Federally Qualified Health Centers in a Changing Health Care Environment:

Are They Prepared for the Challenge?

by

Jenefer Margaret Jedele

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Doctoral Committee:

Associate Professor Daniel Eisenberg, Chair
Associate Professor Martha J. Bailey
Associate Professor Scott L. Greer
Research Associate Professor Helen Levy

DEDICATION

To
P & M

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ABSTRACT

In many communities access to primary care is absent, unaffordable, or otherwise inaccessible despite ever increasing demand. Since 1965, Federally Qualified Health Centers (FQHC) have acted as principle providers of primary care for those living in communities lacking adequate access. As of 2013, there were 1,202 FQHCs serving 21.7 million patients, of whom 93% were below 200% of the federal poverty line, 35% were uninsured, 62% were racial/ethnic minorities, 4% were migrants, and 23% were best served in a non-English language. Recently FQHCs received substantial financial support through the American Relief and Recovery Act of 2009 (ARRA), and the Patient Protection and Affordable Care Act of 2010 (ACA). ARRA provided more than $2 billion and ACA provides $11 billion directly to FQHCs for ongoing operations, new service sites, and expanded services. Several additional ACA provisions are expected to bolster the ability of FQHCs to accommodate new demand, while adding and expanding still needed services. Immediately playing the pivotal role expected of them in accommodating the anticipated increase in demand for primary healthcare will be challenging for FQHCs as they also adapt to new organizational structures and payment systems. This dissertation examines the ability of FQHCs to provide primary care services in a changing healthcare environment by evaluating the impact of the recession, ARRA, and ACA on: (1) the demographic and health composition of patients served by FQHCs; (2) the capacity of FQHCs to provide primary care services, and (3) the ability to accommodate the expected increase in demand. Lastly, this work examines the remaining challenges and the implications of those challenges for the future of the FQHC program.

CHAPTER I

Introduction

In many communities access to primary care is absent, unaffordable, or otherwise inaccessible despite ever increasing demand. Since 1965, Federally Qualified Health Centers (FQHC) have acted as principle providers of primary care for those living in communities lacking adequate access. Lack of access to primary care in many communities has its roots in the increasing specialization of the medical profession in the early 20th century. This movement towards specialization contributed to increasing costs and declining number of general practitioners, resulting in decreasing access to primary care services particularly among the poor (Sardell 1988; Stevens 1998; Mickey 2012). Small towns and impoverished areas could not compete with the hi-tech hospitals and teaching institutions of the wealthier cities. As a result, physicians were increasingly less inclined to locate in low-income and less populated areas. The belief that intervention by the government was needed in order to provide adequate health care the populations living in these areas was growing (Sardell 1988).

The U.S. government does not have a long history of involvement in the provision of healthcare except with respect to a limited number of populations, e.g. military personnel, prisoners, and Native Americans (Mickey 2012; Sardell 1988). In the early 20th century, the federal government began to have greater involvement through public health grants awarded to states as well as the construction of hospitals (i.e. Hill-Burton Act 1946). It would take changing political will and strong advocates, but the U.S. government did eventually intervene to address inequality in access to primary care in two ways: (1) through the provision of health insurance

(i.e. Medicaid), and (2) by directly funding the delivery of medical care (i.e. health centers) (Stevens 1998). Providing the first without the second, however, may have done little to address some of the reasons for the growing inequality in access to care that was occurring between 1900 and 1950 (Stevens 1998).

Significant opposition to any federal involvement the provision or financing of medical care existed in the early 1960's. However, the recognition that access to existing medical care, rather than investment in new medical technology, was perhaps the greatest barrier to health (Engel 2006, p. 45). Expanding access to the elderly with the federal government as the payer was much more palatable than using the same mechanism to provide access to the poor. To advance access to care for the poor, supportive legislators essentially buried the Medicaid program in the Social Security Amendments of 1965 (Pub. L. 89-97) (Engel 2006, p. 48). Although a federally-initiated program, Medicaid was enacted as a federal-state partnership where states receive grants to cover the costs of medical care for residents enrolled in the program. Minimum program requirements are defined at the federal level; however, states have flexibility to define their Medicaid programs to best serve the people in their state. The Medicaid program increased insurance coverage but did nothing directly to increase the presence of primary care providers in shortage areas nor did it guarantee access in areas where providers were present. In the first few years after the passage of Medicaid, states were quick to establish programs, but administrators were initially challenged with finding and enrolling potential recipients (Engel 2006, p. 51).

Despite being a program to provide medical care to the poor, enrolling in Medicaid did not guarantee medical care. Potential Medicaid enrollees often lived in areas underserved by private physicians and often lacked reliable transportation to travel to more distant providers

(Engel 2006, p. 52). Those arguing that poverty programs were often insensitive to the unique needs of the poor were critical of Medicaid. Advocates for the poor believed that the poor would benefit in the short term from Medicaid but would, in the longer term, find themselves facing the same social and economic barriers to health (Engel 2006, p. 54).At the same time Medicaid was taking shape (and being criticized), definitions of health and healthcare were changing to include overall well-being and a movement toward centralized health planning had begun (Engel 2006, pp. 92, 98). Growing out of these, the Health Center Program, established in 1964 through the Office of Economic Opportunity (OEO), was an effort by the federal government to intervene directly in the delivery of medical care (Sardell 1988; Mickey 2012). In its purest form, the Health Center Program would fill a need for comprehensive health services, not just medical care, among low-income populations and those living in areas that lacked adequate access to primary care. The vision of many of the first advocates was for community health centers to be an alternative to the hospital-based healthcare system, not just for the poor, but for the whole population (Sardell 1988). In this way, the model challenged the existing health care system by proposing to "reintegrate" public health and health care through defining health broadly; providing care based on geography rather than means-tests, erasing the line between public and private medicine; and challenging the fee-for-service, solo-practice model of health care by directly employing physicians (Sardell 1988).

Renamed Federally Qualified Health Centers (FQHC) in 1990, the centers maintain the mission of the original Health Center Program: to provide comprehensive health services to the underserved. Over the past 50 years, FQHCs have become increasingly entrenched in the health care system. Independence as a program and as a Medicare/Medicaid reimbursement category has been won. Financial support and special provisions for FQHCs have been specifically

written into legislation (e.g. American Recovery and Reinvestment Act, Affordable Care Act). However, the FQHC designation requires adherence to a set of program requirements unlike other primary care providers. Although these requirements reinforce the FQHC mission of providing meaningful access to primary care, they also provide unique challenges.

Federally Qualified Health Centers Defined

The concept of the community health center began as more of a social movement to address more than just the physical health of low-income and underserved populations (Sardell 1988). The community health center has since grown into a program with a formal definition and defined requirements. Under the administration of the Health Resources and Services Administration (HRSA), FQHCs and "Look-Alikes" (Box 1) essentially provide access to primary care for those who lack health insurance, are underinsured, or who live in communities that lack adequate access to primary care resources. Most FQHCs are classified as community health centers, but some centers may target specific populations, such as public housing residents, homeless individuals, and migrant/seasonal worker communities. As specified in section 254b of the Public Health Services Act (PHSA), FQHCs are required to:

1. Be public or private non-profit entities.
2. Serve a medically underserved area or population (defined by HRSA).
3. Have an established board composed of members representative of the community – a minimum 51% of members must be regular patients of the health center.
4. Have adequate clinical and administrative leadership, systems and procedures to guide the provision of services, and ongoing quality improvement programs.
5. Have a Sliding Fee Discount policy and associated procedures based on a patient's family size and income that provides discounts for people at or below 200% FPL.

6. Provide comprehensive, culturally competent health care (directly or through contract) and ensure that patients can access care regardless of ability to pay.
7. Provide referrals to other providers.

Section 330 of the PHSA provides for the grant funding, defines eligibility, and specifies the services that grantees are required to provide. The application process to obtain FQHC status is competitive with announced deadlines. Further, an applicant's submission is considered final with no opportunity to provide additional information. Once awarded, FQHCs receive Section 330 grant funding to provide those services to patients regardless of ability to pay. Section 330 grants are awarded every three years and since they are awarded on a competitive basis, even currently funded centers must compete to continue to receiving a Section 330 grant. Additionally, the grants allocated to FQHCs are funded through an annual appropriations process. Thus, a significant portion of federal funding to FQHCs is variable and not guaranteed; however, Congress has provided mandatory grant funding for FQHCs (MedPac 2011).

An organization receiving a Section 330 grant is designated as a FQHC grantee and can deliver care at one or more service sites and the requirements specified in Section 330 of the PHSA apply to the FQHC grantee organization, not to the individual sites. FQHCs must operate at least one permanent site, open year-round in a defined location, but may also operate seasonal sites, mobile vans, or other intermittent sites. Therefore, FQHCs have flexibility in organizing the delivery of care to best meet the needs of the population of patients served by the FQHC whether that involves one service delivery site or many.

Box 1. FQHC Look-Alikes

Look-Alikes were established through the OBRA 1990 (Pub. L. 101-508) to maximize access by allowing entities who do not receive Health Center Program funding to operate and provide services consistent with providers funded through the Health Center Program. They "look like" Health Center Program grantees (FQHCs) but differences include: (1) no grant funding under section 330 of the Public Health Services Act; (2) ineligibility for medical malpractice insurance coverage provided through the Federal Tort Claims Act; and (3) a rolling, non-competitive application process. In addition to operating and providing services consistent with all statutory, regulatory, and policy requirements, to be eligible for designation as a Look-Alike, entities must:

- Be public or private and non-profit, including tribal, faith-based, and community-based;
- Be independently owned, controlled, and operated *(added in 1997)*;
- Provide comprehensive primary medical care as its primary purpose; and
- Be operational and compliant with all Health Center Program requirements for at least 6 months.

The Look-Alike application process is not competitive, rolling, and applicants have the opportunity to provide additional information. Obtaining Look-Alike status improves the quality of application that a center may choose to submit for Section 330 grant funding (i.e. FQHC status) once funds are announced for additional awards.

Some Challenges Posed by FQHC Designation

The requirements imposed on FQHCs do provide challenges that other primary care providers do not face. First, non-FQHC providers can seek out favorable markets where potential profit may be greatest. FQHCs are limited in where they may locate. FQHCs must be located in a medically underserved area (MUA) or serve a medically underserved population (MUP). These designations are granted by HRSA and are determined using data on population size, age, income, infant mortality rate, and ratio of full-time equivalent primary care physicians for the service area.[1] For a population, it is these same data but applied to the underserved population group within an area. Second, non-FQHC providers can maximize profits by providing services generating the greatest revenue and accepting only those patients who have the ability to pay for the services received. Alternatively, FQHCs are required to provide a set of primary, preventive, and enabling health services (Box 2) to patients regardless of ability to pay.

Box 2. FQHC Required Primary Health Services

(1) Basic health services (related to family medicine, internal medicine, pediatrics, obstetrics or gynecology) furnished by physicians and where appropriate, physician assistants, nurse practitioners, and nurse midwives;
(2) Diagnostic laboratory and radiologic services;
(3) Preventive health services including: prenatal and perinatal services; cancer screening; well-child services; immunizations; screening for elevated blood lead levels, communicable diseases, and cholesterol; pediatric eye, ear, and dental screenings; voluntary family planning services; and preventive dental services;
(4) Emergency medical services;
(5) Prescription drug services as may be appropriate;
(6) Referrals to providers when medically indicated and other health-related services including substance abuse and mental health services;
(7) Patient case management services and other services to assist patients in establishing eligibility for and gaining access to federal, state and local programs that provide or financially support the provision of medical, social, housing, educational, or other related services;
(8) Services enabling individuals to use the health center including outreach, transportation, and language services
(9) Education of patients and population served regarding the availability of proper use of health services.

Lastly, one of the most unique features of the FQHC is that at least 51% of the governing board are required to be individuals who are being served by and represent the individuals being served by the FQHC (Section 254b PHSA). The remaining board members must be selected based on their expertise in community affairs and local government, finances, legal issues, business practices, or social service agencies (MedPac 2011). Other providers, such as hospitals, are not restricted in this way and may compose their boards more freely. For FQHCs though, such a composition is thought to be more responsive to the needs of the patient population (Wright 2012). There is no formal process for FQHCs to identify and select board members, and, although reviewed during FQHC grantee visits by HRSA, it is not clear how intensive the compliance review. At least recently, board members have not been descriptively representative of the patients served by the FQHC (Wright 2013).

The responsibilities of the board include setting hours of operation, approving the center's budget, hiring and overseeing the executive director, and setting general center policies (Section 254b PHSA). With a board primarily composed of FQHC consumers, there may be a concern that a lack of expertise relevant to governance would result in less efficient programs (Wright 2013). At least from one study, the greater the responsibility (i.e. serving on executive

committees) given to consumers once on the board seems critical for more efficient governance (Wright 2013).

Enabling Services

The original concept of the community health center included more than just the provision of medical care to improve the health of a community. Health within this framework included addressing what were considered the social determinants of health (e.g. nutrition, unemployment, transportation. The original commitment to the provision of such services is maintained in the required enabling services under the PHSA. Enabling services are non-clinical services that support the delivery of health series and facilitate access to care. Enabling services include case management, benefit counseling and eligibility assistance, health education, supportive counseling, interpretation, outreach, transportation, and patient and community education (Weir & Proser 2010). Without such services, many patients and community members would forgo medical care because of an inability to access the FQHC. More important is that such services are thought to break down barriers to care, particularly for those who are poor, belong to a minority group, are uninsured or underinsured, or who are geographically or culturally isolated (Weir & Proser 2010).

Why become a FQHC: Benefits to the designation

Because of the requirements under which FQHCs are expected to operate, grant funding may not be enough of an incentive to encourage non-profit private or public organizations to become FQHCs. To encourage the establishment of FQHCs, there are several benefits to the FQHC grantee designation.

340B Drug Pricing Program

Prescription drug prices for the U.S. Department of Veterans Affairs and other safety-net providers increased unexpectedly as a result of the enactment of the 1990 Medicaid prescription drug rebate program (Mulcahy et al 2014). To address this unintended consequence and help such providers stretch resources further, the 340B Drug Pricing Program was enacted through the Veterans Health Care Act of 1992 (Pub. L. 102-585). Through the program, FQHCs are eligible to purchase medications for outpatients at a reduced cost. Prescription drugs and biologics (excluding vaccines) are discounted, and these discounts are substantial (MedPac 2015). The program is estimated to have saved providers $3.8 billion in 2013 (MedPac 2015). Although only those providers/clinics receiving federal grants from the Department of Health and Human Services may participate in the program, FQHCs (and other 340B participating providers) can purchase 340B drugs for all eligible patients, including privately insured. "Eligible" patient is not clearly defined; however, criteria for who should be considered eligible were released by HRSA in 1996: (1) provider maintains the patient's records, (2) patient receives care through the provider, and (3) patient receives services through that provider consistent with the services for which grant funding has been provided (MedPac 2015). These criteria still allow significant discretion to participating providers in defining which patients are eligible. An added benefit of participation is that providers are able to generate revenue if the reimbursements for the drugs from payers exceed the discount prices they pay for the drugs (MedPac 2015). Despite the benefits of participation, calls for heightened oversight of the program, which has largely been self-regulated, may tighten the rules in order to reign in the program and ensure that the participating providers are not providing discounted drugs to non-eligible patients (Wynne 2014).

Vaccines for Children (VFC) Program

Responding in part to a measles epidemic among children, more than half of whom had not been immunized, the Vaccines for Children Program was enacted in 1993 (www.cdc.gov). The VFC program is a program fully funded by the federal government to provide vaccines at no cost to grantees for children who might otherwise not be vaccinated because of an inability to pay (CDC 2016). The program is allocated through the Centers for Medicaid and Medicaid to the Centers for Disease Control and Prevention (CDC). The CDC buys vaccines at discounted rates and distributes them to grantees. Program participants may only administer vaccines provided through the VFC program to children who are less than 19 years of age, Medicaid-eligible, uninsured, underinsured, or American Indian or Alaska Native. The vaccine itself is free to the patient; but, fees may be assessed to cover the cost of administration. However, no child will be refused a vaccination due to the family's inability to pay. The program is credited with dramatically increasing vaccination rates among children less than six years of age (Whitney et al 2014). Among FQHCs in 2014, 77% of patients had received the required set of childhood immunizations by their second birthday, a rate higher than the national average of 72% (CDC 2014; UDS 2015).

National Health Services Corp (NHSC)

In response to increasing shortages of primary care physicians resulting from retirement and specialization, the NHSC was established in 1972 with its primary mission to build healthy communities by connecting primary care providers to areas with a shortage of primary care providers. Currently, the NHSC consists of 9,600 members providing care in more than 5,000 clinics and to 10.2 million people (HRSA 2016). NHSC Corp members receive financial, educational, and professional support in return for committing to practice in underserved areas

(nhsc.hrsa.gov). Programs administered by NHSC incentivizing physicians to become part of the program include: (1) a scholarship program for medical students that includes tuition and other educational costs as well as a stipend; (2) a student-to-service loan repayment program that awards up to $120,000 for the repayment of student loans; and (3) a loan repayment program for clinicians up to $60,000 to help repay educational loans. Corp members are required to dedicate at least 2 years of service at an NHSC approved site in a high-need health professional shortage area. Benefits to members involved in the Corp extend beyond loan repayment and include access to professional training and networking.

Organizations seeking to recruit NHSC clinicians must first be approved as a NHSC designated site. To be designated as a NHSC site and have the ability to hire Corp members, a facility must be: (1) located in a Health Professional Shortage Area (Box 3); (2) provide primary care medical, dental, or mental and behavioral health services; (3) provide these services regardless of a patient's ability to pay; (4) offer discounts to patients who qualify; and (5) accept Medicare, Medicaid, and CHIP health insurance coverage. As automatic primary care Health Professional Shortage Area (HPSA) designees, FQHCs are able to apply to receive NHSC site status. Once approved as a NHSC site, FQHCs are permitted to recruit NHSC members. As FQHCs face difficulties in recruiting and retaining primary care providers, the benefit of the NHSC site designation is access to a population of providers willing to locate in underserved communities. NHSC sites are also provided with technical assistance in the recruitment and retention of primary care providers, and given opportunities to network with other NHSC approved sites as well as State Primary Care Offices.

Box 3. Health Professional Shortage Areas

HPSAs have been determined as having a shortage of health professionals. Any of the following may be designated as such: (1) an urban or rural area – not required to conform to geographic boundaries; (2) a population or group; and (3) a public or nonprofit private medical facility.

To be designated as a Primary Care HPSA, the facility applicant must demonstrate that:

- The area is a rational area for the delivery of primary care services.
- The area meets one of the following conditions:
  - Have a population to full-time-equivalent (FTE) primary care physician ratio of at least 3500:1.
  - Have a population to FTE primary care physician ratio less than 3500:1 but greater than 3000:1 and have unusually high needs for primary care services or insufficient capacity of existing primary care providers.
- The primary medical professionals in contiguous areas are over-utilized, excessively distant, or inaccessible to the population under consideration.
- The facility is a correctional institution (maximum or medium security with at least 250 inmates and the ratio of FTEs to internees is at least 1000:1) OR is a public and/or non-profit medical facility (providing primary care to a population designated as a primary care HPSA and has insufficient capacity to meet the primary care needs of that area of population group.

Malpractice Insurance Coverage

Prior to 1992, FQHCs had to purchase malpractice insurance themselves and were not immune from malpractice lawsuits. To keep costs low and protect themselves against malpractice judgements, FQHCs are able to obtain malpractice coverage to protect themselves against malpractice judgements through the Federal Tort Claims Act (FTCA). Under the FTCA, FQHCs are considered Federal employees and protected from lawsuits. The malpractice liability shifts to the federal government, with costs paid out through the FQHC program's annual appropriation (MedPac 2011). The malpractice coverage benefit is not guaranteed, however, as FQHC grantees must apply to HRSA for "deemed" organizational status. This process involves a review of a center's risk management system and past claims history. Once deemed a FQHC grantee, any center officer, governing board member, or employee of the FQHC is covered by the FTCA (MedPac 2011). Rising costs of this coverage for FQHCs have called the sustainability of the benefit into question; however, unquestionably the program has saved health centers in premiums (MedPac 2011).

State and Regional Primary Care Associations

In the late 1970's and early 1980's, networks of FQHCs were forming to advocate on behalf of the populations they served as well as provide training and technical assistance, and coordinate clinical efforts. As such, state Primary Care Associations (PCAs) were established. PCAs are private non-profit organizations that represent FQHCs as well as other safety-net providers (NACHC 2011a). PCAs work in part to improve and advance FQHC quality of care through training and technical assistance. The training and technical assistance PCAs provide to FQHCs cover a range of activities including adoption of health information technology, partnering and collaboration efforts, as well as in issues of access, quality, and health disparities.

Who is served by FQHCs?

Patient Demographics

The populations most often served by FQHCs are also those that experience the greatest disparities in access to primary care and in health outcomes (IOM 2003). In 2014, there were 1,278 FQHCs serving 22.9 million patients, of whom 71% were below 100% of the federal poverty line, 62% were racial and/or ethnic minorities, 4% were migrants, and 23% were best served in a language other than English (UDS 2015).[2] More than half the patient population was covered by Medicaid (47%) or Medicare (9%) and 28% were uninsured. The rate of uninsured among FQHC patients was significantly reduced in 2014 (compared to 34.9% in 2013, and 39% in 2012) largely as a result of the implementation of Medicaid expansion. By comparison, the rate of uninsured among the entire U.S. population in in 2014 was 11.5%. The most recent publicly available National Ambulatory Medical Care Survey (NAMCS) data estimate the uninsured rate of office-based primary care providers to be 5% (NCHS 2015; NAMCS 2012).[3]

The rate of private insurance coverage among office-based primary care patients exceeds the rate among FQHC patients, 54% versus 17% in 2012 respectively (Appendix A Tables 1a and 1b).

FQHCs may target special populations, and as such are eligible to apply for additional grant funding to cover the cost of care for these often uninsured patients. The percentage of patients who are members of these special populations has been declining in recent years, although modestly. In 2014, 5% of the total FQHC patient population was categorized as homeless compared with 5.3% three years earlier (Appendix A Table 2). The percentage of agricultural workers has also declined, from 4.3% in 2012 to 3.5% in 2014 (Appendix A Table 2). Additionally, it is estimated that one in five low-income women of childbearing age receive services at a FQHC (Rosenbaum 2015). These data are not available in the NAMCS for office-based providers; however, the size of the Hispanic office-based primary care patient population is approximately half that of FQHCs, 11% versus 20%.

Patient Health

The literature on FQHCs generally concludes that the FQHC patient population is less healthy than other comparable populations, suggesting that FQHCs have greater challenges in meeting the healthcare needs of the patients they serve. Using National Ambulatory Medical Care Survey data, Shit et al (2012) compared FQHC patients and patients with office-based primary care visits and concluded that a significantly greater proportion of visits from patients diagnosed with diabetes, obesity and depression among FQHC patients. The NAMCS data presented are representative of patients who visited a physician's office or FQHC within a specific time frame and are not necessarily representative of the entire patient population. Using the Uniform Data System, data reported by FQHCs on the entire patient population suggest that fewer FQHC patients were diagnosed with many chronic conditions compared with patients similarly seeking

primary care within the NAMCS dataset (Appendix A Tables 1b and 3). If NAMCS data are interpreted as descriptive of the broader primary care patient population, the data do suggest that FQHC patients are increasingly being diagnosed with chronic conditions and at a faster rate than patients of office-based physicians (Appendix A Table 3); whereas, the rates of some chronic conditions among office-based patients have been declining while others are growing more slowly (Appendix A Table 1b).

Comparisons of FQHC patients to the low-income U.S. population have also suggested that a greater percentage of FQHC patients suffer from chronic conditions (KFF 2013). Examining the entire FQHC patient population and comparing them with a similar primary care seeking low-income population, I find a smaller fraction of FQHC patients diagnosed with asthma, diabetes, and hypertension than a national sample of low-income individuals with at least one doctor's visit in the past year (Appendix A Tables 1c and 3). The frequency with which FQHC patients receive care does not explain the difference in rates of these chronic conditions. The number of visits per FQHC patient has increased by 2 visits per patient in the past 12 years. However, only since 2012 has the average number of visits per FQHC patient been greater than that reported by a general low-income population with at least one doctor's visit (Appendix A Tables 1c and 4).

What Do FQHCs Do?

Services

Increasingly, FQHCs are providing more than just primary medical care. In 2013, 76% of FQHCs provided behavioral and mental health services, 78% provided dental services, and 40% had a pharmacy onsite (NACHC 2013). The majority of visits by FQHC patients involve the care of chronic illnesses; however, treatment of mental health issues is becoming more prevalent

while the share of visits for prevention (e.g. vaccinations, and cancer screening) has been declining since 2009 (Appendix A Table 4). Comparatively, the focus on the care of chronic conditions within the primary care office-based setting has generally declined while visits, but visits where the primary focus is a mental health have also increased recently (Appendix A Table 1b).

In addition to providing much needed medical care for underserved communities, the Health Center Program's original mission included providing services and support to address social determinants of health. The first FQHCs provided assistance to communities to improve the living environment including the construction of wells, repairing of homes, and the establishment of farm cooperatives. Health Centers also provided assistance to address individual needs for transportation to and from center appointments, employment support, as well as access to other social services (Sardell 1988). Health Centers have used grant dollars to support the provision of non-medical services (referred to as enabling services) because traditional health insurance does not reimburse providers for services such as job training, insurance enrollment, housing assistance, and transportation. The rising costs of medical care, the gap between reimbursements and costs, and the unwillingness of health insurers to cover such non-medical services, has meant fewer grant dollars are available for FQHCs to provide the kinds of services FQHCs argue, and research tends to support (Marmot et al 2008), address important determinants of health and wellbeing.

The most recently available data report that less than 10% of the patient population and 6% of clinic visits involve some interaction with a case manager or community education specialist (UDS 2015). Despite providing non-clinical services to a small proportion of its patient population, FQHCs have recently expanded their capacity to provide enabling services,

almost doubling the number of FTEs focused on providing such services over a 10-year period (NACHC 2014). To continue to provide and possibly expand the provision of enabling services, FQHCs have identified opportunities in the community as well as pooling smaller grants (Alternative Futures 2012). These resources, however, are often time-limited, making sustainability and significant impact difficult. Some FQHCs have been able to establish programs that are reminiscent of the early Health Center Programs including programs to provide septic tanks and wells (Beaufort-Jasper-Hampton Comprehensive Health Services: Ridgeland, SC); and providing job training, and assistance with building a community garden (La Maestra Community Health Centers: San Diego, CA) (Alternative Futures 2012).

Staffing

Perhaps more so than other primary care organizations, FQHCs rely on an array of medical professionals, including physicians, nurse practitioners, physician assistants, clinical nurse midwives, and nurses. The composition of medical personnel, at least in the past seven years, has shifted towards a greater number of mid-level providers. Of the total number of medical full time equivalent (FTE) personnel employed by FQHCs in 2014, 11% were physicians, compared with 14% in 2007), and 9% were midlevel providers compared with 8% in 2007 (Appendix A Table 5). FQHCs have also experienced an increase in the proportion of FTEs composed of mental health providers (5% in 2007 and 7% in 2014) (Appendix A Table 5). Despite the employment of such a varied medical staff, recruiting and retaining health professionals has been challenging. A survey of FQHCs found that the average FQHC has 13% of its family physician, 9% of its nurse practitioner, and 11% of its registered nurse FTEs unfilled (Rosenblatt et al 2006). Rural FQHCs report experiencing greater difficulty than urban FQHCs in recruiting clinicians and are more likely to have vacancies for longer periods of time (Rosenblatt et al

2006). FQHCs view the inability to offer competitive salaries and benefits as the greatest barrier to recruiting medical personnel (Rosenblatt et al 2006). Access to NHSC members helps with these challenges, but FQHCs have been limited in the number of physicians they are permitted to hire in a given year through the program (HRSA 2016).

How Well Do They Do It?

FQHC Revenue

Whereas traditional office-based physicians rely on patient and insurance payments, FQHCs bring in revenue from a variety of sources. The sources of the largest shares of FQHC revenue have remained relatively consistent. The largest share of revenue comes from Medicaid and that share has been increasing, reflecting in part the expansion of Medicaid in 2014 (Appendix A Table 6). The next largest shares of revenue come from federal grants followed by grants from state and local sources. The share of revenue coming from state and local grants has decreased since 2009, in part a result of the recession impacting state and local budgets, but also a function of increased grant support from federal and private sources (Appendix A Table 7). Support for FQHCs at the state level varies widely, ranging from $200,000 to $7 million (Kidney 2013). FQHCs received funds from the American Recovery and Reinvestment Act (Pub. L. 111-5), nearly doubling federal dollars to the FQHCs; but when appropriations declined in 2011, it took funds allocated through the Community Health Center Fund of the Affordable Care Act (Pub. L. 111-148) to boost amounts to previous levels (Heisler 2013).

FQHC Resource Efficiency and Cost-Effectiveness

Given the disproportionate share of uninsured patients and the mandate that FQHCs provide care to all regardless of ability to pay, FQHCs need to use the resources they do have efficiently in order to fulfill their mission of providing care to whose wo are least able to afford it. In addition,

increased oversight of the Health Center Program requires demonstrating that the program is cost-effective and federal dollars are used efficiently. In arguing that FQHCs do use the limited resources available to them efficiently and operate cost-effectively, a number of different outcomes have been presented. Since 2000, FQHCs have experienced positive, albeit small, operating margins, a measure of financial stability (Shi et al 2007). Several studies have also pointed to the ability of FQHCs to reduce inpatient admissions and preventable (re)hospitalizations (e.g. Epstein 2001; Rothkopf et al 2011). Finally, a set of studies present evidence that FQHC patients on average cost up to 24% less than non-FQHC patients (Ku et al 2009; Richard et al 2012). Notably, one study did find that FQHC visits were more likely to result in medication being prescribed and laboratory tests ordered compared with visits to an office-based physician (Shi et al 2012). However, whether or not FQHC clinicians are over-prescribing/ordering was not ascertainable with the data used.

Access, Quality of Care, and Health Outcomes

From their inception, FQHCs aimed to increase access for the communities which they served. FQHCs appear to have had a significant impact on access to primary care for the underserved populations they serve (e.g. LoSasso and Byck 2010; Cunningham & Hadley 2004; Hadley & Cunningham 2004; Shi et al 2007). In 2011, proposals to reduce federal Health Center Program funding would have eliminated access to primary care for an estimated 10-12 million patients (Shin & Rosenbaum 2011). Although access to care for communities with strong FQHC presence was greater; the use of emergency rooms might be higher among low-income populations in these same areas (Cunningham & Hadley 2004). Despite the increase in access associated with FQHC presence, the level of health insurance coverage within a community may be more important (Cunningham & Hadley 2004).

Choosing to invest in FQHCs as a means of improving access to primary care is only advisable if the quality of the care provided is sufficient to address the health needs of the populations to be served. In some comparisons, FQHCs are shown to provide care as good if not better than the care provided by other primary care providers (Shi et al 2010). Additionally, reductions in many racial/ethnic and socioeconomic access to care and health disparities have been observed among patients treated at FQHCs (Shi et al 2009; Shi et al 2012). In a managed care environment, FQHCs have outperformed other network providers (Proser 2005). In addition to the quality of medical care measures, satisfaction among FQHC patients is very high (Proser 2005). Looking at FQHCs more recently, they appear to have improved on some health quality measures while others have declined, albeit slightly (Appendix A Tables 8a-b).[4]

Economic Impact

The benefit of a FQHC within a community potentially extends beyond access to care for underserved populations. A body of research points to a substantial positive impact of the presence of a FQHC on the local economy. Employees of the FQHC are often residents of the communities that it serves providing potential employment for individuals living in economically depressed areas (Hawkins & Schwartz 2003). FQHCs may also serve as "critical anchors" by attracting other business to the communities in which they are located (Hawkins and Schwartz 2003). During the Great Recession (2007-2009) for every one million dollars invested in FQHCs through ARRA funds, an estimated that $1.7 million in new economic activity was generated (Shin et al 2010). This suggests that the federal dollars invested in FQHCs has benefits to populations beyond those served directly by the FQHC.

What Does the Future Hold for FQHCs?

Fifty-years ago Federally Qualified Health Centers (FQHC) were created to address a failure of the health care market itself to provide access to primary care for those without health insurance as well as an unwillingness of providers to locate in poor communities. Initially relying on federal grants and whatever other financial support they could garner, FQHCs were granted an independent reimbursement category by the Centers for Medicare and Medicaid Services, allowing for a more stable form of financial support, essentially saving the program (Mickey 2012). Lacking universal healthcare, generous public insurance options, or affordable private insurance for many low-income populations, high uninsurance rates have persisted. As such, FQHCs have continued to rely on federal funding and access to federal programs designed to reduce the cost of providing care.

Enactment of the Patient Protection and Affordable Care Act (ACA Pub. L. 111-148) in 2010 dramatically changed the healthcare environment through historic expansions of health insurance coverage and extensive reform of the health insurance market. As a result, FQHCs were expected to experience significant reductions in the rate of uninsured and improved financial standing. ACA includes a number of provisions designed to reduce uninsurance and enhance and expand the Health Center Program. The Medicaid expansion provision in particular has the potential to significantly increase insurance coverage of populations most often served by FQHCs, reducing the burden of uncompensated care, and greatly enhancing the financial stability of the FQHC – perhaps questioning the need for continued grant funding at current levels as well as continued federal investment in programs designed to reduce the costs of providing care to underserved populations. If estimates of the impact of ACA on the rate of uninsurance are realized, the FQHC program, as historically defined, may be transformed.

Conclusion

In exploring the future of the FQHC program, this work proceeds as follows. Chapter 2 presents the foundational roots of the Federally Qualified Health Center program. This chapter discusses the significant social and political events that shaped what were originally called the Health Center Program and Community (Neighborhood) Health Centers into how the FQHC program was structured prior to a period of significant financial investment by the Bush Administration in the early 2000's. Chapter 3 then describes the years 2000-2006, a period of substantial program expansion without other transformational health-related policy developments, and provides the backdrop for examination of the impact of economic events and policy developments in subsequent chapters. Chapter 4 addresses how FQHCs fared during the Great Recession (2007-2009). Centers were expected to see an increase in patients resulting from the loss of health insurance due to increasing unemployment resulting from the recession. The American Recovery and Reinvestment Act (ARRA) of 2009 was passed to ease the impact of the recession generally, but it also included significant provisions for FQHCs to accommodate this expected increase in patient load. I examine whether or not the provisions in ARRA were sufficient to help these centers weather the economic storm and potentially prepare them for the coming health reform. Chapter 5 discusses how the changes to the health care and insurance system implemented through ACA impacted the way in which FQHCs provide care. FQHCs also featured prominently in the ACA with significant direct financial investments as well as through insurance expansions, and support for primary care workforce and health information technology development. Finally, Chapter 6 discusses the challenges that remain for FQHCs. Many additional ACA policies that have the potential to affect FQHCs are either being implemented gradually, or are planned for future implementation. Data are not yet available to assess the

realized impact; however, this chapter closes with a discussion of what the future might look like for FQHCs.

[1] More detailed information regarding MUA designations can be found at http://www.hrsa.gov/shortage/mua/.
[2] In 2014 the U.S. poverty rate was 14.1%, the rate of uninsured was 10.4%, and 23% were racial/ethnic minorities (Census Bureau 2015)
[3] NAMCS 2012 data were limited to visits reported by a provider identifying his/her specialty as primary care.
[4] Comparable estimates at the national level were not consistently available. Statistics were collected for age groups that were different than that reported for FQHC patients and FQHC data are presented for the entire population. For completeness, CDC estimates the vaccination rate for up to age 2 is 71.6%; blood sugar is controlled in 78.7% of patients; blood pressure is controlled in 53%; and low birthweight occurs in 8% of babies (http://www.cdc.gov/nchs/fastats/default.htm). Prenatal care in the 1st trimester is received by 73.7% of pregnant women (http://mchb.hrsa.gov/chusa13/health-services-utilization/p/prenatal-care-utilization.html). Among women 18 and older, 80.7% receive screening for cervical cancer and 58.2% of men 51-74 years receive screening for colorectal cancer.

CHAPTER II

The Health Center Program

The Health Center Program: 1964-1989

The Health Center Program was established through the Economic Opportunity Act of 1964 (Pub. L. 88-452) and funded by the research and demonstration authorization of the Community Action Program (Mickey 2012). Community health centers (CHC) were based on a new (for the U.S.) health services organization model – Community Oriented Primary Care (COPC) (Geiger 1983). Whereas the model of health care delivery in the U.S. had traditionally been a fee-for-service solo-practice model, COPC is an approach "to medical practice that undertakes responsibility for the health of a defined population, by combining epidemiologic study and social intervention with the clinical care of individual patients, so that the primary care practice itself become a community medicine program (Geiger 1983)."

Policy Development

It is President Lyndon Johnson's War on Poverty that is largely understood as establishing a political and policy environment conducive to the program's establishment. (Sardell 1988, p. 50; Mickey 2012). Given the challenge it presented to the existing primary care system, the Health Center would likely not have been initiated if it were not for the War's establishment of programs outside of existing bureaucracies via the Office of Economic Opportunity (OEO) and the identification of health problems among those benefitting from such programs (Sardell 1988, 51). Through the inclusion of physical exams in such programs as Job Corps and Head Start, it

was revealed that many participants suffered untreated health conditions (Sardell 1988, p. 51). OEO decided it would be less costly to fund medical care directly, especially health care programs that impacted the way health services were delivered to the poor (Sardell 1988, 51).

The first CHC (originally named neighborhood health centers and later named FQHCs) grantee was funded and established in Columbia Point (Tufts University) in 1965; the second center, Mound Bayou (Mississippi), opened in 1966. The program developed quietly and early on decisions were made that continue to be part of the program today (Mickey 2012). First, center funding would be provided through a competitive grant process and applicants were required to be a public or private non-profit organization. Second, applicants must demonstrate sufficient community support for the establishment of a community health center. Third, community health centers must be advised or actually governed by residents of the nearby community – those representing at least as a group the patients receiving services.

The concept of CHCs was established and initially funded through the OEO; however, the Public Health Service (PHS) within the Department of Health, Education and Welfare (DHEW) had also begun to provide grants for health centers in low-income areas. Passage of the Comprehensive Health Planning and Public Health Services Act (Pub. L. 89-749) section 314(e) would formally enable funding through the PHS. Section 314(e) authorized grant support for the development of new health service projects, including community health centers (Sardell 1988, 69). Avoiding the use of these funds to develop programs that challenged the traditional medical community was, at the time however, desirable (Sardell 1988, p. 69). It would take a coalition of health reformers within the DHEW to get CHCs funded (Sardell 1988, p. 70). This Act would prove important to the continuation of the program as the OEO was dissolved and administration of the CHC program was moved to DHEW.

In the early years, the Health Center Program faced threats by the Nixon administration to reduce and even eliminate the program. Throughout his presidency, Nixon was persistent in attempting to reduce the role of the federal government in subsidizing health services (Sardell 1988; Mickey 2012). His efforts involved policies to instead develop privately sponsored health maintenance organizations and prepaid group plans, to block-grant the health center program, and to move administration of health centers under the umbrella of a decentralized DHEW (Sardell 1988, p. 78). The decentralization of administration at this point resulted in intense negotiations between the heads of DHEW and the regional offices who made the decisions regarding which CHC programs would be funded (Sardell 1988, pp. 81-83). This process of negotiation began the policy of monitoring program performance – which continues today – a process which has been an important source for congressional support of the program (Sardell 1988, p. 82). Since then, expanded efforts at demonstrating and improving quality have appeared in the Health Care Safety Net Act of 2008 (Pub. L. 110-355), as well as in awards for quality exceeding national benchmarks and for performance in the top 30% of all centers.[1]

Attempts to block-grant the program were an effort by Nixon to reduce the size of the program without explicitly eliminating it. By block-granting the program, funds would be given to states then allocated by the states to various programs. This allocation was often influenced by those representing the most powerful social groups. For CHCs, their voice was less likely to be heard given the group they represented and the program had not yet become as established as the safety-net as it is today (Mickey 2012). Efforts at block-granting failed, but Nixon continued to attack the health center program through reduced funding and attempts at requiring centers to be self-sufficient (Mickey 2012).

The CHC program survived one final attempt by Nixon and further efforts by Ford to

deny the program reauthorization. Congress, however, passed legislation – the Special Health Revenue Sharing Act of 1975 (Pub. L. 94-63) – to reauthorize the CHC program explicitly by name with its own designated funding. Having legislative authority provided some protection against future efforts to weaken and/or ultimately eliminate the CHC program. The Special Health Revenue Sharing Act of 1975 (Pub. L. 94-63) amended the Public Health Services Act, formalizing the Health (Neighborhood) Center Program and providing centers with their own legislative authority. The definitions and requirements outlined in this Act are largely unchanged and, despite a name change, still define present-day health centers. In the Act, Community Health Centers (CHC) were formally defined, including the requirement that they serve medically underserved areas (MUA) or populations (MUP). The designation of an area or population as underserved was to be determined by the Secretary of Health and Human Services and based on the Index of Medical Underservice (IMU). The IMU was calculated based on the ratio of primary care physicians per 1000 population, infant mortality rate, poverty level, and population over 65. This calculation and designation is still used to certify a health clinic as a CHC (FQHC).

In addition to defining the service area, the Act defined the services to be offered by CHCs. CHCs were required to provide a set of "primary" and "supplemental" health services (Box 2) and increased financial support. By defining primary (i.e. required) services, the Act ensured that future administrations could not limit the services provided by CHCs; however, this definition shifted the focus of health centers away from the community services towards traditional medical care. Though the definition focused on medical services, the list includes transportation and language services to enable use of the health center. Assistance for gaining access to programs for housing, education, and other social services was also included; but, the

centers would only be providing assistance, not the services themselves. The Act authorized significant increases in funds specifically for center operations and for planning grants (Sardell 198, p. 89); however, nothing in the legislation addressed third-party reimbursements. At this time, reimbursement from third-party payers to health centers for the medical care traditionally covered by health insurance, let alone reimbursement for non-medical services advocated by CHCs, was largely non-existent.

Lastly, it is in the Special Health Revenue Sharing Act of 1975 that CHCs were given two of their most defining characteristics. The first maintains the original mission of the CHC, "to intervene… in the cycle of extreme poverty, ill health, unemployment and literacy, by providing comprehensive health services…, oriented toward ***maximum participation of each community*** [emphasis added] in meeting its own health needs…" (Geiger 1983). This legislation makes it explicit that CHCs are to initiate and encourage community involvement in the development and operations of the health center. In requiring as much, the Act established the second most defining characteristic – that the governing board be composed of individuals a majority of whom are served by the center and who, as a group, represent the individuals being served. The Health Resources and Services Administration (HRSA), the present day administrative agency, attempts to enforce this requirement by evaluating each center's compliance during site visits (HRSA 2015b). Despite this enforcement effort and a longstanding mission of community participation, at least recently, board members have not been descriptively representative (Wright 2013).

In the early years of the program, the majority of grants were awarded to urban programs (Sardell 1988, p. 112). Recognizing a need for resources in rural areas and also efforts to reduce the size of the program, the Rural Health Initiative (RHI) was launched in 1975 (Sardell 1988,

pp. 111-112). In 1977, Congress passed the Rural Health Clinics Act (Pub. L. 95-210), authorizing the reimbursement of rural health clinics for services provided under Medicare and Medicaid programs including services provided by nurse practitioners and physician assistants. Many of the rural health clinics had difficulty attracting or keeping physicians so the use of mid-level providers became a necessity. This change in reimbursement of services by mid-level providers would allow many of the rural clinics to remain open. Originally a means of to reduce funds for health centers, the RHI in fact led to innovations in coordination of resources from multiple programs so as to maximize them, particularly across the Health Center Program and the National Health Services Corp (Sardell 1988, p. 113).

The CHCs once again were threatened during the Reagan administration. With a mandate to cut taxes and spending, Reagan decreased funding for health centers by about twenty-five percent (Mickey 2012). Fewer patients, a reduction in the non-primary delivery of non-primary care services, and elimination of some CHCs have been attributed to cuts during the Reagan administration (Mickey 2012). Further efforts to shrink the program were made through repeated attempts to block grant the program. One of the first attempts was included in the Omnibus Budget Reconciliation Act (OBRA) of 1981 (Pub. L. 97-35). Through OBRA 1981, CHCs were to become part of a health services block grant through which states would decide how to allocate funding across programs. Ultimately though, the program was placed in what was called the primary care block grant – but practically speaking was not a block grant (Mickey 2012). CHCs would remain a federal program through 1982 when states would have to apply to take over administration; otherwise the CHC program would remain federal (Mickey 2012).

After repeated efforts at block granting, the Health Services Amendments (HSA) Act (Pub. L. 99-282) of 1986 reauthorized the Health Center Program and further authorized it as a

separate categorical grant program. As a discretionary program where funding is set each year, the CHC program would more likely face funding cuts; however, by securing legislative authority through HSA, Congress could now direct appropriations specifically to CHCs. This legislation also repealed an optional block grant program enacted through OBRA 1981 as no state exercised the option to take responsibility for the program granted them beginning in 1982. The HSA 1986 expanded the involvement of State and local officials in the designation of medically underserved areas. Criteria would now include comments from state a local officials as well as data on the population's current health status (infant mortality named specifically), and access, to and affordability of primary care; in addition, the designation could not be terminated without prior notice and opportunity for local comment.

The last significant piece of legislation to be enacted during the Reagan administration was the Community and Migrant Health Centers Amendments of 1988 (Pub L. 100-386). Through this, CHCs were reauthorized through 1991 and an initiative to reduce infant mortality was to be undertaken. This was perhaps the first time that Congress set a specific health agenda for CHCs through legislative means. CHCs were given greater flexibility in planning their facilities as construction of new facilities was now permitted; whereas, only modernization and expansion of existing structures was previously permitted (CQ 1988).

Financing

Early in the CHC program, the working assumption was that centers would eventually become self-sufficient thus eliminating the need for federal grant funds (Sardell 1988, p. 126). Insurance reimbursements for CHCs during this period, however, were essentially non-existent. Medicare recognized CHCs as providers after 1973 and then only CHCs with sophisticated accounting systems (Sardell 1988, p. 128). The situation with Medicaid was better, but even then not all

states recognized CHCs as reimbursable providers and not all services provided were reimbursed (Sardell 1988, p. 128). In 1981, the Carter administration proposed making clinic services mandatory under Medicaid, a move that would establish CHCs as reimbursable organized primary care providers (Sardell 1988, pp. 131-132). Mandating specific providers would add costs to Medicaid at a time when Congress was attempting to limit spending in order to address a deteriorating economy and large budget deficits. The legislation that was eventually passed included reduced spending for Medicare and Medicaid – preventing CHCs from being recognized formally. It would be ten more years before CHCs were granted their own reimbursement category by the Centers for Medicare and Medicaid.

Conclusion

The Health Center Program began quietly, flying well under the political radar, which likely contributed to its ability to establish strong roots. Despite significant opposition and attempts to eliminate the program from the Nixon and Reagan administrations and lesser attempts by Ford, the program had enough supporters in Congress to withstand these attacks. The CHC program was able to gain a more secure foothold through legislation authorizing the Health Center program as an independent, discretionary grant program after multiple attempts by the Reagan administration to block-grant the program (Mickey 2012). Whereas in this period of its history the Health Center Program faced consistent political opposition while attempting to define itself, the next period would be characterized by a significant increase in political support and a turning point in its financial sustainability.

Federally Qualified Health Centers: 1990-1999

During 1990-1999, political support for and attitude towards the Health Center Program improved; however, there was also notable ambivalence toward the program (Mickey 2012).

