

***A Rural Federally Qualified Health Center's
Influence on
Hospital Emergency Room Uninsured/Medicaid Visits and Costs***

**Betty Smith-Campbell, PhD, RN
Wichita State University
Principal Investigator**

David Wright, PhD
Wichita State University, Sociology
Statistician

Michael E. Samuels, Dr.P.H.
University of Kentucky College of Medicine
Consultant

**This report was made possible by cooperative agreement number U30CS00212-05-02
and its contents are solely the responsibility of the authors and do not necessarily represent the official views of
the Health Resources and Services Administration (HRSA).**

and the

Wichita State University, School of Nursing

Sigma Theta Tau, International, Epsilon Gamma Chapter-at-Large provided a small research award



NRHA Administrative Office

521 E. 63rd Street
Kansas City, Missouri 64110

NRHA Program Officer: Rosemary McKenzie,
Minority Health Liaison and Program Services Manager



Executive Summary of Results:

FQHC influence on ED visits:

- The actual number and percent of Medicaid beneficiaries decreased in 2004 following the establishment of the FQHC (May 2003), for all ED categories of ambulatory care sensitive conditions (ACSC):
 - *Non-emergent*. Cases where immediate care is not required within 12 hours (e.g., sore throat).
 - *Emergent-primary care treatable*. Care is needed within 12 hours, but care could be provided in a typical primary care setting (infant with a 102° fever).
 - *Emergent-ED care needed: preventable/avoidable*. Immediate care in an ED setting is needed, but the condition could potentially have been prevented or avoided with timely and effective ambulatory care (asthma, diabetic ketoacidosis, and so on).
- In 2005 the actual number of ED visits and percent of Medicaid beneficiaries increased from 2004 but remained below the 2003 ED visit number and percent of Medicaid beneficiaries.
- The percent of the uninsured population visiting the ED dropped immediately the year the FQHC was established (2003) for Emergent-primary care treatable, and non-emergent visits. This percent remained below the 2002 percent rate in 2004 but rose in 2005. There was no notable decrease for Emergent-ED care needed: preventable/avoidable ED visits.

FQHC influence on potential cost savings:

(Based on charge data)

- The decrease in Medicaid ACSC ED visits had a potential cost savings of \$1.1 million
- Potential cost savings based on the decrease in percent changes for the uninsured was just under \$250,000 for 2003 and 2004, there were no noted cost saving for 2005.
- Although the average number of visits, from 2001 to 2005, for both Medicaid (n=174) and the uninsured (n=77) were the lowest for emergent-preventable/avoidable conditions, these ED visits had the highest average cost per visit.
 - Medicaid: \$5,114; Uninsured: \$4,958
- Emergent-primary care treatable conditions had the highest average annual cost with the most frequent ED visits per year but the average cost per visit was significantly lower than the cost per visit for emergent-preventable/avoidable conditions
 - Medicaid: \$1.2 million (\$770 per visit); Uninsured: \$1 million (\$1,159 per visit)
- The charge per visit for non-emergent visits was also measurably below that for emergent-preventable/avoidable conditions.
 - Medicaid: \$709; Uninsured: \$801



Background

Increased numbers of the medically underserved impair not only their own health and financial stability but also the financial stability of community health care institutions and providers (Institute of Medicine, 2003). Part of this instability comes from uncompensated or inadequately compensated care provided to the medically underserved at local health care institutions. It is estimated that uncompensated care to the uninsured through public and private institutions is over \$41 billion a year (Hadley & Holahan, 2004). The health care safety net, particularly community health centers (CHC) may reduce this financial cost to other community health institutions. Community health centers have provided quality health care that is similar or superior to traditional models of health care (Geiger, 2005; Proser, 2005). For over 40 years, CHCs have been delivering primary and preventive health care to the medically underserved in rural, urban and suburban communities (Proser et al., 2005).

It has been noted in several studies that the medically underserved, those who lack insurance or those with Medicaid, use the emergency department (ED) more frequently than individuals with insurance. Inappropriate use of the ED is inefficient, costly, and wasteful for patients, payers, and the health care system. Specifically, CHCs may reduce uncompensated or inadequate compensation to hospitals by decreasing visits to the ED and avoiding hospitalizations of the uninsured and those covered by Medicaid (Proser, 2005; Smith-Campbell, 2000, 2005).

Research Study Overview

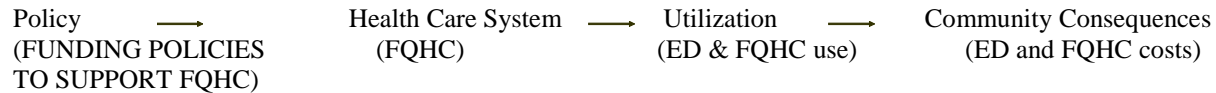
The purpose of this study was to assess how one Federally Qualified Health Center (FQHC) influenced access to care for the uninsured and the economic impact, if any, this had on the local hospital in a rural community. This replicates a study conducted on a non-federally funded health center (Smith-Campbell, 2005).

In the original study, the CHC was state funded and the main criteria for CHC patients was, they had to be without health insurance - Medicaid patients were considered to be insured. Three years after the CHC received state funding, uninsured visits to the local hospital ED decreased by almost 40%. After ten years, uninsured ED visits remained 25% lower than before state funding began, whereas insured visits had almost doubled (98%). Based on charge data, the decrease in number of uninsured visits potentially saved the hospital and uninsured patients almost \$14 million.

