NORTH CAROLINA FREE CLINICS: EFFECTIVE PRIMARY CARE PROVIDER FOR THE UNINSURED

by

Jenny Anne Hutchison

A dissertation submitted to the faculty of
The University of North Carolina at Charlotte
in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in
Health Services Research

Charlotte

2016

Approved by:

_____
Dr. Jennifer Troyer

_____
Dr. Michael E. Thompson

_____
Dr. Christine Elnitsky

_____
Dr. Maren Coffman

_____
Dr. Lori Thomas

ABSTRACT

JENNY ANNE HUTCHISON. North Carolina free clinics: Effective primary care provider for the uninsured? (Under the direction of DR. MICHAEL E. THOMPSON and DR. JENNIFER TROYER)

Although the United States has recently made progress in reducing the number of uninsured in the country as a result of the implementation of the Patient Protection and Affordable Care Act, millions will continue to be unable to access insurance, hindering their ability to receive medical care. The remaining uninsured will have access to care through a patchwork of organizations referred to as the health care safety net.

Free clinics are one part of the safety net that provides care to the uninsured. Free clinics are grassroots, non-profit organizations that provide medical care for underserved populations for free or a minimal donation. The following inter-related papers seek to improve our understanding of free clinics by examining how free clinics in North Carolina affect preventable hospitalizations and emergency room usage, as well as trends in demand for their services from 2010 to 2014.

Uninsured individuals residing in counties in North Carolina that were served by a free clinic had a reduced odds of being admitted to the emergency department for an ambulatory care sensitive condition. A similar relationship was found with admissions to the hospital for an ambulatory care sensitive condition. The hospital analysis utilized a pre/post design with county level fixed effects during a time period when new clinics opened, implying a causal relationship. Finally, despite declining uninsured in North Carolina utilization of free clinics in the state have remained unchanged. Together the three articles emphasize the need for ongoing support of free clinics.

ACKNOWLEDGEMENTS

I would like to acknowledge Dr. Thompson and Dr. Troyer for their many hours of assistance in completing this dissertation. In addition, I would also like to acknowledge the contribution of the North Carolina Association of Free Clinics, and, specifically, Cindy Jones, Lou Hill and Katie Yarbrough.

TABLE OF CONTENTS

INTRODUCTION 1

Background 1

ARTICLE I: IS THE PRESENCE OF A FREE CLINIC IN AN UNINSURED INDIVIDUAL'S COMMUNITY ASSOCIATED WITH A LOWER ODDS THAT A GIVEN EMERGENCY DEPARTMENT VISIT IS FOR A NON-URGENT CONDITION 5

1.0 Introduction 6

Objective 9

1.1 Methods 10

Dependent Variable 11

Key Independent Variable 13

Covariates 14

Analysis 16

1.2 Results 17

1.3 Discussion 23

1.4 Conclusion 27

ARTICLE II: FREE CLINICS REDUCE HOSPITALIZATIONS OF THE UNINSURED FOR AMBULATORY SENSITIVE CARE CONDITIONS 30

2.0 Introduction 30

Literature Review 32

Objective 35

2.1 Methods 35

Dependent Variables: 37

Key Independent Variable 38

Covariates 40

Analysis 41

2.2 Results 42

2.3 Discussion 48

2.4 Conclusion 54

ARTICLE III: FREE CLINICS IN NORTH CAROLINA 2010 TO 2014: TRENDS IN SERVICES PROVIDED, PATIENTS SERVED, AND CLINIC SUPPORT DURING IMPLEMENTATION OF THE ACA 56

3.0 Introduction 56

Affordable Care Act 58

North Carolina Free Clinics 59

Objective 60

3.1 Methods 61

Outcome Variables 64

Analysis 65

3.2 Results 66

3.3 Discussion 72

3.4 Conclusion 76

CONCLUSION 78

REFERENCES 82

APPENDIX A: SAS DATABASE CONSTRUCTION FOR EMERGENCY DEPARTMENT AND HOSPITALIZATION DATABASES 93

APPENDIX B: SAS CODING FOR EMERGENCY DEPARTMENT DATA 102

APPENDIX C: STATA CODING FOR HOSPITALIZATION DATABASE 104

APPENDIX D: NCAFC 2010 OUTCOMES SURVEY 105

APPENDIX E: NCAFC OUTCOMES SURVEY 2011 117

APPENDIX F: NCAFC OUTCOMES SURVEY 2012 133

APPENDIX G: NCAFC OUTCOMES SURVEY 2013 151

APPENDIX H: NCAFC OUTCOMES SURVEY 2014 171

APPENDIX I: MEDICAL CARE INFLATION RATE 185

APPENDIX J: NORTH CAROLINA ASSOCIATION OF FREE CLINICS MEMBER STATUS 186

APPENDIX K: SAS DATABASE CONSTRUCTION FOR CLINIC CHARACTERISTICS 189

APPENDIX L: MEANS FOR OUTCOME VARIABLES – ALL CLINICS AND STRATIFIED BY URBAN OR RURAL LOCATION 194

INTRODUCTION

Although the United States has recently made progress in reducing the number of uninsured in the country as a result of the implementation of the Patient Protection and Affordable Care Act (ACA), millions will continue to be unable to access insurance, hindering their ability to receive medical care (Congressional Budget Office, 2013). The remaining uninsured will have access to care through a patchwork of organizations referred to as the health care safety net. Safety net facilities include public hospitals, emergency rooms, community health clinics, and free clinics (Lewin & Altman, 2000).

Free clinics are grassroots, non-profit organizations that provide medical care for underserved populations for free or a minimal donation. While often overlooked within the healthcare system, free clinics serve 1.8 million clients nationwide (Darnell, 2010). To date few studies have examined the effects of free clinics on health outcomes or their contribution to the healthcare system. The following inter-related papers seek to improve our understanding of free clinics by examining how free clinics in North Carolina affect preventable hospitalizations and emergency room usage, as well as trends in demand for their services from 2010 to 2014, which includes the first year of the ACA.

Background

The quasi-free market health care system in the United States leaves millions of individuals without health care coverage. With the implementation of the ACA, the US experienced a reduction in the number of uninsured from 13.3 percent or 41.8 million individuals in 2013 to 10.9 percent or 33 million in 2014 (Smith & Medalia, 2015). Although 2014 was the initial year of implementation, and further reductions in the number of uninsured are expected as awareness and penalties increase, many will

continue to remain uninsured. The Supreme Court's ruling, allowing states to choose whether to expand Medicaid, increases the likelihood that large numbers of individuals will remain uninsured and underinsured. Given the current status of less than 100% acceptance of Medicaid expansion, approximately 27 million individuals in the US will remain uninsured in 2016 (Buettgens, Kenney, & Recht, 2014).

For low-income individuals lacking health care insurance, health care safety net organizations provide medical care regardless of the patient's ability to pay. Free clinics are unique among these organizations because of the grassroots nature from which they evolve as they attempt to meet the needs of their local communities, dependence on volunteers, and free or minimal cost for services (Darnell, 2010). Free clinics respond to and fill in the gaps in communities frequently left by the other publicly supported and/or financed safety net providers (Darnell, 2011).

Although the health care safety net in the US is fractured, understanding how the uninsured are accessing healthcare and whether it is effective provides valuable insights. The uninsured in the US are more likely to live in poverty, be Black or Hispanic, and reside in the southern region of the US (Smith & Medalia, 2015). Unfortunately given these characteristics, individuals without insurance are also more likely to have one or more chronic illnesses such as hypertension, heart disease or diabetes, which require increased monitoring and regular doctor visits (Centers for Disease Control and Prevention, 2013a; Paez, Zhao, & Hwang, 2009). Therefore, the inability to access regular care for many of the uninsured can lead to the exacerbation of conditions related to chronic illness and the utilization of emergency departments or hospitals for more expensive care (Oster & Bindman, 2002). The Healthy People 2020 goal of reducing the

percent of individuals unable to access medical care when needed (Office of Disease Prevention and Health Promotion, 2015) further highlights the need to understand the effectiveness of the safety net.

Similar to other states in the southern region, North Carolina has a strong network of free clinics, with approximately 80 free clinics currently located throughout the state (North Carolina Association of Free Clinics, 2013). The oldest clinic, Raleigh Rescue Mission, began operations in 1961, and the newest, Shifa Free Health Clinic, opened in Fall 2015 (Jones, 2014; Minchin, 2015). The majority of the clinics have opened since 1990, coinciding with a steady increase in the number of uninsured nationwide (Cohen, Makuc, Bernstein, Bilheimer, & Powell-Griner, 2009). Despite strong insurance enrollment through the health exchange in the first year of the ACA (Barker, McBride, Kemper, & Mueller, 2015), North Carolina, which rejected the Medicaid expansion, is expected to continue to have a million individuals without health insurance and will be one of the top ten states in terms of the number of uninsured (Buettgens et al., 2014).

The remaining uninsured may find more limited access to care as funding for safety net facilities is shifted to support the increased number of Medicaid enrollees (Ku, Jones, Shin, Bryne, & Long, 2011; Money, 2013; Neuhausen et al., 2014). Therefore, many of the working poor, particularly in states that opted out of the Medicaid expansion, and undocumented immigrants who are ineligible for coverage may struggle to find health care services. Understanding what safety-net services, such as free clinics, remain available for the uninsured and their effectiveness is integral to meeting the healthcare needs of the remaining uninsured and limiting their dependence on the emergency department for primary care services.

However, given the limited funding available for free clinics, which is typically directed to healthcare and clinic administration, data on free clinics is scant (Lewin & Baxter, 2007; Schiller, Thurston, Khan, & Fetters, 2013). The lack of data often has resulted in existing research on free clinics and health outcomes relying on a single clinic or a small group of clinics for data (Bicki et al., 2013; Dickman, Pintz, Gold, & Kivlaham, 2012; Fertig, Corso, & Balasubramaniam, 2012; Hwang, Liao, Griffin, & Foley, 2012; Stroebel et al., 2005). The limited studies using larger samples offer descriptive characteristics of free clinic patients and the clinics themselves (Darnell, 2010; Geller, Taylor, & Scott, 2004; Gertz, Frank, & Blixen, 2011; Nadkarni & Philbrick, 2005), but even among these studies, the definition of a free clinic can vary such that some surveys include community health clinics (i.e., clinics accepting third party insurance) or rely on a single source to identify clinics (Darnell, 2010)

The following three articles used data from the North Carolina Association of Free Clinics to understand the impact of free clinics on community outcomes. The first two articles examine the association of free clinic locations and two separate quality measures for primary care, preventable hospitalizations and emergency department visits, to understand whether having a free clinic serve a county reduces the visits for ambulatory care sensitive conditions by the uninsured at hospital or emergency departments. After assessing the effectiveness of the free clinics, the final article investigates trends at North Carolina free clinics in terms of number of patients, visits, staff, volunteers and the amount of donations, during a period in which the number of uninsured have fallen as a result of an improving economy as well as health care reform.

ARTICLE I: IS THE PRESENCE OF A FREE CLINIC IN AN UNINSURED INDIVIDUAL'S COMMUNITY ASSOCIATED WITH A LOWER ODDS THAT A GIVEN EMERGENCY DEPARTMENT VISIT IS FOR A NON-URGENT CONDITION

Abstract

Background: Prior research has documented high levels of emergency department use by the uninsured for ambulatory care sensitive conditions, which are potentially preventable with adequate primary care. Uninsured individuals with limited access to primary care providers may be more likely to rely on emergency departments. Free clinics provide primary care for the uninsured, and may reduce their dependence on emergency departments.

Objective: Using North Carolina data on emergency department admissions, we examine the association between the presence of a free clinic in an uninsured individual's county, and admission to the emergency department for an ambulatory care sensitive condition.

Research Design and Methods: The study used 2010 North Carolina Emergency Department data for self-pay visits merged with free clinic location and service area data from the North Carolina Association of Free Clinics. The New York University Emergency Department Algorithm identified admissions for ambulatory care sensitive conditions. Multivariate logistic regression determined the odds of being admitted to the emergency department for an ambulatory care sensitive condition for uninsured individuals residing in a county served by a free clinic.

Results: An emergency department admission for an uninsured individual from a county served by a free clinic had 2.5% lower odds of being for an ambulatory care

sensitive condition than an emergency department admission in a county not served by a free clinic (OR: 0.975; p-value 0.0009).

Conclusion: Despite their limited visit capacity and reach of free clinics, the presence of a free clinic, after adjusting for other covariates, is associated with a reduced odds of admission for ambulatory care sensitive conditions for uninsured adults in North Carolina. State and local policy should encourage the development of free clinics in communities with demonstrated need.

1.0 Introduction

The passage of the 1986 Emergency Medical Treatment and Active Labor Act (EMTALA) created the only universal healthcare mandate in the US (Taylor, 2001; Zibulewsky, 2001). EMTALA requires the emergency departments (ED) of hospitals who receive Medicare benefits (the vast majority of hospitals operating in the US) to treat patients with emergency medical conditions regardless of their ability to pay ("Emergency Medical Treatment and Active Labor Act," 2000). This legislation, combined with a growing percentage of uninsured beginning in the 1980s (Cohen et al., 2009) and the closing of a number of hospital emergency departments in the 1990s (Hsia, Kellermann, & Shen, 2011)set the stage for growth in utilization of the remaining EDs.

Overcrowding in EDs has become an ongoing problem (Derlet, Richards, & Kravitz, 2001) that leads to delays in treatment and poor health outcomes (Moskop, Sklar, Geiderman, Schears, & Bookman, 2009; Tang, Stein, Hsia, Maselli, & Gonzales, 2010). One of several contributors to overcrowding in the ED is its frequent use for ambulatory care sensitive (ACS) conditions (Delia & Cantor, 2009). ACS conditions are the result of poor access to or ineffective primary care, which leads to the exacerbation of chronic or

acute conditions. ED visits for ACS conditions ranged from 13% to 27% of total visits to EDs (Weinick, Burns, & Mehrotra, 2010). Although studies concerning the association between ACS conditions and excess costs or overcrowding in the ED have yielded mixed results (Delia & Cantor, 2009), better access to primary care could minimize the use of ED for ACS conditions and ease demand for ED services (Delia & Cantor, 2009; Tang et al., 2010).

Increased rates of admissions for ACS conditions are considered indicators of barriers to effective primary care (Billings, Anderson, & Newman, 1996; Carlson, Menegazzi, & Callaway, 2013; Oster & Bindman, 2002). Lack of insurance is a significant barrier to healthcare access; therefore, uninsured individuals are more likely to not have a regular source of care (Brown et al., 2004; DeVoe, Fryer, Phillips, & Green, 2003) and rely on EDs for non-urgent conditions (Centers for Disease Control and Prevention, 2013b). Alternatives to ED for uninsured individuals seeking outpatient care consist of a "patchwork" of organizations such as free clinics or community health clinics

Free clinics and community health centers or Federally Qualified Health Clinics (FQHC) are frequently classified together, although they differ due to organizational requirements. In order to become an FQHC, clinics must apply for federal funding under section 330 of the Public Service Health Act and operate in a medically underserved area (National Association of Community Health Centers, 2011). FQHCs also benefit from enhanced reimbursement for Medicare and Medicaid (National Association of Community Health Centers, 2011). Free clinics rely on volunteer staff and healthcare providers, community funding, and they primarily serve uninsured patients, offer services for free, and locate in areas that are not served by other safety net facilities (Darnell,

2010, 2011). Given these organizational differences, FQHCs have more financial support and resources and serve greater numbers of low-income individuals than free clinics.

Research examining free clinics or FQHCs and ACS conditions is limited. One study investigating associations between FQHCs in rural Georgia communities and ED visits for ACS conditions found that uninsured individuals who receive care at an FQHC are less likely to present at ED with an ACS condition. Rural communities without an FQHC had 22% higher rates of ED visits for ACS conditions by uninsured patients than rural communities with an FQHC (Rust et al., 2009). Other studies investigating publicly insured patients at FQHCs and/or ACS conditions for hospital admissions have found mixed results (Epstein, 2001; Falik, Needleman, Wells, & Korb, 2001; Probst, Laditka, & Laditka, 2009).

Research examining the ability of free clinics to provide primary care for the uninsured or reduce ACS conditions in EDs for uninsured is also limited. One study using two differing measures of ED use for primary care needs had mixed results concerning the association between patients who utilized free clinics and avoidable ED visits. When avoidable ED visits were defined by a hospital based rating of complexity of care, visits to a free clinic were found to reduce the likelihood of using the ED for primary care needs (Hwang et al., 2012). Alternatively, using a definition of avoidable ED visits based on diagnoses (or ICD-9 codes), the association was not statistically significant (Hwang et al., 2012). However, the study examined a small pool of free clinics (only 4) in a single community, limiting the generalizability of the study. Further research investigating the state wide effect of free clinics, an often over looked part of the healthcare safety net, on reducing avoidable ED visits is warranted.

Objective

The aim of this study is to examine the relationship between free clinics in North Carolina and avoidable ED visits, as well as understand differences in counties that have access to a free clinic versus counties that do not benefit from having a free clinic. Hypothesis 1: Residing in a county served by a free clinic will reduce the odds that a given ED visit by an uninsured individual is for an ACS condition. Hypothesis 2: Free clinics locate in areas with social or health services environment characteristics that would indicate there is an increased need for low-cost or free health care services.

Free clinics are non-profit organizations that provide care to uninsured individuals for no cost or a minimal fee, and do not accept public or private insurance. North Carolina has approximately 80 free clinics located throughout the state, some that have been operating for over four decades. In addition, the uninsured in North Carolina comprise a greater percentage of ED visits than the average for the country, with 21% of all visits to EDs in North Carolina for uninsured patients as compared to 16% nationwide (Spade, 2005), and the state is expected to continue to have a large uninsured population (Buettgens et al., 2014).

The health care safety net provides needed services for vulnerable and low-income populations, understanding the effectiveness of this care is integral to the ongoing maintenance and future health of vulnerable and low-income populations. As free clinics continue to operate in North Carolina and nationwide, understanding their contribution to the health and provision of care for the uninsured would support appropriate policy development and program funding decisions.

1.1 Methods

The study utilized a cross-sectional study design to investigate the association between an individual being admitted to the ED with an ACS condition and the individual residing in an area served by a free clinic. State wide Emergency department data is available from the North Carolina 2010 State Emergency Department database, which is part of the Healthcare Cost and Utilization Project. The data include all emergency visits to hospital affiliated emergency departments that do not result in a hospitalization (HCUP Databases, 2015). The exclusion of admissions resulting in hospitalization restricts the sample to less severe conditions that do not warrant increased monitoring or surgery.

For the purposes of this study, the sample was restricted to uninsured adults, living in North Carolina. The unit of analysis was an ED visit. After applying these exclusions, the sample was 847,154 ED visits. The sample was further reduced after the application of the New York University ED algorithm (description below), which was unable to classify 88,890 observations (10.5% of the sample) and as a result of missing responses, primarily for race (23,549 observations or 3.1% of the sample). The final sample consisted of 734,715 admissions.

In 2010, the percentage of all ED visits by uninsured in North Carolina was only slightly less than the percentage of visits by either Medicaid or commercial pay patients (see Table 1). In North Carolina, uninsured individuals and those relying on Medicaid utilize the ED at greater rates than commercial or Medicare patients (comparison based on payer type as a percentage of the population for North Carolina for 2013).

Table 1: 2010 North Carolina ED visits and total population by payer type

Payer	Number ED Visits	Percent of total ED visits		Payer type as a % of total population (as of 2013) *
Medicare	547,937	15.18		16
Medicaid	991,189	27.45		19
Commercial	993,639	27.52		42
Uninsured	952,582	26.38		16
Other	125,124	3.47		3

*Source: Kaiser Family Foundation. (2013). Health insurance coverage of the total population *State Health Facts*.

Dependent Variable

The outcome examined was whether an individual was admitted to the ED with an ACS condition. ACS conditions were identified using the New York University ED algorithm (NYU algorithm). The algorithm was developed and validated with experts in the field and researchers at NYU (Billings, Parkikh, & Mijanovich, 2000). To assess whether an observation is classified as an ACS condition, the algorithm creates the following four variables: 1) non-emergent; 2) emergent/primary care treatable; 3) emergent ED care needed preventable/avoidable; or 4) emergent ED care needed not preventable/avoidable (Billings et al., 2000). (See Figure 1). Instead of determining whether each observation is an ACS condition, the algorithm provides the relative probability that an observation would be diagnosed for each category, with the sum of the probabilities of each observation equal to one. For example, each diagnosis of a urinary tract infection (ICD-9-CM code 599) is assigned a 66% probability of being "non-emergent", a 17% probability of being "emergent/primary care treatable"; a 17% being probability of "emergent/ED care needed but preventable"; and 0% probability of "emergent not preventable" (The Center for Health and Public Service Research, n.d.).

Consistent with prior research, an ED visit is considered an ACS condition if the combined probabilities of "non-emergent", "emergent/primary care treatable" and "emergent/ED care needed but preventable" for the visit are equal to or exceeds 75% (Hwang et al., 2012).

Visit Classification	Description
Non-emergent	Immediate medical care was not required within 12 hours.
Emergent/primary care treatable	Treatment was required within 12 hours, but care could have been provided effectively and safely in an ambulatory setting.
Emergent/ED care needed, preventable	ED care was required, but the condition was potentially preventable if timely and effective primary care was received.
Emergent/ED care needed not preventable	ED care was required and ambulatory care treatment could not have prevented the condition.

Figure 1. NYU ED algorithm - visit classifications

Source: Billings, J., Parkikh, N., & Mijanovich, T. (2000). Emergency room use: The New York story Issue Brief (2000 Nov ed., pp. 1-12): Commonwealth Fund.

The NYU algorithm does not assign emergent care probabilities to admissions for an injury, or mental health, drug or alcohol related admissions, but separately identifies these occurrences. Furthermore, admissions for ICD-9 codes not included in the NYU algorithm are identified as unclassified. Changes in ICD-9 codes since the development

of the NYU algorithm may have increased the number of unclassified admissions. A detailed description of the NYU algorithm is provided elsewhere (Billings et al., 2000).

Key Independent Variable

The primary independent variable was a dichotomous variable representing whether a free clinic services the county in which the discharged patient resides. Service areas for a free clinic are defined using a question on the North Carolina Association of Free Clinic's outcome survey asking clinics to identify their service area. While most clinics typically identify a single county, clinics in more rural areas may identify several counties that they serve.

The definition of a free clinic is consistent with that employed by the North Carolina Association of Free Clinics. The Association has provided a list of existing free clinic locations throughout the state that is updated annually. Funding tied to membership with the North Carolina Association of Free Clinics incentivizes free clinics to become and maintain membership and enables the maintenance of a comprehensive list of free clinics in the state. Addresses were confirmed for free clinic locations in existence in 2010 through an investigator's review of the Association's files, the North Carolina Department of Secretary of State website and individual clinic websites. A website for free and reduced healthcare services (NChealthcarehelp.org) was reviewed in order to identify free clinics that were not members of North Carolina Association of Free Clinics. The search did not yield any additional clinics.

To limit clinic locations to those that provide medical services, clinics offering dental and/or pharmacy services only were excluded. In addition, clinics were limited to those

open for a least a year. In 2010, 69 free clinics operating in North Carolina provided medical care. The 69 clinics served 76 of North Carolina's 100 counties.

Covariates

Given the multi-level influences on an individual's decision and/or ability to access primary care medical services, the model controls for variables at the individual, community and health services environment levels consistent with Andersen's model of health care access (Andersen, 1995). The model covariates are listed below in Table 2. Community resources and characteristics can affect how individuals access medical care. Higher levels of poverty and uninsurance may overwhelm the local safety net system and increase barriers to primary care access for low income populations (Andersen et al., 2002). The demographics of the community and in particular the percentage of the population that is minority also can impact access to medical care through differences in language, lifestyles and cultural barriers (Yancey, Bastani, & Glenn, 2014). Finally, rural communities face unique barriers to healthcare as a result of longer distances to providers (Probst, Laditka, Wang, & Johnson, 2007) and fewer available physicians (Rosenblatt & Hart, 2000), as well as having higher rates of ACS conditions (Laditka, Laditka, & Probst, 2009).

Measures for percentage of the population under 65 that is uninsured, percentage of persons living below the poverty level, percentage of population who are minorities, and urban/rural classification are included in the model. Consistent with prior research, county level measures are extracted from the Area Health Resource Files (Davidson, Andersen, Wyn, & Brown, 2004; Probst et al., 2009) except for the rurality index. The rurality index is included in the North Carolina State Emergency Department database.

For the purposes of this study rural counties are identified by the National Center for Health Statistics 2006 classification scheme, and represent counties classified as non-metropolitan.

Availability of health care resources also can affect an individual's ability and/or decision to access care. The health services resources are characterized by county level variables for the number of hospital beds per 1,000 population, number of physicians per 10,000 population, and the presence of an FQHC in a county. These variables are consistent with prior research (Epstein, 2001; Probst et al., 2009), and available from the 2010 Area Health Resource Files.

Patient characteristics associated with the ED visit are available from the State Emergency Department dataset and include gender, race (ethnicity data was not collected in emergency departments in North Carolina in 2010), and age.

Table 2: Model covariates – definition and source

Co-variates	Definition	Source
Gender	Male or female	Included in ED database
Age	Categorized into 5 groups: 18 to 29, 30 to 39, 40 to 49, 50 to 64, & 65 or older	Included in ED database
Race	White, Black, Asian, Native American, or other	Included in ED database
Rural	National Center for Health Statistics 6 level 2006 urban/rural classification scheme. Non-metropolitan areas (level 5&6) are considered rural	Included in ED database
FQHC	1 or more FQHCs in the county	Area Health Resource File
Hospital Beds per 1,000 population	Acute care hospital beds per 1,000 population	Area Health Resource File
MDs per 10,000 population	# of MDs per 10,000 population	Area Health Resource File
Percent minority	Proportion of the population non-white.	Area Health Resource File
Percent no health insurance	% of the population under 65 w/o health insurance	Area Health Resource File
Percent living in poverty	% of the population living below the poverty level	Area Health Resource File

Analysis

The analysis included descriptive statistics for the dependent and independent variables. The first hypothesis was explored through bivariate analysis and multivariate logistic regression. Bivariate analysis compared demographic and county variables stratified by type of ED admission, ACS condition or emergent. Multivariate logistic regression examined the association between the probability that an ED visit for an uninsured patient involves an ACS condition and whether the individual resides in a county served by a free clinic.

The second hypothesis used chi-square and t-tests analysis to examine counties served by free clinics versus those not served by a free clinic for county level variables, addressing the question of whether free clinics serve counties with a demonstrated need.

Although the dataset included a variable enabling tracking of an individual patient for multiple visits, 22.5% of the observations were missing the identifying variable. Analysis compared results for a sample excluding observations that were missing the tracking variable, with and without clustering at the patient level, and found the outcomes to be similar. Based on this analysis and because the missing tracking variable appeared to be related to specific counties and/or hospitals (i.e., not at random), we used the full sample for the analysis and did not account for the clustering at the patient level.

The database construction and data analysis for this paper was generated using SAS Enterprise Guide 6.1. See Appendix A for coding for database construction and Appendix B for coding for data analysis.

1.2 Results

Demographic characteristics of the emergency department admissions are provided in Table 3. Over half (54.4%) of the admissions were classified as an ACS condition. As expected, 76% of the counties are served by a free clinic, the vast majority of the admissions occurred in counties served by a free clinic (86.6%). The majority of the admissions were female (51.1%), between the ages of 18 and 29 (41%), White American (54.9%) and resided in an urban area (65.5%).

Table 3: Demographic and community characteristics

N=734,716	#	%
Female	375,458	51.10
Male	359,258	48.90
Age		
18 to 29	300,710	40.93
30 to 39	188,343	25.63
40 to 49	153,473	20.89
50 to 64	89,895	12.24
65 or older	2,295	0.31
Race		
White	403,397	54.91
Black	269,309	36.65
Asian	5,062	0.69
Native American	14,707	2.00
Other	42,241	5.75
1 or more FQHCs	445,022	60.57
No FQHCs	289,694	39.43
Rural	253,540	34.51
Not Rural	481,176	65.49
1 or more FCs	636,287	86.60
No FC	98,429	13.40
Avoidable ED	399,944	54.44
Emergent ED	334,772	45.56
	Mean	SD
Beds per 1,000 pop	3.08	2.36
MDs per 10,000 pop	2.50	0.96
Percent Minority	34.63	15.17
Percent Living in Poverty	19.45	2.22
Percent w/o Insurance	18.03	4.09

Table 4 examines the sample by ACS condition (n= 411,660; 54.3%) and emergent ED (n=346,605; 45.7%) admissions. Admissions for an ACS condition were

more likely to be female, young adults, and Black Americans as compared to emergent admissions to the ED. In terms of the community, ACS conditions had a higher likelihood of coming from a rural county and counties not served by a free clinic. While t-tests indicated the county level variables, number of MDs per 1,000 population, number of hospital beds per 10,000 population, percent living below poverty, percent minority and percent without health insurance, differed by ACS conditions and emergent admissions, practical differences were nominal.

Table 4: Demographic and health service environment characteristics by admission type *

N=734,716	ACS Condition		Emergent Admission		
	#	%	#	%	P-value
Female	223,896	55.98	151,562	45.27	Reference
Male	176,048	44.02	183,210	54.73	<0.0001
Age					
18 to 29	169,161	42.30	131,549	39.30	Reference
30 to 39	101,683	25.42	86,660	25.89	<0.0001
40 to 49	81,435	20.36	72,038	21.52	<0.0001
50 to 64	46,702	11.68	43,193	12.90	<0.0001
>65	963	0.24	1,332	0.40	<0.0001
Race					
White	208,386	52.10	195,011	58.25	Reference
Black	160,392	40.10	108,917	32.53	<0.0001
Asian	2,569	0.64	2,493	0.74	0.1994
Native American	8,085	2.02	6,622	1.98	<0.0001
Other	20,512	5.13	21,729	6.49	<0.0001
1 or more FQHCs	242,693	60.68	202,329	60.44	Reference
No FQHCs	157,251	39.32	132,443	39.56	0.0331
Rural	139,304	34.83	114,236	34.12	Reference
Not Rural	260,640	65.17	220,536	65.88	<0.0001
1 or more FCs	345,742	86.45	290,545	86.79	Reference
No FC	54,202	13.55	44,227	13.21	<0.0001
	Mean	SD	Mean	SD	
Beds per 1,000 pop	3.10	2.39	3.06	2.32	<0.0001
MDs per 10,000 pop	2.49	0.95	2.52	0.97	<0.0001
% Minority	34.98	15.06	34.29	15.29	<0.0001
% Living in Poverty	18.10	4.12	17.93	4.06	<0.0001
% w/o Insurance	19.44	2.22	19.46	2.21	<0.0001

**Table includes only visits that the NYU algorithm could identify.*

Counties served by a free clinic (76) were compared to counties that were not (24) for each of the county level and health service environment variables to assess differences (see Table 5). The two groups of counties did not differ for number of MDs, the percent of population that is minority, the percent of the population under age 65 without

insurance, the number of counties with an FQHC, or the percent of counties that were rural. However, the communities differed for two factors. Counties served by a free clinic had a greater number of hospital beds per 1,000 population then counties not served by a free clinic (mean 2.87 v. 1.26; p-value = 0.0004), and had a lower percent of the population living in poverty (18.59 v. 21.05; p-value =0.015).

Table 5: Comparison of counties served by a free clinic to counties not served by a free clinic (# of NC counties: 100)*

County Variable:2010	Free Clinic (n=76)		No Free Clinic (n=24)		p-value
	mean	S.D.	mean	S.D.	
Beds per 1,000 pop	2.87	2.95	1.26	1.36	0.0004
MDs per 10,000 pop	2.52	1.25	2.16	1.80	0.3750
Percent Minority	29.75	17.22	34.66	18.94	0.2379
Percent Living in Poverty	18.59	4.42	21.05	3.63	0.0150
Percent w/o Insurance	19.97	2.31	21.35	3.43	0.0762
# of FQHC	1.05	1.55	1.83	2.55	0.1663
	#	%	#	%	
1 or more FQHC	36	47.37	12	50.00	0.8221
1 or more RHC	27	35.53	13	54.17	0.1068
Rural county	44	57.89	16	66.67	0.4409

*Table includes only visits the NYU algorithm could identify.

The multivariate logistic regression model included all variables previously identified. Confirming the first hypothesis, the model indicates that an ED admission for an uninsured individual from a county served by a free clinic has 2.5% lower odds of being for an ACS condition then an ED admission in a county not served by a free clinic (OR: 0.975; p-value 0.0009) (see Table 6).

All model covariates were significant with the exception of the presence of at least one FQHC in a county. Of note: service areas for FQHC's were based on counties,

whereas service areas for a free clinic reflect the clinic administration's description of service areas included in a questionnaire. Uninsured women have a 1.53 times higher odds of being admitted for an ACS condition than uninsured men. The odds of an admission for an ACS condition declines as uninsured adults increase in age. Both uninsured Black Americans and Native Americans had higher odds (1.399 OR and 1.136 OR, respectively) of an admission for an ACS condition as compared to uninsured White Americans.

Table 6: Adjusted odds that an admission is for an ACS condition

	Adjusted OR	P-value
Female	1.534	<.0001
Age		
30 to 39 vs. 18 to 29	0.931	<.0001
40 to 49 vs. 18 to 29	0.876	<.0001
50 to 64 vs. 18 to 29	0.827	<.0001
> 64 vs. 18 to 29	0.578	<.0001
Race		
Black v. White	1.399	<.0001
Asian v. White	0.963	0.1917
Native American v. White	1.136	<.0001
Other v. White	0.903	<.0001
Rural	0.987	0.0403
FQHC present	0.990	0.0806
Hospital beds per 1,000 pop	1.004	0.0017
MDs per 10,000 pop	0.976	<.0001
% living in Poverty	1.014	<.0001
% w/o health Insurance	0.989	<.0001
% Minority	0.997	<.0001
Free Clinic	**0.975**	**0.0009**

1.3 Discussion

This study is the first to examine the association of a statewide presence of free clinics and admittance to ED for ACS conditions. In addition, differences in counties served by free clinics with counties not served by free clinics were examined. While the results suggest that free clinics do not locate in counties with specific need characteristics, the results do support the ability of free clinics to provide primary care to uninsured populations. Despite their limited visit load relative to their service populations, the presence of a free clinic, after adjusting for other covariates, including the presence of FQHCs, is associated with significantly and practically reduced odds of admission to the ED for ACS conditions.

Free clinics in North Carolina are located in counties that are not dissimilar from the counties that are not served by free clinics, and do not suggest an effort to place clinics in communities with significant social need. Of the three variables representing social need within a community included in the model, only one was significant: percentage of the population living in poverty. It indicated that free clinics served counties with lower levels of poverty (counties served by a free clinic had 2.5% lower rates of individuals living in poverty as compared to counties not served by a free clinic). While the percentage of the population without health insurance and percentage of the population that was minority were not statistically significant, the means for both of these variables were lower in counties served by free clinics. This outcome is consistent with a nationwide study of free clinics completed by Darnell (2011) which found that free clinics did not locate based on social need, but potentially sought to address areas where healthcare safety net is less established.

