4	$21.3	$55.9	12.6%
South Dakota	$1.0	$2.2	$5.4	-	$8.5	4.7%
Tennessee	$4.2	$12.2	$28.9	-	$45.2	10.9%
Texas	$26.3	$37.1	$80.7	$68.0	$212.2	8.3%
Utah	-	$5.6	$11.3	-	$17.0	6.7%
Vermont	$2.2	$2.6	$7.7	$17.2	$29.7	6.9%
Virginia	$10.0	$9.3	$22.5	$8.3	$50.1	6.9%
Washington	$2.3	$19.0	$45.9	$12.9	$80.1	9.5%
West Virginia	$1.9	$11.2	$29.3	-	$42.4	9.1%
Wisconsin	-	$6.9	$18.1	-	$25.0	8.7%
Wyoming	-	$1.2	$2.9	-	$4.1	7.5%
Total	$280.0	$617.8	$1,454.0	$865.9	$3,217.7	n/a

Sources: Estimated impacts from Capital Link (2010). Unemployment from U.S. Bureau of Labor Statistics.
Notes: The estimates include: (1) direct effects, which represent the response for a given industry (total expenditures of the organization); (2) indirect effects, which represent the response by all local industries caused by "the iteration of industries purchasing", and induced effects, which represents the response by all local industries to the expenditures of new household income generated by the direct and indirect effects

* Unemployment rates are preliminary estimates, seasonally adjusted, for December 2009

Table A3. Amount of Grants Awarded, By State				
State	New Access Point Awards	Increased Demand for Services Awards	Construction - Capital Improvement Program Awards	Construction - Facility Investment Program Awards
Alabama	$3,310,000	$6,058,195	$13,956,035	$11,231,000
Alaska	$1,300,000	$3,726,355	$9,237,707	$5,994,581
Arizona	$3,900,000	$5,647,433	$16,128,260	$9,274,471
Arkansas	$3,339,048	$3,102,457	$7,130,530	
American Samoa	$1,300,000	$474,825	$773,355	
California	$15,600,000	$48,274,320	$109,264,437	$65,600,989
Colorado	$1,300,000	$7,544,576	$16,868,645	
Connecticut	$5,025,000	$3,887,534	$11,430,925	$16,160,675
Delaware	$1,299,330	$937,211	$2,089,763	
District of Columbia		$1,740,198	$4,407,612	$12,000,000
Florida	$10,107,586	$18,349,238	$41,038,412	$11,893,010
Fed St of Micronesia		$376,356	$764,880	
Georgia	$4,936,690	$7,025,949	$16,399,468	$7,526,538
Guam		$311,184	$718,195	
Hawaii		$3,184,864	$8,550,050	$1,500,000
Idaho		$2,778,698	$6,508,696	
Illinois	$5,200,000	$15,217,564	$37,435,380	$21,847,551
Indiana	$2,600,000	$4,952,261	$12,229,715	$10,426,357
Iowa	$1,300,000	$3,189,721	$8,074,050	$2,615,429
Kansas	$2,600,000	$3,121,049	$6,652,845	
Kentucky	$4,974,534	$5,143,416	$13,020,330	
Louisiana	$8,649,385	$4,973,679	$11,754,964	
Maine	$2,590,713	$3,394,868	$10,220,875	$3,262,371
Maryland		$4,269,584	$12,254,648	$1,085,542
Massachusetts	$1,300,000	$9,030,766	$27,733,925	$79,988,995
Marshall Islands		$414,400	$546,485	
Michigan	$2,600,000	$8,615,711	$23,680,995	$11,500,000
Minnesota	$1,300,000	$3,544,068	$9,173,635	$2,113,595
Mississippi	$1,300,000	$6,363,347	$15,620,500	$3,881,043
Missouri	$2,600,000	$6,843,578	$17,143,180	
Montana	$1,300,000	$2,876,630	$6,700,690	
Nebraska		$1,526,481	$3,337,990	
Nevada	$478,135	$1,466,164	$3,084,960	$11,253,351
New Hampshire	$930,000	$1,674,390	$4,570,592	$9,748,707
New Jersey	$2,600,000	$6,845,273	$16,987,384	$20,123,404
New Mexico		$4,960,441	$12,817,555	$1,216,338

Table A3. Amount of Grants Awarded, By State				
State	New Access Point Awards	Increased Demand for Services Awards	Construction - Capital Improvement Program Awards	Construction - Facility Investment Program Awards
New York	$7,068,705	$19,778,572	$53,452,437	$15,561,175
North Carolina	$2,600,000	$8,665,413	$20,139,445	
North Dakota		$678,036	$1,907,830	$6,666,583
Ohio	$6,362,316	$8,070,049	$21,283,725	$24,849,555
Oklahoma	$7,800,000	$3,250,205	$7,818,390	$14,813,647
Oregon		$6,033,631	$14,622,689	$8,950,000
Pennsylvania	$6,716,568	$9,522,455	$27,585,293	$28,622,938
Puerto Rico	$2,600,000	$5,130,394	$16,976,165	$14,667,367
Palau		$369,625	$500,000	
Rhode Island	$2,391,700	$2,010,029	$5,696,700	
South Carolina		$5,984,431	$15,361,365	$13,435,698
South Dakota	$599,233	$1,360,215	$3,443,395	
Tennessee	$2,273,593	$6,608,330	$16,701,810	
Texas	$14,272,127	$20,100,876	$44,326,879	$37,347,795
Utah		$2,948,742	$6,444,030	
Vermont	$1,300,000	$1,548,601	$4,894,435	$10,964,476
Virgin Islands		$293,670	$709,335	
Virginia	$5,763,749	$5,329,505	$13,523,859	$5,000,000
Washington	$1,300,000	$10,662,819	$26,507,595	$7,425,870
West Virginia	$1,150,532	$6,729,274	$18,776,925	
Wisconsin		$3,949,854	$10,867,945	
Wyoming		$769,943	$1,922,344	
Total	$155,938,944	$341,637,453	$851,770,259	$508,549,051

Sources: Capital Link (2010); ARRA awards for health centers as presented on the Health Resources and Services Administration (HRSA) website http://www.hrsa.gov.

Table A4: Comparison of Average Unemployment Rates in Counties & Independent Cities With and Without Grantees[a]		
Group	**Average Unemployment Rate, 2009[b]**	**Change in Average Unemployment Rate, 2007 – 2009[c]**
Counties with Health Centers Receiving Grants	9.6%[d]	4.4%[d]
All Other Counties	9.0%[d]	4.0%[d]

Source: Authors' calculations based on HRSA list of grantees, accessed on January 28, 2010 at http://www.hhs.gov/recovery/programs/hrsa/index.html; unemployment rates by county are from the United States Bureau of Labor Statistics, local area unemployment statistics, accessed on January 19, 2010 at: http://www.bls.gov/lau/laucntycur14.zip

Notes:

a) To further assess whether the ARRA grants target areas with high levels of unemployment, we matched the list of community health centers receiving ARRA funding to unemployment information by county throughout the United States. We then compared unemployment rates and the change in unemployment in the counties where grantees are located to the same measures for all other counties. Independent cities are included as "counties" in this analysis.

b) 11-month average from January 2009 to November 2009

c) Difference between 11-month average (Jan.-Nov.) for 2009 and 12-month average for 2007

d) The differences in average unemployment rates and average changes in unemployment rates between counties with health centers receiving grants and all other counties are all highly statistically significant, suggesting that counties with grant recipients are more likely to be economically depressed.