Because the safety-net for the medically underserved varies widely from community to community, effects of the uninsured, especially financial consequences must be assessed at the local level (Institute of Medicine, 2000). The Aday, Andersen and Fleming (1980) Framework on Access and the Institute of Medicine's (2003) framework for community effects guided this study. These frameworks assume that health policy directly affects the health care system. In turn, the characteristics of the health care system then influence utilization, an indicator of access (Aday et al., 1980; Institute of Medicine, 1993). The number of emergency department (ED) and FQHC visits by the uninsured and insured is one indicator of utilization. Utilization and access then affect community revenues for providers and facilities. Those who lack insurance, the poor and unemployed, commonly use the ED for basic health services, a lack of access indicator, thus an expectation would be that the medically underserved would use the ED more frequently than those with traditional insurance. However, studies have demonstrated that ED visits by the uninsured and Medicaid are lower in communities with a health center.



Framework



The key policy identified in this study was a federal policy that provided funding for the FQHC. This federal policy required the FQHC to provide primary and preventive health care services to the medically underserved. They must use a sliding fee scale and provide care to low-income people covered by Medicaid, Medicare, as well as the uninsured and low income under-insured. *FQHCs are different from rural health clinics (RHCs). RHCs are not obligated to provide service for the poor and the uninsured.*

Study aims and Research questions

The original aim of the study was to examine the influence and economic impact that a rural FQHC had on just the uninsured emergency department (ED) visits at the Essential Access Community Hospital for the region, located in the same county as the FQHC.

The original research questions were:

1. Did ED visits by the uninsured decrease after the establishment of the FQHC?
2. If visits to the ED decreased or remained stable what were the estimated cost savings to the hospital?

Following initial preliminary data analysis, it was clear that the results would not be similar to the original study. Therefore, the research questions were expanded to include Medicaid patients, as well as to expand data analysis to include assessing ED visits that might have been avoided or prevented had Uninsured or Medicaid persons used the local FQHC for care.

Revised research questions were:

1. Did ED visits by the uninsured or people with Medicaid decrease after the establishment of the FQHC?
2. Did preventable or avoidable ED visits decrease after the establishment of the FQHC?
3. If visits to the ED decreased or remained stable what were the estimated cost savings to the hospital?



Methods

Using a community-participatory approach and ethnographic techniques, information was collected on the characteristics of the county health care system. Characteristics included policy changes (local, state and national); other health care institutions that may have made an impact of ED visits at the hospital; and general information about the community that may have influenced access to care prior to and after the establishment of the health center. The health center was started initially as a family resource center in 1997 with hospital, community, and state funding. In May 2003 the health center received federal funding and officially became a Federally Qualified Health Center (FQHC).

Data was collected from FQHC reports and included number of annual visits and funding sources of the FQHC from 2003 to 2006. Data from the health center prior to 2003 were not available. The hospital provided computer reports generated from medical records, which included: ED visits annually by insurance status from 1995 to 2005. Data also included principle ICD diagnosis, charge for visit, basic demographic data, and zip code data. No individual medical records were reviewed. Data collection began after approval from the University and Medical Center institutional review boards.

Project components:

- Phase one: Initial meeting with key stakeholders in the community to discuss the project and data collection procedures; including FQHC director, CFO, and a board member plus Hospital CEO, IRB chair, and medical records staff care system.
- Phase two: Data was received and analyzed;
- Phase three: Report of analysis. On site report to FQHC and hospital key stakeholders with an opportunity for agencies to provide input into data analysis and conclusions.



Information about the Hospital, FQHC, and Community

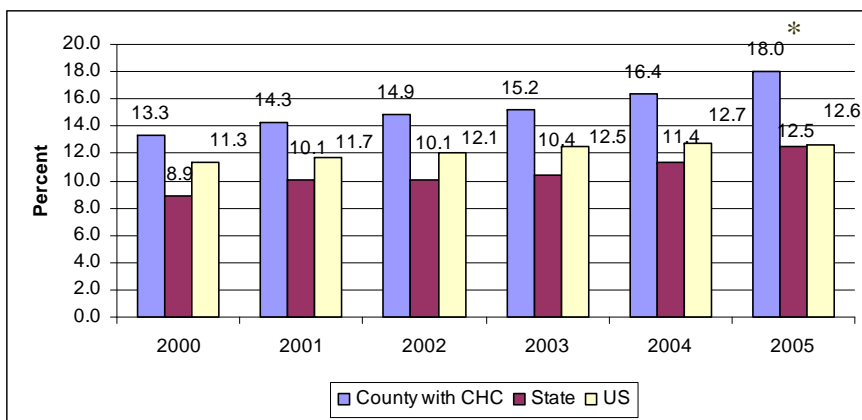
Hospital: Part of the state rural health network and an Essential Access Community Hospital. It was a non-profit church operated facility and was licensed for 188 beds.** The majority (83%-85%) of ED visits were from local county residents. The hospital, like the health center provided services to several surrounding counties.

FQHC- had a mission to provide accessible and affordable care to all and delivered with sensitivity to the special challenges families and individuals face. It was their goal to be instrumental in the community's overall well being. They provide primary medical care, dental, and mental health services at three sites within the county. Officially becoming an FQHC in May 2003, outreach service was originally initiated in 1997 by the hospital with a clinic run by a Nurse Practitioner and a part-time physician. In 1999, the hospital clinic provided services in a separate building and was run as a department of the hospital, transitioning to the FQHC in 2003 run by a non-profit organization.** The FQHC officially provided services to nine surrounding counties but has another three counties where residents come from who are medically underserved.

