

Exploration of Non-Urgent Use of Hospital Emergency Departments in the Mississippi Delta

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Final Report from a Study Conducted in Partnership Between
Delta State University Institute for Community Based Research
and the
Mississippi Primary Health Care Association

for the project

“Solutions for Non-Urgent Use of Delta Emergency Departments:
Creating Medical Homes in CHCs”

Study Dates: November 2008 – May 2009
Report Submitted: June 22, 2009

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Introduction

Overcrowding in hospital emergency departments (EDs) in the U.S. is an increasing problem. Several studies have reported that overcrowding is in part due to patients who are presenting at EDs for non-urgent situations (Andrulis, Kellerman, Hintz, Hackman & Weslowski, 1991; Grumbach, Keane & Bindman, 1993). Emergency department overcrowding due to non-emergency patients may increase waiting times for emergent patients, which in turn may produce undesirable outcomes. Reliance on hospital EDs for basic health care may also contribute to uncompensated costs (Baillargeon et al., 2008; Task Force on Access to Health Care in Texas, 2008).

This assessment project was focused on identifying the health conditions, health care needs and resources of patients visiting hospital emergency departments in the Mississippi Delta. Consisting of 18 counties, the Mississippi Delta is a region plagued with the prevalence of high poverty, low income and low educational levels (Kersen, 2002; Green, Kerstetter & Nylander, 2008) these characteristics are associated with the occurrence of health problems, such as obesity, cardiovascular disease, diabetes, high mortality and low life expectancy relative to the nation as a whole (Cosby, 2005; Green, Kerstetter & Nylander, 2008). In the rural Mississippi Delta, people who show signs of obvious health problems are often disadvantaged when seeking medical services. Many people have a medical home, but for various reasons, do not fully utilize their services. Disparities in access to quality health care are of growing concern to policy makers, and identifying and understanding factors that help individuals obtain needed medical care or that hinder them from doing so is an important goal for researchers interested in the

health care system (Kirby & Kaneda, 2005; Institute of Medicine, 2001; U.S. Department of Health and Human Services, 2000).

The specific focus in this project was on hospital ED patients seeking “non-urgent care.”

The project was intended to provide information to answer several questions, including:

- 1) What are the social, economic and health status characteristics of people visiting the emergency department for non-urgent care?
- 2) What health resources do the people have, and what do they need?
- 3) What challenges do they face in attempting to access health care?
- 4) What interventions could be implemented to divert non-urgent care patients from emergency departments to community health centers and facilitate their use of community health centers as their medical homes?

This research was conducted through a collaborative partnership between the Delta State University Institute for Community-Based Research and the Mississippi Primary Health Care Association (MPHCA). MPHCA’s member community health centers (CHCs) partnered with local hospitals to provide and facilitate data collection support. Through their partnership with the MPHCA, six hospital emergency departments served as the sites for data collection. The hospital~CHC partnerships included in the research process were as follows:

- Bolivar Medical Center ~ Delta Health Center
- Delta Regional Medical Center ~ Delta Health Center
- University Hospitals and Clinics – Holmes County ~ Mallory CHC
- Northwest Regional Medical Center ~ Aaron E. Henry CHC
- Kings Daughters Hospital ~ GA Carmichael Family Health Center
- River Region Health System ~ Jackson-Hinds Comprehensive Health Center

Methods

The data collection period lasted approximately six months (November 2008 - May 2009) (Table 1). A total of 548 face-to-face interviews were completed. Three emergency departments

were staffed by an ICBR interviewer, while the remaining three hospital/CHC pairs provided interviewers.

Participants for this study were selected on-site at each participating ED. Survey questions included topics concerning the patients’ demographic characteristics, socioeconomic status, reasons for visiting the ED, awareness of local community health centers (CHCs) and whether they had medical homes. All respondents were 18 years and older. For those people bringing children for medical care, adults were interviewed regarding their children. The survey instrument included an informed consent statement, and the interviewer emphasized that participating/not participating in this study would not influence the care received and individual answers would be kept confidential. (DSU’s Institutional Review Board reviewed this process)

On randomly selected days and times, the researcher approached non-urgent patients about participating in the study. No incentives were offered other than participating in an important study.