In the current study free clinics were more likely to serve counties with greater numbers of hospital beds, indicating a higher level of health care services in those communities, and, furthermore, FQHCs were equally prevalent in counties with and without a free clinic, which was the primary safety net facility in Darnell's (2011) study that was inversely associated with the number of free clinics in a metropolitan statistical area. The inclusion of rural communities in the current study may reduce support for the theory that free clinics locate where gaps in the health care safety net exist. Factors supporting the development and location of free clinics may rely more heavily on local funding and other resource support (i.e., donated real estate) and less on social need. Further research is necessary to understand the association of funding sources and the creation of a free clinic in a community.

The study's primary finding is that despite free clinics in North Carolina not locating based on social need or a gap in ambulatory care services, having a free clinic serve a community reduces the odds of an uninsured adult being admitted to an ED for an ACS condition by 2.5%. The size of the effect is consistent with prior studies of groups of free clinics (Epstein, 2001; Hwang et al., 2012), however, unlike the prior studies, the effect was statistically significant. The current study benefits from utilizing a statewide network of clinics and a sample including only uninsured adults, a population directly impacted by the availability of free clinics.

The small, but statistically significant, result suggests that if free clinics could expand their reach from their current levels, approximately 87,000 patients (North Carolina Association of Free Clinics, 2013) in North Carolina, or 5.5% of uninsured adults in 2010 (North Carolina Institute of Medicine, n.d.), the state could realize a decline in the use of

EDs for costly avoidable admissions. Alternative avenues for achieving affordable access to primary care for low-income adults, such as the expansion of Medicaid, may also have a similar effect.

FQHCs were not found to be associated with a reduction in the odds of an ACS admission by uninsured adults to the ED. This finding is consistent with Probst et al. (2009), which found no association with uninsured ACS admissions to the hospital for patients at FQHCs. However, in rural communities within the United States, FQHCs were associated with a reduction in uninsured ACS admissions to EDs (Rust et al., 2009). Other studies have found that FQHCs aid in reducing ACS hospital admissions (Epstein, 2001) or ED admission for Medicaid patients (Chen, Hibbert, Cheng, & Bennett, 2015). The lack of association found in this study and others between FQHCs and ACS conditions for uninsured individuals may indicate barriers (perceived or real) for uninsured adults at FQHCs such as excessive wait times, greater administrative requirements or lack of affordability (FQHCs typically require some minimum payment) (Wilkin, Cohen, & Tannebaum, 2012). As an important piece of the health care safety net, improved understanding of existing barriers for uninsured adults in accessing FQHCs is warranted and could offer an opportunity for reducing avoidable ED admissions for vulnerable populations, particularly in states that reject Medicaid expansion.

In terms of demographic groups with potential barriers in accessing primary care treatment, the current study found that uninsured women had 53% higher odds than uninsured men, and uninsured Black Americans had 40% higher odds than uninsured White Americans of being admitted to the ED for ACS conditions. The current study findings corroborate prior research focused on all payer types (Chen, Cheng, Bennett, &

Hibbert, 2015; Chen, Hibbert, et al., 2015; Oster & Bindman, 2002). The result continues to emphasize the barriers that exist for uninsured Black Americans when accessing primary care treatment, and highlights a need for safety net facilities to improve access for Black Americans. This need is particularly acute given Black Americans and low-income individuals are at higher risk of chronic diseases which unattended can require emergency care (Centers for Disease Control and Prevention, 2013a). In addition, future research should explore uninsured women's and Black American's, and potentially the intersection of these groups, greater dependency on ED for primary care treatment.

Several important limitations exist for this study. While this study benefits from information on service areas for free clinics available from the North Carolina Association of Free Clinics, service areas for FQHCs are based on the county the facility is located in. This limitation may under-represent the true reach and influence of the FQHCs. In addition, it could affect the odds ratios for free clinics in either direction depending on whether the FQHC served an area with or without access to a free clinic. Accurately assessing service areas for safety net facilities is integral to understanding the effectiveness of these institutions in providing care to needy populations, and therefore, more appropriate measures for service areas are needed. As service areas can vary significantly by type of location (i.e. urban, suburban or rural), having FQHCs specify their service areas in their annual reporting could aid in improving research.

A limitation of using the NYU algorithm is the inability to classify all visits. If a diagnosis was not included in the original study by Billings et al. (1996), or an ICD 9 code has been changed the algorithm will not be able to identify the visit as urgent, or

primary care treatable. Unclassified observations comprised 10.5% of the database. In addition, the sample only includes emergency department visits that do not result in an admission to the hospital. These hospitalizations may be the result of urgent conditions that require extended supervision, or a more serious condition resulting from the lack of primary care treatment. Therefore it is unclear how the exclusions of the ED visits resulting in hospitalization affect the reported outcomes.

Finally, the form of primary care in a given community, such as Health Maintenance Organizations (Zhan, Miller, Wong, & Meyer, 2004) or practices employing patient centered medical homes, may account for higher quality outcomes and fewer ACS conditions in EDs. However, the study is unable to account for delivery type within this model. In addition, the study is cross-sectional and therefore is unable to assess causality.

1.4 Conclusion

This study lends support to the hypothesis that free clinics are able to provide primary care to the uninsured and thereby reduce admissions to EDs for ACS conditions. While all states will continue to have uninsured individuals, states, including North Carolina, that have declined the federal dollars for Medicaid expansion will have greater numbers of uninsured. Therefore, effective avenues for creating access to primary care for uninsured individuals, such as free clinics, are necessary in controlling health care costs and improving public health particularly in states without Medicaid expansion.

Contrary to existing research this study did not find that free clinics locate in areas without FQHCs. Given free clinics' ability to improve primary care access for uninsured, low-income individuals in areas with lower levels of demonstrated need, policies at the

state and local level should encourage the development of free clinics in communities with limited access to alternative safety net facilities.

Findings from this study also highlight the ongoing disparities for uninsured women and Black Americans in gaining access to care. Black Americans are more likely to have one or more chronic diseases requiring ongoing maintenance from health care providers (Centers for Disease Control and Prevention, 2013a). Implementation of disease management programming at safety net facilities addressing barriers to self-care management for women and Black Americans may aid in improved health outcomes and reduced dependency on EDs.

In addition, this study found the presence of an FQHC in a county was not associated with lower odds of an admission for an ACS admission. Although in recent years FQHCs have begun to serve greater numbers of Medicaid patients, uninsured patients consist of approximately a third of FQHCs patients nationwide (Shin, Sharac, & Rosenbaum, 2015) and over half of FQHCs patients in North Carolina (US Department of Health & Human Services, n.d.). As a stalwart of the healthcare safety net and a primary care provider with greater reach to uninsured populations FQHCs offer an opportunity to reduce the dependency on EDs for ACS conditions. The lack of association between the FQHCs and admissions for ACS conditions together with the increased odds of ACS admissions for women and Black Americans emphasize the need for increased understanding of barriers for the uninsured, and particularly for women and Black Americans, to primary care safety net facilities.

Ongoing research of free clinic's disease management and administrative structures is necessary to provide examples of successful programming that can be replicated in other

free clinics, FQHCs and other safety net facilities to enhance care for the uninsured in less costly manner than EDs.

As the United States continues to rely on a marketplace healthcare system with universal care provided by emergency departments, supporting and understanding cost effective community-based alternatives for the delivery of care for the uninsured, such as free clinics, is warranted.

ARTICLE II: FREE CLINICS REDUCE HOSPITALIZATIONS OF THE UNINSURED FOR AMBULATORY SENSITIVE CARE CONDITIONS

Abstract

Free clinics are volunteer based organizations that provide health care services to low-income, uninsured individuals for free or minimal cost. Free clinics often provide primary care services for chronic conditions, which may reduce the reliance of the uninsured on costly hospital admissions for care for ambulatory care sensitive conditions. By considering the opening of free clinics over time in North Carolina, this study examined the relationship between free clinics and uninsured hospitalizations for ambulatory care sensitive conditions. Uninsured individuals residing in a North Carolina counties served by a free clinic had a 7.6% reduced odds of a hospitalization for an ambulatory care sensitive condition. When restricted to hospitalizations for ambulatory care sensitive conditions related to chronic conditions, the reduced odds were 8.9%. Free clinics are effective providers of primary care services for uninsured individuals, particularly for those with chronic conditions. To increase free clinics reach state and local policy makers should support and encourage development of free clinics in high need areas.

2.0 Introduction

Ambulatory care sensitive (ACS) conditions are conditions that are treated in an acute care setting, but could have been mitigated through access to appropriate primary care. Lack of access to primary care services results in the absence of regular preventive care, monitoring of chronic illnesses or early treatment of acute conditions (Billings et al., 1993; DeVoe et al., 2003). As untreated health conditions worsen hospitalization may be

required, such as uncontrolled asthma triggering a lung infection or unmanaged diabetes resulting in a stroke. Therefore, high rates of ACS conditions upon admission to hospitals or ED are considered an indicator of poor access to primary care.

Despite modest improvements in the number of preventable hospitalizations in recent years, rising health care costs have mitigated any reductions in costs incurred from preventable hospitalizations (Torio, Elixhauser, & Andrews, March 2013). Total costs for potentially preventable hospitalizations are estimated to exceed $30 billion (Jiang, Russo, & Barrett, 2009). Uninsured adults, who are less likely to have regular source of care and unmet medical needs (Kenney, McMorrow, Zuckerman, & Goin, 2012), are hospitalized for ACS conditions more frequently than Medicaid recipients or individuals with commercial insurance (Stranges & Stocks, 2010).

Efforts to improve primary care access for populations with the highest rates of hospitalizations for ACS conditions, such as the uninsured, could aid in reducing this cost (Moy, Chang, & Barrett, 2013). Free clinics, which provide medical care for free or minimal cost, are one avenue to address the medical needs of the uninsured. Clients served by free clinics frequently come from demographic groups identified as having an increased likelihood of being admitted for ACS conditions, such as uninsured (Stranges & Stocks, 2010), individuals from low-income areas (Billings et al., 1996; Moy et al., 2013), and minorities (Biello, Rawlings, Carroll-Scott, Browne, & Ickovics, 2010; Laditka, Laditka, & Mastandun, 2003). While free clinics may not have the resources to meet all the medical needs of these populations they may provide care for chronic illnesses through regular monitoring, dispensing medications, and providing lab tests.

The current study examines whether the presence of free clinics in North Carolina aids in mitigating hospitalizations for ACS conditions for uninsured adults. In particular, the study benefits from investigating free clinics throughout the state of North Carolina during a time when eighteen new clinics opened. The addition of new clinics combined with county level fixed effects approximates causality by controlling for unmeasured factors that do not vary over time at the county level.

Literature Review

Free clinics have operated in the US for over fifty years (Weiss, 2006). While only approximately 55 clinics were open in the late 1960s (Schwartz, 1971), recent surveys estimate in excess of 1,000 free clinics located throughout the US (Darnell, 2010). The clinics provide access to medical care for the uninsured and low-income individuals for free or minimal donations (Darnell, 2010), in essence removing the financial barriers of insurance and co-pays for eligible populations. Although services may be restricted and not compare to for-profit primary care organization as a result of limited funding and reliance on medical and administrative volunteers, free clinics focus on offering acute, primary, and preventive care to their clients (Mott-Keis, DeGeus, Cashman, & Savageau, 2004).

As the Affordable Care Act (ACA) continues to unfold, the US healthcare system will be focused on servicing the medical needs of newly insured through the exchanges and expanded Medicaid enrollment. Reduced funding under the ACA for uncompensated care at safety net facilities, such as public hospitals (Mohan, Grant, Batalden, & McCormick, 2013; Neuhausen et al., 2014), and increased demand in primary care offices, particularly from lower paying Medicaid beneficiaries (Sabik & Gandhi, 2013),

could result in fewer safety net options for those who remain uninsured, and, therefore, a greater reliance on free clinics.

System-wide research pertaining to free clinics has generally endeavored to describe the clinics and their patients (Darnell, 2010; Gertz et al., 2011; Mott-Keis et al., 2004; Nadkarni & Philbrick, 2005). In terms of populations served, the results are not surprising: the majority of individuals served are between the ages of 18 and 64, female, uninsured and living below the Federal Poverty Level (FPL) (Darnell, 2010; Geller et al., 2004; Mott-Keis et al., 2004; Nadkarni & Philbrick, 2005). As for clinic characteristics, the literature consistently emphasizes the disparity of resources, organizational structure and services of free clinics, while concurring on the permanent role they play within the US healthcare delivery system (Darnell, 2010; Geller et al., 2004; Gertz et al., 2011; Nadkarni & Philbrick, 2005).

When examining health outcomes or access to care in relation to free clinics, the majority of the studies rely on a single clinic or small cluster of clinics. Of these studies, five involve individual clinics (Bicki et al., 2013; Dickman et al., 2012; Fertig et al., 2012; Ryskina, Meah, & Thomas, 2009; Stroebel et al., 2005), one includes four free clinics in three communities in Virginia (Hwang et al., 2012), and one examined free clinics and Federally Qualified Health Clinics (FQHC) throughout Virginia (Epstein, 2001). The health outcomes assessed vary by study but include management of chronic diseases (Dickman et al., 2012; Ryskina et al., 2009; Stroebel et al., 2005), rate of preventable hospitalizations (Epstein, 2001), avoidable emergency department visits (Hwang et al., 2012), and cost benefit of care at a free clinic (Bicki et al., 2013; Fertig et al., 2012).

Two of the free clinic studies were pilot studies reporting on the implementation of programs to improve self-management behaviors of patients at a single free clinic. Both studies found free clinic patients realized improvement in disease management such as increased exercise (Dickman et al., 2012), reduced HgbA1c, lower LDL levels, and lower blood pressure (Stroebel et al., 2005). A third study examined intermediate diabetes management outcomes and processes at a student-run free clinic, and found high rates of recommended care – 96% received HbA1c monitoring and 80% received nephropathy monitoring – and blood pressure control (Ryskina et al., 2009). Although the pilot studies, occurring in a single clinic with a small sample, have limited generalizability they offer support for free clinics ability to contribute to improved health outcomes for vulnerable populations that are likely to be at higher risk of chronic illnesses. These studies highlight free clinics focus on self-care management and chronic illnesses. Alternatively Bicki et al. (2013) and Fertig et al. (2012) quantify through differing forms of cost analysis a positive financial contribution from free clinics, but again given the sample size of one clinic, the results are not generalizable.

Two studies examined the association of a group of free clinics and measures of primary care accessibility (Epstein, 2001; Hwang et al., 2012). Hwang et al. (2012), found that uninsured patients visiting a free clinic were less likely to require low levels of care when presenting at an ED than uninsured patient not visiting a free clinic. In a state-wide examination of low income or elderly patients (included uninsured, Medicaid and Medicare recipients) in Virginia, communities with a free clinic had lower rates of preventable hospitalizations than communities without a free clinic, but the association was only marginally significant (Epstein, 2001). Given free clinics generally do not

serve individuals with third party or public insurance, the inclusion of uninsured discharges with public insurance may have obfuscated the results for free clinics.

Hwang et al. (2012) and Epstein (2001) both utilize a measure of ACS conditions, although differing measures, to assess free clinics association with preventable ED visits or hospitalizations. The measure of hospitalization for ACS conditions utilized in Epstein's study predates the development by the Agency for Healthcare Research and Quality indices for ACS conditions known as the Prevention Quality Indicators (Agency for Healthcare Research and Quality, n.d.), which have become accepted measures of ACS conditions and access to primary care in a community (Agency for Healthcare Research and Quality, n.d.; Biello et al., 2010; Davies et al., 2009).

Objective

This study examined the association between living in a county served by a free clinic and the likelihood that an uninsured individual is hospitalized for causes that could be prevented with adequate primary care. The key hypothesis is that hospitalization for an uninsured adult in a community served by a free clinic is less likely to be for an ACS condition. A sub-hypothesis is communities served by a free clinic will realize a greater effect on reducing ACS hospitalizations resulting from chronic conditions as compared to ACS hospitalizations resulting from acute conditions.

2.1 Methods

This study utilized longitudinal data covering a period during which a number of free clinics began operation, in conjunction with county-level fixed effects. Data sources are listed in Table 1. Cecil P. Sheps Center for Health Services Research provided North Carolina hospital discharge data for 2003 through 2007 (NC Hospital Discharge Data).

This time period covers a steady growth in the number of new free clinics in the state, primarily bolstered by the initiation of a partnership between the North Carolina Association of Free Clinics and the Blue Cross and Blue Shield (BCBS) Foundation. The partnership began in the early 2000's and included base grants for existing clinics, and start-up grants to cover initial costs for new clinics. A total of eighteen new medical clinics were added from 2003 to 2007 (Jones, 2014).

Table 1: Data sources for all variables

Variable	Definition	Source
Counties Served by a Free Clinic	A county with at least one free clinic in operation for at least one year.	North Carolina Association of Free Clinics databases and annual clinic survey
ACS condition	Identified using AHRQ's PQI. PQI #9 0 – all ACS conditions; PQI # 91 – ACS Acute conditions; PQI # 92 – ACS chronic conditions	North Carolina Hospital Discharge Data
Sex	Male or female	North Carolina Hospital Discharge Data
Age	Categorized into 5 groups: 18 to 29, 30 to 39, 40 to 49, 50 to 64, & 65 or older	North Carolina Hospital Discharge Data
Race	White, Black, Asian, Native American, or other	North Carolina Hospital Discharge Data
FQHC	1 or more FQHCs in the county	Area Health Resource File
Hospital Beds per 1,000 population	Acute care hospital beds per 1,000 population	Area Health Resource File
MDs per 10,000 population	# of MDs per 10,000 population	Area Health Resource File
Percent minority	Proportion of the population non-white.	Area Health Resource File
Percent no health insurance	% of the population under 65 w/o health insurance	Area Health Resource File
Percent living in poverty	% of the population living below the poverty level	Area Health Resource File

The North Carolina Hospital Discharge Data is based on hospital claim forms from North Carolina hospitals (Cecil G. Sheps Center for Health Services Research, n.d.). The sample was restricted to discharges of adults who were designated self-pay and reside in North Carolina. The number of adult, self-pay discharges of North Carolina residents for each year is listed in Table 2. The sample consisted of 270,325 observations.

Table 2: Number of adult, self-pay, North Carolina discharges, by year

Year	Number
2003	47,749
2004	48,780
2005	51,980
2006	56,414
2007	65,402
Total	270,325

Dependent Variables:

The dependent variable (outcome), whether a given hospitalization is preventable with adequate primary care, was identified using the Agency for Healthcare Research and Quality's overall Prevention Quality Index (PQI # 90), which is calculated retrospectively using the principal diagnosis codes from the hospital discharge database (Jiang et al., 2009). Conditions included in the indicators are short-term and long-term complications of diabetes, chronic obstructive pulmonary disease, hypertension, heart failure, angina without procedure, asthma, lower extremity amputation, dehydration, bacterial pneumonia and urinary tract infections (Agency for Healthcare Research and Quality, n.d.). Hospitalizations identified as an ACS hospitalization had at least one ACS condition based on the principal diagnosis.

The overall ACS indicator provided by the Agency for Healthcare Research and Quality can be sub-divided into two separate indicators, one for ACS conditions related to chronic illness (PQI #92) or ACS conditions related to acute conditions (PQI #91). Chronic illnesses, such as hypertension, diabetes or chronic pulmonary disease, require ongoing regular medical care, while ACS conditions related to acute conditions require time sensitive treatment to avoid hospitalization. Conditions included in PQI #92 (chronic conditions) include diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure and angina without a cardiac procedure (Agency for Healthcare Research and Quality, 2015b). PQI # 91 (acute conditions) identifies ACS conditions related to dehydration, bacterial pneumonia and urinary tract infections (Agency for Healthcare Research and Quality, 2015a). The analysis utilizes all three outcomes to determine first the effect of free clinics serving a county on all ACS conditions, and then for further understanding of what types of conditions free clinics treat effectively, by sub-dividing the ACS conditions by chronic and acute conditions. ACS hospitalizations are either related to an acute condition or a chronic condition and can not be identified as both.

Key Independent Variable

The key independent variable is a dichotomous indicator of whether a discharged patient resides in a county served by a free clinic that had been in operation for at least a year. Counties are classified as being served by a free clinic once the clinic is operating for at least one year to allow for a start up period and the potential for late year openings. Clinic service areas correspond to the clinic's response to a question on the North

Carolina Association of Free Clinics outcome survey asking which counties are included in their service areas.

For the purposes of this study free clinics are defined as health care safety net organizations that are a 501(c)(3) tax exempt organization or an affiliate of such organization, provide medical care for free or minimal donation, and do not accept third party insurance (Medicare, Medicaid, or private insurance). This definition is consistent with the definition used by North Carolina Association of Free Clinics (North Carolina Association of Free Clinics, n.d.).

During the period 2003 to 2007 there were 83 clinics that were members of the association. Base grants offered to existing clinics through the partnership with BCBS Foundation are a major incentive for free clinics to become members of the North Carolina Association of Free Clinics and encourage the vast majority of North Carolina's free clinics to join. The Association provided addresses and opening year information for current and past member clinics. Historical files at the North Carolina Association of Free Clinics were reviewed to insure clinics that were operating during the 2003-2007 period but subsequently closed were included. Several methods were used to confirm the historical locations and opening year of a clinic including reviewing North Carolina Association of Free Clinic files, searching the North Carolina Department of Secretary of State website, and individual clinic websites. To explore possible clinic locations for non-member clinics, the investigator reviewed a web-based directory of free and reduced healthcare services (NChealthcarehelp.org), which confirmed the list of clinics provided by the North Carolina Association of Free Clinics.

The study was limited to those clinics that provided medical services (i.e., free clinics that solely provide dental and/or pharmacy services were excluded). Table 3 lists the number of medical free clinics operating in each year and number of counties served by a free clinic of the one hundred counties in North Carolina.

Table 3: Medical free clinics operating for at least one year and number of counties served by a free clinic: 2003 to 2007

Year	Medical clinics operating for at least 1 year	Previously un-served counties *	Total NC counties served by a free clinic
2003	46	N/A	50
2004	47	6	56
2005	55	4	60
2006	59	7	67
2007	64	6	73
Total	N/A	23	N/A

** A free clinic opening may result in the addition of more than one county being served by a clinic if the clinic serves neighboring counties.*

Covariates

Covariates included in the model are based on Andersen's conceptualization of health services utilization, specifically the co-existing influences of individual, community and health services environment on an individual's healthcare utilization (Andersen, 1995). Table 1 lists the variables and their data sources.

Individual demographic variables such as age, gender and race are available as part of the North Carolina Hospital Discharge Data. While race is typically collected as part of hospital administrative data, it was not a required element for North Carolina hospitals until 2010. Consequently, nearly 40% of observations in the sample lack race information. Observations without race data were retained and categorized separately.

Community level factors include percentage uninsured, percentage minority composition, and percentage living below the FPL. The health service environment is represented in the model with the number of hospital beds per 1,000 population and the number of physicians per 10,000 population for each county. A dichotomous variable indicating the presence of an FQHC in a county represents other available safety net facilities. The community and health service environment variables were extracted from the Area Health Resource Files. The Area Health Resource File did not have data for the percentage of uninsured for two years (2003 and 2004) or the number of hospital beds for the year 2006. The closest year available was used as a proxy. A dummy variable representing the year in which the discharge occurred was included to control for the year.

Analysis

The analysis included descriptive statistics for the dependent and independent variables. The sample was stratified by discharge type, those designated as an ACS conditions versus those not designated as an ACS condition. T-tests and chi-square analysis assessed differences for each of the variables by ACS hospitalization type.

Multivariate logistic regression assessed the hypothesis: Uninsured patients hospitalized in counties with a free clinic have lower odds of a hospital discharge being for an ACS condition. The analysis is repeated for the outcomes specifying ACS hospitalizations for chronic conditions and ACS hospitalizations for acute conditions to examine separately the effectiveness of free clinics in addressing both types of ACS conditions.

The use of a multi-year dataset and the entry of free clinics in some counties, but not others, over time, allowed for logistic regression analysis to be analogous to a difference-in-differences approach. By controlling for each time period and each county using county fixed effects, the binary indicator for the presence of a free clinic in a particular county in a particular year may be interpreted as the causal effect of having a free clinic in the county on the odds that a hospitalization is for an ACS condition. The county level fixed effects control for characteristics that were constant at the county level over the time period examined (such as social norms regarding primary care use, population level health or neighborhood amenities).

The database construction for this study was generated using SAS Enterprise Guide 96.1. See Appendix A for coding for database construction. Stata Statistical Software: Release 13, was used for the multivariate logistic regression with fixed effects. Appendix C presents the coding for the logistic regression analysis.

2.2 Results

Descriptive statistics for the hospitalizations as well as demographic and community characteristics for the sample are included in Table 4. Discharges for ACS conditions constituted 12.65% of the sample, with approximately two-thirds of the ACS conditions attributable to chronic illnesses. Discharges were most likely to occur in counties that were served by a free clinic. The number of men slightly exceeded women (52.72% men vs. 47.28% women). Although the largest age category was for those between ages 40 and 49 (26.92%), other than discharges for individuals 65 and over, the size of the groups were fairly similar. For hospitals reporting race, White American comprised the largest group (33.63%).

Table 4: Demographic and community characteristics

N = 270,325	#	%
1 or more FCs	207,816	76.88
No FC	62,509	23.12
ACS Conditions		
Chronic illness	23,474	8.68
Acute conditions	10,721	3.97
Total ACS conditions	34,195	12.65
Non-ACS conditions	236,130	87.35
Sex		
Female	127,799	47.28
Male	142,526	52.72
Age		
18 to 29	66,907	24.75
30 to 39	58,989	21.82
40 to 49	72,773	26.92
50 to 64	67,475	24.96
> =65	4,181	1.55
Race		
White	90,906	33.63
Black	47,514	17.58
Asian	2,164	0.8
Native American	3,654	1.35
Other	21,459	7.94
Missing	104,628	38.7
1 or more FQHCs	140,887	52.2
No FQHCs	129,438	47.9
	Mean	S.D
Beds per 1,000 pop	3.43	2.36
MDs per 10,000 pop	2.62	0.99
Percent Minority	33.19	15.31
Percent Living in Poverty	14.80	4.30
Percent w/o Insurance	17.65	2.75

Table 5 presents the demographic and community characteristics of the sample by whether the hospitalization was for an ACS condition or not. Hospital discharges for ACS conditions occurred more frequently in counties without a free clinic as well as without an FQHC. Uninsured men and women were hospitalized with an ACS condition

at the same frequency. However, uninsured middle aged, older and Black Americans were more often hospitalized with an ACS condition than younger adults and White Americans were hospitalized with an ACS condition. Although t-tests indicated the number of hospital beds, number of MDs, percent of the population minority, percent of the population living in poverty and the percent of the population without health insurance differed statistically for the two groups, actual differences were minimal in practical terms.

Table 5: Demographic and community characteristics by discharge type

N = 270,325	ACS Condition		Non-ACS Condition		
	#	%	#	%	P-value
1 or more FCs	25,907	75.76	181,909	77.04	Reference
No FC	8,288	24.24	54,221	22.96	<0.0001
Sex					
Female	16,251	47.52	111,548	47.24	Reference
Male	17,944	52.48	124,582	52.76	0.3249
Age					
18 to 29	5,559	16.26	61,348	25.98	Reference
30 to 39	6,060	17.72	52,929	22.42	<0.0001
40 to 49	10,304	30.13	62,469	26.46	<0.0001
50 to 64	11,465	33.53	56,010	23.72	<0.0001
>65	807	2.36	3,374	1.43	<0.0001
Race					
White	9,480	27.72	81,426	34.48	Reference
Black	8,057	23.56	39,457	16.71	<0.0001
Asian	124	0.36	2,040	0.86	<0.0001
Native American	376	1.1	3,278	1.39	0.7882
Other	1,355	3.96	20,104	8.51	<0.0001
Missing	14,803	43.29	89,825	38.04	<0.0001
1 or more FQHCs	17,019	49.8	123,868	52.5	Reference
No FQHCs	17,176	50.2	112,262	47.5	<0.0001
	Mean	SE	Mean	SE	
Beds per 1,000 pop	3.511	0.0832	3.424	0.005	<0.0001
MDs per 10,000 pop	2.592	0.0233	2.627	0.002	<0.0001
Percent Minority	33.78	0.0832	33.11	0.031	<0.0001
Percent Living in Poverty	15.122	0.0000	14.756	0.009	<0.0001
Percent w/o Insurance	17.488	0.0054	17.673	0.006	<0.0001

The results from the full model, which controlled for fixed effects across time and counties, for the three outcomes - all ACS conditions, ACS conditions related to chronic illness, and ACS conditions related to acute conditions - are presented in Table 6. The model supports the hypothesis that free clinics aid in decreasing hospitalizations for ACS conditions for uninsured individuals in the communities they serve. Furthermore, the

model confirms the secondary hypothesis that counties served by free clinics realize a more pronounced effect with ACS hospitalization related to chronic conditions, or, in other words, the free clinics services are more effective in aiding the uninsured with chronic illness management.

An uninsured individual residing in a county served by a free clinic has a 7.6% reduced odds of being hospitalized for an ACS condition. However if the individual is hospitalized for ACS condition relating to a chronic condition the odds are 8.9% lower if the individual resides in a county served by a free clinic. The lack of significance of the odds ratio for free clinics and hospitalizations related to acute conditions adds further support to the finding that free clinics are more effective in providing preventive care for chronic conditions than addressing time sensitive acute conditions. Although none of the community factors were statistically significant, this is likely due to high correlation with county level fixed effects.

Examining all ACS conditions, uninsured women had slightly higher odds of being hospitalized for an ACS condition as compared to uninsured men (OR women: 1.077). Increasing age was associated with steadily increasing odds of an ACS hospitalization for the uninsured (ORs 30 to 39: 1.231; OR 40 to 49: 1.696; OR: 50 to 64 2.125; and 65 or older: OR 2.901). In addition, uninsured Black Americans had 1.842 times the odds of being admitted for an ACS condition as compared to uninsured White Americans, while Asian Americans had almost a 40% reduced odds of being admitted for an ACS condition versus White Americans.

For ACS conditions related to chronic illnesses, the magnitude of odds ratios for uninsured middle aged, older and Black Americans increased relative to the odds ratios

for all ACS conditions. Black Americans experience 215% higher odds of being hospitalized for ACS conditions related to chronic illnesses compared to White Americans. The odds ratios for the age categories for ACS conditions related to chronic illnesses followed a similar pattern as those for overall ACS conditions, but the effect was greater for each age category. However, limiting the ACS conditions to only those related to chronic illnesses indicated women had 8.6% lower odds of being hospitalized for ACS condition related to chronic illness versus their male counterparts.

Restricting the outcome to ACS conditions related to an acute condition reduced the effect for age and Black Americans, although older uninsured adults and uninsured Black American continued to exhibit higher odds of being hospitalized for an ACS condition related to an acute condition then younger uninsured adults (OR 30 to 39: 1.094; OR 40 to 49: 1.256; OR 50 to 64: 1.395; and OR 65 or older: 2.311) and uninsured White Americans (OR Black Americans: 1.141) (see Table 4). For uninsured women the odds ratio of being hospitalized for an acute ACS condition increased as compared to any ACS condition or only those related to chronic illnesses. Uninsured women had 48.1% increased odds of being hospitalized for an ACS condition related to an acute condition versus uninsured men.

Table 6: Probability hospital discharge was for an ACS condition (N=270,325)

	Chronic & Acute (PQI 90)		Chronic (PQI 92)		Acute (PQI 91)*	
	Adjusted OR	P-value	Adjusted OR	P-value	Adjusted OR	P-value
County served by a Free Clinic	**0.924**	**0.027**	**0.911**	**0.029**	**0.966**	**0.580**
Female	1.077	<.0001	0.914	<.0001	1.481	<.0001
Age						
30 to 39 vs. 18 to 29	1.231	<.0001	1.305	<.0001	1.094	0.004
40 to 49 vs. 18 to 29	1.696	<.0001	1.914	<.0001	1.256	<.0001
50 to 64 vs. 18 to 29	2.125	<.0001	2.470	<.0001	1.395	<.0001
> 64 vs. 18 to 29	2.901	<.0001	2.948	<.0001	2.311	<.0001
Race						
Black v. White	1.842	<.0001	2.152	<.0001	1.141	<.0001
Asian v. White	0.617	<.0001	0.641	<.0001	0.601	0.001
Native American v. White	1.100	0.127	1.057	0.47	1.162	0.138
Other v. White	0.737	<.0001	0.742	<.0001	0.726	<.0001
Missing v. White	1.550	<.0001	1.602	<.0001	1.350	<.0001
FQHC present	1.061	0.243	1.058	0.345	1.056	0.525
Hospital beds per 1,000 pop	0.966	0.260	0.946	0.139	1.007	0.898
MDs per 10,000 pop	0.978	0.425	0.953	0.155	1.029	0.541
% living in Poverty	1.001	0.860	1.005	0.430	0.992	0.393
% w/o health Insurance	0.985	0.066	0.965	<.0001	1.029	0.048
% Minority	3.510	0.380	4.215	0.39	1.568	0.855

**Analysis for acute ACS conditions does not include one county, which had no acute ACS conditions. The sample for the acute analysis is 270,200.*

2.3 Discussion

This large-scale study is the first to examine the impact of free clinics serving a community on hospital discharges for ACS conditions, and specifically over a time period with multiple new clinics opening while controlling for fixed effects across time and counties, allowing causality to be assessed. The incorporation of the fixed effects

creates a pre/post study design, with the results driven by counties gaining free clinic services during the study period. During the time period examined (2003 to 2007) 18 new free clinics were opened and operating for at least a year in North Carolina serving an additional 23 counties. Although free clinics only serve approximately 87,000 uninsured (North Carolina Association of Free Clinics, 2013), which only equates to approximately 5.5% of the uninsured adults in North Carolina (pre-ACA) (North Carolina Institute of Medicine, n.d.), the model indicates they contribute to a statistically and practically significant reduction in the odds of an uninsured individual being hospitalized for an ACS condition, an effect which would be increasingly magnified as the proportion of uninsured served increases.

Uninsured individuals with limited access to primary care are at greater risk of being hospitalized for ACS conditions (Laditka et al., 2009; Stranges & Stocks, 2010), incurring potentially unnecessary costs for hospitals and the health care systems. However, few studies have focused on how free clinics affect hospitalizations for ACS conditions for uninsured adults. The current study indicates that having a free clinic serve a county reduces the odds of a hospitalization for ACS conditions by 7.6%.

One prior study found having a free clinic in a community resulted in a lower rate of ACS hospital admission for uninsured, Medicaid or Medicare individuals, but the association was only marginally significant (Epstein, 2001). The same study found a statistically significant association between the uninsured, Medicaid or Medicare population and the presence of an FQHC (Epstein, 2001). However, other studies have shown no association between FQHCs and ACS admissions when the sample is restricted to uninsured populations (Falik et al., 2001; Probst et al., 2009). That finding implied

that FQHCs are more successful at providing primary care to Medicaid and/or Medicare recipients than uninsured individuals. Administrative and/or economic requirements for care at FQHCs could impede access for uninsured individuals. While the coefficient for FQHCs in the current study was not statistically significant, this may be due to correlation with the county level fixed effects. To the extent FQHCs are not providing accessible or adequate primary care for the uninsured, alternatives that are successful, such as free clinics, in reaching this population are necessary to minimize avoidable and costly use of hospitals for ACS conditions.