Local county: In 2000, the county had a population of 38,242 and in 2005 an estimated population of 38,222. In 2005, the county had a higher percent of white persons (93.4%) than the state (89.4%) with 2.1% African American, and 3.1% Hispanic. In 2000, there were 64.5 persons per square mile. Surrounding counties had rates of 38.5, 24.1, and 21.1 per square mile.

2000 Demographics - County	
Population	38,242
Under 20	10,579
20-64	21,753
65 & Over	5,910

Poverty rates: County, State & Nation



(*Note: 2005 data for County is an estimate based on change in State percentage rates)

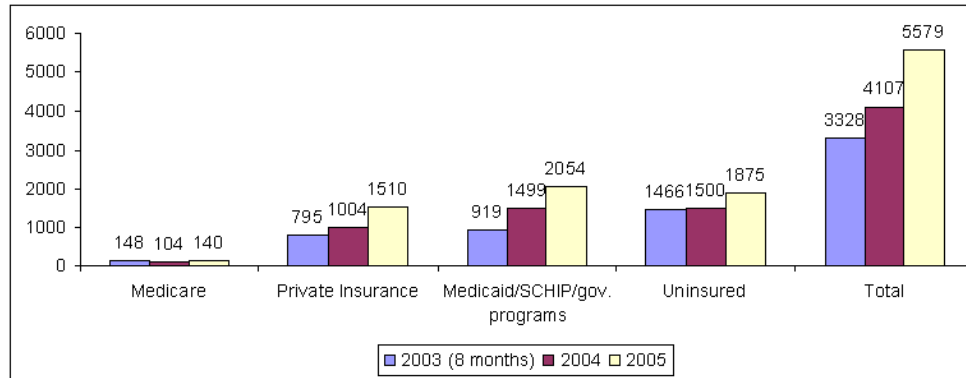
Other poverty data from US Census: based on 1999 data:

- 16% of the County's population was below the poverty level
 - a sub-division area at 33.3%
- Other counties served by the FQHC and Hospital:
 - County A: with a poverty rate of 14.3%
 - a sub-division area at 43.8%
 - County B: with a poverty rate of 13.0%
 - One city in county at 15.6% of poverty.
 - County C: with a poverty rate of 13.5%
 - a sub-division area at 40.4%



Results: FQHC - number of visits

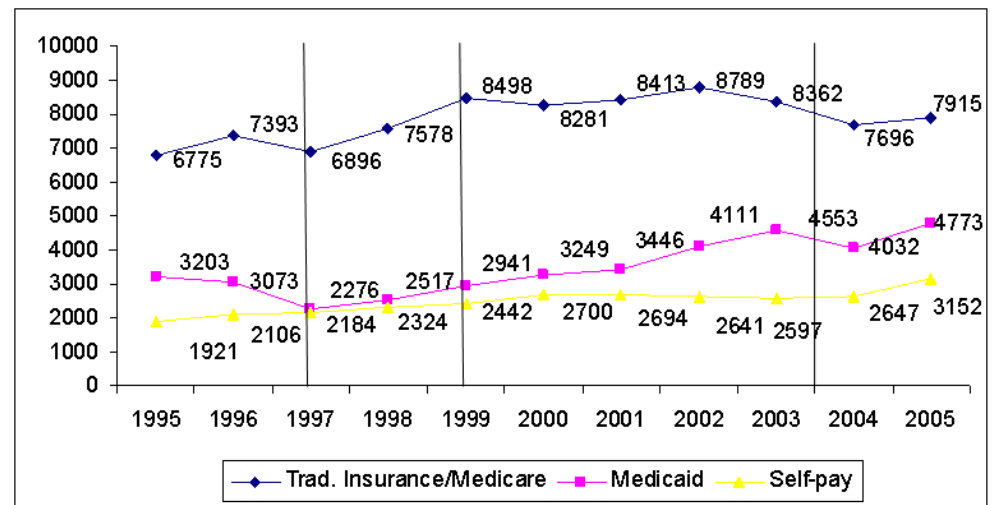
The FQHC officially started May 2003. The largest number of visits in the first eight months of operation were by patients that stated they were uninsured. Medicaid visits rose sharply in 2004 and continued to rise in 2005, whereas uninsured rates did not increase as rapidly.



Number of ED visits by Insurance status 1995 to 2005: Medicaid, Self-pay and all other insured.

Results: Actual number of ED visits

There has been a steady rise in ED visits for Medicaid patients since 1997 but decreased the year after the FQHC started in 2004 then rose again in 2005. The number of self-pay/uninsured rose every year from 1995 to 2001 then decreased in 2001, 2002, and 2003 before rising again. ED visits by the insured steadily dropped after 2002 with an increase in 2005.