Table 1. Hospital Data Collection Information

Hospital	Dates	Days of Data Collection	Completed Interviews	Interviewer (ICBR or Hosp./CHC provided)
Bolivar Medical Center	Nov. – Dec. 08	33	100	ICBR
Delta Regional Medical Center	Jan. – Feb. 09	27	100	ICBR
University Hospitals and Clinics – Holmes County	Feb. – Mar. 09	12	50	ICBR
Northwest Regional Medical Center	Feb. – Mar. 09	18	98	Hosp./CHC
Kings Daughters Hospital	Mar. – Apr. 09	24	100	Hosp./CHC
River Region Health System	May 09	7	100	Hosp./CHC
Total		121	548	

Days and times for data collection were randomly selected for each participating hospital emergency department. Table 2 shows the frequencies and percentages of completed interviews during each day of the week and 4-hour time block.

Table 2. Completed Interviews by Day of Week and Time of Day

Day of Week	Frequency	Percent
Sunday	73	13.4%
Monday	104	19.1%
Tuesday	67	12.3%
Wednesday	80	14.7%
Thursday	67	12.3%
Friday	77	14.1%
Saturday	77	14.1%
Total	545	100%
Time of Day	Frequency	Percent
4 a.m. – 8 a.m.	26	4.8%
8 a.m. – 12 p.m.	133	24.4%
12 p.m. – 4 p.m.	127	23.3%
4 p.m. – 8 p.m.	124	22.8%
8 p.m. – 12 a.m.	109	20.0%
12 a.m. – 4 a.m. ⁺	26	4.7%
Total	545	100%

⁺ This time block was only sampled for River Region Health System.

Summary reports including a descriptive analysis of the results as well as a brief discussion were provided to each participating hospital/CHC. The data in this report come from all of the participating hospitals and are reported in aggregate form.

Results

Demographic and Socio-Economic Characteristics of Survey Respondents (Tables 3 and 4)

Interviewers asked the respondents if they themselves were seeking care, if they brought a child in to receive care, or both. The majority of respondents (61.7 percent) were adults seeking care (Appendix Figure 1). The majority of respondents' (79.5 percent) race/ethnicity was perceived by the interviewer as Black/African American, and the majority of children (82.6 percent) brought to receive care were perceived as that same race/ethnicity (Appendix Figure 2). Over sixty percent of adult respondents and just over half of children brought to the emergency

department for care were female (Appendix Figure 3). The average age of adult respondents was 33.5 years and the mean age for children was 6. Almost two-thirds of respondents (63.0 percent) were between the ages of 18 and 35 (Appendix Figure 4), and just over two-thirds of children (66.9 percent) were younger than 7 years of age (Appendix Figure 5).

Table 3. Demographic Characteristics of Survey Respondents

Variable	Frequency	Percent
Who is seeking care*...		
Adult	216	61.7%
Child	129	36.9%
Both	<u>5</u>	<u>1.4%</u>
	350	100%
Race/Ethnicity of Respondent		
Black/A.A.	431	79.5%
White	101	18.6%
Latino	3	.6%
Other	<u>7</u>	<u>1.3%</u>
	542	100%
Race/Ethnicity of Child*		
Black/A.A.	114	82.6%
White	21	15.2%
Latino	1	.7%
Other	<u>2</u>	<u>1.5%</u>
	138	100%
Gender of Respondent		
Female	326	60.3%
Male	<u>215</u>	<u>39.7%</u>
	541	100%
Gender of Child*		
Female	70	51.1%
Male	<u>67</u>	<u>48.9%</u>
	137	100%
Age of Respondent (mean = 33.5)		
< 35	276	63.0%
36 – 55	120	27.4%
56 – 65	19	4.3%
> 65	<u>23</u>	<u>5.3%</u>
	438	100%
Age of Child (mean = 6)		
0 – 7	89	66.9%
8 – 13	31	23.3%
14 – 17	<u>13</u>	<u>9.8%</u>
	133	100%

* A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

More than two-fifths of respondents (41.4 percent) reported their highest level of education as having graduated from high school or received a G.E.D. (Appendix Figure 6). Over half of respondents (53.6 percent) reported that they were currently unemployed at the time of the interview (Appendix Figure 7). Almost three-fifths of respondents (59.3 percent) reported that they pay for health care services by a government provided insurance program such as Medicaid/Medicare/SCHIP (Appendix Figure 8).

