FINAL REPORT

Assessment of the Kansas City Safety Net Expansion, Year 5

NORC

at the UNIVERSITY *of* CHICAGO

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Executive Summary

The Kansas City Safety Net Expansion Project provides safety net clinics with financial resources to extend office hours into nights and weekends. The project intends to increase patient access to health care services by targeting the uninsured, underinsured and Medicaid patient population in metropolitan Kansas City. Ultimately, the goal is to expand health care access to the 400,000 uninsured, underinsured and Medicaid recipients in metropolitan Kansas City.[1]

Between January 2009 and September 2013, five safety net providers received funding from the Health Care Foundation of Greater Kansas City (HCF) to remain open during non-traditional hours; four clinics continued to receive funding between October 2013 and September 2014. Clinics receiving funding in Year 5 include Health Partnership Clinic of Johnson County (Health Partnership), Kansas City CARE Clinic (KC CARE), Southwest Boulevard Family Health Care Services of Greater Kansas City (Southwest Boulevard), and SWOPE Health Services (SWOPE).

Overview of the Assessment. NORC at the University of Chicago (NORC) conducts an ongoing assessment of the Kansas City Safety Net Expansion Project for HCF. The evaluation began in 2010; this final report summarizes findings from October 2013 through September of 2014, Year 5 of the evaluation. The evaluation focuses on demographic and geographic characteristics of the patient population served by participating clinics, changes in the volume and complexity of care provided by clinics following program implementation, and health system implications including provider turnover.

Assessment Methods. NORC collected administrative data from participating clinics on a quarterly basis throughout Year 5 of the project. These data include utilization (number of patients and visits), patient demographics and geographic location, and the type of care provided by participating clinics during the project period based on diagnosis and procedure code data. NORC used the same template used in Years 2, 3 and 4 of the project, developed in collaboration with HCF, and with input from Mid-America Regional Council (MARC) and the clinics. Unlike in Year 2, data in Years 3, 4, and 5 were aggregated by quarters, so that data for all three months in each quarter were summed by the clinics. The administrative data template includes four sections: patient demographic information, patient geography, top ten diagnoses and top ten procedures. The data collection protocol mirrored activities in Years 2, 3, and 4.

Results. To assess the potential impact of the safety net capacity expansion project on the uninsured, underinsured and Medicaid population in metropolitan Kansas City, NORC analyzed the administrative data to examine the volume of care provided across the clinics, the composition of the target population obtaining services at clinics during the extended hours, and the type of care provided during the extended hours. Key findings include:

- The number of extended-hours patients, patient visits and new patients remained relatively stable between Year 4 and Year 5, despite a slight increase of after-hours care provided.
- Clinics continue to largely use mid-level practitioners (e.g., advanced practice nurses and physicians assistants) during extended hours.
- Clinics continue to struggle with provider recruitment and retention; fluctuations in provider hours greatly impact the number of patients and patient visits over time.
- Participating clinics attract patients from all over the Kansas City metropolitan area, with overlapping catchment areas.
- Patient demographic data reflect the population identified as lacking access to health care services in the HCF's 2013 Request for Proposals (RFP).
- Data on diagnoses and procedures demonstrate an increasingly high-need patient population, with 72% of visits billed as established patients with level 3 or 4 complexity.

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[1] http://marc.org/Community/Regional-Health-Care-Initiative/Assets/safety-net-story.aspx

Conclusions. The safety net clinics participating in this program serve a patient population with extremely complex medical conditions and social circumstances. The information in this report examines their access patterns and need for health care services. Considering the current political and economic climates, it is important to examine fluctuations in demographic characteristics (age, race/ethnicity, gender, income level and geographic location). Furthermore, analyses focusing on the office visit procedure codes and diagnosis codes for the patient population in Year 5 show a complex group of beneficiaries with high acuity health needs. This information is helpful in understanding their unique concerns.

Introduction

NORC at the University of Chicago (NORC) is pleased to present this Final Report on the Evaluation of the Kansas City Safety Net Capacity Expansion Project, Year 5. NORC conducts this ongoing evaluation under contract with the Health Care Foundation of Greater Kansas City (HCF). Since 2002, HCF has provided leadership, advocacy and resources to remove barriers and increase access to quality health care for the uninsured and underinsured throughout Kansas City.[2] The project was divided into five program years for evaluation. Year 1 of the program is defined as January to September 2010. Year 2 includes all of calendar year 2011. Year 3 describes January through September of 2012. Year 4 includes data from October 2012 until September 2013, and Year 5 conveys data from October 2013 to September 2014. This report presents results from Year 5 of the evaluation of HCF's efforts to expand safety net clinic hours into nights and weekends.

Approximately one quarter of the Kansas City population is uninsured or covered by Medicaid, a number that has been increasing since 2008.[3] The Kansas City Safety Net Collaborative found that a portion of this population is employed and recognized that this population faces unique and significant barriers when seeking health care. Since a substantial portion of the population works during the day, access to safety-net health care services at night and/or on the weekends is critical to offer services to this population. Subsequently, a major focus of the collaborative is to extend office hours of safety net clinics across Kansas City.

The project is designed to provide safety net clinics with sufficient financial resources to extend office hours into nights and weekends and increase access to health care services. The goal is to increase the number of patients, health care visits and new patients receiving care, which could increase the number of individuals with a usual source of care, and decrease the number of individuals using inappropriate sources of care, as well as those who do not utilize services. Ultimately, the goal of the project is to expand health care access to the over 500,000 uninsured and Medicaid recipients in metropolitan Kansas City.[4]

Between Years 1 and 3, five safety net providers received funding from HCF to remain open during non-traditional hours. Clinics included Health Partnership of Johnson County (Health Partnership), KC Free Health Clinic (KC Free), Southwest Boulevard-Quindaro Family Health Care (Southwest Boulevard), Samuel U. Rodgers Northland (Rodgers Northland), and SWOPE Health Services (SWOPE). Rodgers Northland did not participate in the project for Years 4 and 5 and therefore is not included in either evaluation. The clinics are located throughout the metropolitan Kansas City area. Counties/zip codes reported by the clinics in Year 5 are included on the map in Figure 1 below.

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[2] Health Care Foundation of Greater Kansas City. (2013). Retrieved from http://hcfgkc.org/.

[3] Mid-America Regional Council. (2013). "Kansas City Regional Health Assessment Report." Retrieved from http://www.marc.org/Data-Economy/pdf/REACH-Health-Assessment.aspx.

[4] Mid-America Regional Council. (2013). "Kansas City Regional Health Assessment Report." Retrieved from http://www.marc.org/Data-Economy/pdf/REACH-Health-Assessment.aspx.

Figure 1: Map of the clinics, Year 5
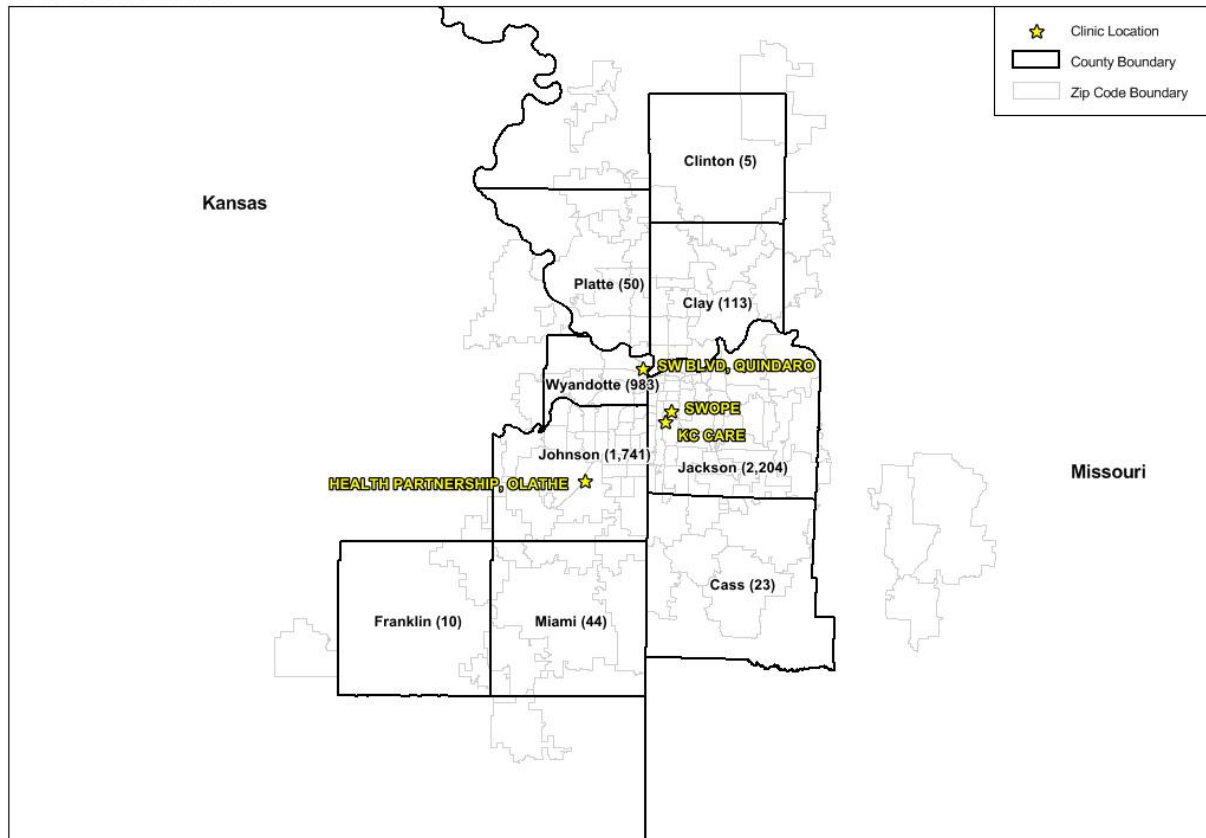
The clinics vary in size, approach, and services. Below is a description of each clinic:

- **Health Partnership of Johnson County**- Health Partnership opened in 1992 to offer free health care services in two locations, Olathe, Kansas and Overland Park, Kansas. They are located in Johnson County, a relatively wealthy area with a large Hispanic population. Health Partnership patients live primarily in Johnson County and Miami County, Kansas, lack insurance, and have household incomes at or below 200 percent the federal poverty level (FPL). Health Partnership offers: primary acute and specialty care, chronic disease management, preventive health promotion services including Medicaid and marketplace insurance enrollment assistance, pharmaceutical care and dental services along with specialty services including gynecology, urology, chiropractic, cardiology, rheumatology, orthopedic, dermatology, pulmonology, allergy/asthma, internal medicine and otolaryngology (ENT).[5] Health Partnership currently serves approximately 4,250 patients per year. In June 2012, Health Partnership was designated a Federally Qualified Health Center by the Department of Health and Human Services. Health Partnership is currently working on a project in partnership with the Elizabeth Layton Center which has allowed them to expand to Miami County and treat as many as 11,000 patients per year.[6]

- **KC CARE Health Clinic** - KC CARE was formed in 1971 to provide free health care services to the uninsured. The provider operates at two locations in Jackson County, Kansas. In Fiscal Year 2013, KC Free served nearly 8,000 patients, with over 18,000 annual appointments. KC Free provides the following services: primary care, dental care, specialty services, HIV care and support, community services, and

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[5] Health PartnershipClinic of Johnson County. (2014). Retrieved from http://www.hpcjc.org/#/medical/.