1997: Hospital starts a clinic with Nurse Practitioner and part-time physician
(Note: 1997 Balanced Budget Act)

1999: Clinic gets a separate building, run as a department of hospital

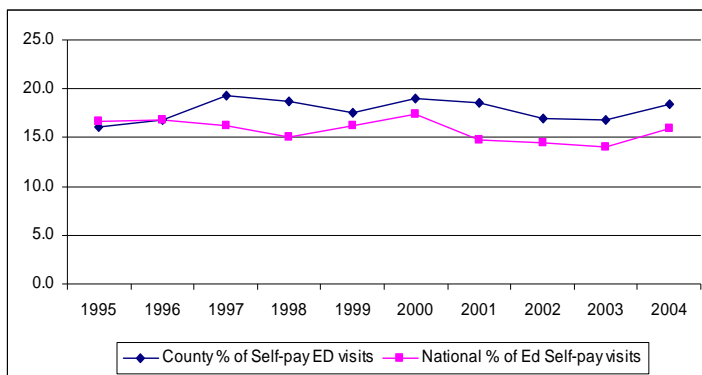
2003, May: Health center officially becomes a FQHC, run by a non-profit organization



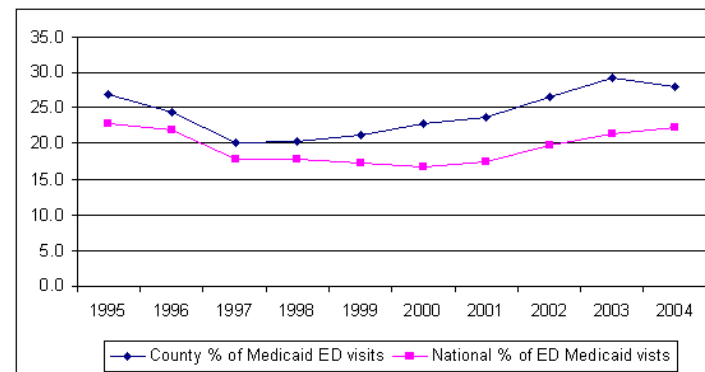
Results: National and hospital percent of Medicaid and uninsured ED visits

ED visits by both Medicaid patients and self-pay/uninsured followed similar national trends from 1995 to 2004, although the hospital had percentage visit rates higher than national levels. There were no clear trends in Medicaid or Self-pay ED visits based on the initial establishment and continued development of a health center for the underserved in this rural community (1997: Hospital starts a clinic with nurse practitioner and part-time physician; 1999: Clinic gets a separate building, run as a department of hospital; 2003, May: Health center officially becomes an FQHC, run by a non-profit organization). As noted above, the trend line for ED Medicaid and Self-Pay visits was similar to the National trend line of ED visits, although this hospital had a higher percentage rate of visits than the national visit rates. This is consistent with the county's higher poverty rate than that of the state or the nation.

Percent comparison of Hospital and National self-pay ED visits: 1995 to 2004



Percent comparison of Hospital and National Medicaid ED visits: 1995 to 2004



(Note: County Medicaid beneficiary data available only for 2001 to 2005)

Results: High-Burden Safety-Net Hospital

The data clearly documents the hospital as a High-Burden Safety-Net Hospital. A hospital is considered high-burden if combined Medicaid and uninsured patient pool is greater than 40% of ED visits.* In 2000, only 17% of hospitals studied met this criteria.

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Other Insurance/Medicare	56.9	58.8	60.7	61.0	61.2	58.2	57.8	56.6	53.9	53.5	50.0
Medicaid	26.9	24.4	20.0	20.3	21.2	22.8	23.7	26.5	29.4	28.0	30.1
Self-pay	16.1	16.8	19.2	18.7	17.6	19.0	18.5	17.0	16.7	18.4	19.9
Safety-Net Burden	43.1	41.2	39.3	39.0	38.8	41.8	42.2	43.4	46.1	46.5	50.0

Percent of ED visits by insurance status and safety-net burden

*Burt, C., & Arispe, I. (2004, May). Characteristics of emergency departments serving high volumes of safety-net patients: United States, 2000. Series 13, Number 155 Retrieved August 8, 2006, from http://www.cdc.gov/nchs/data/series/sr_13/sr13_155.pdf



Evaluating Preventable/Avoidable ED visits

There is a growing body of research related to preventable or avoidable hospitalizations. These are called ambulatory care sensitive conditions (ACSC). The underlying assumption is that timely access to effective primary care can result in avoiding or preventing a hospitalization for certain conditions. Using the algorithm below for this study helped provide information about the utilization of the ED for potentially avoidable/preventable conditions. The assumption is that these conditions could have been treated or prevented with primary care services at the FQHC.

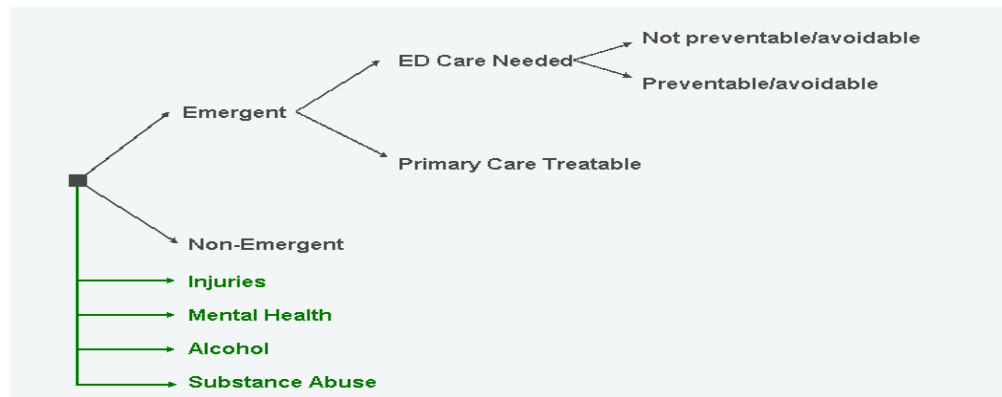
The emergency department algorithm developed by the New York University Center for Health and Public Service Research and the United Hospital Fund of New York classifies ED use into four basic categories:

Non-emergent. Cases where immediate care is not required within 12 hours (e.g., sore throat).