The Bush Administration (1989-1992) supported legislation that would substantially improve the sustainability of the Health Center Program. Conversely, President Clinton, despite placing health care access at the center of his presidential campaign in 1992, failed to push for any expansion of the Health Center Program. In 7 out of 8 budgets, Clinton requested less than what Congress would eventually appropriate (Mickey 2012). During this same time, health center advocates won the designation of "essential community provider" – a move that would bolster the position of health centers in a potentially reformed healthcare system and would appear formally in the Affordable Care Act of 2010 (Mickey 2012). Additionally, public health insurance coverage expansions during this period and formal reimbursement of Health Center Program providers added to the development and entrenchment of the program.

Renaming and Reorganizing

During this period, some of the most significant pieces of legislation to the affect sustainability of the Health Center Program were enacted during the Bush Administration (1989-1993). The Omnibus Reconciliation Act of 1989 (OBRA Pub. L. 101-239) and the Omnibus Reconciliation Act of 1990 (OBRA Pub. L. 101-508) defined the Health Center Program as it is known today. [2] OBRA 1989, effective in 1990, renamed Community Health Centers as "Federally Qualified Health Centers" (FQHC), defining them as "a facility which is receiving a grant under section 329, 330, or 340 of the [PHSA] or based on the recommendation of [HRSA] within the Public Health Services, is determined by the secretary to meet the requirements for receiving such a grant [i.e. Look-Alikes]." By allowing for facilities not receiving grants under the identified PHSA sections to be treated as FQHCs with many of the cost reducing benefits, OBRA 1989 provided for opportunities to further expand access to underserved populations.

In addition to formally defining FQHCs, OBRA 1989 amended the Social Security Act (Section 1905 42 U.S.C 1396d(a)(2)) to specifically permit reimbursement to FQHCs and Look-Alikes for services provided to patients covered by Medicaid and Medicare. Prior to this, state Medicaid programs had flexibility in covering services provided by FQHCs – and by the end of the 1980's, less than half of states were explicitly reimbursing FQHCs under Medicaid (Sardell 1988, p. 128). In the next year, OBRA 1990 granted FQHCs an independent reimbursement category by the Centers for Medicare and Medicaid Services (CMS), resulting in increased reimbursement rates and specified reimbursement arrangements, essentially saving the program (Mickey 2012). The integration of Medicaid and Medicare financing with FQHC service provision was perhaps the most important development in the program's history. FQHCs were now in a more secure financial position allowing them to assume a more central role in the U.S. health care safety-net (Mickey 2012).

The Clinton administration was apparently more ambivalent toward FQHCs, focusing instead on a more comprehensive reform of the healthcare system (Mickey 2012). Issues of access not related to insurance coverage appeared to advocates of underserved populations to be ignored, however, in discussions of any reform (Mickey 2012). In response to this and other concerns, advocates of the Health Center Program pushed for and won designation for FQHCs as "essential community providers" (Mickey 2012). This designation was first introduced in 1993 and adopted by states who then required managed care plans and Medicaid to include providers designated as such in their networks (Pena et al 2015). In adopting this designation, states were guaranteeing that insurers would not entirely exclude from their networks providers on whom largely uninsured and otherwise medically underserved populations relied. FQHCs being

designated as essential community providers would again become important with implementation of the ACA.

FQHCs were not completely overlooked during the Clinton administration. The Health Center Consolidation Act (HCCA Pub. L. 104-299) of 1996 was a significant piece of legislation that provided for reauthorization of FQHCs as well as the other Health Center Programs.[3] The HCCA of 1996 maintained funding for these programs, but consolidated them under a new authority receiving a single discretionary appropriation (Sec 330A PHSA). Touted as a way to streamline programs without decreasing services, "thereby easing the burden on communities applying for assistance and reducing the Federal cost of administering these programs" (Clinton 1996), the HCCA of 1996 actually authorized a reduction in the number of federal grants essentially decreasing services, not by individual center, but by reducing the number of FQHCs in operation. The number of FQHC grantees had grown 34% in the early part of this period (525 in 1990 to 786 by 1994), but the number of grantees declined from 1995 through 1997 (Shi et al 2000; UDS 2015). Some ground was recovered by the end of the decade, but growth was much slower and the number of grantees failed to reach the same success achieved in the early period.

Despite the Act's aim at streamlining the program rather than expanding, the HCCA 1996 did provide additional financial support through the establishment of a federal loan guarantee program to assist FQHCs in leveraging the capital needed to form and/or manage managed care networks, a response to the difficulties FQHCs were facing with the advancement of such care networks (US Senate 1997). Additionally, passage of the Health Centers Assistance Act of 1995 (Pub. L. 104-73) amended the PHSA to make permanent the federal tort claim (malpractice) coverage for employees of FQHCs in 1992 (Pub. L. 102-501) and extended coverage to employees (i.e. practitioners) treating patients in other settings as part of their service to

communities but not necessarily within the FQHC itself (US Senate 1997). Through this coverage employees of FQHCs and the FQHCs themselves were protected from malpractice lawsuits.

Financing and Costs

With an independent reimbursement category from Medicaid and Medicare and expanding public insurance coverage, FQHCs were expected to experience an improved financial position. By 1996, Medicaid reimbursements had become an even larger share of FQHC revenues than federal grants (Mickey 2012). As Medicaid accounted for an increasing proportion of total FQHC revenue, the share of revenue from federal grants was falling. Federal grants accounted for 41% and Medicaid 21% in 1990; by 1998, 26% of total revenue came from federal grants and 34% from Medicaid (Wilensky & Roby 2005). Although insurance coverage of low-income adults did not change, coverage of low-income children was expanded generously. OBRA 1990 included mandated Medicaid coverage of children 6-18 years of age with family incomes below poverty. The Children's Health Insurance Program (CHIP) was enacted through the Balanced Budget Act of 1997 (BBA Pub. L. 105-33) further expanding health insurance coverage to children whose family incomes were above the Medicaid threshold but still insufficient to afford health care. With the independent reimbursement category for Medicaid, these additional initiatives had the potential to significantly impact the financial sustainability of the FQHC program by providing greater insurance coverage for those populations served by FQHCs.

Despite increased insurance coverage of some FQHC patient populations, the costs of providing care to the FQHC were still a concern particularly related to patients that remained uninsured. In the early part of the period, FQHCs were granted some relief with respect to the cost of providing care to their patients through participation in two programs offering reduced

cost pharmaceuticals. Initiated in 1992, the 340B drug pricing program provides significantly discounted outpatient prescription drugs to eligible providers. By 1997 though, less than half of FQHCs were participating in the program and those that were not lacked an on-site pharmacy (Cook & Dong 1999). The majority of FQHCs do currently participate in the program despite less than half having an on-site pharmacy (UDS 2015; NACHC 2013).

A second program benefitted FQHCs and more importantly the children seen at such clinics through the provision of free vaccines. The Vaccines for Children program (Omnibus Budget Reconciliation Act of 1993) was created in 1993 and first implemented in 1994. The program allows the federal government to purchase vaccines at a discounted price and provide those vaccines to eligible providers at no cost. Vaccines made available through this program, however, may only be used to immunize children who are enrolled in Medicaid, who are members of Native American or Alaskan Native communities, or who are without health insurance. Only 50% of children two years of age had completed the recommended immunization schedule in 1991; by 1995, approximately 70% of children had completed the recommended schedule (CDC 1995). Although not specific to FQHCs, this national-level increase suggests the program, which specifically targeted children likely to receive care at a FQHC, had a significant effect on FQHC provision of immunizations.

Roller Coaster Reimbursement Methodology

FQHCs were granted a Medicaid and Medicare reimbursement category; however, the actual reimbursement methodology used during this period was perpetually changing. Medicaid and Medicare reimbursements to FQHCs had often been inadequate to cover the full costs of providing care. The low reimbursement rates forced FQHCs to use Sec 330 grant dollars to subsidize the low reimbursements rather than use these funds to provide care for uninsured

patients, undermining the mandate that FQHCs provide care regardless of ability to pay (Koppen 2001). In 1989, Congress recognized the inadequacy of these payments and passed legislation requiring FQHCs to now be reimbursed on a reasonable cost basis for services provided to patients covered by Medicare and Medicaid (Koppen 2001). However, with the Balanced Budget Act of 1997, in an effort to balance the federal budget, did not require states to provide a minimum Medicaid reimbursement to FQHCs after FY2004 (Koppen 2001). In 1999, Congress once again recognized the detriment of not requiring minimum or sufficient reimbursement rates to FQHCs and endorsed establishing a Medicaid per-visit guaranteed minimum payment using a prospective payment system (PPS) methodology (Koppen 2001).

At the same time Congress was attempting to remedy low reimbursement rates to FQHCs, other changes were occurring within Medicaid in an effort to control costs. A movement toward Medicaid managed care began in the 1990s, a switch that was not necessarily a welcomed change for FQHCs (Boben 2000; Shi et al 2000). The switch meant possible competition with other providers in attracting Medicaid-covered patients, disrupted financial arrangements and new administrative demands, all while Medicaid reimbursement rates were actually decreasing despite Congressional efforts to improve the level of reimbursement (Boben 2000; Shi et al 2000). As a result of the move toward Medicaid managed care, the growth in the number of FQHCs participating in some type of managed care arrangement was rapid. In 1991, six percent of FQHCs had a managed care arrangement; by 1996, forty-five percent had a managed care arrangement (Shi et al 2000). An evaluation of Medicaid managed care demonstrations in several states did find that FQHCs had difficulty in negotiating managed care contracts and securing favorable reimbursement rates. FQHCs at this time had little if any experience in negotiating contracts with insurers and often had weak business skills. Ultimately,

it appeared that the managed care environment placed FQHCs in a more vulnerable financial situation (Shi et al. 2000).

Conclusion

FQHCs were formalized during this period, acquiring an independent reimbursement category and with it the possibility of greater financial stability. The Health Center Program, after growing by 33% in the early period, declined following consolidation of five programs under one administrative umbrella. Some ground was recovered by the end of the decade, but growth was much slower and the number of grantees failed to reach the same success achieved in the early period. Financially, FQHCs were presented with a more positive financial future with expanded coverage among populations served (OBRA 1990, CHIP, and the BBA 1997) and an independent Medicaid and Medicare reimbursement category (OBRA 1990). However, an improved financial position was not as easily realized as increasing the level of reimbursement from Medicaid programs remained challenging. In addition, FQHCs were faced with adapting to a new managed care system that was received with skepticism. After a lack of interest in any form of expansion, FQHCs would experience unprecedented growth and investment by the Bush administration (2001-09) through the Health Center Initiative and the Health Care Safety Net Amendments (Pub. L. 107-251). The financial reality, however, would be somewhat shaped by states' decisions regarding payment methodology with the enactment of the Medicare, Medicaid, and SCHIP Benefits Improvement and Protection Act (BIPA) in 2000, the worsening fiscal situations of States, and reductions in Medicaid spending.

[1] FQHCs that meet or exceed quality improvement measures as indicated through annual performance reporting, can receive award payments that reward their performance and are intended to support further improvement. (bphc.hrsa.gov/programopportunities/fundingopportunities/quality/index.html)

[2] While I refer to the community health centers hereafter as "Federally Qualified Health Centers FQHCs, I continue to refer to the program under which these centers are administered as the Health Center Program.

[3] In addition to the Health Center Program (i.e. FQHCs), the PHSA authorizes three additional health center programs: (1) Migrant Health Center program (Sec 229 PHSA) supports health centers providing services to migrant and seasonal farmworkers and their families; (2) Health Care for the Homeless program (Sec 340 PHSA) supports health centers providing services to homeless individuals and children in locations accessible to them; (3) Health Services for Residents of Public Housing program (Sec 340A PHSA) provides support to health centers serving residents of public housing.

CHAPTER III

A Significant Period of Investment 2000-2006

Policy Development

After a lack of investment in the Health Center Program during the previous administration, the Bush administration (2001-2009) took a very different approach, advocating for growth. In 2001, the first step towards accomplishing an ambitious expansion was taken. The Health Center Initiative (HCI), a 5-year initiative launched in fiscal year 2002, nearly doubled FQHC funding from $1 billion in 2000 to more than $2 billion (Mickey 2012; Shi et al 2010). Citing the need to combat the rising costs of healthcare, the HCI called for 1,200 new or expanded centers within 5 years and the expansion of services to an additional 6.1 million patients (Bush 2008). The second Bush administration maintained its commitment to expanded access to health care with continued calls for increases in Health Center Program funding even as congress cut discretionary spending (Mickey 2012).

Whereas in previous administrations, the Congress and the president were often on opposite sides, both were now strongly in support of the Health Center Program. In 2003, the Senate went so far as to pass a resolution expressing their desire to expand access to health centers (S. Res. 96). In doing so, the Senate declared that federal investment should be increased by 100% (over 5 fiscal years ending in 2006) in order to double the number of individuals receiving primary care services at any of the consolidated health centers (i.e. FQHCs, migrant, homeless, and public housing). The FQHC program was further supported in 2002, through the

Health Care Safety Net Amendments Act (HCSNA Pub. L. 107-251). In addition to other provisions, FQHCs (and the Health Center Program) were reauthorized at increased funding levels through fiscal year 2006.

Along with expansion of the program, efforts to increase efficiency within and coordination of care provided by FQHCs became more of a focus with enactment of the HCSNA 2002. Resources via grant awards were provided for encouraging new delivery of care models as well as collaboration and networking of FQHCs, in addition to the traditional expansion of services awards given previously (HCSNA 2002). Grant awards to establish telehealth networks were provided to expand primary care access to rural communities and other chronically underserved areas. Grants would support FQHCs in building the "human, technical, and financial capacity to develop sustainable telehealth programs and networks" (HRSA 2003a). FQHCs were now permitted to use up to two percent of Section 330 grant funds to develop practice management networks, an effort to improve access, reduce costs, and increase quality and coordination of care (HCSNA 2002). Practice management networks would be comprised of three or more health centers whose business and clinical functions are integrated, and funds would be used to support continuing and improving the network rather than establishing new ones (HRSA 2003b).

A number of initiatives also supported more efficient delivery of and improvements in care. The Health Disparities Collaborative (HDC), with the goal of improving care and outcomes for chronic diseases, changed the delivery of care from a provider-oriented to a patient-, family-, and community-oriented system (Hawkins & Schwartz 2003). The Collaborative utilized electronic registries to track patients, plan care, and document outcomes. FQHC clinical teams participated in a learning community, sharing information about what

practices work and which do not. The most effective practices are then implemented throughout the delivery system (Hawkins & Schwartz 2003). By the end of 2003, approximately two-thirds of FQHCs were participating and more than 75,000 patients enrolled in the collaborative (Hawkins & Schwartz 2003). These HDCs may have improved, at least modestly, processes of care (Chin 2010; Huang et al 2007); some clinical outcomes (Chin 2010, Landon et al 2007); and general FQHC functioning, particularly the quality of care provided for chronic conditions which were not the focus of the HDS (Chien et al 2010). Despite its name, however, these HDCs do not seem to have had a significant impact on disparities in health (Hicks et al 2010).

The HCSNA 2002 also included authorizing legislation for the Healthy Communities Access Program (HCAP), an effort to coordinate services for uninsured and underinsured FQHC patients. HCAP was an innovative grant funding program in that awards were given to consortia of providers rather than individual institutions/programs; funds were for development rather than direct service provision; and, grantees were allowed flexibility to form programs that best suited the needs of the communities they served (Bayne et al 2012). Grants were awarded for the development of integrated health care delivery systems to improve efficiency and coordination among providers, develop programs targeted toward preventing and managing chronic disease, and expanding and enhancing services provided therein. Eligible entities must represent a consortium providing a broad range of coordinated care and includes at least one FQHC. A total of 260 grants were awarded through the HCAP until the program was unfunded in FY2006 (Bayne et al 2012). Coalitions differed in their focus, but many of the activities included service integration, delivery system expansion, cultural competency, health education, and insurance enrollment assistance (Bayne et al 2012). Some of the outcomes documented included enrollments of more than 700,000 individuals into insurance plans (including Medicaid, SCHIP,

and private plans); more than one million patients assigned to a primary care provider; and more than 400,000 referred for specialty care (Bayne et al 2012). A later survey of HCAP coalitions determined that 68% were sustained at least through 2011 (Bayne et al 2012). HCAP provided evidence that FQHCs could collaborate and that these collaborations could be sustained.

Lastly, the HCSNA included a provision for the automatic designation of FQHCs as health professional shortage areas, a designation required in to be eligible to recruit National Health Service Corp (NHSC) members. In addition to reauthorizing the consolidated Health Centers Program, the HCSNA 2002 reauthorized the National Health Services Corps. The continued support of the NHSC program and the automatic HPSA designation, likely eased the burden on FQHCs of recruiting and retaining primary care providers at FQHC facilities.

Changes in FQHC Capacity

FQHCs – Growth

Following a period of more dramatic swings in the number of grantees, the growth in FQHCs from 2000-2006 was steady (Appendix A Table 9a). In the first year of the Health Center Initiative (HCI), the number of FQHC grantees grew by almost 100 grantees, an increase of 12%, and by 26% by the end of 2006 (Appendix A Table 9a). Comparatively, less than 20 new grantees were added (2.4% growth) in 2001, the year prior to launching HCI. Additionally, the number of hospitals declined in 2001 followed by less than one percent increase in the number of hospitals by 2006 (Appendix A Table 9b). While the number of rural health clinics experienced a greater decline (1.6%) in 2001 than did the number of hospitals, the number of rural health clinics grew almost 12% by 2006 (Appendix A Table 9b). Despite adding 438 new clinics, however, the rate of growth in FQHC grantees was almost two times that of the number of rural health clinics and the rate of growth in FQHC service sites was even greater.

The number of FQHC service sites grew by more than 2,000 service sites (34% increase) between 2001 and 2006, resulting in an average of one more service site per FQHC grantee by 2006 (Appendix A Table 9a). With 253 new FQHC grantees and 2,060 additional service sites, the HCI surpassed its goal of 1,200 new or expanding health centers. Federal appropriations grew somewhat faster than the number of FQHC grantees and the number of service sites but did not meet the goal of doubling by FY2006. Appropriations increased only by one-third from FY 2001 to FY 2006 (based on S. Res. 96 fiscal years ending in 2006) (Heisler 2013).

Access to Care

The HCI had the ambitious goals of not only increasing the number of new and expanded health centers but also of doubling the number of patients treated at them over a five-years (2001-2006). By the end of the initiative, however, the HCI had fallen short of the goal of doubling the total number of patients receiving care. In 2006, FQHCs treated 4.8 million more patients than they had in 2001; but, this was an increase of only 33% (Appendix A Table 9a). Comparatively, the number of patients served by FQHCs had grown 40% from 1994-2001 (O'Malley et al 2005). More than just the addition of new patients, the HCI intended to increase access to needed health care through the establishment of new access points (i.e. FQHCs) in areas where no health centers previously existed (Shi et al 2010).

The evidence is mixed on whether or not increased federal funding of FQHCs increased access; however, although population-level access among low-income populations appeared to be declining, the decline was smaller in areas where federal funding increases were greater (McMarrow & Zuckerman 2014).[1] Several other studies of this period suggest that increased funding of FQHCs resulted in increased access to a broader range of services (LoSasso & Byck 2010), in access to primary care for uninsured individuals (LoSasso & Byck 2010), and in the

reduction disparities in access to primary care for minority and low-income populations (Shi et al 2012; Rust et al 2009). Using National Health Interview Survey (NHIS) data, I find a modest decline in reported access to routine/preventive care. Although these data do not identify individuals living within the service area of a FQHC, the percentage of individuals reporting no usual source of routine/preventive care increased by two percentage points nationally between 2001 and 2006 (Appendix A Table 10a). However, changes in access to care varied by insurance coverage. Medicaid-covered individuals generally experienced the greatest reported access to care between 2001 and 2006. The percentage of individuals covered by Medicaid reporting having a usual source of care increased 9% while the percentage declined 16% for the uninsured and 8% for the privately insured (Appendix A Table 10a). At the same time, Medicaid coverage increased 27% while the rate of uninsured increased 12% by 2006 over 2001 estimates (Appendix A Table 1c). While Medicaid-coverage was increasing and individuals covered by Medicaid were increasingly gaining access to a usual source of care, these gains were offset by increasing rates of uninsured and decreasing access to a usual source of routine/preventive care by the uninsured.

Although the NHIS data also do not identify a FQHC specifically as the type of usual source, the data do provide the following categories: clinics/health centers, office-based practices, emergency rooms, and hospital outpatient clinics. In presenting results from these data, I assume the clinic/health center category includes FQHCs and use it to represent the changes occurring nationally in the use of FQHCs as a usual source of care. As it is likely that this category includes non-FQHC clinics and health centers, the results are an overestimate of the use of FQHCs. Nationally, reports of clinics/health centers as a usual source of care increased while reporting of an office-based practice as a usual source of care declined (Appendix A Table

10a). Trends in the usual source of care varied by health insurance coverage between 2001 and 2006. The reporting of a clinic/health center as the usual source of care increased for the uninsured (5%), while those covered by Medicaid reported a modest 1% decline (Appendix A Table 10a). Increases in any usual source of care for the Medicaid covered were coming from increases in office-based practices or the emergency room as the type of usual source of care, rather than a clinic/health center. Despite changes in having any usual source of care, the primary source of routine/preventive care reported remained relatively stable during this period for each type of insurance (Appendix A Table 10a). The privately insured primarily used office-based practices (86%) as did those with Medicaid coverage (64%). More than half of the uninsured also reported an office-based practice as the usual source of care (54%), but also were more likely to report a usual source of care as a clinic/health center (37%) or the emergency room (5%). Comparatively, a clinic/health center was reported by an average of 32% of the Medicaid-covered and 13% of the privately insured. Using emergency room as the usual source of routine/preventive care was reported 1% of the Medicaid-covered and by less than 1% of the privately insured.

Changes in the usual source of care for the low-income population were also occurring during this period. This population is of importance to FQHCs as they also serve a disproportionate share of this population (Appendix A Tables 1a and 1c). The percentage of individuals with family incomes less than 200% FPL reporting a usual source of care declined 17% between 2001 and 2006. However, compared to the general uninsured and Medicaid populations, individuals at this income level experienced a greater increase in the reporting a clinic/health center as the usual source of care (Appendix A Table 10a). Data reported by FQHCs

on their patient population do show an increase (4%) in the proportion of patients with incomes less than 200% of FPL (Appendix A Table 1a).

Changes in the Composition of the FQHC Patient Population

Patient Characteristics

During this period, FQHCs predominantly served patients 20-64 years of age (~60%) with those age 0-19 years as the second largest population and serving relatively few patients 65 years and older (Appendix A Table 1a). Comparatively, office-based primary care providers also predominantly see patients between 20-64 years of age, but the proportion of their patient population 65 years and older is much larger – almost three times (Appendix A Table 1b). Both FQHCs and private offices predominantly serve female patients and consistently did so throughout 2001-2006 (Appendix A Tables 1a-b).

Data reported to the Uniform Data System (UDS 2015) describe characteristics of only those individuals seeking medical care at the facility. Therefore, it is difficult to assess whether access to care for the broader FQHC service area was increasing. However, I find that the composition of the patient population was changing, perhaps suggesting that access was increasing for populations typically experiencing greater access issues (Appendix A Tables 1a-b). Adults younger than 65 years of age and poor and near poor individuals have consistently been the least likely to have a usual source of ongoing care (AHRQ 2012, AHRQ 2010). Whereas the age composition within office-based practices remained relatively stable during this period, FQHCs experienced an increasing percentage of patients aged 20-64 and a decline in patients 0-19 years. As the number of total patients grew at FQHCs during this period, the percentage of patients with incomes less than 200% FPL increased from 87% to 91% (Appendix A Table 1a). These data also suggest that access may have worsened for some special

populations. Fewer self-identified Hispanic patients were treated at FQHCs as were fewer migrant/seasonal workers. Because FQHCs do not report data at the patient level, the insurance coverage of Hispanic and migrant/seasonal workers is unknown. However, decreases in these two populations may reflect in part the tightening of eligibility for Medicaid coverage resulting from the Deficit Reduction Act of 2005.

Patient Health

Any potentially changing health status of the patient population could have significant implications for the cost of care for FQHCs. FQHCs faced a growing number of patients with a diagnosed chronic illness despite improvement in some chronic conditions (Appendix A Table 3). Diagnoses of hypertension rose 13% and of diabetes 19% from 2001 to 2006. After initial increases, asthma and HIV diagnoses declined, however only slightly.

Despite a consistent message among advocates of FQHCs that the patient population suffers disproportionately from a variety of chronic conditions, I find that when comparing the FQHC patient population in its entirety to a similarly primary care seeking population and a national sample of the U.S. population, that a smaller or similar percentage of FQHC patients are diagnosed with diabetes, hypertension, and asthma. Estimates often compare the adult FQHC population to the exclusion of children. Here the comparison is between all patients in both datasets. Among office-based primary care practices, rates of hypertension were higher – almost twice than that among FQHC patients. Likewise, the percentage of patients with a diabetes diagnosis was more than 30% higher among office-based practices in 2005-2006 (Appendix A Tables 1b and 3). At the national level, I find that although diabetes diagnoses were increasing (5% of the population on average between 2001 and 2006), the rate among FQHC patients

remained modestly higher (6% of the FQHC patient population on average between 2001 and 2006).

Changes in Service Provision and Quality of Care

Service provision appeared to be changing after the Health Center Initiative was launched. The absolute number of encounters in 2006 was 1.5 times that of the number of encounters provided in 2001, the year prior to the Health Center Initiative (Appendix A Table 4). The average number of encounters per patient was also increasing during this period – although at a slower rate. In 2001, patients had one and a half encounters compared with just over two encounters per patient by 2006 (Appendix A Table 4). Comparatively, I find that the general U.S. population reported an average of one more doctor visit per year between 2001 and 2006 but remained relatively stable at 3 visits until experiencing a slight decline in 2006 (Appendix A Tables 1c and 4).

In addition to increasing encounters, the composition of FQHC encounters was shifting from providing chronic illness and preventive care almost exclusively to increasingly providing mental health and dental services.[2] Compared to FQHCs, the primary focus of office-based primary care visits was the care of chronic conditions. More than half of all office-based visits focused on the diagnosis of a chronic condition, versus 30% of FQHC visits (Appendix A Table 1b). A notable difference in this period between office-based and FQHC visits is the inclusion (or at least the recording of) of dental services within the scope of services provided at a FQHC.

The Health Disparities Collaboratives began in 2002 were aimed at addressing the chronic disease burden of FQHC patients. Given the increasing proportion of the population with a diagnosed chronic illness, these collaboratives were timely. Aggregate quality of care measures, such as A1C levels and controlled blood pressure that would address how effective

these collaboratives were at controlling chronic illness, were not collected until well after these collaboratives were defunded. As a small literature has suggested though, these collaboratives may have improved processes of care but there is no strong support for their ability to improve the health outcomes of those suffering a chronic illness.

Changes in Revenue and Financing

As the federal government increased support of FQHCs, states and local governments were reducing funding dedicated to FQHCs in response to a significant fiscal downturn (Hawkins & Schwartz 2003). The funding amount reductions reported by states, if the worst case scenario was realized, were large enough that they would essentially cancelled out the increase in federal funding allocated in 2004 (Hawkins & Schwartz 2003). By this time though, states had already been reducing support for health centers as well as their Medicaid and indigent care payments (Hawkins & Schwartz 2003). Reductions in Medicaid spending occurred through restricting or eliminating coverage resulting in uncompensated care, a real concern for FQHCs who do not have the luxury of denying care because of an inability to pay.

Medicaid and Medicare Policy and Changes in the Composition of Insurance Coverage

As a significant payer for FQHC patients, the level of reimbursement received from Medicaid is critical. FQHCs began the 2000's without a required Medicaid minimum reimbursement from states (BBA 1997). This financial disadvantage, however, was recognized with legislation repealing the BBA of 1997, and replacing the traditional cost-based reimbursement system for FQHCs with a prospective payment system (PPS) through the Medicare, Medicaid and SCHIP Benefits Improvement and Protection Act of 2000 (BIPA) (NACHC 2014). By increasing reimbursements to FQHCs, PHSA Sec 330 grant dollars were more likely to be used to cover the cost of care for the uninsured (NACHC 2001). BIPA 2000 though did not require states to

reimburse using the PPS methodology but allowed them to establish their own reimbursement rates provided the rate was not below the payment under the Medicaid PPS, and the FQHC agreed to it (MedPac 2011). BIPA 2000 permitted states to submit a waiver if they wished to implement an alternative payment methodology. FQHCs must agree to the alternative methodology, but careful thought would be required by the FQHCs to determine which payment methodology would be in the best interest of the FQHC in the long run (Koppen 2001). With PPS reimbursement methodology, FQHCs had the potential to make money as the amount of reimbursement for a given service would be established in advance of service delivery. If costs were below the payment amount, FQHCs could retain the portion of the payment exceeding their costs.

Approximately half of states elected to implement an alternative payment methodology, generally a cost-based reimbursement or slightly altered PPS methodology (GAO 2005). In a report to Congress, the GAO identified significant problems with the reimbursement methodologies of some of these states. In some states, payment rates did not include all Medicaid-covered FQHC services as required by law and/or no assurances that payments would be no lower than what FQHCs would have receive under the BIPA PPS methodology were given (GAO 2005). In states using the PPS methodology as outlined in BIPA, the way in which the base rate for Medicaid-covered services was calculated already created a situation where rates might be below actual costs, at least for 2001. States were also creative with the use of payment caps and rate ceilings (Leifer & Freedus 2011).[3] With Medicaid reimbursements accounting for a significant proportion or revenue, FQHCs stood to lose significantly more revenue in states electing alternative methodologies. As of 2006, only 45% of states were solely using a PPS system to reimburse FQHCs (Schwartz 2006). Medicaid remained, however, the strongest payer

for FQHCs – paying 87 cents for every dollar charged versus 57 cents from private health insurance (Rosenbaum & Shin 2006).

The Medicare Modernization Act of 2003 (MMA Pub. L. 108-173) established an optional prescription drug benefit program, Part D, augmenting the limited coverage under the Medicare program and an additional provision for a low-income subsidy to assist beneficiaries with out-of-pocket costs. In 2003, about one-third of FQHCs had an in-house licensed pharmacy and an additional one-third contracted out for pharmacy services (Koppen 2005). A potential concern raised for FQHCs with this new benefit is the possibility that Medicare patients would use other health care providers because they no longer needed the FQHC to receive affordable prescription drugs (Koppen 2005). However, FQHCs are still seen to have an advantage because of their ability to waive deductibles and use sliding-fee-scale discounts for copayments (Koppen 2005). Using data reported by FQHCs on the age of the patient population, I find that the proportion of patients age 65 and older increased after 2003 suggesting that aging or already Medicare-eligible FQHC patients continued to use FQHCs despite the new prescription benefit.

The MMA prescription benefit proved successful (and popular). By January 2007, more than 17 million were enrolled in the prescription drug plan, with thirty-six percent of those at or below 135% of poverty (Duggan & Morton 2008). Duggan & Morton (2008) evaluated the impact of Medicare Part D and found that it did lower average prices for those who lacked any prior prescription drug coverage and increased utilization of prescription drugs. Further, Kaestner and Khan (2010) find increased number of prescription drugs among the chronically ill. Although the results are not specific to FQHC patients, they do suggest that elderly FQHC patients would have had significantly increased access to and utilization of prescription drugs.

One final piece of legislation during this period could potentially limit access to care for populations using FQHCs as well as negatively impact FQHCs financially. The Deficit Reduction Act (DRA) of 2005 (Pub. L. 109-171) made changes to the Medicaid program that potentially could limit access for many FQHC users. The DRA of 2005 allowed states to substitute "benchmark coverage" for existing benefits packages. This substitution often resulted in a loss of services for Medicaid enrollees. Premiums were now permitted on certain individuals with incomes over 150 percent of FPL as were cost sharing obligations. A significant literature has found that premiums and cost sharing result in decreases in coverage, reduction in the use of essential medical services, and increased familial financial strain (KFF 2006).

Although FQHCs continued to treat a larger proportion of Medicaid-covered patients (~30%) than office-based practices (~10%), FQHCs experienced a slight decline in Medicaid-coverage (less than one percent) and a 2% increase in the rate of uninsured patients between 2001 and 2006; while Medicaid-coverage increased (47%) and the rate of uninsured, after increasing in 2002, decreased 8% between 2002 and 2006 (Appendix A Tables 1b and 12a). These changes in the composition of insurance within the FQHCs partially reflect changes in the general population. The rate of uninsured increased nationally, although at a greater rate (11%) than among FQHC patients (2%); however, Medicaid coverage increased nationally (27%) while it declined less than one percent among FQHC patients (Appendix A Table 1c).

The overall increase in the rate of uninsured was driven by coverage changes among patients 20 years and older (Appendix A Table 12b). The uninsured rate among adults increased to encompass almost half of the adult FQHC patient population; this increase was driven by a 5% decline in Medicaid coverage and a 131% decline from 2.6% of adults in 2001 to 1.1% in 2006

in other public coverage (mostly state sponsored programs). At the national level, I find that the uninsured rate among NHIS adults 20-64 increased as it did among similarly aged FQHC patients. Unlike the experience among the FQHC patient population, Medicaid coverage increased almost 25% among adults 20-64 nationally (Appendix A Table 1d).

With the enactment of CHIP in 1997, FQHCs would likely experience decreases in uninsurance rates among children. Although the UDS does not decompose insurance coverage by finer age categories, the uninsured rate among patients 0-19 years of age decreased steadily between 2000 and 2006 (Appendix A Table 12c). CHIP coverage peaked in 2003 among FQHC children then declined, while Medicaid coverage increased steadily from 2000-2005 and declined slightly in 2006. Increases in insurance coverage among children did not, however, compensate for the declining insurance coverage among adult FQHC patients. Contrary to changes among the adult populations, I find similar insurance coverage changes among children at the national level. Rates of uninsured children declined while Medicaid/CHIP coverage increased (Appendix A Table 1d).

Lastly, the DRA 2005 imposed new citizenship verification requirements on all Medicaid applicants, resulting in an estimated of enrollments drop of 3-5 million persons (Rosenbaum & Shin 2006). This provision has significant implications for FQHCs who treat large populations of migrant/seasonal workers. Although FQHCs do not report the citizen ship status of their patients, I do find a 5% decrease in the proportion of the FQHC patient population considered migrant/seasonal workers in 2006 (Appendix A Table 2). This population had been declining since 2001; however, the rate of decline slowed during the previous two years only to increase again in 2006. Likewise, the FQHC Hispanic population declined 19% between 2001 and 2006

(Appendix A Table 1a). Comparatively, the Hispanic population increased nationally (Appendix A table 1c) as well as among office-based primary care patients (Appendix A Table 1b).

Financial Resources of FQHC Grantees

In addition to insurance reimbursements, FQHCs relied on a mix of grant funds to provide care. During this period, the majority of grant funding came from the Health Center Program cluster of grants.[4] Although fluctuating slightly, approximately 60% of each FQHC's grant funding came from a combination of these grants, with the bulk of it through the Community Health Center grant (~50%) (Appendix A Table 7) The contribution of federal grants to overall funding remained relatively stable during this time; but, even with increasing patient populations, the increase in federal appropriations during the Bush administration to fund FQHCs resulted in an increase of $40 dollars per patient by 2006 (Appendix A Tables 13b).

Grant funding from other sources was more variable in the period after HCI was launched. The proportion of the total FQHC grant funding coming from states declined generally; however, despite reports of state reductions in support of FQHCs, the grant amounts increased from $31 per patient in 2000 to $34 per patient in 2006 (Appendix A Tables 7 and 13b). FQHCs experienced a similar pattern in local government and indigent care funding.[5] Private/Foundation grants increased both in the total size of the grant and as a proportion of the total grant revenue. Overall, total grant revenue awarded to FQHCs increased as a result of increases in Health Center Program funding as well as in indigent care and private/foundation funding. Per patient dollars increased greatest in the first year of the Health Center Initiative and only grew modestly over the next five years. The intent, again, of these grants is primarily to support the provision of care for the uninsured. Uninsured rates were increasing and states were not supporting FQHCs financially as they had prior to the HCI. After a large increase in grant

dollars per uninsured patient in 2001, the combination of increasing uninsured rates and decreasing dollars proportionally from various granting sources resulted in slower, if any, growth in the dollars per uninsured patient by 2006 (Appendix A Table 9a).

Dawn of the Great Recession

By the end of 2006, the FQHC program had grown significantly and was providing care to almost twice the number of patients it treated in 1999. Complicating the financial situation for FQHCs, the Centers for Medicare and Medicaid Services in efforts to improve the financial situation of FQHCs created a payment structure with too much flexibility, inducing fear among FQHCs that their payments would be cut far below actual costs. Despite an increasing uninsured rate, state decisions regarding payment methodology, and cuts to Medicaid programs, FQHCs were not in as dire a financial position. Medicaid remained the strongest payer for FQHCs – paying 87 cents for every dollar charged versus 57 cents from private health insurance (Rosenbaum & Shin 2006). Further, while costs per patient were slowing, the Health Center Initiative supported the Health Center Program with a 35% increase in appropriations and FQHCs specifically through a 17.5% average increase in health center cluster funding for each FQHC resulting in an increase of $20 per patient by 2006 and increases in other grant funding added an additional $10 per patient by 2006.

Contrary to the change in rates observed within office-based primary care, FQHCs were seeing increasing chronic illness and mental health diagnoses. However, support in addressing issues of chronic illness and coordination of care se issues were recognized through financing of coalitions and collaborations as well as in permissions for new services (i.e., mental health and substance abuse services) to address chronic illness and coordinate care for chronically ill and uninsured patients. The success of the collaborations was not in the health outcomes primarily,

but in the sustainability of the relationships. The success of the coalitions and collaboratives implemented in the early part of this period would be important in light of new federal investments planned for community-based health strategies included in ARRA and the ACA (Bayne et al 2012).

FQHCs would have almost another full year before the country would be hit with one of the most significant recessions in recent U.S. history. As the "Great Recession" unfolded, FQHCs would be expected to accommodate an increase in uninsured patients resulting from high unemployment levels. With the enactment of several significant pieces of legislation; however, the impact on FQHCs would not be as devastating.

[1] McMarrow and Zuckerman 2014 used National Interview Survey (NHIS) data and Dartmouth Atlas hospital referral regions (HRRs) to estimate the effect of federal funding changes to FQHCs. They defined access and utilization as (1)having a usual source of care, (2) any office visit in the past year, (3) any general practitioner visit in the past year, (4) three or more ED visits in the past year, (5) unmet needs due to cost reported, and (6) delayed care due to cost reported. FQHC patients are not able to be identified within the NHIS data so the authors limited their sample to low-income NHIS respondents.
[2] Appendix Table 12 describes the coding of individual encounters into Acute, Chronic, Prevention, Mental Health, and Dental.
[3] This was successfully challenged by FQHCs within state courts.
[4] The Health Center Funding cluster consists of Migrant Health Center Grants, Community Health Center Grants, Health Care for the Homeless Funding, Homeless Children Funding, Public Housing, and School-Based Funding.
[5] Indigent Care programs are funded through the State and are provided to cover the cost of uncompensated care.

CHAPTER IV

"Recovering" from the Great Recession 2007-2009

The Bush administration (2001-2009) had supported the Health Center Program as no other administration previously. By the end of the Health Center Growth Initiative, an additional 159 FQHC grantees were awarded and more than 2,000 additional service sites were established. These investments in and support of FQHCs would prove wise as the country would face a significant economic crisis that would bring lasting unemployment, increases in uninsurance rates, and additional burden to a strained healthcare safety-net.

Efforts at Continued Strengthening

Even after the end of the Health Center Initiative, the Bush administration's continued support of the Health Center Program better prepared FQHCs financially for what lay ahead. The Health Care Safety Net Act of 2008 (HCSNA Pub. L. 110-355) reauthorized FQHCs through fiscal year 2012, continuing support for what many deemed a critical component of the health care safety net particularly during difficult economic times. The HCSNA 2008 increased federal appropriations 3.7% in 2008 over that of 2007 (Appendix A Table 10). In addition to reauthorization and increased appropriations, several sections of the HCSNA 2008 continued the focus on quality, costs, and benefits of various health center programs implemented with the HCSNA 2002 (KFF 2009b). With tightening budgets, demonstrations of quality and efficiency would make the argument for continued financial support stronger. The Act required HRSA to

submit a report describing efforts to expand and accelerate quality improvement activities as well as to establish mechanisms for disseminating best practices for improving the quality of care. In response to the HCSNA 2008 mandate for improving the quality of care, HRSA established a set of performance measures, capitalized on an established program designed to improve quality and outcomes for chronic illness, and developed an integrated means of tracking performance and disseminating best-practices (HRSA n.d). HRSA chose as their performance measures: childhood immunization, early prenatal care, birthweight, cervical cancer screening, and control of hypertension and diabetes. These measures aligned with those commonly used by Medicaid and Medicare as well as private insurers to evaluate quality of care, but were adapted to measuring the performance within FQHCs. The adapted measures would "place a greater emphasis on health outcomes and demonstrate the value of care delivered by health center also provide a balanced and comprehensive representation of health center services, clinically prevalent conditions among underserved communities, and the various life cycles served by health centers" (HRSA n.d, p.20).

In addition to tracking aggregate improvements in these quality measures, data would be collected to allow HRSA to evaluate FQHCs' progress in the reduction of health disparities. HRSA capitalized on the data collected as part of the Health Disparities Collaboratives (HDC) to identify key factors of quality improvement interventions in high performing centers (HRSA n.d). To disseminate quality improvement progress and best practices to individual FQHCs, HRSA developed an electronic review system wherein program performance measures would be tracked and technical assistance provided as needed.

Lastly, the HCSNA 2008 placed emphasis on growing the primary care capacity in underserved communities through three main avenues: (1) implementing new delivery of care

models; (2) enhancing the primary care workforce; and (3) extending critical designations. Focusing on strategic integration of FQHCs and larger health care delivery systems, the legislation called for a Government Accounting Office (GAO) study on an integrated health systems delivery model for providing health care to medically underserved, i.e. FQHC populations. The GAO report would evaluate the impact of such a model on the expansion of access, improved coordination of care, and increased efficiency. With greater efficiency, FQHCs would be in a position to serve a greater number of patients, without necessarily increasing the number of providers. However, the perceived necessity for growing the primary care workforce would addressed through increased funding for a greater number National Health Service Corps loan repayment awards as well as professional development and training for Corps members. More providers would likely mean greater capacity to serve a greater number of patients, even if efficiency gains were sufficiently realized with the new service delivery models. A final provision aimed at growing capacity was the time extension of designations vital to participation in cost saving programs for FQHCs (KFF 2009b). FQHCs would no longer be required to demonstrate every six years that they meet the requirements of the definition of a health professional shortage area (HPSA), decreasing some of the administrative burden on FQHCs and of maintaining access to critical resources that reduce the cost of providing care.

The Great Recession

The most recent recession (December 2007 – June 2009) was one of the more significant in recent U.S. history and would require using a multi-pronged approach to address its impact using a multi-pronged approach. The national unemployment rate had doubled by the end of 2009, with periods of unemployment lasting longer than in previous recessions (BLS 2012). Job losses and unemployment rates varied significantly across states (Connaughton & Madsen 2012;

Walden 2012) and these impacts were even more disparate at the local level (Connaughton 2010). Even more severe was the impact on those who, even in stable economic times, find themselves in risky financial situations (Pfeffer et al 2013; NACHC 2009; BLS 2012).

FQHCs would likely be more significantly impacted by the recession than would other non-safety-net health care providers. FQHCs already cared for a disproportionate share of the uninsured in 2007 (42% of all FQHC patients were uninsured compared to 15% nationally). Rising uninsurance rates were expected as a result of rising unemployment rates; research has indicated that for every one percent increase in unemployment, an additional one million people lose health insurance (Shin et al 2010). In addition to increasing the uninsurance rate, unemployment also drives up enrollment in Medicaid (Holahan & Garrett 2009). The rising unemployment and Medicaid enrollment rates induced by the recession further threaten state and local budgets. States were projecting significant budget shortfalls for FY2009 and FY2010. To address these larger budget shortfalls, states would likely fall under pressure to cut Medicaid spending as well as uncompensated care funds. The result of increasing uninsurance and reduced uncompensated care costs would likely put pressure on FQHCs to accommodate increasing numbers of uninsured patients while state and local financial support for these providers is likely to fall. Without remedy, FQHCs were facing a dire financial situation.

In potentially inheriting an economy in recession, in his campaign for President Barak Obama called for immediate change through "swift and bold" action (Grunwald 2012, p. 26). In outlining his vision for change, Obama would take on two of the toughest political problems. The first was the country's addiction to fossil fuels, the second, its "dysfunctional health care system (Grunwald 2012, p. 33)". In laying out the argument for again addressing the healthcare system, Obama contended that health care was simply too expensive and would have disastrous

consequences for a country in recession (Grunwald 2012, p. 44). Obama did not make a distinction between health care and the economy in that rising costs for the individual was a disaster for the economy, forcing families into debt, draining discretionary incomes, and "dampening their entrepreneurial spirit by tethering them to jobs with benefits" (Grunwald 2012, p. 45). Thus, rising health care costs would make recovery for many families and businesses impossible (White House 2009a). Consequently, as part of the American Recovery and Reinvestment Act (ARRA Pub. L. 111-5), the administration included what they considered to be "meaningful steps… toward modernizing our health care system" (White House 2009a). FQHCs featured prominently toward the goal of a modern health care system as the Obama administration viewed community health centers (i.e. FQHCs) as an "effective delivery mechanism in the health system" (Orszag & Romer 2009).

American Recovery and Reinvestment Act of 2009

In early 2008, the Bush administration had enacted the Economic Stimulus Act (Pub. L. 110-185) designed to provide temporary support during the recession. However, the magnitude of the impending recession was underestimated and this temporary support was insufficient to address the downward spiral of the economy (CEA 2014). With the U.S. economy rapidly deteriorating, the Obama administration acted immediately to address its impact with a range of initiatives designed to provide more long-term relief. After considerable debate in congress, the American Recovery and Reinvestment Act of 2009 (ARRA Pub. L. 111-5) was passed with the intent to stabilize the financial system as well as mitigate the recession's impact (CEA 2014).

A somewhat surprising feature of ARRA was the inclusion of support for healthcare services. Traditional measures to address a recession typically include reducing interest rates, and were the first line of defense against the emerging recession (Labonte 2016). As the

recession worsened and the realization that traditional methods were not working, non-conventional approaches were necessary. The potential for a multiplier effect on the economy was the justification for including healthcare services (Issa 2009). Direct spending by the government is a primary way to boost the economy in an economic downturn, and the largest categories of direct federal spending include national defense, **health**, infrastructure, public order and safety, and natural resources (Gravelle et al 2009). ARRA healthcare provisions were focused on addressing a variety of issues and included federal funds to cover costs associated with enrollment increases in public insurance (i.e. Medicaid); protections from the loss of employer-sponsored health insurance through losses in employment (i.e. COBRA expansions); support for and expansion of the FQHC infrastructure, a critical component of the healthcare safety-net; expansion of primary care capacity to accommodate increased patient loads particularly within primary care shortage areas – areas often hit hardest in by economic downturns (i.e. NHSC); and investments in health information technology to improve efficiency and coordination of care to combat rising health care costs.