[6] Kansas Health Institute: News. Johnson County clinic receives federal funding to expand. (2012). Retrieved from http://www.khi.org/news/2012/jun/21/johnson-county-clinic-receives-federal-funding-exp/

behavioral health.[7] Due to changes in health laws, KC CARE will begin to accept patients with insurance in addition to uninsured patients—most of whom pay only $10 for services.[8]

- **Southwest Boulevard Quindaro Family Clinic** - Southwest Boulevard opened in 1989 to provide health care services on a sliding scale. They are a non-profit safety net provider providing services for the uninsured in Wyandotte County, KS. In 2009, Southwest Boulevard opened a satellite clinic, Quindaro Family Health Care. This satellite clinic provides health care services to a population previously without access to health care. The population has a disproportionate share of Hmong, Somali and Burmese immigrants. Direct health services offered include: general medical services (including treatment for chronic illnesses such as HIV, Hepatitis C, Diabetes, etc.), obstetrics, pediatrics, chiropractic, mental health therapy, ophthalmology, and dental care. Southwest Boulevard also provides other services, including supportive services.[9] In the summer of 2014, the clinic began providing PrEP HIV preventative medication as one of its service options.[10]

- **SWOPE Health Services** - SWOPE opened their first clinic in 1970 and has since expanded to 13 clinics and residential treatment locations. They are a large FQHC and community mental health center serving more than 40,000 patients annually, with more than 90% of patients served living below FPL. SWOPE provides health care services at seven clinics – SWOPE Health Central, SWOPE Health Independence, Swope Health Northland, SWOPE Health South, SWOPE Health West, SWOPE Health Wyandotte and SWOPE Mobile. Services are provided on a sliding fee scale, based on ability to pay and family size; in addition, SWOPE accepts Medicaid, Medicare and private insurance. Medical services include adult Medicine, dental services, diabetes and cardiovascular education, laboratory, obstetrics and gynecology, optometry, optical shop, pediatrics, pharmacy, and radiology. SWOPE also offers other services, including behavioral health services and outreach services.[11]

By participating in the collaborative, the clinics receive financial assistance to extend office hours beyond their traditional schedules into evenings and weekends. The clinics also participate in a governance committee to facilitate and monitor project progress. The clinics collaborate to ensure that at least one clinic is open each evening and weekend.

In total, the clinics were open 54 hours per week on average outside of regular hours for Year 5. This is a decrease from Year 3, where clinics were open for an estimated 71 hours per week, and similar to the average weekly totals from Year 4 where clinics were open for an average of 51 hours per week. The decrease between Year 3 and Year 4 may be attributed in part to the loss of hours from Rodgers Northland, which was not included in the Year 4 data collection and which continued in Year 5.

HCF selected NORC as the outside evaluator during the first year of the project in 2010. From January to September 2010, NORC developed, implemented and reported on quantitative and qualitative data collection activities, including patient surveys, administrative data and site visits. The evaluation assessed program implementation, characteristics of the patient population, changes in the volume and type of care provided during regular and extended hours, patient perspectives, and health system implications. Findings revolved around patient satisfaction, the complexity of the patient population and the consequences of provider turnover.

HCF and NORC collaborated to develop plans for Year 2 (2011). The second year of the evaluation focused on establishing a clear picture of the population served by the program including the reasons patients are visiting the clinics, their insurance status and the extent to which they travel to get care. Incorporating feedback from HCF, MARC and the clinics, NORC subsequently modified the

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[7] KC CARE Health Clinical Annual Report. (2014). Retrieved from
https://www.kccareclinic.org/Media/Default/AnnualReports/2013-14%20Annual%20Report%20-%20%20final.pdf.
[8] KC CARE Future of the Clinic. Retrieved from https://www.kccareclinic.org/future.
[9] Southwest Boulevard Family Health Care. (2014). Retrieved from http://www.swbfhc.org/id2.html.
[10] Pfannenstiel, Brianne. "Kansas City clinic will provide new HIV prevention method." (2014). Retrieved from http://www.bizjournals.com/kansascity/news/2014/07/21/kansas-city-clinic-new-hiv-prevention-option.html.
[11] SWOPE Health Services. (2014). Retrieved from http://www.swopehealth.org/index.php/services.

administrative data template and protocols. NORC expanded the template to capture additional demographic information on patients receiving services during extended hours, including income, race/ethnicity, gender, age, health insurance coverage and geographic location; and further information on the type of care sought and provided to extended-hours patients, including primary diagnoses and procedures.

In Year 3 (Quarters 1-3 2012), NORC continued many of the same practices used in Year 2. The most significant changes were made to the diagnosis and procedure code data collection. In Year 3, clinics rolled up the ICD-9-CM diagnoses codes reported to the third digit, creating a better high-level view of the diseases categories treated by the clinics. In addition, CPT procedure codes reported were limited to office visit codes, including outpatient and preventive care visit codes. The goal of this change was to capture the severity of visits the clinics were treating. The data collection methods of Year 3 were continued in Years 4 and 5 of the evaluation.

The sections that follow summarize the methods developed and implemented during Years 3, 4, and 5 of the evaluation. In addition, we report results from the evaluation activities in Year 5, and discuss these findings as they relate to the intent of the project. We also compare data across all years of the evaluation to examine the evolution of the project. Specifically, we examine the data for changes in the number of patients, patient visits and new patients; as well as differences in the nature and complexity of the visits. Finally, we end with a discussion on the progression of the project synthesized from results across evaluation activities.

Methods

To explore characteristics and patterns of the patient population, and examine the volume of care provided, NORC collected administrative data on extended-hours patients from participating clinics on a quarterly basis. The administrative data provides important information on the volume of care provided by the clinics (including the number of patients, patient visits and new patients), the demographics of the patient population, and the type of care provided.

NORC developed the administrative data template in collaboration with HCF, and with input from MARC and the clinics. In Year 1, NORC conducted two site visits to first develop and then gather feedback on the administrative data template. Based on guidance from HCF and the participating clinics, NORC made significant revisions to both the data collection strategy and the design of the template for Year 2. In Year 1 NORC collected data on a monthly basis, however NORC began to collect data on a quarterly basis in Year 2 and for each subsequent year. Additionally, beginning in Year 2, NORC collected information on patient demographics and procedure codes.

Administrative data was collected on a quarterly basis from October 2013 through September 2014 (Year 5) using the same procedure employed in Years 2 through 4. Each quarter, NORC emailed clinic contacts detailed instructions regarding the administrative data collection, along with the applicable administrative data collection template. Diagnosis codes reported were rolled up to the first three digits of their ICD-9-CM Diagnosis code. Procedure codes reported were limited to a set of CPT codes representing outpatient and preventative visits. Instructions included definitions of each measure collected, and detailed the process and deadlines to return data to NORC. Within the reports, data was summarized quarterly and annually in order to examine fluctuations over time and enable a comparison to Years 1-4 administrative data.

The administrative data template includes four sections: demographic information, geographic information, top ten diagnoses and top ten procedures. Templates for administrative data collection are provided as Appendices A and B, respectively. The following data was collected for extended-hours patients each quarter:

- **Part A: Clinic and Demographic Information** – The first part of the template focused on demographic information, including:
    - Hours – The administrative data template captured information on the number of clinic hours paid for by the grant, and the number of direct patient physician and mid-level staff hours paid for by the grant.
    - Patients – The administrative data template captured information of the number of patient, patient visits and new patients during extended hours.
    - Coverage – The administrative data template captured information concerning health care coverage.
    - Gender – The administrative data template captured information on the gender of all extended-hours patients.
    - Age – The administrative data template captured information on the age of all patients seeking care during extended hours.
    - Race / Ethnicity – The administrative data template captured information on the race/ethnicity of all patients seeking care during extended hours. These categories were provided by HCF.
    - Income – The administrative data template captured information on the income levels of extended-hours patients.
- **Part B: Geographic Information** – The second part of the administrative data template focused on where the patients reside. This portion of the template captured information on zip codes and counties.
- **Part C: Top Ten Diagnoses** – The third part of the administrative data template captured information on the Top 10 Diagnoses clinics reported during extended hours, reported as 3 digit ICD-9-CM codes.

- **Part D: Top Ten Procedures** – The fourth part of the administrative data template collected information on the Top 10 Office Visit Procedures clinics reported during extended hours defined by CPT code.

There were differences in the content of data submission for Year 5 across clinics.

- **Southwest Boulevard / Quindaro** – Southwest Boulevard does not collect data on race/ethnicity. This aligned with Year 2, Year 3, and Year 4 data collection methods. The clinic's race/ethnicity data are excluded from the analysis where noted.

Health Partnership – Health Partnership collected race data separately from ethnicity data. The clinic's ethnicity data (proportion of Hispanic patients) is not included in this analysis where noted.

NORC collected and analyzed data on a quarterly basis or as received from the clinics. Staff subsequently produced quarterly reports through Quarter 3 of Year 5 (September 2014), and distributed the reports to HCF.