Table 4. Socio-Economic Characteristics of Survey Respondents

Variable	Frequency	Percent
Highest Obtained Education Level		
< High School or G.E.D	149	28.0%
High School or G.E.D	220	41.4%
College, No Degree	87	16.4%
Associate's Degree	40	7.5%
Bachelor's Degree	25	4.6%
Master's Degree	<u>11</u>	<u>2.1%</u>
	532	100%
Employment Status		
Unemployed	286	53.6%
Employed Part-Time	49	9.2%
Employed Full-Time	193	36.1%
Employed at Multiple Jobs	<u>6</u>	<u>1.1%</u>
	534	100%
Insurance Status		
No Insurance	120	22.3%
Government Provided	318	59.3%
Private Insurance	12	2.2%
Employer Provided	<u>87</u>	<u>16.2%</u>
	537	100%

Health Status and Health Care Utilization Among Survey Respondents (Tables 5 and 6)

Respondents were asked to rate their general health status on a four-point scale ranging from poor to excellent (Appendix Figure 9). The majority of respondents stated that their health was good (41.4 percent). Almost three-fifths (58 percent) of interviewed patients reported that the health problem that they presented at the emergency department for was very urgent (Appendix Figure 10), yet almost 70 percent of respondents stated they first noticed the problem at some point before the day they came to the emergency department (Appendix Figure 11).

Table 5. Health Status Among Survey Respondents

Variable	Frequency	Percent
Self-Rated Health Status		
Poor	47	8.6%
Fair	155	28.3%
Good	227	41.4%
Excellent	<u>119</u>	<u>21.7%</u>
	548	100%
Perceived Problem Urgency*		
Not Urgent	25	7.2%
Somewhat Urgent	121	34.8%
Very Urgent	<u>202</u>	<u>58.0%</u>
	348	100%
First Noticed the Problem		
Today	169	30.9%
Yesterday	154	28.2%
3 – 7 Days Ago	156	28.5%
> 7 Days Ago	<u>68</u>	<u>12.4%</u>
	547	100%

*A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

When asked if the patient had a regular doctor, a person or a clinic that they normally go to when they need health care, nearly four-fifths (79.2 percent) stated yes, but only 22.3 percent stated that they had sought care from a doctor, person or clinic for the problem for which they came to the emergency department for (Appendix Figure 12). Those respondents who stated that they did not seek prior attention from their regular doctor were asked about the reason why they did not seek prior care. Over forty percent said that they thought that the problem needed immediate attention, so they came to the emergency department for treatment (Appendix Figure 13). Most respondents (68.1 percent) reported traveling less than 10 miles to get to their regular source of care and the mean miles traveled was 12 miles (Appendix 14).

Patients in four of the six hospitals were asked about the existence of chronic conditions.* The two conditions with the most prevalence were asthma (19.7 percent) and hypertension (19.1 percent) (Appendix Figure 15).