ARRA: Medicaid and Other Insurance Protections

In a worsening economy with significant losses in employment, many turn to Medicaid for health coverage. To provide for and protect those relying on Medicaid for health insurance, ARRA included an $89.4 billion increase in federal Medicaid expenditures "to help states *maintain* [emphasis mine] their programs", providing a temporary enhanced federal matching percentage (FMAP) (Issa 2009). The final enhanced match rates varied across states and were determined based on a formula intended to prevent a reduction in FMAP, and calculated as a base increase of 6.2 percentage points plus additional enhancements for states with significant unemployment rates (KFF 2011b). States could not implement more restrictive Medicaid

eligibility policies if they were to receive the enhanced rate, and this new rate which was not applicable to payments for eligibility expansions (KFF 2009d; Issa 2009). States were also ineligible for increased FMAP funds if the enhanced funds were diverted to a reserve or "rainy day" fund. However, it does not appear that a state engaging in cost-shifting (i.e. diverting state Medicaid dollars with increased federal Medicaid dollars) would be considered in violation and would lose the enhanced FMAP rates (Issa 2009). These FMAP increases do not necessarily translate directly to FQHCs; however, states might be more willing and/or able to maintain other program funding levels with state funds, given increased federal support of Medicaid. Because cost-shifting was not considered a violation, states were proposing to shift funds to other programs or to balance state budgets rather than use ARRA Medicaid funds to increase net Medicaid expenditures (Issa 2009).

Additional provisions included in ARRA were an effort to protect insurance coverage with a loss of employment. The Consolidated Omnibus Budget Reconciliation Act of 1985 (COBRA Pub. L. 99-272) provided that individuals could temporarily continue employer-sponsored health insurance coverage after leaving a job; however, individuals were typically responsible for 102% of the premium costs, making it all but meaningless to many workers (KFF 2009d). ARRA eased this burden, providing a 65% subsidy for COBRA premiums (up to 9 months) for workers involuntarily terminated (KFF 2009d). ARRA also included a tax credit for a portion of health care premiums for eligible individuals, those paying more than 50% under an employer-sponsored health plan (Rosenbaum et al 2009).

ARRA: Primary Care Workforce Investments

Attention to a primary care shortage was also growing at this time. In 2008, the Government Accounting Office (GAO) projected a shortage of more than 60,000 primary care physicians by

2020, a shortage that would be intensified in rural and inner-city areas (Steinwald 2008). Acknowledging the uncertainty present in making such projections, the GAO did conclude that the decline of financial support of primary care as well as the increased reliance on specialty care were contributing to inefficiency in the healthcare system (Steinwald 2008). The availability of primary care was already being taxed with medical graduates avoiding primary care and warnings of a primary care shortage were growing louder (Bodenheimer & Pham 2010). Even without this decline, FQHCs found it challenging to recruit and retain primary care practitioners due in large part to an unwillingness among practitioners to locate in underserved areas (Rosenblatt et al 2006). For FQHCs, the predicted increase in patients would further burden their limited primary care workforce, and any growing shortage would make an already difficult task (i.e. recruiting practitioners) that much more challenging.

Recognizing the need to invest in a declining primary care workforce, and with health reform seeming more likely, ARRA included $300 million for NHSC and $200 million for primary care training programs authorized under the Public Health Services Act (Rosenbaum et al 2009; KFF 2009d). An estimated 4,200 additional practitioners would be supported through the investments in the NHSC, more than doubling the size of the NHSC workforce (Pathman et al 2009). For FQHCs, this meant a larger pool of practitioners willing and committed to practice in areas served by FQHCs. Because of the emphasis placed on using ARRA funding immediately, additional changes to the NHSC program were needed to take advantage of these historical investments (Pathman et al 2009; Pathman & Conrad 2012). Previously limited in the number of NHSC loan recipients, FQHCs were now permitted to hire more Corp members (Pathman et al 2009; Pathman & Conrad 2012). Health professional shortage area criteria for loan repayment were relaxed so that those receiving loan repayment were allowed to work within

any designated HPSA, removing the limitation to HPSAs with the most need (Pathman et al 2009; Pathman & Conrad 2012).

ARRA: Health Information Technology

Health information technology (HIT) has long been recognized as necessary for improvements in the coordination and quality of medical care (IOM 2001; Bates & Gawande 2003; Frimpong et al 2013), and there is growing agreement that the federal government should play a central role in advancing HIT and its potential to improve the overall efficiency of the healthcare system (Blumenthal 2009). President Barak Obama campaigned on the idea that health information technology should be a requirement for participating in a government health program and supported full implementation of HIT (KFF n.d). It seemed to be common knowledge that HIT was a necessity and numerous proposals were being discussed, but Obama took a bold step and supported a government investment of $50 billion dollars over a five-year period (compared with GW Bush's $100 million spent) to move the U.S. healthcare system toward broad adoption of electronic health records (KFF n.d; Grunwald 2012, p. 46).

Adoption of HIT among FQHCs has been slower than adoption within other health care settings (Frimpong et al 2013). In 2007, only 13% of health centers had a fully operational electronic health record system (US Senate 2007). By 2009, adoption had increased to 43% of FQHCs; however, fewer FQHCs (only 31%) perceived their capacity to fully adopt HIT as high (Blumenthal 2009). Further, FQHCs may face different challenges than other providers when it comes to adoption – particularly the cost of maintaining such systems (Ryan et al 2014). If FQHCs were to advance their use of HIT and catch up with the rest of the healthcare system, they would need external support to move them forward and they would receive it with ARRA

investments in both the broader development of HIT and through specific investments within FQHCs.

ARRA supported the development of HIT with $19.2 billion investments through the Health Information Technology for Economic and Clinical Health Act (HITECH) (KFF 2009d). ARRA authorized CMS to provide incentive payments to eligible providers to promote adoption and, more importantly, meaningful use (Box 4) of electronic health records (EHR) beginning in FY2011 (program sunsets in FY2021 for Medicaid and FY2016 for Medicare).[1] Medicaid EHR incentive eligible FQHC providers included physicians and physician assistants with a minimum of 30% patient volume or the provider practices in a FQHC with a 30% *needy individual* patient volume (CMS 2010).[2,3] The maximum cumulative Medicaid EHR incentive payment over the first six years of the program was $63,750 for most providers (CMS 2010). For FQHCs specifically, this could mean up to 85% of the cost of HIT adoption, as a result of serving a high volume of Medicaid patients (KFF 2009d). ARRA provided for additional support the adoption and development of HIT among FQHCs through the Health Center Controlled Networks (HCCN). HCCNs, developed in in 1994, were intended to support the creation of electronic networks of FQHCs to improve operations. HCCNs consist of at least three collaborating organizations (i.e. FQHCs) and are controlled by and operate on behalf of FQHCs. These networks of FQHCs use group purchasing power, shared resources, and training to adopt and implement HIT (OIG 2014). ARRA provided grant funds up to $88 million to assist these networks in the further adoption of electronic health records and other health information technology (White House 2009b). Additionally, Regional Extension Centers (REC) were established in 2010 to make technical assistance available to providers adopting HIT, particularly those serving underserved communities. RECs would provide technical assistance to provider

practices and leverage local customized expertise in the adoption and meaningful use of HIT (ONC 2014).

Box 4: Meaningful Use of Electronic Health Records

CMS adopted a three-phased-approach to meaningful use. This approach would provide for currently available technologies as well as the capability and experience of the practitioners.

Stage 1: Focuses on capturing health information in a structured electronic format, using that information to track clinical information for the purposes of coordinating care; implementing clinical decision support tools; engaging patients in care; and reporting clinical quality measures and public health information. To meet Stage 1 criteria, providers must demonstrate installation and use of EHR, meet 15 mandatory objectives related to data capture and data sharing; and meet 5 additional objectives (referred to as "menu objectives"), one of which must be public health related (e.g. electronic submission to immunization registries). Providers also report on quality measures although there are no thresholds to meet for these measures.

Stage 2: Focuses on encouraging the use of HIT for continuous quality improvement and the exchange of information using structured formats such as computerized provider order entry and the transmission of diagnostic tests. Providers must meet 17 of the core objectives and three of the other objectives.

Stage 3: Focuses on promoting improvements in quality, safety, and efficiency leading to improved health outcomes; decision support for national high priority conditions; patient access to self-management tools; access to comprehensive patient data; and improvements in population health. Providers attest to a single set of objectives and measures, replacing the core and other objectives structure of Stages 1 and 2. Objectives and measures include protection of health information, use of clinical decision support, use of computerized provider order entry, exchange of health information across providers, medication reconciliation, patient access, secure electronic messaging, and public health reporting.

ARRA: Direct Financial Support

Perhaps the ARRA provision with the potential for the greatest direct impact on FQHCs, nearly $1.5 billion was allocated for FQHC infrastructure projects through the Capital Improvement (CIP) and Facilities Investment (FIP) Programs. An additional $500 million was allocated for the expansion of services to additional patients in need through New Access Point (NAP) and Increased Demand for Services (IDS) grants. Grants awarded with ARRA funding were both competitive (FIP and NAP) and non-competitive (CIP and IDS). The amounts received by FQHC grantees from these grants were a significant part of the revenue they would receive from the ACA-CHCF.

Non-Competitive Grants

Recognizing the need to enhance the provision of services across FQHCs, non-competitive grants were provided to all centers. One-time CIP grants were intended to fund projects that addressed pressing FQHC facility needs and create employment opportunities in communities served by FQHCs (HRSA 2009a). CIP grants supported a variety of projects including construction, renovation, repair, and equipment purchases, including HIT. Grants were expected to support two-year projects with no expectation of ongoing funding. Each existing grantee received a base amount of $250,000 plus $35 for each patient served (CY2008), up to a $2.5 million ceiling or equivalent to 75% of 2008-2009 total Health Center Program funding (Appendix A Table 16a).

One-time IDS grants supported increases in staffing, extension of business hours, and expansion of existing services (HRSA 2009b). IDS activities would be funded for a two-year project period with no expectation of ongoing support. These grants also provide for supplemental payments to FQHCs experiencing a spike in uninsured patients. Each existing grantee received a base award of $100,000 plus $6 for each patient served and $19 for every uninsured patient based on patient totals in CY2008. Despite the non-competitive nature of IDS grants, HRSA required project descriptions detailing the need addressed, the project proposed and how the project would impact the need identified.

Competitive Grants

To target limited resources to FQHCs and/or populations of most need, ARRA invested support in existing competitive grants (NAP) and in new competitive grant programs (FIP). NAP grants were one-time competitive two-year grants providing operational support for new FQHC delivery sites (GAO 2012). Existing FQHCs or new organizations could apply for maximum

annual amounts of $650,000. Applications would be scored and grants awarded based on demonstrated community need; ability of the application to address the need; demonstration of collaboration with other providers and the community; applicant's established resources and capabilities; and appropriateness of the support requested (HRSA 2014).

FIP grants were also one-time competitive two-year grants for existing health centers to improve facilities through renovations, equipment purchases, and construction of new or expansion of existing facilities (HRSA 2009d). The amounts awarded through FIP were more substantial, ranging from $797,700 to $12 million. Projects would be scored based on a demonstration of clear need; that the proposed project met the goals of the FIP and could be completed within the two-year time frame; that the FQHC ha the resources and capacity to complete the project; and the budget was reasonable given the proposed project (HRSA 2009b).

In addition to the base awards for each FQHC, more than 2,600 competitive and non-competitive ARRA grants were awarded totaling just over $2 billion (recovery.gov). Non-competitive awards averaged $313,000 for Increased Demand for Services (IDS) and $781,000 for Capital Development (CD), equivalent to 18% and 46% of total Health Center Program funding in 2009 (Appendix A Table 16a). Two hundred nine competitive ARRA grants (New Access Point and Capital Improvement) were awarded, with ten FQHCs receiving both. A total of 126 New Access Point (NAP) grants were awarded (11% of FQHCs). Eighty-three Facility Improvement (FIP) grants were awarded (7.5% of FQHCs).

Impact of the Recession on FQHCs and the Mitigating Effects of ARRA

Capacity Building

After an increase of 10% in 2007, federal appropriations increased only 4% in 2008 (Appendix A Table 9a). Given the recession and its expected impact on health insurance coverage, this

increase may seem insufficient; however, the federal budget for 2008 had already passed by the time the recession officially began in December of 2007. Recognition of the severity of the recession perhaps was reflected in a 51% increase in Health Center Program appropriations, including dollars provided in 2009 through ARRA. It is not known if Congress would have appropriated a different amount for the Health Center Program in the absence of ARRA, but without ARRA funds ($2000 million) federal appropriations would have increased by only 5% in 2009. ARRA funds were allocated to FQHCs through both competitive and non-competitive grants in 2009, including New Access Point (NAP), Facility Improvement (FIP) and Increased Demand for Services (IDS) grants.

One rationale for including significant financial support for FQHCs to build the capacity necessary to accommodate a greater number of patients and mitigate an increase in uncompensated care resulting from an increase in the rate of uninsured. The Health Center Program did expand during the recession, adding 130 new grantees and 1,191 new service sites between 2007 and 2009. However despite significantly larger investments in FQHCs in these years, growth in the number of FQHC grantees (12%) and service sites (16%) did not exceed the growth experienced during the Health Center Initiative (26% and 34% respectively). The number of hospitals and rural health clinics also grew between 2007 and 2009 (1.6% and 0.8% respectively) but less than the number of FQHC grantees. Conversely, FQHC grantees, FQHC service sites, and the number of hospitals declined in the first year after ARRA (Appendix A Tables 9a-b). Hospital closures occurred at a slightly slower rate than the reduction in FQHC grantees (0.5% versus 0.6% respectively), but the loss of FQHC service sites was greater (4.3%) (Appendix A Tables 9a-b). Comparatively, rural health clinics experienced a 2.4% growth in 2010, adding 93 new clinics. Given the severity of the recession, the investments in the Health

Center Program were either not sufficient or targeted effectively to prevent a retraction of the program.

Impact of ARRA Grants

All FQHCs received additional financial support through the IDS and CIP grants provided through ARRA, but the competitively awarded ARRA grants were to be targeted to FQHCs in areas and states more negatively impacted by the recession and needing additional financial support to mitigate the impact of the recession. An ARRA competitive grant might then provide for greater increases in capacity for awarded FQHCs. The ARRA competitive grants do appear to have been awarded to the most economically depressed communities within the U.S. (GAO 2012; Shin et al 2010). However comparing *only* FQHC service areas, I find that competitive grants were not awarded to FQHCs whose service areas were worse off (Appendix B Table 1).[4] The service area unemployment rates were similar between competitive grant awardees and non-awardees as were service area uninsurance rates and percentage of the population below 149% FPL. The lack of targeting of the 2009 ARRA competitive awards to the FQHC service areas of most need was noted in a report to Congress (GAO 2012). As a result, the review and scoring process of applications for competitive awards in FY2011 were changed in an effort to target funds to communities and FQHCs with the greatest need (GAO 2012).

Whereas the service areas of competitively awarded FQHCs were quite similar, the characteristics of the FQHCs themselves differed more significantly. FQHCs awarded at least one ARRA competitive award cared for a significantly greater number of patients, consequently providing more encounters. Patients in the awarded FQHCs were more likely to be covered by Medicaid but no more likely to be uninsured. Surprisingly, ARRA awarded-FQHCs brought in approximately $1.5 million more grant revenue (excluding ARRA grants) in 2008 and 2009 than

non-awarded FQHCs. This trend continued in 2010, but the difference was no longer statistically significantly different.

FQHCs had the opportunity to apply for two competitive ARRA grants (NAP and FIP). Comparing FQHCs awarded both competitive grants to FQHCs receiving only one, show significantly different service area characteristics in the year prior to the award year (CY2009). FQHCs receiving both grants were located in service areas of higher uninsurance (19% versus 14.3% respectively) and higher rates of poverty, i.e. income below 149% FPL (22.3% versus 19.4%) (Appendix B Table 1). Despite differences in the service areas, patient characteristics were similar.

The impact of the ARRA grants was expected to increase as the number, and thus the dollar amount, increased. In examining the impact of the total number of competitive ARRA grants awarded to each FQHC, I find no effect. However, examining total ARRA dollars spent per year tells a different, more complete story of the impact of the support FQHCs received during the recovery. Total ARRA dollars received by a FQHC was based on non-competitive ARRA awards (based on patient totals from CY2008) as well as the outcome of competitive award applications. As such, FQHCs received different dollar amounts. In addition, FQHCs spent down grant funds at different rates, contributing to the overall effect of these funds on outcomes. Controlling for grant revenue from all other sources, I find that ARRA dollars spent contributed significantly to an increase in patient totals (Appendix B Table 3). For every $100,000 spent down from ARRA funds in a given year, FQHCs served an average of 30 additional patients ($3,333 per patient). The effect of ARRA funds was greatest in 2011 – the final year of ARRA grant-funded projects. For every $100,000 spent from ARRA funds in 2011, FQHCs added an average of almost 32 patients ($3,127 per patient). Moreover, the impact of

ARRA grant dollars on patient totals remained significant through 2014. Despite the impact on patient totals, ARRA dollars spent in a given year had no impact on the number encounters nor the number of sites.[5]

Workforce Capacity

Despite fears of provider shortages and likely influx of patients, the number of jobs created or retained as a result of ARRA funds totaled more than 7,000 (NACHC 2010), adding staff at rates faster than the growth in patient totals. The number of jobs created or retained as a result of Total full-time equivalents as a percentage of total FQHC full-time equivalents (FTEs), the number of physician FTEs decreased while mid-level providers and mental health professionals increased (Appendix A Table 5). The average number of physician FTEs was increasing, but this increase failed to keep up with the rate of increase in the average number of FQHC patients. One physician FTE was responsible for 50 more patients in 2009 compared with 2007, an increase of 2% (Appendix A Table 5). Patients per midlevel provider FTE decreased by 163 (5%), per nurse FTE and per other medical staff FTE by 300 each (14% and 22% respectively). FQHCs were increasing mid-level provider staffing levels at a faster rate than patient growth, resulting in decreasing patients per FTE, likely alleviating the increase in patient load per physician FTE. FQHCs were also able to increase their capacity to provide dental services with an 18.5% increase in dental FTEs. With these shifts in medical providers came decreased attention on staffing pharmacies and enabling services. Pharmacy and enabling services staff were a decreasing as a percentage of total FTEs; yet, FQHCs continued to add staff at a rate outpacing patient growth resulting in decreasing patients per FTE (Appendix A Table 5).

With an increasing number of patients during the recession, each FQHC service site treated 200 additional patients while the number of patients per full-time physician was also

increasing (Appendix A Tables 5). However, capacity to provide care was also increasing in the form of midlevel providers. Midlevel providers (e.g. nurse practitioners and physician assistants) were being added at a rate resulting in a decreasing number of patients per full-time provider (Appendix A Table 5). ARRA support of NHSC is attributed with a 156% increase in the workforce (Pathman et al 2012). FQHC data do not permit the identification of NCHS providers; however, I do find that changes in the NHSC workforce composition are reflected in the changing composition of FQHC providers (Appendix A Table 5).

Service Provision

The growth in services provided to individual patients was faster than the rate of patient growth at least initially and, as noted above, FQHCs were increasing services similarly, regardless of the ARRA dollar amounts received. After an initial spike in 2009 of 11%, the growth in encounters slowed in 2010 and again in 2011 (Appendix A Table 4). Encounters per patient remained stable at just over two per patient from 2007-2008, with a slight increase in 2009 to 2.3 encounters. Post-HCI encounters per patient were similarly averaging about two encounters per patient from 2002-2006, but experienced a more dramatic one-year increase from 1.5 to 2.0 (25% increase) in 2004. Despite similar trends in the growth of the patient population, the impact on service provision of ARRA, coupled with the recession, was more immediate than the impact of the Health Center Initiative (HCI). In fact, total encounters in the first year of the Health Center Initiative (2002) declined by 3%; whereas in the first year of ARRA (2009), encounters grew 11%. It was not until the third year after the Health Center Initiative was launched that growth in encounters would reach, and surpass, the level achieved in the first year of ARRA.

Access to Care

ARRA funds were expected to support an additional two million more patients over two years (HRSA 2009). FQHCs experienced 6.5% increases in patient totals in 2007 and 2008, adding 1.1 million patients (Appendix A Table 9a). Faster growth occurred in 2009 with the addition of 1.6 million patients served by FQHCs. Yet, growth slowed in 2010-2011 to less than half the rate of 2009. Despite the slower growth in patient totals in 2010, the number of patients added surpassed the estimated two million. By the end of 2010, an additional 2.3 million patients were served by a FQHC. Despite the increase in funding as well as the expected impact of the recession on the increased demand for services, growth in total patients slower during the two years of ARRA funded FQHC grants compared with the growth experienced during the first two years of the Health Center Initiative. In fact, FQHCs would not experience the same rate of growth in patient totals in the ten years after the Health Center Initiative (Appendix A Table 9a).

As FQHCs treated additional patients, access to care nationally appeared to be declining. Between 2007 and 2009, the percentage of the population reporting no usual source of care increased 5% (Appendix A Table 10a). The trend varied by insurance coverage with the proportion of individuals covered by some other insurance (typically state-sponsored public insurance) reporting no usual source of routine/preventive care doubling and the proportion uninsured with no insurance experiencing a 2.5% increase (Appendix A Table 10a). I also find a modest increase in reports of having any usual source of routine/preventive care for Medicaid-covered individuals but a decline for the privately insured. Reporting of any usual source of care by lower income individuals experienced similar in magnitude to the privately insured; those with incomes above 200% FPL, however, experienced a decline twice that of lower-income individuals (Appendix A Table 10a).

The clinic/health center as a usual source of care increased at the national level during the recession. Using NHIS data, I find that the proportion of individuals with a usual source of care reporting a clinic/health center increased 10%. During this period, reports of a clinic/health center as the usual source of care increased and reports of an office-based practice as the usual source decreased across all insurance types. The increase in a clinic/health center as the usual source of care was greatest for those with private insurance and those with incomes above 200% FPL. Although the NHIS does not break out FQHC in its usual source categories, this shift in usual source towards clinic care rather than office-based care, particularly among the privately insured and those with higher family incomes, may reflect the impact of the recession on incomes and subsequently on the choice of provider, independent of any changes in health insurance coverage. The uninsured and those with Medicaid coverage were already using a clinic/health center as the usual source of care; as such, the impact of the recession may not have led to these populations in the same proportion to seek lower cost care.

Changes in the Composition of FQHC Patient Population

The assumption was that increasing unemployment and uninsurance among working age adults, FQHCs might experience changes in the composition of their patient population, particularly an increase in adult and uninsured populations. The typical patient encountered by FQHCs, however, did not change despite the greater impact of the recession on insurance coverage among adults. After shifting in the period prior to the recession (2000-2006) towards an older population, the age distribution among FQHC patients remained stable during the recession at less than 8% of the total patient population. FQHCs continued to serve a predominately adult population 20 to 64 years of age, approximately 60% of the total patient population with a small decline in patients younger than 20 years of age (Appendix A Table 1a). Comparatively, the

composition of office-based patients experienced a larger change. As in FQHCs, the majority of office-based patients remained in the 20-64 years of age group; however, the proportion of patients aged 65 and older grew 6% with a larger decline in the share of patients aged 0-19 years.

The percentage of patients of Hispanic origin continued to decline as it had since 2000, yet the rate of decline had slowed (6.9% 2007-2009 versus 11% 2002-2006), yet the total number of patients of Hispanic origin did rise. Over this period, I also find an increase in the proportion of NHIS individuals identifying as Hispanic that report having a usual source of care as well as an increase in Hispanic individuals reporting a clinic/health center as the usual source. Office-based practices also experienced a decline in the proportion of Hispanic patients; however, the decline was more than three times greater than among FQHCs (Appendix A Tables 1a-b). This decline also corresponds to a decline in the proportion of Hispanic NHIS respondents reporting an office-based practice as the usual source of routine/preventive care. Despite a greater impact of the recession on non-citizens and increases in homelessness (Holahan & Garett 2009; HUD 2010), the percentage (as well as total count) of patients from special populations (migrant and seasonal workers, as well as homeless patients) declined between 2007 and 2009 as has been the general trend since 2001, highlighting continued declines in total revenue from migrant health center grants and healthcare for the homeless grants.

Patient Health

A body of literature has suggested that the recession had a negative impact on health, particularly mental health, for those most at risk for adverse economic outcomes such as foreclosure and job loss (Dagher et al 2015; Houle 2014; Modrek et al 2015). The health status of patients treated at FQHCs bears out these findings with an increase in diagnoses of depression (8%) and anxiety/PTSD (14%) in 2009 compared with 2007 (Appendix A Table 3). Whereas, depression

diagnoses among office-based patients were more frequent and increased more dramatically (Appendix A Table 1b). Changes in other health outcomes of FQHC patients were mixed. Diagnosis of asthma declined as it had since 2005, while diabetes and hypertension were increasingly diagnosed although more slowly than in the period after the Health Center Initiative (Appendix A Table 3). Compared to a national sample of the U.S. population and an office-based patient population, the rates of asthma, diabetes, and depression were lower and either declined or increased at a slower rate (Appendix A Tables 1b-c and 3).[6]

Insurance Coverage Changes

Leading up to the recession, the rate of uninsured had risen to 43% of all FQHC patients despite a decline in the rate of uninsured children. The rate among adult FQHC patients was almost 50% of adult patients by 2006 (Appendix A Tables 12a-c). With uninsurance rates rising nationally, it was presumed inevitable that uninsurance rates among FQHC patients would also rise as a result of the recession. However, FQHCs fared better than expected with decreasing rates of uninsurance (Appendix A Table 12a). While uninsurance rates among the U.S. population rose in each year, 1.6% in 2008, and approximately 5% in both 2009 and 2010 (Ward et al 2015), uninsurance rates among all FQHC patients declined 2.6% in 2007, 1.4% in 2008, 0.6% in 2009, and another 1.7% in 2010 (Appendix A Table 12a). The decline continued into 2010 where the uninsurance rate among FQHC patients was 4.6% smaller than in 2006, the year prior to the recession.

The decrease in the rate of uninsured among all FQHC patients may have been driven by more significant increases in one subpopulation of patients relative to declines in others. With no significant Medicaid or Medicare expansions in either 2007 or 2008, insurance coverage among lower income adults was likely to decline further as a result of increasing unemployment.

However, among FQHC patients 20 years and older uninsurance rates declined in 2007 (2%) and in 2008 (1.4%). This rate grew slightly (0.4%) in 2009, but declined again (0.3%) in 2010 (Appendix A Table 12b). Comparatively, rates among U.S. adults 18-64 years of age grew 2.2%, 7.3%, and 5.9% in those same years respectively (Ward et al 2015).

The ARRA protections against Medicaid losses seem to have had a positive impact on patients accessing healthcare services at FQHCs. Gains in Medicaid coverage contributed the most to the decrease in uninsurance among FQHC patients during the recession. Nationally, Medicaid enrollment had increased by almost six million since the start of the recession, an increase of 14% (KFF 2011a). Increases in Medicaid coverage among FQHC patients, however, were more modest than annual U.S. population increases of 2.6% in 2007-2008 and a 1.9% increase in 2009 (Appendix A Tables 1d and 12a). The largest increase in Medicaid coverage among all FQHC patients of 4% was observed in 2008. Adult Medicaid coverage increased 1.4% 2007 and less than one percent in 2008, but increased 4.4% in 2008. It should be mentioned that at least two states, Indiana and Oregon, expanded coverage to adults beginning in 2008 (KFF 2013a; Finkelstein et al 2011). FQHCs in these states did experience larger than average increases in Medicaid coverage among adult patients in 2008 of 3.7% and 12% respectively. In 2009, Indiana FQHCs continued to experience a larger than average increase in adult coverage (5.5%); however, FQHCs in Oregon experienced a 6.7% decrease in adult Medicaid coverage.

Uninsurance did decline more among FQHC patients 0-19 years of age, a decline of 1% by 2009 compared with 2006 rates (Appendix A Table 12c). However, this decline was of a smaller magnitude than experienced nationally. National estimates show a 12% decline among children less than 18 years of age over this same period (Ward et al 2015). These declines were

driven by an expansion of insurance coverage for low-income children. CHIP was extended for four years and given a substantial boost in funding through the Children's Health Insurance Program Reauthorization Act of 2009 (CHIPRA Pub. L. 111-3). In addition to extending the program, CHIPRA 2009 authorized substantial increases in funding and significant changes to eligibility (KFF 2009a; CCF 2009). An additional $33 billion was added to provide coverage through 2013. States would maintain flexibility in setting eligibility levels, but would receive a reduced match rate for children with family incomes above 300% of poverty. Documented immigrant children were now able to be covered during their first five years living in the U.S., removing the ban imposed in 1996. Prior to the reauthorization, states were permitted to cover pregnant women through waivers; CHIPRA 2009 gave states the explicit option to cover pregnant women. Lastly, CHIPRA 2009 eliminated waivers for family-based coverage and phased out existing waivers for coverage of parents and childless adults. CHIPRA 2009 emphasized enrollment through new incentives for states, including financial help for states significantly increasing their enrollment. States could receive up to 62.5% of the cost of covering a child, depending on the extent to which a state surpassed target enrollment levels (CCF 2009). Twenty-six states expanded eligibility for children and/or pregnant women under the new immigrant CHIPRA provisions; and 19 states improved coverage by simplifying enrollment and/or eliminating premiums (KFF 2009c).

Despite the emphasis of CHIPRA 2009 on enrollment of and state-level eligibility expansions for children and pregnant women, CHIP was not protected as Medicaid was under ARRA. As a result of this and budget pressures, a number of states responded by freezing CHIP enrollment and reducing parental eligibility (KFF 2009b). Although CHIP accounted for less than 4% of coverage among FQHC patients 0-19 years of age, CHIP coverage declined 18.5% in

2009 (Appendix A Table 13c). CHIP coverage among FQHC children recovered slightly in 2010; however, coverage failed to return to 2007 levels (Appendix A Table 12c). CHIP coverage among adults also declined in 2009 (8.3%); yet, the impact of this insurance on FQHCs is negligible, accounting for less than 1% of insurance coverage among adult patients 20 years and older (Appendix A Table 12b).

Despite protections against the loss of insurance in the form of a COBRA subsidy as well as a tax credit that were included in ARRA, private insurance coverage among FQHC patients declined almost 5% from 2007 to 2009, and another 3% in 2010 (Appendix A Table 12b). An evaluation of the ARRA COBRA subsidy found that higher earning workers ($25 or more per hour) were more likely to continue coverage through COBRA compared with lower wage workers (Berk & Rangarajan 2015). Even with the subsidy, a worker would pay premiums of $4,916 to continue family coverage and $1,802 to continue single coverage (Berk & Rangarajan 2015). For the majority of FQHC patients whose incomes are less than 150% FPL, these premiums would exceed their entire monthly income (Census 2010).

Although insurance coverage among FQHC patients was generally increasing, the percentage of total charges paid by Medicaid and other public insurance was declining, meaning less recovered revenue from all patients with these types of coverage. Medicaid paid 85% of FQHC charges in 2007; by 2009, they were paying an average of 81% (Appendix A Table 14). Other public insurance decreased from 66% to 61% over this same period. Medicare decreased 3.6% and private insurance remained at 57%, after decreasing slightly in 2008. Cost-sharing recovered from patients declined from 22% in 2007 to 21% in 2009, reflecting the impact of the recession on patients' family income. The percentage of FQHC patients with incomes less than or equal to 150% of FPL increased 2.5% by 2009 over the rate in 2007 (Appendix A Table 1a).

Patients with incomes greater than 200% FPL decreased 18% during this same period. Decreasing patient incomes meant the application of a sliding fee scale to increasing numbers of patients with lower incomes resulting in decreasing amounts of recovered revenue.

Other Grant Revenue

Although the predominant source of funding for FQHCs remained Medicaid (37%), the composition of grant funding for FQHCs was changing during this recessionary period. In 2007 and 2008, FQHCs continued to receive the majority of their grant funding from the Health Center Program (Appendix A Table 6). By 2009, the proportion of total grant revenue from the Health Center Program had declined from 57% to 51%. Average Health Center Program grant totals increased in 2009 (1%) but by a much smaller amount than in 2008 (7.6%). In 2008 FQHCs received 7.6% increases in average Health Center Program grant dollars, a 9% increase in dollars per patient or an additional $15 dollars per patient (Appendix A Table 13b). However, in the first year of ARRA, Center Program grants did not keep pace with growth in patients as the average per patient dollars decreased 13% -- a loss of almost $20 per patient and the largest percent decline in recent history (Appendix A Table 13b).

State budgets were hit particularly hard by the recession, and during recessions, states often feel pressure to spend an even greater amount on public programs. This pressure was likely felt as caseloads for public programs such as Medicaid and unemployment insurance rose (Gordon 2012). Meanwhile, the gap between revenue and spending was rising, while states were still expected to balance their budgets (Gordon 2012). To address the gaps, states relied less on revenue raising and more on spending cuts (Gordon 2012). A survey found that state general fund spending for Medicaid did decline, an average of 8% (KFF 2011b). There is some evidence that states did, if not cost-shift state funds from Medicaid, find other ways to support FQHCs.

After increasing an average of 6% in the early part of the recession (2007-2008) average state grants declined 3.2% in 2009, but rebounded by 4% in 2010, an amount per FQHC above that prior to the recession (Appendix A Table 13d). The rate of increase in total state grant funds, however, did not keep pace with the growth in total patients. State funding per patient continued to decline after 2007, although modestly, from a high of $38 prior to the recession to $34 by 2009 (Appendix A Table 11d). The decrease in state grant dollars in 2009 is not surprising. The NACHC, in a letter to the U.S. Secretary of Health and Human Services, reports that states were planning to reduce state funding as a direct response to the increased ARRA funding allocated to FQHCs (Van Coverden 2009). Data reported by FQHCs in 2009, show a reduction in state grants by an average of $16,900 per FQHC, a decrease of 3% (Appendix A Table 13d).

Indigent care program grants varied across 2007-2009 as a proportion of total grant revenue, but continued to contribute less than 10% to total grant revenue. These programs are intended to compensate healthcare providers for uncompensated care costs. During the recession, it would seem that a program intended to reimburse healthcare providers for uncompensated care costs would become more important as uninsurance rose nationally. As noted though, the rate of uninsured actually declined slightly among FQHCs but continued to comprise more than 40% of the patient population. However, the percentage of patients with lower family incomes was increasing, with the potential for patients to be unable to cover their cost-sharing. In 2009, FQHCs received an average of only $46,000 additional indigent care grant dollars.

More critical than individual grants are changes that might have occurred in total grant revenue. I find that the changes in total grant revenue paint a more optimistic, but still cautious, picture of the impact of the recession on funding of FQHCs. Total grant revenue increased 19%

by 2009 and per patient grant revenue increased, but by the smallest average increase (4.2% per year) since consolidation of the program in 1996 (Appendix A Table 11b). Growth occurred in average grant dollars per FQHC from every source over the period of 2007-2009. However, this period growth masks a decrease in per patient grant dollars from every grant source in 2009, with the exception of indigent care funding (Appendix A Tables 13c-d). Examining ARRA grant funding to FQHCs specifically, in 2009 ARRA grants added an average of $35 per patient per FQHC, yet the net gain in 2009 was only $8 per patient. Assuming other grant funders allocated grants as they actually did in 2009, without ARRA, FQHCs would have been faced with a loss of $27 per patient.

Quality and Efficiency of Care Initiatives

As measured by the selected set of performance measures, the impact of quality improvement efforts initiated in the HCSNA 2008, appear to have resulted in some realized improvements (Appendix A Tables 8a-b). The proportion of women screened for cervical cancer and pregnant patients entering into early prenatal care (1st trimester) had risen. Generally, cervical cancer screening rates (76% in 2008) and early entry into prenatal care (71% in 2008) were higher among the U.S. population than among FQHC patients (NCHS 2015; Osterman et al 2011). The percentage of extremely low-birthweight babies declined (1.7% in 2007 to 1.2% in 2009). More difficult to address was low-birthweight babies which increased from 6.6% in 2007 to 8% in 2008. This rate did decline to 7.1% in 2009; however, it was still higher than the rate in 2007. Comparatively, the rates of extremely low and low-birthweight babies in the U.S. were slightly lower in 2007 and 2008 (Martin et al 2010). In 2009 however, the rate among FQHCs was lower than that of the general U.S. population (8.2%) (DHHS 2011). Childhood immunization rates had also fallen from 70% in 2008 to 68.8% in 2009 (Appendix A Table 8b).[7] While

improvements in cervical cancer screening rates and early entry into prenatal care improved, combatting low-birthweight was proving more difficult even though FQHCs achieved a rate below that of the general U.S. population.

Adoption of Health Information Technology (HIT) and Electronic Health Record (EHR)

Adoption of HIT/EHR among FQHCs had been slower than adoption within other health care settings (Frimpong et al 2013). In 2007, only 13% of health centers had a fully operational electronic health record system (U.S. Senate 2007). By 2009 though, rates of HIT adoption had quickened, increasing to 43% of FQHCs; however, fewer FQHCs (only 31%) perceived their capacity to fully adopt HIT/EHR as high (Blumenthal 2009). The rate of HIT/EHR adoption among FQHCs quickened after ARRA, increasing from 40% in 2009 to 93% by 2013 with 85% of FQHCs reporting advanced HIT/EHR functionality (Ryan et al 2014). This rate of adoption among FQHCs outpaced that of office-based physicians, as well as larger practices and integrated delivery systems (Ryan et al 2014). The more rapid rate of adoption was a result of significant financial support using a multi-dimensional approach, through grants to individual and networks FQHCs, as well as (RECs).

Support for the adoption of HIT/EHR among FQHCs was provided through Health Center Controlled Networks (HCCNs). EHR implementation grants were awarded to HCCNs for projects to support meaningful use at FQHCs (OIG 2014). From 2007-2008, HRSA awarded $35.3 million in one-time grants to HCCNs (OIG 2014). In 2009 alone, $36 million in grant funds was awarded to 53 such networks. Two hundred sixty FQHCs participated in EHR implementation grant projects (OIG 2014). Projects supported included new EHR implementation projects to expand capabilities of HIT/EHR systems as well as EHR enhancement projects such as integration with state-wide health information exchanges,

expanding data reporting capabilities, implementing patient portals, and creating data registries (OIG 2014). For these efforts to remain financially sustainable, however, HCCNs and FQHCs would need to plan for how to sustain the grant-funded projects as EHR implementation grants did not provide for ongoing and maintenance costs (OIG 2014).

Regional Extension Centers (REC) were established in 2010 through the HITECH Act of 2009 to provide technical assistance to providers adopting HIT, particularly those serving underserved communities. In 2010, sixty-two RECs were awarded. These awards ranged from $4.5 million to $19.9 million (Lynch et al 2014). By 2012, 83% of FQHCs were participating in a REC; however, 21% were enrolled but not live with an EHR and only 9% were demonstrating meaningful use (Grove et al 2013).[8] In 2013, the percent enrolled but not live had declined to less than 8%, and 38% of FQHCs were now reporting meaningful use (Lynch 2014). RECs were also combining with other ARRA initiatives designed to improve the quality of and efficiency with which services were delivered; eighty-two percent of FQHCs participation in the Medicare FQHC Advanced Primary Care Practice Demonstration were also participation with an REC (Lynch et al 2014).

The ultimate goal of this funding is for the meaningful use of EHR systems. Meaningful use objectives related to EHR data capture capabilities have proven more easily attainable than objectives related to the sharing of EHR data. By 2012, seventy-two percent of FQHCs had met meaningful use criteria related to capturing of data; whereas only 24% had meaningful use criteria related to sharing data. In terms of CMS' Stage 1 meaningful use criteria, only a small percentage of FQHCs (14%) had established the capabilities to meet all objectives necessary for Stage 1 meaningful use (OIG 2014). More broadly, providers in primary care health professional shortage areas were less successful in demonstrating meaningful use compared with providers in

other practice settings (39% versus 48% of urban and 47% rural) (Lynch et al 2014). For individual objectives, higher percentages of FQHCs had met the objective, yet there was significant variation within FQHCs. For example, 82% of FQHCs report the ability to provide clinical summaries to patients, but only 21% reported that all of their providers had been able to meet the objective (OIG 2014). Reasons for this variation included the difficulty in recording information in a structured format, resistance from providers, and logistics of some of the requirements (e.g. printing clinical summaries for patients) (OIG 2014).

Financial challenges in meeting meaningful use and in the sustainability of EHR systems were a persistent theme (OIG 2014; Ryan et al 2014). More than three-quarters of FQHCs reported financial challenges related to the sustainability of their EHR systems. To meet the objectives related to data sharing with other providers, FQHCs will likely need to incur additional costs, estimated at more than $10,000 per year by one FQHC (OIG 2014). Data sharing with patients may also prove financially challenging as the cost for a patient portal may be at least $95,000 annually (OIG 2014). Losses in productivity are also seen as contributing to the financial challenges with the sustainability of EHR systems (OIG 2014; Ryan et al 2014). Reports of productivity losses range from $15,000 to $900,000 per year (OIG 2014). As FQHCs and their providers become more familiar with HER systems, these losses may be diminished.

Economic Impact of FQHC Investments

The American Recovery (ARRA) and Reinvestment Act included language committing the federal government to transparency and accountability in awarding recovery funds, including a commitment to federal dollars being used appropriately and to reporting the economic impacts of recovery spending (Sections 1511 and 1513). Estimates of the impact of FQHCs on the local economy have suggested that federal investment generates an 8:1 return while creating thousands

of jobs (Rosenbaum & Shin 2011). An early estimate of the impact of ARRA investments in FQHCs suggested that a $250 million investment would create $2.1 billion in local economic benefits and create 24,000 additional jobs (Rosenbaum & Shin 2011). Estimates of the realized impact of ARRA investments in FQHCs suggest as much as $3.4 billion in new economic activity and the creation of 32,000 jobs within FQHCs as well as the communities they serve (Rosenbaum & Shin 2011). Comparatively, the total fiscal impact of ARRA was estimated at $787 billion and the number of jobs saved or created was 6.9 million (CEA 2009).

Impending Health Reform

In addition to the country combatting the effects of the recession, discussions and debates surrounding reforming the U.S. healthcare system were in full swing. A formal picture of what reform might look like was presented in 2008 in the Baucus White paper (Baucus 2008). Based on this outline and its similarity, FQHCs would need only look to Massachusetts to get a sense of the potential impact. Massachusetts health reform in 2006 contained similar features to what was included in ACA; therefore, it provides a window into the possible impacts on FQHCs nationally of the insurance expansions in particular. Massachusetts FQHCs experienced a 31% increase in the number of patients served from 2005 to 2009 (Ku et al 2011a). Importantly, the rate of uninsurance decreased from 35.5% to 19.9% by 2009, primarily a result of the expansion of Medicaid but also a result of the Commonwealth Care health insurance plan (i.e. subsidized insurance program) (Ku et al 2011a). Despite improvements in insurance coverage among patients seeking care at FQHCs, the proportion of remaining uninsured residents using FQHCs grew from 22% to 36% in the first year of reform (Ku et al 2009). FQHCs were experiencing gains in insurance coverage among patients already accessing care at a FQHC, yet FQHCs were

also gaining new patients. However, these new patients were predominantly older and presumably unable to access care because of a lack of health insurance (Ku et al 2009).

One of the hopes of expanded insurance coverage for the FQHC is decreased uncompensated care costs and greater financial security. The Massachusetts health reform appeared to do little to change the financial status of FQHCs. While revenues increased, so did expenditures by a greater percentage (Ku et al 2009). As would be expected, revenue from health insurance increased but state and indigent care grants declined (Ku et al 2009). FQHCs have persistently been challenged with recruiting and retaining providers. After Massachusetts reform, this challenge worsened with the increased demand for care. Salaries were increased as a means of remaining competitive; however, these raises may have contributed to the greater rise in costs compared to revenue and did not fully address staffing shortages. FQHCs employed a variety of strategies to use the staff they did have as efficiently as possible, including strategies that limited patients (i.e. excluding patients living outside of their service areas) and scheduling approaches (i.e. earlier scheduling of follow-up visits to reduce missed appointments) (Ku et al 2009).

The experience of the Massachusetts health reform demonstrated that the expansion of health insurance coverage had a positive impact on the coverage among patients accessing care at FQHCs and in turn the revenue from insurance providers. It also demonstrated, however, the continued importance of the FQHC in the safety-net system as a higher proportion of those residents remaining uninsured sought care at FQHCs. FQHCs experienced rising revenue, but also experienced rising total and per patient costs (Ku et al 2009). Finally, nothing in the Massachusetts health reform addressed the perpetual problem of provider recruitment and retention for FQHCs. After reform, FQHCs' ability to have adequate staffing levels was

exacerbated by the increase in the demand for care. This experience demonstrated that any health reform must include more than just insurance expansions. As many choose to remain uninsured and as patient loads increase, strategies to maintain adequate non-insurance provider revenue and to ease the burden of provider recruitment and retention will be a necessary component of health reform for FQHCs.

Conclusion

The American Recovery and Reinvest Act of 2009 helped many communities weather the economic storm with investments in job creation and in the healthcare system. FQHCs, in particular, benefited from a greater increase in federal dollars than was experienced during the Health Center Initiative (2002-2006), from additional investments to protect individuals from the loss of insurance coverage, and efforts at expanding capacity to provide primary care services for expected increases in safety-net patients. By the end of 2009, the Health Center Program had added 64 new FQHC grantees and more than 700 new service sites while providing care to almost three million more patients. The rate of uninsured among FQHC patients actually declined; total grant revenue to FQHCs grew; and grant revenue per patient increased. FQHCs controlled costs and experienced the smallest increase (2%) in costs per patient since 2001. It appears that impact of the recession on FQHCs was mitigated by ARRA investments; however, FQHCs would potentially be faced with a new challenge – a reformed health care system and a purse-tightening federal government.

Despite emerging from the recession in a significantly better position than what might have been expected, uncertainty remained regarding the impact of and concern about the level of preparedness among FQHCs for impending health reform. Estimates of the number of patients FQHCs would need to accommodate ranged from 35.6 million to 44 million by 2015

(Rosenbaum et al 2010). Likewise, estimates of the percentage of patients covered by Medicaid varied from 34% to 45% by 2019 (Hawkins & Groves 2011). Lastly, uninsured rates were expected to fall within the range off 22% to 26%. Federal funding cuts to the Health Center Program were being proposed as the federal government attempted to scale back spending in order to balance the budget. FQHCs themselves were concerned about meeting workforce needs and providing quality care to the large number of patients expected (Abrams et al 2014).

Since their inception, FQHCs have provided care to the medically underserved, to a disproportionate share of uninsured patients, and to predominantly low-income populations. As required by their 330 grant status as an FQHC, they must provide care regardless of ability to pay and adjust copays based on patient income. Despite continuing to expand, the Health Center Program had yet to reach an estimated 62 million people without access to primary healthcare (NACHC 2014). The fiscal challenges the Section 330 grant requirements present have been a constant for FQHCs. Since the enactment of Medicaid and Medicare in 1965, improvements in health care and insurance coverage historically have been incremental. FQHCs have benefitted from relatively minor changes in Medicaid, the enactment of SCHIP covering children at higher incomes, and significant direct financial investments (i.e. Health Center Initiative, ARRA). Yet these policies have failed to significantly improve the rate of uninsurance or ensure access to needed medical care for a significant portion of the population. To truly address the challenges FQHCs face in providing increasingly costly care to uninsured populations and to more dramatically impact access to quality medical care, a more significant reform of the health care and insurance systems would be needed.