Results

To assess the potential impact of the safety net capacity expansion project on the uninsured, underinsured and Medicaid population in metropolitan Kansas City, NORC collected and analyzed administrative data to examine the volume of care provided across the clinics during extended hours, the composition of the target population utilizing extended hours, and the type of care provided during extended hours. NORC analyzed data collected in Years 1 through 5 to help identify changes over time. For detail on the data collected during Year 5, see the administrative data instructions and template attached as Appendices A and B, respectively. Importantly, data collection occurred over four periods, January to August 2010 (Year 1), January to December 2011 (Year 2), January to September 2012 (Year 3), October 2012 to September 2013 (Year 4), and October 2013 to September 2014 (Year 5). The extended-hours program continued between September and December of 2010, but NORC was not funded to gather data during those months.

Volume of Care

Fluctuations in the volume of care provided during extended hours may provide insight into the varying needs for extended-hours services over time and the overall impact of program resources. While the administrative data template changed between Years 1 and 5, several common data elements apply to volume of care, namely number of patients, number of patient visits and number of new patients (all during extended hours). Subsequently, Figures 2 and 3 below present data from Year 1 through 5 to display progress of the project and assess changes in the access of care over time. Specifically, Figure 2 presents the number of patients, patient visits and new patients per clinic hour in Years 1, 2, 3, 4, and 5 aggregated across all participating clinics. To establish a common parameter for comparisons across Years 1 through 5 in the chart below, we present the ratio of patients, visits and new patients per clinic hour as reported by the clinics.

Figure 2: Number of patients, patient visits and new patients per clinic hour, across all clinics, Years 1-5
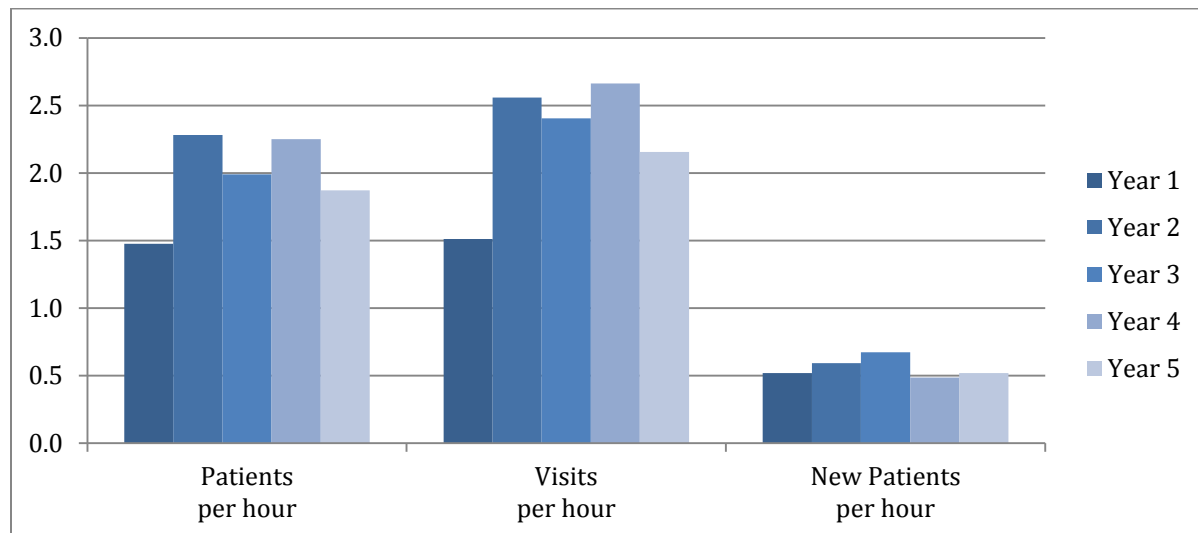
The number of patients and patient visits seen per clinic hour increased dramatically between Years 1 and 2, and then alternated between smaller decreases and increases each year. The average number of patients per hour hovered around 2.0 and the average visits per hour was slightly higher at 2.25 over the past four years. In Year 5, we saw a dramatic decrease in the number of patients and visits per hour. The number of new patients seen per clinic hour increased between Years 1 and 3, and decreased between Years 3 and 4, then held stable in Year 5. These figures indicate that in the first four years, the clinics became more efficient and were able to provide services to more patients per each extended hour funded by the project, however those gains may have plateaued. The large decrease in patients and visits per hour that occurred

in Year 5 may be attributed to an overall increase in clinic hours with no change in the number of patients over the past year. Clinicians may be taking longer with each patient or this reduced ratio may reflect the increase in more severe cases where a thorough examination is necessary. While it is important that the number of patients and patient visits increase, it is equally important that the clinics continue to attract new patients. Between Year 1 and Year 3, the number of new patients seen per hour increased from 0.5 to 0.7. From Year 3 to Year 4, the number of new patients seen per hour decreased from 0.7 to 0.5 and have remained the same in Year 5. The data suggests that the decrease in funding for extended hours in Year 4 may have had a lasting impact on the clinics' ability to serve new patients.

Figure 3 below shows this progress over time by presenting the total number of patients, patient visits and new patients per quarter for Years 1 through 5.

Figure 3: Number of patients, patient visits and new patients per quarter, all clinics, Years 1-5[12]
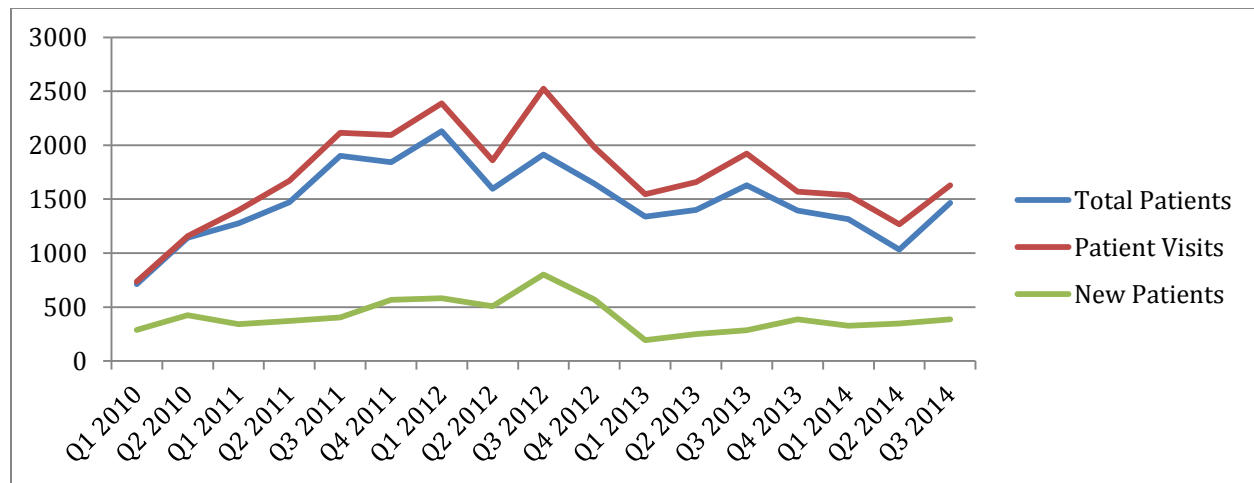
Overall, the number of extended hours patients increased dramatically since 2010, from 713 in Quarter 1 until Quarter 1 of 2012 where the number peaked at 2130 patients. In Years 4 and 5, the clinics saw a downward trend in the number of patients that ranged from a high of 1416 in Quarter 3 of 2013 to a low of 1032 in Quarter 2 of 2014. As displayed above, there are similar fluctuations in the number of patient visits during Years 1 through 5. There is a sharp decrease for number of patients, visits, and new patients between Quarter 3 of 2012 and Quarter 1 of 2013, coinciding with reduced extended clinic hours. After Quarter 3 of 2012, Rodgers, which averaged 6 extended hours per week in Year 3, was not funded for extended clinic hours and Southwest Boulevard averaged 6 extended hours per week in Year 4, compared to 15 hours per week in Year 3. The number of patients, visits, and new patients increased in Quarters 2 and 3 of Year 4, indicating that the clinics who continued to offer extended hours were attracting patients that could no longer seek care at Rodgers or Southwest Boulevard. However, the decline in patients and visits that began in Quarter 3 of Year 4 continued for nearly a year until the end of Year 5. The sharp dip among patients and visits seen in Quarter 2 of Year 5 (Q2 2014) represents a decline in visits and patients that Health Partnership, KC Care, and Southwest Boulevard all experienced. Further analysis is needed to understand the reason for this decline. Overall, the number of new patients per hour has remained stable over the past two years.

While factors external to the program may contribute to these fluctuations, provider recruitment (which was emphasized as an issue throughout Year 1) continues to be a major challenge as the clinics struggle to hire and retain physicians. Subsequently, a number of the clinics reported throughout 2010 and 2011 that they were unable to meet demand for their services, and routinely turned patients away. Clinics have not reported on recruitment since 2012, but the continued heavy use of midlevel staff suggests that this remained an issue, as seen in Figure 4. The number of physician hours has remained static over time with

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[12] Data graphed for Year 4 includes all clinics, while narrative details exclude Southwest Boulevard in Year 4.

the majority of clinic hours accounted for by mid-level staff. Similar to the trend seen in Figure 3, the mid-level staff hours saw a significant decline in Quarter 2—an effect from three of the four clinics. However, the mid-level staff hours were recovered in Quarter 3 and are similar to the levels from Year 4.