Emergent-primary care treatable. Care is needed within 12 hours, but care could be provided in a typical primary care setting (infant with a 102° fever).

Emergent-ED care needed: preventable/avoidable. Immediate care in an ED setting is needed, but the condition could potentially have been prevented or avoided with timely and effective ambulatory care (asthma, diabetic ketoacidosis, and so on).

Emergent-ED care needed: not preventable/avoidable. Immediate care in an ED setting is needed, and the condition could not have been prevented/avoided with ambulatory care (heart attacks, multiple trauma, and so on).



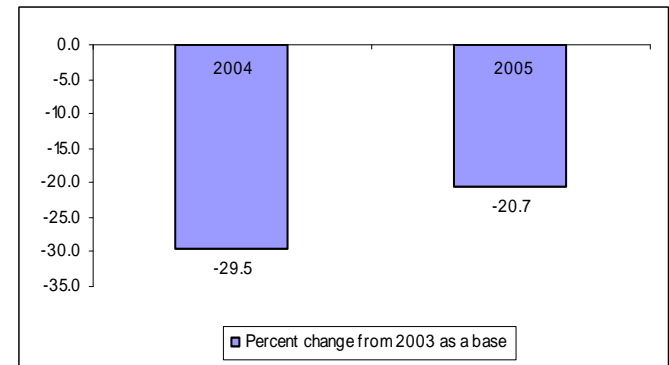
Results: Medicaid

The actual number and percent of Medicaid beneficiaries decreased in 2004 following the establishment of the FQHC (May 2003), for all ED categories of ambulatory care sensitive conditions. FQHC visits had the greatest increase in Medicaid visits in 2004, thus 2003 was considered the base year for ED visits, with an expectation to see changes in 2004 and 2005.

Emergent-ED care needed: preventable/avoidable.

Immediate care in an ED setting is needed, but the condition could potentially have been prevented or avoided with timely and effective ambulatory care (asthma, diabetic ketoacidosis, and so on).

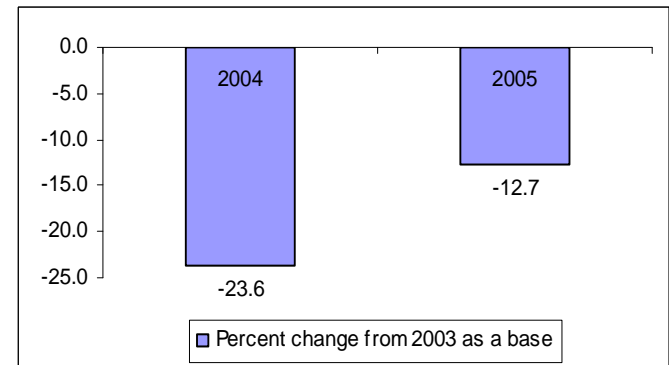
Medicaid	2001	2002	2003	2004	2005
Preventable/avoidable ED Visits	141	156	218	164	191
Percent of Medicaid	1.5	1.7	2.3	1.6	1.9
Percent change between years		12.7	38.1	-29.5	12.5
% change from 2003 as a base				-29.5	-20.7



Emergent-primary care treatable.

Care is needed within 12 hours, but care could be provided in a typical primary care setting (infant with a 102° fever).

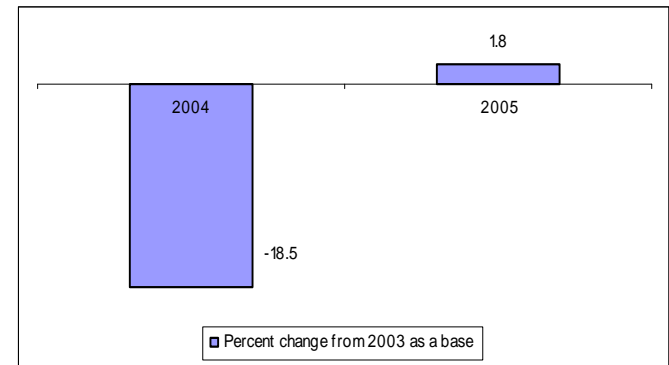
Medicaid	2001	2002	2003	2004	2005
Treatable ED Visits	1266	1536	1710	1394	1649
Percent of Medicaid	13.5	16.6	18.3	14.0	16.0
Percent change between years		23.6	10.0	-23.6	14.3
% change from 2003 as a base				-23.6	-12.7



Non-emergent.

Cases where immediate care is not required within 12 hours (e.g., sore throat).

Medicaid	2001	2002	2003	2004	2005
Non-emergent ED visits	927	1209	1232	1071	1385
Percent of Medicaid	9.9	13.1	13.2	10.7	13.4
Percent change between years		32.9	0.7	-18.5	24.9
% change from 2003 as a base				-18.5	1.8



Results: Medicaid charge data: \$1.1 Million POTENTIAL COST SAVINGS for 2004 and 2005

	Preventable/avoidable	Primary care treatable	Non-emergent.	All categories
2004	-\$323,228	-\$316,160	-\$161,899	
2005	-\$166,907	-\$173,028	\$18,934	
Total	-490,135	-489,188	-142,965	-1,122,289

Emergent-ED care needed: preventable/avoidable.