[1] More information may be found at https://www.healthit.gov/providers-professionals/how-attain-meaningful-use.
[2] "Needy individuals" include Medicaid or CHIP enrollees; Patients receive free care by the provider or provided with services at either no cost or on a sliding scale (CMS 2010).
[3]Medicare EHR is a separate incentive program. For Medicare, the maximum incentive in the first six years is $44,000. Medicare EHR eligible physicians must provide at least 20 hours per week of patient-care services and be employed by a qualifying

Medicare Advantage organization (MAO) or be employed by an entity that contracts with a MAO that provides at least 80% of Medicare patient services to MAO enrollees. Providers may not be enrolled in both Medicare and Medicaid incentive programs.
[4] The methods used to evaluate the impact of ARRA grants as well as the complete results may be found in Appendix B.
[5] Receiving an ARRA New Access Point grant, a grant specifically for opening new service sites, did not contribute to a faster rate of growth in number of service sites compared to FQHCs that did not receive one (Appendix B Tables 4 and 5).
[6] Here the comparison is between all patients of all ages in both datasets.
[7] Immunization rates were not available in the UDS data for 2007 and comparison after 2009 is not possible as the measurement changed in 2010, 2011, 2012, 2013, and 2014.
[8] Meaningful use is formally defined with specific objectives that must be met for providers to qualify for Centers for Medicare & Medicaid Incentive programs.

CHAPTER V

A New Health Care Environment – Patient Protection and Affordable Care Act (2010-?)

Patient Protection and Affordable Care Act (ACA) of 2010

Proposals for reforming the U.S. healthcare system had previously been defeated and again appeared doomed to fail given the political and economic environment in which the U.S. found itself in 2009 (Oberlander 2009; Oberlander 2010). Yet, the recession may have in fact weakened barriers for an incoming administration dedicated to implementing extensive reform (Oberlander 2009; Oberlander 2010). For instance, a worsening economy meant rising unemployment and insurance coverage losses, adding pressure for the federal government to act (Oberlander 2009). Despite declining resistance, the Obama administration had to overcome partisan pressures and a rising budget deficit to gain acceptance of health reform by engaging key stakeholders, particularly the health insurance industry, smoothing the way for a health reform law (Oberlander 2010).

Considered the "most significant social legislation in the United States since the enactment of Medicare and Medicaid in 1965" (Harrington 2010), the Patient Protection and Affordable Care Act of 2010 (ACA Pub. L. 111-148) was signed into law and further amended through the Health Care and Education Reconciliation Act in March of 2010. ACA is intended to give consumers control over their healthcare while making it more affordable, accessible, and of higher quality (HHS.gov). Signed into law in 2010, ACA would roll out a set of comprehensive health insurance and other health system reforms predominantly over the course

of four years with some changes happening beyond. With the comprehensiveness of the reform, ACA would affect (positively it was hoped) all Americans; an estimated 92% of the U.S. population would be covered by health insurance and of those remaining uninsured, a significant proportion would be undocumented immigrants (Jacobs & Skocpol 2016). Importantly, healthcare help for the most vulnerable in the country was expected to improve significantly (Jacobs & Skocpol 2016).

FQHCs received little attention during the development of and debates over health reform as well as discussions of outcomes, yet found themselves the beneficiary of significant provisions in the final health reform law (Adashi et al 2010; Jacobs & Skocpol 2016). The role of FQHCs in the era of health reform has been discussed as growing in importance, a result of the mission of and role that these centers have played historically (e.g., Adashi et al 2010; Katz et al 2011; KFF 2013). As such, FQHCs are expected to play a pivotal role in accommodating the anticipated increase in demand for health care resulting from the insurance expansions enacted in ACA. In addition, ACA is expected to bolster the ability of FQHCs to accommodate this new demand, add needed services, and expand access through the implementation of many of the healthcare system reforms that were seen as needed in addressing the challenges posed by high uninsurance rates, service provision inefficiencies, and provider shortages.

Permanent Reauthorization

The Affordable Care Act granted the Health Center Program permanent reauthorization at significantly increased levels based on a spending formula that adjusts funding based on increases in patients and per-patient costs (Redhead et al 2016). Thus, the program was in effect until explicitly changed by Congress and need only to obtain appropriations to continue operating. Further, funding would now be determined in part on FQHC need. Permanent

reauthorization, however, did not mean the Health Center Program would be protected from funding cuts – a threat that would be realized in 2011.

Community Health Center Fund

Additional financial support of the Health Center Program was established through the Community Health Center Fund (ACA-CHCF) and initiated in FY2011 to "provide for expanded and sustained national investment in community health centers" (Heisler 2015). The fund provided $11 billion in mandatory funding for FQHCs – $9.5 billion for expanding operational capacity and $1.5 billion for expansion and improvement of existing facilities. These funding increases were expected to increase the capacity of FQHCs to serve up to 44 million patients by 2015 and up to 50 million by 2019 (Rosenbaum et al 2010). Lastly, funding was to be distributed over five years in the form of both non-competitive and competitive grants supporting a range of projects. The amounts received by FQHC grantees from these grants were a significant part of the revenue they would receive from the ACA-CHCF.

Competitive Grants

The competitive grants available through the CHCF focused on expanding and upgrading FQHC facilities particularly in areas of higher need. New and expanded service sites would be needed if FQHCs were to increase their ability to serve more patients. To that end, New Access Point (NAP) grants were one-time competitive 2-year grants to provide operational support for new FQHC service sites and/or new FQHC grantees. The maximum annual amount that could be requested is $650,000 (GAO 2012). NAP grants were expected to support an additional 1.7 million patients in fiscal years 2011-2013 (HRSA 2011c; HRSA 2013; HRSA n.d2). Almost 700 NAP grants (approximately 60% of FQHC grantees) were awarded with average awards of

$571,000, roughly a 28% increase in average total Health Center Program dollars for one year (Appendix A Table 16b).

Recognizing the need to modernize FQHC facilities in order to improve quality, the CHCF also provided for Capital Development Program Building Capacity (CD) grants, one-time competitive three-year grants, to provide funds to existing FQHCs for renovation, expansion, or construction, including the purchase of medical equipment. Grant amounts between $500,000 and $5 million could be requested. An estimated 745,000 additional patients were expected to be reached through these funded projects. Between 2010 and 2012, a total of 450 CD grants (approximately 40% of FQHC grantees) were awarded with an average grant amount of $4.6 million, nearly a 75% increase in total Health Program funding for three years (Appendix A Table 16b).

Immediate Facility Improvement Program (IFIP) grants further provided for modernization through one-time, two-year competitive grants to existing FQHC grantees for renovation to address immediate facility needs. Projects funded included improving/replacing building exterior, improving accessibility and/or safety requirements, and purchasing administrative or medical equipment. Amounts up to $500,000 could be requested. A total of 226 IFIP grants (7% of FQHC grantees) were awarded with an average dollar amount of $473,000 – 24% of total Health Center Program Funding (Appendix A Table 16b).

Non-Competitive Grants

All FQHCs were expected to see increases in total patients resulting from ACA required insurance expansions across all states and all individuals. The CHCF non-competitive grants provided financial support for FQHCs already in operation to accommodate increases in patient loads resulting from these insurance expansions and to assist in enrolling uninsured individuals

into available and appropriate health insurance plans. Increased Demand for Services (IDS) grants were comprised of a base allocation of $100,000 plus $6 per patient and $19 per uninsured patient based on patient totals in FY2012. FQHCs were required to document how IDS funds were used and reported using IDS funds for hiring of new providers and expanding hours or operations and/or services. IDS grant awards averaged $247,000 (Appendix A Table 16b).

As expanding insurance coverage was a key goal of ACA, Health Center Outreach and Enrollment Assistance grants were provided to FQHCs to raise awareness within their service area of affordable health insurance options and provide eligibility and enrollment assistance (HRSA 2013). As a condition of receiving these funds, FQHCs had to demonstrate increases in outreach and enrollment capacity, conduct education activities around coverage options, as well as provide assistance with enrollment and/or information that assists consumers in enrolling in an insurance plan. Total allocation for each center started as a base amount of $50,000 plus $5,000 for initial one-time expenditures. Additional funds were allocated based on the FQHCs proportion of uninsured patients in the prior fiscal year. Outreach and Enrollment Assistance grants ranged from an average of $129,000 (FY2013) to an average of $50,000 (FY2014).

Other CHCF Supported Grant Programs

A number of other grant programs supported with CHCF dollars focused on improving the scope, quality, and coordination of care (Heisler 2015). Behavioral Health Integration (BHI) grants supported the expansion of behavioral health services through increasing providers and services offered. BHI funds awarded totaled $105.9 million (FY2014-FY2015). The integration of HIV services with primary care were supported with a total of $11.2 million allocated in FY2012 and FY2014. Quality improvement adjustments of $48 million (FY2013) were made to base funding for ongoing quality improvement activities. Health Center Controlled Network-

Health Information technology grants of $21 million were awarded in FY2013 to expand the use of HIT within FQHCs. Beacon Community Supplemental Funding was also awarded to support HIT adoption as a means of improving health outcomes and quality of care as well as to improve service delivery efficiency. In addition to Patient Center Medical Homes (PCMH) funds to support FQHCs in meeting the PCMH certification requirements (*see below*), PCMH Facility Improvement grants supported FQHCs in enhancing their facilities to improve patient access and the quality of care through the implementation of the PCMH model.

Lastly, CHCF grants were also aimed at supporting organizations that provide assistance to FQHCs. State and regional primary care associations were awarded a total of $5.2 million in FY2011 and $6.4 million in FY2013 through cooperative agreements to provide training and technical assistance to FQHCs. In addition, $2.8 million in Training and Technical Assistance cooperative agreement grants were awarded to organizations that support health centers to provide technical assistance to organizations that support FQHCs (Heisler 2015).

ACA: Individual Insurance Expansions

With a disproportionate share of the uninsured population treated at a FQHC, one of the more substantial components of ACA is its set of insurance expansions. Insurance expansions were expected to significantly reduce the number of uninsured among FQHC patients, resulting in reduced uncompensated care costs. The most controversial ACA insurance expansion policy was the individual mandate to have health insurance coverage. Historically, individuals in the U.S. have not been required to be covered by health insurance; however, beginning January 1, 2014, ACA required, with some exemptions, all persons to obtain health insurance coverage or pay a penalty. The only way to make the health reform individual mandate work was to devise ways of making health insurance affordable (Jacobs & Skocpol 2016). To assist individuals with

purchasing affordable health insurance, subsidies were made available to those with incomes up to 400% FPL, and health insurance exchanges were established through which affordable insurance plans are offered. Private health insurance would now be more affordable for individuals with incomes too high for Medicaid, but still too low to have been able to purchase health insurance previously.

In addition to the subsidy, ACA called for the creation of health insurance exchanges. These exchanges would act as a health insurance marketplace where individuals could compare prices and benefits while they shop for insurance and as a means of risk pooling to protect insurance companies from adverse selection (Jacobs & Skocpol 2016).[1] These plans are required to offer a minimum benefit package and to limit out-of-pocket expenses for enrollees. Health plans offering coverage through the health insurance exchanges (i.e. Qualified Health Plans) are also required to include essential community providers in their networks; however, individuals purchasing plans from the exchanges are not required to seek care only through such providers.[2] Having won the status of an essential community provider in the 1990's, FQHCs would not be entirely excluded from the networks of insurers offering plans through these health insurance exchanges.

Prior to the individual mandate, ACA expanded dependent coverage in the private insurance market. Beginning in September 2010, private insurers were required to offer dependent coverage for dependents up to 26 years of age. Before this, insurance companies could remove dependents before age 26, usually at age 19. Early estimates suggest that coverage of young adults did increase; yet, the expansions were likely to benefit higher income young adults – those with parents more likely to have coverage and less likely to seek care at a FQHC. However, significant increases in dependent coverage also occurred among individuals with

incomes less than 139% FPL (Lloyd et al 2014). Increased coverage among this population may translate into increased insurance coverage for FQHCs as the majority of this patient population has incomes less than 150% FPL.

ACA: Medicaid Expansion

In addition to the subsidies provided through the exchanges, Medicaid expansion potentially afforded the greatest opportunity of insurance coverage for lower income individuals who otherwise could not have afforded it. Prior to ACA, Medicaid coverage for childless adults younger than 65 years was extremely limited. Only nine states provided benefits to low-income childless adults, and 16 provided limited coverage (Heberlein et al 2013). ACA Medicaid expansion increased eligibility for childless adults, provided increased federal Medicaid matching rates for state Medicaid programs, and, although time-limited, increased Medicaid reimbursement rates to providers.

ACA originally required states to extend Medicaid eligibility to all individuals up to 133% of the federal poverty level (138% with the 5% income disregard). All newly Medicaid eligible enrollees received a benefit package that at least provides the essential health benefits, but may have been less generous than the state's previous Medicaid package. Cost sharing was eliminated for preventive services and a one percent increase in FMAP was provided for plans providing coverage without cost-sharing for services recommended by the Preventive Services Task Force and for recommended immunizations. To help states cover part of the costs of expanding eligibility, states would receive 100% federal funding in 2014 through 2016, with funding declining to 90% by 2020 (KFF 2013a). States that had already expanded eligibility up to 100% FPL would receive a phased-in increase in FMAP so that by 2019, these states were financed the same as other states (KFF 2013a). In addition to increased FMAP rates, ACA

required states in 2013 and 2014 to reimburse primary care services at the rate that would be paid if the service were covered under Medicare; however, this higher payment does not apply to services provided under another Medicaid category such as a FQHC (CMS n.d).

Prior to full expansion in 2014, an early Medicaid expansion option was extended to states beginning April 2010. States were given the option to expand Medicaid eligibility to childless adults at or below 133% of the federal poverty level. This early expansion, despite several differences in the parameters, gave states as well as providers the opportunity to prepare for the full Medicaid expansion in 2014. This early expansion was not subject to the increased match rate or increased reimbursement rates offered as part of ACA. Six states opted to expand their programs early. Each early expansion varied both in income eligibility and whether new participants were enrolled or simply transferred out of state-sponsored insurance programs into new Medicaid slots (Appendix A Table 17).

ACA Medicaid expansion, along with the individual mandate, was expected to significantly reduce the number of uninsured, particularly for FQHCs who provide care to a disproportionate share of the uninsured. However, a 2012 Supreme Court decision made the ACA's Medicaid expansion optional for states. As of March 2016, nineteen states were not expanding their Medicaid programs (Appendix C Table 3). Of the states expanding their Medicaid programs, nine had previously provided adult coverage although the generosity varied (10% FPL to 211% FPL). Conversely, of the states not expanding, none had previously provided adult coverage (KFF 2013b). Given the population served by FQHCs and the variation in the presence and generosity of adult coverage prior to ACA, each state's decision whether or not to expand their Medicaid program has the potential to significantly impact the financial health of FQHCs within the state's boundaries.

Practice and Integration Models

Expanding insurance coverage would mitigate rising costs of healthcare on individuals and families; however, inefficiencies in the provision of healthcare also contribute to high and rising costs within the U.S. (Ginsburg 2008; CEA 2009). Contributing to the inefficiency is the fragmented nature of the U.S. healthcare system (CEA 2009). Patients often receive medical care from a variety of providers often not connected in any meaningful way beyond sharing a provider network. This lack of integration and coordination of care are argued to lead to higher administrative costs and poorer outcomes (CEA 2009). In addition to the lack of coordination and integration, the way in which medical care is paid for often provides incentives to providers for volume rather than quality (CEA 2009). Thus, an economic argument could also be made for the inclusion of practice and integration models in the health reform law (ACA) aimed at integrating a fragmented health care system and providing incentives that reward quality over quantity (CEA 2009). Integration of a full range of medical services, particularly specialty care with primary care access, for FQHC patients has remained challenging, particularly for Medicaid and uninsured FQHC patients (Cook et al 2007; Hurley et al 2007). The ACA continues earlier efforts[3] at integrating clinical services within FQHCs through a variety of networks and other practice models.

Patient-Centered Medical-Home Model

The patient-centered medical home (PCMH) has been touted as a promising service delivery model for transforming primary care and "improving qualify, safety, efficiency, and effectiveness of U.S. healthcare" (AHRQ.gov). The PCMH model is a primary care delivery model designed to improve healthcare quality as well as reduce the costs of care (Ku et al 2011; Beal et al 2007). The PCMH is a model of organized primary care; in which patients and

providers develop a relationship to promote and maintain a healthy lifestyle (Beal et al 2007). The medical home model has demonstrated an ability to prevent and manage illness, mitigate disparities, and reduce the need for costlier care (Beal et al 2007; Markovitz et al 2015); however, results are also mixed results as to its effectiveness (David et al 2015, Zutshi et al 2013). One of the issues in evaluating the impact of the PCMH model stems from the way in which the "medical home" is certified and evaluated.[4] The criticism is that certification is too focused on process and not enough on outcomes (Nielsen et al 2015; Cassidy 2010). A second issue is that successful implementation has occurred more often in larger practices, although even a majority of these "successful" practices do not provide all of the components of PCMH as defined by the National Committee for Quality Assurance (NCQA) (Anderson & Olayiwola 2012; Zutshi et al 2013).

Given the potential health benefits and cost-savings of the PCMH model, ACA included a number of provisions promoting the transformation of FQHCs into PCMHs. FQHCs have practiced and viewed themselves as medical homes prior to formal definitions and recognition programs existed (Ku et al 2011). Yet, FQHCs have shown interest in obtaining formal recognition (Ku et al 2011). Support for the transformation of FQHCs into PCMHs was provided through state Medicaid options provided in ACA. Effective January 2011, states were given the option of establishing a Medicaid medical home project for chronic illness with a 90 percent federal match for the first two years (Ku et al 2011). Medicaid medical homes are expected to coordinate all primary, acute, behavioral, and long term services for Medicaid enrollees with two or more chronic conditions.[5] The services considered health home services and thus eligible for the 90% federal match rate include comprehensive care management; care coordination and health promotion; transitional care from inpatient to other settings; individual

and family support; referral to community and social support services, and use of HIT to link services (CMS 2010a). Under the state Medicaid option, FQHCs are included as one of the providers that may qualify as a health home (CMS 2010a).

Lastly, the transformation of FQHCs into patient-centered medical homes is supported through the FQHC Advanced Primary Care Practice Demonstration (APCP), initiated in 2011. The goal of this three-year demonstration (2011-2014) was to improve the delivery of primary care to Medicare beneficiaries served by FQHCs through transformation as a medical home (CMS 2015). The advanced primary care model (i.e. patient-centered medical home) is designed to promote targeted, accessible, continuous, and coordinated care. Participating FQHCs were expected to acquire PCMH recognition, manage chronic conditions, and actively coordinate care for Medicare patients. The demonstration evaluated the impact of the model on access, quality, and cost of care provided. As an incentive for participation, a quarterly care management fee ($18) was paid, in addition to payment received for other covered services, for each Medicare fee-for-service beneficiary the FQHC enrolls (Kahn et al 2015). FQHCs were also provided with training and assistance as well as feedback to track performance and financial and infrastructure support to cover the costs associated with transforming into an advanced primary care practice. Medicare patients make up less than 10% of the FQHC patient population; however, focusing on Medicare patients within FQHCs gave CMS an opportunity to demonstrate the effectiveness of the advanced primary care model on a small scale.

Accountable Care Organizations

Another strategy employed to meet the ACA's goals of greater clinical integration as a means of improving healthcare quality and efficiency was CMS' promotion of an incentive payment program to encourage the formation of accountable care organizations (ACOs). Such

organizations are groups of providers rewarded through shared savings for high-quality care and preventing the need for care. Despite CMS' efforts to encourage the development of ACOs, the rules imposed by CMS discourage the inclusion of FQHCs (Rosenbaum & Shin 2011). Although FQHCs are permitted to join an ACO, FQHCs are not permitted to form their own ACO. In addition to disallowing FQHC-formed ACOs, CMS prohibits the assignment of FQHC Medicare patients to ACOs for shared saving purposes. Participation by FQHCs may also be less advantageous in that the majority of FQHCs serve too few Medicare patients.

Medicare Payment Reforms

Less than ten percent of the total FQHC patient population is covered by Medicare, yet as this population has been growing, new payment reforms could benefit FQHCs. Prior to ACA, FQHCs received an all-inclusive per visit payment rate for services provided to Medicare beneficiaries. The rate was based on reasonable costs reported by FQHCs subject to productivity targets and per visit payment limits. ACA updates Medicare reimbursement to a prospective payment system (PPS) methodology beginning January 1, 2016.[6] The new reimbursement methodology is intended to ensure that FQHCs are paid fairly for the services provided to Medicare patients (42 CFR §§405, 410, 491, 493). Under the new methodology, reimbursement remains a single per visit rate; however, the rate is no longer determined with regard to the productivity target or per visit limit, resulting in larger payments to FQHCs for Medicare services (MedPac 2011; CMS 2016). Additional adjustments are made for geography as well as for new patients (CMS 2016). In addition to reforming the reimbursement methodology, FQHCs will be reimbursed for an expanded list of preventive services – preventive services added include laboratory and diagnostic services and cardiovascular blood screening tests (CMS 2016).

Primary Care Workforce

Federally Qualified Health Centers have faced persistent challenges in the recruiting and retaining providers, regardless of the national workforce supply (Rosenblatt et al 2006). Nonetheless, a primary care workforce shortage would likely make an already difficult task even more so. Recent estimates of primary care provider shortages ranged from a deficit of 55,000 to 150,000 of physicians needed by 2020 (Heisler 2013a; Steinwald 2008). Regardless of the exact number, what is clearer is that the U.S. investment in support of primary care was declining and perhaps contributing to inefficiency in the healthcare system (Steinwald 2008). With patient populations expanding as a result of ACA insurance expansions, any shortage of physicians would be exacerbated. Likewise, any inefficiencies in the provision of care resulting from physician shortages would also be aggravated. ARRA provided significant support for the National Health Service Corp, adding more than 4,600 clinicians to the NHSC workforce, a 156% increase; yet, shortages remained (Pathman & Konrad 2012). To continue to address the concerns over primary care provider shortages, ACA included a number of provisions aimed at increasing the supply of primary care physicians.

National Health Service Corps

The ACA workforce provision of most importance for FQHCs is the establishment of the National Health Service Corps (NHSC) Trust Fund, $1.5 million in new funding to be allocated over five years. ACA also increases the amounts authorized to be appropriated for NHSC under the annual appropriations process and permanently authorizes the program (Redhead & Heisler 2013). FQHCs rely on physicians participating in the NHSC as members have committed to serve in a health professional shortage area and, as NHSC-designated sites, receive recruitment and retention support from NHSC. An estimated 15,000 primary care providers were estimated

to be placed in shortage areas, like those served by FQHCs, as a result of this new funding (Rosenbaum et al 2010). In addition to increased dollars to support a greater number of physicians, incentives for participation may make participation more attractive for providers. Loan repayment amounts increased from $35,000 to $50,000, members are able to include time spent teaching towards their service obligation, and part-time clinical practice hours may also be counted towards their service obligation.

The initial impact of investments in the NHSC were positive for the Corps and for FQHCs; more recently, declines in membership and FQHC placement may impact the ability of FQHCs to successfully recruit need primary care clinicians. ACA planned for $1.5 million in new funding over five years for increasing the NHSC workforce. Funding for NHSC increased every year with the enactment of ACA, but came exclusively from ACA allocated funds beginning in 2012 (Appendix A Table 19). Beginning in 2009, the total NHSC workforce increased substantially each year until 2011 (increases of 25%-36%) (Appendix A Table 18). In 2012 and 2013 the NHSC workforce declined with a loss of 1,300 members. The workforce recovered somewhat in 2014 (3.7% to 9,242 members), but consisted of 1,000 fewer members than in 2011. Importantly for FQHCs, since 2010 more than 80% of NHSC members have remained in an underserved area for at least the first year beyond the end of their service commitment (Appendix A Table 19) and in FY2011, forty-one percent of NHSC clinicians were practicing in a FQHC. Of the vacancies posted on the NHSC jobs opportunities list, the percentage of vacancies located in FQHCs has been declining (60% in 2009 to 51% in 2010) (DHHS 2010, DHHS 2012).

Residency and Training

ACA also includes other provisions aimed at increasing the number of physicians choosing primary care and to practice in areas with shortages. Graduate Medical Education (GME) programs (i.e. residencies) have been predominantly funded by Medicare through payments to teaching hospitals. In the traditional GME program, the individual hospital determined the types of training programs offered and received payments based on the hospital's number of Medicare-approved residency training slots (Heisler 2013a). ACA provided for increases in the number of filled Graduate Medical Education (GME) training positions thorough the redistribution of any unused residency slots. Redistribution priority was given to primary care and general surgery as well as to facilities in states with the greatest primary care provider shortages (KFF 2013).[7]

Regulations governing GME financing date from the mid 1960's when hospitals were central, resulting in traditional GME residencies being completed at teaching hospitals (IOM 2014). With the burden of chronic disease increasing, the need to train physicians in preventive care within community settings has become more essential (IOM 2014). To address this, the Teaching Health Center Graduate Medical Education (THCGME) program provided $230 million over five years to increase primary care resident training in community-based settings.[8] The program awards three-year grants up to a maximum award of $500,000 (Redhead & Heisler 2013). The grant may be used to pay for direct as well as indirect expenses associated with training residents in community-based primary care residency programs (Heisler 2013a). As a community-based primary care setting, FQHCs are eligible to apply for recognition as a THCGME program.

At total of sixty THCGME programs were awarded between 2011 and 2014. The average award increased from $231,648 in 2011 to $958,125 in 2014. Of the 60 awarded

programs, twelve (20%) were to FQHCs. At least initially, graduates of the THCGME program are remaining in primary care practice at a rate almost four times greater than graduates of traditional GME programs and are choosing to practice in underserved communities (76% versus 26%) (Ku et al 2015). Critical for FQHCs is that early results suggest a significant proportion of THCGME graduates (40%) choose to practice in a FQHC compared with only 2% of traditional GME graduates (Ku et al 2015). Whether the program is attracting providers with an interest in practicing in an underserved community or is influencing providers while in training is not known. Nevertheless, the results are encouraging for addressing the shortage of providers faced by FQHCs.

In addition to increasing the supply of primary care physicians that would help to address professional shortages in FQHC service areas, ACA provisions also address issues of the broader supply of primary care and other specialty providers. Fifty-million dollars per year (2012-2015) was reserved to fund a set of hospitals to train advanced practice nurses, including those in community-based settings (White House 2012). In 2011, CMS began providing incentives in the form of a 10% Medicare payment bonus for providers specializing in primary care (White House 2012). Further, ACA invests $10 million in loan repayments to support training of mental health providers, an area of growing concern as FQHCs have experienced increasing rates of mental health diagnoses (White House 2012). Although not necessarily increasing the supply of providers within FQHC service areas, with broader increases in providers trained in primary care or within community-based settings, the supply for FQHCs should increase as well.

Expected Impact of Health Reform

The potential impact of health reform on FQHCs has been examined under a variety of assumptions as well as early and final versions of the health reform law. Across these various

evaluations, estimates of the total number of patients supported by the combination of ACA insurance expansions and increased FQHC funding levels ranged from 35.6 million patients in 2015 and 39 million by 2019 (Ku et al 2009) to 44 million in 2015 and 50 million by 2019 (Rosenbaum et al 2010). The impact of Medicaid expansion on the rate of Medicaid coverage among FQHC patients also varied. Estimates ranged from 34% to 45% of patients covered by Medicaid in 2019 (Rosenbaum et al 2010; Hawkins & Groves 2011). Uninsured rates were expected to fall to anywhere from 22% to 26% by 2019 (Ku et al 2009; Ku et al 2010); yet an estimated 22% of FQHC patients are expected to be uninsured in 2019 (Rosenbaum et al 2010). Private insurance coverage among FQHC patients was also expected to increase in that an estimated 9% of FQHC patients would be covered under the insurance exchange plans by 2019 (Rosenbaum et al 2010).

Since these estimates of the impact of health reform on FQHCs were made, significant changes in ACA have occurred which may have mitigated the impact of reform at least in the first few years (Redhead & Kinzer 2015). For FQHCs, the most marked change was the 2012 Supreme Court ruling making Medicaid expansion optional for states. As previously noted, 19 states have not expanded their Medicaid programs and several states have elected to expand through Section 1115 waivers allowing for cost sharing and other coverage conditions.[9] The ability to go uninsured without penalty was extended for several reasons: (1) a one-year delay of the individual mandate, (2) enrollment deadline extensions for individuals enrolling in insurance plans through the federal government's HealthCare.gov insurance exchange, (3) technical and administrative issues related to state-based insurance exchanges, and (4) a one-year delay in the employer mandate to provide insurance coverage to employees. The change, and likely increase,

in Medicare reimbursement for FQHCs was also deferred through a delay in the rollout of the Medicare prospective payment reimbursement methodology until FY2016.

In addition to these changes and delays in implementation of ACA, funding cuts were proposed and the expiration of the ACA Community Health Center Fund loomed. The U.S. House of Representative proposed a reduction in discretionary funding to the Health Center Program by $1.3 billion in FY2011 (Shin & Rosenbaum 2011). This proposal was rejected by the Senate; however, the budget agreement that was eventually reached cut FY2011 appropriations by $600 million, a decrease of 27%, and requiring the use of ACA Community Health Center Fund dollars to replace basic appropriations for existing operations (KFF 2012). The proposed budget for FY2013 also called for a reduction in appropriations that would fall short of the level need to sustain capacity (KFF 2012). From 2010-2014, FQHCs faced persistent calls for cuts in appropriations, winning reprieve, but only until the next funding cycle.

Realized Impact of Health Reform

Federal Appropriations and Community Health Center Fund (ACA-CHCF) Grants

The Health Resources and Services Administration awarded more than 1,200 non-competitive and competitive awards to FQHCs through the ACA-CHCF between 2010 and 2014 (Appendix A Table 16b). ACA-CHCF total dollars awarded to FQHCs grew steadily in these years, but the total number of awards varied each year (Appendix A Table 16a). Total federal appropriations decreased on average by 2014; however, the decline was largely a result of the difference in ARRA funds between 2009 and 2010. Excluding ARRA and ACA-CHCF funds and assuming base amounts would not have changed, federal appropriation for the Health Center Program would still have increased during the recession although less dramatically by 2009 (18% versus 57%), but would have declined more dramatically between 2010 and 2014 (47% versus 15%).

Grant revenue from federal, state, and local sources declined as shares of total grant revenue (38% in 2010 to 36% in 2014) and also in average grant amounts generally (Appendix A Table 14c). The exception to this was general increases in indigent care and local grants until 2014 when both experienced declines (25% and 3% respectively (Appendix A Table 13b). As grant dollars from other sources declined, Health Center Program funding once again became the largest source of total grant funding, 59% in 2014 compared with 46% in 2010. However, growth in total grant revenue kept pace with growth in total patients over this period, adding $90 per patient by 2014. Grant dollars per uninsured patient also increased by a greater amount, an average of $900 between 2009 and 2014 (increase of 44%). This was the same pattern observed in Massachusetts after the 2006 health reform (Ku et al 2009). ARRA funds, rather than ACA and CMS dollars, bolstered the ability of FQHCs to provide services as revenue from other grants declined. In 2010 and 2011, FQHCs were operating with margins of 3.4 and 4.7 respectively (Appendix A Table 16). Without ARRA funds, FQHCs would have had margins of -2.3 in 2010 and -0.2 in 2011. The lack of ACA and CMS EHR dollars alone would not have had as much of an impact on operating margins; however, without funds from ARRA, ACA, and CMS-EHR, operating margins are negative from 2008-2013, recovering slightly to 0.74 in 2014 (Appendix A Table 15).

Capacity Building

FQHC Growth and Access

By the end of 2014, the Health Center Program added 145 new FQHC grantees and more than 1,400 FQHC service sites (Appendix A Table 9a). The addition of an average 29 new FQHC grantees per year was larger than that experienced in the two years of ARRA funding (22 grantees per year), but only half that of the Health Center Initiative (51 grantees per year).

The average number of FQHC service sites per grantee had been increasing since 2010; yet, FQHCs experienced a decrease of almost half a site in 2014 (6.8 sites per grantee) from the year prior (7.5 sites per grantee). Comparatively as FQHCs increased, the number of hospitals continued a modest decline, while the number of rural health clinics did increase but more slowly (Appendix A Table 9b).

Because both ARRA and ACA New Access Point (NAP) awards were intended for the addition of new sites or for new grantees, FQHC grantees receiving a NAP award should have experienced a larger increase in the number of service sites compared to non-awarded grantees. Further, with smaller average grants awarded under ACA-CHCF, the ARRA NAP awards may have had a greater impact. Evaluating the impact of receiving either an ACA or ARRA NAP grant, I find the effect of a FQHC receiving ACA-CHCF New Access Point grant added an average of 2 more service sites compared with 1.5 for grantees receiving an ARRA NAP grant (Appendix B Table 2). The effect of these ACA-CHCF grants occurred in 2013 with an average of almost 3 additional service sites. The largest effect occurring in 2013 is not surprising. This year, 2013, was the final year of the first round of ACA-CHCF two-year NAP grants awarded in 2011 and there may have been sites and grantees resulting from grants awarded in 2012 that were already operational in 2013. Despite the significant impact of ACA-CHCF grants, combining the impact of receiving both ACA-CHCF and ARRA New Access Point grants results in a larger effect, but not meaningfully so.

Given that a greater number of New Access Point awards and almost two times the dollar amount were awarded through ACA compared with that of ARRA, the effect on the number of FQHC grantees and services sites was expected to be greater. However, I find the increase in FQHC grantees and service sights was equal to that achieved with ARRA dollars. One reason

for this result may be that ARRA awards to FQHCs were intended for immediate use, meaning projects had to be ready to go and were likely up-and-running more quickly. ACA-CHCF awarded funds did not have a similar condition, meaning any significant effect would likely take longer to materialize.

By the end of 2014, FQHC grantees operating the largest number of service sites on average compared to both the post-ARRA and HCI investments (Appendix A Table 9a). However, the fluctuation in FQHC grantees and services sites was in contrast to the steady growth experienced during the HCI. The number of FQHC grantees declined in 2010 and only increased by four in 2011. Likewise, the number of FQHC service sites declined in 2010 but increased in 2011, surpassing the number of service sites in 2009, but declining again in 2014. It is not obvious why the program experienced such changes after consistently growing during the previous decade. It is possible that the impact of the recession was longer lasting as several news articles suggest that the closure of specific FQHCs was due to continued financial difficulty (Brown 2013; Brunsman 2014). A state's decision regarding Medicaid expansion coupled with the effect of the recession also may have impacted closures. I do find the loss of FQHC grantees to be slightly greater within non-expansion states compared to within expansion states (4% versus 3% loss) between 2010 and 2014; however, the number of grantees lost is equal at 6 grantees (Appendix A Table 19). Additionally, the new health reform law may have added competition and complexity to the healthcare market resulting in closures. Safety-net hospitals at least were expecting and thus preparing for increased competition from private hospitals for newly-insured patients (Coughlin et al 2014).

Service Capacity

ACA-CHCF grants were intended to increase access and capacity to serve additional patients; however, it would be equally important to continue to serve existing patients at the same level while accommodating new patients. Average total encounters per FQHC grew substantially during between 2010 and 2014, increasing by almost 27% in 2012 alone (Appendix A Table 4). FQHCs added an average of 4,900 encounters each year from 2010-2014, an increase of 36.2%. This rate of growth in total encounters was slightly greater than that experienced during the Health Center Initiative (35.5%). Estimating the specific impact of ACA-CHCF grant dollars spent, I find that for every $100,000 ACA grant dollars spent, an average of almost 80 additional service encounters were provided. The effect of ACA-CHCF grant dollars peaked in 2013 with an additional 107 service encounters for every $100,000 ACA-CHCF grant dollars spent (Appendix B Table 3a). Additionally, the number of encounters per patient after the enactment of ACA, increased faster than during the HCI. Patients were receiving an average of one additional encounter, 2.4 in 2010 versus 3.7 in 2014 (Appendix A Table 11).

The Centers for Medicare and Medicaid Services (CMS) incentive payments for the adoption of HIT/EHR, first paid out in FY2011, have the potential to impact service provision among FQHCs. HIT/EHR adoption, particularly the meaningful use of, should increase efficiency in the provision of patient care. The more providers within an FQHC meeting the criteria to receive these payments, the more efficient the FQHC should be in providing care. In estimating the impact of these CMS HIT/EHR incentive payments to FQHC providers, I find an even greater effect than that of ACA-CHCF grant dollars (80 encounters on average), while also controlling for ARRA and total grant dollars. For every $100,000 of HIT/EHR incentives spent between 2011 and 2014, FQHCs provided an average of 233 additional patient encounters. The

effect of CMS HIT/EHR incentives increased each year, peaking at 314 additional encounters in 2013, but declined slightly to 308 in 2014 (Appendix B Table 3a). Comparatively, for every $100,000 of ARRA grant dollars spent, FQHCs added only 16 additional service encounters on average, peaking at 22 in 2013 (Appendix B Table 3a). Although there was a need among FQHCs to update and expand their facilities, linking additional dollars (i.e. incentive payments) to processes that improve efficiency proved more impactful on the FQHC's ability to increase service capacity.

Changes in the Composition of FQHC Patient Population

Reform provisions were estimated to increase FQHC patient totals to anywhere from 35.6 million to 44 million by 2015 (Ku et al 2009; Ku et al 2010). A total of 3.4 million additional patients have sought care at a FQHC since the enactment of health reform in 2010 (Appendix A Table 9a). Growth in total patients has slowed since 2009, declining from 9% growth in 2009 to 4% in 2010. From 2010 to 2014, the average annual increase in total patients was 4%. Annual growth post Health Center Initiative (2002-2006) was almost 8%; and in 2009, the year ARRA was enacted, FQHCs experienced a 9% increase in the total number of patients. If FQHCs continued to increase patient totals by 4%, by 2015 FQHCs would be serving 23 million and 27 million patients by 2019. Even increasing patient totals by the fastest rate observed in recent history (9.8% in 2002) only achieves totals of 25 million in 2015 and 36 million by 2019. Despite falling short of the projected patient totals, I do find that a greater proportion of the U.S. population reports a clinic/health center the usual source for routine/preventive care and declines in the reporting of all other sources (i.e. office-based practice, emergency room, and hospital outpatient), and this is true regardless of insurance status (Appendix A Table 10a). It is likely that changes in ACA subsequent to its passage in 2010 (e.g. optionality of Medicaid expansion)

as well as the uncertainty in predicting individual and legislative behavior, impacted the realized effect of reform on FQHC patient totals.

To understand the magnitude of the effect of ACA-CHCF dollars spent, I estimated the impact of these grant dollars on the number of patients treated. I find that ACA-CHCF grant dollars did not have a significant effect on the ability of FQHCs to accommodate a greater number of patients; whereas, the effect of ARRA grant dollars lasted through 2014 (Appendix B Table 3a). For every $100,000 ARRA grant dollars spent in a year, FQHCs added an average of almost 31 patients. The impact of ARRA grant dollars was greatest in 2011 (average of 32 additional patients) and 2014 (average of 31 additional patients). Comparatively, neither dollars spent per year from ACA-CHCF grants nor CMS EHR incentive payments contributed meaningfully to patient totals (Appendix B Table 3a).

Patient Health

As previously noted, much of the literature suggests that FQHCs serve a disproportionately unhealthy population. However in comparisons of all FQHC patients to other primary care seekers, and despite greater growth in the proportion of the FQHC patient population diagnosed with select chronic conditions, these proportions have either remained below or only recently surpassed that of office-based primary care patients and similarly low-income primary care seekers. Between 2010 and 2014, FQHCs continued to experience an increase in the proportion of patients diagnosed with mental health, substance abuse, and alcohol problems, as well as select chronic illnesses (Appendix A Table 3). Compared with a national sample of patients, I find that FQHCs by 2012 were generally treating a smaller proportion of patients with select diagnosed chronic conditions.[10] A smaller proportion of FQHC patients had been diagnosed with hypertension (18% versus 26%), diabetes (8.8% versus 10.7%), depression and mood

disorders (7.9% versus 8.5%), and asthma (4.7% versus 5.8%) (Appendix A Tables 1b and 3). Conversely, the rate of diabetes among FQHC patients was higher than the rate in the general U.S. population by 2012 (Appendix A Tables 1c and 3). Compared to a U.S. sample of low-income individuals, a greater proportion of FQHC patients had been diagnosed with diabetes, but compared to low-income individuals with at least one doctor visit, a smaller proportion of FQHC patients had been diagnosed with diabetes (Appendix A Tables 1c and 3).

As the U.S. elderly population has grown, the proportion of FQHC patients aged 65 years and older has also increased consistently (Appendix A Tables 1a and 1c). Conversely, office-based primary care practices have seen smaller increases and small declines in the proportion of elderly patients (Appendix A Table 1b). The smaller increases may be a result of office-based practices already treating a disproportionately larger population of patients 65 years and older. Given the increasing proportion of patients aged 65 and older, FQHCs may face different health issues in the future requiring them to expand their types of services offered in order to meet the health needs of a changing population.

Impact of Medicaid Expansion[11]

The expansion of Medicaid was expected to be one of the most impactful of the ACA policies on FQHCs and as such warrants a separate discussion. ACA Medicaid expansion was expected to increase coverage to 44% of FQHC patients by 2019 (Rosenbaum et al 2010). However, several factors contribute to the uncertainty of its impact. Even though FQHCs serve a large proportion of the Medicaid population, it is not certain that newly Medicaid-eligible and enrolled patients would seek or continue to seek care at a FQHC.[12] Competition from office-based healthcare providers for the newly Medicaid covered was a concern especially given the increase in reimbursement rates in 2013-2014 (Katz et al. 2011; Decker 2013; Decker 2012; Brunt & Jensen

2014). Given possible competition, FQHCs may actually experience a decline in the proportion of patients covered by Medicaid. Likewise, FQHCs may experience increases in the proportion uninsured as office-based providers may be treating a greater number of insured patients and thus less willing to treat the uninsured.

Patient Composition

Based on Medicaid expansion primarily targeting childless adults and the characteristics of new enrollees observed during the early expansion option, the full Medicaid expansion in 2014 had the potential to change the composition of FQHC patients. The percentage of all FQHC patients age 20-64 years has remained relatively stable since 2006, although increasingly slightly from 60.6% in 2009 to 62.3% by 2014 (2.7% increase) (Appendix A Table 1a); however, because ACA Medicaid expansion included childless adults, FQHCs could have seen an increase in the proportion of patients between 20 and 64 years of age. In an analysis comparing expansion with non-expansion state FQHCs, I concluded that Medicaid expansion did not differentially increase the proportion of adults 20-64 years of age within FQHCs (Appendix C Table 3). Estimates of enrollment in the early Medicaid expansion suggest that women were differentially impacted by early expansion, enrolling in greater numbers (Sommers et al 2014). FQHC patients continued to be predominantly female, as has been the case since 1996; and, I find that women were not differentially seeking care at FQHCs located in states that expanded their Medicaid programs in 2014. Medicaid expansion increased eligibility up to 138% FPL. As such, the expansion might have increased the proportion of the patient population with incomes below 150% FPL. Based on my analysis, I determined that FQHCs experienced a slight shift in the composition of FQHC patient incomes based on the state's expansion status (Appendix C Table 3). FQHCs in expansion states experienced a significant increase in the proportion of patients with incomes

between 101% and 150% FPL. The effect was driven by FQHCs in states that opted for early expansion in 2010 (Appendix C Table 3). However, FQHCs in all states continued to treat patients with family incomes less than or equal to 100% FPL.

Health Changes

The health of the newly Medicaid-eligible and enrolled could have a significant impact on the provision of primary care services and associated costs for FQHCs. Adults who would be eligible for Medicaid under ACA expansion were found to be healthier than those adults enrolled pre-ACA (Hill et al 2014). Providing care to a healthier population could lead to reduced costs for FQHCs. Conversely, the experience from the early expansion states showed that enrollment gains during the early expansion period were disproportionately among adults reporting a health-related limitation (Sommers et al 2014). If only those with significant health concerns are enrolling or, of the newly enrolled, only those with significant health concerns seek care at FQHCs, these centers would be burdened with increasing costs that may offset any revenue increases associated with increased insurance coverage. I compared the change in diagnoses of a set of chronic conditions among FQHC patients in expansion versus non-expansion state FQHCs and found that FQHC patients were no less healthy than patients in FQHCs in non-expansion states in the first year of ACA Medicaid expansion (2014), with the exception of asthma (Appendix C Table 3). In fact, for some chronic conditions, expansion state FQHCs experienced significantly smaller changes in diagnoses of diabetes and hypertension (Appendix C Table 3).

Composition of Insurance Coverage

As Medicaid expansion was targeted toward insurance coverage among childless adults, I focused on the impact this expansion on the insurance coverage status of FQHC patients 20-64 years of age. Overall, the impact on FQHCs of a state's decision to expand Medicaid was

markedly positive. Controlling for patient population and service area characteristics, I estimated that expansion increased Medicaid coverage among FQHC patients by 36% (Appendix C Table 5). Across all expansion states the change in Medicaid coverage varied sizably, ranging from 31% to 44% (Appendix C Table 5). Before expansion, 39.8% of FQHC patients in expansion states were covered by Medicaid. After expansion, 49.7% of FQHC patients in expansion states were covered by Medicaid. Comparatively, 28.1% of FQHC patients in non-expansion states were covered in 2013 and 28.7% were covered in 2014. The impact on FQHCs operating in states that opted for early expansion was greater, with increases ranging from 40% to 46%. The greater impact on coverage within early expansion state FQHCs in 2014 perhaps reflects learning within states and FQHCs (Sommers et al 2013). Interviews with Medicaid officials suggest that states expanding early would be more prepared for possible challenges associated with enrolling the newly eligible and addressing issues with access to care (Somers et al 2013).

The impact of Medicaid expansion, however, can not only be evaluated based on the change in Medicaid coverage, it must also be evaluated based on the remaining uninsured FQHC patients after expansion. If patients were merely switching from private or other public health insurance to Medicaid coverage (i.e. crowd-out), the uninsured rate within FQHCs may not change. Also controlling for patient and service area characteristics, I do find that a substantial decline in the rate of uninsured occurred within expansion state FQHCs and the effect was even greater for FQHCs in states opting to expand early. The rate of uninsured among early expansion state FQHC patients decreased from 44% to 30% for 2010 expansion state FQHCs; from 41% to 29% for 2011 expansion state FQHCs; and from 36% to 26% for 2014 expansion state FQHCs. Non-expansion state FQHCs also experienced a decline in the rate of uninsured;

however, the rate only declined three percentage points from 37% to 34%. The decline among non-expanding state FQHCs likely resulted from a greater increases in private and other insurance coverage (Appendix C Table 4). The UDS data does not identify patients acquiring coverage through the exchanges; as such, these patients are included in the count of privately insured. The effect on private insurance coverage among FQHC patients in non-expansion states, however, is likely the effect of the individual mandate and subsidies available through the insurance exchanges.

Wisconsin

The impact on the composition of insurance coverage after Medicaid expansion in the case of Wisconsin is interesting. Wisconsin implemented a series of expansions and retractions of their Medicaid eligibility prior to 2014. Beginning in 2009, Wisconsin provided insurance coverage to childless adults up to 200% FPL, expanding eligibility through 200% in 2012; however, the state capped enrollment once spending exceeded the state's budget (Gates & Rudowitz 2014; Rosenbaum 2016). In 2012, Wisconsin began requiring a monthly premium for adults above 138% FPL. BadgerCare, Wisconsin's Medicaid program, obtained approval for a waiver to be implemented in 2014 to cover childless adults up to 100% FPL, decreasing it from 200%, but eliminating the enrollment cap that was in place (Gates & Rudowitz 2014). The waiver also allowed the state to cover adults above 100% FPL as well as to require sliding scale premiums to adults with incomes above 100% FPL. Approximately, 80,000 individuals lost Medicaid resulting from the reduced eligibility (Rosenbaum 2016). Despite reducing eligibility and including premiums, FQHCs in Wisconsin experienced a 27% increase in Medicaid coverage among adult patients, after controlling for patient and service area characteristics.[13] The rate of

uninsurance among Wisconsin FQHCs experienced a smaller change from 33% to 27%; however, their rate of uninsurance was lower before expansion.