Figure 4: Number of clinic, physician and mid-level staff hours, Year 5
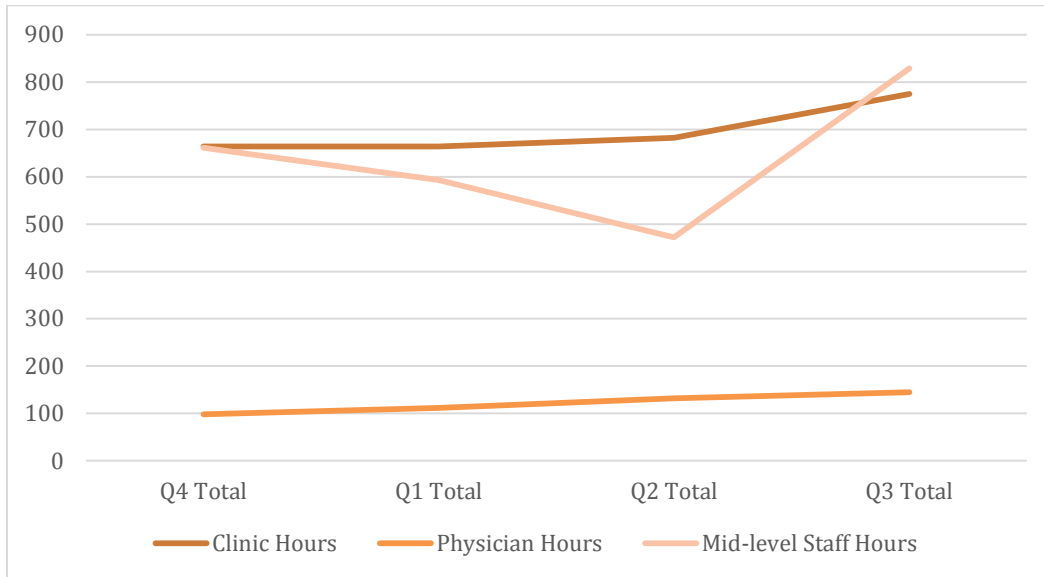
Although HCF and the clinics originally anticipated an encounter rate of four patients per hour, high provider turnover and the complex patient population contributed to a lower proportion of patients per hour in 2010. Subsequently, categories were added to the administrative data template to capture information on the providers working during extended hours as well as the number of patients seen per clinic and staff hour.

Figure 5: Number of patients per clinic, physician and mid-level staff hours, Year 5
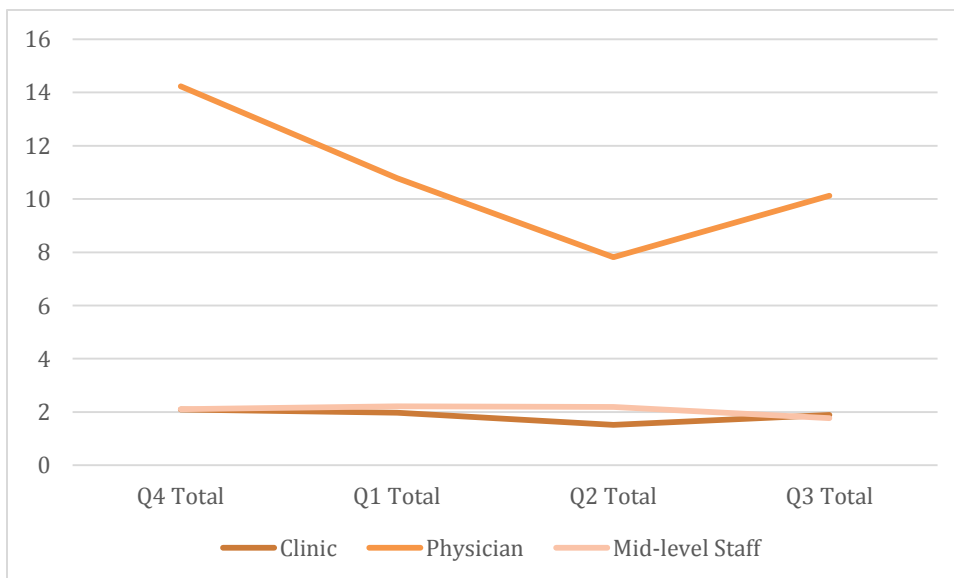
In Year 5, there were 1.9 patient visits per clinic hour, a decline from the 2.3 patient visits per clinic hour in Year 4. As shown in Figure 5, there is a large difference between the number of patient visits per physician hour versus patient visits per mid-level staff hour, however that distinction is smaller than in previous years. The clinics were open 2,785 extended hours during Year 5, they reported 2,556 mid-level staff hours and 496 physician hours. While there is a heavy reliance on mid-level staff during extended hours, the number of physician hours has increased since Year 4. It is unclear whether the reduction in patients seen per physician hour represents the decline in overall patient visits or any other potential impact such as a greater proportion of complex cases.

To further examine the volume of care provided during extended hours, NORC collected geographic information on extended-hours patients. Specifically, NORC collected patients' county and zip code information to gain further understanding of the patient population and the clinics. Information on the counties and zip codes can offer unique insight into the patients' environment, as well as provide the clinics with valuable nuances regarding patient needs, such as transportation. In addition, aggregating the data across clinics offers insight into the impact of the project on the community, and identifies areas of overlap.

Figure 6 below presents the distribution of clinics by zip code, and indicates the number of patients by county.

Figure 6: Number of Patients for All Clinics, by Zip Code, Year 5

Number of Patients, by Zip Code, 2014
Number of Patients, by County, 2014
Location of Clinics
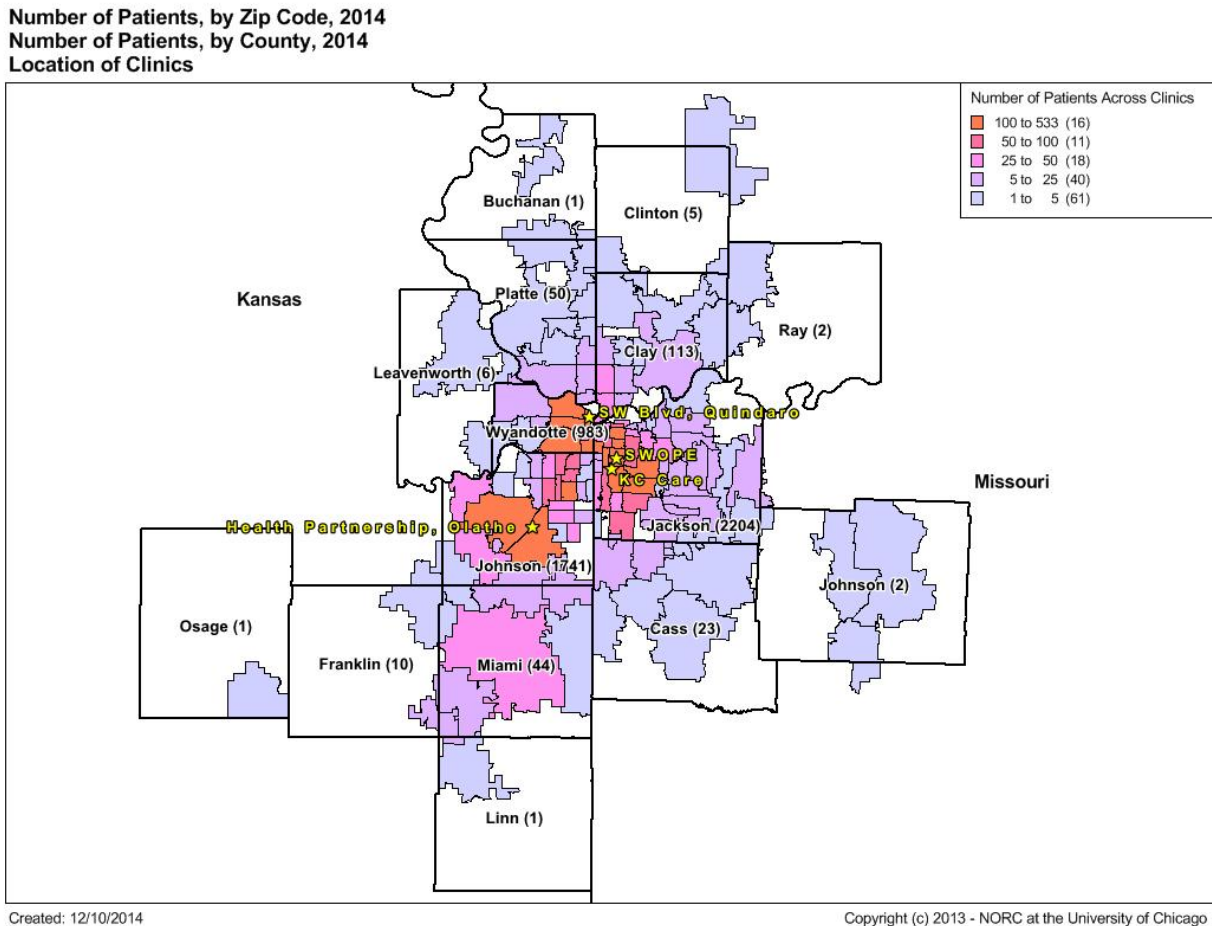
As seen above, the clinics serve patients across a relatively large geographic area across and outside of metropolitan Kansas City. Following previous years, the greatest number of patients lived in Jackson County (42%) and Johnson County (33%). Wyandotte County (19%) displaced Clay County from Year 4

as the third highest number of patient residences. This is likely due to the exclusion of Southwest Boulevard's data last year, as that clinic primarily serves Wyandotte County. To further examine the distribution of the patient population, the map below presents the clinics distribution across patient zip codes. Patients seen outside the greater Kansas City area were excluded from this map.