Free clinics' contribution to providing medical care for the uninsured appears to be most pronounced in aiding management of chronic diseases, as evidenced by the division of ACS conditions along the chronic-acute dimension observed in this study. The study indicates that uninsured individuals residing in a county served by a free clinic have an 8.9% lower odds of being hospitalized for an ACS condition attributable to a chronic illness (two-thirds of the ACS conditions in the study sample), while the odds ratio for acute condition hospitalizations was not statistically significant. Patients at free clinics may benefit from ongoing regular contact with a provider enabling them to diagnose conditions, as well as maintain prescriptions, adjust treatment as needed, and recognize symptoms of declining health. However, limited appointment availability as well as lack of resources in the form of both specialists and equipment may restrict free clinics ability to address time sensitive care necessary for acute ACS conditions.

While care for acute conditions is a necessary part of primary care treatment, the provision of adequate ongoing regular medical care for chronic illness is an important need for low income populations at high risk of having one or more chronic illnesses.

Previous studies of individual free clinics have shown improved self-care management among the uninsured in the form of increased exercise time, improved blood pressure control, and reducing HgbA1c levels (Dickman et al., 2012; Ryskina et al., 2009; Stroebel et al., 2005), supporting free clinic's focus on addressing chronic illnesses amongst the uninsured. Further investigation of free clinics programming may uncover practices that could be adopted at other health care safety net organizations in treating chronic illnesses for the uninsured.

The current study highlights the interconnectedness of chronic illness among the uninsured and hospitalizations for ACS conditions. The odds ratio for Black Americans of being hospitalized an ACS condition related to a chronic illness increased to 2.152 as compared to 1.842 when examining all ACS conditions. The odds ratios also increased for each of the age categories when the outcome was restricted to only ACS conditions for chronic illnesses (All ACS OR vs. only chronic ACS OR: 30 to 39: 1.231 vs. 1.305; 40 to 49: 1.696 vs. 1.914; 50 to 64: 2.125 vs. 2.490; 65 and older: 2.901 vs. 2.948). This pattern is consistent with prior research indicating increased rates of hospitalization for ACS conditions related to chronic illnesses for Black Americans versus rates of hospitalizations for all or only acute ACS conditions (Laditka et al., 2003). All of these demographic groups, Black, middle-aged and older Americans, are at greater risk for having one or more chronic illnesses (Centers for Disease Control and Prevention, 2013a, 2013b; Paez et al., 2009), and with limited access to health care as a result of lack of insurance, they are likely to have unattended conditions that require costly hospitalizations. Hospitalizations for ACS conditions for middle aged adults create added costs from lost days of work, as well as higher out-of-pocket costs that can have

long term ramifications for the individual and their families (Biello et al., 2010). Further research is warranted to understand whether disease management programs at free clinics are effective in improving outcomes for uninsured Black Americans, middle-aged and older adults with one or more chronic illnesses.

Finally, the current study again confirms the ongoing inequities in health care for Black Americans. Uninsured Black Americans had an 84.2% increased odds of being hospitalized for an ACS condition as compared to White Americans, primarily driven by hospitalizations for chronic ACS conditions. This finding is consistent with earlier studies finding of higher rates of ACS hospitalizations for Black Americans for all types of payers (Biello et al., 2010; Laditka & Laditka, 2006; Laditka et al., 2003). Organizations within the health care safety net need to develop partnerships with social organizations directed towards, operated by and frequented by Black Americans to improve access as well as understand barriers to care for Black Americans.

The study has several methodological limitations. The study has no information concerning where individuals sought primary care or what percentage of the care for a given county was provided by a free clinic; therefore, the study is unable to directly address the role of the clinics in reducing ACS hospitalizations.

Furthermore, the covariates for the health service environment are at the county level, however, county boundaries are not equivalent to service areas. Individuals in a specified county may have access to hospitals, FQHCs or physicians in a neighboring county. If FQHCs served uninsured outside of their immediate county, it is uncertain how it would affect the odds ratio for free clinics, given FQHC could be serving uninsured in counties served by the free clinics and/or counties not served by the free clinics. The study was

able to address service areas for the free clinics through a survey question asking clinic administrators to identify counties they served.

As discussed above, North Carolina was not required to collect race data until 2010 and also did not have any requirements about how race data should be collected. During the time period utilized for this study it is likely collection methods may have varied by hospital with some using self-reported race, while others reported race based on observation. Furthermore, there was no option for ethnicity. Prior research has found that the race coding at hospitals without mandated requirements is inconsistent for American Indians and Alaska Natives, but valid for non-Hispanic White and Black Americans (Blustein, 1994; Fiscella & Meldrum, 2008).

Finally, the study utilized data from North Carolina, and may not be generalizable to other states.

Several factors enhanced the study. This study utilized the Prevention Quality Indicators available from the Agency of Healthcare Research and Quality, which is based on the aggregation of prior research and also benefits from annually updates to reflect changes in ICD-9 codes (Agency for Healthcare Research and Quality, n.d.). ACS definitions for earlier studies use substantially similar definitions as the Prevention Quality Indicators, but may lack the precision and rigor that the Agency of Healthcare Research and Quality was able to use in their development. Furthermore, the Prevention Quality Indicators can be divided into ACS conditions relating to chronic illness or acute conditions, increasing the understanding of what types of conditions may benefit from the accessibility of free clinics. Finally the inclusion of county level fixed effects controls for unmeasured variables that do not change over time, allowing one to control for any

unmeasured factors about the county that are constant over the time period being examined.

2.4 Conclusion

Although uninsured hospital stays for ACS conditions are twice as common as ACS hospital stays for Medicaid or private insurance (Stranges & Stocks, 2010), few studies have examined whether free clinics aid in reducing the odds that an uninsured individual is hospitalized for an ACS condition by providing effective primary care. Despite the success in reducing the number of uninsured in the US with the implementation of the ACA, states that chose to reject the Medicaid expansion will continue to have higher rates of uninsured, and therefore potentially higher rates of ACS admissions. This study indicates that free clinics dedicated to providing care for uninsured adults in North Carolina, despite serving less than 6% of the uninsured, contribute to statistically and practically significant lower hospitalizations for ACS conditions by the uninsured.

Specifically, free clinics in North Carolina have been successful in meeting the needs of uninsured adults with chronic conditions. Programming that aids in supporting self-care may include pharmacy programs, disease management programs as well as regular monitoring. The focus of free clinics on chronic care management is reinforced with the outcomes section in the North Carolina Association of Free Clinic Survey, which has been implemented over several years and now requires clinics to track health outcomes for patients with diabetes, hypertension and chronic obstructive pulmonary disease (Riley & Baiseden, 2014). However, given the increased odds of being hospitalized for an ACS condition related to a chronic illness for middle aged, older and

Black Americans, further research is warranted on the effectiveness of free clinics in meeting the needs of these groups.

As North Carolina and other southern states continue to opt out of the Medicaid expansion, states need to investigate how to make primary care accessible to the uninsured in order to improve their health and minimize costly hospital use for ACS conditions. For North Carolina, free clinics appear to be aiding in the reduction of ACS hospitalizations. To increase free clinics reach state and local policy makers should encourage development of free clinics in high need areas, such as low income and minority communities, as well as collaboration with other healthcare and social organizations. Meeting the health care needs of the uninsured could improve health outcomes for this population while reducing healthcare costs for the community.

ARTICLE III: FREE CLINICS IN NORTH CAROLINA 2010 TO 2014: TRENDS IN SERVICES PROVIDED, PATIENTS SERVED, AND CLINIC SUPPORT DURING IMPLEMENTATION OF THE ACA

Abstract

Free clinics have been part of the healthcare safety net since the 1960's. This study examines the utilization and support for free clinics in a non-Medicaid expansion state during declining numbers of uninsured, and the implementation of the ACA. The North Carolina Association of Free Clinic's Annual Outcome Survey was used to compare patient numbers, visits, volunteer hours, and donations in 2014 to years 2010 through 2013. Results were stratified by clinics located in urban and rural areas. Unduplicated patient numbers were unchanged at North Carolina free clinics during this time period, although medical visits and donations to clinics decreased. Free clinics continue to serve a critical need particularly in states that have opted out of the Medicaid expansion.

3.0 Introduction

Free clinics are non-profit medical providers that do not benefit from federal funding, rely on volunteers for staff and healthcare providers, and serve the uninsured by providing medical care for free or a nominal donation (Darnell, 2010). In essence, free clinics eliminate the financial barriers to healthcare for individuals in need. These clinics, although an often overlooked part of the healthcare safety net, have offered medical care to low-income and disenfranchised populations in the United States since the 1960s (Schwartz, 1971).

While free clinics have a limited reach, with only 1,200 clinics throughout the US, they play an important role in providing healthcare to populations in need. Although the majority of studies on free clinics are limited to a single clinic, these studies indicate the effectiveness of free clinics in supporting low-income individuals with chronic illnesses by helping to maintain high blood pressure (Stroebel et al., 2005), increasing physical activity (Dickman et al., 2012) and improving diabetes self-care habits (Ryskina et al., 2009). One study, which examined four free clinics in Virginia, found free clinics reduced use of emergency departments for ambulatory care sensitive conditions (Hwang et al., 2012).

Despite the longevity of free clinics in the US their permanence is questioned due to their limited resources and reliance on volunteers to maintain operations. With the implementation of the Affordable Care Act (ACA), which has already increased the number of insured individuals in the US (Cohen & Martinez, 2015), the necessity of free clinics has once again been questioned (Gibbs & Gibbs, 2010). This study sought to understand whether free clinics in North Carolina, a state which did not expand Medicaid, continue to see demand for the services and funding support at levels consistent with recent years. The North Carolina Association of Free Clinics provided statewide data from its annual survey of its member clinics for 2010 through 2014 for this analysis. Specific areas investigated include unduplicated number of patients; patient demographics; visit numbers for medical, dental and behavioral visits; hours for volunteers and healthcare providers; and total donations.

Affordable Care Act

The ACA, passed in 2010, is the first major restructuring of the US healthcare system since the passage of Medicare and Medicaid in 1965 (Kominski, 2014). A major intent of the ACA is to improve healthcare access by increasing the number of insured individuals residing in the US. The ACA seeks to make health insurance more accessible and affordable through two avenues. The first is the addition of state based health exchanges that offer differing tiers of health insurance plans from strictly catastrophic care to comprehensive coverage, as well as income based subsidies to create economical premiums and co-pays (Kaiser Family Foundation, 2013). Second, through the expansion of Medicaid, is the coverage of individuals with incomes up to 138% of Federal Poverty Level (FPL) (Angeles, 2011), providing health coverage for those who could not afford to purchase health insurance through the newly established health exchanges. While some parts of the ACA began prior to 2014, such as the addition of children up to age 26 on their parents healthcare plans, enrollment through the health exchanges and expanded Medicaid began in late 2013, with actual insurance coverage beginning in 2014.

Although the intent was for all states to adopt the new Medicaid eligibility criteria, eliminating the wide variability of Medicaid state to state, the Supreme Court ruled in 2012 that the Medicaid expansion could not be mandatory, allowing states to decline the Medicaid expansion. Therefore, as of 2014, only twenty-six states plus Washington, DC, had increased eligibility levels for Medicaid (Kaiser Family Foundation, 2014). The remaining states opted to not expand Medicaid, although several continue to review their options including alternative methods for expanding Medicaid (Millman, 2014).

Despite the changes allowing states to opt out of expanding Medicaid, the implementation of the ACA has increased the number of insured individuals in the US (Clarke, Ward, Freeman, & Schiller, 2015). In particular, low-income individuals who are US citizens are able to gain insurance through Medicaid or premium subsidies on the new state based health exchanges. With the increase in insured individuals, safety net facilities may experience reductions in uninsured clients potentially offset by an increased number of insured clients. Free clinics, which primarily serve the uninsured (Darnell, 2010), are most at risk of losing clients, and given this expectation, it is hypothesized they will realize a decrease in donations and much needed volunteerism at their clinics (Armour, 2014; Chazin, Friedenzohn, Martinez-Vidal, & Somers, 2010). In addition, since a majority of free clinics are not located in medically underserved areas (Darnell, 2011), they may not be well placed to reach the remaining uninsured. Recent anecdotal evidence, however, indicates that demand for free clinics remains unchanged (Gaynor, 2015; Gottlieb, 2015; Pigoga et al., 2015).

North Carolina Free Clinics

Free clinics in North Carolina have served the state for at least five decades. Currently, approximately 80 free clinics operate throughout the state, serving about 87,000 uninsured patients (North Carolina Association of Free Clinics, 2013, n.d.). Consistent with free clinics in other areas of the US (Darnell, 2010; Gertz et al., 2011), free clinics in North Carolina vary from location to location in terms of operating hours, services provided, funding and volunteer support (Jones, 2014).

The North Carolina Association of Free Clinics supports North Carolina free clinics. In the early 2000's, it collaborated with the Blue Cross Blue Shield Foundation to not

only support ongoing operations at free clinics through grants, but also encourage new clinic openings with grants for start up clinics.

Although North Carolina did not expand Medicaid, limiting the ability for single adults with incomes under 100% of the FPL to gain insurance, many of the uninsured in the state benefited from the subsidized premiums offered through the health insurance exchange. North Carolina had approximately 1.5 million uninsured prior to the implementation of the ACA. In 2014 North Carolina realized a decline of 233,000 in the number of uninsured, a drop in the rate of uninsured from 15.6% to 13.1% (Smith & Medalia, 2015). However, even with strong enrollment efforts in the state, North Carolina will continue to have up to one million uninsured once the ACA is fully implemented (Buettgens et al., 2014).

Objective

It is hypothesized that a slow decline in unemployment in the state in recent years, in conjunction with improved access to health insurance under the ACA, would result in a decline in patient demand and community support for North Carolina free clinics. This article examines trends in patient demand, services provided, funding, and volunteers for free clinics located throughout the state of North Carolina during a period of declining rates of uninsurance (see Table 1) as result of economic improvements as well as health care reform.

Table 1: North Carolina uninsured rate*

Year	% Uninsured
2012	16.6
2013	15.6
2014	13.1

Source: Smith, J., & Medalia, C. (2015). *Health insurance coverage in the United States: 2014*. (Current Population Reports P60-253). Washington, D.C.: U.S. Government Printing Office; Smith, J., & Medalia, C. (2014). *Health insurance coverage in the United States: 2013*. (Current Population Reports P60-253). Washington, D.C.: U.S. Government Printing Office.

* Note: changes in the questionnaire for the American Community Survey limit comparisons to years prior to 2012.

In addition to already existing disparities in access to healthcare in rural communities (Douthit, Kiv, Dwolatzky, & Biswas, 2015), the implementation of the ACA could affect residents in rural communities differently. Individuals residing in rural as compared to urban communities may be more likely to fall into the income gap between Medicaid eligibility and availability of premium subsidies in states that opt out of the Medicaid expansion (Newkirk & Damico, 2014). However, 37% of residents in rural communities are eligible for tax benefits through health exchanges versus 32% of urban residents (Newkirk & Damico, 2014). To understand the potential differences in trends at rural and urban free clinics, the study is stratified by whether free clinics are located in a rural or an urban community.

3.1 Methods

This study examined five years of data from its annual member survey provided by the North Carolina Association of Free Clinics. The association, in partnership with the Blue Cross and Blue Shield Foundation developed the Annual Outcomes Survey, and began collecting data from free clinics located in the state in 2009. While the data initially focused on descriptive factors such as unduplicated patient visits, services

provided, funding, volunteers and value of services provided, in recent years the partnership has sought to gather healthcare outcomes from a sample of patients at participating clinics such as percentage of diabetic patients with HgbA1c levels greater than 9.0, medication refill rates for hypertensive patients and number of hypertensive patients achieving blood pressure control. Clinic administrators complete the calendar year retrospective questionnaire and return it to the North Carolina Association of Free Clinics in February of the following year.

Once clinics complete and return the surveys, two staff members at the North Carolina Association of Free Clinics review responses for each question. Reviewers reconcile supporting data such as demographic data, visits identified by medical codes, and reported services provided to totals reported by clinics to confirm consistency. The staff review and reconcile discrepancies in consultation with individual clinics.

Clinics completing the first three sections of North Carolina Association of Free Clinic's Annual Outcomes Survey are eligible for base grants. Additional funding is available for clinics that complete the health outcome portion of the survey. The availability of the base grants facilitates a high participation rate for the survey among the member clinics. For 2010 through 2013, a minimum of 95% of the member clinics participated in the survey (Table 2). However, beginning with the 2014 survey, clinics were required to complete the outcomes portion of the survey to receive funding, incentivizing clinics to track outcomes for patients with hypertension, diabetes and chronic obstructive pulmonary disease. As a result of this change, several smaller clinics with limited resources to invest in tracking of outcomes opted to no longer complete the survey. The participation rate for the survey in 2014 dipped to 91%. In addition to

changes in the number of member clinics participating in the survey, three free clinics converted to a Federally Qualified Health Clinic and therefore are no longer part of the association. Several new clinics joined the association during this time period.

Table 2: Member Clinics

	2010 n=76		2011 n=78		2012 n=77		2013 n=78		2014 n=77	
	#	%	#	%	#	%	#	%	#	%
Clinics Completing the Survey	73	96.1	77	98.7	75	97.4	74	94.9	70	90.9
Clinics Not Completing Survey	3	3.9	1	1.3	2	2.6	4	5.1	7	9.1

This study utilized the descriptive portion of the survey, which includes all of the free clinics responding to the Annual Outcome Surveys from 2010 thru 2014. North Carolina Association of Free Clinics outcome survey instruments for 2010 through 2014 are attached as Appendices D through H. The survey consists of five sections (A through E). Sections A through C are the basis for the study, the remaining two sections focus on patient outcomes which a subset of the clinics complete with a random sample of patients equal to the greater of 10% of patients with a given diagnoses (i.e., diabetes) or 50 patients. Sections D and E are not included in this study since not all clinics completed these sections for each year.

Section A asks questions relating to basic clinic operations such as hours of operation, funding sources and amount, medical personnel and staff employed or volunteering at the clinic delineated by position (i.e., administration, type of health care provider), and value of medications provided. Section B focuses on patient demographic information, including the number of unduplicated patients. Section C examines the

number of services provided at the clinic segmented by medical, dental, and behavioral services, and the number of 30 day prescriptions dispensed on site and through third party pharmacies.

Outcome Variables

To assess ongoing demand and support for the North Carolina free clinics three categories of variables are utilized: 1) patient numbers; 2) services provided; and 3) clinic support. The first group examines unduplicated patient numbers, as well as patient race/ethnicity, and age category. If a clinic did not report race/ethnicity data or if race/ethnicity totals deviated from total unduplicated patient numbers by more than ten percent of the total number of unduplicated patients, the data were considered missing.

Services provided examines the number of medical, dental and behavioral visits at each clinic as well as the number of 30 day prescriptions dispensed on location or by a third party. Behavioral visits consist of psychotherapy, psychiatric, crisis intervention or substance abuse appointments. Medical visits do not include lab work, x-rays or other diagnostic testing. For 2010, the survey only collected 30 day prescriptions dispensed by the clinics; in subsequent years, the total includes prescriptions dispensed at clinic locations or through a third party. Consequently, the analysis does not include 30 day prescriptions for 2010.

Clinic support consists of total weekly hours for physicians, nurses, and oral hygiene practitioners (includes dentists and hygienists), as well as total volunteer hours (across all positions), and total donations. Total weekly hours for healthcare providers includes hours provided by employees and volunteers. Donations include monetary and in-kind support from individuals, businesses, and hospitals. The total value of the donations for

2010 to 2013 is inflated to 2014 dollars using the medical care portion of the Consumer Price Index (see Appendix I for each year's inflation rate).

Analysis

This descriptive study examines changes in patient numbers, demographics, medical visits, funding, and volunteers. Univariate analysis presents means and frequencies for all participating clinics for a given year for the outcome variables. Paired t-tests examine differences in clinic means for a specific year and 2014 for each of the outcome variables to determine whether the difference is equal to zero. The paired t-test analysis requires clinic data to be available in both years therefore the analysis consists of a subset of the clinics. Appendix J lists the operating status of each of the clinics by year. As the data do not meet the normality assumption, the Wilcoxon Rank Sum test is used to assess whether clinic variables differ.

In addition, the results are stratified by whether the clinic is located in an urban or rural location to examine whether the trends differ by population density. Counties the clinics are located in are identified as rural or urban based on the National Center for Health Statistics Urban-Rural classification scheme, which assigns counties to one of six categories, four of which are metropolitan (urban) and two are classified as non-metropolitan (rural) (Ingram & Franco, 2014).

The database construction and data analysis for this study was generated using SAS Enterprise Guide 6.1. See Appendix K for SAS code for database construction and Appendix L for SAS code for the data analysis.

3.2 Results

Figures 1a through 1d illustrate the trends in mean number of unduplicated patients at clinics completing the survey for a given year, stratified by whether the clinic resides in a rural or urban community. The mean trends might have been affected by variation in the number of clinics reporting. Appendix M provides means by year and rurality for all of the variables of interest.

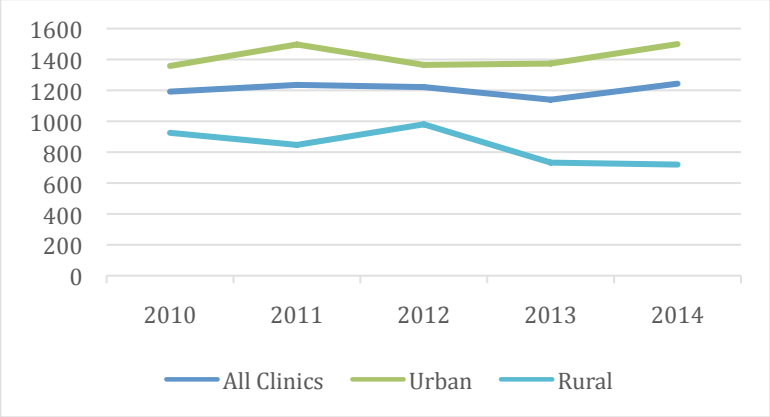

Figure 1a: Mean number of unduplicated patients

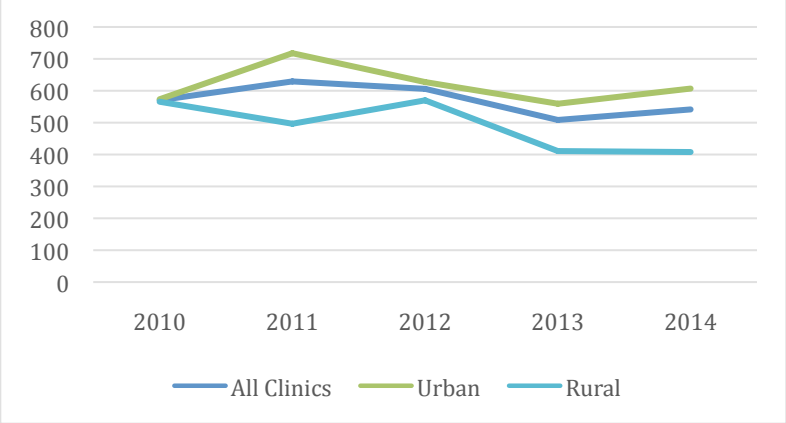

Figure 1b: Mean number of White patients

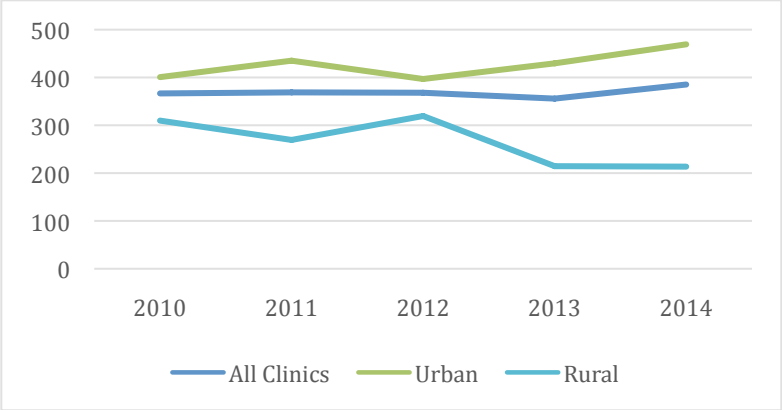

Figure 1c: Mean number of Black patients

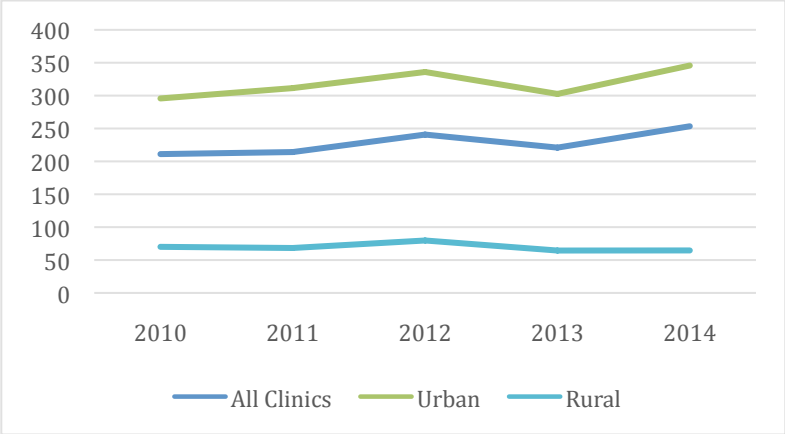

Figure 1d: Mean number of Hispanic patients

Patient Numbers: When examining all clinics that reported data for a given year versus 2014, none of the prior years (2010 to 2013) differed in terms of total unduplicated patient numbers (see Table 3). The race/ethnicity breakdown indicated that the mean number of white patients per clinic was lower in 2014 than 2011. In addition, the mean number of patients under the age of 18 was higher in 2014 than 2010. Given the ability for low-income children to gain health insurance through North Carolina Health Choice

(also known as the Children's Health Insurance Program), patients in the 18 and under category are most likely undocumented immigrants.

For rural clinics total unduplicated patient numbers declined from 2013 to 2014. However, none of the demographic groups indicated any change other than a decline in the number of younger patients between 2010 and 2014. This difference may be the result of only 21 of the 23 rural clinics reporting valid demographic data.

Urban clinics did not show any change in mean unduplicated patients between any of the years and 2014, indicating no decline in patients as a result of improved economic conditions or the change in healthcare policy. However, the number of Hispanic patients increased from 2013 to 2014, and the number of patients 18 and under increased from 2010 to 2014. The Hispanic population in North Carolina has increased significantly and steadily from 1990 to 2010 (Tippet, 2014). This population also tends to be young, average age of 24.7, and has a high rate of uninsurance, 43% (Pew Research Center, n.d.). Therefore, an increase in the number of Hispanics accessing free clinics is not unexpected.

Table 3:Patient numbers: paired t-tests for clinics completing survey in given year and 2014

	2010		2011		2012		2013	
	Mean Diff	P-value	Mean Diff	P-value	Mean Diff	P-value	Mean Diff	P-value
All Clinics	62		65		67		67	
Unduplicated Patients	85.8	0.934	-54.2	0.293	0.3	0.318	41.1	0.364
# report demo	56		64		62		64	
Race/Ethnicity								
White	-14.8	0.516	-104.6	0.039*	-40.4	0.241	2.9	0.220
Black	31.9	0.845	3.3	0.737	21.2	0.283	21.3	0.529
Hispanic	18.6	0.661	26	0.452	14.7	0.406	30	0.064
Am Indian	-2.3	0.847	-0.8	0.907	-0.2	0.711	-0.8	0.332
Asian	1	0.249	1.8	0.382	3	0.357	-0.5	0.995
Other	9.9	0.759	19.3	0.829	14.2	0.727	-3.9	0.417
Age								
18 or under	15.6	0.000*	9.1	0.240	5.7	0.267	2.2	0.118
18 to 64	55	0.787	-74.8	0.208	-20.7	0.229	39.9	0.418
65 and older	7.3	0.708	2.6	0.303	12.6	0.757	1.6	0.944
Rural Clinics	21		23		23		23	
Unduplicated Patients	-151.5	0.545	-212	0.148	-270.1	0.060	-110.7	0.027*
# report demo	20		23		21		21	
Race/ethnicity								
White	-101.4	0.504	-123.5	0.080	-138.2	0.143	-69.6	0.125
Black	-66.1	0.558	-97.1	0.276	-129.9	0.106	-45.5	0.212
Hispanic	-5.4	0.935	-12.5	0.730	-15.9	0.358	-0.7	0.975
Am Indian	-1.5	0.980	0.3	0.749	-1	0.962	-2.5	0.280
Asian	0.8	0.950	-0.4	0.701	-1.4	0.176	-0.7	0.652
Other	20	0.324	21.3	0.348	17.3	0.435	17.4	0.054
Age								
18 or under	-5.3	0.023*	-0.8	0.625	-3.1	0.383	1.6	0.656
18 to 64	-137.5	0.802	-212.6	0.176	-253.7	0.134	-98.1	0.056
65 and older	-9.4	0.913	-7.2	0.809	-10.2	0.101	-5.1	0.247
Urban Clinics	41		42		44		44	
Unduplicated Patients	207.3	0.775	32.1	0.778	141.7	0.973	120.4	0.819
# report demo	36		41		41		43	
Race/ethnicity								
White	33.3	0.788	-94	0.235	9.7	0.601	38.4	0.713
Black	86.4	0.584	59.5	0.736	98.6	0.854	53.9	0.953
Hispanic	31.9	0.622	47.6	0.285	30.4	0.155	45	0.032*
Am Indian	-2.8	0.817	-1.4	0.951	0.1	0.609	0	0.646
Asian	1.2	0.187	3.1	0.215	5.2	0.722	-0.4	0.781
Other	7.7	0.616	18.2	0.749	12.6	0.882	-14.2	0.099
Age								
18 or under	26.3	0.007*	14.6	0.312	10.2	0.496	2.5	0.066
18 to 64	153.7	0.975	2.4	0.670	101.4	0.717	105.8	0.918
65 and older	15.8	0.824	8	0.185	24.6	0.118	4.8	0.417

* Statistically different from 2014 at $p < 0.05$.

Services Provided: Although the total number of unduplicated patients was not significantly different from 2010 to 2013 as compared to 2014, total medical visits were lower in 2014 from 2011. Total medical visits were lower for rural clinics in 2014 than 2012 and 2013, while urban clinics had fewer medical visits in 2011 than 2014 (see Table 4).

Behavioral and dental visits did not show any change. The number of 30 day prescriptions was lower in 2014 than 2013 for all clinics and urban clinics.

Table 4: Services provided: paired t-tests for clinics completing survey in given year and 2014

	2010		2011			2012			2013		
	Mean Diff	P-value	Mean Diff	P-value		Mean Diff	P-value		Mean Diff	P-value	
All Clinics	62		65			67			67		
Medical visits	-385.7	0.082	-521	0.007	*	-163.9	0.093		-20.9	0.284	
Dental visits	-26.7	0.455	-20.3	0.352		-16.3	0.523		-20.4	0.129	
Behav. visits	56.9	0.107	49.5	0.107		14.7	0.748		12.2	0.748	
30 day scripts	N/A		234.5	0.716		-1120.6	0.358		-637.8	0.040	*
Rural	21		23			23			23		
Medical visits	-188.5	0.580	-443.2	0.114		-315.4	0.044	*	-122.8	0.045	*
Dental visits	30.3	0.688	29	0.844		40.4	0.219		0.9	0.758	
Behav.visits	45	0.365	57.4	0.492		-26.3	0.826		19.5	0.557	
30 day scripts	N/A		-584	0.888		-1920.4	0.695		-1108.5	0.650	
Urban	41		42			44			44		
Medical visits	-486.7	0.089	-563.6	0.031	*	-84.8	0.569		32.4	0.963	
Dental visits	-55.9	0.265	-47.3	0.169		-46	0.070		-31.6	0.067	
Behav.visits	62.9	0.202	45.1	0.216		36.1	0.907		8.4	0.799	
30 day scripts	N/A		682.7	0.885		-702.5	0.381		-391.8	0.018	*

- Statistically different from 2014 at $p < 0.05$.

Clinic Support: Support in the form of volunteers and provider employment remained consistent in 2014, while funding dropped from 2012 levels (See Table 5). Total donations from individuals, businesses and hospitals were higher in 2014 than 2010 and 2011; however, total donations in 2014 were lower than in 2012. Total volunteers

for all clinics were unchanged in 2014 as compared to the years 2010 through 2013, although rural clinics had a decline in the number of volunteers in 2014 as compared to 2011. For free clinics in urban locations the number of volunteers was consistent throughout the period.

For all clinics locations the total weekly hours provided by employed and volunteer nurses were higher in 2014 as compared to 2012 and 2013. This increase was not apparent when the clinics were stratified by rural and urban locations. The total weekly hours for physicians and oral health practitioners did not show any change between 2010 through 2013 and 2014.

Table 5: Clinic Support: paired t-tests for clinics completing survey in given year and 2014

	2010			2011			2012			2013		
	Mean Diff	P-value		Mean Diff	P-value		Mean Diff	P-value		Mean Diff	P-value	
All Clinics	62			65			67			67		
Funding (000)	56	0.010	*	244	0.007	*	-104	0.005	*	23	0.145	
Volunteer Hours	96.1	0.758		-778.2	0.134		470.	0.980		715.5	0.927	
MD hours	143.	0.585		83.7	0.910		153.	0.241		179.9	0.379	
Nurse hours	294.2	0.113		65.8	0.431		307.2	0.044	*	242.4	0.035	*
Dental hours	36.	0.288		64.1	0.413		63.	0.926		66.5	0.764	
Rural	21			23			23			23		
Funding (000)	373	0.066		237	0.083		252	0.001	*	59	0.680	
Volunteer Hours	1347.6	0.776		-312.3	0.042	*	1074.1	0.220		1456.4	0.153	
MD hours	16.5	0.325		-33.5	0.057		111.4	0.674		114.4	0.641	
Nurse hours	344.5	0.640		304.6	0.756		324.7	0.349		315.4	0.189	
Dental hours	103.3	0.094		79.4	0.438		72.2	0.563		65.	1.000	
Urban	41			42			44			44		
Funding (000)	-106	0.070		248	0.044	*	-291	0.168		9	0.065	
Volunteer Hours	-544.8	0.755		-1033.3	0.576		154.2	0.465		328.1	0.388	
MD hours	207.8	0.134		147.8	0.231		174.7	0.242		214.2	0.427	
Nurse hours	268.5	0.191		-64.9	0.546		298.1	0.086		204.2	0.147	
Dental hours	1.5	0.854		55.8	0.681		58.2	0.579		67.3	0.616	

* Statistically different from 2014 at $p < 0.05$.