It is not obvious why Wisconsin FQHCs experienced such an increase in Medicaid coverage. Wisconsin's Medicaid enrollment increased only 6% after implementation of the 1115 Medicaid waiver; this increase is similar to that of other non-expansion states (KFF 2016). Further, FQHCs in Wisconsin on average experienced declines in the total number of patients. However, it may be that the shift is partially a result of those remaining without insurance ceased accessing care, some uninsured became insured through Medicaid after elimination of the enrollment cap, and increased private coverage made possible through subsidies offered on the exchanges. Additionally, despite a modest increase in state-wide enrollment, the gains in Medicaid coverage might have been disproportionally among those populations most likely to seek care or have access to a FQHC.

Changes in Revenue

With Medicaid expansion and increased insurance coverage, FQHCs should experience an improved financial situation. Data reported by FQHCs to HRSA show that revenue from Medicaid increased by more than 17% in 2014 and by 18% in 2015 (UDS 2015).[14] Sliding discounts to patients based on family income decreased by almost 18% in 2014, after steadily rising since 2008, and FQHC bad debt increased by the smallest amount since before 2008 (Appendix A Table 20). FQHCs still had a significant amount of bad debt in 2014 – $376 million – but it appeared that their financial situation had improved after Medicaid expansion generally.

However, with increased insurance coverage through expansions of Medicaid may come a decrease in revenue from other non-insurance payers such as states and local governments, as

these other funders may perceive less of a need for support to cover uncompensated care. To determine the impact of Medicaid expansion on changes in state, local, and indigent care grants, I compared grant revenue amounts between expansion and non-expansion state FQHCs and find that, although all FQHCs experienced declines in state, local, and indigent care grants, more significant declines occurred in the 2010 early expansion state FQHCs.[15] In the first year of Medicaid expansion, state grants to FQHCs in states expanding in 2010 declined 39% (an average loss of $300K) compared to only 11% (an average loss of $42K) in non-expansion states (Appendix A Table 21). In 2011 and 2014 expansion states, state grants to FQHCs declined 21% (average losses of $129K and $106K respectively), with only the decline in the 2011 expansion states being significant. Local grants to FQHCs also declined more significantly for FQHCs in 2010 expansion states compared to non-expansion state FQHCs, 75% versus 47% respectively (Appendix A Table 21). Indigent care grants (grants to cover uncompensated care) to FQHCs declined 107% in 2010 expansion states compared to 86% in non-expansion states.

To put these estimates into perspective, all FQHCs received an increase in funding from Local and Indigent programs and experienced a less than 4% decrease in State funding in 2013 over 2012. Also, total Health Center Program grants for all FQHCs increased at the same time (Appendix A Table 22). However, FQHCs in 2010 early expansion states experienced the smallest increase in Health Center Program grants while they also experienced the most significant declines in state, local, and indigent care grant amounts (Appendix A Table 21). A possible explanation for the smaller increase in Health Center Program grants is the smaller increase in patient totals among FQHCs in the 2010 and 2011 early expansion states. Between 2013 and 2014, FQHCs in 2010 and 2011 early expansion states experienced a less than 1%

increase in the total number of patients; while, total FQHC patients increased 3% in non-expansion states and 4% in 2014 expansion states.

Despite significant declines in state, local, and indigent grant amounts, total grant revenue from all sources decreased a modest 6% among 2010 and 2011 early expansion state FQHCs; while, FQHCs in 2014 expansion states experienced a modest increase of 2% among 2014 expansion state FQHCs. These changes are compared with less than 3% increases among FQHCs in these same states in 2013. Comparatively, non-expansion state FQHCs received a 3% increase in total revenue from all grants in both 2013 and 2014.

In light of the changes in revenue and the impact of Medicaid expansion, was the financial outlook for FQHCs in non-expansion states more grim compared with FQHCs in states that opted for expansion? The rate of uninsured did decline slightly in non-expansion states despite the lack of expansion. At the same time, non-expansion state FQHCs were not faced with the significant declines in amounts from other grants, and experienced the largest increase in total grant revenue. Meanwhile, as the rate of uninsured declined more dramatically in all expansion state FQHCs, particularly within 2010 early expansion states, revenue from state, local, and indigent care grants declined more substantially, such that, despite the increases in Health Center Grants, total grant revenue declined or only increased slightly. Assuming grant revenues are to be used, in part, to cover the costs associated with providing care for the uninsured, then it would appear that FQHCs in states opting not to expand Medicaid would be worse off financially. Based on my estimates of the impact of Medicaid expansion, FQHCs in non-expansion states lost an average of $600 in grant revenue per uninsured patient while FQHCs in expansion states gained $200 per uninsured patient. Despite an estimated 28% of the patient population in expansion state FQHCs remaining uninsured, Medicaid expansion impacted

so significantly the rate of uninsured that the result was an increase in financial resources with which to provide services to patients remaining without insurance.[16]

Quality of Care and Efficiency Initiatives

Service Composition and Quality of Care

In addition to building capacity, ACA investments in FQHCs had the goal of increasing the quality of care provided. With the initiation of quality of care measures in 2008 through the Health Care Safety Net Act, FQHCs had already focused more on the reporting of outcomes to demonstrate the quality and effectiveness of care. Based on these measures, FQHCs continued to improve the quality of care they provided during this period. FQHCs were more successful in getting pregnant women into prenatal care (Appendix A Table 8a). The percentage of 1st trimester prenatal care users grew from 71% in 2010 to 76% by 2014. Initiated in 2011, FQHCs reported only 39% of children and adults receiving counseling and follow-up for weight; by 2014 however, this percentage increased to 56%. Conversely, a lack of progress was made in rates of cervical cancer screening, remaining around 57.5% and dropping in 2014 to 56.3%. The impact of quality improvement initiatives on immunization rates among children has been more difficult to track as measures have changed every year from 2010-2014. In 2014, however, FQHCs reported an average of 77% of children had received age-appropriate vaccinations (Appendix A Table 8b). Comparatively, 72% of U.S. children had received age-appropriate vaccinations in 2014 and only 66% of U.S. children below the poverty level (NCHS 2016).

In addition to these quality of care measures, the composition of encounters shifted, becoming more focused on chronic and mental health diagnoses as the percentage of patients diagnosed with chronic and mental health issues increased more substantially than it had in previous periods (Appendix A Tables 3-4). By 2014, more than half of all encounters (55%)

were primarily for these issues. Not only did these issues comprise a growing proportion of all encounters, the total number of patient encounters focused on these issues experienced the largest increases. The number of encounters for primarily chronic and mental health issue increased 47.5% and 48.4% respectively.

Several programs have been initiated to recognize and in some cases incentivize FQHCs for quality achievements/improvements; however, few FQHCs have been recognized as high achievers. The Million Hearts Program, launched in 2011 by the Department of Health and Human Services, focuses on the prevention of heart attacks and improvements in cardiovascular disease (millionhearts.hhs.gov). To receive recognition as a hypertension control champion, providers must meet or exceed the benchmark of 70% of patients receiving appropriate treatment, achieving blood pressure control, and receiving tobacco cessation assistance for tobacco users. In 2014, a total of 30 providers were recognized of which eight (27%) were FQHCs (millionhearts.hhs.gov). The National Quality Leader program recognizes and awards FQHCs exceeding national clinical benchmarks for chronic disease management, preventive care, and prenatal and perinatal care. An award of $25,000 base plus fifty cents per patient was available to FQHCs achieving this recognition. In 2014, five percent of FQHCs achieved this recognition, rising slightly from 2013 (Appendix A Table 8b). The Health Center Quality Leader awards FQHCs in the top 30 percent of all FQHCs achieving the best overall clinical outcomes. Awards of $15,000-$25,000 base plus fifty cents per patient were available to FQHCs achieving this recognition. In 2014, 380 FQHCs received this award and 353 received it in 2013 (Appendix A Table 16b). The majority of FQHCs have been rewarded, however, through the Clinical Quality Improvers program for improvements of 10% or greater. In 2013, a total of

1,057 FQHC grantees were awarded $2,500 for each clinical measure in which an improvement of 10% or greater was achieved (HRSA 2014).

Integration of New Delivery of Care Models and Health Information Technology

Patient-Centered Medical Homes

The transformation of FQHCs into patient-centered medical homes has progressed rapidly and proved more successful compared with the progress among other providers. PCMH grants of $32 million and $44 million in 2011 and 2012 respectively were provided through the ACA-CHCF. Based on NCQA criteria, FQHCs were found to be further along in the adoption of PCMH compared with other primary care practices (Anderson & Olayiwola 2012, Ku et al 2011). By 2011, six percent of centers have attained NCQA PCMH recognition; twelve percent had a pending application; and forty percent expected to begin the process in the following year (Ku et al 2011). By 2014, 65% of FQHCs were considered a PCMH (UDS 2015).

An early examination of the impact of PCMH recognition on FQHCs suggests that costs may be higher for FQHCs more fully transformed in to a PCMH (Nocon et al 2012). More positively, acquisition of PCMH recognition was associated with shifts in staffing to advanced practice, other medical and enabling staff. As a result of this shift in staffing, FQHCs may become more productive moving forward (Park et al 2016). Transformation to a PCMH is intended to improve the quality of care. However, FQHCs displaying characteristics of a PCMH did not show any significant impact in care management and quality improvement, and performed worse with patient tracking (Shi et al 2016).

Medicare FQHC Advanced Primary Care Practice (APCP) Demonstration Initiative

The APCP provided almost $50 million to support up to 500 FQHCs through care coordination payments allowing FQHCs to become medical homes (White House 2012). Early evaluations of

the APCP demonstration do not show the progress nor the cost-savings hoped for through implementation of the project. Four hundred forty-three FQHCs participated in the demonstration, covering almost every state. Participating FQHCs showed significantly higher utilization and costs, hospital admissions and readmissions, and emergency department visits (Kahn et al 2015; Nocon et al 2012). Other literature, however, points to the effectiveness of an APCP model for the delivery of care when an organization is fully transformed as a patient-centered medical home (Kahn et al 2014; Nielsen et al 2015). Initial findings of the demonstration were criticized, with one criticism suggesting that perhaps the lack of positive impact resulted from PCMH recognition coming late in the demonstration meaning FQHCs had focused resources on the PCMH recognition rather than on meaningful transformation (Nielsen et al 2015). The National Association of Community Health Centers (NACHC), however, continues to consider the patient-centered medical home model to be "essential" in meeting its goals of providing high value healthcare (NACHC n.d).

Several limitations exist however with drawing conclusions about the effectiveness and/or success of the transformation of FQHCs into PCMHs. First, the most recent literature reporting the impact of PCMH transformation uses data from 2009 (Park et al 2016; Shi et al 2016). In 2011, only 6% of FQHCs were recognized as a PCMH and that percentage was likely lower in 2009 (Ku et al 2011). FQHCs were not focused on, at least through external influences, on adopting the PCMH model as they have been more recently with incentives for adoption. Second, as noted above, the literature suggests that the effectiveness of these types of care delivery models is greatest when an organization is fully transformed (Kahn et al 2014; Nielsen et al 2015). Given the relative infancy of PCMH transformation of FQHCs and a few positive

outcomes, more work is needed to determine if the PCMH model can be successful as a cost-effective, quality improving care delivery model within FQHCs.

HIT/EHR Implementation

Adoption of HIT/EHRs among FQHCs was likely advanced as a result of the significant financial investments provided in ARRA and ACA, including CMS meaningful use incentives and HRSA EHR quality improvement awards. In 2013, $35.7 million in grants were awarded to FQHCs to expand the use of advanced HIT (Heisler 2015). To encourage use of electronic health records, FQHCs can receive $15,000 for use of EHRs, particularly the ability to report clinical measures on their total patient population using electronic health records. In 2015, a total of 331 FQHCs received an EHR quality improvement awarded, approximately 26% of all FQHCs. Although initiated through ARRA, CMS EHR incentive payments continued through 2015, with payments slated through 2021.

Adoption and implementation of HIT/EHR systems seems to have been more rapid and widespread among FQHCs than among other office-based physicians. In 2009, forty percent of FQHCs reported having an established EHR system (Blumenthal 2009). By 2014, ninety percent of FQHCs had an HIT/EHR system with 92% having an HIT/EHR system installed at all services sites used by all providers (UDS 2015). In 2009, a greater percentage of office-based physicians (48 percent) had an HIT/EHR system, but by 2013, the percentage had grown only to an estimated 78% (Hsiao & Hing 2014). Hospitals by comparison were even slower in adopting EHRs with only 75% adopting at least a basic system in 2014 (Adler-Milstein et al 2015). In addition to greater adoption, FQHCs in general were more frequently using advanced HIT/EHR functionality.[17] In 2013, eighty-five percent of FQHCs reported having at least nine of thirteen

key functions indicating advanced functionality; whereas, approximately half of office-based physicians were still using a basic system (Ryan et al 2014; Hsiao & Hing 2014).[18]

Despite a significant proportion of FQHCs having an HIT/HER system, such systems will not be effective if they are not used meaningfully. The CMS incentives for meeting the definition of meaningful use, encourages more than just the installation of these systems; it also encourages providers to make full use of the capabilities. In 2013, there were two stages of meaningful use criteria in determining the receipt of incentive payments.[19] Ninety-two percent of FQHCs had met at least Stage 1 criteria (i.e. data capture, use of EHR for tracking and reporting), while an additional 51% met Stage 2 criteria (i.e. clinical decision support, health information exchange). Conversely, only 13% of office-based physicians intending to participate in the CMS incentive program reported capabilities to meet Stage 2 criteria for meaningful use (Hsiao & Hing 2014). Participation in the CMS EHR incentive program is also higher among FQHCs. Sixty-nine percent of physicians reported intending to participate in the Medicare or Medicaid incentive program while 82% of FQHCs had already applied in 2013 (Hsiao & Hing 2014; Ryan et al 2014). Further, more than three quarters of FQHCs report that at least one provider has received CMS EHR payments since 2011 (Ryan et al 2014). The dollars possible through the CMS EHR incentive program are not insignificant. On average, FQHCs received $188K in 2012, declining to $94K by 2014 (Appendix A Table 16b). As noted above, these CMS payments had a significant impact on the number of service encounters provided by a FQHC (Appendix B Table 3a).

A unique use of HIT/EHRs by FQHCs is the coordination of enabling services such as outreach, translation, transportation, and case management – 66% of FQHCs report using HIT/EHRs in this way (UDS 2015). At least since 2007, the percentage of visits involving

enabling services has been declining, 7.2% in 2007 to 5.9% in 2014 (UDS 2015).[20] The percentage of patients receiving at least one of these services declined from 2008 until 2010; this percentage has climbed recently, but still accounts for only a small share of the total patient population (9.6% in 2014). As payment methodologies have changed to help FQHCs keep up with the reimbursement rates of other providers, methodologies and coverage changes have failed to adequately reimburse for these services (Weir & Proser 2010). The original mission of the FQHC (i.e. community/neighborhood health center) included assistance that went beyond medical care. Without such services, many patients would forgo needed medical care because of an inability to access the FQHC (Weir & Proser 2010). These services are also viewed by many as important breaking down barriers to care, particularly for those who are poor, belong to a minority group, are uninsured or underinsured, or who are geographically or culturally isolated (Weir & Proser 2010). Adapting HIT/EHR systems to collect information on the provision of and possible outcomes associated with enabling services provides a means for FQHCs to be able to demonstrate if there is added value for these services and that these services be reimbursed accordingly.

Impact of Medicare Payment Reform

The updated reimbursement methodology for Medicare ensuring larger payments for FQHCs comes at a time when the U.S. and FQHC patient populations are aging resulting in Medicare becoming an increasingly important payer to FQHCs (Rosenbaum et al 2010). The proportion of FQHC patients covered by Medicare grew 17% to almost 10%, and the proportion of the FQHC patient population age 65 years and older grew 12% to almost 9% in 2014 (Appendix A Tables 1a and 12a). Comparatively, office-based primary care providers treated a greater proportion of patients 65 years and older (27% in 2012) but, whereas FQHCs experienced an aging population,

office-based providers experienced a shift toward younger patients in the early part of the period (Appendix A Tables 1a-b).

Under the previous all-inclusive per-visit rate, the percent of total charges paid by Medicare has generally declined since 2009. In 2010, Medicare paid 66% of total charges and only 63% in 2014 (Appendix A Table 14). With the removal of the Medicare caps and minimum productivity standards under the new reimbursement methodology, the expectation is that reimbursement rates will rise and cover a larger percentage of total costs. However, the PPS reimbursement rate was proposed as 80% of the *lesser* of the FQHC PPS-determined visit rate and the actual FQHC charges (CMS 2016). In the final rule, CMS acknowledged concerns raised regarding the "lesser of" provision and parameters under which FQHC charges for services are established under the Public Health Service Act, and established a new procedure coding system for FQHCs (CPCA 2014; NACHC n.d). Since the new FQHC Medicare prospective payment reimbursement methodology was delayed until January 2016, data are not yet available to determine whether the new methodology increased reimbursements to FQHCs.

[1] Adverse selection occurs when only those with serious health problems, and would be more costly to insure, enroll in an insurance plan.
[2] Qualified Health Plans are certified by the Health Insurance Marketplace (exchanges), are required to provide essential health benefits, follow establish limits on cost-sharing. And meet other requirements (HealthCare.gov).
[3] See Chapter II for a description of the Health care Safety Net Amendments Act of 2002, the Healthy Communities Access Program and Health Disparities Collaborative.
[4] The National Center for Quality Assurance provides certification and recognition as a patient-centered medical home. It is the most widely used method for transforming practices into medical homes (ncqa.org).
[5] Eligibility is extended to include Medicaid enrollees with one condition and the risk of developing another or at least one serious and persistent mental health condition. Chronic conditions include: mental health, substance abuse, asthma, diabetes, heart disease, BMI over 25. (https://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-homes-technical-assistance/guide-to-health-homes-design-and-implementation.html)
[6] Implementation of the new Medicare FQHC prospective payment system was delayed from October 1, 2014.
[7] Sixty-five percent of unused residencies must be redistributed to hospitals in health professional shortage areas or low resident-to-population ratio areas and 75% must be used in primary care or general surgery (Heisler 2013).
[8] Program description may be found at: bhpr.hrsa.gov/grants/teachinghealthcenters/
[9] Section 1115 waivers are approved experimental, pilot or demonstration projects that promote the objectives of Medicaid but give states flexibility to design and improve their programs (https://www.medicaid.gov/medicaid-chip-program-information/by-topics/waivers/1115/section-1115-demonstrations.html).
[10] National estimates were calculated using National Ambulatory Medical Care Survey (NAMCS) data. The most recent year publicly available is 2012. Visits in NAMCS were restricted to non-community health center office settings and to visits where the physician's specialty was recorded as primary care.
[11] The complete analysis may be found in Appendix C.

[12] This is also true for those newly covered through the exchanges or employer-based market. I, it is not possible to determine from the data what proportion of the privately-insured FQHC patients were covered through the insurance exchanges versus an employer-sponsored plan.
[13] See Appendix B for a complete description of the analysis.
[14] Data at the FQHC-level regarding third-party revenue was not available.
[15] See Appendix C for a description of the methods.
[16] Using the data from all non-territory FQHCs in operation in 2014, the percent uninsured is 23%.
[17] Advanced functioning was defined as having 9 of 13 capabilities including ability to generate patient and panel information electronically, advanced computerized order entry management, and computerized decision support.
[18] Basic system was defined as capturing patient history, demographics, problems, Rx tracking, and allergies.
[19] https://www.healthit.gov/providers-professionals/how-attain-meaningful-use
[20] Services counted as enabling include: case management, community education, outreach, transportation, eligibility assistance, and interpretation (UDS 2015).

CHAPTER VI

The Challenges Are Not Over

The impact of ARRA and ACA on FQHCs generally appears to have been positive. FQHCs increased capacity to provide care although growth in patient totals was less than anticipated after each policy was implemented. FQHCs increased the number of service sites and of providers at a rate faster than the number of patients increased, reducing the burden on any one site and any one clinician to provide care. Adoption of new patient care delivery models and health information technology were advanced in an effort at improving the quality and efficiency of care. FQHCs experienced increasing insurance revenues with Medicaid expansion; increasing proportions of self-pay charges recovered; and maintenance of, if not an increase in, grant dollars from the Health Center Program. In addition, significant direct financial investments made through ARRA and ACA grants ensured FQHCs had sufficient resources to support and expand operations to provide care to an increasing number of patients.

Despite the generally positive impact, FQHCs will likely face a number of challenges that have persisted. First, FQHCs continued to face the possibility of insufficient federal funding in post-ARRA/ACA years, as with each budget cycle came renewed calls for a reduction in federal funding amid difficult decisions about the allocation of those funds. Nothing recently has suggested that Congress is significantly more supportive of the Health Center Program, thus more likely to protect the level of appropriations. In fact, recent federal fiscal decisions suggest otherwise (KFF 2012). Second, despite the substantial decline in the rate of uninsured patients after Medicaid expansion, FQHCs continued to treat a sizeable population of uninsured.

Although the rate of uninsured declined again in 2015, FQHCs are still treating a disproportionate share of uninsured compared with office-based primary providers (UDS 2015). Lastly, FQHCs have been driven toward formal adoption of the patient-centered medical home (PCMH) as the model for the delivery of care. A number of questions remain as to the appropriateness and affordability of the application of PCMH in the FQHC environment, yet significant monetary incentives for adoption as well as technical assistance grants are at stake for these providers to adopt the model. ACA, and previously ARRA, provided FQHCs with both direct and indirect support to address each of these challenges. Although mitigated as a result, these difficulties remain. The issues that do remain will only be exacerbated if attempts to repeal ACA are successful.

ACA Repeal?

Even six years after its passage, significant division exists over the Affordable Care Act (Redhead & Kinzer 2016). ACA opponents, both inside and outside of government, have sought legal recourse by suing the government (Jost 2014; Justice 2015). Apart from the Supreme Court's ruling in *National Federation of Independent Business v. Sebelius* making Medicaid expansion optional, the courts have either dismissed the case or ruled in favor of the government (i.e. of the ACA) (Jost 2014; Justice 2014). In addition, legislators, especially those in the Republican-led House, have passed or attempted to pass legislation that would have repealed, defunded, delayed, or amended the law. The majority of these bills have failed, either not being passed (or even considered) by the Senate or vetoed if making it to the President (Redhead & Kinzer 2016). Those that have passed have not changed the most controversial components of the ACA, but have largely improved access to care, benefitted businesses by relaxing definitions, delayed taxes, and extended tax credits (Redhead & Kinzer 2016).

Although the Obama Administration has succeeded in defending ACA from legislative and legal challenges, there remain a number of unresolved court cases that challenge the legality of significant portions of the law (Redhead & Kinzer 2016). Moreover, bills are before Congress ranging from complete repeal (H.R. 596) to more subtle attempts at undermining the law, including reductions in the penalties for individuals failing to maintain the minimum health insurance coverage required by ACA (H.R. 5712). Depending on the outcome of many upcoming 2016 elections, ACA may face even greater challenges. In his campaign for president, Donald Trump has called for the complete repeal of "Obamacare" (Trump 2016). Although there is a chance that Democrats could take control of the Senate with a number of seats up for election, a continuation of Republican control along with a Trump election will likely spell the demise of ACA.[1] In concluding that a number of challenges remain although ACA has largely impacted FQHCs positively, the implications of repeal for revenue, insurance coverage, and delivery of care are significant.

Revenue Challenges

ARRA and ACA invested significant financial resources in FQHCs, suggesting perhaps greater Congressional support for the program. Yet after passage of ACA, the Health Center Program encountered attempts to reduce federal funding for the program and Congress was successful in passing some reductions. Although not as substantial as originally proposed, enacted federal funding cuts were still significant ($600 billion in FY2011), forcing FQHCs to replace basic appropriations for existing operations with Community Health Center Fund (CHCF) dollars. Other spending bills proposed and passed by the U.S. House have included significantly reduced funding for FQHCs by as much as $1.3 billion (Rosenbaum et al 2011). Estimates of the impact of a reduction in federal funding of this magnitude imply these reductions would have essentially

erased the growth resulting from ARRA grants and ACA FY2011 funding (Shin & Rosenbaum 2011). These bills were ultimately rejected by the Senate; however, it marked a belief that, despite acknowledging the critical role FQHCs play with financial support and permanent reauthorization, FQHCs were not off limits. The CHCF, set to expire by the end of FY2015, was extended through FY2016 and budget proposals by the Obama administration call for extending mandatory funding for three more years; however, a repeal of ACA would eliminate the CHCF and if proposed funding cuts are independent of CHCF funding, FQHCs would find themselves operating in a deficit. All else equal, it would be impossible for FQHCs to operate without any federal funding from the Health Center Program as revenue would have been $2.5 billion below costs in 2014 and operating margins unsustainable (UDS 2015; Appendix A Table 15). For primary care providers serving communities that have lacked sufficient access to such care, funding cuts may mean a return to insufficient access with reductions in staff and services and closures.

In addition to federal dollars, FQHCs have relied on state and local grant funding to support the provision of care to the uninsured. As federal dollars increased to the Health Center Program after the passage of ARRA and in the first year of ACA, it appears that state governments responded with decreased funding levels. States planned to maintain the 2014 level of funding in 2015; however, fewer states planned any funding at all in 2016 (Kidney et al 2011; Kidney 2013; NACHC 2014c). Of those states with planned funding, almost half planned decreases (Ertle & McKinney 2015). Conversely, local government and indigent care program funding have increased consistently with federal dollars; yet, these grants experienced large declines recently (Appendix A Table 13b). Indigent care program and local government funding estimates for 2015 and beyond were not available. However based on state plans for funding,

and overall declines in the rate of uninsured, I would anticipate that indigent care program funding would continue to decline. Local funding is more difficult to predict as data provide conflicting stories. Census data suggest that local governments increased spending on health programs between 2007 and 2014 (Census 2016). Alternatively, local grant amounts reported by FQHCs increased between 2007 and 2013 but declined in 2014 (Appendix A Table 13b). Despite the recent declines in these grants, the decline in the uninsured rate in 2014 was substantial enough to result in increasing state, local, and indigent care grant dollars per uninsured FQHC patient, the particular patient for whom these dollars are intended (Appendix A Table 22).

It is not clear if state and local governments would respond to decreases in federal funding of FQHCs with increases in their own. In recent history, there is only one year in which state and local funding increased while total Health Center Program funding decreased and only one year in which state and local funding increased while federal appropriations decreased (Appendix A Table 13b).[2] Without state, local, and indigent care program dollars, FQHC would have faced negative operating margins, although the impact of a loss of these dollars weakened (Appendix A Table 15). However, as FQHCs continue to treat a disproportionate share of the remaining uninsured, grants from these sources will be important for FQHCs to continue to provide care for those lacking health insurance, particularly if calls for reductions in federal funding continue and the Community Health Center Fund is eliminated.

Insurance Landscape Challenges

The insurance expansions enacted through ACA were expected to result in coverage of 92% of the U.S. population. Estimates from the National Health Interview Survey suggest that this goal was essentially accomplished, with 91% of the population reporting insurance coverage in 2014

(Appendix A Table 1c). For FQHCs, Medicaid expansion in particular was expected have a greater impact, reducing the percentage of uninsured patients to as low as 22% and of Medicaid-covered patients to as high as 45% by 2019 (Ku et al 2009; Ku et al 2010). Despite the optionality of Medicaid expansion, these goals are still attainable with 31% uninsured and 40% Medicaid-covered by 2014 (Appendix A Table 12a).

Although more than half of states opted to expand Medicaid and several more have planned to expand in the future, a repeal of ACA would lead to states rolling back eligibility and uninsured rates are likely to return to pre-ACA levels (41%). With repeal, states lose the higher federal matching for expansion populations, thus a financial incentive for expanding eligibility. In making the decision to expand, it appears that some states' decisions were based on the federal government's increased matching rates (Jacobs & Callaghan 2013). Rather than adopt the full ACA expansion, a number of other states opted for alternative expansions through Section 1115 waivers that included cost-sharing, benefit limitations, time limits, and work requirements (KFF 2015a). Further, other states are currently discussing moves toward alternative expansion options in which patients may be faced with the decision to remain uninsured or to delay care until health has declined significantly (KFF 2015a). Waivers such as these could increase uninsurance among FQHC patients even without a repeal of ACA. Though, the impact of the Medicaid waiver on insurance coverage among FQHCs in Wisconsin may allow for a more optimistic future for FQHCs under cost-sharing or other limiting conditions.

In the same way, repealing ACA means the loss of insurance premium subsidies for lower income individuals and families. Although not as significant as that of the expansion of Medicaid, this provision did have an impact on the coverage of FQHC patients. Based on the experience of FQHCs in non-expansion states, the percentage of FQHC patients covered by

private insurance increased 14% and the rate of uninsured declined 8%. With the loss of affordable options for populations more apt to seek treatment at a FQHC coupled with the removal of any mandate, individuals will likely elect to go without insurance coverage placing FQHCs in the same position of treating patients of whom 40% or more are uninsured.

As it stands, ACA provisions did result in a significant decline in the uninsured rate among FQHC patients; however, the rate of uninsured patients remained disproportionately higher among FQHCs than among individuals nationally (15%) and even more so than among office-based practices (5% in 2012) (CDC 2015). Even with Medicaid expansion, an estimated 27% of patients in expansion state (compared with 34% in non-expansion state FQHCs) remained uninsured after Medicaid expansion. Who the remaining uninsured are and why they choose to remain so is essential to understanding how to move forward. Rudowitz et al (2016) estimate that 23% of those remaining uninsured in non-expansion states are in fact eligible for Medicaid and CHIP coverage under ***pre***-ACA eligibility criteria. In expansion states, the estimate is 77% eligible for Medicaid under ACA eligibility (Rudowitz et al 2016). More successful enrollment of individuals in Medicaid has occurred in states embracing a range of outreach and enrollment strategies. FQHCs received an average of $129,000 in Health Center Enrollment and Assistance grants, equal to almost half the costs of outreach and eligibility assistance reported in 2014 (UDS 2015). If continued enrollment assistance is not fiscally possible, then at least an effort to disseminate successful strategies is needed; because with or without a repeal of ACA, a sizeable Medicaid-eligible population remains uninsured.

Quality and Efficiency of Care: Delivery Models and Health Information Technology

The expansion of health insurance was but one step in an effort to reduce the costs of healthcare for individuals and families. The second significant effort of ACA, and to some extent ARRA,

at controlling and reducing costs would impact the way in which care was delivered. Inefficiency in and lower quality of care result in part from a lack of integration and coordination of care (Ginsburg 2008; CEA 2009). The patient-centered medical home is viewed as a promising model of delivery through the demonstration of its ability to prevent and manage illness, mitigate disparities, and to reduce the need for costlier care (Beal et al; Markovitz et al 2012). In addition, health information technology and electronic health records support the goals of PCMH by facilitating the coordination, integration, and management of care.

Patient-Centered Medical Home

A significant movement towards a patient-centered medical home (PCMH) model of delivering primary care has been occurring in the U.S. in an effort to improve the quality, efficiency, and effectiveness of healthcare. As a potentially quality improving and cost-savings model, formal application of the PCMH model to FQHCs is attractive. However, the available evidence already points to greater efficiency within FQHCs compared with other primary care providers (Shi et al 2007, Epstein 2001; Rothkopf et al 2011; Ku et al 2009; Richard et al 2012). Despite a prevailing view that FQHCs are efficient providers and have already implemented programs to improve the quality of care to enhance patient outcomes, ACA included a number of grants and financial incentives for transformation of FQHCs into PCMHs. As a result, FQHCs sought and obtained PCMH recognition at a rate faster than other primary care providers (Anderson & Olayiwola 2012; Ku et al 2011). By 2014, sixty-five percent of FQHCs were recognized as PCMHs by the National Committee for Quality Assurance (NCQA) compared to 6% just 3 years earlier. For participation in ACA incentive and grant programs, FQHCs had to agree to pursue PCMH recognition from NCQA with limited financial support of transformation.

Criticism over the administrative burden involved and focus of the current formal PCMH recognition process as well as the paucity of rigorous research on its effectiveness call into question not only the meaningfulness of the designation but also the prudence of implementation within FQHCs. The process through which a "medical home" is certified has been criticized for focusing too much on process and not enough on outcomes (Nielsen et al 2015; Cassidy 2010). How patient-centered a practice is has been given little weight in granting PCMH recognition (Berenson et al 2011). This has changed with the addition of an extra "distinction", but is still not an essential part of the recognition process (Berenson et al 2011; NCQA 2014).

Patient-centered medical homes are supposed to reduce costs while improving the quality of care. However, some have argued that the formal process through which recognition is acquired can be resource intensive and expensive (Finger 2013; Poplin 2009). Others though have found no substantial expenses incurred or even increased earnings (Berenson et al 2011). Drawing conclusions based on the available literature, however, is difficult given vastly differing methodologies (Berenson et al 2011). For FQHCs, grant support up to $35,000 has been available through the Health Resource and Services Administration (HRSA). However, estimates of the cost of becoming a medical home (i.e. obtaining NCQA recognition) exceed $100,000, followed by significant ongoing expenses (Berenson et al 2011). Some limited evidence exists on the impact of PCMH transformation specifically on FQHCs. For those FQHCs participating in the CMS Advanced Primary Care Practice Demonstration, transformation was time-intensive and expensive, and costs per patient higher (Kahn et al 2015; RTI 2016).

With respect to patient outcomes, the evidence is mixed. PCMH models have demonstrated improvements in the delivery of care as well as the reduction in the need for

costlier care (Beal et al 2007; Markovitz et al 2015). However, other studies have not found such improvements (David et al 2015; Zutshi et al 2013). Successful implementation and improvements if found have occurred more often in larger practices, much larger than the typical FQHC (Berenson et al 2011; Anderson & Olayiwola 2012; Zutshi et al 2013). The CMS Advanced Primary Care Practice Demonstration will provide evidence on the impact of PCMH transformation; however, the final report has not been released, and even then the evidence will be limited to a small number of FQHCs in a small number of states.

In addition to believing in the concept, substantial financial incentives attached to formal PCMH recognition of FQHCs including enhanced match rates and other care management fees have resulted in FQHCs embracing formal recognition. The available empirical evidence in support of the application of PCMH as currently defined and formalized in a FQHC environment is weak, both from a cost-effectiveness and a quality improvement perspective. In addition to this weak evidence, FQHCs have demonstrated improvements in the quality of care provided, at least with respect to a limited set of measures (Appendix A Table 9b), and some literature points to better patient outcomes and lower average costs compared with other primary care providers (Epstein 2001; Rothkopf et al 2011; Ku et al 2009; Richard et al 2012). With the general momentum towards the PCMH model, however, FQHCs will find it difficult to avoid at least the appearance of transformation. With a repeal of ACA, financial supports for PCMH transformation would be eliminated, making a potentially expensive and resource intense endeavor that much more costly, while possibly not benefitting the FQHCs with respect to patient outcomes or cost-savings. Although the preliminary evaluation of the CMS FQHC Advanced Primary Care Practice Demonstration was not supportive of implementation, it was limited by the demonstration's initial focus on PCMH recognition than on meaningful

transformation (Kahn et al 2014; Nielsen et al 2015). Similar but longer demonstrations focused on full and meaningful transformation might be funded to determine the impact on FQHCs specifically. In the meantime, the quality and cost-effectiveness of care among FQHCs remains as good if not better than other primary care providers.

Health Information Technology and Electronic Medical Records

The literature on the adoption of HIT/EHR predominantly shows a positive impact on quality of care, efficiency in the delivery of care, and on patient outcomes in primary care generally but also among FQHC patients specifically (Buntin et al 2011; Frimpong et al 2013). Provisions in ARRA and ACA have promoted more widespread adoption of HIT/EHR within FQHCs through financial incentives and the establishment of technical support networks. Although significant advancement has been made in the adoption and use of HIT/EHRs among FQHCs, challenges still remain (Ryan et al 2014).

Whereas the establishment of an HIT/EHR system is necessary, meaningful use of HIT/EHR is the primary goal. CMS established criteria with which to assess providers and provides incentives in meeting these criteria. However for FQHCs, meeting meaningful use criteria is an ongoing challenge. CMS included as part of meaningful use, the engagement of patients in the use of HIT/EHR. FQHCs report that involving patients is challenging; yet 80% of FQHCs in 2015 report that they do engage patients (UDS 2015). A meta-analysis was unable to draw conclusions about the impact of patient use of HIT/EHRs, but did conclude that use differed by important patient-characteristics, including lower use by racial and ethnic minorities (Goldzweig et al 2013). The challenge then may lie not in the ability to provide patients with information (i.e. availability of patient portals, kiosks, or secure messaging), but in how effectively patients use the technology.

FQHCs also report the costs associated with annual maintenance as a challenge to continued adoption and implementation (Ryan et al 2014). With estimates of $15,000 to $70,000 per provider for the purchase and installation of an HIT/EHR system, for the average FQHC with eight full-time physicians the cost would be more than $600,000 (NCHIT 2014). This estimate does not include annual costs for maintenance and training which could be more than $100,000 for this same average FQHC (Fleming et al 2011).[3] The financial and technical assistance provided to FQHCs through ARRA and ACA have certainly mitigated the costs associated with adoption and implementation of HIT/EHR systems. However, a repeal of ACA and potentially the elimination of these resources would challenge FQHCs financially in the maintenance and future upgrades of these systems. As other providers are able to keep pace with improving HIT/EHR technology, if FQHCs are unable to because of cost, coordination of care between FQHCs and these other providers and thus for patients will deteriorate.

If not FQHCs, then…

Given the continued challenges despite the apparent success of ARRA and ACA in positively impacting the resources available to FQHCs, the judiciousness of continued federal support of FQHCs might be argued. However, I contend that several factors support continued investments in FQHCs while also continuing to expand access to health insurance coverage. Both aim to increase access to care but by addressing different causes: cost and provider absence. I am not the first to argue this point (Cunningham & Hadley 2004; Roby et al 2007; Wilensky & Roby 2005). However, significant policies and reforms have been implemented within the U.S. healthcare system that address these two causes, making this point worth revisiting.

Insurance coverage attempts to remove financial barriers to accessing medical care. The Patient Protection and *Affordable* Care Act intended to make healthcare more affordable for

individuals and families through its historic insurance expansions. Opponents of ACA have argued that insurance reforms have failed to control let alone reduce healthcare costs for individuals and families, and that health insurance premiums are on the rise (Jost 2016). Even with significant expansion of Medicaid and an individual mandate to have health insurance coverage, 9% of the U.S. population and a greater proportion of the FQHC patient population (27%) remained uninsured. The main reason individuals are remaining uninsured is because of cost (KFF 2015b).

Yet, if having any insurance results in access to care, then perhaps a national public option is all that is required. Uninsured individuals have consistently been more likely to lack a usual source of care and of those lacking a usual source, more than half attribute it to cost (Appendix A Table 10a). However, the percentage of Medicaid-covered individuals reporting no usual source of care as well as those reporting cost as the reason are rising (Appendix A Table 10a). Increasing proportions of privately insured individuals also reported lacking a usual source of care; but, the predominant reason was a lack of need rather than because of cost. Having insurance coverage certainly improves access to usual, affordable sources of care, but for those with Medicaid in particular, the ability to find it is decreasing.

Despite a relatively small national percentage of insured individuals lacking a usual source of care, providing insurance alone is insufficient to assure access to primary care as access remains unevenly distributed within the U.S. FQHCs began as a movement to address a growing inequality in access to care (Stevens 1998). Yet, although the Health Center Program has expanded, an estimated 62 million people in the U.S. lacked access to primary care even after ACA's historic insurance expansions (NACHC 2014). Further, those lacking adequate primary care access are disproportionately low-income and uninsured (AHRQ 2012). It is

estimated that 24% of persons living in a healthcare shortage area (Box 3) are uninsured and 61% are low-income compared with 15% uninsured and 48% low-income in non-shortage areas (Hoffman et al 2011). If providers are physically absent from a geographic area, primary care access is nonexistent regardless of the status of one's health insurance coverage.

Even within geographic and/or demographic areas more attractive to physicians, insurance coverage does not guarantee access to care. It is common for primary care practices to restrict their patient population based on insurance status, particularly to those covered by Medicaid (Decker 2012; Decker 2013; Boccuti et al 2013; Boccuti et al 2015). However, willingness to accept Medicaid patients may increase with increased reimbursement rates as low reimbursement rates is often a reason given for limiting the number of such patients (Wilk 2013). Acceptance of Medicaid patients did increase with the 2013-2014 ACA Medicaid reimbursement rate increase; however, acceptance rates declined in 2015 to the lowest since the enactment of ACA once reimbursement rates returned to pre-ACA levels (Boccuti et al 2013; Boccuti et al 2015; Commonwealth 2015). Even though providers limit Medicaid patients, as Medicaid coverage expands and the prospect of reimbursement for services, access for the uninsured within such areas may become even more limited (Sabik & Gandhi 2013). Without incentives or requirements to accept Medicaid coverage and shrinking availability to accept the uninsured, providers who are willing (or required) to serve regardless of ability to pay are necessary to fill the void.

Even as the Patient Protection and Affordable Care Act expanded health insurance coverage to an estimated 20 million people, Federally Qualified Health Centers remain an important part of the U.S. healthcare system. Without sufficient reforms to address costs, the persistently high cost of healthcare and health insurance continued to place it outside the means

of many individuals. Significant investments in incentivizing primary care providers to locate in shortage areas have improved access, yet shortages remain and millions of people are estimated to be without access. Just as Wilensky & Roby (2005) concluded before health reform, the U.S. healthcare system still does not provide incentives for the provision of care to low-income and vulnerable populations. FQHCs, from their inception, are providers charged with serving unattractive patient populations while providing that care regardless of ability to pay.[4] The experience after health reform shows the necessity of both the expansion of insurance as well as a well-funded, organized system of safety-net providers. What is needed now are discussions of the most efficient division of resources between insurance coverage expansions and investments in Federally Qualified Health Centers.

[1] A Hillary Clinton victory with (1) a Republican controlled Senate will likely maintain the status quo and (2) a Democratic controlled Senate will likely lead to expansion.
[2] The decrease in federal appropriations was in 2010 and the decrease resulted from a difference in ARRA funds in 2009.
[3] Fleming et al (2011) estimate average maintenance costs in the first year at $17,100 per physician. These costs could certainly increase as the cost of HIT may increase and with the inclusion of nurse practitioners and other providers that may also need licensing and training to use the HIT/EHR system.
[4] Unattractive from a financial standpoint.

APPENDIX A: Tables and Figures

Appendix A Table 1a. FQHC Patient Demographics by Year (%)

			Age									
	Total Patients Per FQHC		0-19 yrs		20-64 yrs		65+ yrs		Female		Hispanic	
	N	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ
2000	12,889		36.8	-1.6	55.7	0.7	7.5	2.7	57.9	0.2	26.4	3.8
2001	13,539	4.8	36.0	-2.2	56.5	1.4	7.5	0.0	57.9	0.0	25.7	-2.7
%Δ Pre-HCI		**4.8**		**-3.9**		**2.1**		**2.7**		**0.2**		**1.2**
2002	13,264	-2.1	35.4	-1.7	56.4	-0.2	7.3	-2.7	57.4	-0.9	24.0	-7.1
2003	13,819	4.0	34.7	-2.0	57.2	1.4	7.4	1.4	57.5	0.2	23.5	-2.1
2004	14,265	3.1	33.5	-3.6	58.7	2.6	7.6	2.6	57.7	0.3	22.9	-2.6
2005	14,787	3.5	32.9	-1.8	59.3	1.0	7.6	0.0	57.5	-0.3	21.9	-4.6
2006	14,991	1.4	32.5	-1.2	59.8	0.8	7.6	0.0	57.9	0.7	21.6	-1.4
%Δ Post-HCI		**9.7**		**-10.8**		**5.5**		**1.3**		**0.0**		**-19.0**
2007	15,022	0.2	31.9	-1.9	60.1	0.5	7.6	0.0	57.7	-0.3	21.6	0.0
2008	15,871	5.4	31.8	-0.3	60.6	0.8	7.7	1.3	57.7	0.0	20.9	-3.3
2009	16,593	4.4	31.8	0.0	60.6	0.0	7.6	-1.3	57.5	-0.3	20.2	-3.5
%Δ Recession		**9.7**		**-2.2**		**1.3**		**0.0**		**-0.7**		**-6.9**
2010	17,346	4.3	31.1	-2.3	61.4	1.3	7.5	-1.3	57.5	0.0	20.4	1.0
2011	17,988	3.6	30.8	-1.0	61.6	0.3	7.6	1.3	57.4	-0.2	20.6	1.0
2012	17,681	-1.7	25.8	-19.4	62.0	0.6	8.0	5.0	57.5	0.2	20.4	-1.0
2013	18,156	2.6	25.8	0.0	61.8	-0.3	8.3	3.6	57.3	-0.3	20.3	-0.5
2014	17,982	-0.97	26.7	3.4	62.3	0.8	8.6	3.5	57.0	-0.5	20.2	-0.5
%Δ ACA		**7.7**		**-19.1**		**2.7**		**11.6**		**-0.9**		**0.0**

Appendix A Table 1a. FQHC Patient Demographics by Year (%) (cont.)