Figure 7: Overlap of the patient population, Number of Patients for All Clinics, by Zip Code, Year 5

Number of Patients, by Zip Code, 2014
Number of Patients, by County, 2014
Location of Clinics
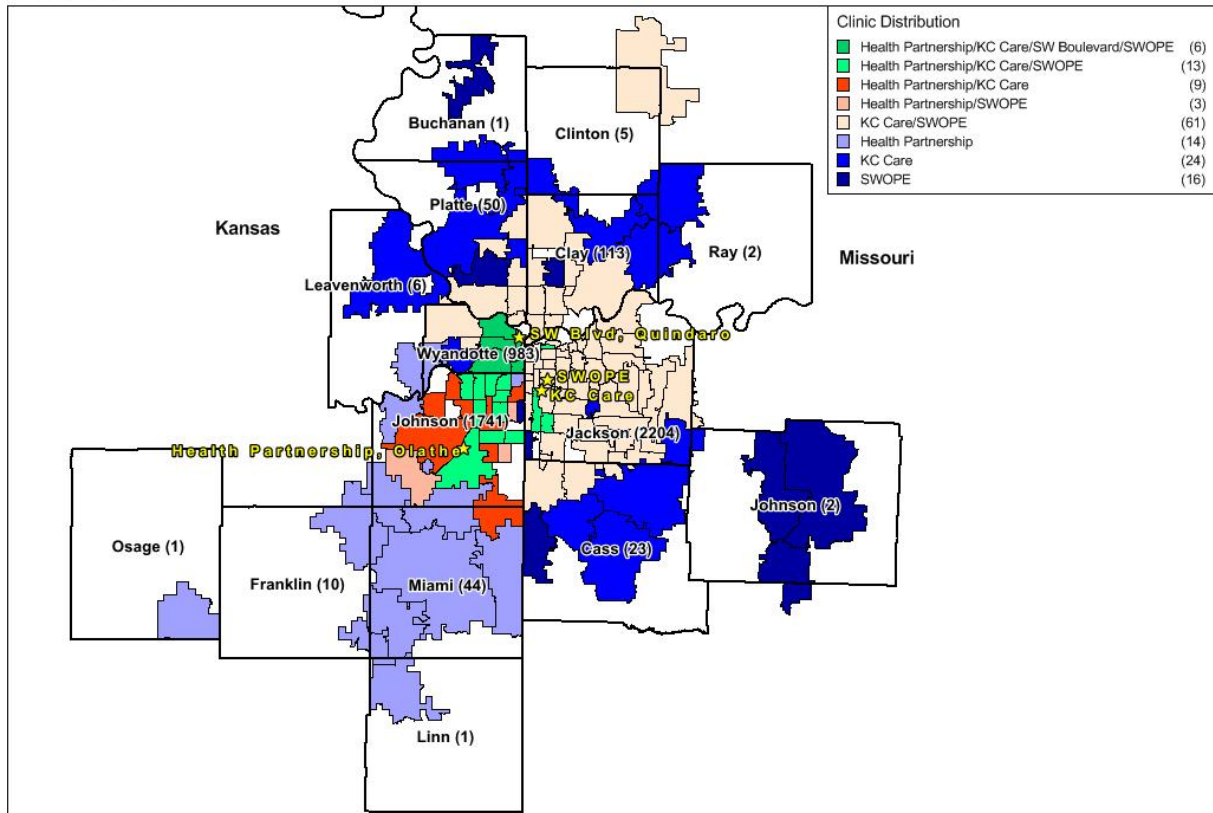
Created: 12/10/2014

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The map above shows that the zip codes with a higher concentration of patients also attended the largest variety of clinics (green zip codes). These counties include the urban core of metropolitan Kansas City, and a high proportion of residents that are uninsured. The map suggests that patients in these areas seek care at more than one of the clinics, as opposed to establishing a regular source of care at one clinic.

There has also been expansion by individual clinics to reach to less densely populated regions of Kansas City. Patients in the beige-colored zip codes received care at two of the clinics (KC CARE and SWOPE) while those in the blue-colored zip codes received care from either Health Partnership, KC CARE or SWOPE. The number of patients receiving care from these areas has increased since Year 4, representing shifts in the regional demographics of those seeking after-hours health care. In addition, Health Partnership partnered with the Elizabeth Layton Center to purposefully extend their reach into Miami County, representing a sizeable number of patients. Like Year 4, KC CARE served the greatest number of zip codes (24), suggesting their patient population is widespread. Note that the shading in this graph does not indicate density, but density can be determined by the number in parentheses. In addition, patients seen outside the greater Kansas City area were excluded from this map.

Population Served

The section below presents the results of an examination of the patient population through analyses of demographic characteristics, and the type of care. In addition to the geographic data described in the previous section (regarding patient zip codes and counties), staff collected and analyzed data on patient health insurance coverage, gender, age, race/ethnicity and income. In addition, to understand the care the patients required and received, staff collected diagnosis and procedure codes. The sections below describe these findings.

As the project has evolved, it is important to examine changes in the composition of the patient population. In Years 1 through 5, NORC tracked elderly, pediatric, female, new and uninsured patients. Importantly, the definition of pediatric patients used was different in Year 1 than in other years. In Year 1, NORC defined a pediatric patient as an individual less than 13 years of age; in Years 2 through 4, based on feedback from clinics, NORC defined pediatric patients as individuals less than 12 years of age.

Figure 8 presents a comparison of patient characteristics between 2009 and each subsequent year until Year 5. This includes patient data from October to December 2009 (immediately before the launch of the capacity expansion project); it is included to provide insight into the mix of the patient population before there was an option for extended hours.

Figure 8: Percent of patients, by elderly, pediatric, female, new and uninsured, Years 1-5
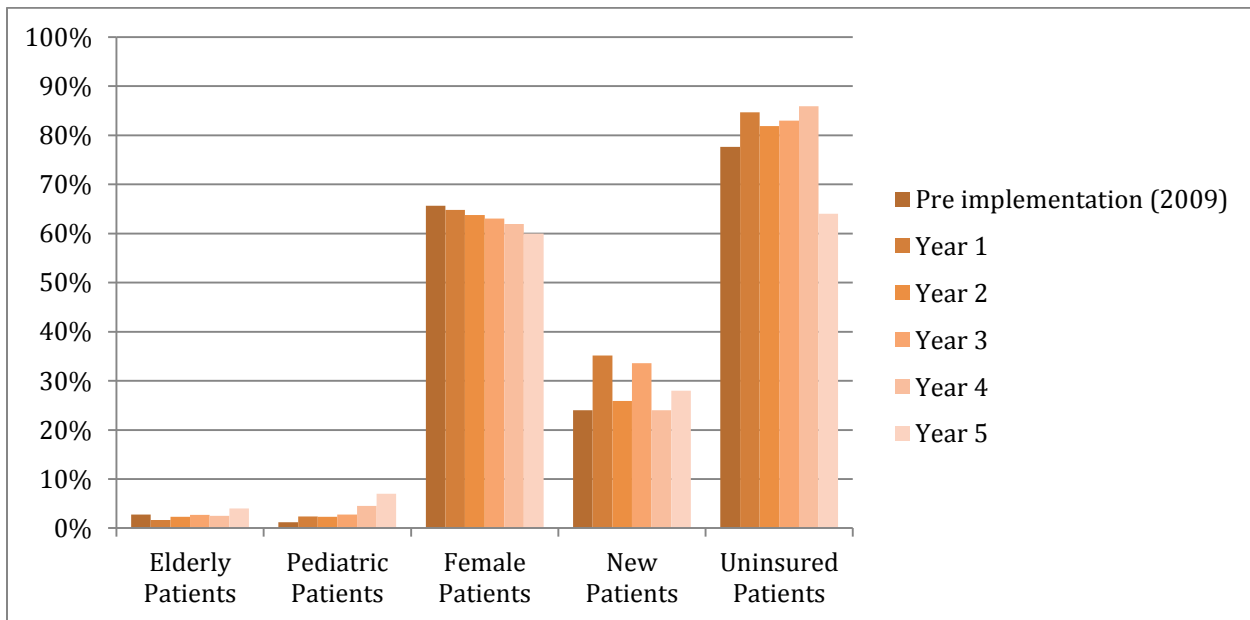
Figure 8 shows slightly lower proportions of females every year between Years 1 through 5. There was a slight decrease in the number of pediatric patients, new patients, and uninsured patients from Year 1 to Year 2. The number of new patients oscillated between increases and decreases each year; there was a slightly higher proportion of new patients in Year 5 than in the previous year. In addition to external factors, the decrease in number of new patients for Year 4 was likely due to the decreased number of extended clinic hours with a recovery to that loss in Year 5. The number of elderly patients remained relatively stable between Years 1 and 5. While there are differences in the proportions of elderly, pediatric, and female patients, the differences were minimal and ranged from one to five percent. The proportion of female patients has declined from 64.8% in Year 1 to 60.0% in Year 5. The number of pediatric patients has continued to increase since Year 2 from 2% to 7% in Year 5. Concurrently, the number of uninsured patients increased until Year 4 and then dropped dramatically to below pre-implementation levels in Year 5. The proportion of uninsured patients seen at the clinics declined from 86% in Year 4 to 64% in Year 5 across all clinics, suggesting that the impact of the insurance mandate

may have affected previously uninsured clients. It is possible that female clients who were seeking gynecological services are now obtaining services at other clinics with private insurance.

<u>Demographic details of the patient population</u>. The expansion of the administrative data template in Year 2 that continued through Year 5 enabled additional analyses of demographic characteristics. The figures below provide a detailed breakdown of the extended-hours patient population by insurance coverage, gender, age, race and income level for Year 5. Percentages were calculated using the number of total number of patients (5,209) as the denominator.

Figure 9: Insurance status of the extended-hours patient population, Year 5

Demographic Characteristic	Explanation
Health Insurance	
Unknown / Not Captured, 2% — Medicaid, 14% — Medicare, 8% — Private Insurance, 13% — Uninsured, 64%	▪ 78% of the patient population is either uninsured or covered by Medicaid. The proportion of uninsured patients dropped from 86% in Year 4 to 64% in Year 5. ▪ As more uninsured patients gain insurance through marketplace options, the central project goal to target uninsured, Medicaid and underinsured patients may have to shift to better understand how healthcare access is affected by an uptake in private insurance.

There was a dramatic decline in the number of uninsured patients seeking services from the clinics between Year 4 and Year 5 (86% and 64%, respectively). This is possibly be due to the insurance mandate in the Affordable Care Act and the availability of tax credits through the Health Insurance Marketplace as more residents purchase insurance; this may be validated by the concurrent increase in the proportion of patients who were privately insured (2% to 13%). However, despite national shifts to increase insurance coverage, these findings are especially surprising as Kansas has seen a rise in the number of uninsured residents over the past year from 12.5% to 17.6% and Missouri's rate of uninsured residents has remained close to 15%.[13] There was a slight increase in the proportion of Medicaid patients, a surprising finding as neither Kansas nor Missouri expanded Medicaid coverage (increase from 9% to 14%). However, national debate of Medicaid expansion may have encouraged those who were eligible but not receiving Medicaid to apply. A notable discrepancy was also seen in the proportion of Medicare beneficiaries seeking services between Year 4 and Year 5 (3% and 8%, respectively). It is possible that

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[13] Witters, Dan. "Arkansas, Kentucky Report Sharpest Drops in Uninsured Rate." Retrieved from http://www.gallup.com/poll/174290/arkansas-kentucky-report-sharpest-drops-uninsured-rate.aspx.

clinics targeted newly insured individuals to come to the clinics during their extended hours, but we have not interviewed clinic managers to learn whether this is the case.