3.3 Discussion

The survey of member clinics of the North Carolina Association of Free Clinics indicates that, despite increased numbers of insured individuals in 2014, the number of patients accessing free clinics as well as the staff numbers, and volunteers at free clinics remained virtually unchanged during the time period. However, total funding for free clinics dropped from 2012 levels, and total number of medical visits and prescriptions filled declined in 2014 as compared to prior years. These results reject the hypothesis that patient numbers and support in the form of volunteers for free clinics would decline in 2014 as the ACA was implemented and the number of uninsured fell. The ongoing utilization of free clinics despite North Carolina having one of the highest enrollment rates through the health exchange for eligible individuals (51.1%) (Barker et al., 2015) emphasizes the need for continuing support for free clinics as well as other safety net facilities.

This study adds to existing research indicating the continuing demand for health care at safety net facilities even with the implementation of the ACA. While prior studies examined the effects of health reform on safety net hospitals and community health centers (Burke & Paradise, 2014; Ku et al., 2011), the current study is the first to examine changes in patients, services and clinic support for a state wide group of free clinics during a period of declining rate of uninsured as a result of both improving employment and health reform.

When stratifying by rural and urban clinics, more changes were evident at rural clinics. Specifically rural clinics realized a decline in total unduplicated patient numbers from 2013 to 2014, total medical visits between 2014 and both 2012 and 2013, as well as

a decrease in the number of volunteers between 2014 and 2011. Urban clinics only saw a decline in total medical visits between 2011 and 2014, and a decrease in total prescriptions between 2013 and 2014.

The drop in patient numbers and total medical visits at rural clinics in more recent years could indicate a potential slow down in demand for services at rural clinics as the number of uninsured individuals declined. Several factors could contribute to a decline in patients at rural clinics. First, rural communities in the US have a greater percent of individuals that are eligible for tax credits through health care exchanges versus metropolitan areas (Newkirk & Damico, 2014). While urban areas in general have been more successful at enrolling individuals in health exchanges than rural areas, rural communities in North Carolina had one of the highest enrollments rates in 2014 (47.9% of eligible individuals) of any rural area in the US (Barker et al., 2015). The strong enrollment in the rural areas combined with lower numbers of undocumented individuals in North Carolina rural areas as compared to urban areas (Gray, Bass, Killeen, & Mathews, 2013), could limit the pool of patients to replace newly insured patients. Urban clinics were found to have an increase in Hispanic patients from 2013 to 2014, which may have offset any minor declines as a result of increase accessibility of insurance. Therefore, the strong enrollment in rural North Carolina may have resulted in a higher percentage of total uninsured (including individuals who were ineligible for subsidies) gaining insurance in rural communities as compared to the percentage of total uninsured gaining insurance in urban communities (Barker et al., 2015).

The rise in number of Hispanic patients at urban clinics as well as the overall rise in pediatric patients, driven by an increase at urban clinics, implies minority patients may

make up an increasing portion of free clinic patients. The growth in the number of Hispanic clients at free clinics reflects the rapid increase in percentage of Hispanic residents in North Carolina from 1.2% in 1990 to 8.7% in 2012 (Tippet, 2014). The Hispanic population has a high rate of uninsurance (43% of Hispanics are uninsured) and tends to be young, comprising 13% of all kindergarteners through 12th grade students in North Carolina (Pew Research Center, n.d.).

Free clinics should be prepared for language and cultural differences and an increase in demand for pediatric services as a greater portion of their clients become Hispanic or other minorities. North Carolina free clinics have sought out interpreters as well as bi-lingual staff to aid in communication with patients. In addition, communities with a high percentage of Hispanic or other minority groups may benefit from the addition of free clinics.

Finally, free clinics in North Carolina have experienced a drop in funding levels from the peak level in 2012. The drop in funding could reflect a perception that most people will have access to healthcare as a result of the ACA even though many people in the state continue to lack access to primary care (Smith & Medalia, 2015). Funding continues to be free clinics' primary barrier to providing services, and future funding is tenuous. According to L. Hill, director of the North Carolina Association of Free Clinics (personal communication, December 7, 2015) reductions in funding are expected from foundations as well as state grants as a result of the 50% cut in funding to NC Health Net as part of the North Carolina's budget passed in 2015 (Hoban & Herzog, 2015). Given the ongoing number of uninsured in North Carolina and steady patient numbers at free

clinics these cuts could result in a larger number of uninsured relying on more costly emergency departments as their primary care provider.

Although the North Carolina Association of Free Clinics outcomes survey offers an opportunity for investigating free clinics in North Carolina, limitations exist for use beyond the state's borders. First, the study only examines free clinics in North Carolina, a state that opted out of the Medicaid expansion, and therefore the results may not be generalizable to other states and, in particular, to states that expanded Medicaid. In addition, enrollment efforts varied by state, irrespective of whether the state opted out of the Medicaid expansion or not (Barker et al., 2015). Future research involving states opting in and out of the Medicaid while controlling for enrollment efforts is warranted to understand differences in free clinic patient numbers and support in states as a result of differing policy choices.

Changes in which clinics complete the survey for a given year, and specifically the addition of the requirement that all clinics complete the outcomes portion of the survey limited the pool of clinics available to analyze changes. Furthermore, demographic data for earlier years was not always consistent with total unduplicated patient numbers, potentially from poor tracking systems for demographic data. Free clinics that had demographic totals that varied by more than ten percent from total unduplicated patients were not included in analysis of changes in means of patient numbers. The exclusion of these clinics may obscure true demographic changes at the free clinics.

Actual service areas for a clinic may vary from the county it is located in, and therefore obscure conclusions for rural versus urban clinics. A clinic was classified as rural if the county in which the clinic was located was rural, however, while the majority

of the free clinics serve only individuals in the county they are located some clinics serve individuals in bordering counties that may not be rural.

While the study seeks to understand the impact of the ACA and improved health insurance coverage on free clinics, the study is unable to assess causality between policy or economic factors and changes occurring at the free clinics. Specifically factors reducing the supply of healthcare providers could cause a decline in the availability of the number of visits a clinic can offer, and, therefore, a reduction in medical visits unrelated to the change in the number of uninsured individuals. However, while total medical visits were lower in 2014 then in 2011, and also lower in rural in areas for both 2012 and 2013 as compared to 2014, physician and nurse hours were unchanged for those years.

In addition, 2014 represents the first year of implementation of the ACA. Future years will likely see continued increases in the number of insured as awareness of the ACA and penalties for lack of coverage rise. Alternatively low-income individuals may find the cost of insurance even with the subsidies too high and drop their newly gained insurance. Improved collection of data at safety net health care facilities and specifically free clinics is warranted to allow for better understanding of the use and outcomes associated with safety net care as a result of improved access to health insurance.

3.4 Conclusion

Although the US is still in the early years of implementing the ACA, the numerous states opting out of the Medicaid expansion and the continuous threats from Congress of overturning the ACA suggest the US will continue to have uninsured individuals. The lack of change in patient numbers and minimal reduction in medical visits at free clinics in North Carolina during the first year of the ACA suggests that organizations with a

primary focus on addressing the health care issues of the uninsured continue to serve a critical need.

Organizations within the health care safety net, particularly public hospitals and community health centers, are under pressure to attract newly insured patients in order to compensate for reduced funding for uninsured patients (Andrulis & Siddiqui, 2011; Wright, Damiano, & Bentler, 2014). While the upgrading of safety net organizations is beneficial in terms of improved tracking of patients through electronic medical records and coordination of care, the cost of these investments and limited funding for uncompensated care puts pressure on these organizations to limit exposure to the uninsured (Cunningham, Bazzoli, & Katz, 2008; Ku et al., 2011). The inability for the uninsured to access healthcare could result in more costly visits to the emergency room or hospitals (Oster & Bindman, 2002). Particularly in states opting out of the Medicaid expansion and/or with large communities of undocumented immigrants, efforts are still needed to provide funding and access to care for the uninsured.

Free clinics have been a part of the healthcare safety net for many decades, and this study provides evidence they are still filling a necessary role. Continued support is warranted to maintain access to primary health care services for the remaining uninsured individuals in our communities.

CONCLUSION

Improving access to care is among the goals included in Healthy People 2020 (Office of Disease Prevention and Health Promotion, 2015). The ACA has contributed to attaining that goal by increasing access to insurance for many Americans. However, low-income adults in non-expansion states and undocumented immigrants do not benefit from the ACA and will continue to struggle in accessing healthcare. Therefore the need for a strong healthcare safety net in the US persists. Free clinics are an often forgotten patch in the safety net, yet the attached studies indicate they are bringing primary care to a small group of the uninsured. The articles included here demonstrate the ongoing demand for and utilization of free clinics in a non-expansion state during a period of steady decline in the number of uninsured (Smith & Medalia, 2014, 2015). More importantly, these articles document and quantify the contribution of free clinics in reducing the costly use of emergency departments and hospitals for ambulatory care sensitive conditions, particularly related to chronic illnesses. Together the articles emphasize the need to support free clinics in their mission to aid the uninsured through organizational partnerships, policy development and ongoing funding.

However, these articles are limited in their generalizability given their reliance on data from one state, which did not expand Medicaid. As more states move to adopting some form of the Medicaid expansion, further research is warranted to examine whether utilization diminished for free clinics located in states that chose to expand Medicaid. In addition, research will need to differentiate between states that opted for the original expansion versus states utilizing section 1115 waivers to modify the Medicaid expansion such as the private option adopted by Arkansas which enables Medicaid beneficiaries to

purchase insurance plans on the health exchange with Medicaid dollars (Guyer, Shine, Musumeci, & Rudowitz, 2015).

The Medicaid expansion and the variation in adoption by the states speaks to the community support factors within Andersen's Behavioral Model of Health Care Access. As stated in Andersen et al. (2002) "community matters." All three of the articles above provide evidence of the value of free clinics in communities for uninsured individuals. Future research testing the constructs of the Behavioral Model on low income, and in particular uninsured, populations should include free clinics in developing the community support variables.

The first two articles offer evidence, consistent with previous studies (Probst et al., 2009), that FQHCs, a pillar of the healthcare safety net, might not be offering the uninsured adequate primary care services. Barriers for the uninsured at FQHCs include administrative paperwork, cost and unwelcoming staff (Wilkin et al., 2012). Given FQHCs in the US served almost 6.5 million uninsured individuals in 2014 (Health Research and Services Administration, n.d.) further research to better understand the barriers for the uninsured at FQHCs and how FQHCs can improve care for this population is imperative.

Future research on both FQHCs and free clinics is dependent on improved data collection. Both free clinics and FQHCs have been under pressure to adopt electronic medical records by financial supporters, federal incentive programs, and, for FQHCs, competition for newly insured patients (Ryan, Doty, Abrams, & Riley, 2014; Swan & Foley, 2016). These changes have resulted in both types of clinics increasing their use of electronic medical records (Ryan et al., 2014), which improves provider efficiencies and

care coordination as well as ease of data extraction. In addition, the National Association of Free Clinics is considering adopting the Annual Outcome survey currently used by the North Carolina Association of free clinics, increasing information about free clinics patients and services across the nation.

This research highlights the need to adapt the Prevention Quality Indicators to emergency department data to facilitate comparable research of ambulatory care sensitive conditions at emergency departments and hospitals. Currently the Prevention Quality Indicators can be used with the hospital portion of the Healthcare Cost and Utilization Project data, but not the emergency department database. While the current system allows researchers to examine admissions to the hospital for ambulatory care sensitive conditions that came through the emergency department, analysis of admissions to the emergency department that do not result in admission to the hospital requires the use of alternative methods for identifying ambulatory care sensitive conditions such as the New York University algorithm for emergency department usage. Ideally, a researcher should be able to combine the emergency department database with admissions to the hospital from the emergency department to examine all emergency department visits.

Two issues exist with this current method of analyzing ambulatory care sensitive emergency department usage. First, the Prevention Quality Indicators were developed based on an extensive analysis of existing literature, which included the study that formed the basis for the New York University algorithm, as well as two panels of experts (Davies et al., 2009; Lowe & Fu, 2008). Second, splitting the emergency department data can create some peculiar results, specifically older patients, with increased likelihood of being frail and/or having one or more co-morbidities, may be more likely be admitted to

the hospital from the emergency department leaving a healthier subset of older adults in the emergency department data. This quirk may be the reason the analysis in the first article indicated that older adults were less likely to be admitted for ACS conditions to the emergency department then younger adults. Analysis of ACS conditions has evolved in the last two decades, adapting the Prevention Quality Indicators for use with emergency department database is the next step.

Expanding use of electronic medical records and adapting the Prevention Quality Indicators for use with emergency department data will allow for improved understanding of the utilization and effectiveness of both FQHCs and free clinics in addressing the health care needs of the uninsured. Further research in conjunction with increased connectivity among safety net organizations would aid in maintaining the viability of these organizations as they address the needs of the remaining uninsured Americans.

REFERENCES

Agency for Healthcare Research and Quality. (2015a). *Prevention quality acute compostie technical specifications*. Retrieved from US Dept. of Health & Human Services,: http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V50/TechSpecs/PQI_91_Prevention_Quality_Acute_Composite.pdf

Agency for Healthcare Research and Quality. (2015b). *Prevention quality chronic composite technical specifications*. Retrieved from US Dept. of Health & Human Services: http://www.qualityindicators.ahrq.gov/Modules/PQI_TechSpec.aspx

Agency for Healthcare Research and Quality. (n.d.). Prevention quality indicators overview. Retrieved from http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx

Andersen, R. M. (1995). Revisiting the behavioral model and access to medical care: Does it Matter? *Journal of Health and Social Behavior, 36*(1), 1-10.

Andersen, R. M., Yu, H., Wyn, R., Davidson, P. L., Brown, E. R., & Teleki, S. (2002). Access to medical care for low-income persons: how do communities make a difference. *Medical Care Research and Review, 59*(4), 384-411.

Andrulis, D., & Siddiqui, N. (2011). Health reform holds both risks and rewards for safety-net providers and racially and ethnically diverse patients. *Health Affairs, 30*(10), 1830-1836.

Angeles, J. (2011). Explaining health reform: The new rules for determining income under Medicaid in 2014. *Policy Brief, Publication #8194*.

Armour, S. (2014). Health law hurts some free clinics. *Wall Street Journal*. Retrieved from http://www.wsj.com/articles/health-law-hurts-some-free-clinics-1418429551

Barker, A., McBride, T., Kemper, L., & Mueller, K. (2015). *Rural enrollment in health insurance marketplaces, by state*. (2015-11). Iowa City, Iowa: Rural Policy Research Institute Retrieved from http://cph.uiowa.edu/rupri/publications/policybriefs/2015/Rural%20Enrollment%20in%20HIM.pdf.

Bicki, A., Silva, A., Joseph, V., Handoko, R., Rico, S., Burns, J., . . . De Groot, A. (2013). A nurse-run walk-in clinic: Cost-effective alternative to non-urgent emergency department use by the uninsured. *Journal of Community Health, 38* (6), 1042-1049.

Biello, K. B., Rawlings, J., Carroll-Scott, A., Browne, R., & Ickovics, J. R. (2010). Racial disparities in age at preventable hospitalizations among U.S. adults. *American Journal of Preventive Medicine, 38*(1), 54-60.

Billings, J., Anderson, G., & Newman, L. (1996). Recent findings on preventable hospitalizations. *Health Affairs, 15*(3), 239-249.

Billings, J., Parkikh, N., & Mijanovich, T. (2000). Emergency room use: The New York story. *Issue Brief (Commonwealth Fund)*(434), 1-12.

Billings, J., Zeitel, L., Lukomnik, J., Carey, T. S., Blank, A. E., & Newman, L. (1993). Impact of socioeconomic status on hospital use in New York City. *Health Affairs, 12*(1), 162-173.

Blustein, J. (1994). The reliability of racial classifications in hospital discharge abstract data. *American Journal of Public Health, 84*(6), 1018-1021.

Brown, E. R., Davidson, P. L., Yu, H., Wyn, R., Andersen, R. M., Becerra, L., & Razack, N. (2004). Effects of community factors on access to ambulatory care for lower-income adults in large urban communities. *Inquiry, 41*(1), 39 - 56.

Buettgens, M., Kenney, G. M., & Recht, H. (2014). *Eligibility for assistance and projected changes in coverage under the ACA: Variation across states* Retrieved from Urban Institute,: http://www.urban.org/uploadedpdf/413129-Eligibility-for-Assistance-and-Projected-Changes-in-Coverage-Under-the-ACA-Variation-Across-States.pdf

Burke, G., & Paradise, J. (2014). *Safety-net emergency departments: A look at current experiences and challenges*. Retrieved from Kaiser Family Foundation,: http://kff.org/medicaid/issue-brief/safety-net-emergency-departments-a-look-at-current-experiences-and-challenges/

Carlson, J., Menegazzi, J., & Callaway, C. (2013). Magnitude of national ED visits and resource utilization by the uninsured. *American Journal of Emergency Medicine, 31*(4), 722-726.

Cecil G. Sheps Center for Health Services Research. (n.d.). NC Hospital Discharge Data. Retrieved from http://www.shepscenter.unc.edu/data-2/nc-hospital-discharge-data/

Centers for Disease Control and Prevention. (2013a). CDC health disparities and inequalities report - United States, 2013. *MMWR, 62*(Suppl 3), 1-187.

Centers for Disease Control and Prevention. (2013b). National Ambulatory Medical Care Survey: 2010 emergency department summary tables. Retrieved from http://www.cdc.gov/nchs/data/ahcd/nhamcs_emergency/2010_ed_web_tables.pdf

Chazin, S., Friedenzohn, I., Martinez-Vidal, E., & Somers, S. A. (2010). *The future of US charity care programs: Implications of health reform*. Retrieved from AcademyHealth: https://www.academyhealth.org/files/publications/FutureofCharityCarePrograms.pdf

Chen, B. K., Cheng, X., Bennett, K., & Hibbert, J. (2015). Travel distances, socioeconomic characteristics, and health disparities in nonurgent and frequent use of hospital emergency departments in South Carolina: A population-based observational study. *International Journal for Equity in Health, 14*(30).

Chen, B. K., Hibbert, J., Cheng, X., & Bennett, K. (2015). Travel distance and sociodemographic correlates of potentially avoidable emergency department visits in California, 2006-2010: an observational study. *International Journal for Equity in Health, 14*(30), 1- 8.

Clarke, T. C., Ward, B. W., Freeman, G., & Schiller, J. S. (2015). *Early release of selected estimates based on data from the January-March 2015 National Health Interview Survey*. National Center for Health Statistics Retrieved from http://www.cdc.gov/nchs/data/nhis/earlyrelease/earlyrelease201509.pdf.

Cohen, R. A., Makuc, D. M., Bernstein, A. B., Bilheimer, L. T., & Powell-Griner, E. (2009). *Health insurance coverage trends, 1950 - 2007: Estimates from the National Health Interview Survey*. Retrieved from National Center for Health Statistics: http://www.cdc.gov/nchs/data/nhsr/nhsr017.pdf

Cohen, R. A., & Martinez, M. E. (2015). *Health insurance coverage: Early release of estimates from the National Health Interview Survey, 2014*. National Center of Health Statistics Retrieved from http://www.cdc.gov/nchs/data/nhis/earlyrelease/insur201409.pdf.

Congressional Budget Office. (2013). *CBO's May 2013 estimate of the effects of the Affordable Care Act on health Insurance Coverage*. Retrieved from http://www.cbo.gov/sites/default/files/cbofiles/attachments/44190_EffectsAffordableCareActHealthInsuranceCoverage_2.pdf.

Cunningham, P. J., Bazzoli, G., & Katz, A. (2008). Caught in the competitive crossfire: Safety-net providers balance margin and mission in a provider driven health care market. *Health Affairs, 27*(5), w374-w382.

Darnell, J. S. (2010). Free clinics in the United States: A nationwide survey. *Archives of Internal Medicine, 170*(11), 946-953.

Darnell, J. S. (2011). What is the role of free clinics in the safety net. *Medical Care, 49*(11), 978-984.

Davidson, P. L., Andersen, R. M., Wyn, R., & Brown, E. R. (2004). A framework for evaluating safety-net and other community-level factors on access for low-income populations. *Inquiry, 41*, 21-38.

Davies, S. M., McDonald, K. M., Schmidt, E., Schultz, E., Geppert, J., & Romanon, P. S. (2009). *Expanding the use of AHRQ prevention quality indicators*. Retrieved from Agency for Healthcare Research and Quality: http://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/PQI_Summary_Report.pdf

Delia, D., & Cantor, J. C. (2009). *Emergency department utilization and capacity*. Retrieved from Princeton, NJ: http://www.rwjf.org/content/dam/farm/reports/reports/2009/rwjf43565

Derlet, R. W., Richards, J. R., & Kravitz, R. L. (2001). Frequent overcrowding in U.S. emergency departments. *Academic Emergency Medicine, 8*(2), 151-155.

DeVoe, J. E., Fryer, G. E., Phillips, R., & Green, L. (2003). Receipt of preventive care among adults: Insurance status and usual source of care. *American Journal of Public Health, 93*(5), 786-791.

Dickman, K., Pintz, C., Gold, K., & Kivlaham, C. (2012). Behavior changes in patients with diabetes and hypertension after experiencing shared medical appointments. *Journal of the American Academy of Nurse Practitioners, 24*(1), 43-51.

Douthit, N., Kiv, S., Dwolatzky, T., & Biswas, S. (2015). Exposing some important barriers to health care access in the rural USA. *Public Health, 129*, 611-620.

Emergency Medical Treatment and Active Labor Act, 42 USC § 1395dd (2000).

Epstein, A. J. (2001). The role of public clinics in preventable hospitalizations among vulnerable populations. *Health Services Research, 36*(2), 405-420.

Falik, M., Needleman, J., Wells, B. L., & Korb, J. (2001). Ambulatory care sensitive hospitalizations and emergency visits: Experiences of Medicaid patients using Federally Qualified Health Centers. *Medical Care, 39*(6), 551-561.

Fertig, A. R., Corso, P. S., & Balasubramaniam, D. (2012). Benefits and costs of a free community-based primary care clinic. *Journal of Health and Human Services Administration, 34*(4), 456-470.

Fiscella, K., & Meldrum, S. (2008). Race and ethnicity coding agreement between hospitals and hospital and death data. *Medical Science Monitor, 14*(3), SR9 - 13.

Gaynor, T. (2015). Demand for free medical clinics still high after 'Obamacare' expansion. *Aljazeera America*.

Geller, S., Taylor, B. M., & Scott, H. D. (2004). Helping to patch the safety net. *Journal of Health Care for the Poor and Underserved, 15*(1), 42-51.

Gertz, A. M., Frank, S., & Blixen, C. E. (2011). A survey of patients and providers at free clinics across the United States. *Journal of Community Health, 36*(1), 83-93.

Gibbs, R., & Gibbs, P. (2010). Free clinics: A personal journey. *Archives of Internal Medicine, 170*(11), 953-954.

Gottlieb, K. (2015). Americares: No drop in demand at free clinics. Retrieved from http://www.nafcclinics.org/content/americares-no-drop-demand-free-clinics

Gray, J., Bass, G., Killeen, J., & Mathews, E. (2013). *Economic and social trends affecting rural North Carolina*. Retrieved from Raleigh, NC: http://www.ncruralcenter.org/images/PDFs/Publications/ruralprofile_2013-compressed.pdf

Guyer, J., Shine, N., Musumeci, M., & Rudowitz, R. (2015). *A look at the private option in Arkansas*. Retrieved from Kaiser Family Foundation: http://kff.org/medicaid/issue-brief/a-look-at-the-private-option-in-arkansas/

HCUP Databases. (2015). Overview of the state emergency department databases. Retrieved from http://www.hcup-us.ahrq.gov/seddoverview.jsp

Health Research and Services Administration. (n.d.). 2014 health center data. Retrieved from http://bphc.hrsa.gov/uds/datacenter.aspx

Hoban, R., & Herzog, R. (2015). 2015 Final health & human services budget. *NC Health News*.

Hsia, R. Y., Kellermann, A. L., & Shen, Y. (2011). Factors associated with closures of emergency departments in the United States. *JAMA, 305*(19), 1978-1985.

Hwang, W., Liao, K., Griffin, L., & Foley, K. L. (2012). Do free clinics reduce unnecessary emergency department visits? The Virginian Experience. *Journal of Health Care for the Poor and Underserved, 23*, 1189-1204.

Ingram, D., & Franco, S. (2014). *2013 NCHS urban-rural classification scheme for counties*. Hyattsville, MD: US Department of Health and Human Services

Jiang, H. J., Russo, A., & Barrett, M. (2009). *Nationwide frequency and costs of potentially preventable hospitalizations, 2006*. Rockville, MD: Agency for Healthcare Research and Quality Retrieved from http://www.hcup-us.ahrq.gov/reports/statbriefs/sb72.jsp.

Jones, C. (2014). [Unpublished raw data]. North Carolina free clinics - year opened.

Kaiser Family Foundation. (2013). Focus on health reform: Summary of the Affordable Care Act. Retrieved from http://kaiserfamilyfoundation.files.wordpress.com/2011/04/8061-021.pdf

Kaiser Family Foundation. (2014). Status of state action on Medicaid expansion decision. *State health facts.* Retrieved from http://kff.org/health-reform/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/#note-1

Kenney, G. M., McMorrow, S., Zuckerman, S., & Goin, D. E. (2012). A decade of health care access declines for adults holds implications for changes in the Affordable Care Act. *Health Affairs, 31*(5), 899-908.

Kominski, G. F. (2014). Access to health care. In G. F. Kominski (Ed.), *Changing the U.S. Health Care System* (4 ed.). San Fran, CA: Jossey-Gass.

Ku, L., Jones, E., Shin, P., Bryne, F. R., & Long, S. K. (2011). Safety-net providers after health care reform: Lessons from Massachusetts. *Archives of Internal Medicine, 171*(15), 1379-1384.

Laditka, J. N., & Laditka, S. B. (2006). Race, ethnicity and hospitalization for six chronic ambulatory care sensitive conditions in the USA. *Ethnicity and Health, 11*(3), 247-263.

Laditka, J. N., Laditka, S. B., & Mastandun, M. P. (2003). Hospital utilization for ambulatory care sensitive conditions: Health outcome disparities associated with race and ethnicity. *Social Science and Medicine, 57*(8), 1429-1441.

Laditka, J. N., Laditka, S. B., & Probst, J. (2009). Health care access in rural areas: Evidence that hospitalizations for ambulatory care sensitive conditions in the United States may increase with level of rurality. *Health & Place, 15*(3), 761-770.

Lewin, M., & Altman, D. (2000). *America's Health Care Safety Net: Intact but Endangered*: The National Academies Press.

Lewin, M., & Baxter, R. (2007). America's health care safety net: Revisiting the 2000 IOM report. *Health Affairs, 26*(5), 1490-1494.

Lowe, R. A., & Fu, R. (2008). Can the emergency department algorithm detect changes in access to care? *Academic Emergency Medicine, 15*(6), 506-516.

Minchin, M. (2015). Shifa free health clinic serves the uninsured. *The Charlotte Observer*. Retrieved from http://www.charlotteobserver.com/news/local/community/south-charlotte/article45353406.html

Mohan, A., Grant, J., Batalden, M., & McCormick, D. (2013). The health of safety net hospitals following Massachusetts health care reform: Changes in volume, revenue, costs, and operating margins from 2006 to 2009. *International Journal of Health Services, 43*(2), 321-335.

Money, E. B. (2013). Federally Qualified Health Center expansion through the Affordable Care Act. *North Carolina Medical Journal, 74*(4), 325-326.

Moskop, J. C., Sklar, D. P., Geiderman, J. M., Schears, R. M., & Bookman, K. J. (2009). Emergency department crowding, part 1 - concept, causes, and moral consequences. *Annals of Emergency Medicine, 53*(5), 605-611.

Mott-Keis, R. M., DeGeus, L. G., Cashman, S., & Savageau, J. (2004). Characteristics of patients at three free clinics. *Journal of Health Care for the Poor and Underserved, 15*(4), 603-617.

Moy, E., Chang, E., & Barrett, M. (2013). Potentially preventable hospitalizations - United States, 2001-2009. *MMWR. Morbidity and Mortality Weekly Reports, 62*(3), 139-143.

Nadkarni, M. M., & Philbrick, J. T. (2005). Free Clinics: A national survey. *The American Journal of the Medical Sciences, 330*(1), 25-31.

National Association of Community Health Centers. (2011). *So you want to start a health center: A pracital guide to starting a Federally Qualified Health Center*. Retrieved from Bethesda, MD: http://www.nachc.com/client/documents/So%20you%20want%20to%20Start-Final%20July%202011.pdf

Neuhausen, K., Davis, A. C., Needleman, J., Brook, R. H., Zingmond, D., & Roby, D. H. (2014). Disporportionate-share hospital payment reductions may threaten the financial stability of safety-net hospitals. *Health Affairs, 33*(6), 988-996.

Newkirk, V., & Damico, A. (2014). *The Affordable Care Act and insurance coverage in rural areas*. Retrieved from http://kff.org/uninsured/issue-brief/the-affordable-care-act-and-insurance-coverage-in-rural-areas/

North Carolina Association of Free Clinics. (2013). *2012 Annual outcomes report: Improving the health and well-being of the uninsured in North Carolina*. Retrieved from Winston-Salem, NC: http://www.ncfreeclinics.org/wp-content/uploads/2013/10/2013-ANNUAL-OUTCOMES-REPORT-Section-1.pdf

North Carolina Association of Free Clinics. (n.d.). Bylaws of the North Carolina Association of Free and Charitable clinics, inc. Retrieved from http://4dqh8r44tqil448vx5anf0f2.wpengine.netdna-cdn.com/wp-content/uploads/2016/01/NCAFCC-Final-Bylaw-Revisions-2016.pdf

North Carolina Institute of Medicine. (n.d.). *Characteristics of Uninsured North Carolinians: 2011-2012*. Morrisville, NC Retrieved from http://riversdeveloper.com/wp-content/uploads/2010/08/Uninsured-Snapshot_2011-2012.pdf.

Office of Disease Prevention and Health Promotion. (2015). *Healthy People 2020*. Washington, D.C. Retrieved from http://www.healthypeople.gov/2020/topics-objectives/topic/Access-to-Health-Services/objectives.

Oster, A., & Bindman, A. B. (2002). Emergency department visits for ambulatory care sensitive conditions: Insights into preventable hospitalizations. *Medical Care, 41*(2), 198-207.

Paez, K. A., Zhao, L., & Hwang, W. (2009). Rising out-of-pocket spending for chronic conditions: A ten-year trend. *Health Affairs, 28*(1), 15-25.

Pew Research Center. (n.d.). *Demographic profile of Hispanics in North Carolina, 2011*. Retrieved from Washington, D.C.: http://www.pewhispanic.org/states/state/nc/

Pigoga, J., Kibria, F., Pinilla, M., Bicki, A., Joseph, V., & DeGroot, A. (2015). Barriers to health insurance pre- and post- Affordable Care Act implementation in Providence, RI. *Rhode Island Medical Journal, 98*(12), 35-39.

Probst, J., Laditka, J. N., & Laditka, S. B. (2009). Association between community health center and rural health clinic presence and county-level hospitalizations rates for ambulatory care sensitive conditions: An analysis across eight US states. *BMC Health Services Research, 9*(134).

Probst, J., Laditka, S. B., Wang, J., & Johnson, A. (2007). Effects of residence and race on burden of travel for care: Cross sectional analysis of the 2001 US National Household Travel Survey. *BMC Health Services Research, 7*(40).

Riley, T., & Baiseden, J. (2014). The health outcomes initiative of the North Carolina Assoication of Free Clinics. *North Carolina Medical Journal, 75*(2), 218-219.

Rosenblatt, R. A., & Hart, L. G. (2000). Physicians and rural America. *Western Journal of Medicine, 173*(5).

Rust, G., Baltrus, P., Ye, J., Daniels, E., Quarshie, A., Boumbulian, P., & Strothers, H. (2009). Presence of a community health center and the uninsured emergency department visit rates in rural counties. *The Journal of Rural Health, 25*(1), 8 - 16.

Ryan, J., Doty, M. M., Abrams, M. K., & Riley, P. (2014). *The adoption and use of health information technology by community health centers 2009-2013*. Retrieved from The Commonwealth Fund,: http://www.commonwealthfund.org/~/media/files/publications/issue-brief/2014/may/1746_ryan_adoption_use_hlt_it_chcs_rb.pdf

Ryskina, K. L., Meah, Y. S., & Thomas, D. C. (2009). Quality of diabetes care at a student - run free clinic. *Journal of Health Care for the Poor and Underserved, 20*(4), 969-981.

Sabik, L. M., & Gandhi, S. O. (2013). Impact of changes in Medicaid coverage on physician provision of safety net care. *Medical Care, 51*(11), 978-984.

Schiller, E. R., Thurston, M. A., Khan, Z., & Fetters, M. D. (2013). Free clinics stand as a pillar of the health care safety net: Findings from a narrative literature review. In V. M. Brennan (Ed.), Free clinics: Local response to health care needs. Baltimore, MD: John Hopkins University Press.

Schwartz, J. L. (1971). First national survey of free medical clinics 1967-1969. *HSMHA Health Reports, 86*(9).

Shin, P., Sharac, J., & Rosenbaum, S. (2015). Community health centers and Medicaid at 50: An enduring relationship essential for health system transformation. *Health Affairs, 34*(7), 1096-1114.

Smith, J., & Medalia, C. (2014). *Health insurance coverage in the United States: 2013*. (Current Population Reports P60-253). Washington, D.C.: U.S. Government Printing Office Retrieved from https://www.census.gov/content/dam/Census/library/publications/2014/demo/p60-250.pdf.

Smith, J., & Medalia, C. (2015). *Health insurance coverage in the United States: 2014*. (Current Population Reports P60-253). Washington, D.C.: U.S. Government Printing Office Retrieved from https://www.census.gov/content/dam/Census/library/publications/2015/demo/p60-253.pdf.

Stranges, E., & Stocks, C. (2010). Potentially preventable hospitalizations for acute and chronic conditions, 2008. *HCUP Statistical Brief #99*.

Stroebel, R. J., Gloor, B., Freytag, S., Riegert-Johnson, D., Smith, S. A., Huschka, T., . . . Kottke, T. E. (2005). Adapting the chronic care model to treat chronic illness at a free clinic. *Journal of Health Care for the Poor and Underserved, 16*(2), 286-296.

Swan, G., & Foley, K. L. (2016). The perceived impact of the Patient Protection and Affordable Care Act on North Carolina's free Clinics. *North Carolina Medical Journal, 77*(1), 23-29.

Tang, N., Stein, J., Hsia, R. Y., Maselli, J. H., & Gonzales, R. (2010). Trends and characteristics of US emergency department visits, 1997-2007. *JAMA, 304*(6), 664-670.

Taylor, T. B. (2001). Threats to the health care safety net. *Academic Emergency Medicine, 8*(11), 1080-1087.

The Center for Health and Public Service Research. (n.d.). NYU ED algorithm. Retrieved from http://wagner.nyu.edu/faculty/billings/nyued-background

Tippet, R. (2014). *North Carolina's Hispanic population*. Retrieved from UNC Carolina Population Center: http://demography.cpc.unc.edu/2015/10/15/nc-in-focus-north-carolina-born-hispanics/

Torio, C. M., Elixhauser, A., & Andrews, R. M. (March 2013). Trends in potentially preventable hospital admissions among adults and children, 2005-2010. *HCUP Statistical Brief #151,* (151), 1 - 11.