	Ratio of Income to Poverty					
	LE 150% FPL		151-200% FPL		GT 200% FPL	
	%	%Δ	%	%Δ	%	%Δ
2000	65.7	1.1	21.4	4.2	12.9	-12.4
2001	65.9	0.3	22.0	2.7	12.1	-6.6
%Δ Pre-HCI		**1.4**		**6.8**		**-19.8**
2002	65.5	-0.6	22.7	3.1	11.7	-3.4
2003	67.1	2.4	22.5	-0.9	10.4	-12.5
2004	68.4	1.9	22.4	-0.4	9.2	-13.0
2005	68.1	-0.4	22.8	1.8	9.0	-2.2
2006	67.3	-1.2	24.1	5.4	8.6	-4.7
%Δ Post-HCI		**2.1**		**8.7**		**-40.7**
2007	66.7	-0.9	23.7	-1.7	9.6	10.4
2008	67.3	0.9	23.8	0.4	8.9	-7.9
2009	68.7	2.0	23.1	-3.0	8.1	-9.9
%Δ Recession		**2.0**		**-4.3**		**-6.2**
2010	68.8	0.1	23.4	1.3	7.8	-3.8
2011	68.6	-0.3	23.3	-0.4	8.1	3.7
2012	68.7	0.1	23.2	-0.4	8.1	0.0
2013	68.4	-0.4	23.4	0.9	8.2	1.2
2014	67.8	-0.9	23.5	0.4	8.7	5.7
%Δ ACA		**-1.3**		**1.7**		**6.9**

Appendix A Table 1b. NAMCS Primary Care Patient Characteristics by Year (%)

			Age			Insurance Status				
	Female	Hispanic	0-19	20-64	65+	Private	Medicare	Medicaid	Other	Uninsured
2001	59.05	10.63	20.52	53.50	25.97	61.41	22.83	7.50	3.89	4.54
Pre-HCI										
2002	59.47	9.76	22.08	52.74	25.18	61.20	21.88	7.83	4.43	4.89
2003	59.25	11.13	20.24	54.55	25.21	57.88	23.46	10.25	3.68	4.92
2004	58.78	10.14	20.29	53.97	25.74	57.86	23.43	10.16	4.00	4.74
2005	58.27	9.82	20.38	53.74	25.88	57.93	23.29	11.28	3.12	4.53
2006	59.11	12.83	21.52	52.77	25.72	54.30	22.86	14.25	4.25	4.53
%Δ Post-HCI	***0.10***	***17.15***	***4.65***	***-1.38***	***-0.97***	***-13.09***	***0.13***	***47.37***	***8.47***	***-0.22***
2007	58.28	13.08	21.07	52.59	26.34	56.34	23.48	11.93	3.68	4.76
2008	59.80	11.53	19.23	53.64	27.13	57.63	25.14	9.80	3.02	4.55
2009	58.78	10.29	18.89	53.73	27.38	56.48	26.17	10.64	3.17	3.66
%Δ Recession	***-0.56***	***-24.68***	***-13.92***	***1.88***	***6.06***	***4.39***	***12.64***	***-33.93***	***-34.07***	***-23.77***
2010	58.16	10.93	20.48	53.51	26.02	55.09	25.68	12.01	3.25	4.10
2011	57.38	12.59	21.95	51.75	26.29	54.17	26.04	12.24	2.62	5.05
2012	58.17	11.33	19.75	52.90	27.35	53.69	27.07	11.17	3.04	5.19
%Δ ACA	***-1.05***	***9.18***	***4.35***	***-1.57***	***-0.11***	***-5.20***	***3.32***	***4.17***	***-4.28***	***29.48***

	Diagnoses				Primary Focus of Visit			
	Asthma	Depression	Diabetes	HBP	Acute	Chronic	Mental Health	Prevention
2001					14.36	55.92	22.29	7.43
Pre-HCI								
2002					14.38	57.60	20.92	7.10
2003					16.00	51.52	23.81	8.67
2004					13.77	54.34	23.47	8.42
2005	5.53	8.67	9.74	22.73	15.68	55.50	20.31	8.50
2006	5.75	7.88	9.43	22.32	14.59	54.14	22.08	9.19
%Δ Post-HCI	***3.83***	***-10.03***	***-3.29***	***-1.84***	***1.57***	***-3.29***	***-0.95***	***19.15***
2007	5.87	8.51	10.20	23.66	14.10	55.20	22.80	7.90
2008	5.70	8.33	11.09	26.52	14.50	57.75	18.04	9.71
2009	6.27	9.98	12.58	29.06	13.05	55.69	23.31	7.96
%Δ Recession	***8.29***	***21.04***	***25.04***	***23.19***	***-11.80***	***2.78***	***5.28***	***-15.45***
2010	6.78	8.49	11.18	26.07	13.93	54.50	22.12	9.45
2011	7.46	10.44	12.41	29.68	13.86	53.71	23.96	8.48
2012	5.75	8.49	10.71	25.48	12.80	52.67	26.15	8.37
%Δ ACA	***-9.04***	***-17.55***	***-17.46***	***-14.05***	***-1.95***	***-5.73***	***10.86***	***4.90***

Appendix A Table 1c. NHIS Respondent Characteristics by Year (%)

	Total Population									
	Female	Hispanic	Age			Insurance				
			0-19	20-64	65+	Private	Medicare	Medicaid	Other	Uninsured
2001	51.2		29.2	58.9	11.9	71.1	4.1	8.8	2.5	13.6
Pre-HCI										
2002	51.2		29.0	59.2	11.9	69.1	4.2	10.1	2.5	14.1
2003	51.2	13.9	28.3	59.7	12.0	67.7	4.2	10.5	2.9	14.7
2004	51.1	14.1	28.2	59.8	12.0	67.5	4.5	10.6	2.9	14.5
2005	51.1	14.5	28.0	60.0	12.0	66.5	4.7	11.1	3.0	14.8
2006	51.0	14.8	27.8	60.0	12.1	64.6	5.1	12.0	3.0	15.4
%Δ Post-HCI	***-0.4***	***6.1***	***-5.0***	***1.8***	***1.7***	***-10.1***	***19.6***	***26.7***	***16.7***	***11.7***
2007	51.0	15.2	24.8			65.0	5.2	11.9	3.2	14.7
2008	51.0	15.5	24.7			64.2	5.5	12.4	3.2	14.7
2009	51.0	15.9	27.2	60.2	12.6	61.9	5.6	13.7	3.4	15.5
%Δ Recession	***0.0***	***6.9***	***-2.2***	***0.3***	***4.0***	***-4.4***	***8.9***	***12.4***	***11.8***	***0.6***
2010	51.0	16.2	27.3	60.0	12.7	60.1	6.0	14.2	3.6	15.5
2011	50.9	16.4	27.2	59.4	13.0	60.1	6.3	15.0	3.5	14.8
2012	48.9	17.1	23.9			60.4	6.8	14.8	3.4	14.3
2013	51.2	17.2	26.3	59.7	14.0	59.9	7.2	14.9	3.8	11.5
2014	51.1	17.4	26.3	59.4	14.4	61.4	7.2	16.4	3.6	9.0
%Δ ACA	***0.2***	***8.6***	***-3.4***	***-1.3***	***12.5***	***-0.8***	***22.2***	***16.5***	***5.6***	***-72.2***

Appendix A Table 1c. NHIS Respondent Characteristics by Year (%) (cont.)

	Total Population							Low-Income Population (lt 200% FPL)					
	Income (%FPL)			Diagnoses		Avg. Doctor Visits		Total Low-Income Population			With at least 1 Doctor Visit		
	<150	151-199	200+	Asthma	Diabetes	Total	At least 1	Asthma	Diabetes	Avg. Visits	Asthma	Diabetes	Avg. Visits
2001	8.8	21.5	69.7	11.4	4.8	2.45	2.98	13.67	4.74	2.44	15.26	6.93	3.14
Pre-HCI													
2002	8.8	21.5	69.7	11.1	4.9	2.47	2.97	12.86	5.72	2.44	14.51	6.67	3.09
2003	9.2	22.6	68.3	10.4	5.0	2.49	2.99	12.45	5.90	2.49	13.99	7.22	3.16
2004	9.9	22.4	67.8	10.5	5.3	2.46	2.98	12.30	6.41	2.41	13.96	7.81	3.09
2005	9.8	22.0	68.3	11.2	5.7	2.49	3.00	13.46	6.35	2.45	15.01	7.65	3.13
2006	10.0	24.0	65.9	11.6	6.0	2.38	2.93	14.31	6.86	2.36	16.45	8.19	3.04
%Δ Post-HCI	***12.0***	***10.4***	***-5.8***	***1.7***	***20.0***	***-2.9***	***-1.7***	***4.5***	***30.9***	***-3.4***	***7.2***	***15.4***	***-3.3***
2007	8.1	22.0	69.9	11.5	5.9	2.40	2.92	14.07	6.91	2.44	15.72	8.01	3.09
2008	7.9	22.2	69.9	12.9	6.4	2.46	2.96	15.32	7.02	2.40	16.95	8.48	3.08
2009	8.1	24.3	67.6	13.3	6.9	2.47	2.97	15.28	7.51	2.40	17.16	8.79	3.06
%Δ Recession	***-23.5***	***1.2***	***2.5***	***12.8***	***13.0***	***3.6***	***1.3***	***6.3***	***8.7***	***1.7***	***4.1***	***6.8***	***0.7***
2010	8.5	25.1	66.4	12.9	7.0	2.48	3.00	14.82	7.37	2.36	16.32	8.99	3.07
2011	8.7	25.6	65.7	12.9	6.9	2.46	2.46	15.22	7.36	2.39	16.94	8.80	3.05
2012	8.5	25.8	65.7	13.0	7.0	2.41	2.91	15.10	7.89	2.36	16.90	9.45	3.02
2013	8.5	25.3	66.3	12.0	7.3	2.41	2.91	13.79	8.12	2.36	15.21	9.53	3.01
2014	8.3	25.5	66.2	12.9	7.1	2.34	2.79	14.69	8.04	2.28	16.17	9.53	2.87
%Δ ACA	***2.4***	***4.7***	***-2.1***	***-3.1***	***2.8***	***-5.6***	***-6.5***	***-4.0***	***6.2***	***-5.3***	***-6.1***	***7.8***	***-6.6***

NOTE: Blank cells indicate data were not available.

Appendix A Table 1d. NHIS Respondent Insurance Coverage by Age and Year (%)

	0-19 Years						20-64 Years				
	Private	**Medicare**	**Medicaid**	**CHIP**	**Other**	**Uninsured**	**Private**	**Medicare**	**Medicaid***	**Other**	**Uninsured**
2001	66.98	0.23	14.17	3.49	3.50	11.63	74.47	1.37	4.65	2.35	17.08
Pre-HCI											
2002	64.07	0.18	17.04	3.96	3.63	11.11	73.03	1.15	5.23	2.28	18.16
2003	62.89	0.19	17.35	4.97	3.76	10.83	70.93	1.22	5.53	2.86	19.36
2004	62.86	0.25	17.97	4.57	4.01	10.34	71.01	1.29	5.66	2.74	19.19
2005	61.35	0.14	18.94	4.43	4.19	10.96	70.27	1.18	6.16	2.95	19.34
2006	58.71	0.23	21.82	4.55	3.79	10.89	68.73	1.54	6.16	3.00	20.40
%Δ Post-HCI	***-14.09***	***0.00***	***35.06***	***23.30***	***7.65***	***-6.80***	***-8.35***	***11.04***	***24.51***	***21.67***	***16.27***
2007	59.29	0.24	22.68	4.67	4.40	8.73	67.80	1.61	6.63	3.14	20.68
2008	57.94	0.26	23.30	5.10	4.39	9.01	66.87	1.69	7.09	3.29	20.95
2009	55.13	0.29	24.55	5.77	4.62	9.64	65.94	1.76	7.56	3.43	21.23
%Δ Recession	***-6.49***	***20.69***	***11.12***	***21.14***	***17.97***	***-12.97***	***-4.23***	***12.50***	***18.52***	***12.54***	***3.91***
2010	53.99	0.23	25.59	5.91	5.00	9.29	65.28	1.74	7.68	3.70	21.40
2011	53.94	0.19	27.53	5.60	4.39	8.35	65.17	1.90	8.26	3.74	20.74
2012	53.55	0.31	29.68	5.79	4.19	6.47	65.23	2.02	8.24	3.89	20.48
2013	53.19	0.21	28.82	5.11	4.87	7.81	65.28	2.13	8.21	4.03	20.21
2014	53.99	0.19	31.17	4.04	4.25	6.37	67.41	1.94	10.29	3.98	16.35
2015	55.25	0.20	32.34	3.34	3.76	5.11	69.77	2.07	11.78	3.49	12.84
%Δ ACA	***0.22***	***-45.00***	***24.09***	***-72.75***	***-22.87***	***-88.65***	***5.49***	***14.98***	***35.82***	***1.72***	***-65.34***

*****Includes CHIP but contributes less than half of one percent.

Appendix A Table 2. FQHC Special Patient Populations by Year (% of Total Patients)

	LEP		Migrant/ Seasonal		Homeless		School Based		Veterans	
	%	% Δ	%	% Δ	%	% Δ	%	% Δ	%	% Δ
2000	23.3	16.7	6.2	3.2	9.9	-1.0				
2001	23.8	2.1	5.7	-8.8	9.3	-6.5	2.4			
%Δ Pre-HCI		**18.5**		**-5.3**		**-7.5**				
2002	23.8	0.0	4.9	-16.3	9.4	1.1	2.9	19.2		
2003	23.5	-1.3	4.4	-11.4	9.4	0.0	2.5	-16.8		
2004	23.7	0.8	4.3	-2.3	9.3	-1.1	2.1	-19.0		
2005	24.5	3.3	4.3	0.0	9.6	3.1	2.1	0.0		
2006	24.7	0.8	4.1	-4.9	9.1	-5.5	2.1	0.0		
%Δ Post-HCI		**3.6**		**-39.0**		**-2.2**		**-14.3**		
2007	24.3	-1.6	3.9	-5.1	8.8	-3.4	1.9	-10.5		
2008	24.0	-1.3	3.8	-2.6	8.8	0.0	2.0	5.0	1.7	
2009	23.9	-0.4	3.6	-5.6	8.5	-3.5	1.7	-17.6	1.5	-13.3
%Δ Recession		**-1.7**		**-8.3**		**-3.5**		**-11.8**		**-13.3**
2010	24.0	0.4	3.4	-5.9	8.4	-1.2	2.1	19.0	1.6	6.3
2011	24.1	0.4	3.5	2.9	8.6	2.3	2.2	4.5	1.7	5.9
2012	21.0	-14.8	3.4	-2.9	7.1	-21.1	1.8	-22.2	1.4	-21.4
2013	21.2	0.9	3.2	-6.2	6.9	-2.9	1.8	0.0	1.5	6.7
2014	22.5	5.8	3.0	-6.7	7.1	2.8	2.1	14.3	1.6	6.3
%Δ ACA		**-6.7**		**-13.3**		**-18.3**		**0.0**		**0.0**

NOTE: Blank cells indicate data were not available.

Appendix A Table 3. FQHC Patient Health by Year (% Diagnosed)

	Mental Health											
	Alc Depend		Drug Depend		Tobacco		Anxiety/ PTSD		Depression		Oth Mental Health*	
2000	0.8	52.8	0.7	53.2							11.0	45.4
2001	0.6	-25.0	0.7	8.1							12.2	9.8
%Δ Pre-HCI		***41.0***		***57.0***								***50.7***
2002	0.6	0.0	0.7	-5.7							12.8	4.5
2003	0.7	15.5	0.7	0.0							13.5	5.7
2004	0.8	10.1	0.8	10.3			1.8		3.6		2.5	
2005	0.7	-6.8	0.8	-1.3			1.8	3.3	3.5	-2.3	2.3	-8.7
2006	0.7	-7.2	0.8	4.9			1.9	2.2	3.7	3.8	2.3	0.0
%Δ Post-HCI		***13.0***		***8.6***				***5.4***		***1.6***		***-8.7***
2007	0.6	-16.9	0.7	-17.4			1.9	0.5	3.6	-1.7	2.2	-4.5
2008	0.6	7.8	0.7	5.5			2.1	9.2	3.8	4.3	2.0	-8.9
2009	0.7	3.0	0.7	-4.3	0.7		2.2	7.6	3.9	2.3	2.3	11.0
%Δ Recession		***-4.5***		***-15.7***				***13.6***		***4.9***		***-1.3***
2010	0.6	-11.9	0.7	2.8	0.8	12.0	2.4	6.3	4.2	7.9	2.3	1.3
2011	0.6	-7.3	0.7	-5.9	0.9	12.8	2.5	4.8	4.3	2.1	2.4	2.5
2012	1.4	59.6	1.6	58.0	5.4	83.9	5.3	53.1	7.9	45.7	4.4	46.6
2013	1.4	0.7	1.7	5.3	6.6	18.4	5.9	8.9	8.8	10.7	4.7	6.8
2014	1.5	10.5	1.8	5.5	6.4	-3.0	6.2	5.5	9.2	4.4	5.1	7.1
%Δ ACA		***56.9***		***61.3***		***89.6***		***64.0***		***58.2***		***55.5***

	Chronic Illness (% Diagnosed)									
	Asthma		Diabetes		Hypertension		Obesity		HIV	
2000	2.8	51.9	4.9	55.2	8.9	53.0			0.5	66.5
2001	2.9	4.5	5.1	4.7	9.3	4.0			0.5	-2.0
%Δ Pre-HCI		***54.1***		***57.3***		***54.9***				***65.8***
2002	3.1	4.3	5.4	4.5	9.3	0.3			0.5	2.0
2003	3.1	1.6	5.7	5.8	9.6	3.3			0.5	-2.0
2004	3.1	-0.6	6.1	5.8	10.5	8.4			0.5	0.0
2005	3.1	0.0	6.2	2.4	10.5	0.5			0.5	-4.2
2006	2.9	-7.3	6.3	1.9	10.7	1.1			0.5	-6.7
%Δ Post-HCI		***-1.7***		***18.8***		***13.1***				***-11.1***
2007	2.8	-3.2	6.5	2.8	10.9	2.0			0.7	31.8
2008	2.7	-2.2	6.4	-1.1	11.0	1.2			0.5	-32.0
2009	2.7	0.4	6.6	2.1	11.1	0.5	1.4		0.5	2.0
%Δ Recession		***-5.1***		***3.8***		***3.7***				***-11.8***
2010	2.6	-3.4	6.7	2.2	11.3	2.1	1.5	9.9	0.5	-8.5
2011	2.6	-2.3	6.9	3.0	11.5	1.3	1.6	6.2	0.5	-2.2
2012	4.7	44.5	8.8	21.2	17.9	35.8	7.6	78.6	0.6	28.1
2013	4.9	4.5	9.2	3.8	18.6	4.0	9.9	23.5	0.6	-6.7
2014	4.8	-1.2	9.2	0.7	18.5	-0.6	11.5	14.1	0.8	20.0
%Δ ACA		***43.2***		***28.6***		***40.2***		***88.1***		***32.0***

NOTE: Blank cells indicate data were not available. *Measurement of mental health diagnoses changed in 2004 making comparison to 2005-14 unadvisable.

Appendix A Table 4. Composition of FQHC Service Encounters by Year

	Tot Encounters		Encounters Per Patient		Acute			Chronic		
	1000s	% Δ	N	% Δ	% of Total	N	% Δ	% of Total	N	% Δ
2000	20.1	-1.0	1.5	-6.7	11.5	2,280		37.5	6,642	
2001	21.1	4.7	1.5	0.0	11.0	2,311	1.3	37.3	6,980	4.8
%Δ Pre-HCI		**3.8**		**-6.7**			**1.3**			**4.8**
2002	20.5	-2.9	1.5	0.0	10.8	2,200	-5.0	37.2	6,703	-4.1
2003	21.9	6.4	1.5	0.0	10.1	2,157	-2.0	37.2	7,185	6.7
2004	28.9	24.2	2.0	25.0	7.4	2,128	-1.4	31.5	7,830	8.2
2005	31.2	7.4	2.1	4.8	6.9	2,159	1.4	30.8	8,097	3.3
2006	32.7	4.6	2.1	0.0	6.4	2,056	-5.0	29.8	8,148	0.6
%Δ Post-HCI		**35.5**		**30.0**			**-12.4**			**14.3**
2007	33.8	3.3	2.1	0.0	6.4	2,059	0.1	29.0	8,051	-1.2
2008	35.7	5.3	2.1	0.0	6.0	2,082	1.1	28.0	8,107	0.7
2009	40.3	11.4	2.3	8.7	5.5	2,112	1.4	26.7	8,829	8.2
%Δ Recession		**16.1**		**8.7**			**2.5**			**8.8**
2010	43.1	6.5	2.4	4.2	5.4	2,244	5.9	25.5	9,086	2.8
2011	45.3	4.9	2.4	0.0	5.2	2,287	1.9	25.0	9,432	3.7
2012	62.0	26.9	3.4	29.4	5.9	3,719	38.5	32.6	17,982	47.5
2013	66.8	7.2	3.7	8.1	5.8	3,958	6.0	33.1	20,085	10.5
2014	67.6	1.2	3.7	0.0	5.7	3,869	-2.3	33.5	20,478	1.9
%Δ ACA		**36.2**		**35.1**			**42.0**			**55.6**

	Dental			MHSA			Prevention		
	% of Total	N	% Δ	% of Total	N	% Δ	% of Total	N	% Δ
2000				12.5	2,861		38.5	8,269	
2001				13.2	3,115	8.2	38.4	8,666	4.6
%Δ Pre-HCI						**8.2**			**4.6**
2002				13.9	3,056	-1.9	38.1	8,501	-1.9
2003				14.2	3,283	6.9	38.5	9,269	8.3
2004	17.59	5,217		13.3	3,909	16.0	30.1	9,763	5.1
2005	20.13	6,591	20.8	12.9	3,939	0.8	29.2	10,399	6.1
2006	21.47	7,419	11.2	12.9	4,223	6.7	29.4	10,825	3.9
%Δ Post-HCI			**29.7**			**26.2**			**19.9**
2007	21.72	7,902	6.1	12.9	4,260	0.9	30.0	11,496	5.8
2008	22.67	8,682	9.0	13.1	4,544	6.3	30.2	12,265	6.3
2009	22.22	9,515	8.8	13.4	5,310	14.4	32.1	14,478	15.3
%Δ Recession			**17.0**			**19.8**			**20.6**
2010	23.29	10,594	10.2	13.9	5,827	8.9	32.0	15,365	5.8
2011	24.94	11,657	9.1	14.3	6,438	9.5	30.6	15,484	0.8
2012	19.26	12,025	3.1	19.9	12,478	48.4	22.3	15,747	1.7
2013	18.18	12,059	0.3	20.8	14,134	11.7	22.2	16,600	5.1
2014	17.77	12,392	2.7	21.7	14,485	2.4	21.3	16,366	-1.4
%Δ ACA			**14.5**			**59.8**			**6.1**

NOTE: Blank cells indicate data were not available.

Appendix A Table 5. Composition of and Change in Selected FQHC Staffing by Year

	Physician				Midlevel				Nurses			
	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs
2007	7994.1	2007.8		14.1	4692.9	3420.3		8.3	9281.6	2464.4	100.0	16.3
2008	8440.9	2028.5	5.3	13.8	5137.6	3332.8	8.7	8.4	9806.8	2332.4	5.4	16.0
2009	9124.8	2055.3	7.5	13.6	5758.1	3257.0	10.8	8.6	10626.0	2152.6	7.7	15.8
%Δ Recession		**47.4**	**2.3**			**-163.3**	**-5.0**			**-311.8**	**-14.5**	
2010	9592.1	2029.7	4.9	13.2	6362.3	3060.1	9.5	8.8	11364.7	2012.7	6.5	15.6
2011	9935.7	2035.6	3.5	12.9	6933.2	2917.1	8.2	9.0	11854.2	1929.5	4.1	15.4
2012	10444.7	2020.4	4.9	12.5	7555.0	2793.2	8.2	9.1	12551.2	1822.4	5.6	15.1
2013	10733.7	2024.2	2.7	12.0	8156.4	2663.8	7.4	9.1	13278.4	1722.6	5.5	14.9
2014	11202.8	2041.7	4.2	11.4	9091.8	2515.8	10.3	9.2	14330.0	1596.2	7.3	14.5
%Δ ACA		**-0.7**	**18.5**			**-29.5**	**36.7**			**-34.9**	**25.8**	

	DDS				Mental Health				Rx				Enabling			
	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs	FTEs	Patients per FTE (% Δ below)	% Δ FTEs	% of Total FTEs
2007	6899.2	3315.3		12.1	2714.2	8427.3	100.0	4.8	2165.8	10561.3		3.8	10632.3	2151.3		18.7
2008	7519.9	3041.7	8.3	12.3	3188.6	7173.4	14.9	5.2	2309.6	9903.7	6.2	3.8	10994.7	2080.4	3.3	18.0
2009	8473.6	2699.4	11.3	12.6	3687.6	6202.7	13.5	5.5	2478.6	9228.3	6.8	3.7	11647.6	1963.8	5.6	17.4
%Δ Recession		**-616.0**	**-22.8**			**-2224.6**	**-35.9**			**-1333.0**	**-14.4**			**-187.5**	**-9.5**	
2010	9452.2	2419.9	10.4	13.0	4241.0	5393.4	13.0	5.8	2755.6	8300.8	10.1	3.8	12128.0	1886.0	4.0	16.7
2011	10337.4	2212.7	8.6	13.4	4485.7	5099.2	5.5	5.8	2999.3	7626.1	8.1	3.9	12503.8	1829.3	3.0	16.2
2012	11159.8	2049.6	7.4	13.4	5215.1	4386.0	14.0	6.3	3263.8	7008.1	8.1	3.9	13143.2	1740.3	4.9	15.8
2013	11850.0	1930.2	5.8	13.3	5694.5	4016.7	8.4	6.4	3471.0	6589.9	6.0	3.9	14716.0	1554.3	10.7	16.5
2014	12877.4	1776.2	8.0	13.1	6371.9	3589.7	10.6	6.5	3674.4	6225.0	5.5	3.7	17249.9	1326.0	14.7	17.5
%Δ ACA		**-52.0**	**34.2**			**-72.8**	**42.1**			**-48.2**	**-69.3**			**-48.1**	**32.5**	

Appendix A Table 6. Percent of Total FQHC Revenue by Source and Year

Source	2015	2014	2013	2012	2011	2010	2009	2008
Medicaid	42	40	40	38	38	38	37	37
Federal Grants	23	20	21	22	21	23	21	20
State and Local Grants	14	16	14	17	18	15	19	18
Other 3rd Party Payers	17	18	16	17	17	16	17	16
Self-Pay	5	5	6	6	6	6	6	6

SOURCES: 2009 data from MedPac (2011); 2010 data from KFF (2012); 2011 data from HRSA (2013); 2012 data from HRSA (2013); 2013 data from KFF (2015); 2014 data from HRSA (2015); 2015 data from Heisler (2016).
NOTE: Percentages may not sum to 100% due to rounding.

Appendix A Table 7. Percent of Total FQHC Grant Revenue by Source and Year

	MHC	CHC	HCH	PH	HSHC	SC	Total Health Center	ISD	CI	SIMIS	Other BPHC	Other Federal
2000	4.57	50.15	5.48	0.68	0.44		61.54					3.94
2001	4.63	49.09	5.70	0.75	0.41		60.77	0.22	0.35	0.11	0.68	4.51
2002	3.99	47.13	5.70	0.67	1.55		59.10	0.24	0.37	0.12	0.73	5.74
2003	3.89	49.90	5.88	0.74		1.33	61.74	0.15	0.29	0.12	0.56	5.23
2004	3.97	50.49	5.61	0.71		1.03	61.81	0.21	0.25	0.09	0.55	4.62
2005	3.87	50.43	5.59	0.72			60.60	0.29	0.28	0.05	0.62	4.08
2006	3.74	50.06	5.00	0.66			59.46	0.15	0.22	0.05	0.42	3.81
2007	3.64	47.52	4.76	0.62			56.54	0.11	0.18	0.04	0.34	3.72
2008	3.64	48.58	4.75	0.61			57.58	0.06	0.11	0.08	0.25	3.59
2009	3.27	42.69	4.25	0.56			50.77		0.11		0.11	3.64
2010	3.03	38.46	3.94	0.52			45.95		0.13		0.13	3.26
2011	3.13	42.25	4.22	0.53			50.11		0.07		0.07	3.45
2012	3.20	44.59	4.41	0.65			52.84		0.12		0.12	3.39
2013	3.37	47.48	4.46	0.70			56.01		0.66		0.66	3.11
2014	3.35	50.15	4.86	0.71			59.08		0.58		0.58	3.32

	State	Indigent	Local	Private	Other Grant	ARRA	CMS EHR	ACA
2000	12.61	4.77	5.71	5.88	5.56			
2001	12.19	5.23	5.43	5.63	5.56			
2002	12.60	5.20	5.19	6.50	4.93			
2003	10.30	5.65	5.72	6.55	4.25			
2004	10.41	5.13	5.91	7.40	4.16			
2005	10.13	5.58	6.08	7.97	4.94			
2006	11.18	5.55	5.86	9.35	4.37			
2007	11.79	5.98	6.13	10.30	5.20			
2008	11.42	6.05	5.91	10.26	4.94			
2009	10.09	5.78	5.32	8.91	4.55	10.81		
2010	9.02	5.33	5.02	7.91	4.57	18.78		0.04
2011	8.47	5.29	4.73	8.03	5.28	11.34	1.62	1.62
2012	8.06	5.44	4.87	8.75	6.48	2.90	3.97	3.19
2013	7.47	5.47	5.02	8.59	6.69	1.03	2.52	3.44
2014	7.32	4.45	4.94	8.32	6.61	0.86	1.98	2.53

Appendix A Table 8a. Pregnancy and Birth Outcomes by Year (%)

	Prenat 1stTri		Prenat 2ndTri		Prenat 3rdTri		<= 1500 grams		1501-2500 grams	
2000	65.6	-0.2	26.8	1.4	8.3	5.8	2.1	-25.2	6.3	-15.4
2001	66.3	1.0	27.6	2.8	7.4	-13.0	1.9	-11.1	6.0	-5.0
%Δ Pre-HCI		**0.8**		**4.2**		**-6.5**		**-39.2**		**-21.2**
2002	65.7	-0.9	26.9	-2.4	8.2	10.1	1.8	-4.4	6.6	9.1
2003	66.8	1.6	26.8	-0.6	7.2	-14.4	1.7	-5.8	6.2	-6.8
2004	66.8	0.1	26.4	-1.4	7.5	4.5	1.6	-8.2	6.3	2.4
2005	67.5	1.0	26.2	-0.9	7.1	-5.8	1.6	1.9	6.8	7.0
2006	67.6	0.1	26.6	1.5	6.6	-8.1	1.7	6.4	6.7	-1.8
%Δ Post-HCI		**2.0**		**-3.8**		**-12.2**		**-9.9**		**10.3**
2007	67.1	-0.7	26.9	1.4	6.5	-0.8	1.7	0.6	6.6	-1.8
2008	67.7	0.8	26.6	-1.2	6.2	-5.0	1.3	-32.1	8.0	18.3
2009	70.0	3.3	25.0	-6.4	5.5	-13.9	1.2	-11.0	7.1	-13.4
%Δ Recession		**3.4**		**-6.1**		**-20.6**		**-45.8**		**5.6**
2010	71.2	1.6	24.0	-4.2	5.3	-3.6	1.2	4.1	6.9	-2.5
2011	71.4	0.3	23.5	-2.1	5.4	2.6	1.5	16.9	7.2	3.9
2012	71.8	0.5	23.4	-0.6	5.1	-5.5	1.6	6.9	6.4	-12.1
2013	72.2	0.6	22.8	-2.8	5.3	2.7	1.6	1.2	6.9	6.3
2014	76.0	5.0	19.5	-16.5	4.8	-9.6	1.4	-15.0	6.7	-2.4
%Δ ACA		**7.9**		**-28.2**		**-13.5**		**15.7**		**-6.0**

Appendix A Table 8b. Quality of Care (% of Eligible Patients/FQHCs)

	PAP rate	Child Weight & Counsel	Adult Weight & Follow-up	Asthma Tx Plan	Lipid Therapy	Aspirin/ Other Antithrombotic Therapy	Colorectal Cancer Screening	Childhood immunization
2007								
2008	56.9							70.0
2009	58.2							68.8
2010	57.8							74.0
2011	57.8	39.2	39.3					43.8
2012	57.2	46.7	47.7	73.0				42.5
2013	57.8	51.8	53.3	77.7	75.1	74.8	32.6	76.4
2014	56.3	56.6	56.1	80.8	78.4	76.8	34.5	77.2

	EHR	PCMH*	Million Hearts	National Quality Leader	FQHC Quality Leader
2007					
2008					
2009					
2010					
2011	75.8				
2012	79.0	65.0	17.0		
2013	88.0	65.0	17.0	4.7	30.1
2014	92.0	65.0	17.0	4.8	30.4

NOTE: Blank cells indicate data not available.
*As reported in the Uniform Data System.

Appendix A Table 9a. Non-Territory FQHC Grantees, Sites, and Appropriations by Year

	FQHC Grantees[§]		Sites			Federal Appropriations (in million USD)		Total Patients (1000s)[§]		Patients per Site		Cost per Patient*	
Year‡	**N**	**% Change**	**N**	**% Change**	**Avg.**	**N**	**% Change**	**N**	**% Change**	**N**	**% Change**	**$**	
2000	705	5.8	3,352	1.4	4.6	1,013	8.7	9,087	6.3	2711		406	
2001	722	2.4	4,006	16.3	5.4	1,164	13.0	9,775	7.0	2440	-11.1	425	4.5
%Δ Pre-HCI		**8.0**		**17.6**			**20.5**		**12.9**		**-11.1**		**4.5**
2002	818	11.7	4,473	10.4	5.3	1,328	12.4	10,837	9.8	2423	-0.7	455	6.6
2003	864	5.3	4,849	7.8	5.4	1,505	11.8	11,926	9.1	2459	1.5	479	5.0
2004	888	2.7	5,369	9.7	5.9	1,617	6.9	12,653	5.8	2357	-4.4	504	5.0
2005	926	4.1	5,768	6.9	6.1	1,735	6.8	13,678	7.5	2371	0.6	515	2.1
2006	975	5.0	6,066	4.9	6.1	1,785	2.8	14,601	6.3	2407	1.5	538	4.3
%Δ Post-HCI		**25.9**		**34.0**			**34.8**		**33.1**		**-1.4**		**21.0**
2007	1,041	6.3	6,538	7.2	6.1	1,988	10.2	15,623	6.5	2390	-0.7	552	2.5
2008	1,054	1.2	7,260	9.9	6.7	2,065	3.7	16,712	6.5	2302	-3.8	588	6.5
2009	1,105	4.6	7,257	0.0	6.4	4,190[†]	50.7	18,319	8.8	2524	8.8	600	2.0
%Δ Recession		**11.8**		**16.4**			**57.4**		**20.3**		**4.6**		**10.3**
2010	1,098	-0.6	6,955	-4.3	6.2	2,185	-91.8	19,029	3.7	2736	7.7	630	4.8
2011	1,102	0.4	7,624	8.8	6.8	3,190[††]	31.5	19,787	3.8	2595	-5.4	654	3.7
2012	1,170	5.8	8,820	13.6	7.4	2,767[††]	15.3	20,669	4.3	2343	-10.8	687	4.8
2013	1,174	0.3	9,070	2.8	7.5	2,945[††]	6.0	21,297	3.0	2348	0.2	721	4.7
2014	1,250	6.1	8,700	-4.3	6.8	3,640[††]	19.1	22,460	5.2	2582	9.1	763	5.5
%Δ ACA		**11.6**		**16.6**			**-15.1**		**18.4**		**2.4**		**21.4**

NOTE: Blank cells indicate data not awarded available.

‡ Data were acquired through FOIA requests for 1996-2014 only. [†]An additional $2000M was provided through ARRA.

[††]Funds of $1000M in 2011, $1200M in 2012, $1465M in 2013, and $2145M in 2014 were provided through the Health Center Fund in the ACA. [§] FQHCs in U.S. Territories were explicitly excluded. *National Association of Community Health Centers. A Sketch of Community health Centers: Chart Book 2008/2009/2014.

Appendix A Table 9b. Change in Total Hospitals and Rural Health Clinics by Year

	Hospitals		Rural Health Clinics	
2000	4915		3334	
2001	4908	-0.14	3283	-1.55
%Δ Pre-HCI		**-0.14**		**-1.55**
2002	4927	0.39	3304	0.64
2003	4895	-0.65	3404	2.94
2004	4919	0.49	3535	3.71
2005	4936	0.34	3661	3.44
2006	4927	-0.18	3721	1.61
%Δ Post-HCI		**0.39**		**11.77**
2007	4897	-0.61	3781	1.59
2008	5010	2.26	3757	-0.64
2009	5008	-0.04	3752	-0.13
%Δ Recession		**1.62**		**0.83**
2010	4985	-0.46	3845	2.42
2011	4973	-0.24	3948	2.61
2012	4999	0.52	3996	1.20
2013	4974	-0.50	4020	0.60
2014	4926	-0.97	4084	1.57
%Δ ACA		**-1.66**		**8.13**

SOURCES: Number of hospitals take from http://kff.org/other/state-indicator/total-hospitals/. Number of Rural Health Clinics extracted from the Area Health resources Files (AHRF) accessed at ahfr.hrsa.gov/download.htm.

Appendix A Table 10a. Usual Source of Care by Health Insurance, Income, and Year (NHIS) (%)

	2001	2002	2003	2004	2005	2006	%Δ	2007	2008	2009	%Δ
Total Population											
No usual place	**7.65**	**8.19**	**8.26**	**9.10**	**9.01**	**9.33**	***18.01***	**9.03**	**9.11**	**9.54**	***5.35***
If Usual Place:											
Clinic/Health Center	17.96	17.08	17.98	18.65	18.60	19.03	***5.62***	19.60	21.07	21.87	***10.38***
Office	79.49	80.37	79.39	79.27	79.24	78.62	***-1.11***	78.18	76.70	75.78	***-3.17***
ER	0.84	1.01	1.03	0.90	0.81	0.93	***9.68***	0.85	0.83	0.96	***11.46***
Hosp Outpatient	1.72	1.54	1.60	1.18	1.34	1.42	***-21.13***	1.37	1.39	1.39	***1.44***
Uninsured											
No usual place	31.90	32.96	32.46	36.62	37.33	38.19	***16.47***	38.10	38.16	39.08	***2.51***
If Usual Place:											
Clinic/Health Center	36.42	33.95	37.77	38.96	37.76	38.36	***5.06***	39.75	41.54	40.62	***2.14***
Office	54.95	57.26	53.13	53.51	53.75	53.24	***-3.21***	52.64	51.25	51.04	***-3.13***
ER	4.68	5.62	5.76	5.46	5.90	5.23	***10.52***	5.16	4.43	5.77	***10.57***
Hosp Outpatient	3.95	3.17	3.34	2.07	2.58	3.16	***-25.00***	2.44	2.78	2.57	***5.06***
Medicaid											
No usual place	3.62	3.61	2.76	4.35	3.94	3.32	***-9.04***	3.84	3.19	3.83	***-0.26***
If Usual Place:											
Clinic/Health Center	32.41	29.09	32.97	31.95	33.52	32.09	***-1.00***	34.28	35.62	35.62	***3.76***
Office	63.00	66.32	62.73	64.66	62.75	64.68	***2.60***	62.31	61.04	61.19	***-1.83***
ER	1.10	1.46	1.24	1.31	0.94	1.21	***9.09***	1.13	0.95	0.84	***-34.52***
Hosp Outpatient	3.48	3.14	3.07	2.09	2.79	2.02	***-72.28***	2.28	2.38	2.35	***2.98***
Medicare											
No usual place	3.81	3.05	3.88	4.48	3.61	3.71	***-2.70***	3.08	4.61	2.78	***-10.79***
If Usual Place:											
Clinic/Health Center	13.16	13.78	14.38	16.35	15.01	16.66	***21.01***	16.07	14.72	16.89	***4.85***
Office	82.64	82.60	82.58	81.04	82.29	79.97	***-3.34***	81.33	82.65	80.32	***-1.26***
ER	1.11	0.39	0.49	0.29	0.26	0.87	***-27.59***	0.21	0.44	0.28	***25.00***
Hosp Outpatient	3.09	3.23	2.56	2.31	2.43	2.49	***-24.10***	2.39	2.19	2.51	***4.78***
Other											
No usual place	2.56	3.47	3.03	3.46	4.10	4.70	***45.53***	2.77	4.39	4.28	***35.28***
If Usual Place:											
Clinic/Health Center	40.50	37.03	40.35	40.24	39.63	37.45	***-8.14***	37.18	43.76	41.63	***10.69***
Office	47.89	52.26	48.08	51.04	52.80	52.06	***8.01***	53.95	47.54	51.05	***-5.68***
ER	0.37	1.41	1.11	0.87	0.49	1.45	***74.48***	0.76	0.66	0.97	***21.65***
Hosp Outpatient	11.23	9.30	10.45	7.82	7.07	9.05	***-24.09***	8.11	8.04	6.35	***-27.72***
Private											
No usual place	3.95	4.33	4.37	4.53	4.24	4.30	***8.14***	4.20	4.25	4.34	***3.23***
If Usual Place:											
Clinic/Health Center	13.44	12.54	12.13	13.09	12.83	12.91	***-4.11***	13.52	14.74	15.21	***11.11***
Office	85.42	86.34	86.78	86.04	86.37	86.17	***0.87***	85.52	84.25	83.79	***-2.06***

ER	0.31	0.36	0.36	0.30	0.16	0.25	***-24.00***	0.27	0.36	0.34	***20.59***
Hosp Outpatient	0.83	0.75	0.73	0.59	0.64	0.67	***-23.88***	0.68	0.65	0.66	***-3.03***
Less than 200% FPL											
No usual place	11.82	11.64	12.01	13.90	13.91	14.23	***16.94***	13.76	14.38	14.24	***3.37***
If Usual Place:											
Clinic/Health Center	28.74	25.88	29.39	28.89	29.28	29.98	***4.14***	31.60	34.97	32.97	***4.16***
Office	66.33	69.27	66.08	67.13	66.63	65.81	***-0.79***	64.25	61.06	62.89	***-2.16***
ER	1.86	2.32	2.12	1.99	1.85	1.87	***0.53***	1.89	1.71	1.85	***-2.16***
Hosp Outpatient	3.07	2.53	2.41	1.99	2.23	2.34	***-31.20***	2.27	2.27	2.29	***0.87***
<=200% FPL											
No usual place	5.15	6.18	6.21	6.31	6.45	6.89	***25.25***	6.49	6.19	7.04	***7.81***
If Usual Place:											
Clinic/Health Center	14.56	13.99	13.81	14.48	14.97	14.91	***2.35***	14.97	15.61	16.75	***10.63***
Office	83.72	84.31	84.44	84.26	83.75	83.62	***-0.12***	83.52	82.94	81.79	***-2.12***
ER	0.51	0.61	0.54	0.42	0.40	0.44	***-15.91***	0.44	0.54	0.49	***10.20***
Hosp Outpatient	1.21	1.09	1.21	0.83	0.88	1.03	***-17.48***	1.06	0.92	0.96	***-10.42***

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	***%Δ***
Total Population							
No usual place	**9.01**	**8.17**	**8.88**	**8.84**	**7.54**	**7.09**	***-27.08***
If Usual Place:							
Clinic/Health Center	21.68	22.91	22.53	23.88	23.35	23.77	***8.79***
Office	75.98	74.53	75.23	73.85	74.53	74.53	***-1.95***
ER	0.99	1.17	0.92	0.93	0.83	0.83	***-19.28***
Hosp Outpatient	1.35	1.39	1.32	1.34	1.29	1.29	***-4.65***
Uninsured							
No usual place	37.47	34.40	38.29	37.31	35.52	36.70	***-2.10***
If Usual Place:							
Clinic/Health Center	43.69	48.00	47.42	48.77	50.34	47.45	***7.92***
Office	47.56	42.09	44.77	43.21	41.38	44.15	***-7.72***
ER	5.74	6.96	5.21	5.15	5.48	6.13	***6.36***
Hosp Outpatient	3.00	2.95	2.60	2.86	2.80	2.27	***-32.16***
Medicaid							
No usual place	3.51	3.42	3.54	3.65	3.63	3.83	***8.36***
If Usual Place:							
Clinic/Health Center	33.24	34.39	35.81	35.89	36.57	37.53	***11.43***
Office	63.47	62.09	60.77	60.79	60.58	59.42	***-6.82***
ER	1.28	1.53	1.27	1.41	1.29	1.20	***-6.67***
Hosp Outpatient	2.01	1.99	2.15	1.91	1.56	1.84	***-9.24***
Medicare							
No usual place	2.65	2.72	2.55	3.71	2.22	2.62	***-1.15***
If Usual Place:							

Clinic/Health Center	17.69	19.41	17.73	20.01	16.88	18.73	***5.55***
Office	79.95	78.04	79.83	78.03	81.11	79.54	***-0.52***
ER	0.39	0.38	0.38	0.30	0.39	0.27	***-44.44***
Hosp Outpatient	1.97	2.17	2.07	1.67	1.62	1.46	***-34.93***
Other							
No usual place	3.12	3.72	5.49	3.71	2.35	3.54	***11.86***
If Usual Place:							
Clinic/Health Center	41.29	41.20	39.39	41.42	36.18	43.95	***6.05***
Office	50.98	50.86	52.55	50.73	57.26	50.51	***-0.93***
ER	0.69	0.91	1.12	1.47	0.69	0.64	***-7.03***
Hosp Outpatient	7.08	7.03	6.94	6.38	5.88	4.90	***-44.49***
Private							
No usual place	4.01	3.77	4.17	4.30	4.29	4.45	***9.89***
If Usual Place:							
Clinic/Health Center	14.78	15.46	15.38	16.58	16.58	17.65	***16.26***
Office	84.36	83.61	83.75	82.53	82.44	81.37	***-3.67***
ER	0.29	0.30	0.30	0.25	0.22	0.28	***-3.57***
Hosp Outpatient	0.57	0.63	0.57	0.64	0.75	0.69	***17.39***
Less than 200% FPL							
No usual place	14.08	12.70	13.41	13.82	11.33	9.92	***-41.94***
If Usual Place:							
Clinic/Health Center	33.43	35.09	35.01	35.99	35.75	35.63	***6.17***
Office	62.46	60.18	61.02	60.00	60.36	60.51	***-3.22***
ER	2.13	2.62	2.07	1.99	1.90	1.86	***-14.52***
Hosp Outpatient	1.98	2.12	1.91	2.02	1.99	1.99	***0.50***
<=200% FPL							
No usual place	6.29	5.65	6.33	6.03	5.38	5.66	***-11.13***
If Usual Place:							
Clinic/Health Center	16.25	16.82	16.60	18.04	17.36	18.27	***11.06***
Office	82.40	81.67	82.04	80.65	81.51	80.57	***-2.27***
ER	0.44	0.48	0.35	0.42	0.23	0.32	***-37.50***
Hosp Outpatient	0.91	1.03	1.01	0.89	0.90	0.83	***-9.64***

NOTE: Percentages do not add to one hundred as the "Other" and "More than one place" categories are excluded from the table.

Appendix A Table 10b. Reasons for No Usual Source of Care by Health Insurance, Income, and Year (NHIS) (%)

	2011	2012	2013	2014
Uninsured				
No usual source: Expense	66.22	60.79	58.25	56.40
No usual source: Don't know where to go	1.59	1.81	2.22	2.48
No usual source: No problems	31.68	35.74	39.69	43.31
Medicaid				
No usual source: Expense	22.41	20.18	13.10	21.92
No usual source: Don't know where to go	6.78	3.29	8.05	4.39
No usual source: No problems	44.48	47.69	50.39	52.38
Medicare				
No usual source: Expense	17.27	15.91	15.07	10.97
No usual source: Don't know where to go	3.57	5.75	2.05	5.71
No usual source: No problems	49.99	55.76	64.79	48.52
Other				
No usual source: Expense	17.19	32.24	21.28	11.79
No usual source: Don't know where to go	5.76	5.31	3.72	4.39
No usual source: No problems	40.10	42.07	45.82	62.98
Private				
No usual source: Expense	7.74	7.59	5.79	6.78
No usual source: Don't know where to go	3.32	2.41	2.33	2.73
No usual source: No problems	66.85	67.92	73.53	68.24
Less than 200% FPL				
No usual source: Expense	53.87	49.04	44.78	42.21
No usual source: Don't know where to go	2.64	2.90	2.93	3.52
No usual source: No problems	35.98	40.74	45.04	47.83
Greater than/equal to 200% FPL				
No usual source: Expense	29.51	27.30	24.56	21.60
No usual source: Don't know where to go	2.70	1.77	2.31	2.31
No usual source: No problems	54.01	56.23	61.61	59.87

NOTES: Percentages do not add to one hundred as the "Other" and "More than one place" categories are excluded from the table. Blank cells indicate data not available.