Figure 10. Age of the extended-hours patient population, Year 5

The majority of the patient population is between the ages of 20 and 55 (70%). These findings are slightly lower than the proportion of 20-55 year old patients in Year 4 (70%).

The proportions remained relatively consistent within the Year 5 quarters with a slight increase in the proportions of pediatric and older adult patients. This trend is consistent with data from Years 1 through 4.
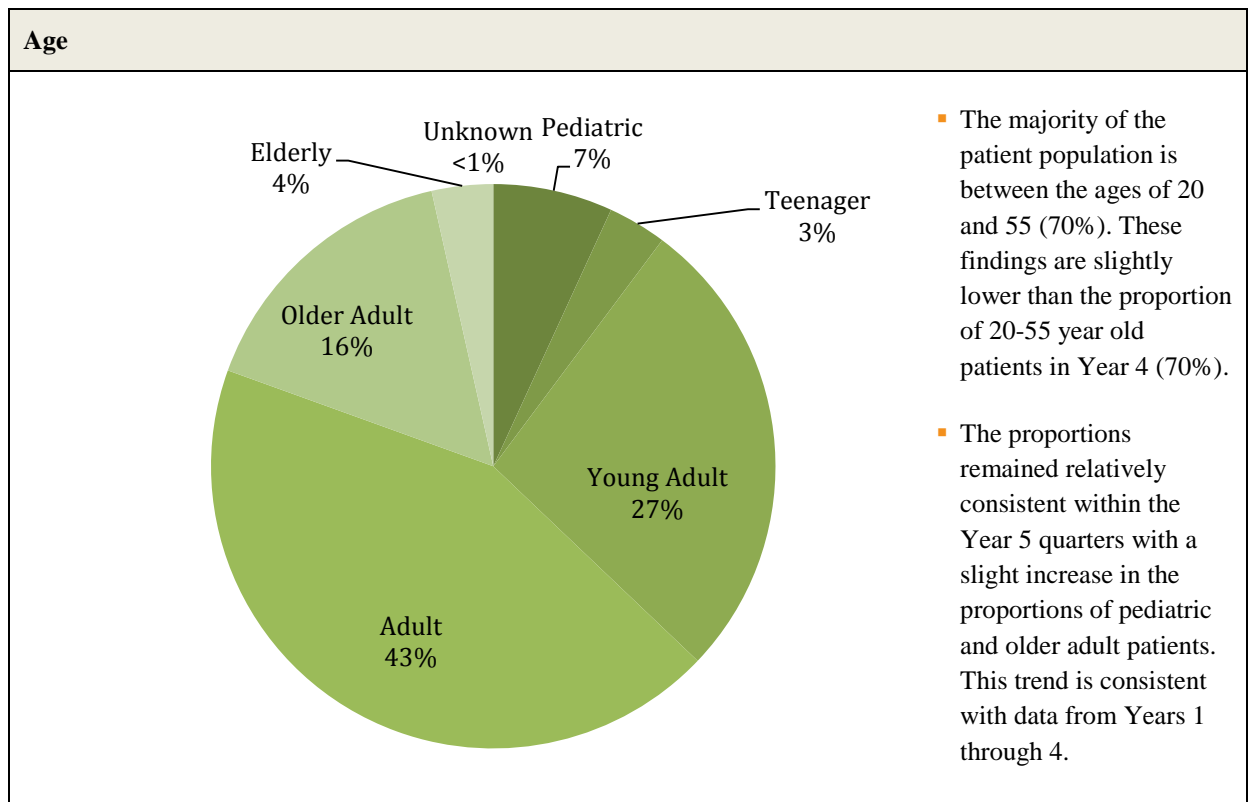
The age distribution was similar between Year 4 and Year 5. The majority of patients served were Adults (36-55 year olds), a proportion which remained unchanged between Year 4 and Year 5 (43%). There was a slight increase in the proportion of older adults, elderly, and pediatric patients who obtained services at the clinics in Year 5 and a slight decrease in young adults (20-35 year olds).

Figure 11. Race/Ethnicity of the extended-hours patient population, Year 5
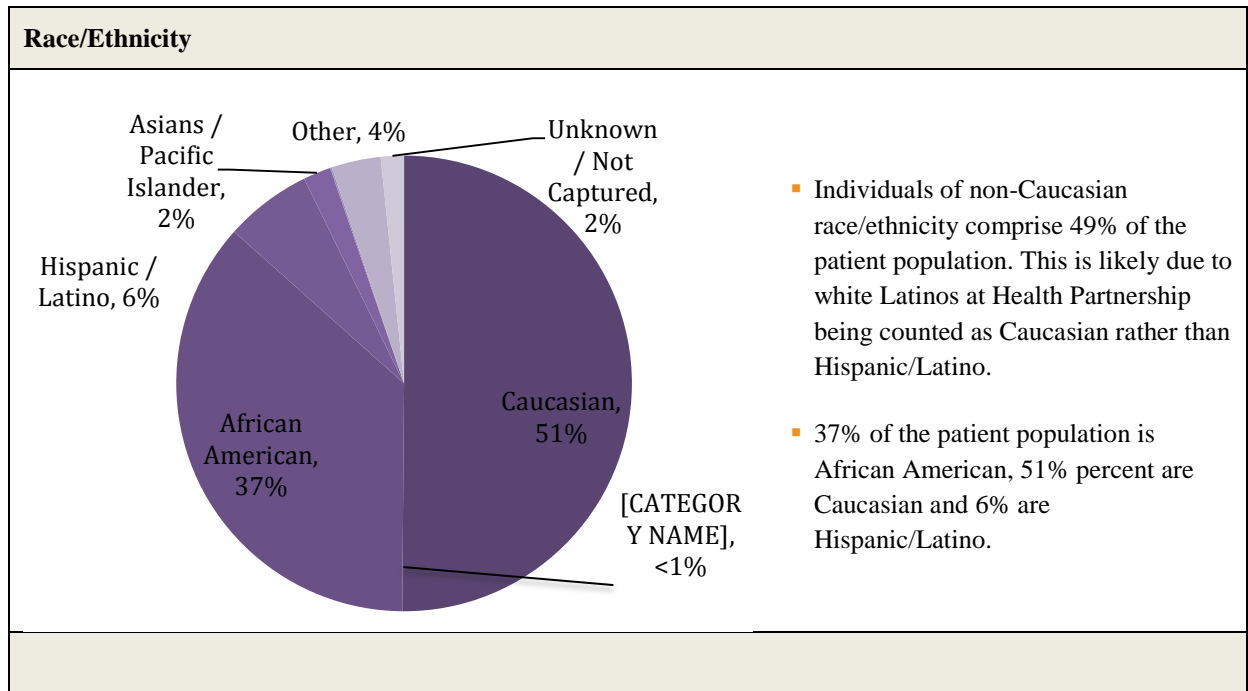
There was a dramatic increase in the proportion of Caucasian patients served by the clinics from Year 4 to Year 5 (32% to 51%, respectively). While a similar proportion of African Americans were served, there was a steep decline in the population of Hispanic/Latino patients between Year 4 and Year 5 (18% and 6%, respectively). This is likely due to the fact that Health Partnership reported their race/ethnicity data separately. In order to avoid double counting, the Hispanic/Latino population from Health Partnership was not included in this analysis. These individuals were included in their respective race categories, and therefore the portions of African American and Caucasian individuals is likely higher than if these individuals were instead in the Hispanic/Latino category.

Figure 12. Income Level of the extended-hours patient population, Year 5

Income Level

- 84% of the patient population is below two times the federal poverty level (FPL). This is less than the Year 4 figure (93%) but identical to Year 2.

- 24% of the patient population is between the FPL and two times the FPL. This suggests that a portion of the patient population is working but has a limited source of income and potentially less access to financial or other public support.
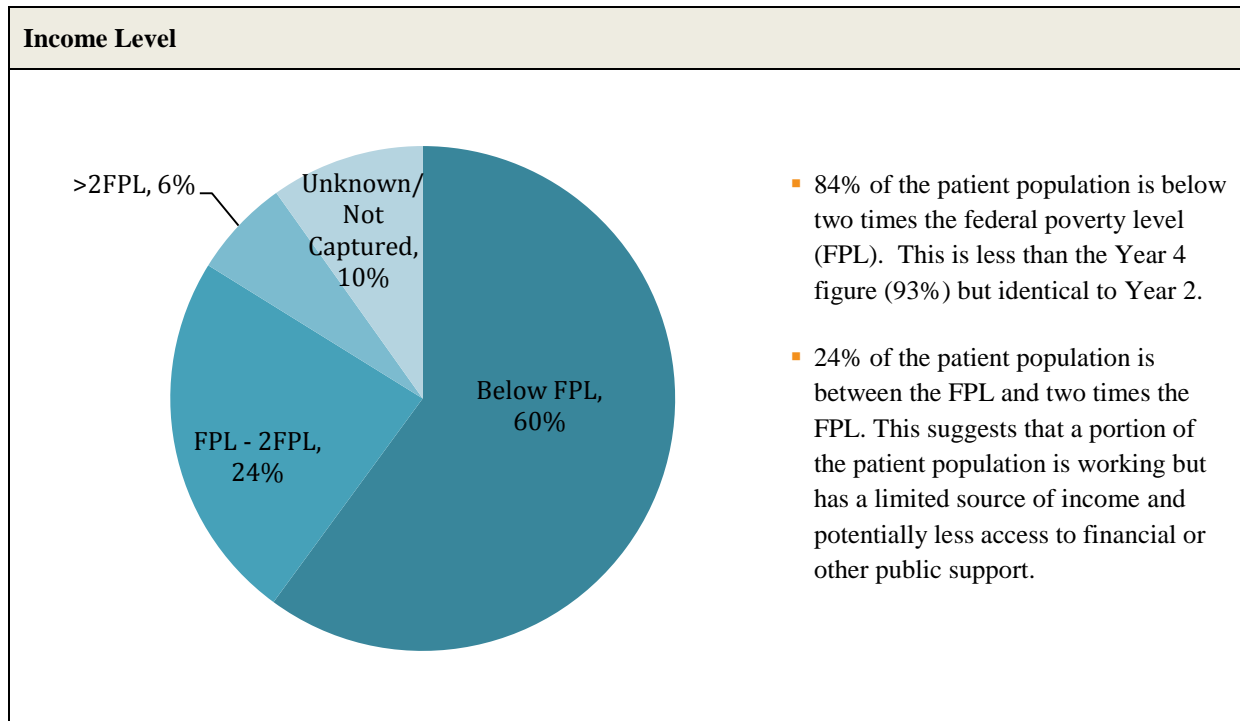
There was a substantial decrease in the number of patients who had an income below the FPL from Year 4 to Year 5 (75% to 60%, respectively). In turn, the clinics saw an increase in the proportion of patients between one and two times the FPL from Year 4 to Year 5 (18% to 24%, respectively).