US Department of Health & Human Services. (n.d.). 2013 Health Center Data: North Carolina program grantee data. Retrieved from http://bphc.hrsa.gov/uds/datacenter.aspx?year=2013&state=NC

Weinick, R. M., Burns, R. M., & Mehrotra, A. (2010). How many emergency department visits could be managed at urgent care centers and retail clinics. *Health Affairs, 29*(9), 1630-1636.

Weiss, G. L. (2006). *Grassroots medicine: The story of America's free health clinics*. Lanham, MD: Rowman & Littlefield Publishers, Inc.

Wilkin, H. A., Cohen, E. L., & Tannebaum, M. A. (2012). How low-income residents decide between emergency and primary health care for non-urgent treatment. *Howard Journal of Communications, 23*(2), 157-174.

Wright, B., Damiano, P., & Bentler, S. (2014). Assessing the capacity of Iowa's community health centers to respond to the opportunities and challenges of the Affordable Care Act. *Journal of Health Care for the Poor and Underserved, 25*, 2032-2043.

Yancey, A. K., Bastani, R., & Glenn, B. A. (2014). Racial and ethnic disparities in health status. In G. F. Kominski (Ed.), *Changing the US Health Care System*. San Francisco, CA: Jossey-Bass.

Zhan, C., Miller, M., Wong, H., & Meyer, G. (2004). The effects of HMO penetration on preventable hospitalizations. *Health Services Research, 39*(2), 345-361.

Zibulewsky, J. (2001). The Emergency Medical Treatment and Active Labor Act (EMTALA): What is is and what it means for physicians. *Proceedings (Baylor University Medical Center), 14*(4), 339-346.

APPENDIX A: SAS DATABASE CONSTRUCTION FOR EMERGENCY DEPARTMENT AND HOSPITALIZATION DATABASES

Note: some variable creation occurred in Excel and is not included in the SAS code.

Creating County Variables:

```
data temp ; ****2010 variables;
set arf.nc_ahrf;
keep f00002
f0453010
f0886010
f1332110
f0453710
f0892110
f1332010
f1321810
f1475110 f1415607 f1415606;
MDs_10_10k = f0886010/(f0453010/10000);
Beds_10_1k = f0892110/(f0453010/1000);
rename f00002 = PSTCO f1332010 = FQHC_10_num f1321810 = RHC_10_num
f1332110=PcntPov_10 f0453710 = Pcntwhite_10
f1475110 = PcntNoHI_10 f1415607 = PcntNoHI_07 f1415606 = PcntNoHI_06;
PcntMin_10 = 1-Pcntwhite_10;
run;
data arf.cnty10;
set work.nc_2010_cnty;
run;

data temp;  *** 2003 thru 2007 variables;
set arf.nc_2008;
keep f00002 f1415605
f0886003 f0886004 f0886005 f0886006 f0886007
f1321803 f1321804 f1321805 f1321806 f1321807
f1332003 f1332004 f1332005 f1332006 f1332007
f0892103 f0892104 f0892105 f0892106 f0892107
f1332103 f1332104 f1332105 f1332106 f1332107
f1392603 f1392604 f1392605 f1392606 f1392607
f1392503 f1392504 f1392505 f1392506 f1392507
f1198403 f1198404 f1198405 f1198406 f1198407;
run;


data arf.cnty08;
set work.nc_2008_cnty2;
drop
f0886003 f0886004 f0886005 f0886006 f0886007
```

```
f0892103 f0892104 f0892105 f0892106 f0892107
f1392603 f1392604 f1392605 f1392606 f1392607
f1392503 f1392504 f1392505 f1392506 f1392507
f1392303 f1392304 f1392305 f1392306 f1392307;
run;


** fix 2003 thru 2007 PcntMin;

proc sort data=work.minpop082; by pstco; run;
proc sort data=arf.cnty08; by pstco ;run;

data arf.cnty08;
merge arf.cnty08 (drop=PcntMin_03 PcntMin_04 PcntMin_05 PcntMin_06 PcntMin_07)
work.minpop082 (keep=pstco PcntMin_03 PcntMin_04 PcntMin_05 PcntMin_06
PcntMin_07);
by pstco;
run;


**Merge County variables from all  years;


proc sort data=arf.cnty10; by pstco;run;
proc sort data=arf.cnty08; by pstco; run;

Data ARF.cntyvar;
merge arf.cnty10 arf.cnty08;
by pstco;
run;
```

Free Clinic variables, and then merging with county variables. Only 2006 shown for free clinic variable.

```
proc sort data=work.fc_database_4_30_151; by county; run;
data clinicskeep;
set work.clinics06;
keep county cl_age_06;
run;

proc transpose data=clinicskeep out = clincounties prefix= age;
by county;
run;

data clincounty;
set work.clincounties;
if age1 >0 then clinic1 = 1;
```

```
else clinic1 =0;
if age2 >0 then clinic2 = 1;
else clinic2 =0;
if age3>0 then clinic3 = 1;
else clinic3=0;
if age4>0 then clinic4 = 1;
else clinic4 =0;
if age5>0 then clinic5 =1;
else clinic5 =0;
if age6 >0 then clinic6 = 1;
else clinic6 =0;
if age7>0 then clinic7 = 1;
else clinic7 =0;
number_clinics = clinic1 + clinic2+ clinic3+ clinic4+ clinic5+ clinic6 + clinic7;
age = max (age1, age2, age3, age4, age5, age6, age7);
drop _name_ age1 age2 age3 age4 age5 age6 age7 clinic1 clinic2 clinic3 clinic4 clinic5
clinic6 clinic7;
run;
proc sort data=work.nccounties; by county; run;

data sedd.clinicfips2006;
merge clincounty work.nccounties;
by county;
if age >0 then FC = 1;
else FC = 0;
keep county number_clinics age pstco code2006 FC;
run;

data clin.fccnty2006;
merge sedd.clinicfips2006 arf.cntyvar;
by  pstco;
Keep pstco county Code2006 number_clinics clinic_age FC  beds_06_1k  MDs_06_10k
totpop_06 fqhc_06 fqhc_06_num rhc_06 rhc_06_num Pcntmin_06 Pcntpov_06
PcntNoHI_06;
run;

Creation of 2010 database;
data sedd.unin_adults;
set sedd.nc_sedd_10;
if pay1 = 4;
if pstate = 'NC';
if age >17 ;
if died =0;
run;
/* Set to the full directory path, without quotation marks, where data files are and output
will be written */
```

```
%let Directory=\\rds1.urc.uncc.edu\chhs\atech\users\jhutch38\hutch\Hcup\NC SEDD
2010;

/* Set to the name of the SAS version 7 or 8 dataset (WITHOUT the libname) that
contains your ED records */
%let EDDataFile=unin_adults;

/* set to the name of the field that contains Principal Diagnosis */
%let PrinDxVarName=Dx1;


%include 'ED Macros 2.sas';

libname here v8 "&directory";

data temp;
 set here.&EDDataFile;
 length dxgroup $ 5;
 dxgroup=left(&PrinDxVarName);
 %recode(dxgroup)
run;

proc sort data=temp;
 by dxgroup;
run;

data   here.EDOut;
 merge temp(in=InTemp)
      here.EDDxs(in=InClassified rename=(prindx=dxgroup));
 by dxgroup;
 if InTemp;

 /* Initialize the algorithm classification percentages */

 ne     = 0 ;
 epct   = 0 ;
 edcnpa  = 0 ;
 edcnnpa = 0 ;

 /* Set flags for the 4 special categories */

 injury  = %injury  (dxgroup);
 psych   = %psych   (dxgroup);
 alcohol = %alcohol (dxgroup);
 drug    = %drug    (dxgroup);
```

```
/* Classify the cases not classified above */

if injury or psych or drug or alcohol then unclassified=0; /* "special" dx */
else if InClassified then do; /* classified by our docs and/or case file review */
 unclassified=0;
 ne=sum(0,nonemerg);
 epct=sum(0,emergpc);
 edcnpa=%acs(dxgroup) * sum(0,emedpa,emednpa);
 edcnnpa=(not %acs(dxgroup)) * sum(0,emedpa,emednpa);
end;
else unclassified=1; /* In none of the above categories */

drop emednpa emedpa emergpc nonemerg;
label ne          = "Non-Emergent"
      epct        = "Emergent, Primary Care Treatable"
      edcnpa      = "Emergent, ED Care Needed, Preventable/Avoidable"
      edcnnpa     = "Emergent, ED Care Needed, Not Preventable/Avoidable"
      injury      = "Injury"
      psych       = "Mental Health Related"
      alcohol     = "Alcohol Related"
      drug        = "Drug Related (excluding alcohol)"
      unclassified = "Not in a Special Category, and Not Classified"
;
run;

data sedd.edavoid;
 set sedd.edout;
 if unclassified = 1 then delete;
 if ne+epct+edcnpa >=0.75 then avoid = 1;
 if ne+epct+edcnpa <0.75 then avoid = 0;
 run;

data sedd.ed_cnty;
 merge sedd.edavoid(keep = age atype amonth  aweekend ayear died dispub04
dispuniform dshospid dx1 dx2 dx3 dxccs1 dxccs2 dxccs3 daystoevent
 female hcup_as hcup_ed hcup_os hospst key los nchronic npr pay1 pr1 prccs1 prday1
proctype pstate pstco pointoforiginub04
 race visitlink year zip zipinc_qrtl alcohol drug injury psych ndx edcnnpa edcnpa epct ne
unclassified avoid pl_nchs2006) clin.fccnty2010;
 by pstco;
 run;

Creating 2003 thru 2007 database from Sheps data.

Data shepps.uninsur_2003;
set shepps.mdc30101_2003;
```

```
drop ptzip servline totchg birthwt revchg1 revchg2 revchg3 revchg4 revchg5 revchg6
revchg7 revchg8 revchg9 revchg10 paysub2 paysub3;
if payer1 = 'P';
if patst ne 'NC' then delete;
if agey < 18 then delete;
if asource = 'N' then delete;
run;

** Conform to PQI;

DATA shepps.pqi_2003;
set shepps.uninsur_2003;
drop asource;
key = _n_;
rename agey =age ;
ageday = ' ';
hospid = ' ';

if source = '7' then newvar = 1;
 else if source = '4' then newvar = 2;
 else if source = '6'  then newvar = 3;
 else if source = '5' then newvar = 3;
 else if source = '8' then newvar = 4;
 else if source = '1' then newvar = 7;
 else if source ='2' then newvar = 7;
 else if source = '3' then newvar = 7;
 else newvar =9;


if sex = 'M' then sex_pqi = 1;
if sex = 'F' then sex_pqi = 2;
if sex = 'U' then sex_pqi = ' ';

if race = 4 then race_pqi = 1;
if race = 3 then race_pqi = 2;
if race = 2 then race_pqi = 4;
if race = 1 then race_pqi = 5;
if race = 5 then race_pqi = 6;

pstco = 37000 + ptcnty;
rename type = atype;
rename hcfadrg = drg;
rename hcfamdc = mdc;

rename diag1 = dx1;
rename diag2 = dx2;
```

```
rename diag3 = dx3;
rename diag4 = dx4;
rename diag5 = dx5;
rename diag6 = dx6;
rename diag7 = dx7;
rename diag8 = dx8;
rename diag9 = dx9;
rename diag10 = dx10;
rename diag11= dx11;
rename diag12 = dx12;
rename diag13 = dx13;
rename diag14 = dx14;
rename diag15 = dx15;
rename diag16 = dx16;
rename diag17 = dx17;
rename diag18 = dx18;

rename proccd1 = pr1;
rename proccd2 = pr2;
rename proccd3 = pr3;
rename proccd4 = pr4;
rename proccd5 = pr5;
rename proccd6 = pr6;

if fyear = 2003 then DRGVER = 33;
DQTR = 33;
mort30=' ';

pointoforiginUB04 = source;
rename fyear = year;
if payer1 = 'P' then pay1 =4;
rename payer2= pay2;

drop race sex;
rename sex_pqi = sex  race_pqi= race newvar=asource ;

run;

Merging PQI output with county variables.
Data pqi_07_code;
merge shepps.pqi_2007 shepps.'pq1.assigned2007'n(keep=key tapq01
tapq02 tapq03 tapq05 tapq07 tapq08 tapq10 tapq11 tapq12 tapq13
tapq14 tapq15 tapq16 tapq90 tapq91 tapq92);
by key;
if tapq01 = ' ' then tapq01 = 0;
if tapq02 = ' ' then tapq02 = 0;
```

```
if tapq03 = ' ' then tapq03 = 0;
if tapq05 = ' ' then tapq05 = 0;
if tapq07 = ' ' then tapq07 = 0;
if tapq08 = ' ' then tapq08 = 0;
if tapq10 = ' ' then tapq10 = 0;
if tapq11 = ' ' then tapq11 = 0;
if tapq12 = ' ' then tapq12 = 0;
if tapq13 = ' ' then tapq13 = 0;
if tapq14 = ' ' then tapq14 = 0;
if tapq15 = ' ' then tapq15 = 0;
if tapq16 = ' ' then tapq16 = 0;
if tapq90 = ' ' then tapq90 = 0;
if tapq91 = ' ' then tapq91 = 0;
if tapq92 = ' ' then tapq92 = 0;
run;
data shepps.pqi_07_Cnty;
merge work.pqi_07_code (drop= ageday hospid  ptcnty agem pay2 payer3 drgver dqtr
mort30) clin.fccnty2007;
by pstco;
run;

***Combine individual year databases;

data combine;
set shepps.pqi_03_cnty shepps.pqi_04_cnty shepps.pqi_05_cnty shepps.pqi_06_cnty
shepps.pqi_07_cnty;
run;
*** removed PQI deleted due to missing sex;

data shepps.pqi_03to07;
set combine;
if key in (1784 1814 45448 95555 96126 99743) then delete;
run;

*****  Create global community variables;

  data county;
  set shepps.pqi_03to07;
  beds_03to07_1k = sum(beds_03_1k , beds_04_1k , beds_05_1k , beds_06_1k) ;
  MDs_03to07_10k = sum (MDs_03_10k, MDs_04_10K, MDs_05_10k, MDs_06_10k,
MDs_07_10k);
  pcntmin_03to07 = sum (pcntmin_03, pcntmin_04, pcntmin_05, pcntmin_06,
pcntmin_07);
  pcntnohi_03to07 = sum (pcntnohi_05, pcntnohi_06, pcntnohi_07);
  pcntpov_03to07 = sum (pcntpov_03, pcntpov_04, pcntpov_05, pcntpov_06,
pcntpov_07);
```

```
  fqhc_03to07 = sum (fqhc_03, fqhc_04, fqhc_05, fqhc_06, fqhc_07);
  fqhc_03to07_num = sum (fqhc_03_num, fqhc_04_num, fqhc_05_num, fqhc_06_num,
fqhc_07_num);
  if year = 2003 then yr_03 = 1;
  else yr_03 = 0;
  if year = 2004 then yr_04 = 1;
  else yr_04 = 0;
  if year  =2005 then yr_05 = 1;
  else yr_05 = 0;
  if year =2006 then yr_06 = 1;
  else yr_06 = 0;
  if year= 2007 then yr_07 =1;
  else yr_07 = 0;
  run;
*** create categorical variable for age and code race missing as 7;

data shepps.pqi_03to07;
set shepps.pqi_03to07;
if age <30 then age_5 = 1;
else if age >29 and age <40 then age_5 = 2;
else if age >39 and age <50 then age_5 = 3;
else if age >49 and age <65 then age_5 = 4;
else if age >64 then age_5 = 5;
if race = '.' then race = 7;
run;

data shepps.pqi_03to07_adj;
  set county;
  run;
```

APPENDIX B: SAS CODING FOR EMERGENCY DEPARTMENT DATA

```
** County analysis;

 proc ttest data=clin.fccnty2010;
 class fc;
 var Beds_10_1k MDs_10_10k PcntMin_10 PcntNoHI_10 PcntPov_10;
 run;

 proc ttest data=clin.fccnty2010;
 class fc;
 var FQHC_10_num RHC_10_num;
 run;
```

Multivariate analysis

```
proc logistic data=sedd.ed_cnty descending;
class age_5 (ref = '1' param= ref )avoid fc(ref ='0' param = ref) female(ref ='0' param =
ref)  fqhc_10(ref ='0' param = ref)
race (ref ='1' param = ref) rhc_10(ref ='0' param = ref) rural(ref ='0' param = ref) ;
model avoid = fc female age_5 race rural  fqhc_10 Beds_10_1k MDs_10_10k
PcntMin_10 PcntNoHI_10 PcntPov_10/rsq lackfit ctable pprob=.1 to .9 by .1 link=logit;
output out=avoidpre p=predvalues;/*saves the predicted values in a data set called
avoidpre in a variable called predvalues*/
run;

** Visitlink Analysis;

data repeat;
set sedd.ed_cnty;
if visitlink = '.' then vmiss = 1;
else vmiss = 0;
if vmiss = 1 then delete;
run;

proc logistic data=repeat descending;
class age_5 (ref = '1' param= ref )avoid fc(ref ='0' param = ref) female fqhc_10(ref ='0'
param = ref)
race (ref ='1' param = ref) rhc_10(ref ='0' param = ref) rural(ref ='0' param = ref) ;
model avoid = fc female age_5 race rural fqhc_10 rhc_10 Beds_10_1k MDs_10_10k
PcntMin_10 PcntNoHI_10 PcntPov_10/ link=logit;
run;

proc genmod data=repeat descending;
```

```
class age_5 (ref = '1' param= ref )avoid fc(ref ='0' param = ref) female fqhc_10(ref ='0'
param = ref)
race (ref ='1' param = ref) rhc_10(ref ='0' param = ref) rural(ref ='0' param = ref)
visitlink;
model avoid = fc female age_5 race rural fqhc_10 rhc_10 Beds_10_1k MDs_10_10k
PcntMin_10 PcntNoHI_10 PcntPov_10/ dist=binomial link=logit;
repeated subject=visitlink/type=cs covb corrw;
run;
```

APPENDIX C: STATA CODING FOR HOSPITALIZATION DATABASE

PQI analysis completed in STATA 13

Overall ACS conditions

```
xtlogit tapq90  fc sex i.race i.age_5 beds_03to07_1k  mds_03to07_10k  pcntmin_03to07
pcntnohi_03to07  pcntpov_03to07  fqhc_03to07   i.year1 i.pstco, or
```

ACS conditions related to acute conditions

```
xtlogit tapq92  fc sex i.race i.age_5 beds_03to07_1k  mds_03to07_10k  pcntmin_03to07
pcntnohi_03to07  pcntpov_03to07  fqhc_03to07   i.year1 i.pstco, or
```

ACS conditions related to chronic conditions

```
xtlogit tapq91  fc sex i.race i.age_5 beds_03to07_1k  mds_03to07_10k  pcntmin_03to07
pcntnohi_03to07  pcntpov_03to07  fqhc_03to07   i.year1 i.pstco, or
```

APPENDIX D: NCAFC 2010 OUTCOMES SURVEY

Name of Person Completing the Survey _____

Position in the Organization _____

Date Survey Completed _____

ANNUAL OUTCOMES SURVEY
NC Association of Free Clinics
Blue Cross and Blue Shield of NC Foundation

For Year 2010 - Reported April 2011

Conducted by [TBD]

on behalf of the BCBSNC Foundation and the North Carolina Association of Free Clinics (NCAFC)

Questions about the survey should be directed to:
NCAFC Staff

Legend: Boxes shaded in this manner refer to the optional, supplementary survey

SECTION A: ABOUT YOUR FREE CLINIC

BCBSNC Annual Outcomes Survey *The following questions ask about general characteristics of your organization.*

1. What is the name of your free clinic? _____

2. Indicate the hours that your clinic *currently* operates each day of the week.
Please distinguish between operational, medical clinic, dental clinic and pharmacy hours.

Example: *9:00 AM* *4:00 PM* *7 hours*

Hours of Operation

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Clinical Hours - Medical

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Clinical Hours - Dental

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Clinical Hours - Pharmacy

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

2.a If your clinic operates multiple sites, please list below the hours for the second site.

Hours of Operation

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Clinical Hours - Medical

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Clinical Hours - Dental

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Clinical Hours - Pharmacy

	Open	Close	Total Hours
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

3. What counties does your clinic serve?
_____

SECTION A: ABOUT YOUR FREE CLINIC - Cont'd

4. What was your clinic's annual cash operating budget in the previous calendar/fiscal year?

$ _____

☐ Calendar Year ☐ Fiscal Year: Please List Dates of Fiscal Year

_____

5 Total estimated $_____value of services provided by free clinic in previous calendar year.
Do not include estimated value of volunteer and/or staff hourly wages as part of this response. This value should be determined by direct services provided/performed by your clinic.

How was value determined? (√ all that apply)

☐ Common Codes w/ related Approximate Values
☐ Medicaid Fee Schedule ☐ Medicare Fee Schedule
☐ Average Wholesale Price (AWP) of prescribed medications provided by clinic pharmacy/dispensary
☐ Cost to clinic for providing prescription medications through third party pharmacy
☐ Other method, please explain

_____

_____

6. Total number of individual donors and dollars donated.

	2010	2010 Target	2011 Target
Total number of individual donors	____	____	____
Total dollars donated by individuals	$____	$____	$____

7. Total number of non-hospital institutional contributors/grantors (e.g., foundations, corporations, government, churches) and dollars contributed.

	2010	2010 Target	2011 Target
Total number of non-hospital institutional contributors	____	____	____
Total dollars contributed by non-hospital institutions	$____	$____	$____

8. Total hospital cash contributions and in-kind support.

	2010	2010 Target	2011 Target
Total # of hospitals that contributed cash &/or in-kind support	____	____	____
Total unrestricted cash contributions from hospitals	$____	$____	$____
Total restricted cash contributions from hospitals	$____	$____	$____
Value of in-kind donations for ancillary services	$____	$____	$____
Value of other in-kind contributions	$____	$____	$____

9. Total number of sources from other in-kind contributors and value of goods/services donated (from businesses), i.e. Laboratory, Landscaper, Restaurant, IT Company. Do not include clinic volunteers hours in this response.

	2010	2010 Target	2011 Target
Total number of other in-kind donations	____	____	____
Total value of in-kind donations from other organizations	$____	$____	$____

10. List the top three in-kind donation sources including item/service donated and approximate value.

Do not include clinic volunteers hours in this response.

	Donor Name	Item/Service	Value
1	_____	_____	$_____
2	_____	_____	$_____
3	_____	_____	$_____

11. Describe how your clinic collaborates with other safety-net organizations in your community. Be sure to include both clinical and non-clinical partnerships.

_____

_____

_____

12. How many people are employed at your clinic? How many hours did they work in the ***previous calendar year***?

(Please record your best estimate per position for total year, not hours per week)

EMPLOYEES	# of people	# of total hours
Medical Personnel		
1. Physician		
2. Mid-level		
a. PA		
b. NP		
3. Nurse		
a. RN		
b. LPN		
4. Certified Medical Assist. (CMA)		
5. Nurse Assistant		
6. EMT/Paramedic		
7. Medical Technologist		
8. Phlebotomists		
9. Respiratory Therapist		
10. Physical Therapist		
11. X-Ray Tech.		
12. Optometrist		
13. Chiropractor		
14. Podiatrist		
14. Nutritionist/Dietitian		
Pharmacy Personnel		
1. Pharmacist		
2. Pharmacy Tech		
Dental Personnel		
1. Dentist		
2. Hygienists		
3. Dental Assistant		
Behavioral Health Personnel		
1. Psychiatrist		
2. Psychologist		
3. Counselor		
4. Social Worker		
Other Healthcare Personnel		
1. _____		
2. _____		

SECTION A: ABOUT YOUR FREE CLINIC - Cont'd

12. How many people are employed at your clinic? How many hours did they work in the *previous calendar year*?

(Please record your best estimate per position for total year, not hours per week)

Admin./Management/Support Personnel		
1. Executive Director		
2. Clinic Director		
3. Clinical Manager		
4. Admin. Assistant		
5. Volunteer Coordinator		
6. Funds Development Director		
7. Eligibility/Enrollment Clerk		
8. Data Entry Clerk		
9. PAP Coordinator		
10. Interpreter/Translator		
11. Referral Coordinator		
12. Medical Director		
13. Dental Director		
14. Other: _____		

13. How many people volunteer at your clinic? How many hours did they volunteer in the *previous calendar year*?

(Please record your best estimate per position for total year, not hours per week)

VOLUNTEERS	# of people	# of total hours
Medical Volunteers		
1. Physician		
2. Mid-level		
a. PA		
b. NP		
3. Nurse		
a. RN		
b. LPN		
4. Certified Medical Assist. (CMA)		
5. Nurse Assistant		
6. EMT/Paramedic		
7. Medical Technologist		
8. Phlebotomists		
9. Respiratory Therapist		
10. Physical Therapist		
11. X-Ray Tech.		
12. Optometrist		
13. Chiropractor		
14. Podiatrist		
14. Nutritionist/Dietitian		
Pharmacy Volunteers		
1. Pharmacist		
2. Pharmacy Tech		
Dental Volunteers		
1. Dentist		
2. Hygienists		
3. Dental Assistant		
Other Healthcare Volunteers		
1. _____		
2. _____		

SECTION A: ABOUT YOUR FREE CLINIC - Cont'd

13. cont'd How many people volunteer at your clinic? How many hours did they volunteer in the *previous calendar year*?

(Please record your best estimate per position for total year, not hours per week)

Behavioral Health Volunteers	# of people	# of total hours
1. Psychiatrist	5	
2. Psychologist		
3. Counselor		
4. Social Worker		
Admin./Management/Support Volunteers		
1. Executive Director		
2. Clinic Director		
3. Clinical Manager		
4. Admin. Assistant		
5. Volunteer Coordinator		
6. Funds Development Director		
7. Eligibility/Enrollment Clerk		
8. Data Entry Clerk		
9. PAP Coordinator		
10. Interpreter/Translator		
11. Referral Coordinator		
12. Medical Director		
13. Dental Director		
14. Board Member		
15. Other: _____		

14. Does your clinic have an electronic database for tracking your clients and volunteers?

Clients	Volunteers
☐ Yes	☐ Yes
☐ No	☐ No

A. If YES, please describe your electronic database (e.g., ACCESS, EXCEL).

_____

_____

15. Does your clinic have an electronic medical records system?

☐ Yes

☐ No

A. If YES, please describe your electronic medical records system.

_____

_____

B. If NO, do you have plans to implement an electronic medical records system?

☐ Yes

☐ No

SECTION A: ABOUT YOUR FREE CLINIC - Cont'd

16. What method does your organization use to determine patient eligibility criteria for receiving services?

√ *all that apply*

□ must be uninsured

□ must be US Citizen

□ must met % of Federal Provery Level, √ *as applicable*

□ 100%

□ 120%

□ 133%

□ 150%

□ 185%

□ 200%

□ 250%

□ other, please explain:

17. Are you or do you intend to become a NCAFC "accredited" free clinic? Please check only one box.

☐ Yes, we achieved Level 1 accreditation

☐ Yes, we achieved Level 2 accreditation

☐ Yes, we achieved Level 3 accreditation

☐ Yes, we are currently pursing accreditation

☐ No, we have no plans to become an accredited free clinic.

A. If NO, please explain why you do not intend to pursue accreditation.

_____

_____

_____

The following questions ask about your clinic's "result trail" toward health gains, including:

1) ***Section B. Number who came***
2) ***Section C. Number of services provided***
3) ***Section D. Number who took steps in managing their care***
4) ***Section E. Number who achieved health gains***

SECTION B: DIRECT SERVICES AND HEALTH GAINS - NUMBER WHO CAME

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

1. Number of unduplicated patients served by the free clinic.

	2010	2010 Target	2011 Target
	____	____	____

Count each patient only once, though the patient may have received multiple services thru out the year.

2. Number of patients within each racial/ethnic group.

	2010
American Indian or Eskimo	____
Asian or Pacific Islander	____
African-American	____
Caucasian	____
Hispanic or Latino	____
Other	____
TOTAL	____

Make sure the columns sum to total number of unduplicated patients in question 1.

3. Number of patients who are female.

2010
____

4. Number of patients within each age category.

	2010
<18	____
18-64	____
65+	____
TOTAL	____

Make sure the columns sum to total number of unduplicated patients in question 1.

SECTION C: DIRECT SERVICES AND HEALTH GAINS - NUMBER OF SERVICES PROVIDED

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

1. Check the service(s) that the free clinic currently provides at the facility site.

- ☐ Medical
- ☐ Dental
- ☐ Behavioral
- ☐ Pharmaceutical
- ☐ Enabling services

2. Check the MEDICAL service(s) that the free clinic currently provides at the facility site.

- ☐ Acute Care
- ☐ Primary Care
- ☐ Chronic Care
- ☐ Preventative Care

- ☐ Ancillary Services
- ☐ Specialty Care

3. Check the MEDICAL service(s) that the free clinic routinely provides referrals for, where care is provided **at no cost to the patient**.

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventative Care
- ☐ Specialty Care

4. Total number of MEDICAL visits performed at the free clinic facility (includes acute, chronic, primary, preventative, and/or specialty care.

2010	2010 Target	2011 Target
____	____	____

5. Total number of MEDICAL ancillary services performed at the free clinic facility, per type of service.

	2010	2010 Target	2011 Target
Labs	____	____	____
X-ray	____	____	____
Other diagnostic testing	____	____	____

6. Total number of MEDICAL services/procedures performed at the free clinic facility site per common codes

A list of codes most commonly used by Free Clinics will be presented on the actual survey

Note, the use of E&M Level of Service Codes will be required for year 2011 & reported in Spring of 2012

Common Code #	Evaluation & Mgmt (E&M) Levels of Service	2010
99201	Level 1 New Pt	____
99202	Level 2 New Pt	____
99203	Level 3 New Pt	____
99204	Level 4 New Pt	____
99205	Level 5 New Pt	____
99211	Level 1 Estab. Pt	____
99212	Level 2 Estab. Pt	____
99213	Level 3 Estab. Pt	____
99214	Level 4 Estab. Pt	____
99215	Level 5 Estab. Pt	____

SECTION C: DIRECT SERVICES AND HEALTH GAINS - NUMBER OF SERVICES PROVIDED, Cont'd

7. Check the DENTAL service(s) that the free clinic currently performs at the facility site or through an outreach program, (i.e. Clinic owned mobile dental bus).

- ☐ Oral Exams
- ☐ Hygiene
- ☐ Extractions
- ☐ Restoration
- ☐ X-rays

8. Check the DENTAL service(s) that the free clinic routinely provides referrals for, where care is provided at no cost to the patient, (i.e. by local dentist or visiting mobile dental bus).

- ☐ Oral Exams
- ☐ Hygiene
- ☐ Extractions
- ☐ Restoration
- ☐ X-rays

9. Total number of DENTAL visits provided by the free clinic at the facility site or through an outreach program (i.e. dental bus) (includes all types of services).

2010	2010 Target	2011 Target
____	____	____

10. Total number of DENTAL services/procedures performed by the free clinic per common dental procedure codes.

Common Dental Code #	2010
See listing of codes	____

A list of codes most commonly used by Free Clinics will be presented on the actual survey.

11. Check the BEHAVIORAL HEALTH service(s) that the free clinic currently performs at the facility.

- ☐ Psychiatrist - Evaluation and Management
- ☐ Psychotherapy
- ☐ Crisis Intervention
- ☐ Substance Abuse

12. Total number of BEHAVIORAL HEALTH visits performed by the free clinic (includes all types of services).

2010	2010 Target	2011 Target
____	____	____

13. Total number of BEHAVIORAL HEALTH services/procedures performed by the free clinic per common codes.

Common Code #	2010
See listing of codes	____

A list of codes most commonly used by Free Clinics will be presented on the actual survey.

SECTION C: DIRECT SERVICES AND HEALTH GAINS - NUMBER OF SERVICES PROVIDED, Cont'd

14. Check the PHARMACEUTICAL service(s) that the free clinic currently provides.

- ☐ Licensed Pharmacy
- ☐ Patient Assistance Program (PAP)
- ☐ Physician-Dispensed Prescription Medications
- ☐ Third Party Pharmacy Provision/Voucher

15. Total number of prescription medications provided by the free clinic. (# of original fills and refills)

2010	2010 Target	2011 Target
____	____	____

2010

16. Approximate total value (average wholesale price/AWP) for prescribed medications provided by the clinic **at no cost to the patient**. (AWP per prescription filled).

AWP $____

17. Total cost to clinic for providing meds through third party pharmacy **at no cost to the patient**

Total Cost $____

18. Check the ENABLING service(s) that the free clinic currently provides on-site.

- ☐ Case Management
- ☐ Interpreter/Translation
- ☐ Immunizations
- ☐ Smoking Cessation Program
- ☐ Other (_____)
- ☐ Transportation
- ☐ Disease Education and Management Program(s)
  List Type(s) - i.e. Diabetes _____
- ☐ Outreach Program (_____)

19. Total number of patients who received case management services at your facility

2010	2010 Target	2011 Target
____	____	____

APPENDIX E: NCAFC OUTCOMES SURVEY 2011

SECTION A: ABOUT YOUR FREE CLINIC

Section A of the survey is fairly self explanatory as it represents information that free clinic organizations have been providing for a number of years, such as operational information, fundraising information and volunteer information. This section supplies a snapshot of the free clinic organization and assist NCAFC in providing aggregate statewide information.

All measurements are for dates of service from **Jan. 1 - Dec. 31, 2011**, with the exception of Survey Question 4. As applicable all free clinic organizations will determine their estimated 2012 target goals.

SURVEY QUESTION 1

What is the name of your Free Clinic Organization?

_____

SURVEY QUESTION 2 **(Survey Question 1 for SurveyGizmo)**

Indicate the hours that your clinic *currently* operates each day of the week.
Please distinguish between operational, medical clinics, dental clinics & pharmacy hours
Example: ***9:00 AM*** ***4:00 PM*** ***7 hours***

Hours of Operation

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Medical

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Dental

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Pharmacy

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

SURVEY QUESTION 2 - cont'd (Second Site)

If your clinic operates multiple sites, please list below the hours for the second site.

Hours of Operation

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Medical

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Dental

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Pharmacy

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

SURVEY QUESTION 3

What counties does your clinic serve?

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 4

What was your organization's operating expenses in the previous calendar/fiscal year? (Changed to operating expenses rather than budget)

$ _____

√ as applicable:

☐ Calendar Year ☐ Fiscal Year: List Dates _____

SURVEY QUESTION 5

Deals with the total estimated value of services/procedures directly provided/performed by the free clinic organization. **Value of volunteer/staff hours are not to be included in this response**. See the list of factors for determining estimated value of services/procedures provided.

Total estimated $_____ value of services/procedures provided by the free clinic organization in the previous calendar year.