Medicaid	2001	2002	2003	2004	2005
Total charges	\$551,403	\$598,117	\$1,396,609	\$1,095,888	\$807,098
Average annual charge	\$3,911	\$3,834	\$6,406	\$6,682	\$4,226
% change from ED 2003 visit rate				-29.5	-20.7
Potential cost savings*				-\$323,228	-\$166,907

Emergent-primary care treatable.

Medicaid	2001	2002	2003	2004	2005
Total charges	\$681,759	\$1,118,667	\$1,316,089	\$1,339,744	\$1,362,791
Average annual charge	\$539	\$728	\$770	\$961	\$826
% change from ED 2003 visit rate				-23.6	-12.7
Potential cost savings*				-\$316,160	-\$173,028

Non-emergent.

Medicaid	2001	2002	2003	2004	2005
Total charges	\$511,588	\$781,304	\$896,359	\$873,854	\$1,066,048
Average annual charge	\$552	\$646	\$728	\$816	\$770
% change from ED 2003 visit rate				-18.5	1.8
Potential cost savings*				-\$161,899	\$18,934

* Total charges multiplied by percent change, with 2003 as base for each year. Note cost savings calculated from base n of 2003, would expect an increase in patients from this year. An assumption is that for Medicaid patients it may take time to change primary care provider to FQHC so use 2003 as base, versus uninsured would expect to see changes immediately when FQHC started in 2003, so use 2002 as base for uninsured.



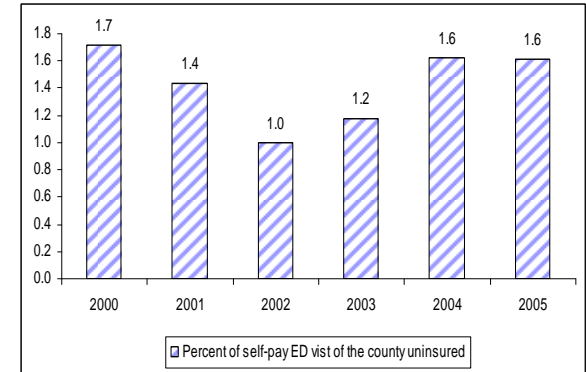
Results: Self-Pay

Percent change in ED visits following the establishment of the FQHC.** Because uninsured would not need to complete paper work to change primary care provider, would expect FQHC influence of ED visits by the uninsured/self-pay immediately when the FQHC opened in 2003.

Emergent-ED care needed: preventable/avoidable.

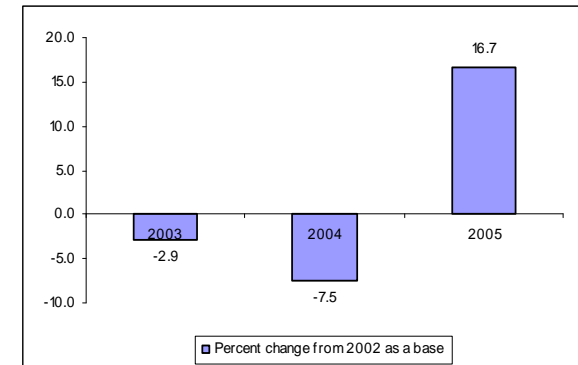
No major decrease in percent of change after FQHC was established in 2003

Self-pay	2000	2001	2002	2003	2004	2005
Preventable/avoidable ED Visits	89	77	55	67	92	94
Percent of county uninsured	1.7	1.4	1.0	1.2	1.6	1.6
Percent change between years		-15.9	-30.9	17.8	38.1	-0.2
No % decrease from 2002 as a base						



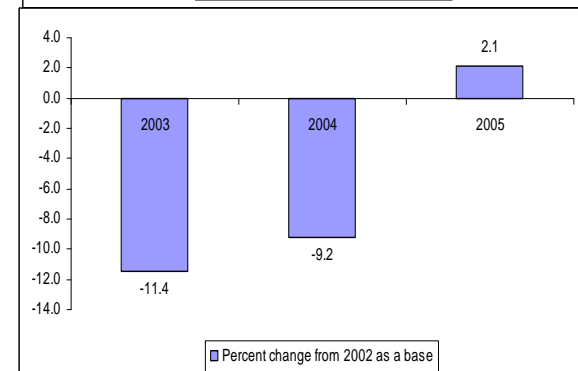
Emergent-primary care treatable.

Self-pay	2000	2001	2002	2003	2004	2005
Primary care treatable ED visits	931	939	829	832	788	1018
Percent of county uninsured	17.9	17.6	15.0	14.5	13.9	17.5
Percent change between years		-2.0	-14.6	-2.9	-4.7	26.2
Percent change from 2002 as a base				-2.9	-7.5	16.7



Non-emergent.

Self-pay	2000	2001	2002	2003	2004	2005
Non-emergent ED Visits	749	681	736	674	687	791
Percent of county uninsured	14.4	12.7	13.3	11.8	12.1	13.6
Percent change between years		-13.2	4.3	-12.9	2.5	11.1
Percent change from 2002 as a base				-11.4	-9.2	2.1



**No. of county uninsured is an estimate, with 13.6% as the actual percent, and then increased based on US uninsured increased rates; percent of ED visits per the uninsured population, assumption that uninsured would be expected to see changes immediately when FQHC started in 2003, so use 2002 as base.



Results: Self-pay charge data: \$244,650 POTENTIAL COST SAVINGS in 2003 and 2004
No cost savings in 2005
Potential cost savings* minus Hosp. 20% discount (\$48,930)=\$195,720

Self-pay	Preventable/avoidable	Primary care treatable	Non-emergent	All categories
2003	no savings	-\$27,455	-\$59,166	-\$86,621
2004	no savings	-\$95,116	-\$62,913	-\$158,029
2005	no savings	\$248,632	\$14,917	\$263,549

Emergent-ED care needed: preventable/avoidable.