The findings above are consistent with the population identified in HCF's 2011, 2012, 2013, and 2014 Request for Proposals (RFP) as needing access to health care; this includes patients that are uninsured, non-Caucasian, low-income and/or adults.

Type of Care

To examine the type of care provided during extended hours, staff aggregated and analyzed diagnoses and procedure codes. Diagnosis and procedure codes offer insight into the needs of the patient population. Each quarter, clinics submitted quarterly data on ICD-9-CM diagnosis codes, rolled up to the third digit, and/or narrative descriptions of their top ten diagnoses. NORC aggregated the data across the clinics, and using the number of patient visits, calculated an estimate of the top ten diagnoses across the clinics. Similarly, each quarter, the clinics submitted procedure data using CPT-4 codes and/or narrative descriptions of the top ten procedures; NORC then calculated an estimate of the top ten procedures across clinics.

To examine diagnoses, NORC first looked for differences in diagnoses between Years 1 through 5. Between Year 1 and Year 2, there were not many differences in the individual diagnoses, as half (hypertension, diabetes, vaginitis, routine medical exam, and back pain) of the diagnoses appear on both lists. In Year 3, vaginitis, routine medical exam, and back pain no longer appeared on the top ten diagnoses list, but hypertension and diabetes remained the two most frequent diagnoses. In Year 4, vaginitis and back pain returned to the top ten diagnoses along with hypertension and diabetes. Depressive disorder, which ranked as the fourth most common diagnosis in Year 3, was not in the top ten diagnoses codes for Year 4 but returned in Year 5 as the 9th most common diagnosis. The Year 4 diagnoses more closely resemble the findings from Year 2. In Year 5, there was an increase in the proportion of patients diagnosed with HIV from Year 4 (1% to 4%, respectively). In addition, Year 5 also saw increases in the number of patients diagnosed with overweight/obesity (2% to 4%). The new

diagnosis code of health supervision of an infant or child (V20) reflects the growing proportion of pediatric patients seeking care and indicates that a large portion of these pediatric appointments were well visits. The Year 5 top ten diagnoses aggregated across all clinics are presented in Figure 13 below.

Figure 13: Top Ten Diagnoses, all clinics, Year 5

ICD-9	Diagnosis	%
401	Essential Hypertension	18%
250	Diabetes Mellitus	15%
042	Human immunodeficiency virus [HIV] disease	4%
278	Overweight, obesity and other hyperalimentation	4%
V20	Health supervision of infant or child	4%
616	Inflammatory disease of cervix, vagina, and vulva	3%
V65	Other persons seeking consultation	3%
724	Other and unspecified disorders of back	2%
311	Depressive disorder	2%
V70	General medical examination	2%

NORC also examined data for differences in the number of acute and chronic conditions. According to the Centers for Disease Control (CDC), heart disease, diabetes and obesity are among the most common and costly chronic conditions in the United States (U.S.). [14] These nationwide trends are consistent with the information displayed above as three of the ten codes (401 hypertension, 250 diabetes, and 278 overweight and obesity) are associated with being overweight/obese; and the second most common diagnosis is diabetes.

Extended-hours patients tend to have extremely complex medical conditions. While the data above focuses on primary diagnoses, providers likely diagnosed these patients with more than one condition. In addition, it is difficult to distinguish between an acute versus chronic care visit. Since a proportion of the patient population lacks a regular source of care, a diagnosis or procedure that appears to indicate chronic disease may actually be in an acute state.

To gather more information on the severity of the patients' health conditions, the clinics started reporting data on primary procedure codes in Year 2. After calculating the top ten most commonly reported procedure codes throughout Year 2, NORC determined that over half of the codes reported were office visit codes. These office visit codes offer important insight into the severity of the patients' medical conditions, and are directly applicable to an analysis of patient complexity.

The CPT office codes analyzed include 99201-99205 for new patients and 99211-99215 for established patients. The range in these codes represent varying severity and subsequent time spend with the patient from Level 1, self-limited or minor, where only 10 minutes is required with a patient (99201 and 99211) to Level 5, moderate to high severity, requiring a 60-minute visit. Additionally, CPT codes 99381-99387 and 99391-99397, which represent preventative medicine services for new and established patients, respectively, were included. The variation in these codes represents a movement in age from younger than 1 year (99381 and 99391) to sixty-five years and older (99387 and 99397). There is no severity associated with these codes as they represent preventative medicine rather than the treatment of a condition.

The top ten CPT-4 office visit codes for Year 5 were similar to those for Year 4 and show that the most commonly reported office visit CPT-4 office visit codes were 99213, which depicts an established patient visit categorized as level 3 severity, and 99214, which includes existing patients categorized as level 4 severity. However, there were significant increases in the proportion of Level 3 and Level 4 procedures

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[14] Centers for Disease Control (CDC). (2009). Chronic Diseases and Health Promotion. Retrieved from http://www.cdc.gov/chronicdisease/overview/index.htm.

compared to the previous year. The percentage of Level 3 cases increased from 39% in Year 4 to 49% in Year 5; similarly, the proportion of Level 4 cases increased from 16% in Year 4 to 28% in Year 5. This may represent an increase in higher acuity patients. The Year 5 top ten office visit procedure codes aggregated across all clinics are presented in Figure 14 below.

Figure 14: Top Ten Office Visit Procedures, Year 5

CPT-4	Procedure	%
99213	Established Patient, Level 3	46%
99214	Established Patient, Level 4	26%
99202	New Patient, Level 2	7%
99212	Established Patient, Level 2	4%
99203	New Patient, Level 3	3%
99204	New Patient, Level 4	2%
99201	New Patient, Level 1	1%
99211	Established Patient, Level 1	1%
99383	New Patient, 5-11 yrs	1%
99394	Established Patient, 12-17 yrs	1%

Discussion

The Kansas City Safety Net Capacity Expansion project intends to increase patient access to safety net clinic services across metropolitan Kansas City by focusing on uninsured, underinsured and Medicaid patients. During Year 5, the project provided financial support to four safety net clinics, and ultimately increased the number of patients, patient visits and new patients receiving care during extended hours compared to the baseline prior to the extended-hours project. The administrative data clearly documents an increase in the volume of health care services used by the target population. These findings suggest the project has generally increased access to the health care services throughout Kansas City, as well as potentially decreased inappropriate use of Emergency Departments as a regular source of care. Below, we describe lessons learned and important considerations derived from Year 5 of the evaluation.

Patient Complexity. Since the focus of the project is the increase access to health care services, an initial measure of success was identified as an overall increased number of patients and patient visits. It is important to note that in Year 5, the number of patient and patient visits decreased from Quarter 4 2013 to Quarter 2 2014, and increased from Quarter 2 2014 through Quarter 3 2014. The steep decline observed from Quarter 4 2013 (Year 4) through Quarter 2 2014 (Year 5) continues a trajectory of decreased extended hours due to decreased funding between Years 3 and 4 which continued into Year 5. The subsequent slight increase seen from Quarter 2 through Quarter 3 of Year 5 may reflect a reversal in this trend and a return to earlier capacity. However, the number of patients and patient visits reported throughout Year 5 remain relatively low compared to data from Years 2 and 3, suggesting that decreased funding for extended hours results in decreased access to health care services for the program's target population.

Additionally, encounter rate, or the number of patient visits per provider hour, is an important measure to gauge progress and success. However, in the first year of the project the clinics emphasized the impact of the complexity of the patients' medical situations on the encounter rate. The project's target population includes patients that are generally without a regular source of care. Subsequently, when they ultimately seek care they tend to have several medical conditions that are relatively severe. This is especially true for new patients. Providers, therefore, spend more time with patients. Although this has resulted in a lower number of patient visits per hour than initially projected, there has been an increase in the volume of care provided. From October 2013 through September 2014 (Year 5), the clinics reported a total of 2,785 extended hours and conducted 6,003 patient visits. Compared to figures from Year 4, clinics reported an increase in the number of extended clinic hours and a decrease in the overall number of patients seen. It is unclear what the reduction in patient visits is due to and further research should be done to understand this dramatic shift in hourly efficiency. The termination of the extended hours program will have important financial and policy implications for the healthcare safety net network in Kansas City as the patients who were serviced during the extended hours seek care in other settings.

Provider Recruitment, Retention and Attrition. Provider recruitment, retention and attrition greatly affect the clinics' ability to implement extended hours. Clinics were affected by healthcare workforce shortages, inability to offer a full-time position, and irregular hours. In Year 1, recruitment challenges delayed project implementation for several clinics. These issues continued in Year 2 with provider turnover (and subsequent recruitment efforts) resulting in two clinics reducing their hours. In Year 3, clinics worked to improve recruitment. One clinic, Health Partnership, hired a new pediatrician starting in Quarter 2, which led to an increase in the number of pediatric patients treated. Although clinics did not report on this issue in Years 4 or 5, the continued use of mid-level staff suggests it remained a problem. This is an important issue for future research.

Differences between Physician and Mid-level Staff Hours. The clinics consistently rely on mid-level staff to provide health care services to their patient population. There is a difference in the total number of physician and mid-level hours worked during the extended-hours project. Throughout Year 5, physicians worked a total of 496 hours, while mid-level staff worked 2,556 hours. This suggests there may be a

systemic difference in the duties and responsibilities of physicians versus mid-level staff. However, it also may reflect alternative methods used by the clinics for recruiting appropriate providers to treat specific populations. The hours of provider care in Year 5 do signify a shift in this disparity with an increasing number of physician hours worked compared to Year 4 and a decrease in the amount of mid-level staff hours.