How was the value determined? (√ all that apply)

☐ Common Codes - UCR Values ☐ Common Codes - Medicare Values
☐ Common Codes - Medicaid Values
☐ Average Wholesale Price (AWP) of prescribed medications dispensed
☐ Cost to clinic for providing prescription medications through third party pharmacy
☐ Other method, please explain

SURVEY QUESTION 6

Deals with individual donors. Examples include:
One-time donations from individuals
Recurring donations from individuals ($25.00/per from Mrs. Smith)
Individual donations made during some type of fundraiser or event

Total number of individual donors and dollars donated.	2011	2011 Target	2012 Target
Total # of individual donors			
Total dollars donated by individuals			

SURVEY QUESTION 7

Deals with the organization's **non**-hospital institutional funders/contributors. Examples include: Duke Endowment, Kate B Reynolds, Sister's of Mercy, NCAFC/BCBSNC Foundation, United Way, Office of Rural Health, Local Church(s) and Corporate Sponsors (i.e. Duke Energy, Lowe's Foods, Home Depot)

Total # & $ of non-hospital institutional funders/contributors.	2011	2011 Target	2012 Target
Total # of non-hospital institutional funders/contributors			
Total dollars funded/contributed by non-hospital institutions			

SURVEY QUESTION 8

Deals with the free clinic organization's hospital(s) support.

This question set reveals in-kind support (i.e. free labs, x-rays & other) as well as cash contributions, either as unrestricted contributions or restricted contributions allocated to pay for clinic staff salaries (i.e. XYZ Hospital provides $60,000/yr. for ED salary).

Total hospital cash contributions and in-kind support.

	2011	2011 Target	2012 Target
Total # of hospitals contributing cash &/or in-kind support			
Total unrestricted cash contributions from hospitals	$	$	$
Total restricted cash contributions from hospitals	$	$	$
Value of in-kind donations for ancillary services	$	$	$
Value of other in-kind contributions	$	$	$

SURVEY QUESTION 9

Deals with all other sources of support and contributions donated by businesses. This would **not** include hours worked by clinic's volunteers. Examples include:

1 XYZ website company designed the clinic's website and maintains the site free of charge. Estimated value for design = $5,000.00, On-going maintenance - $1,200.00/year.
2 Local XYS landscaping company landscaped the clinic's grounds and maintains free to the clinic.
3 Local paper company donates a pallet of copy paper to the clinic each year.
4 Laboratory (non-hospital) donates lab analysis results (ancillary service)

Total number of sources from other in-kind contributors and value of the goods/service donated from businesses.

	2011	2011 Target	2012 Target
Total number of other in-kind donations			
Total value of in-kind donations from other in-kind contributors	$	$	$

SURVEY QUESTION 10

List the top three in-kind donation sources including the item/service donated and the approximate value. **This does not include volunteer hours in this response.**

	DONOR NAME	ITEM/SERIVCE	VALUE
1			$
2			$
3			$

SURVEY QUESTION 11

Describe how your organization collaborates with other safety-net organizations in your community. As applicable, be sure to include both clinical and non-clinical partnerships.

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 12

How many people are employed at your organization? How many hours did they work in the ***previous calendar year?***

Please record your best estimate per position for the total year, not hours per week

	EMPLOYEE POSITIONS	# OF PEOPLE	# OF TOTAL HOURS
	Medical Personnel		
1	Physician		
2	Mid - level		
a	PA		
b	NP		
3	Nurse		
a	RN		
b	LPN		
4	Certified Medical Assistant (CMA)		
5	Nurse Assistant		
6	EMT/Paramedic		
7	Medical Technologist		
8	Phlebotomists		
9	Respiratory Therapist		
10	Physical Therapist		
11	X-Ray Tech		
12	Optometrist		
13	Chiropractor		
14	Podiatrist		
15	Diabetic Educator		
16	Nutritionist/Dietitian		
	Pharmacy Personnel		
1	Pharmacist		
2	Pharmacy Tech		
	Dental Personnel		
1	Dentist		
2	Hygienists		
3	Dental Assistant		
	Behavioral Health Personnel		
1	Psychiatrist		
2	Psychologist		
3	Counselor		
4	Social Worker		
	Other Healthcare Personnel		
1	_____		
2	_____		
3	_____		
4	_____		

SURVEY QUESTION 12 - Continued **(Question 13 SurveyGizmo)**

Please record your best estimate per position for the total year, not hours per week

	EMPLOYEE POSITIONS	# OF PEOPLE	# OF TOTAL HOURS
	Admin./Management/Support Personnel		
1	Executive Director		
2	Clinic Director		
3	Clinical Manager		
4	Admin. Assistant		
5	Volunteer Coordinator		
6	Funds Development Director		
7	Eligibility/Enrollment Clerk		
8	Data Entry Clerk		
9	PAP Coordinator		
10	Interpreter/Translator		
11	Referral Coordinator		
12	Medical Director		
13	Dental Director		
14	Other:		

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 13 **(Question 14 - Survey Gizmo)**

How many people volunteer at your organization? How many hours did they volunteer in the ***previous calendar year?***

Please record your best estimate per position for the total year, not hours per week

	VOLUNTEERS	# OF PEOPLE	# OF TOTAL HOURS
	Medical Personnel		
1	Physician		
2	Mid - level		
a	PA		
b	NP		
3	Nurse		
a	RN		
b	LPN		
4	Certified Medical Assistant (CMA)		
5	Nurse Assistant		
6	EMT/Paramedic		
7	Medical Technologist		
8	Phlebotomists		
9	Respiratory Therapist		
10	Physical Therapist		
11	X-Ray Tech		
12	Optometrist		
13	Chiropractor		
14	Podiatrist		
15	Diabetic Educator		
16	Nutritionist/Dietitian		
	Pharmacy Personnel		
1	Pharmacist		
2	Pharmacy Tech		
	Dental Personnel		
1	Dentist		
2	Hygienists		
3	Dental Assistant		
	Behavioral Health Personnel		
1	Psychiatrist		
2	Psychologist		
3	Counselor		
4	Social Worker		
	Other Healthcare Personnel		
1	_____		
2	_____		
3	_____		
4	_____		

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 13 - Continued **(Question 15 SurveyGizmo)**

Please record your best estimate per position for the total year, not hours per week

VOLUNTEERS	# OF PEOPLE	# OF TOTAL HOURS
Admin./Management/Support Personnel		
1 Executive Director		
2 Clinic Director		
3 Clinical Manager		
4 Admin. Assistant		
5 Volunteer Coordinator		
6 Funds Development Director		
7 Eligibility/Enrollment Clerk		
8 Data Entry Clerk		
9 PAP Coordinator		
10 Interpreter/Translator		
11 Referral Coordinator		
12 Medical Director		
13 Dental Director		
14 Other:		

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 14 **(Question 16 SurveyGizmo)**

Does your organization have an electronic database for tracking clients/patients and volunteers?

	Clients/Patients		Volunteers
YES	☐	☐	YES
NO	☐	☐	NO

a If YES, please describe you electronic database (e.g., ACCESS, EXCEL).

SURVEY QUESTION 15 **(Question 17 SurveyGizmo)**

Does your organization have an electronic medical records system?

YES ☐
NO ☐

a If YES, please describe your electronic medical records system.

b If NO, do you have plans to implement an electronic medical records system?

YES ☐
NO ☐

SURVEY QUESTION 16 **(Question 18 SurveyGizmo)**

What method does your organization use to determine patient eligibility criteria for receiving services? ***√ all that apply***

- ☐ Must be uninsured
- ☐ Must be US Citizen
- ☐ Must met % of Federal Poverty Level, ***√ as applicable***
  - ☐ 100%
  - ☐ 120%
  - ☐ 133%
  - ☐ 150%
  - ☐ 185%
  - ☐ 200%
  - ☐ 250%
- ☐ Must live in same county that organization is located
- ☐ Must be working or actively seeking work
- ☐ Other, please explain: _____

SURVEY QUESTION 17 (Changed) **(Question 19 SurveyGizmo)**

a Does your organization ask clients/patients for donations?

If yes, $ _____ Amount Per/Frequency _____ (per Visit,Refill, Month, Other?)

	$ Amount	Per/Frequency	Total $ Collected 2011
Donation Request #1	$		$
Donation Request #2	$		$
Donation Request #3	$		$
			Added total collected

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 18 (Changed) **(Question 20 Survey Gizmo)**

Does your organization charge any of the following fees:

If yes,	$ Amount	Per/Frequency	Total $ Collected 2011
☐ Administrative fee	$		$
☐ Pharmacy Fee	$		$
☐ Lab, diagnostic co-pay (cost sharing)	$		$
☐ Other, please describe:	$		$
	$		$
	$		$
	$		$
			Added total collected

SURVEY QUESTION 19 (was 18) **(Question 21 Survey Gizmo)**

What is your organization's NCAFC Accreditation status?

√ only one box

- ☐ Currently hold Level 3 Accreditation status
- ☐ Currently hold Level 2 Accreditation status
- ☐ Currently hold Level 1 Accreditation status
- ☐ Plan to pursue Accreditation status
- ☐ No plans to pursue Accreditation status

If not, please explain:

SECTION B: DIRECT SERVICES AND HEALTH GAINS
NUMBER WHO CAME

Section B of the survey consist of demographic information that is useful in painting the statewide picture for the population that NCAFC member organizations serve.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2011. Free Clinic organizations will determine their estimated 2012 target goals

METHODOLOGY:
All free clinic organizations will count each individual patient seen in 2011 only **once**, as unduplicated, though the patient may have received multiple services through out the year.

SURVEY QUESTION 1 **(Question 22 SurveyGizmo)**

Number of unduplicated patients served by the free clinic organization.

(count each patient only once)

2011	2011 Target	2012 Target

SURVEY QUESTION 2 **(Question 23 SurveyGizmo)**

Number of patients within each racial/ethnic group.

Ensure the columns sum to total # of unduplicated pts. in question 1

	2011
American Indian or Eskimo	
Asian or Pacific Islander	
African-American	
Caucasian	
Hispanic or Latino	
Other	
TOTAL	

SURVEY QUESTION 3 **(Question 24 SurveyGizmo)**

Number of female patients.

2011

SURVEY QUESTION 4 **(Question 25 SurveyGizmo)**

Number of patients within each age category.

Ensure the columns sum to total # of unduplicated pts. in question 1

	2011
< 18	
18 - 64	
65+	
TOTAL	

SECTION C: DIRECT SERVICES AND HEALTH GAINS
NUMBER OF SERVICES PROVIDED
ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

Section C of the survey deals with the number and type of services and procedures provided by NCAFC member organizations.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2011. Free Clinic organizations will determine their estimated 2012 target goals

SURVEY QUESTION 1 **(Question 26 SurveyGizmo)**
√ all applicable service(s) that the free clinic organization current provides at the facility site.

- ☐ Medical
- ☐ Dental
- ☐ Behavioral
- ☐ Pharmaceutical
- ☐ Enabling Services

SURVEY QUESTION 2 **(Question 27 Survey Gizmo)**
√ the MEDICAL service(s) that the free clinic currently provides at the facility site.

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventive Care
- ☐ Specialty Care

SURVEY QUESTION 3 **(Question 28 Survey Gizmo)**
√ the MEDICAL service(s) that the free clinic routinely provides referrals for, where care is provided **at no cost to the patient.**

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventive Care
- ☐ Specialty Care

NUMBER OF SERVICES PROVIDED

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 4 - METHODOLOGY **(Question 29 SurveyGizmo)**

All applicable free clinic organizations will count and record the total number of Medical Visits performed at the free clinic facility. Medical visits include acute, chronic, primary, preventive, and/or specialty care that could correlate to a professional service code. Where a face-to-face encounter, review of pts. history, a physical assessment and some degree of medical decision making occurs. Components of a medical visit substantiate clinical necessity. ***This would not include pharmacy refills, labs, diagnostics or encounters that could not correlate to a common code as described above.***

See Common Code Glossary, Terms, Guidelines & Descriptions

	2011	2011 Target	2012 Target
Total # of MEDICAL visits performed at the free clinic facility			

SURVEY QUESTION 5 - METHODOLOGY **(Question 30 SurveyGizmo)**

All applicable free clinic organizations will count and record total number of Medical Ancillary procedures performed at the free clinic facility per type; labs, x-rays &/or other diagnostic testing.

Total # of MEDICAL ancillary services performed at the free clinic facility, per type of service.	2011	2011 Target	2012 Target
Labs			
X-Rays			
Other diagnostic testing			

SURVEY QUESTION 6 **(Questions 31 & 32 SurveyGizmo)**

RATIONALE - On the 2009 survey NCAFC asked that applicable free clinic organizations report the use of Common Codes, representing actual services/procedures performed by the clinic. Reporting this information was optional for 2009 and 2010. While NCAFC encourages the use of ***all*** common codes, beginning in 2011 NCAFC requested that all organizations providing medical services to implement the use of Evaluation & Management, level of service codes 99201 - 99215. Reporting the use of these codes ***is required for the 2011 survey, which will be completed in Feb. of 2012.*** By utilizing the common coding system, free clinic organizations will be able to more efficiently report the types of services/procedures provided and more effectively calculate the value of those services/ procedures. This process will promote standardization and uniformity among free clinic organizations and will provide a quantitative means for reporting to stakeholders.

METHODOLOGY - All applicable free clinic organizations will count and record the total number of MEDIAL services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of all codes commonly used by free clinic organizations will be presented on the actual online survey. This document only list the required 99201 - 99215 codes. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic utilizes Encounter Forms with every patient encounter, formulating the use of Common Codes for services/procedures provided/performed. From the Encounter Forms, free clinic collates total # of services/procedures per Common Codes. The free clinic reports that 100, Code 99201 - Level 1 New Pt. Visits were performed in 2011

NUMBER OF SERVICES PROVIDED

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 6 - Continued **(Questions 31 & 32 Survey Gizmo)**

Total # of MEDICAL services/procedures performed at the free clinic facility site per Common Codes. ***Evaluation & Management (E&M) Codes 99201 - 99215 required for year 2011 & reported in Spring of 2010.***

Common Codes	Evaluation & Mgmt. (E&M) Levels of Service	Total #/code for 2011
99201	Level 1 New Pt.	
99202	Level 2 New Pt.	
99203	Level 3 New Pt.	
99204	Level 4 New Pt.	
99205	Level 5 New Pt.	
99211	Level 1 Estab. Pt.	
99212	Level 2 Estab. Pt.	
99213	Level 3 Estab. Pt.	
99214	Level 4 Estab. Pt.	
99215	Level 5 Estab. Pt.	

***Note all codes common to Free Medical Clinics will be listed on the web based Outcomes Survey**

SURVEY QUESTION 7 **(Question 33 Survey Gizmo)**

As applicable, √ the type of DENTAL services performed at the clinic's facility site or through an outreach program, such as a dental bus (mobile unit) owned by the clinic.

- ☐ Oral Exams
- ☐ Hygiene
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays

SURVEY QUESTION 8 **(Question 34 Survey Gizmo)**

As applicable, √ the type of DENTAL services that your organization routinely provides referrals for at no cost to the patient, i.e. referrals may be to local dentist or visiting mobile dental bus.

- ☐ Oral Exams
- ☐ Hygiene
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays

SURVEY QUESTION 9 **(Question 35 Survey Gizmo)**

METHODOLOGY - All applicable free clinic organizations will count and record the total number of DENTAL visits provided by the free clinic at the facility site or through an outreach program,i.e. mobile dental bus. One visit may include multiple type of services/procedures.

	2011	2011 Target	2012 Target
Total # of DENTAL visits provided by the free clinic at the site or through an outreach program			

SECTION C: DIRECT SERVICES AND HEALTH GAINS
NUMBER OF SERVICES PROVIDED
ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 10 - Optional **(Question 36 Survey Gizmo)**

METHODOLOGY - All applicable free clinic organizations will count and record the total number of Dental services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by DENTAL free clinics will be presented on the actual online survey.

See list of Common Codes used by NCAFC Organizations

Example: Free clinic utilizes DENTAL Encounter Forms with every pt. visit, formulating the use of Common Dental Codes for services/procedures performed/provided. From the Encounter Forms, the free clinic collates total # of services/procedures per Common Code. Free clinic reports that 200, Code D7140 (Simple Extractions) were performed in 2011.

Total # of DENTAL services/procedures performed by the free clinic per DENTAL COMMON CODE

COMMON DENTAL CODE	Total #/code for 2011
SEE LIST OF CODES	

SURVEY QUESTION 11 **(Question 37 Survey Gizmo)**

As applicable, √ the type(s) of BEHAVIORAL/MENTAL HEALTH services that the free clinic organization performs the facility site

- ☐ Psychiatrist - Evaluation & Management
- ☐ Crisis Intervention
- ☐ Psychotherapy
- ☐ Substance Abuse

SURVEY QUESTION 12 **(Question 38 Survey Gizmo)**

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic organization, includes all types of BEHAVIORAL/MENTAL HEALTH services provided at the facility site.

Total # of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic (includes all types of services)

2011	2011 Target	2012 Target

SURVEY QUESTION 13 - Optional **(See Question 32 Survey Gizmo)**

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by clinics providing BEHAVIORAL/MENTAL HEATLH services will be presented on the actual online survey. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic organization utilizes Encounter Forms for every pt. visit, formulating the use of COMMON CODES FOR services/procedures provided/performed. From the Encounter Forms, the free clinic collates the total # of services/procedures per COMMON CODES. The free clinic reports that 100, Code 90810 (Psychiatric Exams) performed in 2011.

Total # of BEHAVIORAL/MENTAL HEALTH services/ procedures performed per COMMON CODE

BEHAVIORAL/MENTAL HEALTH CODE	Total #/code for 2011
SEE LIST OF CODES	

All Behavioral/Mental Health common codes will be included with the Medical common codes on the web based survey and will not be listed separately, see question 6 on this excel document.

SECTION C: DIRECT SERVICES AND HEALTH GAINS
NUMBER OF SERVICES PROVIDED
ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 14 **(Question 39 Survey Gizmo)**

As applicable, √ the PHARMACEUTICAL service(s) provided by the free clinic organization.

- ☐ Licensed Pharmacy
- ☐ Patient Assistance Program (PAP)
- ☐ Physician-Dispensed Prescription Medications
- ☐ Third-Party Pharmacy Provision/Voucher

SURVEY QUESTION 15 (Change) **(Question 40 Survey Gizmo)**

Total # and Total $ Average Wholesale Price/AWP) of prescribed medications dispensed (onsite) by the free clinic organization (#of original fills & refills)

(DO NOT include meds dispensed by NC MedAssist Central Fill Program)

	2011	2011 Target	2012 Target	2011 Total $ AWP Value
Total # of prescription medications dispensed Per 30 day supply				

SURVEY QUESTION 16 (Change) **(Question 41 Survey Gizmo)**

Total cost **OR** (Total AWP) to the free clinic organization for providing prescription medications through a third-party pharmacy at no cost to the patient. If you have the AWP value, report this amount, if not report the cost to clinic $ amount.

	2011	2011 Cost to Clinic (OR→)	2011 Total $ AWP Value
Total # of prescription medications dispensed by 3rd party pharmacy per 30 day supply			

SURVEY QUESTION 19 **(Question 42 Survey Gizmo)**

As applicable, √ the ENABLING SERVICES that the free clinic organization currently provides at the facility site.

- ☐ Case Management
- ☐ Interpreter/Translation
- ☐ Immunizations
- ☐ Smoking Cessation Program
- ☐ Social Work
- ☐ Other: _____
- ☐ Transportation
- ☐ Disease Education & Mgmt. Program(s) List Type(s) - i.e. Diabetes _____
- ☐ Outreach Program List Type(s) - i.e. Dental _____

SURVEY QUESTION 20 **(Question 43 Survey Gizmo)**

Total # of patients who received case management services at the free clinic facility site

2011	2011 Target	2012 Target

APPENDIX F: NCAFC OUTCOMES SURVEY 2012

SECTION A: ABOUT YOUR FREE CLINIC

Section A of the survey is fairly self-explanatory. It represents information that free clinic organizations have been providing for a number of years, such as operational information, fundraising information and volunteer information. This section supplies a snapshot of the free clinic organization and assists NCAFC in providing aggregate statewide information.

All measurements are for dates of service from **Jan. 1 - Dec. 31, 2012**, with the exception of Survey Question 4. As applicable, all free clinic organizations will determine their estimated 2013 target goals.

SURVEY QUESTION 1

What is the name of your Free Clinic Organization?

_____

SURVEY QUESTION 2

Indicate the hours that your clinic ***currently*** operates each day of the week.
Please distinguish between operational, medical clinics, dental clinics & pharmacy hours
Example: ***9:00 AM*** ***4:00 PM*** ***7 hours***

Hours of Operation

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Medical

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Dental

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Pharmacy

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

SURVEY QUESTION 2 - cont'd (Second Site)

If your clinic operates multiple sites, please list below the hours for the second site.

Hours of Operation

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Medical

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Dental

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Pharmacy

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

SURVEY QUESTION 3

What counties does your clinic serve?

SURVEY QUESTION 4

What were your organization's actual operating expenses in the previous calendar/fiscal year?

$ _____

√ as applicable:

☐ Calendar Year ☐ Fiscal Year: List Dates _____

***Values reported in response to any one of Questions 5 - 9 should NOT be duplicated in response to any other of Q's 5-9.**

SURVEY QUESTION 5

Deals with the total estimated value of services/procedures directly provided/performed by the free clinic organization. **Value of volunteer/staff hours are not to be included in this response**. See list below for determining estimated value of services/procedures provided.

Total estimated $_____ value of services/procedures provided by the free clinic organization in the previous calendar year.

How was the value determined? (√ all that apply)

- □ Common Codes - UCR Values
- □ Common Codes - Medicare Values
- □ Common Codes - Medicaid Values
- □ Average Wholesale Price (AWP) of prescribed medications dispensed
- □ Cost to clinic for providing prescription medications through third party pharmacy
- □ Other method, please explain

SURVEY QUESTION 6

Deals with individual donors. Examples include:
One-time donations from individuals
Recurring donations from individuals ($25.00/month from Mrs. Smith)
Individual donations made during some type of fundraiser or event

Total number of individual donors and dollars donated:	2012	2012 Target	2013 Target
Total # of individual donors			
Total dollars donated by individuals	$	$	$

SURVEY QUESTION 7

Deals with the organization's **non**-hospital institutional funders/contributors. Examples include: Duke Endowment, Kate B Reynolds, Sister's of Mercy, NCAFC/BCBSNC Foundation, United Way, Office of Rural Health, Local Church(s) and Corporate Sponsors (i.e. Duke Energy, Lowe's Foods, Home Depot)

Total # & $ of non-hospital institutional funders/contributors:	2012	2012 Target	2013 Target
Total # of non-hospital institutional funders/contributors			
Total dollars funded/contributed by non-hospital institutions	$	$	$

Deals with the free clinic organization's hospital(s) support.
This question set reveals in-kind support (i.e. free labs, x-rays & other) as well as cash contributions, either as unrestricted contributions or restricted contributions allocated to pay for clinic staff salaries (i.e. XYZ Hospital provides $60,000/yr. for ED salary).

Total hospital cash contributions and in-kind support:	2012	2012 Target	2013 Target
Total # of hospitals contributing cash &/or in-kind support			
Total unrestricted cash contributions from hospitals	$	$	$
Total restricted cash contributions from hospitals	$	$	$
Total value of in-kind donations for ancillary services (itemized in 8a.)	$	$	$
Value of other in-kind contributions	$	$	$

8a.
For ancillary support from hospitals, the services typically provided are designated below. List the donor name as it applies to the service categories, and the approximate value of the donation.

DONOR NAME	ITEM/SERVICE	VALUE
	Labs	$
	Labs	$
	Labs	$
	Diagnostics	$
	Diagnostics	$
	Diagnostics	$
	Other: Describe below	
		$
		$
		$

SURVEY QUESTION 9

Deals with all other sources of support and contributions donated by businesses. This would

not include **hours worked by** the clinic's **volunteers or any hospital in-kind support already reported in Question 8 above.**

Examples include:

1 XYZ website company designed the clinic's website and maintains the site free of charge. Estimated value for design = $5,000.00, On-going maintenance = $1,200.00/year.
2 Local XYZ landscaping company landscaped the clinic's grounds and maintains free to the clinic.
3 Local paper company donates a pallet of copy paper to the clinic each year.
4 Laboratory (non-hospital) donates lab analysis results (ancillary service).
5 Project Access reports to clinic a $80,000 value for physician referral services provided free.
6 ABC Diagnostics reports to clinic a $72,000 value for x-rays/diagnostics procedures provided free.

Total number of sources from other in-kind contributors and value of the goods/service donated from businesses:	2012	2012 Target	2013 Target
Total number of other in-kind contributors donations			
Total value of other in-kind contributions (itemized in 9a. and 9b.)	$	$	$

9a.

For ancillary services from other sources of support, the services typically provided are designated below. List the donor name as it applies to the service categories, and the approximate value of the donation.

DONOR NAME	ITEM/SERVICE/PROCEDURE	VALUE
	Labs	$
	Labs	$
	Labs	$
	Diagnostics	$
	Diagnostics	$
	Diagnostics	$
	Other: Describe below	
		$
		$
		$

9b.

For non-ancillary services from other sources of support, list the donor name, the item/service provided and its approximate value

DONOR NAME	ITEM/SERVICE/PROCEDURE	VALUE
		$
		$
		$

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 10

Describe how your organization collaborates with other safety-net organizations in your community. As applicable, be sure to include both clinical and non-clinical partnerships.

SURVEY QUESTION 11

How many people are employed at your organization? How many hours did they work in the ***previous calendar year***? Please record your best estimate per position for the total year, not hours per week.

	EMPLOYEE POSITIONS	# OF PEOPLE	# OF TOTAL HOURS
	Medical Personnel		
1	Physician		
2	Mid - level		
a	PA		
b	NP		
3	Nurse		
a	RN		
b	LPN		
4	Certified Medical Assistant (CMA)		
5	Nurse Assistant		
6	EMT/Paramedic		
7	Medical Technologist		
8	Phlebotomists		
9	Respiratory Therapist		
10	Physical Therapist		
11	X-Ray Tech		
12	Optometrist		
13	Chiropractor		
14	Podiatrist		
15	Diabetic Educator		
16	Nutritionist/Dietitian		
	Pharmacy Personnel		
1	Pharmacist		
2	Pharmacy Tech		
	Dental Personnel		
1	Dentist		
2	Hygienists		
3	Dental Assistant		
	Behavioral Health Personnel		
1	Psychiatrist		
2	Psychologist		
3	Counselor		
4	Social Worker		
	Other Healthcare Personnel		
1	_____		
2	_____		
3	_____		
4	_____		

SURVEY QUESTION 11 - Continued

Please record your best estimate per position for the total year, not hours per week

	EMPLOYEE POSITIONS	# OF PEOPLE	# OF TOTAL HOURS
	Admin./Management/Support Personnel		
1	Executive Director		
2	Clinic Director		
3	Clinical Manager		
4	Admin. Assistant		
5	Volunteer Coordinator		
6	Funds Development Director		
7	Eligibility/Enrollment Clerk		
8	Data Entry Clerk		
9	PAP Coordinator		
10	Interpreter/Translator		
11	Referral Coordinator		
12	Medical Director		
13	Dental Director		
14	Other:		

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 12

How many people volunteer at your organization? How many hours did they volunteer in the ***previous calendar year***? Please record your best estimate per position for the total year, not hours per week.

	VOLUNTEERS	# OF PEOPLE	# OF TOTAL HOURS
	Medical Personnel		
1	Physician		
2	Mid - level		
a	PA		
b	NP		
3	Nurse		
a	RN		
b	LPN		
4	Certified Medical Assistant (CMA)		
5	Nurse Assistant		
6	EMT/Paramedic		
7	Medical Technologist		
8	Phlebotomists		
9	Respiratory Therapist		
10	Physical Therapist		
11	X-Ray Tech		
12	Optometrist		
13	Chiropractor		
14	Podiatrist		
15	Diabetic Educator		
16	Nutritionist/Dietitian		
	Pharmacy Personnel		
1	Pharmacist		
2	Pharmacy Tech		
	Dental Personnel		
1	Dentist		
2	Hygienists		
3	Dental Assistant		
	Behavioral Health Personnel		
1	Psychiatrist		
2	Psychologist		
3	Counselor		
4	Social Worker		
	Other Healthcare Personnel		
1	_____		
2	_____		
3	_____		
4	_____		

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 12 - Continued

Please record your best estimate per position for the total year, not hours per week

	VOLUNTEERS	# OF PEOPLE	# OF TOTAL HOURS
	Admin./Management/Support Personnel		
1	Executive Director		
2	Clinic Director		
3	Clinical Manager		
4	Admin. Assistant		
5	Volunteer Coordinator		
6	Funds Development Director		
7	Eligibility/Enrollment Clerk		
8	Data Entry Clerk		
9	PAP Coordinator		
10	Interpreter/Translator		
11	Referral Coordinator		
12	Medical Director		
13	Dental Director		
14	Other:		

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 13

Does your organization have an electronic database for tracking clients/patients and volunteers?

Clients/Patients		Volunteers	
☐	YES	☐	YES
☐	NO	☐	NO

a If YES, please describe your electronic database (e.g., ACCESS, EXCEL).

SURVEY QUESTION 14

Does your organization have an electronic medical records system?

☐ YES
☐ NO

a If YES, please describe your electronic medical records system.

b If NO, do you have plans to implement an electronic medical records system?

☐ YES
☐ NO

SURVEY QUESTION 15

What method does your organization use to determine patient eligibility criteria for receiving services? ***√ all that apply***

- ☐ Must be uninsured
- ☐ Must be US Citizen
- ☐ Must live in same county that organization is located
- ☐ Must be working or actively seeking work
- ☐ Must meet % of Federal Poverty Level, ***√ as applicable***
  - ☐ 100%
  - ☐ 120%
  - ☐ 133%
  - ☐ 150%
  - ☐ 185%
  - ☐ 200%
  - ☐ 250%
- ☐ Other, please explain: _____

SURVEY QUESTION 16

a Does your organization ask clients/patients for donations?

If yes, $ _____ Amount Per/Frequency _____ (per Visit, Refill, Month, Other?)

	$ Amount	Per/Frequency	Total $ Collected 2012
Donation Request #1	$		$
Donation Request #2	$		$
Donation Request #3	$		$

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 17

Does your organization charge any of the following fees?

If yes, √ as applicable and complete below	$ Amount	Per/Frequency	Total $ Collected 2012
□ Administrative fee	$		$
□ Pharmacy Fee	$		$
□ Lab, diagnostic co-pay (cost sharing)	$		$
□ Other, please describe below:			
	$		$
	$		$
	$		$

SURVEY QUESTION 18

What is your organization's NCAFC Accreditation status?

√ only one box

- □ Currently hold Level 3 Accreditation status
- □ Currently hold Level 2 Accreditation status
- □ Currently hold Level 1 Accreditation status
- □ Plan to pursue Accreditation status
- □ No plans to pursue Accreditation status

If not, please explain:

SECTION B: DIRECT SERVICES AND HEALTH GAINS
NUMBER WHO CAME

Section B of the survey consists of demographic information that is useful in painting the statewide picture for the population that NCAFC member organizations serve.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2012. Free Clinic organizations will determine their estimated 2013 target goals.

METHODOLOGY:
All free clinic organizations will count each individual patient seen in 2012 only **once**, as unduplicated, though the patient may have received multiple services throughout the year.

SURVEY QUESTION 1

Number of unduplicated patients served by the free clinic organization
(count each patient only once)

2012	2012 Target	2013 Target

SURVEY QUESTION 2

Number of patients within each racial/ethnic group:
Ensure the columns sum to total # of unduplicated pts. in question 1

	2012
American Indian or Eskimo	
Asian or Pacific Islander	
African-American	
Caucasian	
Hispanic or Latino	
Other	
TOTAL	

SURVEY QUESTION 3

	2012
Number of female patients	

SURVEY QUESTION 4

Number of patients within each age category:
Ensure the columns sum to total # of unduplicated pts. in question 1

	2012
< 18	
18 - 64	
65+	
TOTAL	

SECTION C: DIRECT SERVICES AND HEALTH GAINS
NUMBER OF SERVICES PROVIDED
ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

Section C of the survey deals with the number and types of services and procedures provided by NCAFC member organizations.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2012. Free Clinic organizations will determine their estimated 2013 target goals.

SURVEY QUESTION 1
√ all applicable service(s) that the free clinic organization currently provides at the facility site.

- ☐ Medical
- ☐ Dental
- ☐ Behavioral
- ☐ Pharmaceutical
- ☐ Enabling Services

SURVEY QUESTION 2
√ the MEDICAL service(s) that the free clinic currently provides at the facility site.

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventive Care
- ☐ Specialty Care

SURVEY QUESTION 3
√ the MEDICAL service(s) that the free clinic routinely provides referrals for, where care is provided **at no cost to the patient.**

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventive Care
- ☐ Specialty Care

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 4 - METHODOLOGY

All applicable free clinic organizations will count and record the total number of Medical Visits performed at the free clinic facility. Medical visits include acute, chronic, primary, preventive and/or specialty care that could correlate to a professional service code. A medical visit is described by a face-to-face encounter, review of pt. history, a physical assessment and some degree of medical decision-making. Components of a medical visit substantiate clinical necessity.

This would not include pharmacy refills, labs, diagnostics or encounters that could not correlate to a common code as described above.

See Common Code Glossary, Terms, Guidelines & Descriptions

	2012	2012 Target	2013 Target
Total # of MEDICAL visits performed at the free clinic facility			

SURVEY QUESTION 5 - METHODOLOGY

All applicable free clinic organizations will count and record the total number of Medical Ancillary procedures performed at the free clinic facility per type of service (labs, x-rays &/or other diagnostic testing).

Total # of MEDICAL ancillary services performed at the free clinic facility, per type of service:	2012	2012 Target	2013 Target
Labs			
X-Rays			
Other diagnostic testing			

SURVEY QUESTION 6

RATIONALE - On the 2009 survey, NCAFC asked that applicable free clinic organizations report the use of Common Codes, representing actual services/procedures performed by the clinic. Reporting this information was optional for 2009 and 2010. While NCAFC encourages the use of ***all*** common codes, in 2011 NCAFC requested that all organizations providing medical services report the use of Evaluation & Management, level of service codes 99201 - 99215. Reporting the use of these codes ***is also required for for the 2012 survey, due for completion in Feb. of 2013.*** By utilizing the common coding system, free clinic organizations will be able to more efficiently report the types of services/procedures provided and more effectively calculate the value of those services/ procedures. This process will promote standardization and uniformity among free clinic organizations and will provide a quantitative means for reporting to stakeholders.

METHODOLOGY - All applicable free clinic organizations will count and record the total number of MEDICAL services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of all codes commonly used by free clinic organizations will be presented on the actual online survey. This document only lists the required 99201 - 99215 codes. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic utilizes Encounter Forms with every patient encounter, formulating the use of Common Codes for services/procedures provided/performed. From the Encounter Forms, free clinic collates total # of services/procedures per Common Codes. The free clinic reports that a hundred Code 99201 - Level 1 New Pt. Visits were performed in 2012

SURVEY QUESTION 6 - Continued

Total # of MEDICAL services/procedures performed at the free clinic facility site per Common Codes. ***Evaluation & Management (E&M) Codes 99201 - 99215 for 2012 & reported in Spring of 2013.***

Common Codes	Evaluation & Mgmt. (E&M) Levels of Service	Total # per code for 2012
99201	Level 1 New Pt.	
99202	Level 2 New Pt.	
99203	Level 3 New Pt.	
99204	Level 4 New Pt.	
99205	Level 5 New Pt.	
99211	Level 1 Estab. Pt.	
99212	Level 2 Estab. Pt.	
99213	Level 3 Estab. Pt.	
99214	Level 4 Estab. Pt.	
99215	Level 5 Estab. Pt.	