Self-pay	2000	2001	2002	2003	2004	2005
Total charges	\$215,770	\$219,568	\$210,602	\$353,442	\$495,032	\$630,106
Average annual charge	\$2,424	\$2,852	\$3,829	\$5,275	\$5,381	\$6,703

No decrease from 2002 as a base

No cost savings*

Emergent-primary care treatable.

Self-pay	2000	2001	2002	2003	2004	2005
Total charges	\$594,119	\$698,448	\$722,868	\$933,263	\$1,264,158	\$1,489,163
Average annual charge	\$638	\$744	\$872	\$1,122	\$1,604	\$1,463
% change from ED 2002 visit rate				-2.9	-7.5	16.7
Potential cost savings*				-\$27,455	-\$95,116	\$248,632

Non-emergent.

Self-pay	2000	2001	2002	2003	2004	2005
Total charges	\$440,563	\$417,625	\$540,027	\$517,252	\$684,612	\$699,674
Avg. annual Charge	\$588	\$613	\$734	\$767	\$997	\$885
% change from ED 2002 visit rate				-11.4	-9.2	2.1
Potential cost savings*				-\$59,166	-\$62,913	\$14,917

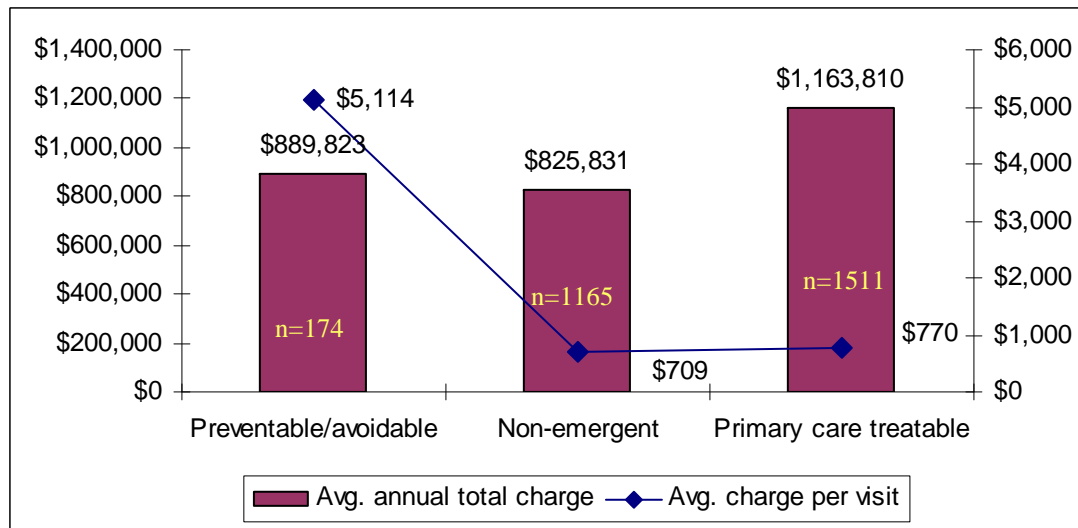
* Total charges multiplied by percent change, with 2002 as base for each year

No. of county uninsured is an estimate, with 13.6% as the actual percent, and then increased based on US uninsured increased rates; assumption that uninsured would be expected to see changes immediately when FQHC started in 2003, so use 2002 as base.



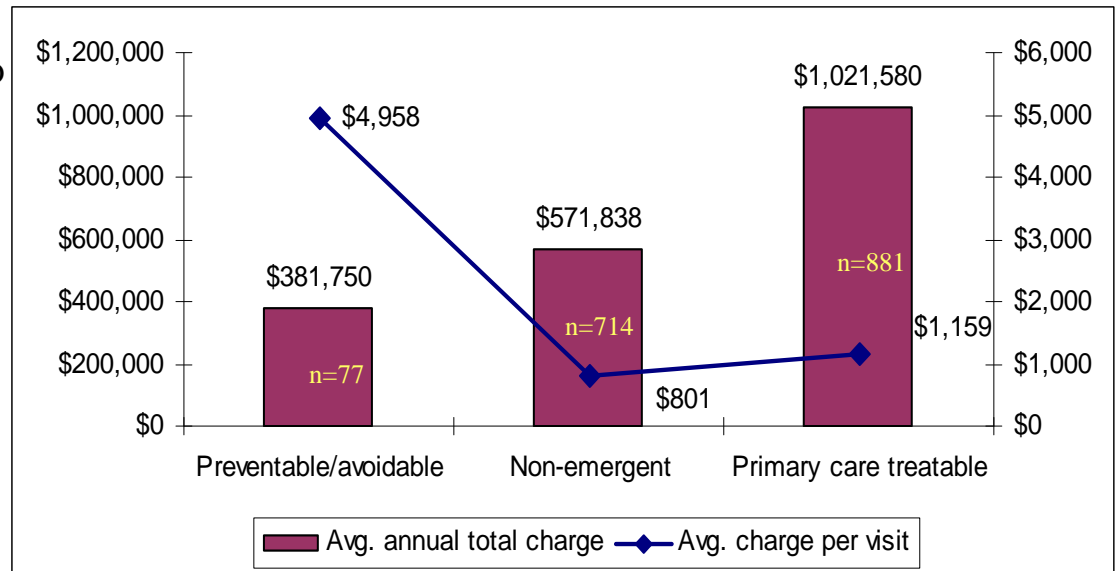
Results: Average annual and per visit charge