Demographic Patterns and Project Goals. As described above, the project is meeting its goal to increase patient access to health care services by targeting the uninsured, underinsured and Medicaid population. This goal is consistent with an overarching goal of safety net clinics to target this population. In addition, as described in HCF's 2013 RFP, the demographic trends of the patient population meet the needs of the community. For instance, insurance rates reflect racial disparities with disproportionately large proportions of the African American and Hispanic populations remaining underinsured or on Medicaid. Concurrently, 43% of the clinics' patient population is either African American or Hispanic.

Data on race/ethnicity from Health Partnership was excluded as they collect race and ethnicity separately and there is consequently an overlap between Hispanic/Latinos and the other racial categories. Figure 15 shows the proportion of Health Partnership patients who identified as Hispanic/Latino.

Figure 15: Race/Ethnicity of the extended-hours patient population of Health Partnership, Year 5

■ Non-Hispanics/Latinos (830)   ■ Hispanic/Latino (831)
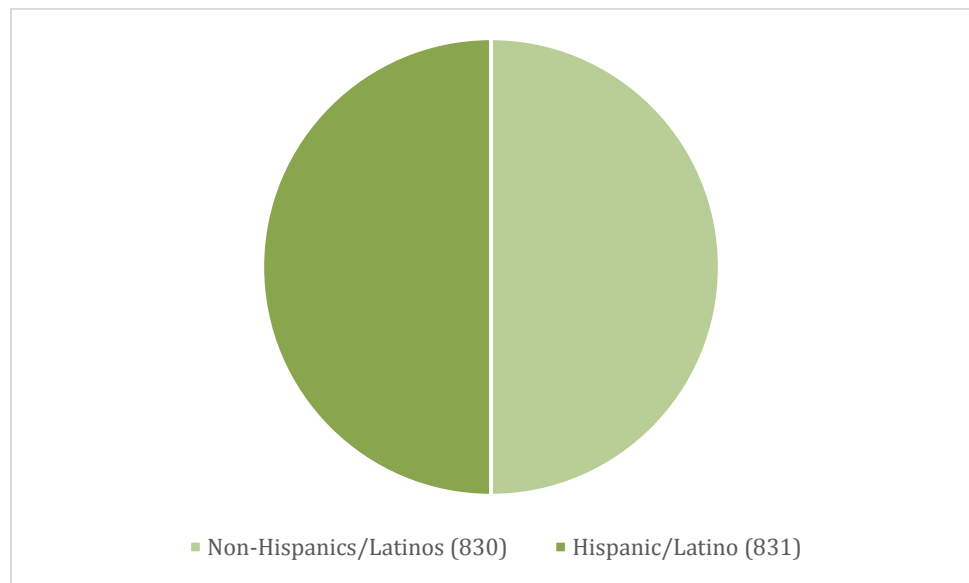
In examining the demographic variables that overlapped between Years 1 and 5, it is interesting to note that while the Year 2 data concerning the number of new and uninsured patients is more similar to the 2009 data, the Year 3 data returned to patterns seen in the Year 1 data. This fluctuation may be due to the economic downturn that took place in 2011 and subsequent recovery in 2012, and/or the impact of the initial efforts related to launching the extended-hours program. Year 5 data displays a number of novel trends including an increase in the number of patients who are Caucasian, privately insured, and over 2 times the Federal Poverty Level. It is not clear whether these demographics overlap and the change in insurance status may be due to the insurance mandate under the Affordable Care Act. However, there are strong demographic shifts in the patient population that is seeking after hours care. Clinics may need to evaluate why those with private insurance are seeking care at affordable clinics and if this change represents a demographic swing in current patients or new patients. Furthermore, the wide-reaching policy changes that affect insurance status of millions may in fact have a lesser impact on the location or timing of actual health care access.

Appendices

Appendix A: Administrative Data Collection Instructions (2014 Quarter 3)

Extended Hours Administrative Data Instructions

The following instructions are for the extended-hours administrative data to be collected and returned to NORC. For this month, please submit your <u>aggregate Quarter 3 (July, August, and September)</u> Administrative Data in <u>the Q3 2014_Dems, Q3 2014_Geo, Q3 2014 Diag, and Q3 2014 Proc</u> tabs. Definitions of the data elements to be submitted this month are listed below.

Please list the total number of unduplicated patient encounters for the aggregate quarter (summing data across all 3 months) in each category listed below:

Part A: Clinic and Demographic Information
- Hours
  - Clinic (#) – The number of clinic hours paid for by the grant.
  - Physicians (#) – The number of direct patient contact physician hours paid for by the grant.
  - Mid-level Staff (#) – The number of direct patient contact mid-level staff hours paid for by the grant.
- Patients
  - Patients (#) – The number of patients that received medical care.
  - Visits (#) – The number of patient visits.
  - New Patients (#) –The number of new patients. A new patient is any patient that has not received any professional or face-to-face service, i.e. internal medicine or primary care services, from the provider in the past 3 years.
- Coverage
  - Medicaid (#) – The number of patients covered by Medicaid.
  - Medicare (#) – The number of patients covered by Medicare.
  - Private Insurance (#) – The number of patients covered by private insurance.
  - Uninsured (#) – The number of uninsured patients.
  - Unknown / Not Captured (#) – The number of patients whose health coverage information is unknown or was not captured.
- Gender
  - Females (#) – The number of female patients.
  - Males (#) – The number of male patients.
  - Other (#) – The number of patients whose gender is categorized as other.
  - Unknown / Not Captured (#) – The number of patients whose gender is unknown or was not captured.
- Age
  - Pediatric (<12 years) (#) – The number of patients under 12 years.
  - Teenage (13-19 years) (#) – The number of patients between 13 and 19 years.
  - Young Adult (20-35) (#) – The number of patients between 20 and 35 years.
  - Adult (36 – 55 years) (#) – The number of patients between 36 and 55 years.
  - Older Adult (56 – 64) (#) – The number of patients between 56 and 64 years.
  - Elderly (>65) (#) – The number of patients 65 and older.
  - Unknown / Not Captured (#) – The number of patients whose age is unknown or was not captured.

- Race / Ethnicity
  - o Caucasian (#) – The number of Caucasian patients.
  - o African American (#) – The number of African American patients.
  - o Hispanic / Latino (#) – The number of Hispanic/Latino patients.
  - o Asian/Pacific Islander (#) – The number of Asian/Pacific Islander patients.
  - o American Indian/Alaska Native (#) – The number of American Indian/Alaska Native patients.
  - o Other (#) – The number of patients whose r/e is not categorized as any of the above options.
  - o Unknown/Not Captured (#) – The number of patients whose r/e is unknown or was not captured.
- Income
  - o Below FPL (%) – The percent of patients living below the federal poverty level.
  - o FPL – 2FPL (%) – The percent of patients living between the federal poverty level and two times the federal poverty level.
  - o >2FPL (%) – The percent of patients living two times above the federal poverty level.
  - o Unknown / Not Captured (%) – The percent of total patients who income level is unknown or was not captured.

Part B: Geographic Information
- Zip Code – The number of patients by zip code. List the zip code in the zip code column and corresponding number of unduplicated patients in the # column. Add rows as needed.
- County – The number of patients by county. List the county in the county column and the corresponding number of unduplicated patients in the # column.

Part C: Top Ten Diagnoses
- Top Ten Diagnoses
  - o Top 10 Diagnoses (% by ICD-9 code if possible) – The primary diagnosis and corresponding percent of total visits by ICD-9 code if possible. To calculate the top ten primary diagnoses by percent: (1) determine the top ten primary diagnoses that occurred in that month during extended hours; (2) insert the applicable ICD-9 code and name of the diagnosis into the ICD-9 and Diagnosis columns, respectively; (3) insert the corresponding percent of total visits into the % column.

Part D: Top Ten Procedures
- Top Ten Procedures
  - o Top 10 Procedures (% by CPT-4 code if possible) – The procedure and corresponding percent of total visits by CPT-4 code if possible. To calculate the top ten procedures by percent: (1) determine the top ten procedures that occurred in that month during extended hours; (2) insert the applicable CPT-4 code and name of the procedure into the CPT-4 and Procedure columns, respectively; (3) insert the corresponding percent of total visits into the % column.

Contact Dani Liffmann at Liffmann-Danielle@norc.org or 312/357-3871 if you have any questions.

Appendix B: Administrative Data Template (2014 Quarter 3)

Part A: Clinic and Demographic Information

Extended Hours		Q3 2014
Number of:		
Hours	Clinic (# hours)	
	Physicians (# hours)	
	Mid-level Staff (# hours)	
Patients	Patients (#)	
	Visits (#)	
	New Patients (#)	
Coverage	Medicaid (#)	
	Medicare (#)	
	Private Insurance (#)	
	Uninsured (#)	
	Unknown / Not Captured (#)	
Gender	Females (#)	
	Males (#)	
	Other (#)	
	Unknown / Not Captured (#)	
Age	Pediatric (<12 years)(#)	
	Teenager (13-19 years) (#)	
	Young Adult (20-35 years) (#)	
	Adult (36-55 years) (#)	
	Older Adult (56-64 years) (#)	
	Elderly (>65 years) (#)	
	Unknown / Not Captured (#)	
Race / Ethnicity	Caucasian (#)	
	African Americans(#)	
	Hispanics / Latinos(#)	
	Asians / Pacific Islander (#)	
	American Indian / Alaska Native (#)	
	Other (#)	
	Unknown / Not Captured (#)	
Income	Below FPL (%)	
	FPL - 2FPL (%)	
	>2FPL (%)	
	Unknown / Not Captured (%)	

Part B: Geographic Information

Zip Code	#		County	#

(Table header: Q3 2014; left column label: Zip Code; center column label: County)

Part C: Top Ten Diagnoses

	Extended Hours		Q3 2014
	ICD-9	%	Diagnosis
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Part D: Top Ten Procedures

	Extended Hours		Q3 2014
	CPT-4 office visit code	%	Procedure
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			