***Note a list of all common codes will be provided on the electronic web based survey**

SURVEY QUESTION 7

As applicable, √ the type of DENTAL services performed at the clinic's facility site or through an outreach program, such as a dental bus (mobile unit) owned by the clinic.

- ☐ Oral Exams
- ☐ Periodontal
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays
- ☐ Oral Health Education (improving oral health literacy)

SURVEY QUESTION 8

As applicable, √ the type of DENTAL services that your organization routinely provides referrals for at no cost to the patient, i.e. referrals may be to local dentist or visiting mobile dental bus.

- ☐ Oral Exams
- ☐ Periodontal
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays
- ☐ Oral Health Education (improving oral health literacy)

SURVEY QUESTION 9

As applicable, √ the type of relationships/circumstances your organization provides to DENTAL patients.

- ☐ Partnership with co-located or other local primary care practice for cross-referral
- ☐ Accepts priority referral of chronic disease patients for dental treatment
- ☐ Accepts priority referral of pregnant women for dental treatment
- ☐ Refers patients for primary care medical home as appropriate

SURVEY QUESTION 10 - Optional for 2012

RATIONALE- All applicable free clinic organizations providing DENTAL services will assess their appointment schedules and record average wait times for patients to be seen by a provider.

METHODOLOGY - On the first business day of each month, the free clinic will assess their appointment schedules and record current wait times accordingly. Average wait times in business days will be expressed by totaling monthly recordings and dividing by specified time frame(s).

Qtrly Example - free clinic records wait time each month to access wait time for first quarter of the year (3 mth time frame), Jan. = 12 days, Feb. = 10 days, March = 15 days, total = 37 days. 37 days ÷ 3 months = 12.3, rounded to 12 days. Average wait time = 12 days for 1st qtr. of the year.

Yearly Example - free clinic records total of 148 days for year (Jan. - Dec.), 148 days ÷ 12 months = Average wait time of 12 days for the year.

	2012	2012 Target	2013 Target
Average wait time for patients complaining of pain			
Average wait time for patients not in pain			

SURVEY QUESTION 11

METHODOLOGY - All applicable free clinic organizations will count and record the total number of DENTAL visits provided by the free clinic at the facility site or through an outreach program, i.e. mobile dental bus. One visit may include multiple types of services/procedures.

	2012	2012 Target	2013 Target
Total # of DENTAL visits provided by the free clinic on-site or through an outreach program:			

SURVEY QUESTION 12

METHODOLOGY - All applicable free clinic organizations will count and record the total number of Dental services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by DENTAL free clinics will be presented on the actual online survey.

See list of Common Codes used by NCAFC Organizations

Example: Free clinic utilizes DENTAL Encounter Forms with every pt. visit, formulating the use of Common Dental Codes for services/procedures performed/provided. From the Encounter Forms, the free clinic collates total # of services/procedures per Common Code. Free clinic reports that a hundred Code D7140 (Simple Extractions) were performed in 2011.

	COMMON DENTAL CODE	Total #/code for 2012
Total # of DENTAL services/procedures performed by the free clinic per DENTAL COMMON CODE:	*SEE LIST OF CODES*	

***Note a list of common codes will be provided on the electronic web based survey**

SURVEY QUESTION 13

As applicable, √ the type(s) of BEHAVIORAL/MENTAL HEALTH services that the free clinic organization performs at the facility site

- ☐ Psychiatrist - Evaluation & Management
- ☐ Psychotherapy
- ☐ Crisis Intervention
- ☐ Substance Abuse

SURVEY QUESTION 14

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic organization. This includes all types of BEHAVIORAL/MENTAL HEALTH services provided at the facility site.

	2012	2012 Target	2013 Target
Total # of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic (includes all types of services):			

SURVEY QUESTION 15 - Optional

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by clinics providing BEHAVIORAL/MENTAL HEATLH services will be presented on the actual online survey. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic organization utilizes Encounter Forms for every pt. visit, formulating the use of COMMON CODES FOR services/procedures provided/performed. From the Encounter Forms, the free clinic collates the total # of services/procedures per COMMON CODES. The free clinic reports that a hundred Code 90810 (Psychiatric Exams) were performed in 2011.

	BEHAVIORAL/MENTAL HEALTH CODE	Total #/code for 2012
Total # of BEHAVIORAL/MENTAL HEALTH services/ procedures performed per COMMON CODE	*SEE LIST OF CODES*	

All Behavioral/Mental Health common codes will be included with the Medical common codes on the web based survey and will not be listed separately, refer to survey question 6 of this document

SURVEY QUESTION 16

As applicable, √ the PHARMACEUTICAL service(s) provided by the free clinic organization.

- ☐ Licensed Pharmacy
- ☐ Physician-Dispensed Prescription Medications
- ☐ Third-Party Pharmacy Provision/Voucher
- ☐ Patient Assistance Program (PAP)

SURVEY QUESTION 17

Total # and Total $ Average Wholesale Price/AWP) of prescribed medications dispensed

(on-site) by the free clinic organization (# of original fills & refills)

(DO NOT include meds dispensed by NC MedAssist Central Fill Program)

	2012	2012 Target	2013 Target	2012 Total AWP $ Value
Total # of prescription medications dispensed based on 30 day supply or less. (30 days or less = 1 Rx filled) Convert 60, 90 or 120 day supplies into 30 day supplies for this question, Ex. 60 = 2 Rx filled, 90 = 3 & 120 = 4				
AWP $ Value				$

SURVEY QUESTION 18

Total # of prescription medicines plus cost **&/OR** (Total AWP) that the free clinic organization provided through a third-party pharmacy at no cost to the patient in 2012.

If you have the AWP value, report that amount. If not, report the cost to the clinic $ amount.

	2012	2012 Cost to Clinic (&/OR→)	2012 Total AWP $ Value
Total # of prescription medications dispensed through 3rd party pharmacy based on 30 day supply or less. Convert 60, 90 or 120 days into 30 day supplies, Ex. 60 = 2, 90 = 3 & 120 = 4			
Cost to clinic $ amount **&/or** AWP $ Value		$	$

SURVEY QUESTION 19

As applicable, √ the ENABLING SERVICES that the free clinic organization currently provides at the facility site.

- ☐ Case Management
- ☐ Interpreter/Translation
- ☐ Immunizations
- ☐ Smoking Cessation Program
- ☐ Social Work
- ☐ Other: _____

_____

- ☐ Transportation
- ☐ Disease Education & Mgmt. Program(s)

  List Type(s) - i.e. Diabetes

  _____
- ☐ Outreach Program

  List Type(s) - i.e. Dental

  _____

SURVEY QUESTION 20

Total # of patients who received case management services at the free clinic facility site

2012	2012 Target	2013 Target

APPENDIX G: NCAFC OUTCOMES SURVEY 2013

SECTION A: ABOUT YOUR FREE CLINIC

Section A of the survey is fairly self-explanatory. It represents information that free clinic organizations have been providing for a number of years, such as operational information, fundraising information and volunteer information. This section supplies a snapshot of the free clinic organization and assists NCAFC in providing aggregate statewide information.

All measurements are for dates of service from **Jan. 1 - Dec. 31, 2013**, with the exception of Survey Question 4. As applicable, all free clinic organizations will determine their estimated 2014 target goals.

SURVEY QUESTION 1

What is the name of your Free Clinic Organization?

_____

SURVEY QUESTION 2

Indicate the hours that your clinic *currently* operates each day of the week.
Please distinguish between operational, medical clinics, dental clinics & pharmacy hours
Example: ***9:00 AM*** ***4:00 PM*** ***7 hours***

Hours of Operation

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Medical

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Dental

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Pharmacy

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

2a. √ as applicable,

Administration Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly
Medical Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly
Dental Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly
Pharmacy Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 2b. - cont'd (Second Site)

If your clinic operates multiple sites, please list below the hours for the second site.

Hours of Operation

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Medical

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Dental

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

Clinical Hours - Pharmacy

	Open	Close	Total HRS
Mon.			
Tue.			
Wed.			
Thurs.			
Fri.			
Sat.			
Sun.			

2c. √ as applicable,

Administration Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly
Medical Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly
Dental Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly
Pharmacy Hours are:	□ Weekly	□ Bi-Weekly	□ Monthly	□ Bi-Monthly

SURVEY QUESTION 3

What counties does your clinic serve?

SURVEY QUESTION 4

What were your organization's actual operating expenses in the previous calendar/fiscal year?

$ _____

√ as applicable:

☐ Calendar Year ☐ Fiscal Year: List Dates _____

***Values reported in response to any one of Questions 5 - 9 should NOT be duplicated in response to any other of Q's 5-9.**

SURVEY QUESTION 5

Deals with the total estimated value of services/procedures directly provided/performed by the free clinic organization. **Value of volunteer/staff hours are not to be included in this response**. See list below for determining estimated value of services/procedures provided.

Total estimated $_____ value of services/procedures provided by the free clinic organization in the previous calendar year.

How was the value determined? (√ all that apply)

- □ Common Codes - UCR Values
- □ Common Codes - Medicare Values
- □ Common Codes - Medicaid Values
- □ Average Wholesale Price (AWP) of prescribed medications dispensed
- □ Cost to clinic for providing prescription medications through third party pharmacy
- □ Other method, please explain

SURVEY QUESTION 6

Deals with individual donors. Examples include:
One-time donations from individuals
Recurring donations from individuals ($25.00/month from Mrs. Smith)
Individual donations made during some type of fundraiser or event

Total number of individual donors and dollars donated:	2013	2013 Target	2014 Target
Total # of individual donors			
Total dollars donated by individuals	$	$	$

SURVEY QUESTION 7

Deals with the organization's **non**-hospital institutional funders/contributors. Examples include: Duke Endowment, Kate B Reynolds, Sister's of Mercy, NCAFC/BCBSNC Foundation, United Way, Office of Rural Health, Local Church(s) and Corporate Sponsors (i.e. Duke Energy, Lowe's Foods, Home Depot)

Total # & $ of non-hospital institutional funders/contributors:	2013	2013 Target	2014 Target
Total # of non-hospital institutional funders/contributors			
Total dollars funded/contributed by non-hospital institutions	$	$	$

SURVEY QUESTION 8

Deals with the free clinic organization's hospital(s) support.
This question set reveals in-kind support (i.e. free labs, x-rays & other direct patient services) as well as cash contributions, either as unrestricted contributions or restricted contributions allocated to pay for clinic staff salaries (i.e. XYZ Hospital provides $60,000/yr. for ED salary).

	2013	2013 Target	2014 Target
Total hospital cash contributions and in-kind support:			
Total # of hospitals contributing cash &/or in-kind support			
Total unrestricted cash contributions from hospitals	$	$	$
Total restricted cash contributions from hospitals	$	$	$
Total value of in-kind donations for ancillary and other direct patient services (itemized in 8a.)	$	$	$

8a.

For ancillary and other support from hospitals, the services typically provided are designated below. List the donor name as it applies to the service categories, and the approximate value of the donation.

HOSPITAL DONOR NAME	ITEM/SERVICE/PROCEDURE	VALUE
	Labs	$
	Labs	$
	Labs	$
	Diagnostics	$
	Diagnostics	$
	Diagnostics	$
	Other: Describe below	
		$
		$
		$

SURVEY QUESTION 9

Deals with all other sources of support and contributions donated by businesses. This would **not** include **hours worked by** the clinic's **volunteers or any hospital in-kind support already reported in Question 8 above.**

Examples include:

1 XYZ website company designed the clinic's website and maintains the site free of charge. Estimated value for design = $5,000.00, On-going maintenance = $1,200.00/year.
2 Local XYZ landscaping company landscaped the clinic's grounds and maintains free to the clinic.
3 Local paper company donates a pallet of copy paper to the clinic each year.
4 Laboratory (non-hospital) donates lab analysis results (ancillary service).
5 Project Access reports to clinic a $80,000 value for physician referral services provided free.
6 ABC Diagnostics reports to clinic a $72,000 value for x-rays/diagnostics procedures provided free.

Total number of in-kind business contributors and value of the goods/service they donated:	2013	2013 Target	2014 Target
Total number of business contributors donations			
Total value of business contributions (itemized in 9a. and 9b.)	$	$	$

9a.

For ancillary/referral services from other sources of support, the services typically provided are designated below. List the donor name as it applies to the service categories, and the approximate value of the donation.

BUSINESS DONOR NAME	ITEM/SERVICE/PROCEDURE	VALUE
	Labs	$
	Labs	$
	Labs	$
	Diagnostics	$
	Diagnostics	$
	Diagnostics	$
	Other: Describe below (e.g. referral)	
		$
		$
		$

9b.

For services (not patient-specific) and donated supplies from other sources of support, list the donor name, the item/service provided and its approximate value

BUSINESS DONOR NAME	ITEM/SERVICE/SUPPLIES	VALUE
		$
		$
		$

SURVEY QUESTION 10

Describe how your organization collaborates with other safety-net organizations in your community. As applicable, be sure to include both clinical and non-clinical partnerships.

SURVEY QUESTION 11

Which of the following positions do you employ at your organization? How many hrs/position were worked in the ***previous calendar year***? Please record your best estimate per position for the total year, not hours per week.

EMPLOYEE POSITIONS	Total # of FT Positions Employed	Total # of Hrs	Total # of PT Positions Employed	Total # of Hrs
Medical Personnel				
1 Physician				
2 Mid - level				
a PA				
b NP				
3 Nurse				
a RN				
b LPN				
4 Certified Medical Assistant (CMA)				
5 Nurse Assistant				
6 EMT/Paramedic				
7 Medical Technologist				
8 Phlebotomists				
9 Respiratory Therapist				
10 Physical Therapist				
11 X-Ray Tech				
12 Optometrist				
13 Chiropractor				
14 Podiatrist				
15 Diabetic Educator				
16 Nutritionist/Dietitian				
Pharmacy Personnel				
1 Pharmacist				
2 Pharmacy Tech				
Dental Personnel				
1 Dentist				
2 Hygienists				
3 Dental Assistant				
Behavioral Health Personnel				
1 Psychiatrist				
2 Psychologist				
3 Counselor				
4 Social Worker				
Other Healthcare Personnel	**# of FTEs**	**# of Hrs**	**# of PTs**	**# of Hrs**
1 _____				
2 _____				
3 _____				

SURVEY QUESTION 11 - Continued

Please record your best estimate per position for the total year, not hours per week

EMPLOYEE POSITIONS	Total # of FT Positions Employed	Total # of Hrs	Total # of PT Positions Employed	Total # of Hrs
Admin./Management/Support Personnel				
1 Executive Director				
2 Clinic Director				
3 Clinical Manager				
4 Admin. Assistant				
5 Volunteer Coordinator				
6 Funds Development Director				
7 Eligibility/Enrollment Clerk				
8 Data Entry Clerk				
9 PAP Coordinator				
10 Interpreter/Translator				
11 Referral Coordinator				
12 Medical Director				
13 Dental Director				
14 Other:				

SURVEY QUESTION 12

How many people volunteer at your organization? How many hours did they volunteer in the ***previous calendar year***? Please record your best estimate per position for the total year, not hours per week.

	VOLUNTEERS	# OF PEOPLE	# OF TOTAL HOURS
	Medical Personnel		
1	Physician		
2	Mid - level		
a	PA		
b	NP		
3	Nurse		
a	RN		
b	LPN		
4	Certified Medical Assistant (CMA)		
5	Nurse Assistant		
6	EMT/Paramedic		
7	Medical Technologist		
8	Phlebotomists		
9	Respiratory Therapist		
10	Physical Therapist		
11	X-Ray Tech		
12	Optometrist		
13	Chiropractor		
14	Podiatrist		
15	Diabetic Educator		
16	Nutritionist/Dietitian		
	Pharmacy Personnel		
1	Pharmacist		
2	Pharmacy Tech		
	Dental Personnel		
1	Dentist		
2	Hygienists		
3	Dental Assistant		
	Behavioral Health Personnel		
1	Psychiatrist		
2	Psychologist		
3	Counselor		
4	Social Worker		
	Other Healthcare Personnel		
1	_____		
2	_____		
3	_____		
4	_____		

SURVEY QUESTION 12 - Continued

Please record your best estimate per position for the total year, not hours per week

	VOLUNTEERS	# OF PEOPLE	# OF TOTAL HOURS
	Admin./Management/Support Personnel		
1	Executive Director		
2	Clinic Director		
3	Clinical Manager		
4	Admin. Assistant		
5	Volunteer Coordinator		
6	Funds Development Director		
7	Eligibility/Enrollment Clerk		
8	Data Entry Clerk		
9	PAP Coordinator		
10	Interpreter/Translator		
11	Referral Coordinator		
12	Medical Director		
13	Dental Director		
14	Other:		

SURVEY QUESTION 13

Does your organization have an electronic database for tracking clients/patients and volunteers?

Clients/Patients		Volunteers	
☐	YES	☐	YES
☐	NO	☐	NO

a If YES, please describe your electronic database (e.g., ACCESS, EXCEL).

SURVEY QUESTION 14

Does your organization have an electronic medical records system?

☐ YES
☐ NO

a If YES, please describe your electronic medical records system.

b If NO, do you have plans to implement an electronic medical records system?

☐ YES
☐ NO

SURVEY QUESTION 15

What method does your organization use to determine patient eligibility criteria for receiving services? ***√ all that apply***

- ☐ Must be uninsured
- ☐ Must live in same county that organization is located
- ☐ Must be US Citizen
- ☐ Must be working or actively seeking work
- ☐ Must meet % of Federal Poverty Level, ***√ as applicable***
  - ☐ 100%
  - ☐ 120%
  - ☐ 133%
  - ☐ 150%
  - ☐ 185%
  - ☐ 200%
  - ☐ 250%
- ☐ Other, please explain: _____

SURVEY QUESTION 16

Does your organization ask clients/patients for donations?

	YES
	N0

a If YES, please indicate the requested amount and the asking frequency (e.g. per visit, refill, month).
For each donation request, √: $ Amount ***AND*** Frequency

$ Amount	Frequency
☐ No set amount	☐ Provider Visit
☐ $1-$4	☐ Rx Fill
☐ $5-$10	☐ Lab Analysis
☐ $11-$15	☐ Diagnostic
☐ $16-$20	☐ Medical Supply (e.g. diabetic test strips)
☐ > $20	☐ Month
	☐ Donation Box
	☐ Other, please explain:

THEN Total amount collected in 2013: _____

SURVEY QUESTION 17

Does your organization charge any of the following fees?

a Administrative Fee?

	YES
	N0

If YES, please indicate the requested amount and the asking frequency (e.g. per visit, month).
For each fee request, √: $ Amount ***AND*** Frequency

$ Amount	Frequency
☐ No set amount	☐ Provider Visit
☐ $1-$4	☐ Patient Educational Encounter
☐ $5-$10	☐ No Show Fine
☐ $11-$15	☐ Medical Supply (e.g. diabetic test strips)
☐ $16-$20	*If you √ Medical Supply here, DO NOT re-select as pharmacy fee
☐ > $20	☐ Month
	☐ Other, please explain:

THEN Total amount collected in 2013: _____

SURVEY QUESTION 17 continued on next page

SECTION A: ABOUT YOUR FREE CLINIC

SURVEY QUESTION 17 cont.

b Pharmacy/Pharmaceutical Fee? ☐ YES ☐ NO

If YES, please indicate the requested amount and the asking frequency.

For each fee request, √: $ Amount ***AND*** Frequency

☐ No set amount

☐ $1-$4
☐ $5-$10
☐ $11-$15
☐ $16-$20
☐ > $20

☐ Rx Filled/Dispensed

☐ PAP/MAP Application
☐ Medication Therapy Management
☐ Medical Supply (e.g. diabetic test strips)
*If you √ Medical Supply here, DO NOT re-select as admin. fee
☐ Specific Drug Type (e.g. insulin)
☐ Month
Other, please explain:

THEN Total amount collected in 2013: _____

c Lab Analysis Fee (cost sharing)? ☐ YES ☐ NO

If YES, please indicate the requested amount and the asking frequency.

For each fee request, √: $ Amount ***AND*** Frequency

☐ No set amount
☐ $1-$4
☐ $5-$10
☐ $11-$15
☐ $16-$20
☐ > $20

☐ Off-site Lab Test
☐ On-site Lab Test
☐ Specific Lab Type Test
☐ Other, please explain:

THEN Total amount collected in 2013: _____

d Diagnostics Fee? ☐ YES ☐ NO

If YES, please indicate the requested amount and the asking frequency.

For each fee request, √: $ Amount ***AND*** Frequency

☐ No set amount
☐ $1-$4
☐ $5-$10
☐ $11-$15
☐ $16-$20
☐ > $20

☐ Any Type of Diagnostic Service
☐ X-Ray
☐ Cat Scan
☐ Ultrasound
☐ MRI
☐ Mammography
☐ Colonoscopy
☐ Other, please explain:

THEN Total amount collected in 2013: _____

SURVEY QUESTION 17 continued on next page

SURVEY QUESTION 17 cont.

e Other Fee Method? ☐ YES ☐ NO

If YES, please explain, including the requested amount and the asking frequency.

For each fee request, explain: $ Amount: _____

Frequency: _____

Total amount collected in 2013: _____

SURVEY QUESTION 18

What is your organization's NCAFC Accreditation status?

√ only one box

- ☐ Currently hold Level 3 Accreditation status
- ☐ Currently hold Level 2 Accreditation status
- ☐ Currently hold Level 1 Accreditation status
- ☐ Plan to pursue Accreditation status
- ☐ No plans to pursue Accreditation status

If not, please explain:

SECTION B: DIRECT SERVICES AND HEALTH GAINS
NUMBER WHO CAME

Section B of the survey consists of demographic information that is useful in painting the statewide picture for the population that NCAFC member organizations serve.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2013. Free Clinic organizations will determine their estimated 2013 target goals.

METHODOLOGY:
All free clinic organizations will count each individual patient seen in 2013 only **once**, as unduplicated, though the patient may have received multiple services throughout the year.

SURVEY QUESTION 1

Number of unduplicated patients served by the free clinic organization
(count each patient only once)

2013	2013 Target	2014 Target

SURVEY QUESTION 2

Number of patients within each racial/ethnic group:
Ensure the columns sum to total # of unduplicated pts. in question 1

	2013
American Indian or Eskimo	
Asian or Pacific Islander	
African-American	
Caucasian	
Hispanic or Latino	
Other	
TOTAL	

SURVEY QUESTION 3

	2013
Number of female patients	

SURVEY QUESTION 4

Number of patients within each age category:
Ensure the columns sum to total # of unduplicated pts. in question 1

	2013
< 18	
18 - 64	
65+	
TOTAL	

SECTION C: DIRECT SERVICES AND HEALTH GAINS
NUMBER OF SERVICES PROVIDED
ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

Section C of the survey deals with the number and types of services and procedures provided by NCAFC member organizations.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2013. Free Clinic organizations will determine their estimated 2014 target goals.

SURVEY QUESTION 1
√ all applicable service(s) that the free clinic organization currently provides at the facility site.

- ☐ Medical
- ☐ Pharmaceutical
- ☐ Dental
- ☐ Enabling Services
- ☐ Behavioral

SURVEY QUESTION 2
√ the MEDICAL service(s) that the free clinic currently provides at the facility site.

- ☐ Acute Care
- ☐ Chronic Care
- ☐ Primary Care
- ☐ Preventive Care
- ☐ Ancillary Services
- ☐ Specialty Care

SURVEY QUESTION 3
√ the MEDICAL service(s) that the free clinic routinely provides referrals for, where care is provided **at no cost to the patient.**

- ☐ Acute Care
- ☐ Chronic Care
- ☐ Primary Care
- ☐ Preventive Care
- ☐ Ancillary Services
- ☐ Specialty Care

NUMBER OF SERVICES PROVIDED

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 4 - METHODOLOGY

All applicable free clinic organizations will count and record the total number of Medical Visits performed at the free clinic facility. Medical visits include acute, chronic, primary, preventive and/or specialty care that correlate to a professional service code, such as Evaluation & Mgmt. codes 99201 - 99205, 99211 - 99215, 99381 - 99387, 99391 - 99397, 99241 - 99245 and Ophthalmol codes 92002 - 92004 and 92012 - 92014.

A medical visit is described by a face-to-face encounter, review of pt. history, a physical assessment and som degree of medical decision-making. Components of a medical visit substantiate clinical necessity.

This does not include pharmacy refills, labs, diagnostics, procedures or encounters that do not correlate to a common code as described above.

See Common Code Glossary, Terms, Guidelines & Descriptions

	2013	2013 Target	2014 Target
Total # of MEDICAL visits performed at the free clinic facility			

SURVEY QUESTION 5 - METHODOLOGY

All applicable free clinic organizations will count and record the total number of Medical Ancillary procedures performed **at the free clinic facility** per type of service (labs, x-rays &/or other diagnostic testing).

Total # of MEDICAL ancillary services performed at the free clinic facility, per type of service:	2013	2013 Target	2014 Target
Labs			
X-Rays			
Other diagnostic testing			

SURVEY QUESTION 6

RATIONALE - On the 2009 survey, NCAFC asked that applicable free clinic organizations report the use of Common Codes, representing actual services/procedures performed by the clinic. Reporting this information was optional for 2009 and 2010. While NCAFC encourages the use of ***all*** common codes, in 2011 NCAFC requested that all organizations providing medical services at least report the use of Evaluation & Management, level of service codes 99201 - 99215. Reporting the use of these codes ***is also required for for the 2013 survey, due for completion in Feb. of 2014.*** By utilizing the common coding system, free clinic organizations will be able to more efficiently report the types of services/procedures provided and more effectively calculate the value of those services/ procedures. This process will promote standardization and uniformity among free clinic organizations and will provide a quantitative means for reporting to stakeholders.

METHODOLOGY - All applicable free clinic organizations will count and record the total number of MEDICAL services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of all codes commonly used by free clinic organizations will be presented on the actual online survey. This document only lists the required 99201 - 99215 codes. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic utilizes Encounter Forms with every patient encounter, formulating the use of Common Codes for services/procedures provided/performed. From the Encounter Forms, free clinic collates total # of services/procedures per Common Codes. The free clinic reports that a hundred Code 99201 - Level 1 New Pt. Visits were performed in 2013.

SURVEY QUESTION 6 - Continued

Total # of MEDICAL services/procedures performed at the free clinic facility site per Common Codes. ***Evaluation & Management (E&M) Codes 99201 - 99215 for 2013 & reported in Spring of 2014.***

Common Codes	Evaluation & Mgmt. (E&M) Levels of Service	Total # per code for 2013
99201	Level 1 New Pt.	
99202	Level 2 New Pt.	
99203	Level 3 New Pt.	
99204	Level 4 New Pt.	
99205	Level 5 New Pt.	
99211	Level 1 Estab. Pt.	
99212	Level 2 Estab. Pt.	
99213	Level 3 Estab. Pt.	
99214	Level 4 Estab. Pt.	
99215	Level 5 Estab. Pt.	

***Note a list of all common codes will be provided on the electronic web based survey**

SURVEY QUESTION 7

As applicable, √ the type of DENTAL services performed at the clinic's facility site or through an outreach program, such as a dental bus (mobile unit) owned or paid for by the clinic.

- ☐ Oral Exams
- ☐ Periodontal
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays
- ☐ Oral Health Education (improving oral health literacy)

SURVEY QUESTION 8

As applicable, √ the type of DENTAL services that your organization routinely provides referrals for at no cost to the patient, i.e. referrals may be to local dentist or visiting mobile dental bus.

- ☐ Oral Exams
- ☐ Periodontal
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays
- ☐ Oral Health Education (improving oral health literacy)

SURVEY QUESTION 9

If providing dental services ON-SITE, √ the type of relationships/circumstances your organization provides to DENTAL patients.

- ☐ Partnership with co-located or other local primary care practice for cross-referral
- ☐ Accepts priority referral of chronic disease patients for dental treatment
- ☐ Accepts priority referral of pregnant women for dental treatment
- ☐ Refers patients for primary care medical home as appropriate

SURVEY QUESTION 10

RATIONALE- All applicable free clinic organizations providing DENTAL services on-site will assess their appointment schedules and record the average time a patient in pain (PIP) and a patient not in pain (PNIP) wait to be seen by a provider.

METHODOLOGY - Throughout each month, when scheduling appointments for patients to receive dental c free clinic will **determine whether or not the patient is in pain** and record each patient's wait time (the nun business days from date of call/contact to date seen by provider). **Note:** If a pt. calls to make an appt. during month (e.g. JAN.), but the appt. is made for another (e.g. FEB), the wait time is calculated for the *month of t* (FEB.). The free clinic will total the wait times for PIPs vs. PNIPs for each month, giving grand totals for the ye grand total wait time for PIPs divided by the total # of PIPs equals the average number of days a PIP waited f appt. during the year. The average wait time for a PNIP is calculated the same way.

Example - For every month, the clinic keeps track of the # of PIPs, the # of PNIPs and the wait times for each January, 4 PIPs waited a total of 39 days, and 2 PNIPs waited a total of 18 days. At the end of the year, the gr was 400 waiting days for 40 PIPs and 120 waiting days for 6 PNIPs. 400 waiting days ÷ 40 PIPs = 10 waiting da for the year. 120 days ÷ 6 PNIPs = 20 waiting days per PNIP. **Note: Quarterly reporters will calculate using to every 3 months, instead of 12.**

	2013	2013 Target	2014 Target
Average # of days a pt. in pain (PIP) waited for an appt.			
Average # of days a pt. not in pain (PNIP) waited for an appt.			

SURVEY QUESTION 11

METHODOLOGY - All applicable free clinic organizations will count and record the total number of DENTAL visits provided by the free clinic at the facility site or through an outreach program, i.e. mobile dental bus. One visit may include multiple types of services/procedures.

	2013	2013 Target	2014 Target
Total # of DENTAL visits provided by the free clinic on-site or through an outreach program:			

SURVEY QUESTION 12

METHODOLOGY - All applicable free clinic organizations will count and record the total number of Dental services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by DENTAL free clinics will be presented on the actual online survey.

See list of Common Codes used by NCAFC Organizations

Example: Free clinic utilizes DENTAL Encounter Forms with every pt. visit, formulating the use of Common Dental Codes for services/procedures performed/provided. From the Encounter Forms, the free clinic collates total # of services/procedures per Common Code. Free clinic reports that a hundred Code D7140 (Simple Extractions) were performed in 2013.

	COMMON DENTAL CODE	Total #/code for 2013
Total # of DENTAL services/procedures performed by the free clinic per DENTAL COMMON CODE:	*SEE LIST OF CODES*	

***Note a list of common codes will be provided on the electronic web based survey**

SURVEY QUESTION 13

As applicable, √ the type(s) of BEHAVIORAL/MENTAL HEALTH services that the free clinic organization performs at the facility site

- ☐ Psychiatrist - Evaluation & Management
- ☐ Crisis Intervention
- ☐ Psychotherapy
- ☐ Substance Abuse

SURVEY QUESTION 14

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic organization. This includes visits for psychiatric evaluation, psychotherapy and/or psychoanalysis.

	2013	2013 Target	2014 Target
Total # of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic (includes all types of services):			

SURVEY QUESTION 15 - Optional

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by clinics providing BEHAVIORAL/MENTAL HEATLH services will be presented on the actual online survey. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic organization utilizes Encounter Forms for every pt. visit, formulating the use of COMMON CODES FOR services/procedures provided/performed. From the Encounter Forms, the free clinic collates the total # of services/procedures per COMMON CODES. The free clinic reports that 100, Code 90832 (Psychotherapy x 30") were performed in 2013.

	BEHAVIORAL/MENTAL HEALTH CODE	Total #/code for 2013
Total # of BEHAVIORAL/MENTAL HEALTH services/ procedures performed per COMMON CODE	SEE LIST OF CODES	

All Behavioral/Mental Health common codes will be included with the Medical common codes on the web based survey and will not be listed separately, refer to survey question 6 of this document

SURVEY QUESTION 16

As applicable, √ the PHARMACEUTICAL service(s) provided by the free clinic organization.

- ☐ Licensed Pharmacy
- ☐ Patient Assistance Program (PAP)
- ☐ Physician-Dispensed Prescription Medications
- ☐ Third-Party Pharmacy Provision/Voucher

SURVEY QUESTION 17

Total # and Total $ Average Wholesale Price (AWP) of prescribed medications dispensed (on-site) by the free clinic organization (# of original fills & refills).

(DO NOT include meds dispensed by NC MedAssist Central Fill Program)

	2013	2013 Target	2014 Target	2013 Total AWP $ Value
Total # of prescription medications dispensed based on 30 day supply or less. (30 days or less = 1 Rx filled) Convert 60, 90 or 120 day supplies into 30 day supplies for this question, Ex. 60 = 2 Rx filled, 90 = 3 & 120 = 4				
AWP $ Value				$

SURVEY QUESTION 18

Total # of prescription medicines, along with their cost **&/OR** Total AWP, that the free clinic organization provided through a third-party pharmacy at no cost to the patient in 2013.
If you have the AWP value, report that amount. If not, report the cost to the clinic $ amount.

	2013	2013 Cost to Clinic (&/OR→)	2013 Total AWP $ Value
Total # of prescription medications dispensed through 3rd party pharmacy based on 30 day supply or less. Convert 60, 90 or 120 days into 30 day supplies, Ex. 60 = 2, 90 = 3 & 120 = 4			
Cost to clinic $ amount **&/or** AWP $ Value		$	$

SURVEY QUESTION 19
As applicable, √ the ENABLING SERVICES that the free clinic organization currently provides at the facility site.

- ☐ Case Management
- ☐ Interpreter/Translation
- ☐ Immunizations
- ☐ Smoking Cessation Program
- ☐ Social Work
- ☐ Other: _____
- ☐ Transportation
- ☐ Disease Education & Mgmt. Program(s) List Type(s) - i.e. Diabetes _____
- ☐ Outreach Program List Type(s) - i.e. Dental _____

SURVEY QUESTION 20
Total # of patients who received case management services at the free clinic facility site

2013	2013 Target	2014 Target

APPENDIX H: NCAFC OUTCOMES SURVEY 2014

SECTION A: ABOUT YOUR FREE CLINIC

Section A of the survey is fairly self-explanatory. It represents information that free clinic organizations have been providing for a number of years, such as operational information, fundraising information and volunteer information. This section supplies a snapshot of the free clinic organization and assists NCAFC in providing aggregate statewide information.

All measurements are for dates of service from **Jan. 1 - Dec. 31, 2014**, with the exception of Survey Questions 4, 5 & 6.

SURVEY QUESTION 1

What is the name of your Free Clinic Organization?

_____

SURVEY QUESTION 2

Indicate the hours that your organization typically operates on a monthly basis.
Please distinguish between medical clinics, dental clinics, pharmacy hours open to patients, &/or other programs

	Hrs./mth
Medical *(on-site)*	
Dental *(on-site)*	
Pharmacy *(on-site open to pts.)*	
Other Program*(describe)*	

_____

SURVEY QUESTION 3

What counties does your organization serve?