MEDICAID/KMAP average from 2001 to 2005



Self-pay average from 2001 to 2005

(n=average number of ED visits from 2001-2005)



Discussion of results

- Ambulatory Care Sensitive Conditions: Initial results suggest the FQHC had an influence on Medicaid and uninsured ED visits. There was a decreasing trend of Medicaid ED visits for all categories of ACSC in 2004 but visits began to rise again in 2005; similarly there was a decrease immediately after the establishment of the FQHC for uninsured ED visit rates in 2003 – except for preventable/avoidable conditions.
 - One reason rates for Emergent-ED care needed for preventable/avoidable by the uninsured may not have changed is they may not have had a previous primary care provider whereas Medicaid patients may have had some access. It most likely would also take longer to see results in this area for the uninsured.
 - This past year the FQHC has been at capacity. Unless patients had an urgent condition they had to wait 1-2 days to see a provider and for routine visits it may now take 2-3 weeks.
 - There was an urgent care center established in 2005, but it was thought they saw very few Medicaid or uninsured individuals.
 - Waiting time for appointments was thought to be a problem for most health care providers in the community, especially for Medicaid and uninsured individuals.
 - When the FQHC first opened it was portrayed as a "free" clinic. The uninsured found that there was a sliding scale and that they needed to fill out paper work that was not easy. The uninsured found "financial assistance was not easy and was not encouraged" by clinic staff. The process changed in early 2005 and FQHC staff thought they may see a greater impact on uninsured ACSC in 2006.
 - It was noted that in August 2005, a full time medical director was hired. Both health center staff and the medical director thought that there were new initiatives and policies in place that may impact the numbers of visits to the ED and thought it would be noted if data were collected for 2006.
 - The FQHC has initiated a building project and hopes to increase their total capacity with increased staffing in the coming years.



Other findings of interest with discussion.

- Ambulatory Care Sensitive Conditions:
 - The most frequent conditions over time for both Medicaid and the uninsured were for respiratory and ear conditions.
 - Dental conditions : there was a 153.8% increase in visits (n=120) from 2004 to 2005
 - Information from community participants and a community/policy assessment – found several possible reasons for the increase in dental conditions:
 - There was a new oral health initiative in the state, which may have made individuals more aware of their dental health needs.
 - In 2004 there was a dental "mission" in the community. Over 100 dentists provided dental care to over 2,000 patients. Not everyone was able to have their needs met and again, this may have made individuals more aware of their dental health problems.
 - Other possibilities were the increase in Methadone use in rural communities that may have lead to major dental problems for those with addictions
 - It was suggested that some individuals may be "pain medicine" seekers, stating they had dental pain to obtain pain medication. It was noted by some community participants that a health care provider who seemed to provide such services was no longer in the community.
 - Two-three dentists in the community retired that saw Medicaid patients (although in the state studied, Medicaid does not cover adult dental care).
 - Dental services started in August of 2005 and by the end of 2006 the health center was already at capacity and it may take months to been seen.
 - The FQHC has initiated a building project and hopes to increase their dental capacity with increased staffing in the coming years.
 - Ante partum conditions: there was a 53.4 % increase from (n=62) from 2004 to 2005
 - Hospital and health center personal thought the biggest reason for this increase was the actual rise in births at the hospital. It was thought that some of these patients were just waiting to go the labor unit.
 - The FQHC had a grant related to prenatal and obstetric care that was outsourced, but within the last couple of years that grant is "now in the system". Would need to see if this influenced future ED visits.



Discussion of Limitations and Recommendations

▪ **Limitations:**

- A major limitation was unreliable uninsured annual data for the county; therefore the analysis of uninsured ED visits per the uninsured in the county may be based on inaccurate assumptions.
- Another limitation was the analysis of both the uninsured and Medicaid based only on county population rates, where the hospital and FQHC were located, even though 15-17 percent of all ED visits were by persons who stated they lived outside the county. Between 2000 and 2005 there was less than a 2% change in out of county visits, so the analysis should be fairly consistent over time.
- It is very difficult to get actual cost data; therefore, a limitation is that "cost savings" is based only on charge data and the cost of the actual services may be higher or lower than the charge data.

▪ **Recommendations:**

• **Local**

- The algorithm used in this study does not assess mental health conditions seen in the ED. The FQHC provides mental health services. It would be useful to assess the impact the health center may have on ED use for those with mental health conditions.
- Local longitudinal data is needed to assess the short and long term influence of the FQHC. The FQHC director, stated it would be nice to have a "comprehensive 10 year study" to assess interventions initiated by the clinic: including increased capacity for dental, obstetrics and psychiatric care, plus the influence of planned outreach clinic sites, as well as a study to assess their goal of "zero health disparities".
- Based on a concern noted by the hospital: a future research question might include what impact less revenue, by preventing Medicaid ACSC - avoidable ED visits, may have on the local rural hospital.

• **National**

- There is a need for more accurate annual county/community level data on the uninsured.
- Further studies are needed to assess the differences in rural hospital ACSC - avoidable ED visits for communities with and without FQHCs, as well as assess if RHCs have an impact on Medicaid/uninsured ACSC visits.
- There is a need to develop benchmarks for ACSC - for avoidable ED visits (what is average or what should the norm be?)



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