Appendix A Table 11. Encounter Types

Encounter Type	Included encounters
Acute	exposure to heat or cold, abnormal breast finding, abnormal cervical finding, dermatitis/eczema, dehydration, abnormal development, HIV dx, TB, Syphilis/Other STD, Hepatitis B/C, otitis media and Eustachian tube disorders, perinatal conditions
Chronic	asthma, chronic bronchitis and emphysema, diabetes, hypertension, obesity
Prevention	testing for HIV, TB, syphilis and other venereal diseases, mammogram, pap, flu immunization, contraceptive management, healthy child, lead testing, smoking cessation, SBIRT, eye exams
Mental Health	depression, alcohol/drug dependence, tobacco dependence
Oral Health	emergency services, oral exams, prophylaxis, sealants, fluoride treatments, restorative services, oral surgery, rehabilitative services

Appendix A Table 12a. Insurance Coverage – All Patients (%)

	Uninsured		Medicaid		SCHIP		Total Medicaid		Medicare		Other Public		Private	
	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ
2000	42.9	-2.6	27.9	3.0	1.1	14.0	29.1	3.5	8.0	2.0	3.0	-18.9	17.1	2.9
2001	42.1	-2.0	28.6	2.5	1.3	10.9	29.9	2.8	7.9	-0.5	3.0	0.0	17.1	0.1
%Δ Pre-HCI		**-4.5**		**5.2**		**23.7**		**6.0**		**1.2**		**-16.7**		**6.4**
2002	41.6	-1.1	29.0	1.2	1.7	25.6	30.7	2.6	7.8	-2.2	2.7	-10.9	17.2	0.8
2003††	41.3	-0.8	29.7	2.4	1.7	-1.2	31.4	2.2	7.9	2.0	2.3	-14.6	17.0	-1.1
2004	42.3	2.4	29.8	0.4	1.3	-31.8	31.1	-0.9	8.3	4.5	1.7	-37.9	16.6	-2.7
2005	42.7	0.8	29.3	-1.9	1.3	3.7	30.6	-1.6	8.4	0.6	1.8	4.0	16.6	0.2
2006	43.0	0.8	28.5	-2.8	1.4	2.2	29.8	-2.6	8.4	0.7	1.7	-4.1	17.1	2.6
%Δ Post-HCI		**2.1**		**-0.4**		**7.1**		**-0.3**		**6.0**		**-76.5**		**0.0**
2007	41.9	-2.6	28.8	1.0	1.4	4.2	30.2	1.2	8.5	0.6	2.0	14.6	17.5	2.4
2008	41.3	-1.4	30.0	4.1	1.5	3.4	30.5	0.9	8.4	-1.3	2.2	10.4	17.7	1.2
2009	41.1	-0.6	30.6	1.9	1.2	-21.3	31.8	4.2	8.1	-3.0	2.4	6.8	16.7	-6.1
%Δ Recession		**-4.6**		**6.9**		**-16.7**		**6.3**		**-3.7**		**29.2**		**-2.4**
2010	40.4	-1.7	31.9	4.3	1.2	-6.1	33.1	3.9	8.4	3.0	2.1	-15.6	16.1	-3.4
2011	39.1	-3.2	33.1	3.4	0.9	-29.2	34.0	2.6	8.7	3.9	1.9	-10.2	16.4	1.5
2012	38.9	-0.5	33.2	0.4	0.8	-11.3	34.0	0.1	9.0	3.4	1.9	1.1	16.2	-0.9
2013	37.8	-3.0	33.8	1.7	0.9	7.0	34.6	1.8	9.4	3.9	1.7	-8.7	16.5	1.6
2014†††	30.8	-22.7	39.7	14.9	0.7	-30.3	40.3	14.2	9.8	4.2	1.1	-58.7	18.0	8.3
%Δ ACA		**-33.4**		**22.9**		**-71.4**		**21.1**		**17.3**		**-118.2**		**7.2**

† † First FY of HCI

† † † First year of full ACA Medicaid expansion

Appendix A Table 12b. Insurance Coverage of Patients 20+ Years of Age (% of Total Patients 20+ Years of Age)

	Uninsured		Medicaid		CHIP		Total Medicaid		Medicare		Other Public		Private	
	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ	%	%Δ
2000	47.6	-0.1	19.5	0.5	0.3	33.3	19.8	1.2	12.1	0.6	2.8	-25.6	17.7	2.8
2001	47.4	-0.5	19.8	1.7	0.2	-50.0	20.0	1.2	12.1	-0.1	2.6	-6.1	17.9	0.9
%Δ Pre-HCI		**-0.7**		**2.2**		**7.0**		**2.3**		**0.5**		**-38.8**		**3.6**
2002	47.6	0.4	20.0	0.6	0.4	51.2	20.4	1.6	11.8	-3.1	2.2	-16.5	18.1	1.1
2003††	47.7	0.4	20.2	1.2	0.4	2.3	20.6	1.3	12.0	1.6	1.9	-15.5	17.8	-1.7
2004	49.0	2.7	20.1	-0.5	0.3	-76.0	20.3	-1.4	12.2	2.3	1.1	-71.7	17.3	-3.0
2005	49.4	0.7	19.4	-3.3	0.3	13.8	19.7	-3.1	12.2	0.1	1.2	8.1	17.4	0.9
2006	49.9	0.9	18.7	-4.2	0.3	0.0	19.0	-4.1	12.3	0.2	1.1	-8.8	17.8	2.4
%Δ Post-HCI		**5.0**		**-6.3**		**27.6**		**-5.8**		**1.1**		**-131.0**		**-0.3**
2007	48.7	-2.3	18.9	1.4	0.2	-38.1	19.1	1.0	12.3	0.2	1.5	24.2	18.3	2.8
2008	48.3	-0.9	19.0	0.3	0.3	19.2	19.2	0.5	12.1	-2.0	1.8	15.3	18.7	1.7
2009	48.5	0.4	19.9	4.4	0.2	-8.3	20.1	4.3	11.7	-2.8	2.0	12.4	17.7	-5.4
%Δ Recession		**-2.8**		**6.0**		**-20.8**		**5.7**		**-4.6**		**43.8**		**-0.7**
2010	48.3	-0.3	20.9	4.9	0.2	-20.0	21.1	4.6	11.9	1.8	1.6	-24.8	17.0	-3.9
2011	47.1	-2.7	21.7	4.0	0.1	-122.2	21.8	3.4	12.4	3.4	1.5	-10.3	17.3	1.4
2012	46.7	-0.7	21.9	0.9	0.1	-12.5	22.0	0.8	12.7	2.4	1.4	-2.1	17.2	-0.8
2013	45.0	-3.8	23.0	4.7	0.1	42.9	23.1	4.9	12.7	0.3	1.6	7.7	17.6	2.4
2014†††	35.9	-25.4	30.4	24.4	0.1	-40.0	30.5	24.2	13.1	3.1	0.9	-72.2	19.6	10.2
%Δ ACA		**-35.0**		**34.7**		**-140.0**		**34.1**		**10.6**		**-123.3**		**9.6**

††First FY of HCI

†††First year of full ACA Medicaid expansion

Appendix A Table 12c. Insurance Coverage of Patients 0-19 Years of Age (% of Total Patients 0-19 Years of Age)

	Uninsured		Medicaid		CHIP		Total Medicaid		Medicare		Other Public		Private	
	%	%Δ		%Δ		%Δ		%Δ		%Δ		%Δ		%Δ
2000	35.5	-7.8	41.9	5.6	2.7	13.7	44.6	6.1	0.4	-10.3	3.3	-4.2	16.2	1.3
2001	33.0	-7.5	43.8	4.3	3.3	18.9	47.1	5.3	0.2	-85.7	3.7	9.7	16.0	-1.4
%Δ Pre-HCI		**-15.8**		**9.7**		**29.9**		**11.7**		**-104.8**		**5.9**		**-0.1**
2002	31.8	-4.0	44.8	2.3	3.9	14.6	48.7	3.3	0.2	4.5	3.1	-20.1	16.3	1.7
2003††	30.5	-4.0	46.4	3.4	4.1	3.7	50.4	3.4	0.1	-83.3	2.8	-10.8	16.2	-0.6
2004	30.5	-0.1	48.0	3.4	3.2	-25.7	51.2	1.6	0.1	-50.0	2.6	-8.6	15.6	-3.5
2005	30.3	-0.8	48.2	0.4	3.4	6.1	51.7	0.8	0.1	11.1	2.7	5.9	15.3	-2.2
2006	30.2	-0.1	47.6	-1.4	3.5	2.5	51.1	-1.1	0.1	25.0	2.8	2.5	15.8	3.0
%Δ Post-HCI		**-9.2**		**8.0**		**5.4**		**7.8**		**-75.0**		**-32.6**		**-1.3**
2007	29.7	-1.8	47.5	-0.1	3.9	8.3	51.4	0.5	0.1	-50.0	2.8	1.1	16.0	1.7
2008	28.3	-4.9	48.7	2.4	3.8	-1.9	52.5	2.1	0.1	0.0	3.0	5.1	16.2	0.9
2009	27.1	-4.3	51.6	5.7	3.2	-18.5	54.8	4.2	0.1	-60.0	2.9	-1.4	15.1	-7.3
%Δ Recession		**-11.4**		**7.8**		**-10.7**		**6.8**		**-140.0**		**4.8**		**-4.6**
2010	24.6	-10.4	54.7	5.7	3.3	4.2	58.1	5.6	0.1	16.7	2.7	-9.7	14.6	-3.1
2011	22.9	-7.6	56.9	3.8	2.8	-19.8	59.7	2.7	0.1	33.3	2.6	-1.5	14.8	0.9
2012	22.8	-0.1	57.2	0.6	2.5	-9.4	59.8	0.2	0.1	18.2	2.7	0.8	14.7	-0.6
2013	20.0	-14.3	60.6	5.6	3.0	14.2	63.6	6.0	0.1	-22.2	2.1	-27.4	14.3	-2.6
2014†††	18.5	-8.1	62.7	3.3	2.6	-13.8	65.3	2.6	0.1	10.0	1.5	-39.6	14.7	2.6
%Δ ACA		**-46.9**		**17.6**		**-22.7**		**16.0**		**50.0**		**-96.6**		**-2.7**

††First FY of HCI.

†††First year of full ACA Medicaid expansion

Appendix A Table 13a. FQHC Total Grant Revenue by Year

	Total Grant Revenue					
	$ (1000s)	**% Δ**	**Per Patient**	**% Δ**	**Per Uninsured Patient**	**% Δ**
2000	2452.8	9.0	220.8	10.8	606.9	
2001	2709.0	9.5	230.1	4.0	651.6	6.9
%Δ Pre-HCI		**12.5**		**15.5**		
2002	2801.8	3.3	261.4	12.0	838.5	22.3
2003	3007.5	6.8	281.1	7.0	849.5	1.3
2004	3189.4	5.7	285.8	1.6	847.6	-0.2
2005	3264.1	2.3	293.3	2.6	867.5	2.3
2006	3357.0	2.8	296.1	0.9	824.8	-5.2
%Δ Post-HCI		**19.3**		**22.3**		**21.0**
2007	3514.9	4.5	307.8	3.8	889.6	7.3
2008	3794.7	7.4	327.9	6.1	1111.8	20.0
2009	4166.2	8.9	336.8	2.7	1141.5	2.6
%Δ Recession		**19.4**		**12.1**		**27.7**
2010	4688.4	11.1	353.7	4.8	1238.9	7.9
2011	5097.8	8.0	363.7	2.7	1355.2	8.6
2012	5034.8	-1.2	375.0	3.0	1230.7	-10.1
2013	5144.2	2.1	372.5	-0.7	1298.2	5.2
2014	5184.6	0.8	425.6	12.5	2054.9	36.8
%Δ ACA		**19.6**		**20.9**		**44.4**

Appendix A Table 13b. FQHC Grant Revenue by Source and Year

	Total Health Center Cluster				Other BPHC Funding				Total Non-BPHC Federal Funding			
	$ (1000s)	**% Δ**	**Per Patient**	**% Δ**	**$ (1000s)**	**% Δ**	**Per Patient**	**% Δ**	**$ (1000s)**	**% Δ**	**Per Patient**	**% Δ**
2000	1190.3	2.8	116.4	4.7					137.0	17.6	17.1	30.5
2001	1305.8	8.8	120.7	3.5	18.0	100.0	1.4	100.0	171.1	19.9	15.5	-10.3
%Δ Pre-HCI		**11.1**		**7.2**						**28.7**		**14.5**
2002	1334.1	2.1	134.8	10.5	21.3	15.5	1.8	22.9	203.1	15.8	25.0	37.9
2003	1466.1	9.0	151.3	10.9	18.9	-12.7	1.3	-39.0	224.5	9.5	22.1	-13.1
2004	1547.6	5.3	151.5	0.1	21.0	10.2	1.4	4.5	214.2	-4.8	20.3	-8.6
2005	1578.4	2.0	153.5	1.3	16.6	-26.2	2.3	39.7	202.0	-6.0	17.1	-18.8
2006	1583.2	0.3	155.9	1.5	14.7	-13.4	1.0	-135.0	189.9	-6.4	15.5	-10.7
%Δ Post-HCI		**17.5**		**22.6**		**-22.3**		**-45.0**		**9.9**		**-0.2**
2007	1564.5	-1.2	149.9	-4.0	11.2	-31.2	0.8	-24.0	188.2	-0.9	18.0	14.1
2008	1693.0	7.6	164.8	9.1	9.5	-18.3	0.6	-22.2	198.1	5.0	18.4	1.8
2009	1710.5	1.0	146.0	-12.9	3.8	-147.7	0.3	-98.3	212.4	6.7	17.5	-4.6
%Δ Recession		**7.4**		**-6.8**		**-284.4**		**-200.5**		**10.6**		**11.8**
2010	1765.6	3.1	141.9	-2.9	5.7	32.6	0.7	56.0	200.6	-5.9	16.0	-10.0
2011	1926.5	8.4	155.5	8.7	4.5	-24.7	0.4	-102.4	222.6	9.9	19.4	17.8
2012	1948.6	1.1	170.0	8.6	5.2	11.9	0.4	-3.7	210.4	-5.8	17.1	-13.7
2013	2106.9	7.5	184.2	7.7	36.7	86.0	3.8	90.6	218.9	3.9	17.1	0.3
2014	2305.0	8.6	222.0	17.0	33.9	-8.3	3.8	0.6	227.2	3.7	22.1	22.4
%Δ ACA		**25.8**		**34.2**		**88.7**		**91.4**		**6.5**		**20.5**

Appendix A Table 13b. FQHC Grant Revenue by Source and Year (cont.)

	State Funding				Indigent Care Funding				Local Funding			
	$ (1000s)	% Δ	**Per Patient**	% Δ	**$ (1000s)**	% Δ	**Per Patient**	% Δ	**$ (1000s)**	% Δ	**Per Patient**	% Δ
2000	366.7	14.7	30.8	12.4	181.7	16.5	11.2	22.8	235.6	7.9	16.1	5.2
2001	419.8	12.7	31.5	2.3	206.3	11.9	13.9	18.8	239.6	1.7	16.9	4.8
%Δ Pre-HCI		**25.5**		**14.4**		**26.5**		**37.3**		**9.5**		**9.8**
2002	419.1	-0.2	35.5	11.1	233.6	11.7	15.7	11.7	223.8	-7.1	15.4	-10.2
2003	386.8	-8.3	29.4	-20.7	266.3	12.3	21.4	26.6	255.3	12.3	23.8	35.5
2004	405.3	4.6	30.5	3.6	275.4	3.3	25.4	15.8	296.1	13.8	22.4	-6.6
2005	400.9	-1.1	30.2	-1.0	290.6	5.2	27.5	7.7	292.7	-1.1	24.1	7.1
2006	473.2	15.3	34.1	11.5	282.4	-2.9	24.7	-11.5	291.6	-0.4	23.6	-2.1
%Δ Post-HCI		**11.3**		**7.5**		**26.9**		**43.8**		**17.8**		**28.2**
2007	503.8	6.1	38.0	10.3	320.1	11.8	28.7	14.2	339.6	14.1	25.6	8.0
2008	538.5	6.4	37.8	-0.5	348.5	8.2	28.5	-0.7	350.8	3.2	27.1	5.3
2009	521.6	-3.2	34.4	-10.0	366.1	4.8	30.8	7.3	357.0	1.7	26.5	-2.1
%Δ Recession		**9.3**		**0.8**		**22.9**		**19.9**		**18.3**		**11.0**
2010	543.3	4.0	33.3	-3.1	383.8	4.6	33.0	6.8	370.8	3.7	25.0	-5.9
2011	527.8	-2.9	31.1	-7.0	402.4	4.6	30.2	-9.3	374.4	1.0	23.6	-6.2
2012	489.4	-7.8	29.8	-4.6	413.0	2.6	33.3	9.1	382.1	2.0	26.1	9.8
2013	483.6	-1.2	27.3	-9.0	444.9	7.2	30.0	-11.0	396.6	3.6	25.7	-1.6
2014	474.8	-1.9	30.8	11.4	356.8	-24.7	27.1	-10.5	384.6	-3.1	29.7	13.5
%Δ ACA		**-9.9**		**-11.5**		**-2.6**		**-13.6**		**7.2**		**10.9**

	Private Funding				Other Grant Funding			
	$ (1000s)	% Δ	**Per Patient**	% Δ	**$ (1000s)**	% Δ	**Per Patient**	% Δ
2000	166.9	25.3	14.1	21.6	174.5	10.2	15.0	19.4
2001	169.3	1.4	14.2	0.8	179.0	2.5	16.0	6.1
%Δ Pre-HCI		**26.3**		**22.3**		**12.4**		**24.3**
2002	189.0	10.4	18.2	21.8	177.9	-0.6	15.1	-5.8
2003	217.3	13.0	18.6	2.3	172.2	-3.3	13.1	-15.0
2004	246.0	11.7	21.8	14.5	183.8	6.3	12.6	-4.4
2005	281.6	12.6	23.8	8.3	201.3	8.7	14.9	15.6
2006	333.0	15.4	28.9	17.8	189.1	-6.5	12.6	-18.4
%Δ Post-HCI		**49.2**		**50.8**		**5.3**		**-27.0**
2007	363.2	8.3	31.6	8.5	224.3	15.7	15.2	17.2
2008	423.0	14.1	34.1	7.4	233.4	3.9	16.5	8.2
2009	399.8	-5.8	30.4	-12.2	300.8	22.4	15.6	-6.1
%Δ Recession		**16.7**		**5.0**		**37.1**		**19.4**
2010	406.8	1.7	28.2	-7.9	363.1	17.2	16.9	7.8
2011	449.7	9.5	29.9	5.9	402.6	9.8	20.4	17.3
2012	460.8	2.4	32.0	6.5	479.0	15.9	23.6	13.3
2013	509.6	9.6	31.4	-1.8	549.9	12.9	27.2	13.4
2014	495.7	-2.8	36.9	14.7	582.5	5.6	30.2	9.9
%Δ ACA		**19.4**		**17.4**		**48.4**		**48.4**

Appendix A Table 13b. FQHC Grant Revenue by Source and Year (cont.)

	ARRA CIP and FIP				ARRA NAP and IDS				CMS EHR Incentive Payments				ACA Capital Development			
	1000s	% Δ	**Per Patient**	% Δ	**1000s**	% Δ	**Per Patient**	% Δ	**1000s**	% Δ	**Per Patient**	% Δ	**1000s**	% Δ	**Per Patient**	% Δ
2007																
2008																
2009	151.7		15.5		142.6		19.8									
%Δ Recession																
2010	417.1	63.6	34.4	55.0	229.7	37.9	24.1	17.7					2.0		0.1	
2011	544.1	23.3	34.5	0.2	65.9	-248.7	7.4	-224.5	65.3		3.8		111.9	98.2	7.4	98.2
2012	221.1	-146.1	15.5	-121.7					188.8	65.4	10.5	64.3	236.3	52.7	16.7	55.5
2013	67.3	-228.4	4.4	-252.0					113.1	-66.9	6.5	-60.9	216.6	-9.1	14.9	-12.4
2014	56.2	-19.9	5.1	13.8					94.2	-20.1	5.5	-20.1	173.7	-24.7	12.5	12.5
%Δ ACA		**-170.0**		**-202.4**		**-116.4**		**-167.1**		**30.6**		**31.1**		**98.9**		**98.9**

NOTE: Blank cells indicate grants were not awarded.

Appendix A Table 14. Percent of Total Charges Paid by Payer and Year

	Medicaid	**Medicaid Managed Care**	**Medicare**	**Other Public**	**Private**	**Self-Pay**
2007	85.1	93.8	68.5	65.6	57.5	22.4
2008	83.4	89.5	65.4	61.0	56.8	22.0
2009	80.5	84.2	66.1	60.6	57.4	21.1
Recession						
2010	80.8	84.6	65.6	62.0	57.2	20.9
2011	80.6	83.4	61.4	59.3	56.8	21.7
2012	81.3	83.1	62.5	62.8	57.1	22.8
2013	83.0	85.2	63.4	61.4	57.2	23.2
2014	81.4	84.7	63.0	60.1	57.5	25.3
ACA						

Appendix A Table 15. Operating Margins by Year

	Operating Margins (%)	w/o ARRA Funds	w/o ACA Funds	Medicare EHR Funds	w/o ARRA & ACA & Medicare EHR	w/o BPHC Funds	w/o State, Local, Indigent Care Funds
2000	0.9						
2001	1.3						
2002	1.2						
2003	0.5						
2004	0.9						
2005	1.0						
2006	0.2						
2007	0.77					-42.45	-14.64
2008	-0.06					-43.37	-15.14
2009	1.83	-1.05				-36.68	-11.66
2010	3.40	-2.31	3.39		-2.32	-30.44	-8.90
2011	4.72	-0.23	3.84	4.21	-1.63	-30.02	-6.34
2012	3.40	1.58	3.84	1.93	-1.73	-35.68	-7.42
2013	1.64	1.13	1.55	0.79	-1.34	-40.80	-9.09
2014	3.02	2.62	0.02	2.36	0.74	-38.86	-6.00

Appendix A Table 16a. Number and Average Amount of ARRA Grants Awarded by Type of Grant

	Competitive				Non-Competitive			
	NAP		FIP		IDS		CD	
	N	Avg.	N	Avg.	N	Avg.	N	Avg.
2009	126	$1.23 M	83	$5.95M	1,067	$313K	1,065	$781K

Appendix A Table 16b. Number and Average Amount of Selected ACA Grants Awarded by Type of Grant and Year

	Competitive								Non-Competitive			
	NAP		CD		IFIP		PCMH		IDS		Enroll/Outreach	
	N	Avg.	N	Avg.	N	Avg.	N	Avg.	N	Avg.	N	Avg.
2009												
2010			140	$5.08M								
2011	67	$429K	141	$5.08M			903	$35K				
2012	210	$588K	169	$3.69M	226	$437K						
2013	31	$621K									1,159	$129K
2014	233	$647K					144	$243K	1,195	$247K	1,157	$50K

Appendix A Table 17: Early Expansion States

State	Coverage Authority	%FPL Expansion Population	Start Date	Total Expansion Enrollees	Transfer from Previous State Program	New Enrollment (through 2013)
California[1]	Waiver	200	11/1/2010	515,000	59,000	456,000
Connecticut[2]	ACA Option	56	4/1/2010	91,000	45,000	46,000
DC[3]	ACA Option Waiver	133 200	7/1/2010 12/1/2010	49,000	34,000	15,000
Minnesota[4]	ACA Option Waiver	75 250	3/1/2011 8/1/2011	87,000	77,000	10,000
New Jersey[5]	Waiver	23	4/14/2011	-	44,000	0
Washington[6]	Waiver	133	1/3/2011	-	41,000	0

*Extracted from Exhibit 1 in Sommers et al. 2013, Exhibit 3 in Sommers et al 2014, and Table 1 in KFF 2012.

Notes:

1. CA: Medicaid waiver approved to extend coverage to individuals 19-64 with incomes up to 200% FPL through the Low Income Health Program (LIHP) and not eligible for Medi-Cal or CHIP. The program was intended to cover up to 500,000 individuals. The waiver program consisted of two parts: (1) a Medicaid coverage expansion – eligible are covered through Media-Cal and have incomes at or below 133% FPL, and (2) the Health Care Coverage Initiative – eligible are covered through a state-established marketplace and have incomes 133%-200% FPL. The LIHP was an optional program and not implemented in every county. Premiums or enrollment fees may not be charged to those below 150% FPL. Co-payments may be nominal for those below 100% FPL, no greater than 10% of service cost of 100-150% FPL, and no greater than 20% of the service cost. The LIHP concluded on 12/31/2013. http://www.dhcs.ca.gov/provgovpart/Documents/LIHP/LIHP%20Fact%20Sheet.pdf
2. CT: Medicaid waiver approved to transfer state-administered general assistance medical coverage beneficiaries to a new Medicaid for Low-Income Adults program. The program covers very-low income, single, childless adults not qualifying for Medicaid. Multiple Amendments to FPL: 54% FPL (eff. 7/1/13); 53% (eff. 3/1/13), 55% (eff. 3/1/12). http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ct/Medicaid-Low-Income-Adults-Coverage/ct-medicaid-low-income-adults-coverage-demo-draft-waiver-app-08202012.pdf
3. DC: Medicaid waiver approved to expand coverage to adults 21-64 years of age with incomes greater than 133% but not exceeding 200% FPL. The program transitioned DC Health Care Alliance program enrollees. The program implemented enrollment caps in each year of the demonstration (n1=4900, n2= 8100, n3=11200, n4=13300). http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/dc/dc-childless-adults-fs.pdf
4. MN: 75% FPL added under State Medicaid Plan (3/2011). Up to 250% FPL added to expansion waiver (8/2011).
5. NJ: Medicaid waiver approved by CMS that allowed NJ to obtain reimbursement (50%) for 57,000 low-income childless adults participating in the Work First NJ program (Welfare general assistance program). The waiver allows for the program to grow to 70,000 through December 2013. http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/nj/nj-childless-adults-ca.pdf
6. WA: Transitional Bridge demonstration program. Covers individuals up to 133% FPL and who were enrolled in the State-funded Basic Health Program, Medical Care Services, or Alcohol and Drug Addiction Treatment and Support Act programs. http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/wa/wa-transitional-bridge-fs.pdf

Appendix A Table 18. Trends in National Health Service Corp Membership, Funding, and Retention by Year

	NHSC Members				% Underserved Area beyond NHSC Commitment	Federal Allocations ($1000s)	ACA Funding	ARRA Funding
Year	Total	% Δ	ARRA Supported	ACA Supported				
2007	3,820					125,673		
2008	3,601	-6.1			76	123,477		
2009	4,808	25.1	829		78	134,966		300,000
Recession								
2010	7,530	36.1	3,195		82	141,420		
2011	10,279	26.7	3,549	3,917	90	24,848	290,000	
2012	9,908	-3.7	1,290	7,422	85		295,000	
2013	8,899	-11.3	97	7,577	85		300,000	
2014	9,242	3.7	82	7,268	87		305,000	
ACA								

Appendix A Table 19. Total FQHC Grantees by Medicaid Expansion and Year

	Non-Expansion States		Expansion States	
2000	305		378	
2001	315	3.17	394	4.06
%Δ Pre-HCI		**3.17**		**4.06**
2002	347	9.22	443	11.06
2003	371	6.47	477	7.13
2004	387	4.13	489	2.45
2005	404	4.21	513	4.68
2006	428	5.61	438	-17.12
%Δ Post-HCI		**26.40**		**10.05**
2007	465	7.96	568	22.89
2008	468	0.64	580	2.07
2009	493	5.07	605	4.13
%Δ Recession		**13.18**		**27.60**
2010	489	-0.82	603	-0.33
2011	489	0.00	600	-0.50
2012	487	-0.41	594	-1.01
2013	479	-1.67	593	-0.17
2014	473	-1.27	587	-1.02
%Δ ACA		**-4.23**		**-3.07**

Appendix A Table 20. FQHC Bad Debt and Sliding Discounts by Year

	Bad Debt		Sliding Discount	
	Total	%Δ	Total	%Δ
2007	245,368,067		1,754,612,428	
2008	271,413,094	9.6	1,872,654,987	6.3
2009	317,285,242	14.5	2,128,110,764	12.0
%Δ Recession		**22.7**		**17.6**
2010	333,590,578	4.9	2,329,188,852	8.6
2011	344,079,360	3.1	2,442,869,227	4.7
2012	362,615,394	5.1	2,572,242,492	5.0
2013	373,552,367	2.9	2,689,103,706	4.4
2014	376,004,011	0.7	2,281,916,031	-17.8
%Δ ACA		**15.6**		**6.7**

Appendix A Table 21. Predicted Grants Amounts by Grant Source and Year

	Grant Amount ($1000s)			
	2013	**2014**	**%Δ**	**Difference**
State Grants				
No Expansion	435.67	393.46	-10.7	-42.21
2010 Expansion	1063.11	762.74	-39.4	-300.37
2011 Expansion	749.69	620.65	-20.8	-129.04
2014 Expansion	613.48	507.08	-21.0	-106.40
Wisconsin	483.83	475.53	-1.7	-8.30
Local Grants				
No Expansion	365.94	249.26	-46.8	-116.68
2010 Expansion	814.19	464.94	-75.1	-349.25
2011 Expansion	860.35	687.41	-25.2	-172.94
2014 Expansion	630.1	480.32	-31.2	-149.78
Wisconsin	511.92	371.61	-37.8	-140.31
Indigent Care Grants				
No Expansion	413.63	222.56	-85.9	-191.07
2010 Expansion	1183.01	570.34	-107.4	-612.67
2011 Expansion	768.23	422.83	-81.7	-345.40
2014 Expansion	751.62	561.78	-33.8	-189.84
Wisconsin	572.84	268.76	-113.1	-304.08
Private Grants				
No Expansion	438.15	324.29	-35.1	-113.86
2010 Expansion	879.79	690.75	-27.4	-189.04
2011 Expansion	737.22	702.73	-4.9	-34.49
2014 Expansion	622.51	627.13	0.7	4.62
Wisconsin	644.03	421.89	-52.7	-222.14
Total Health Center Grants				
No Expansion	2021.24	2235.06	9.6	213.82
2010 Expansion	2417.47	2461.81	1.8	44.34
2011 Expansion	2316.82	2581.51	10.3	264.69
2014 Expansion	2129.69	2319.2	8.2	189.51
Wisconsin	1437.37	1610.12	10.7	172.75
Total Grant Revenue – All Sources				
No Expansion	4002.48	4123.81	2.9	121.33
2010 Expansion	7956.87	7507.26	-6.0	-449.61
2011 Expansion	6793.37	6383.13	-6.4	-410.24
2014 Expansion	5446.61	5547.85	1.8	101.24
Wisconsin	4764.89	4385.46	-8.7	-379.43

Appendix A Table 22. State, Indigent, and Local Grant Dollars per Uninsured Patient by Year

	State Grants		Local Grants		Indigent Care Grants	
	$ Per Patient	**%Δ**	**$ Per Patient**	**%Δ**	**$ Per Patient**	**%Δ**
2007	114.44		77.19		75.95	
2008	113.38		87.04		72.61	
2009	119.35		86.24		162.55	
%Δ Recession		**11.65**		**34.50**		**58.66**
2010	121.73		81.86		168.48	
2011	109.23		73.40		116.45	
2012	105.10		78.31		97.11	
2013	101.04		88.09		97.21	
2014	154.65		116.64		110.60	
%Δ ACA		**22.83**		**26.06**		**-46.96**

APPENDIX B

Assessment of the Impact of ARRA and ACA Grants Awarded to FQHCs

METHODS

Using GEE (generalizing estimating equations), the impact of ARRA and ACA grant dollars on changes in total patients, service provision, and service sites in operation us estimated. Models control for characteristics of the FQHC, its patients, and service area as well as state and year trends.

Data Sources

Data were analyzed at the level of the FQHC and its service area during 2005-2014. FQHC patient and service characteristics were taken from the Uniform Data System (UDS 2015). UDS data are collected by the Health Resources and Services Administration (HRSA) directly from FQHCs as a means of tracking center performance. UDS data used in this analysis were acquired from HRSA through Freedom of Information Act requests as well as directly from the HRSA website. FQHC service area population and economic characteristics were extracted from the Current Population and American Community Surveys as well as the 2010 Census. Other healthcare resources within a FQHC service area were extracted from the 2013-14 release of the HRSA-created Area Health Resource File (AHRF). All analyses were conducted using Stata 14 (StataCorp 2015).

Grants

The purpose of ARRA and ACA grants were to increase capacity and accommodate a predicted influx of patients due to losses of insurance, the need for low or no cost care as well as insurance coverage changes. Therefore, the analysis evaluates the immediate and longer term impact of

these grants on: (1) the size of the FQHC's patient population, (2) total encounters patient, and (3) the number of operational service sites.

Grant dollars drawn down (i.e. spent) in each year were reported by FQHCs in the annual UDS collected by HRSA. UDS data captured dollars drawn down for these categories of grants: (1) ARRA New Access Point (NAP) and Increased Demand for Services (NAP); (2) ARRA Capital Improvement (CIP) and Facility Investment Program (FIP); and (3) Medicare and Medicaid EHR Incentive payments for eligible providers. Because UDS reporting combine the competitive and non-competitive awards, the impact of dollars from each award type cannot be estimated using this data. Although total award amounts were available, grant dollars drawn down in each year is more meaningful in that the effect of the grant award occurred over time with varying rates of spending by individual FQHCs. Sensitivity analyses examined the impact of receipt of various competitive grants as well as the number of total competitive grants awarded.

Dependent Variables

ARRA and ACA grants were intended to support new delivery sites as well as improve and/or expand facilities to increase capacity to serve more patients. To this end, the change in total number of patients served within each FQHC is estimated. With increased financial resources, FQHCs may have also been able to increase patient visits at a greater rate with improved facilities. Therefore, the impact of ARRA, ACA, and EHR grant dollars on the total number of patient encounters is also estimated. Lastly, the change in total number of operating sites per FQHC is estimated as these grants were intended for the creation of new delivery sites. State and local budgets were hit particularly hard by the recession and may have made decisions to reduce grants to FQHCs in light of the substantial grant dollars allocated through ARRA and now

available to FQHCs. To evaluate the potential impact of ARRA grant awards on other sources of grant revenue, I estimate the change in total dollars from State grants, Local grants, and Indigent Care program grants.

Estimation & Model Selection

To estimate the effect of receiving at least one competitive grant on FQHC outcomes, the following GEE model is estimated using STATA 13.1:

$$Y_{it} = \alpha + \gamma ARRAdollars_{it} + \lambda ACAdollars_{it} + \delta EHRdollars_{it} + \theta X_{it} + \eta_i + \tau_i + \varepsilon_{it}$$

where:

Y_{it} indicates the outcome of interest;

γ_{it} is the impact of ARRA dollars spent down;

λ_{it} is the impact of ACA dollars spent down;

δ_{it} is the impact of EHR dollars spent down;

X_{it} is a set of time-varying FQHC characteristics;

η_i are State effects;

τ_i are year effects; and

ε_{it} is the error term.

State and year are included to control for unobservable, state characteristics and time trends that might explain changes in the size of the patient population, number of services provided, and number of operational service sites.

A balanced panel of FQHCs was determined as FQHCs present beginning in 2005. This resulted in a sample of 868 FQHCs. A balanced panel is preferred in order to compare FQHCs across the same time period, impacted by similar policies, and because of likely unobserved, non-random factors associated with a grantee entering or leaving the sample. Traditional OLS

are well developed for continuous outcomes; however, when transformation of the dependent variable is necessary for addressing skewness, retransformation back to the original units is complicated when heteroscedasticity is present and cannot be modeled correctly (Manning 1998). Generalized linear models (GML) methods avoid the need to transform the dependent variable and thus the reducing bias of inappropriately retransforming the dependent variable back to original units (Manning and Mullahy 2001). OLS and GLM methods assume independence among observations (Wooldrige 2012, Hardin and Hilbe 2013). With panel data, observations per unit of analysis may not independent and the correlation across observations must be included. GEE allows for flexibly estimating outcomes using longitudinal panel data while accounting for non-independence and avoids the need for transformation of the dependent variable (Hardin and Hilbe 2013).

Appendix B. Table 1. Characteristics of FQHCs by Year

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Grant Revenue (100K)										
Total (less ARRA, ACA, EHR) spent down	33.04	35.07	38.18	41.23	43.55	45.38	48.09	51.04	54.91	57.95
ARRA spent down					3.10	6.95	6.92	2.72	0.81	0.67
ACA spent down						0.02	1.12	2.66	2.64	2.11
EHR spent down							0.73	2.26	1.30	1.15
FQHC Characteristics										
% Medicaid covered	30.79	30.32	30.72	31.04	32.35	33.41	34.02	34.19	34.69	40.45
% Uninsured	42.36	42.54	41.61	41.21	40.62	40.00	39.11	38.58	37.57	30.60
Service Area Characteristics										
% Unemployed	5.72	5.15	5.10	6.19	9.60	10.03	9.41	8.57	7.95	6.83
% Uninsured	16.24	14.92	15.48	14.88	15.17	15.19	0.03	15.77	15.61	12.59
% FPL le 149%	20.22	21.43	19.53	19.19	20.52	20.87	21.50	21.63	21.99	22.99
MDs per 1000 population	0.307	0.308	0.309	0.300	0.301	0.301	0.302	0.303	0.305	0.304
Outcomes										
Total Patients (1000s)	15.07	15.84	16.65	17.67	19.00	19.65	20.31	20.88	21.38	22.01
Total Encounters (1000s)	31.63	34.50	37.41	39.61	46.06	48.83	51.28	73.30	78.59	82.71
Sites	§	6.53	6.90	7.65	7.57	7.33	7.87	8.95	9.15	8.53

§ Data not available.

Appendix B Table 2. Impact of ARRA, ACA, and EHR Grant Dollars Spent ($100K) on FQHC Capacity

	Total Patients		Total Encounters		# of Sites							
					GEE(1)		GEE(2)		GLM		Panel FEOLS	
	Coef	*p*	Coef	*p*	Coef	*p*			Coef	*p*	Coef	*p*
Year												
2005 (ref)	ref											
2006	0.034	***	0.051	***	ref		ref		ref		ref	
2007	0.064	***	0.088	***	0.038	**	0.032	**	0.041		0.184	*
2008	0.109	***	0.112	***	0.104	***	0.107	***	0.123	**	0.611	**
2009	0.146	***	0.215	***	0.032		0.046		0.081		-0.019	
2010	0.162	***	0.250	***	-0.022		-0.005		0.019		-0.407	
2011	0.184	***	0.270	***	0.080		0.086		0.096		0.021	
2012	0.152	***	0.568	***	0.182	***	0.190	***	0.105		0.640	*
2013	0.158	***	0.620	***	0.227	***	0.227	***	0.153	*	0.853	**
2014	0.170	***	0.601	***	0.144	**	0.133	**	-0.029		0.233	
Grant Revenue (100K) Spent												
Total (less ARRA, ACA, EHR)	0.000	*	0.000		0.000		0.000		0.000		0.008	
ARRA Dollars	0.001	***	0.000		0.001		0.001		0.003	*	0.001	
ACA Dollars	0.000		0.001	**	0.000		0.000		0.003		0.008	
EHR Dollars	0.000		0.001	*	0.009		0.007		0.016		0.111	
FQHC Characteristics												
Encounters (1000s)	0.002	***			0.001		0.000		0.001		0.010	
Patients (1000s)			0.015	***	0.011	***	0.010	***	0.010	**	0.134	***
% Medicaid covered	0.000		0.003	*	0.001		0.004		0.001		-0.005	
% Uninsured	-0.001		-0.002		0.000		0.000		0.004		-0.009	
Service Area Characteristics												
% Unemployed	0.127		-0.118		0.821		0.569		-0.971		7.965	
% Uninsured	-0.028		-0.098		0.047		0.039		-0.855		0.179	
% FPL le 149%	-0.112		0.021		0.122		0.199		0.441		1.166	
MDs per 1000 population	0.048		0.439	**	-0.068		-0.161		0.298		-1.072	

NOTES: State included in Patient and Encounter models but results not presented. State excluded from Site model as convergence not achieved. †Site count missing for 2005. GEE(1): Includes State as a categorical variable. Model does not converge. GEE(2) Excludes State. Model converges. GLM: Includes State and Clusters on ID. Panel FE OLS: Clusters standard errors on State.

Appendix B Table 3a. Marginal Effects of ARRA, ACA, EHR Grant Dollars Spent ($100K) by Outcome and Year – Preferred Models (GEE)

	Overall		2009		2010		2011		2012		2013		2014	
	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*
Total Patients														
Total Grant Revenue (less ARRA, ACA, EHR)	-5.41	*	-5.26	*	-5.62	*	-5.74	*	-5.56	*	-5.59	*	-5.66	*
ARRA Dollars Spent	29.93	***	30.56	***	31.07	***	31.75	***	30.73	***	30.94	***	31.31	***
ACA Dollars Spent	2.85		2.91		2.95		3.02		2.92		2.94		2.98	
EHR Dollars Spent	8.91		9.10		9.25		9.46		9.15		9.21		9.33	
Total Encounters														
Total Grant Revenue (less ARRA, ACA, EHR)	4.97		4.45		4.61		4.71		6.34		6.68		6.55	
ARRA Dollars Spent	16.00		14.33		14.84		15.14		20.40		21.50		21.08	
ACA Dollars Spent	79.65	**	71.35	*	73.91	*	75.39	**	101.58	**	107.06	**	104.95	**
EHR Dollars Spent	233.48	*	209.13	*	216.64	*	220.99	*	297.75	*	313.83	*	307.65	*
Service Sites														
Total Grant Revenue (less ARRA, ACA, EHR)	0.001		0.001		0.001		0.001		0.001		0.001		0.001	
ARRA Dollars Spent	0.008		0.007		0.007		0.008		0.008		0.009		0.008	
ACA Dollars Spent	0.001		0.001		0.001		0.001		0.001		0.001		0.001	
EHR Dollars Spent	0.064		0.060		0.057		0.063		0.070		0.073		0.067	

Appendix B Table 4. Impact of ARRA, ACA, and EHR Grant Dollars ($100K) Spent on Number of Service Sites (GEE*)

	Coef	*p*
Year		
2006	ref	
2007	0.032	**
2008	0.120	***
2009	0.053	
2010	0.001	
2011	0.101	*
2012	0.208	***
2013	0.248	***
2014	0.153	**
New Access Point Grant		
ARRA New Access Point	0.212	
ACA New Access Point	0.326	*
Grant Revenue (100K) Spent		
Total (less ARRA, ACA, EHR)	0.000	
ARRA Dollars	0.001	
ACA Dollars	-0.000	
EHR Dollars	0.009	
FQHC Characteristics		
Encounters (1000s)	-0.000	
Patients (1000s)	0.011	***
% Medicaid covered	0.000	
% Uninsured	-0.001	
Service Area Characteristics		
% Unemployed	0.551	
% Uninsured	-0.006	
% FPL le 149%	0.231	
MDs per 1000 population	-0.117	

*State effects excluded as model does not converge.

Appendix B Table 5. Marginal Effects of NAP Grant Receipt on Total Service Sites by Year

	Overall		2009		2010		2011		2012		2013		2014	
	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*	dy/dx	*p*
ARRA NAP	1.57		1.49		1.41		1.56		1.74		1.81		1.64	
ACA NAP	2.42	*	2.29	*	2.17	*	2.40	*	2.67	*	2.78	*	2.53	*
Any NAP*	2.44	**	2.31	**	2.19	**	2.42	**	2.70	**	2.80	**	2.55	**

*Model results not shown.

Appendix C

Impact of ACA Medicaid expansion on Federally Qualified Health Centers: Changes in insurance coverage, patient characteristics, and services

Objective. To evaluate the impact of ACA Medicaid expansion on patient composition, service characteristics, and payer-mix of FQHCs. **Data sources.** Patient and service characteristics come from the Uniform Data System. FQHC service area characteristics come from the Current Population Survey, American Community Survey, and Area Health Resources File.

Study design. Using differences-in-differences, I take advantage of the optionality of and variation in the ACA Medicaid expansion to estimate the impact of expanding Medicaid on payer-mix, and patient and service characteristics of FQHCs. **Data extraction methods.** FQHC data were merged with service area characteristics extracted from the AHRF, CPS, and ACS.

Principal findings. Medicaid coverage increases ranged from 36% to 44% across the variations in Medicaid expansions. Variation in the magnitude of the impact was observed across states. Patient characteristics and services were minimally impacted. Evidence of crowd-out, competition, and differential effects of receiving Migrant Health Center grants were observed. More than 25% of FQHCs patients in expansion states remained uninsured. **Conclusions.** Medicaid expansion significantly reduced the rate of uninsurance among FQHC patients without realizing concerns over worsening patient health, overburdened centers, and substantially reduced total grant support. FQHCs, however, still provide care to a disproportionate share of the uninsured.

Key Words. Federally Qualified Health Centers, Medicaid, ACA, insurance

Fifty-years ago Federally Qualified Health Centers (FQHC) were created to address a failure of the health care market itself to provide access to primary care for those without health insurance as well as an unwillingness of providers to locate in poor communities. Mostly supported through federal grants and whatever other financial support they could garner, FQHCs historically have been burdened with high uncompensated care costs. It was not until 1990 that FQHCs were afforded an independent reimbursement category by the Centers for Medicare and Medicaid Services – allowing for a more stable form of financial support, thus essentially saving the program (Mickey 2012). Still, with persistently high uninsurance rates and ever changing economic conditions, FQHCs have continued to rely on federal funding and access to federal programs designed to reduce the cost of providing care to the underserved.

Enactment of the Affordable Care Act (ACA Pub. L. 111-148) in 2010 dramatically changed the healthcare environment through historic expansions of health insurance coverage and extensive reform of the health insurance market. FQHCs are expected to play a pivotal role in accommodating the anticipated increase in demand for health care resulting from increased insurance coverage, but they are also projected to benefit through substantial reductions in the costs of uncompensated care. As a result, the unstable financial position FQHCs are long accustomed to and the safety-net provider role that FQHCs have played, may be significantly transformed moving forward.

The ACA expansion of Medicaid to a significant portion of the uninsured adult population, is of particular importance to FQHCs. In 2013, 45% of FQHC patients 20 years and older were uninsured (HRSA 2014). Expanding coverage to this population could significantly reduce the level of uncompensated care so many FQHCs face. As enacted, the ACA originally required states to extend Medicaid eligibility up to 138% of the federal poverty level (FPL) and

provided states the opportunity to begin expanding in 2010 in preparation for full expansion in 2014. However, in 2012 the Supreme Court ruled the ACA's Medicaid expansion optional for states. Only six states opted for the early expansion, and as of January 2016, there were 16 states electing not to expand their Medicaid programs (KFF 2016). Expansion was expected to significantly reduce the number of uninsured, particularly among childless adults. Given the population served by FQHCs, each state's decision regarding Medicaid expansion has the potential to significantly impact the financial health of FQHCs operating within that state's boundaries and shape the role an FQHC will play moving forward.

The initial impact of the 2014 expansion on enrollment in Medicaid has been positive (CMS 2014). In the first full year, enrollment in expansion states increased 25%; however, increases varied widely across states, ranging from 5% to 77% (CMS 2014). Additionally, the majority of non-expansion states also experienced increases in Medicaid enrollment, but of a much smaller scale (0.2% to 14%). Despite increased enrollment, several factors contribute to the uncertainty of the specific impact of ACA Medicaid expansion on FQHCs and what this impact means for their future existence.

Crowd-out of private insurance is often raised as a concern when public insurance is expanded. Significant crowd-out – as much as 60% – has been observed with other public coverage expansions (Gruber and Simon 2008). Conversely, spillover effects have also been found when public insurance is expanded (Dubay and Kenney 2003). An evaluation of the early expansion found evidence of crowd-out, as much as 30-40% of the increase in Medicaid (Sommers et al 2014). This is not surprising as these early expansions included significant transfers from state-funded programs (Sommers et al 2013). Later expanding states will also likely transfer at least a portion of any state-insured adults to Medicaid. Positively, this

evaluation also reported spillover effects among previously Medicaid-eligible parents (Sommers et al 2014). Whether crowd-out will be significant enough or spillover effects large enough to affect the overall rate of insurance coverage among FQHC patients remains an empirical question.