Questions 4, 5 & 6 deals with your organizations financial operations:

SURVEY QUESTION 4

Is your organization's financial operation based on a Calendar or Fiscal Year?

√ as applicable:

□ Calendar Year □ Fiscal Year: List Dates _____

SURVEY QUESTION 5

Deals with your organization's **actual cash revenue (income)** for the prior calendar or as applicable, fiscal year.

Do not include in-kind donations for services, supplies, medications and volunteer hours/time.

Types of Income:	***$ Amount:***
Individual Donations (non-pt. or business)	
Patient Donations	
Patient Fees Collected	
Fundraising Events (net amount)	
Churches - Civic Groups	
Corporate-Business Sponsors	
United Way Grant (allocations & designations)	
Foundational Grants	
State Grants	
Hospital/Hospital Foundation Support - Restricted Cash (includes salaries)	
Hospital/Hospital Foundation Support - Unrestricted Cash	
Endowment Distributions	
City/County/Muncipatilities	
Interest Income	
Other: (describe)	
Reserve Funds Utilized	
TOTAL	**$0**

SURVEY QUESTION 6

What were the organization's **actual** operating expenses in the previous calendar/fiscal year?

Do not include in-kind services, supplies or medications.

$_____

SURVEY QUESTION 7

Deals with in-kind support that is provided to your patients (at no cost to your organization or your patient) This type of support is defined as a **in-direct value of service** to your patients. It is not directly provided or paid for by your organization and is patient specific. You should be able to track the in-kind service/procedure/item to your patient. Do not report donated OTC drugs/medications or diabetic supplies here.

Types of In-Kind Support Provided in 2014 (Do not include Volunteer Hours)	***$ Value of In-Kind Support***
Hospital Ambulatory In-Kind Support (does not include hospital admissions/ED visits)	
Ancillary Services:	
• Lab Analysis	
• Other Diagnostics (i.e. X-Rays, MRI, Cat Scans, EKGs, Spirometery, etc.)	
• Ambulatory (Out Pt.) Procedures/Therapies	
• Other List Type of Services:	
Hospital Systems Physician Referral Services	
Medical Businesses Ambulatory In-Kind Support (Non-Hospital Systems)	***$ Value***
Lab Analysis Name of laboratory:	
Other Diagnostics (i.e. X-Rays, MRI, Cat Scans, EKGs, Spirometry, etc.)	
Physician Referral Services	
Other Ambulatory Services/Therapies List Service Type: (i.e. Physical Therapy)	
Durable Medical Equipment Donations (i.e. CPAP-BiPAP machines)	
Orthotic/Prosthetic/Orthopedic Supply Donations (i.e. shoes, crutches, splints, etc.)	
Ophthalmic/Optical Donations (i.e. Diabetic Retinal Screenings, Eye Glasses, etc.)	
Dental Businesses In-Kind Support (Non-Hospital Systems)	***$ Value***
Dentist Referral Services	
Dental Lab Services	
Behavioral Health Ambulatory In-Kind Support (Non-Hospital Systems)	***$ Value***
Psychiatrist Referral Services	
Psychologist Referral Services	
Counselor Referral Services	
Ambulatory Referral Service Program (i.e. Project Access) if you reported any of these services above do not report them again here.	$
TOTAL	**$0**

SURVEY QUESTION 8

Deals with in-kind support that is provided to your organization that is not patient specific.

Types of In-Kind Support Provided in 2014 (Do not include Volunteer Hours)	***$ Value***
Hospital In-Kind Support, (i.e., rent, staff training) List types of Support:	
Other In-Kind Support, List Business Donor Name(s) & service/supply/item provided:	***$ Value***

SURVEY QUESTION 9

Deals with the total estimated value of services/procedures **directly** performed/provided by the free clinic organization.

Direct value of service is defined as services/procedures actually performed by the free clinic on-site or services/procedures that were provided by referral from the free clinic, and the free clinic paid for the cost of the services/procedures provided.

Direct value of service does not include hours worked by volunteers.
Direct value of service does not include values reported for Questions 7 & 8.

Total estimated $_____direct value of services/procedures provided by the free clinic organization in the previous calendar year (2014).

How was the direct value determined? (√ all that apply)

□ Common Codes - UCR Values - refer to Sect. C Ques. 5 & 9
□ Common Codes - Medicaid Values □ Common Codes - Medicare Values
□ Average Wholesale Price (AWP) of prescribed medications dispensed - refer to Sect. C Ques. 14 & 15
□ Retail Value for providing prescription medications through third party pharmacy - refer to Sect. C Ques. 15
□ Cost to clinic for providing prescription medications through third party pharmacy - refer to Sect. C Ques. 15
□ Other method, please explain

Example: Amounts paid by the clinic for patient referrals to physicians, dentist, laboratory or other diagnostic facilities

***NOTES:**
The value of dispensed donated medications should be reflected in Section C Question 14
The value of dispensed donated diabetic supplies should be reflected is Section C Question 5

SURVEY QUESTION 10

Calculating the Free Clinic organization's Return on Investment (ROI)

Measuring ROI can help free clinic organization's assess their effectiveness and efficiency and demonstrate they are returning value to their communities.

"For each $1.00 expended the Free Clinic produced $(#)in value of services"

ROI for Direct Value of Services (VOS):

		201
A	Enter total estimated Value of Services reported in Section A Survey Question 9 *(Direct VOS)*	$
B	Enter actual Operating Expenses reported in Section A Survey Question 6	$
C	Subtract B from A and enter results (A - B = C)	$
D	Divide C by B to determine the **ROI** for value of services directly performed/provided by the free clinic organization (C ÷ B)	$

Example:

A $600,000 (Direct Value of Services)
B $76,000 (Operating Expenses)
C $600,000 - $76,000 = $524,000
D $524,000/$76,000 = ROI of $ 6.89 for Direct Value of Services

ROI for Total Value of Services (Direct & In-direct Value of Services):

		201
A	Enter total estimated Value of Services reported in Section A Survey Question 9 *(Direct VOS)*	$
B	Enter total value reported for Section A Question 7 *(In-direct VOS)*	$
C	Enter total of Direct and In-direct Value of Services (A + B = C)	$
D	Enter actual Operating Expenses reported in Section A Survey Question 6	$
E	Subtract D from C and enter results (C - D = E)	$
F	Divide E by D to determine the **ROI** for Total Direct & In-direct Value of Services produced by the free clinic organization (E ÷ D = F)	$

Example:

A $600,000 (Direct Value of Services)
B $300,000 (In-direct value of service)
C Total of A + B = $900,000
D $76,000 (Operating Expense)
E $900,000 - $76,000 = $824,000
F $824,000/$76,000 = ROI of $ 10.84 for Total Value of Services (direct + indirect)

SURVEY QUESTION 11

Which of the following positions did your organization employ in 2014?

EMPLOYEE POSITIONS	Total # of FT Positions Employed	Total # of PT Positions Employed	Total FTE units
Medical/Behavioral Health Personnel:			
Physician			
Mid - level (PA &/or NP)			
Nurse			
Cert. Medical Assist. (CMA) &/or Cert. Nurse Assist.(CNA)			
Psychologist			
Counselor/Social Worker			
Pharmacy Personnel:			
Pharmacist			
Pharmacy Tech			
PAP Coordinator			
Dental Personnel:			
Dentist			
Hygienists			
Dental Assistant			
Management Personnel:			
Executive Director			
Clinic Director			
Clinical Manager			
Other: (Describe) _____			

Total #FT+PT=Tot

SURVEY QUESTION 12

Report # of volunteers per positon and total # of hours volunteered per positon in 2014

VOLUNTEER POSITIONS	# OF PEOPLE	# OF TOTAL HOURS
Medical/Behavioral Health Personnel:		
Physician		
Mid - level (PA &/or NP)		
Nurse		
Cert. Medical Assist. (CMA) &/or Cert. Nurse Assist.(CNA)		
Psychologist		
Counselor/Social Worker		
Pharmacy Personnel:		
Pharmacist		
Pharmacy Tech		
PAP Coordinator		
Dental Personnel:		
Dentist		
Hygienists		
Dental Assistant		
Management Personnel:		
Executive Director		
Clinic Director		
Clinical Manager		
Other: (Describe) _____		

SURVEY QUESTION 13

What method does your organization use to determine patient eligibility criteria for receiving services? ***√ all that apply***

- □ Must be uninsured
- □ Must be US Citizen
- □ Must live in same county that organization is located
- □ Must be working or actively seeking work
- □ Must meet % of Federal Poverty Level, ***√ as applicable***
  - □ 100%
  - □ 120%
  - □ 133%
  - □ 150%
  - □ 185%
  - □ 200%
  - □ 250%
- □ Other, please explain: _____

SURVEY QUESTION 14

√ only one box

- □ Currently hold NCAFC Accreditation status
- □ Plan to pursue Accreditation status, *(Contact NCAFC for Accreditation Program details)*
- □ No plans to pursue Accreditation status

If not, please explain:

SURVEY QUESTION 15

Does your organization currently have a Practice Management Software system in place?

□ YES □ NO

If yes, what is the name of your system:

Practice Management Software (PMS) is a system found in medial offices that captures patient demographics, performs billing tasks, appointment scheduling and report generation. PMS & Electronic Medical Records are increasingly intertwined and often packaged together.

SURVEY QUESTION 16

Does your organization currently have a Electronic Medical Records system in place?

□ YES □ NO

If yes, what is the name of your system:

Does your system have the capability to electronically share information outside your clinic?

□ YES □ NO

Electronic Medical Records (EMRs) are a digital version of paper charts, containing standard medical and clinical information. The EMR represents a medical record within a single facility, such as a doctors office or a clinic and may or may not have the capability to electronically share information with other healthcare providers, such as laboratories and specialist.

SURVEY QUESTION 17

If your organization doesn't currently have a Practice Management Software system and/or a Electronic Medical Record system in place, √ below as applicable:

□ No plans to implement PMS and/or EMRs in 2015

□ Plan to implement PMS and EMRs in 2015

Name of sytstem:_____

□ Plan to implement PMS only in 2015

Name of sytstem:_____

□ Plan to implement EMRs only in 2015

Name of sytstem:_____

SECTION B:
NUMBER WHO CAME

Section B of the survey consists of demographic information that is useful in painting the statewide picture for the population that NCAFC member organizations serve.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2014.

METHODOLOGY:
All free clinic organizations will count each individual patient seen in 2014 only **once**, as unduplicated, though the patient may have received multiple services throughout the year.

SURVEY QUESTION 1

Number of unduplicated patients served by the free clinic organization ***(count each patient only once)***	2014

Your unduplicated count should only include free clinics patients, not patients where 3rd party billing may be applicable, such as medicaid/medicare pts. or FQHC patients.

SURVEY QUESTION 2

Number of patients within each racial/ethnic group:

Ensure the columns sum to total # of unduplicated pts. in question 1

	2014
American Indian or Eskimo	
Asian or Pacific Islander	
African-American	
Caucasian	
Hispanic or Latino	
Other	
TOTAL	

SURVEY QUESTION 3

	2014
Number of female patients	

SURVEY QUESTION 4

Number of patients within each age category:

Ensure the columns sum to total # of unduplicated pts. in question 1

	2014
< 18	
18 - 64	
65+	
TOTAL	

SECTION C:
NUMBER OF SERVICES PROVIDED
ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

Section C of the survey deals with the number and types of services and procedures provided by NCAFC member organizations.
All measurements are for dates of service from Jan. 1 - Dec. 31, 2014. Free Clinic organizations will determine their estimated 2014 target goals.

SURVEY QUESTION 1
√ all applicable service(s) that the free clinic organization currently provides at the facility site.

- ☐ Medical
- ☐ Dental
- ☐ Behavioral
- ☐ Pharmaceutical
- ☐ Enabling Services

SURVEY QUESTION 2
√ the MEDICAL service(s) that the free clinic currently provides at the facility site.

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventive Care
- ☐ Specialty Care

SURVEY QUESTION 3
√ the MEDICAL service(s) that the free clinic routinely provides referrals for, where care is provided **at no cost to the patient.**

- ☐ Acute Care
- ☐ Primary Care
- ☐ Ancillary Services
- ☐ Chronic Care
- ☐ Preventive Care
- ☐ Specialty Care

SURVEY QUESTION 4 - METHODOLOGY
All applicable free clinic organizations will count and record the total number of Medical Visits performed at the free clinic facility. Medical visits include acute, chronic, primary, preventive and/or specialty care that correlate to a professional service code, such as Evaluation & Mgmt. codes 99201 - 99205, 99211 - 99215, 99381 - 99387, 99391 - 99397, 99241 - 99245, 99488-99489, 99495 - 99496 and Ophthalmological codes 92002 - 92004 and 902012 - 92104

A medical visit is described by a **face-to-face encounter**, review of pt. history, a physical assessment and some degree of medical decision-making. Components of a medical visit substantiate clinical necessity.
This does not include pharmacy refills, labs, diagnostics, procedures or encounters that do not correlate to a common code as described above.
See Common Code Glossary, Terms, Guidelines & Descriptions

	2014
Total # of MEDICAL visits performed at the free clinic facility	

Do not include MEDICAL visit that may be applicable to 3rd party billing

***Note: The number of MEDICAL Visits should correlate to the # of Medical Visit codes reported for Question 5.**

ANSWER ALL QUESTIONS APPLICABLE TO YOUR FREE CLINIC ORGANIZATION

SURVEY QUESTION 5

RATIONALE - On the 2009 survey, NCAFC asked that applicable free clinic organizations report the use of Common Codes, representing actual services/procedures performed by the clinic. Reporting this information was optional for 2009 and 2010. While NCAFC encourages the use of ***all*** common codes, in 2011 NCAFC requested that all organizations providing medical services at least report the use of Evaluation & Management, level of service codes 99201 - 99215. Reporting the use of these codes ***is also required for for the 2014 survey, due for completion in Feb. of 2015.*** By utilizing the common coding system, free clinic organizations will be able to more efficiently report the types of services/procedures provided and more effectively calculate the value of those services/ procedures. This process will promote standardization and uniformity among free clinic organizations and will provide a quantitative means for reporting to stakeholders.

METHODOLOGY - All applicable free clinic organizations will count and record the total number of MEDICAL services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of all codes commonly used by free clinic organizations will be presented on the actual online survey. This document only lists the required 99201 - 99215 codes. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic utilizes Encounter Forms with every patient encounter, formulating the use of Common Codes for services/procedures provided/performed. From the Encounter Forms, free clinic collates total # of services/procedures per Common Codes. The free clinic reports that a hundred Code 99201 - Level 1 New Pt. Visits were performed in 2014.

Total # of MEDICAL services/procedures performed at the free clinic facility site per Common Codes. ***Evaluation & Management (E&M) (office visit codes) are required to be reported, reporting all other codes is highly encouraged.***

Common Codes	Evaluation & Mgmt. (E&M) Levels of Service	Total # per code for 2014
99201	Level 1 New Pt.	
99202	Level 2 New Pt.	
99203	Level 3 New Pt.	
99204	Level 4 New Pt.	
99205	Level 5 New Pt.	
99211	Level 1 Estab. Pt.	
99212	Level 2 Estab. Pt.	
99213	Level 3 Estab. Pt.	
99214	Level 4 Estab. Pt.	
99215	Level 5 Estab. Pt.	

***Note a list of all common codes will be provided on the electronic web based survey**

The total $ value for the common codes should correlate to the estimated Value of Service as reported in Section A - Question 9

SURVEY QUESTION 6

As applicable, √ the type of DENTAL services performed at the clinic's facility site or through an outreach program, such as a dental bus (mobile unit) owned or paid for by the clinic.

- ☐ Oral Exams
- ☐ Periodontal
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays
- ☐ Oral Health Education (improving oral health literacy)

SURVEY QUESTION 7

As applicable, √ the type of DENTAL services that your organization routinely provides referrals for at no cost to the patient, i.e. referrals may be to local dentist or visiting mobile dental bus.

- ☐ Oral Exams
- ☐ Periodontal
- ☐ Extractions
- ☐ Restoration
- ☐ X-Rays
- ☐ Oral Health Education (improving oral health literacy)

SURVEY QUESTION 8

METHODOLOGY - All applicable free clinic organizations will count and record the total number of DENTAL visits provided by the free clinic at the facility site or through an outreach program, i.e. mobile dental bus. One visit may include multiple types of services/procedures.

	2014
Total # of DENTAL visits provided by the free clinic on-site or through an outreach program:	

SURVEY QUESTION 9

METHODOLOGY - All applicable free clinic organizations will count and record the total number of Dental services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by DENTAL free clinics will be presented on the actual online survey.

See list of Common Codes used by NCAFC Organizations

Example: Free clinic utilizes DENTAL Encounter Forms with every pt. visit, formulating the use of Common Dental Codes for services/procedures performed/provided. From the Encounter Forms, the free clinic collates total # of services/procedures per Common Code. Free clinic reports that a hundred Code D7140 (Simple Extractions) were performed in 2014.

	COMMON DENTAL CODE	Total #/code for 2014
Total # of DENTAL services/procedures performed by the free clinic per DENTAL COMMON CODE:	*SEE LIST OF CODES*	

***Note a list of common codes will be provided on the electronic web based survey**

SURVEY QUESTION 10

As applicable, √ the type(s) of BEHAVIORAL/MENTAL HEALTH services that the free clinic organization performs at the facility site

- ☐ Psychiatrist - Evaluation & Management
- ☐ Crisis Intervention
- ☐ Psychotherapy
- ☐ Substance Abuse

SURVEY QUESTION 11

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH visits performed by the free clinic organization. This includes visits for psychiatric evaluation, psychotherapy and/or psychoanalysis.

	2014
Total # of BEHAVIORAL/MENTAL HEALTH visits performed by at the free clinic (includes all types of services):	

SURVEY QUESTION 12 - Optional

METHODOLOGY - All applicable free clinic organizations will count and record the total number of BEHAVIORAL/MENTAL HEALTH services/procedures per COMMON CODE provided/performed at the free clinic facility. A list of COMMON CODES routinely used by clinics providing BEHAVIORAL/MENTAL HEATLH services will be presented on the actual online survey. ***See list of Common Codes used by NCAFC Organizations***

Example: Free clinic organization utilizes Encounter Forms for every pt. visit, formulating the use of COMMON CODES FOR services/procedures provided/performed. From the Encounter Forms, the free clinic collates the total # of services/procedures per COMMON CODES. The free clinic reports that 100, Code 90832 (Psychotherapy x 30") were performed in 2014.

	BEHAVIORAL/MENTAL HEALTH CODE	Total #/code for 2014
Total # of BEHAVIORAL/MENTAL HEALTH services/ procedures performed per COMMON CODE	*SEE LIST OF CODES*	

All Behavioral/Mental Health common codes will be included with the Medical common codes on the web based survey and will not be listed separately, refer to survey question 6 of this document

SURVEY QUESTION 13

As applicable, √ the PHARMACEUTICAL service(s) provided by the free clinic organization.

- ☐ Licensed Pharmacy
- ☐ Patient Assistance Program (PAP)
- ☐ Physician-Dispensed Prescription Medications
- ☐ Third-Party Pharmacy Provision/Voucher

SURVEY QUESTION 14

Total # and Total $ Average Wholesale Price (AWP) of prescribed medications dispensed (on-site) by the free clinic organization (# of original fills & refills).

(DO NOT include meds dispensed by NC MedAssist Central Fill Program)

	2014
Total # of prescription medications dispensed based on 30 day supply or less. (30 days or less = 1 Rx filled) Convert 60, 90 or 120 day supplies into 30 day supplies for this question, Example - 60 day supply = 2 Rx fills, 90 = 3 & 120 = 4	#
Total AWP $ Value	$

SURVEY QUESTION 15

Total # of prescription medicines provided through a third-party pharmacy at no cost to the patient in 2014.

If you know the AWP value, report that amount. If not, you may report the retail value, if you don't know the retail value or the AWP value, then report the actual cost to clinic.

	2014
Total # of prescription medications dispensed through 3rd party pharmacy based on 30 day supply or less. Convert 60, 90 or 120 days into 30 day supplies, Ex. 60 = 2, 90 = 3 & 120 = 4	#
AWP $ Value	$
Retail $ Value	$
Cost to Clinic, if AWP or Retail Value not known	$

SURVEY QUESTION 16

As applicable, √ the ENABLING SERVICES that the free clinic organization currently provides at the facility site.

- ☐ Case Management
- ☐ Interpreter/Translation
- ☐ Immunizations
- ☐ Smoking Cessation Program
- ☐ Social Work
- ☐ Other: _____
- ☐ Transportation
- ☐ Disease Education & Mgmt. Program(s)
  List Type(s) - i.e. Diabetes
  _____
- ☐ Outreach Program
  List Type(s) - i.e. Dental
  _____

APPENDIX I: MEDICAL CARE INFLATION RATE

Inflation rate used to equate dollars to 2014 value

Year	Rate
2010	12.06%
2011	8.75%
2012	4.91%
2013	2.39%

Source: United States Department of Labor. (n.d.). Databases, tables & calculators by subject. Washington, DC Retrieved from http://data.bls.gov/cgi-bin/surveymost.

APPENDIX J: NORTH CAROLINA ASSOCIATION OF FREE CLINICS MEMBER STATUS

Coding:	
Clinic participated	1
Clinic did not participate	0
Clinic was closed or had not opened	2
Clinic not a member	3

	2010	2011	2012	2013	2014
ABCCM Medical Ministry	1	1	1	1	1
AlaMAP	3	3	3	1	1
Ashe County Free Medical Clinic	1	1	1	1	1
Bethesda Health Center	1	1	1	1	1
Bladen County Free Clinic	1	1	1	1	1
Blue Ridge Free Dental Clinic	1	1	1	1	1
Broad Street Clinic Foundation	1	1	1	1	1
Brunswick Adult Medical Clinic, Inc.	1	1	1	1	0
Cape Fear Clinic, Inc. (Tileston Health Clinic)	1	1	1	1	1
CARE Clinic, Inc.	1	1	1	1	1
Caring Community Clinic	1	1	1	1	1
Charlotte Community Health Clinic	1	1	1	1	1
Chatham CARES Community Pharmacy	1	1	1	1	1
Community Care Center for Forsyth County	1	1	1	1	1
Community Care Clinic - Boone	1	1	1	1	1
Community Care Clinic - Elizabeth City	1	1	1	1	1
Community Care Clinic of Dare	1	1	1	1	1
Community Care Clinic of Highlands-Cashiers	1	1	1	1	1
Community Care Clinic of Rowan County	1	1	1	1	1
Community Clinic of Rutherford County	1	1	1	3	3
Community Clinic of High Point, Inc.	1	1	1	1	1
Community Free Clinic	1	1	1	1	1
Community Health Services of Union County	1	1	1	1	1
Compassionate Care Free Clinic	1	1	0	1	2
Crisis Control Ministry Pharmacy	1	1	1	1	1
Currituck Free Dental Clinic	2	2	1	1	1
Davidson Medical Ministries Clinic, Inc.	1	1	1	1	1
DEAC Clinic	1	1	1	1	1
Fifth Street Ministries (Open Door clinic - Statesville)	1	1	1	1	1

Franklin County VIM Clinic	1	1	1	1	1
Free Clinic of Our Towns	1	1	1	1	1
Free Clinic of Rockingham County, Inc.	1	1	1	1	1
Free Clinic of Transylvania County	1	1	1	1	2
Free Clinics, The	1	1	1	1	1
Good Samaritan Clinic	1	1	1	1	1
Good Samaritan Clinic of Haywood County	1	1	1	1	1
Good Samaritan Clinic of Jackson County	1	1	1	1	1
Good Samaritan Clinic of McDowell County	3	3	1	1	0
Good Shepherd's Clinic	1	1	1	1	0
Grace Clinic	1	1	1	1	1
Greater Hickory Cooperative Christian Ministry Health Care Center	1	1	1	1	1
Greenville Community Shelter Clinic	1	1	0	1	0
Hands of Hope Medical Clinic	3	3	3	0	1
Haywood Christian Ministry	1	1	1	0	0
Healing with CAARE, Inc.	1	1	1	1	1
HealthQuest of Union County	1	1	1	1	1
HealthReach Community Clinic	1	1	1	1	1
Helping Hands Clinic - Lincolnton	0	1	3	3	3
Helping Hand Clinic - Sanford	1	1	1	1	1
Helping Hands Clinic of Caldwell County	1	1	1	1	1
HOPE Clinic	0	1	1	1	1
Hunger & Health Coalition, Inc.	1	1	1	1	1
John P. Murray Community Care Clinic, Inc	1	1	1	1	1
Lake Norman Community Health Clinic	1	1	1	1	1
Mariam Clinic	1	1	1	1	1
Matthews Free Medical Clinic	1	1	1	1	1
Medication Assistance Program	1	1	1	1	1
MERCI Clinic	1	1	1	1	1
Montgomery County Free Clinic	1	1	3	3	3
Moore Free Care Clinic	1	1	1	1	1
NC MedAssist	1	1	1	1	1
New Hope Clinic	1	1	1	1	1
Oakmont Baptist Church Medical Clinic	0	0	1	1	1
Open Door Clinic of Alamance County	1	1	1	1	1
Pitt County Care Clinic	1	1	1	1	1
Raleigh Rescue Mission Clinic	1	1	1	1	1
Roanoke Valley Medical Ministries	1	1	2	2	2
Robert Nixon Clinic for the Homeless - IFC	1	1	1	1	1

Samaritan Health Center	1	1	1	0	1
Scotland Community Health Clinic	3	1	1	1	1
Senior Pharmacy Program	1	1	1	1	1
Senior Pharmassist	1	1	1	1	1
SHAC / UNC-Chapel Hill	3	1	1	1	1
Shalom Project	1	1	1	1	0
Shelter Health Services, Inc.	1	1	1	1	1
Shepherds Care Medical Clinic	1	1	1	1	1
Storehouse for Jesus Free Medical Ministries	1	1	1	1	1
Surry Medical Ministries Clinic	1	1	1	0	0
Tar River Mission Clinic	1	1	1	1	1
Urban Ministries Open Door Clinic	1	1	1	1	1
Vidas De Esperanza	2	2	3	3	1
Warren County Free Clinic	1	1	1	1	1
WATCH Healthcare Program	1	1	1	1	1
Total Clinics Reporting	73	77	75	74	70
did not participate	3	1	2	4	7
Closed	2	2	1	1	3
Non-member	5	3	5	4	3
Total Clinics	83	83	83	83	83

APPENDIX K: SAS DATABASE CONSTRUCTION FOR CLINIC CHARACTERISTICS

Clinic characteristics database derived from North Carolina Association of Free Clinics Outcome Surveys: 2010 to 2014

```
data survey.ncafc10;
set survey.ncafc10;
rename 'Clinic#_10'n = clinic_num;
run;

data survey.ncafc11;
set survey.ncafc11;
rename 'clinic#_11'n = clinic_num;
run;

data survey.ncafc12;
set survey.ncafc12;
rename 'Clinic#_12'n = clinic_num;
run;

data survey.ncafc13;
set survey.ncafc13;
rename 'Clinic#_13'n = clinic_num;
run;

data survey.ncafc14;
set survey.ncafc14;
rename 'Clinic#_14'n = clinic_num;
run;


proc sort data=survey.ncafc10 ; by clinic_num;run;
proc sort data=survey.ncafc11; by clinic_num; run;
proc sort data=survey.ncafc12; by clinic_num; run;
proc sort data=survey.ncafc13; by clinic_num; run;
proc sort data=survey.ncafc14; by clinic_num; run;


data survey.ncafc10to14;
merge survey.ncafc10 survey.ncafc11 survey.ncafc12 survey.ncafc13 survey.ncafc14;
by clinic_num;
run;

data survey.ncafc10to14;
```

```
set survey.ncafc10to14;
if code2006 >4 then rural = 1;
if code2006 < 5 then rural =0;
run;

*****Creating provider totals for employed and volunteer hours;
proc sort data=survey.ncafc10; by Clinic_10; run;
proc sort data=work.'ncafc.database.providers'n ; by clinic_10; run;


data providers_10;
merge survey.ncafc10 (keep=clinic_10 clinic_num) work.'ncafc.database.providers'n;
by clinic_10;
run;

data survey.providers_10;
set providers_10;
if md_employ_10 = '.' then md_employ_10 = 0;
if nurse_employ_10 = '.' then nurse_employ_10 = 0;
if dentist_employ_10 = '.' then dentist_employ_10 = 0;
if hyg_employ_10 = '.' then hyg_employ_10 = 0;
if md_vol_10 = '.' then md_vol_10 = 0;
if nurse_vol_10 = '.' then nurse_vol_10 = 0;
if dentist_vol_10 = '.' then dentist_vol_10 = 0;
if hyg_vol_10 = '.' then hyg_vol_10 = 0;
run;

proc sort data=survey.ncafc11; by Clinic_11;run;
proc sort data=work.'ncafc.database.providers1'n; by clinic_11; run;

data providers_11;
merge survey.ncafc11 (keep=clinic_11 clinic_num) work.'ncafc.database.providers1'n;
by clinic_11;
run;

data survey.providers_11;
set providers_11;
if md_employ_11 = '.' then md_employ_11 = 0;
if nurse_employ_11 = '.' then nurse_employ_11 = 0;
if dentist_employ_11 = '.' then dentist_employ_11 = 0;
if hyg_employ_11 = '.' then hyg_employ_11 = 0;
if md_vol_11 = '.' then md_vol_11 = 0;
if nurse_vol_11 = '.' then nurse_vol_11 = 0;
if dentist_vol_11 = '.' then dentist_vol_11 = 0;
if hyg_vol_11 = '.' then hyg_vol_11 = 0;
run;
```

```
proc sort data=survey.ncafc12; by Clinic_12; run;
proc sort data=work.'ncafc.database.providers2'n; by clinic_12; run;

data providers_12;
merge survey.ncafc12 (keep=clinic_12 clinic_num) work.'ncafc.database.providers2'n;
by clinic_12;
run;

data survey.providers_12;
set providers_12;
if md_employ_12 = '.' then md_employ_12 = 0;
if nurse_employ_12 = '.' then nurse_employ_12 = 0;
if dentist_employ_12 = '.' then dentist_employ_12 = 0;
if hyg_employ_12 = '.' then hyg_employ_12 = 0;
if md_vol_12 = '.' then md_vol_12 = 0;
if nurse_vol_12 = '.' then nurse_vol_12 = 0;
if dentist_vol_12 = '.' then dentist_vol_12 = 0;
if hyg_vol_12 = '.' then hyg_vol_12 = 0;
run;

proc sort data=survey.ncafc13; by Clinic_13 ; run;
proc sort data=work.'ncafc.database.providers3'n ; by clinic_13; run;

data providers_13;
merge survey.ncafc13 (keep=clinic_13 clinic_num) work.'ncafc.database.providers3'n;
by clinic_13;
run;

data survey.providers_13;
set providers_13;
if md_employ_13 = '.' then md_employ_13 = 0;
if nurse_employ_13 = '.' then nurse_employ_13 = 0;
if dentist_employ_13 = '.' then dentist_employ_13 = 0;
if hyg_employ_13 = '.' then hyg_employ_13 = 0;
if md_vol_13 = '.' then md_vol_13 = 0;
if nurse_vol_13 = '.' then nurse_vol_13 = 0;
if dentist_vol_13 = '.' then dentist_vol_13 = 0;
if hyg_vol_13 = '.' then hyg_vol_13 = 0;
run;

proc sort data=survey.ncafc14; by Clinic_14; run;
proc sort data=work.'ncafc.database.providers4'n; by clinic_14;run;

data providers_14;
merge survey.ncafc14 (keep=clinic_14 clinic_num) work.'ncafc.database.providers4'n;
```

```
by clinic_14;
run;

data survey.providers_14;
set providers_14;
if md_employ_14 = '.' then md_employ_14 = 0;
if nurse_employ_14 = '.' then nurse_employ_14 = 0;
if dentist_employ_14 = '.' then dentist_employ_14 = 0;
if hyg_employ_14 = '.' then hyg_employ_14 = 0;
if md_vol_14 = '.' then md_vol_14 = 0;
if nurse_vol_14 = '.' then nurse_vol_14 = 0;
if dentist_vol_14 = '.' then dentist_vol_14 = 0;
if hyg_vol_14 = '.' then hyg_vol_14 = 0;
run;

proc sort data=survey.ncafc10to14 ; by Clinic_num; run;
proc sort data=survey.providers_10; by clinic_num; run;
proc sort data=survey.providers_11; by clinic_num; run;
proc sort data=survey.providers_12; by clinic_num; run;
proc sort data=survey.providers_13; by clinic_num; run;
proc sort data=survey.providers_14; by clinic_num; run;

data fix;
set survey.ncafc10to14;
drop md_employ_10 md_vol_10 nurse_employ_10 nurse_Vol_10 dentist_employ_10
dentist_Vol_10 hyg_employ_10 hyg_vol_10
md_employ_11 md_vol_11 nurse_employ_11 nurse_Vol_11 dentist_employ_11
dentist_Vol_11 hyg_employ_11 hyg_vol_11;
run;

proc sort data=fix; by clinic_num; run;

data survey.ncafc10to14;
merge fix survey.providers_10 survey.providers_11 survey.providers_12
survey.providers_13 survey.providers_14;
by clinic_num;
run;

data totals;
set survey.ncafc10to14;
Md_10 = md_employ_10 + md_vol_10;
Md_11 = md_employ_11 + md_vol_11;
Md_12 = md_employ_12 + md_vol_12;
Md_13 = md_employ_13 + md_vol_13;
Md_14 = md_employ_14 + md_vol_14;
run;
```

```
data total_nurse;
set survey.ncafc10to14;
nurse_10 = nurse_employ_10 + nurse_vol_10;
nurse_11 = nurse_employ_11 + nurse_vol_11;
nurse_12 = nurse_employ_12 + nurse_vol_12;
nurse_13 = nurse_employ_13 + nurse_vol_13;
nurse_14 = nurse_employ_14 + nurse_vol_14;
run;

data total_dental;
set survey.ncafc10to14;
den_hyg_10 = dentist_vol_10 +dentist_employ_10 + hyg_employ_10 + hyg_vol_10;
den_hyg_11 = dentist_employ_11 + dentist_vol_11 + hyg_employ_11 + hyg_vol_11;
den_hyg_12 = dentist_employ_12 + dentist_vol_12 + hyg_employ_12 + hyg_vol_12;
den_hyg_13 = dentist_employ_13 + dentist_vol_13 + hyg_employ_13 + hyg_vol_13;
den_hyg_14 = dentist_employ_14 + dentist_vol_14 + hyg_employ_14 + hyg_vol_14;

run;
```

APPENDIX L: MEANS FOR OUTCOME VARIABLES – ALL CLINICS AND STRATIFIED BY URBAN OR RURAL LOCATION

Table 1: Number of Free Clinics reporting data.

	2010	2011	2012	2013	2014
Rural Clinics	28	31	28	27	23
Urban Clinics	45	46	47	47	47
Total Clinics	73	77	75	74	70
Rural Clinics w/ Demo	27	30	26	24	23
Urban w/ Demo	45	45	44	46	47
Total Clinics w/ Demo	72	75	70	70	70