The health of the newly Medicaid-eligible and enrolled could have a significant impact on the provision of primary care services and associated costs for FQHCs. Adults who would be eligible for Medicaid under ACA expansion were found to be healthier than those adults enrolled pre-ACA (Hill et al 2014). Providing care to a healthier population could lead to reduced costs for FQHCs and a more stable financial future. This may not be the case as actual enrollment gains during the early expansion option were disproportionately among adults reporting a health-related limitation (Sommers et al 2014). If only those with significant health concerns are enrolling or, of the newly enrolled, only those with significant health concerns seek care at FQHCs, these centers would be burdened with increasing costs that may offset any revenue increases associated with increased insurance coverage.

The ACA, in addition to expanding eligibility, increases the level of Medicaid primary care reimbursement to 100% of Medicare rates in 2013-2014. Competition from private health care providers for this newly eligible and enrolled population is a concern in light of this planned increase (Katz et al. 2011; Decker 2013; Decker 2012; Brunt & Jensen 2014; Wilk 2014). With increases in the rate of insured as well as in the reimbursement rates, physicians may be more willing to accept Medicaid and less likely or able to accept and treat uninsured patients (Sabik & Gandhi 2013). Some FQHCs might then experience an increase in the rate of uninsurance and would likely remain a necessary safety-net provider for those who remain uninsured.

Lastly, FQHCs by definition provide care to "underserved" populations. However, the specific underserved population cared for by an FQHC may modify the effect of Medicaid expansion on the composition of insurance coverage. In particular, non-citizens are only eligible for Medicaid coverage under narrow circumstances. It is estimated that fifty percent of migrant/seasonal workers are undocumented immigrants (DOL 2012). FQHCs serve a disproportionate share of migrant/seasonal workers and this share varies dramatically across centers (HRSA 2014). Therefore, those FQHCs that serve a predominantly undocumented population may not benefit from Medicaid expansion to the extent that other FQHCs do, despite operating in an expansion state.

Prior to enactment of the ACA, FQHCs performed a vital function in the healthcare safety-net from an unstable financial position, but received substantial fiscal support. ACA Medicaid expansion has the potential to significantly increase insurance coverage, reduce the burden of uncompensated care, and greatly enhance the financial stability of the FQHC – perhaps questioning the need for continued grant funding at current levels as well as continued participation in programs designed to reduce the costs of providing care to underserved populations. If these outcomes are realized, the FQHC program, as historically defined, may be transformed.

METHODS

Using a difference-in-differences approach, I estimate the impact of variations in the timing and characteristics of Medicaid expansion on the change in insurance coverage composition, select patient characteristics, service provision, and grant revenue of FQHCs from pre-expansion (2005-2013) to post-expansion (2014). I control for characteristics of the FQHC, its patients, and its service area as well as include state and year fixed effects.

Data Sources

I analyze data at the level of the FQHC and its service area during 2005-2014. FQHC patient and service characteristics were taken from the Uniform Data System (UDS). UDS data are collected by the Health Resources and Services Administration (HRSA) directly from FQHCs as a means of tracking center performance. UDS data used in this analysis were acquired from HRSA through Freedom of Information Act requests as well as directly from the HRSA website. FQHC service area population and economic characteristics were extracted from the Current Population and American Community Surveys as well as the 2000 and 2010 Censuses. Other healthcare resources within a FQHC service area were extracted from the 2013-14 release of the HRSA-created Area Health Resource File (AHRF). All analyses were conducted using Stata 14 (StataCorp 2015).

Timing of Expansion and Eligibility Generosity

ACA Medicaid expansion varied both with respect to timing and eligibility generosity (Table 1). Given these differences, I categorize states by type of expansion and estimate the change in outcomes by expansion category: (0) No expansion; (1) 2010 Early Expansion; (2) 2011 Early Expansion; (3) 2014 Expansion; and (4) Wisconsin. For this analysis, I treat Wisconsin (WI) separately as the Medicaid program was expanded through an 1115 waiver with eligibility up to 100% FPL. States implementing expansions mid-year in 2014 were treated as 2014 expansion states.

Insurance Coverage

The primary outcome analyzed is the change in Medicaid coverage among the expansion target population, adults 20 years of age and older. Analyses could not be restricted to adults younger than 65 as the UDS collapses insurance data for adults over 20 years of age. This collapsing of

data, however, would lead to an underestimate of the impact of Medicaid expansion. To assess potential crowd-out, I estimate changes in the rate of uninsured, privately insured, and other insurance covered (i.e. Medicare and Other public insurance). Spillover effects were explored by comparing changes in insurance coverage among expansion and non-expansion state FQHC patients 0-19 years of age.

Patient Characteristics and Services

To evaluate the effect of expansion on the composition of the FQHC patient population, I first estimate the change in the percentage of patients ages 20-64. This age group comprises the central Medicaid expansion target population. I next examine the prevalence of a set of chronic illness diagnoses among FQHC patients before and after expansion to assess whether those with a greater illness burden are seeking care. Chronic illness prevalence is estimated for the total patient population as estimates for the adult population alone were not available. Diagnoses include asthma, diabetes, heart disease, hypertension, obesity, and depression. The impact of Medicaid expansion on FQHC service capacity is assessed as the change in the total patients, total patient encounters, and encounters per patient.

Grant Support

With reductions in the rate of uninsured and presumably in the level of uncompensated care, one possible consequence is a reduction in other financial support provided to FQHCs. I hypothesize that FQHCs in expansion states will experience greater decreases in State, Local, and Indigent grant support compared to FQHCs in non-expansion states. Indigent grants provide resources to compensate providers for uncompensated care – it is these grants that I hypothesize will see the largest declines. To test these hypotheses, I estimate and compare the change in grant amounts

from the Bureau of Primary Health Care (BPHC), other Federal, Private, State, and Local sources as well as total grant revenue between expansion state and non-expansion state FQHCs.

Control Variables

Analyses controlled for FQHC center and patient characteristics: (1) count of unique patients, (2) % 20-64 years of age (0-19 years in spillover models), (3) % female, (4) % Black, (5) indicator for migrant/seasonal worker patient population is in the 80th percentile of all FQHCs, and (6) % patients at or below 150% FPL. A set of FQHC service area population and economic characteristics was also included: (1) total hospitals, (2) % female, (3) % Black, (4) % 20-64 years of age, (5) % non-citizen, (6) unemployment rate, (7) uninsurance rate among adults 20-64 years of age, and (8) % age 20-64 whose income is at or below 149% FPL.[1]

Heterogeneity by State and Service Area Characteristics

To assess whether varying loads of Medicaid-ineligible patients alter the impact of expansion, I test if the size of the undocumented population modifies the effect of Medicaid expansion. A direct count of undocumented patients is not available; therefore, I interact Medicaid expansion and the post period with an indicator for a FQHC receiving a Migrant Health Center Grant (MHC). As noted above, survey data suggest that more than half of all migrant/seasonal workers are undocumented. FQHCs can receive a MHC grant if they serve a significant population of migrant/seasonal workers and is thus suggestive of serving a larger undocumented population.

I test for possible competition with non-FQHC providers using the presence of MDs within a FQHC's service area. The number of MDs who are not also FQHC providers is not readily available; therefore, I proxy competition with the number of MDs per 1000 per population within a service area being at or above the 80th percentile of all service areas in that year. I interact this service area indicator with Medicaid expansion and the post period. Lastly, I

seek to determine whether the impact on FQHCs was uniform across expansion states. Therefore, I compare changes in insurance coverage across states within expansion categories.

FQHC Service Area

Beginning in 2005, FQHCs systematically reported patient counts by zip code. Using this information, FQHC service areas were defined for each year (2005-2014) by first coding reported patient zip codes into counties. The number of counties per FQHC was reduced to counties representing 95% of a FQHC's patients. For FQHCs missing zip code data, the service area was assumed to be the county in which the FQHC grantee resides.[2] The final set of service area characteristics for each FQHC was produced by calculating the weighted average, weighting each characteristic by the proportion of the FQHC's patients coming from that county.

ESTIMATION

Using difference-in-differences (DID), I estimate the change in outcomes from pre-expansion (2005-2013) to post expansion (2014) at the FQHC-level by state expansion category:

$$Y_{it} = \alpha + \gamma E_i + \lambda Post_t + \delta(E_i * Post_t) + \omega(MHC * E_i * Post_t) + \vartheta(MDs * E_i * Post_i) + \theta X_i + \eta_i + \tau_i + \varepsilon_{it}$$

where:

Y_{it} is the outcome of interest

E_i indicates the state's Medicaid expansion category;

δ is the difference-in-difference estimator of the impact of Medicaid expansion category;

ω is the estimate of the effect of receiving a MHC grant;

ϑ is the estimate of the effect of the ratio of providers to population;

X_i is a set of time-varying FQHC and service area characteristics;

η_i are state fixed effects;

τ_i are year fixed effects; and

ε_{it} is the error term, clustered at the state level.

RESULTS

Center Characteristics

Following a decline in the number of FQHCs operating in 2013 (-2.3%), the overall number of FQHCs grew 6.4% in 2014 (results not shown).[3] This pattern was similar across all expansion categories, although the magnitude of the change was not. In 2013, states in both early expansion categories experienced an average decrease of 20.4% in the number of operating FQHCs followed by a 13.5% increase in 2014. The 2014 expanding states saw no change in 2013 and only a modest increase (1.6%) in 2014. Non-expansion states saw a very modest decline in 2013 (-0.4%) followed by a small 5.9% increase in 2014.

Services provided by FQHCs differed the year prior to expansion in meaningful ways (Table 2). FQHCs in all expansion states served a greater number of patients, provided at least 1.5 times more patient encounters, and provided almost one more encounter per patient than FQHCs in non-expansion states. Results of the DID models, however, show no significant impact of Medicaid expansion on the change in total patients served. Total encounters provided were greater in 2013 among all expansion state FQHCs compared with non-expansion state FQHCs. DID results do suggest a significantly greater increase of almost 15,000 encounters by FQHCs in 2010 early expansion states and more than 11,000 in 2014 expansion state FQHCs. Despite differences in the number of encounters, changes in average encounters per patient were not significantly different.

FQHC patient characteristics were more similar across expansion categories although some notable differences existed in 2013 (Table 2). The percentage of patients 20-64 years of age did not differ across expansions – approximately 60% of all FQHC patients were 20-64 years of age. Non-expansion state FQHCs appear to treat a less healthy patient population with significantly higher rates of diabetes, heart disease, and hypertension, although similar rates of other chronic illnesses (i.e. obesity and depression). The percentage of patients belonging to the population of migrant/seasonal workers were similar between expansion and non-expansion state FQHCs; however, FQHCs in expansion states provide services to a larger percentage of homeless. Greater differences in the size of special populations existed between both early expansion and 2014 expansion states – with early expansion state FQHCs seeing a greater percentage of patients from special populations.

DID models suggest minimal impact of Medicaid expansion on the composition of the patient population (Table 3). The change in the percentage of patients 20-64 years of age was not significantly different by expansion category. FQHCs in expansion states did experience a significantly greater increase in the percentage of patients within incomes between 101-150% FPL, the expansion target income range, but this result was driven by FQHCs in 2010 early expansion states. The health of patients presenting at FQHCs does not appear to be worsening in expansion state FQHCs relative to non-expansion state FQHCs patients (Table 3). Some differences were found, but these were not consistent across expansion type and significantly different decreasing rates in some chronic illnesses were also observed.

Impact of Medicaid Expansion on Insurance Coverage

Medicaid coverage was already significantly higher and the rate of uninsurance significantly lower among adults 20 years and older in expansion state FQHCs than in non-expansion state

FQHCs in 2013. Although the differences were not as large, private insurance coverage was generally higher in expansion state FQHCs and Other Public coverage higher among adult patients in non-expansion state FQHCs prior to expansion.

DID models adjusting for patient and service area characteristics demonstrate that FQHCs in all expansion states experienced a significantly greater change in Medicaid coverage among adults 20 years and older (Table 3). Further, FQHCs in 2010 and 2011 early expansion states experienced an even greater increase compared with 2014 expansion state FQHCs. FQHCs in 2010 expansion states experienced a 21.3 percentage point (pp) change in adult Medicaid coverage, an increase of 44%. FQHCs in 2011 early expansion states experienced a slightly smaller 18 pp change (40.5%); while FQHCs in states expanding in 2014 saw Medicaid coverage rates change by 12 pp (36%). To put these estimates into perspective, the percent change from 2012-2013 in Medicaid coverage among all FQHC adults was 4.5%.

The increase in Medicaid coverage resulted largely from decreases in the uninsured rate among adult FQHC patients. FQHCs in the 2010 and 2011 early expansion states experienced a significantly larger decrease in the percent uninsured, -16.2 pp (55%) and -13.2 pp (44%) respectively. The percentage point change among FQHCs in 2014 expansion states was about half (7.3 pp) that of the early expansion state FQHCs, but translates to a 44% decrease. Comparing the distribution of insurance coverage from 2013 to 2014 by expansion category shows that the shift in the composition of insurance coverage in FQHCs across all expansion categories is beneficial for FQHCs (Table 4). Yet, it is important to note that more than 25% of all patients treated at FQHCs in expansion states were still uninsured in 2014.

Crowd-Out and Spillover

Comparing coefficients on coverage outcomes suggests crowd-out occurred within FQHCs in all expansion states. FQHCs in both sets of early expansion states experienced 2.5 pp and 1.8 pp decreases, respectively, in the change in private insurance coverage and 2.4pp and 2.8pp decreases in other insurance coverage. For 2014 expansion state FQHCs, only the decrease (4.3 pp) in private insurance was significant. Crowd-out, however, appears minimal as the decrease in uninsurance accounts for 75% of the increase in Medicaid in early expansion state FQHCs and 61% in 2014 expansion state FQHCs. Crowd-out of private insurance was greater in 2014 expansion state FQHCs and private and other insurance seem equally affected in early expansion states FQHCs.

Evidence of small positive and negative spillover effects were observed in insurance coverage types of patients 0-19 years of age. The change in Medicaid coverage among patients 0-19 years was significant and positive in FQHCs in 2010 and 2011 early expansion states, 0.8 pp (9%) and 5.4 pp (5.7%) respectively (Table 3). DID models also show significant decreases in the rates of other insurance coverage of children 0-19 years in early expansion state FQHCs – 500% in 2010 early expansion and 20% in 2011 early expansion FQHCs. No spillover was observed among FQHCs in 2014 expansion states.

Financial Stability

I hypothesized that decreases in State, Local, and Indigent grant funding awarded to FQHCs would be greater in expansion states than in non-expansion states. Differences between expansion and non-expansion state FQHCs were observed in total grant dollars received across various grant sources prior to expansion. FQHCs in all expansion states generally received larger grants than non-expansion state FQHCs. However, examining grant dollars per patient

does not indicate a consistent advantage for FQHCs in any expansion category. Per patient grant dollars are higher for FQHCs in non-expansion states than all expansion states only from BPHC Grants. Expansion state FQHCs received a greater number of dollars per patient Local grants ($38 v. $19), Private grants ($34 v. $25), and State grants ($27 v. $21). Despite these differences, total grant revenue per patient from all sources was not significantly different in 2013.

DID results suggests that any negative impact Medicaid expansion on grant funding was concentrated among 2010 and 2011 early expansion state FQHCs. The 2010 early expansion state FQHCs experienced greater decreases in grant dollars from State (28%), Local (43%), and Indigent (52%) grants. FQHCs in 2011 expansion states also experienced declines in State (17%), Local (20%), and Indigent (45%) grant dollars, but only the declines in State and Local were significant. Although not significant, FQHCs in 2014 expansion states experienced declines in State (17%), Local (24%), and Indigent (25%) grants. To put these estimates into perspective, all FQHCs received an increase in funding from Local and Indigent programs and experienced a less than 4% decrease in State funding in 2013. Federal and private grants declined significantly among FQHCs in 2010 early expansion states but were unaffected in 2011 and 2014 expansion state FQHCs. Despite significant changes in several grants, total grant revenue from all sources decreased a modest 6% among 2010 and 2011 early expansion state FQHCs and increased 2% among 2014 expansion state FQHCs – compared with less than 3% increases in 2013. Comparatively, non-expansion state FQHCs received a 3% increase in total revenue from all grants in 2014 and in 2013.

Modifying Effects of Non-Citizen Population and Provider Competition

The increase in Medicaid among MHC grantees in 2010 and 2011 early expansion states was significantly smaller than among non-MHC grantees in these same states – 7.9 pp and 5.8 pp smaller increases respectively (Table 3). As would be expected, MHC grantees in these same states experienced 7.3 pp, 6.1 pp, and 9.2 pp smaller decreases in the percent uninured. Perhaps optimistically, receiving a MHC grant did not modify the effect of expansion in 2014 expansion states. The effect of provider competition on the impact of expansion was more mixed. Results from DID models suggest that FQHCs in early expansion states may be facing greater competition with other providers in their service area. Serving an area with a greater ratio of MDs reduces the impact of Medicaid expansion in 2010 and 2011 early expansion states by 6.8 pp and 2.7 pp. Conversely, FQHCs with similar service areas in 2014 expansion states experienced a significant enhanced effect of expansion (5.5 pp).

State Variation

Substantial variation across states occurred with respect to changes in health insurance coverage among FQHC patients 20 years and older. Figure 1 displays the adjusted percentage point change in Medicaid coverage for all states by expansion category. The impact of Medicaid expansion follows implementation almost exactly. The effect was largest among states expanding early in 2010 (CT, DC, and CA), followed by one of the 2011 expansion states (NJ). The remaining two 2011 early expansion states (MN and WA) experienced the 8th and 9th largest change. Figure 1 clearly shows the expansion in WI was significant despite being less generous. The adjusted percentage point changes across states were more similar and mask somewhat the differences in the meaningfulness of the change. The percent change in Medicaid coverage ranged from -8.6% (NE) to 2.2% (FL) in non-expansion states; 39.6% (MN) to 45.6% (CT) in

early expansion states; and 30.8% (NY) to 43.7% (OR) in 2014 expansion states. The percent change in the uninsured rate ranged from to -1% (NE) to -18.2% (WY) in non-expansion states; -39.9% (MN) to -76.4% (CT) in early expansion states; and -8.8% (NV) to -80.1% (VT) in 2014 expanding states.

Wisconsin

Expansion of Medicaid in WI was less generous than that implemented within the remaining states opting for expansion. Despite this, FQHCs in WI experienced increases in Medicaid coverage similar to that of 2014 expansion state FQHCs. FQHCs in WI experienced a 27% larger increase (13 pp) in Medicaid coverage among adult patients compared to a 36% (12 pp) larger increase among 2014 expansion state FQHCs. Like the full expansion states, the increase in Medicaid coverage among adult FQHC patients resulted largely from decreases in the rate of uninsurance. WI FQHCs treated a significantly greater number of patients – an additional 2000 – but experienced a significantly greater decrease in total encounters (4000 fewer), and in encounters per patient (less than half an encounter) despite expanding Medicaid. Unlike FQHCs in other expansion states, the composition of FQHC patients in WI changed significantly. The percentage of patients 20-64 years of age decreased significantly as did the percentage of patients diagnosed with all chronic illnesses examined.

WI FQHCs similarly experienced decreases, although not significant, in Local, and Indigent funding with the greatest percent decrease in Indigent care dollars (53%). Unlike the early expansion state FQHCs, State and Local grant dollars were not significantly affected by expansion. Grants from private sources were the only grant source significantly affected – grants were on average $81,000 smaller. The impact of physician competition on FQHCs in WI was similar to other expansion state FQHCs with greater physician competition associated with a 5.4

pp (41%) reduction in the impact of expansion on Medicaid coverage. Similar to the early expansion state FQHCs, MHC-grantees in WI experienced a 7.4 pp smaller increase in Medicaid coverage than FQHCs in WI that did not receive a MHC grant.

DISCUSSION

Overall, the impact on FQHCs of a state's decision to expand Medicaid was markedly positive. FQHCs in expansion states experienced a 19% increase in the rate of insurance coverage among their total patient population. Although I find some crowd-out of private and other public insurance, the increase in the overall rate of coverage suggests crowd-out was minimal and I find evidence of increased insurance coverage among FQHC patients 0-19 years of age. FQHCs in expansion states generally did not experience significant changes in the health of patients as measured by chronic illness diagnoses. Expansion, in fact, seems to have resulted in less chronically ill patient populations in WI and 2011 expansion state FQHCs. As Medicaid expansion occurred, there is some evidence that FQHCs had the necessary capacity to meet the health needs of their patients and maintain per patient service levels.

In considering factors that might moderate the impact of expansion, I find 33-57% reductions in the effect of expansion on increased Medicaid coverage within FQHCs receiving a MHC grant and operating in an early expansion state or WI; while MHC grantees in 2014 expansion states were unaffected. I also find that physician competition, as measured by MDs per 1000 population, results in 15-41% reductions in the effect of expansion on Medicaid coverage among FQHCs in early expansion states and WI. Conversely, I find an enhanced the effect of expansion on Medicaid coverage among patients in 2014 expansion state FQHCs. The 2012 Medicaid-to-Medicare fee index shows that the reimbursement for primary care in these states was the least generous compared with non-expanding and 2014 expanding states (KFF

2012). With the increased reimbursement rates in 2013-2014, physicians in the early expansion states and in WI perhaps had the most to gain financially.

With states and other funders continually facing difficult choices regarding the allocation of limited budgets, insurance expansions may reduce grant amounts in response to the expected financial gains from a higher rate of insurance coverage. Expansion state FQHCs experienced average declines of 21% and 29% in State and Local grants respectively; while, non-expansion state FQHCs saw reductions of 10% in State and 32% in Local grant funding. These numbers are perhaps more evocative when compared with less than 1% decline in State funding and varied increases in Local funding across all FQHCs in 2013. State indigent care (i.e. uncompensated care programs) declined 41% on average across expansion state FQHCs; however, these grants also declined 46% among FQHCs in non-expansion states. Total revenue is perhaps a better indicator of the financial stability of the FQHC, and here I find a 6% and 8% decline among FQHCs in early expansion states and WI respectively. Conversely, I find a 2% increase in 2014 expansion state FQHCs compared with a 3% increase in non-expansion state FQHCs. On average, all expansion state FQHCs experienced a modest 2% increase in total revenue in 2013. A complete picture of the financial impact of expansion would include changes in the level of uncompensated care; unfortunately data were not readily available to test whether these declines in grant revenue were offset by declines in uncompensated care.

One should be cautious though in declaring the problem of financial instability and uninsurance among FQHCs as solved. More than 25% of all patients treated at FQHCs in expansion states remained uninsured after expansion, compared to 16% nationally (CDC 2015). Significant variation across states occurred in the magnitude of the impact of Medicaid expansion on insurance coverage of FQHC adult patients. This analysis was not able to examine

factors influencing the variation observed; however, a survey of FQHCs found differences in barriers to enrollment, such as patient confusion about eligibility, documentation requirements, and outreach (Shin et al 2015). Moving forward, it will be important to understand the factors that contributed to greater success in accessing Medicaid-enrolled adults as well as understanding who the remaining uninsured are.

FQHCs in all states have a vested interest in state-level discussions surrounding the expansion of Medicaid; so do FQHCs in states that expanded. Rather than adopt the full ACA expansion, a number of states have implemented alternative expansions through waivers that include cost-sharing, benefits, time limits, and work requirements (KFF 2015). In moving toward such alternative expansion options, patients may be faced with the decision to remain uninsured or to delay care until health has declined significantly. Such decisions could significantly mitigate the positive impacts FQHCs have seen from expansion by increasing the costs associated with caring for less healthy populations as well as from patients being unable to afford any cost-sharing responsibility. Wisconsin provides an example, however, that waivers with such options may be more successful. Wisconsin's waiver allowed for sliding scale premiums and less generous eligibility (up to 100% FPL), yet FQHCs in this state experienced a 27% increase in Medicaid coverage among adult patients. Given the results presented here, FQHCs in states that have not yet expanded should fair significantly better by seeing uninsured rates, and thus uncompensated care, decrease significantly.

NOTES

1. Incomes at/below 138% were not consistently available. Using CPS data, the correlation between the population at/below 149% and at/below 138% was 0.98.
2. Using FQHCs with reported zip code information, the correlation between the county with the largest proportion of patients and the county in which the FQHC resides is .996.
3. Significant investment in expansion of the FQHC program was occurring at this time. The ACA established the Community Health Center Fund to support expansion of the program beginning in FY 2011. The fund provides $11 billion for the expansion of operation capacity as well as expansion and improvement of existing facilities.

Appendix C Table 1: State Expansions

Not Expanding	2010 Early Expansion	2011 Early Expansion	2014 Expansion	
			January 1, 2014	Alternative to 1/1/2014 ACA Expansion
Alabama	California	Minnesota	Arizona	Arkansas‡‡
Alaska†††	Connecticut	New Jersey	Colorado	Iowa‡‡
Florida	District of Columbia	Washington	Delaware	Michigan‡
Georgia			Hawaii	New Hampshire‡
Idaho			Illinois	Wisconsin‡‡‡
Indiana†††			Kentucky	
Kansas			Maryland	
Louisiana†††			Massachusetts††	
Maine			Nevada	
Mississippi			New Mexico	
Missouri			New York	
Montana†††			North Dakota	
Nebraska			Ohio	
North Carolina			Oregon	
Oklahoma			Rhode Island	
Pennsylvania†††			Vermont	
South Carolina			West Virginia	
South Dakota†				
Tennessee				
Texas				
Utah				
Virginia†				
Wyoming†				

†State proposing Medicaid expansion as part of FY 2017 budget.
††Massachusetts implemented health reform in 2006 paralleling much of ACA.
†††Alaska expanded in September 2015. Pennsylvania expanded in January 2015. Indiana expanded in February 2015 through a 1115 waiver. Montana expanded (1115 waiver) January 2016
‡Michigan Medicaid expansion (1115 waiver) began in April 2014. New Hampshire expansion began in August 2014.
‡‡ State expanded through a 1115 waiver.
‡‡‡Wisconsin expanded Medicaid eligibility up to 100% FPL through a 1115 waiver.

Appendix C Table 2: Characteristics of FQHCs, Patients and Service Areas by Year and Expansion

	No Expansion			2010 Early Expansion			2011 Early Expansion			2014 Expansion			Wisconsin		
	2013	2014		2013	2014		2013	2014		2013	2014		2013	2014	
Total Patients (1000s)	14.48	14.97	***	26.47	27.72	***	24.66	25.89	**	19.37	20.16	***	17.75	17.47	
Total Encounters (1000s)	49.65	51.55	***	101.82	110.31	***	88.12	96.26	***	74.69	79.78	***	67.59	67.95	
Encounters per Patient	3.32	3.36		3.95	4.02		3.55	3.70	**	3.96	4.08	***	3.56	3.62	
Encounter Type (%)															
Chronic Conditions	36.18	36.87	**	33.29	32.91		24.32	24.40		31.04	31.14		17.57	16.61	
Prevention	21.18	20.60	**	25.82	25.67		24.01	23.54		22.31	21.17	***	13.32	11.39	*
Oral Health	17.26	17.17		14.69	15.31	*	28.16	28.07		17.82	18.03		49.68	51.42	
Mental Health	19.71	19.81		20.18	20.33		18.31	18.90		22.88	23.83	***	16.64	18.00	
Acute Conditions	5.68	5.55	*	6.02	5.78	*	5.20	5.08		5.95	5.84		2.78	2.58	
FQHC Patients															
Female	57.77	57.79		57.73	57.33	*	55.56	55.39		56.89	56.54	***	56.70	56.51	
Ages 0-19	23.27	24.02	*	26.86	29.08	***	29.68	30.17		28.43	29.15	**	35.29	34.33	*
Ages 20-64	62.00	61.70		61.93	61.93		62.62	62.87		61.33	61.48		58.55	59.52	
Black	24.55	24.52		11.22	10.99		19.85	20.77		18.00	18.27	*	19.63	21.00	
Insurance 20-64 Years															
Medicaid	15.89	16.46	***	30.40	45.91	***	27.18	42.46	***	27.81	39.67	***	43.38	48.31	***
Uninsured	51.08	46.60	***	46.59	33.29	***	46.02	30.84	***	36.98	24.32	***	37.02	29.88	***
Private	18.82	22.25	***	8.49	9.43	**	13.80	14.68	*	20.21	21.05	***	11.25	12.88	**
Other Insurance	11.36	12.19	***	12.56	11.33		12.58	11.97		14.12	14.97	***	8.36	8.94	
Insurance 0-19 Years															
Medicaid	55.91	57.80	***	69.44	76.38	***	63.60	66.29		62.47	65.89	***	78.52	79.37	
Uninsured	23.58	21.89	***	18.69	15.01	***	18.87	14.82	**	16.08	14.08	***	13.42	12.07	
Private	15.09	15.77	**	7.06	6.01	*	10.28	10.42		16.69	16.64		7.76	8.45	
Other Insurance	4.32	4.09		4.13	2.81	*	6.89	8.06		4.44	3.45	*	0.30	0.11	
Income le 150 FPL	48.82	48.37		60.81	57.68		57.86	55.37		46.59	43.96		53.66	56.21	
Special Populations															
Homeless	0.55	0.55		1.28	1.21	*	1.28	1.22	*	0.90	0.88		0.71	0.74	
MHC Funded	14.53	14.53		19.05	19.05		21.67	21.67		10.34	10.34		6.25	6.25	
Mig/Seas	3.21	3.21		7.36	6.87	*	6.13	6.19		2.22	2.14		0.90	0.79	
Mig/Seas 80th Percentile	14.76	17.47	***	28.24	30.59		27.42	27.42		11.31	14.25	**	6.25	6.25	
Health Status - % Diagnosed															
Asthma	4.32	4.26		5.56	5.34	**	4.52	4.64		5.46	5.46		3.07	3.06	
Diabetes	9.98	10.12		9.56	9.40		7.08	7.16		8.40	8.48		5.82	5.30	
Heart Disease	3.43	3.35		2.44	2.53		2.30	2.40	*	3.25	3.30		1.77	1.83	
Hypertension	20.98	21.06		16.47	16.02	*	13.36	13.22		17.36	17.14		10.95	10.23	

Obesity	9.56	11.34	***	12.43	14.71	***	7.06	8.79	**	9.89	11.72	***	6.31	6.01	
Depression	8.51	8.75		7.92	7.85		7.80	7.89		9.68	10.05	***	6.97	7.03	
FQHC Funding (1000s)															
BPHC	2219.16	2413.84	*	2801.63	2712.38		2743.00	2783.89		2368.69	2539.93		2111.50	2020.81	
BPHC per User	242.39	275.46	*	144.72	175.04	*	163.25	168.29		182.08	227.33	*	161.97	193.79	
Indigent	229.17	248.64		607.97	385.06	**	795.16	539.53	**	488.81	405.70	**	60.21	0.00	
Indigent per User	32.63	27.94		39.92	25.64		30.75	19.70	***	24.16	21.24	**	5.12	0.00	
Local	177.45	183.90		973.00	938.38		672.40	607.13		310.19	359.29		199.08	144.45	
Local per User	19.08	20.51		62.47	65.75		31.69	27.77		21.15	21.58		13.10	12.11	
Private	261.68	282.73		622.14	715.81	*	424.48	447.42		614.24	595.65		1278.57	1158.47	
Private per User	25.10	25.85		40.03	45.29		25.42	25.57		37.29	33.05	**	35.81	32.30	
State	207.37	253.85	**	456.60	510.35	*	545.41	515.43		699.71	670.56		555.74	576.87	
State per User	20.76	22.41		19.35	19.57		24.93	22.00		38.90	39.63		31.64	34.41	
Other Federal	228.61	241.25		502.50	466.77		626.69	555.14		426.54	436.88		239.38	276.35	
Other Fed per User	26.31	31.69		31.91	26.10		58.60	43.79		25.02	28.71		15.26	17.65	
Total Revenue	3098.97	3510.92	***	6651.51	7127.38		6059.76	5766.01		5416.17	5640.65	*	4729.17	4415.71	
Total Rev per User	390.72	406.19		371.28	375.08		350.99	321.93		359.65	376.54	*	274.94	302.18	
FQHC Service Area															
Age 20-64	58.40	58.28	*	60.98	61.10	*	60.46	60.89	*	59.91	59.60	***	59.10	59.35	
Female	50.63	50.97	***	50.36	50.56		50.53	50.69		50.83	50.96	**	50.43	50.66	
Non-Citizen	4.79	4.54	***	12.40	12.33		8.06	7.62	***	5.64	5.32	***	3.04	2.67	**
Black	16.37	16.28		7.28	7.16	***	8.63	8.21		10.81	10.69	**	8.62	7.95	***
Hispanic	12.36	12.69	***	32.37	32.57	***	15.78	15.53		13.36	13.63	***	7.78	7.46	
Unemployed	7.52	6.56	***	8.90	7.58	***	7.39	6.31	***	8.02	6.74	***	7.36	6.11	***
Uninsured 20-64 Years	24.57	20.97	***	22.77	16.97	***	20.08	14.58	***	19.28	14.70	***	16.18	11.74	***
<=149 FPL 20-64 Years	13.84	10.02	***	11.41	8.64	***	10.28	7.33	***	12.87	9.18	***	11.90	5.90	***
# of Hospitals	7.13	7.14		32.19	32.20		7.50	7.53		10.04	10.03		6.72	6.71	
MDs per 1000 population	0.299	0.298	*	0.308	0.305	***	0.389	0.387	*	0.288	0.287		0.403	0.404	
MD/1000 80th percentile	15.06	15.66		15.88	16.47		48.69	50.00		15.16	17.42	***	37.50	37.50	

Appendix C Table 3: Estimated Coefficients of the Impact of Medicaid Expansion by Outcome and Expansion Status

	2010 Early Expanders		2011 Early Expanders		2014 Expanders		WI		All Expanders†	
Primary Outcomes (Age 20-64)										
% Medicaid	21.27	***	17.76	***	11.94	***	12.95	***	14.30	***
% Uninsured	-16.21	***	-13.16	***	-7.34	***	-9.14	***	-9.66	***
% Private	-2.54	**	-1.83	**	-4.27	***	-3.49	***	-3.66	***
% Other Ins.	-2.42		-2.77	***	-0.31		-0.32		-0.94	
FQHC Characteristics										
Total Patients (1000s)	0.28		2.92		0.36		-0.23		0.46	
Total Encounters (1000s)	14.88	***	0.74		11.11	**	-0.42	***	11.56	***
Encounters per patient	0.15		0.01		0.27		-0.19	*	0.23	
% Patients Age 20-64	0.82		-0.37		-0.17		-1.46	*	0.12	
% w/Incomes 101-150% FPL	1.86	***	0.76		0.52		-0.54		0.89	*
% Asthma	-0.04		0.11		0.59	**	-1.00	***	0.41	*
% Diabetes	-0.31		-0.69	**	-0.33		-2.32	***	-0.29	
% Heart Disease	-0.03		-0.14		0.19		-0.87	***	0.13	
% Hypertension	-0.72		-1.74	**	-0.47		-4.45	***	-0.52	
% Obese	1.47	*	-1.51		0.44		-4.12	***	0.62	
% Depression	-0.67		-0.78		0.97	*	-2.09	***	0.46	
Grant Funding (1000s)										
BPHC Grants	-48.58		-56.61		-44.93		-91.99		-44.33	
Federal Grants	-149.64	***	10.30		-59.40		-27.04		-74.34	
Private Grants	-100.31	*	40.94		126.28		-80.68	*	64.58	
Indigent Grants	-314.03	***	-248.57		49.8		-147.04		-63.93	
State Grants	-162.92	**	-100.77	*	-26.48		31.31		-67.62	
Local Grants	-233.38	***	-95.84	*	-1.71		-64.49		-66.13	
Insurance coverage Age 0-19										
% Medicaid	0.75	***	5.41	**	1.58		2.98	**	3.28	*
% Uninsured	-2.87	*	-3.81	*	1.27		-1.86		0.002	
% Private	-1.34		0.71		-1.71		-1.53	*	-1.46	
% Other Ins.	-3.57	***	-2.31	*	-1.12		0.41		-1.82	*
Modifiers – Medicaid (Age 20-64)										
MHC Grant	-7.92	***	-5.79	**	2.89		-7.39	***	-1.14	
MDs per 1000 80th percentile	-6.80	**	-2.65		5.50	*	-5.36	***	1.42	

† WI treated as a non-expansion state.

Appendix C Table 4: Estimated Distribution of Insurance Coverage for All FQHC Patients

	Expansion Status									
	No Expansion		**2010 Expansion**		**2011 Expansion**		**2014 Expansion**		**WI**	
	2013	**2014**	**2013**	**2014**	**2013**	**2014**	**2013**	**2014**	**2013**	**2014**
Medicaid	32.64	32.23	35.32	51.08	31.73	42.91	33.01	42.68	36.65	43.87
Uninsured	36.93	34.22	43.66	30.01	40.78	29.38	36.00	25.84	33.96	26.78
Private	17.57	20.53	11.62	12.40	15.38	17.28	18.37	18.65	16.56	17.24
Other Ins.	12.06	12.55	8.72	5.75	11.31	10.08	11.72	12.10	11.37	10.72

Note: Columns may not sum to 100 due to measurement error, rounding, and estimation.

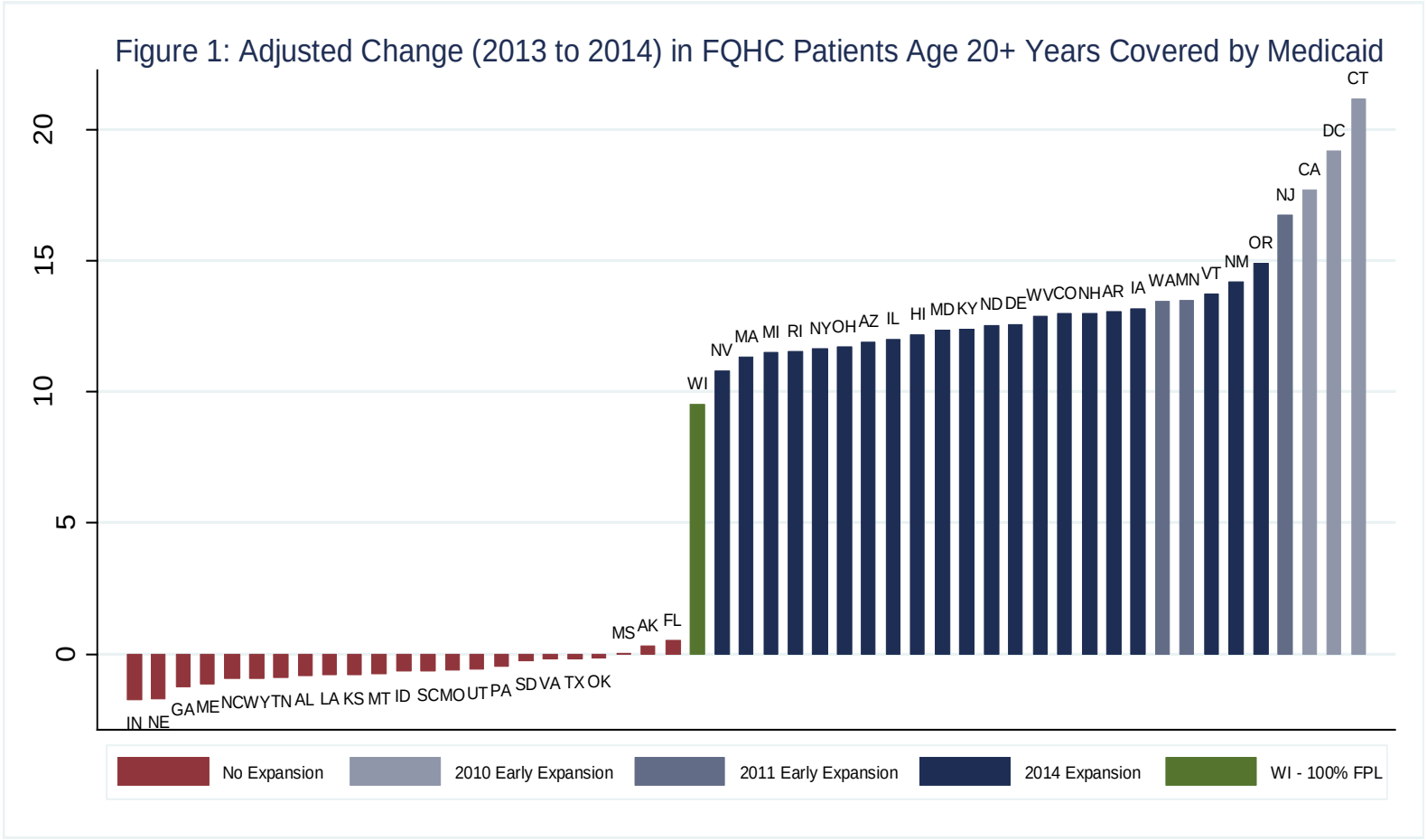
Figure 1: Adjusted Change (2013 to 2014) in FQHC Patients Age 20+ Years Covered by Medicaid
0
5
10
15
20
IN NE GA ME NC WY TN AL LA KS MT ID SC MO UT PA SD VA TX OK MS AK FL WI NV MA MI RI NY OH AZ IL HI MD KY ND DE WV CO NH AR IA WA MN VT NM OR NJ CA DC CT
No Expansion
2010 Early Expansion
2011 Early Expansion
2014 Expansion
WI - 100% FPL

Appendix C Table 5: Percent Change in Proportion Covered by Insurance Type, Age, and State

% Change in Coverage from 2013-2014 - Adjusted

		FQHC Patients 20-64 Years of Age				FQHC Patients 0-19 Years of Age			
Expansion	**State**	**Medicaid**	**Uninsured**	**Private**	**Other**	**Medicaid**	**Uninsured**	**Private**	**Other**
None	FL	2.23	-12.36	23.79	3.17	2.05	-14.10	8.40	9.97
	AK[†]	1.66	-12.62	9.07	2.77	4.45	-13.47	0.85	-16.94
	MS	0.06	-14.37	20.55	3.92	1.16	-13.66	10.26	7.44
	TX	-0.98	-9.35	18.96	2.12	1.47	-10.78	7.29	3.21
	OK	-1.02	-3.23	7.68	-4.10	-0.91	2.11	-1.85	9.27
	VA	-1.08	-7.09	11.32	1.26	1.59	-4.54	-3.01	8.70
	SD	-1.56	-11.96	11.32	2.52	1.88	-13.10	4.16	-6.10
	PA[†]	-2.02	-4.48	13.88	-2.51	-0.23	1.39	-1.80	2.53
	SC	-2.70	-10.79	22.58	6.18	1.21	-8.56	9.23	-2.83
	MO	-2.82	-12.96	17.21	4.35	-1.67	-8.86	9.97	7.48
	LA	-3.16	-4.53	13.34	1.55	-0.68	6.14	-2.72	-10.68
	UT	-3.43	-7.29	14.44	-0.16	0.91	-8.40	4.53	3.43
	AL	-3.51	-10.71	26.27	2.67	0.83	-13.24	18.37	-3.79
	KS	-3.89	-7.89	16.93	3.82	2.08	-7.37	4.16	-9.82
	ID	-3.96	-5.87	15.98	-1.65	2.84	-5.61	1.05	-4.41
	TN	-4.16	-7.22	16.30	0.19	-1.18	-3.97	5.40	9.48
	NC	-4.35	-8.21	22.33	1.66	0.99	-6.08	7.11	-0.87
	MT[‡]	-4.45	-3.26	9.31	-2.18	2.77	-1.63	-2.30	-12.24
	GA	-5.12	-5.62	20.02	-1.02	-1.76	-3.31	10.45	7.93
	ME	-5.73	-6.10	13.44	1.28	1.72	-3.18	3.50	-15.87
	WY	-5.87	-18.22	33.03	17.59	8.85	-30.94	25.88	-35.60
	IN[†]	-7.26	-7.00	21.24	0.80	-2.98	0.37	16.17	-4.32
	NE	-8.62	-1.03	12.70	-2.28	0.97	1.09	-0.26	-12.06
All Non-Expansion States		**-3.12**	**-8.35**	**17.03**	**1.82**	**1.15**	**-6.94**	**5.88**	**-2.88**
2010	CT	45.61	-76.39	10.74	-17.68	11.52	-32.32	-1.76	-123.10
	CA	43.85	-45.42	7.30	-32.04	9.90	-8.44	-3.15	-566.40
	DC	42.63	-48.87	12.94	-29.49	7.98	-5.99	-7.00	410.55
All 2010 Expansion States		**44.03**	**-56.89**	**10.32**	**-26.40**	**9.80**	**-15.58**	**-3.97**	**-92.99**
2011	WA	42.20	-41.34	10.57	-12.74	4.39	-28.54	11.67	-6.42
	NJ	39.76	-49.45	22.38	-21.94	7.57	-33.72	22.53	-35.04
	MN	39.59	-39.86	4.95	-16.43	5.08	-15.18	1.97	-27.01
All 2011 Expansion States		**40.52**	**-43.55**	**12.63**	**-17.04**	**5.68**	**-25.81**	**12.06**	**-22.82**
2014	OR	43.67	-46.31	1.12	2.66	6.37	-14.46	0.86	-18.40
	VT	41.81	-80.06	7.28	7.19	6.14	-31.55	10.03	-33.76
	IA	39.76	-54.38	5.16	6.91	5.39	-20.33	4.43	-18.13
	NM	39.60	-70.84	9.38	10.14	7.31	-27.98	9.86	-118.12
	NH[††]	39.42	-54.64	17.70	12.03	4.53	-17.56	15.14	-27.48
	WV	38.43	-48.99	-5.18	-1.69	3.80	-5.67	-5.99	-6.47
	ND	38.32	-56.35	1.80	3.38	5.53	-16.42	2.23	-28.20
	CO	38.32	-46.86	7.30	4.88	3.71	-14.48	5.51	-16.03
	HI	37.29	-47.27	8.73	5.89	4.64	-17.21	7.72	-16.86
	AR	36.45	-42.68	-4.79	-1.82	5.36	-7.12	-8.42	-15.31
	KY	35.74	-42.28	-3.49	-2.85	3.43	-5.16	-7.06	-3.75
	AZ	34.75	-58.37	8.33	3.91	2.90	-20.54	7.59	-21.58
	DE	34.05	-43.37	8.68	5.15	3.47	-12.78	3.33	-7.84
	MA[¶]	33.19	-33.94	7.15	4.71	2.38	-4.57	5.60	-22.72
	MD	32.85	-39.67	-0.07	3.34	2.82	-4.41	-5.56	-10.04
	RI	32.85	-43.98	2.73	1.42	2.55	-6.40	1.06	-20.83

OH	32.79	-40.88	2.99	1.12	2.38	-7.26	3.58	-16.30
NV	32.79	-8.77	-27.98	-19.23	-5.30	37.74	-24.36	-14.75
MI††	32.07	-34.10	-3.68	-3.18	-0.07	6.08	-3.01	-11.78
IL	31.32	-35.17	-1.22	-1.04	2.43	-2.31	-3.63	-22.79
NY	30.84	-35.55	0.86	0.99	1.04	3.13	-3.87	-20.49
All 2014 Expansion States	**36.02**	**-45.93**	**2.04**	**2.09**	**3.37**	**-9.01**	**0.72**	**-22.46**
WI◊	26.98	-30.03	6.23	-8.09	3.34	-17.80	1.38	2.24

† Planned expansion in 2015

†† Mid 2014 expansion

‡ Planned expansion in 2016

∓ MA implemented health insurance reform in 2006

◊ WI expanded up to 100% FPL through a 1115 Waiver

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