*A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

Table 6. Health Care Utilization Among Survey Respondents

Variable	Frequency	Percent
Has a Regular Doctor/Provider		
No	114	20.8%
Yes	<u>433</u>	<u>79.2%</u>
	547	100%
Sought Prior Care		
No	426	77.7%
Yes	<u>122</u>	<u>22.3%</u>
	548	100%
Reason Prior Care Was Not Sought (n=548)[#]		
Problem Needed Immediate Attention	228	41.6%
No Insurance	43	7.8%
Insurance Not Accepted or Did Not Cover Care	44	8.0%
No Transportation	60	10.9%
Work Schedule Conflict	57	10.4%
Appointment Times Not Convenient	94	17.2%
Affordability	103	18.8%
Office Closed/Doctor Not In	68	12.4%
Miles Traveled to Receive Care (mean = 12)		
1 – 10 miles	372	68.1%
11 – 20 miles	94	17.2%
> 20 miles	<u>80</u>	<u>14.7%</u>
	546	100%
Problems When Seeking Medical Attention in Past Year (n=548)[#]		
No Insurance	134	24.5%
Insurance Not Accepted or Did Not Cover Care	44	8.0%
No Transportation	60	10.0%
Work Schedule Conflict	57	10.4%
Appointment Times Not Convenient	94	17.2%
Affordability	103	18.8%
Regular Sources of Health Care Information (n=548)[#]		
Family and Friends	439	80.1%
Co-Workers	171	31.2%
Church	138	25.2%
Newspapers	80	14.6%
Magazines	52	9.5%
Radio	62	11.3%
Television	92	16.8%
Internet	107	19.5%
Phone Book	89	16.2%

[#] Questions were asked in a “check all that apply” manner. Respondents could choose multiple options.

Patients were asked if there was a time in the last year that they or someone in their family needed to see a health professional but could not for any reason. The most common

reason for not being able to see a health professional was because of not having insurance (24.5 percent) (Appendix Figure 16).

Respondents were questioned on whether or not they were aware of the Community Health Center in their area. Over three-fourths (75.9 percent) stated that they were aware of the CHC, but nearly 60 percent reported having ever gone to the CHC to receive care (Appendix Figure 17). Almost 20 percent of respondents who did not go to the CHC before presenting at the emergency department stated that they did not know that the community health center could help them (Appendix Figure 18).

Table 7. CHC Awareness and Utilization Among Survey Respondents

Variable	Frequency	Percent
Aware of Community Health Center		
No	131	24.1%
Yes	<u>413</u>	<u>75.9%</u>
	544	100%
Received Services from Community Health Center		
No	176	41.1%
Yes	<u>252</u>	<u>58.9%</u>
	428	100%
Reasons for Not Seeking Care From CHC (n=432)[#]		
No Transportation	12	2.8%
Work Schedule Conflict	15	3.5%
Appointment Times Not Convenient	72	16.7%
Did Not Know CHC Could Help	84	19.4%

[#]Question was asked in a “check all that apply” manner. Respondents could choose multiple options.

Analysis of ED Patient Health Care Utilization Between Hospitals

Of particular interest to this study, including multiple data sites as comparative cases, are the differences that may be characteristic to particular sample regions. The attention paid to these differences is intended to inform future work in providing tailored, specific solutions to the numerous issues involving inappropriate use of emergency departments.

Insurance (Table 8)

Overall, the majority of respondents (59.2 percent) are insured under government insurance programs. In every sampled region, more than half of respondents access health care through Medicaid/Medicare/SCHIP. For instance, almost 70 percent of respondents at Delta Regional Medical Center are insured by a government program. Also important is the low number of patients who are insured by a private program or a program offered as a job benefit. In comparison to the other four hospitals, Delta Regional Medical Center and University Hospital and Clinics – Holmes County had considerably lower numbers of respondents insured by private insurance or a program provided as a job benefit, 12.1 percent and 10 percent respectively.

Table 8. Patient Insurance Status by Hospital

Insurance Type	Hospital Name						Total
	BMC	DRMC	RRHS	UHC-HC	NWRMC	KDH	
No Insurance	25 25%	18 18.2%	19 19.8%	17 34%	19 20%	22 22.7%	120 22.3%
Government	53 53%	69 69.7%	55 57.3%	28 56%	56 58.9%	57 58.8%	318 59.2%
Private/Job Provided	22 22%	12 12.1%	22 22.9%	5 10%	20 21.1%	18 18.6%	99 18.5%
Total	100 100%	99 100%	96 100%	50 100%	95 100%	97 100%	537 100%

Existence of a Regular Doctor (Table 9)

Almost four-fifths of respondents reported having a regular doctor. But, different sampled regions show a range of responses. At University Hospitals and Clinics – Holmes County 90 percent stated that they had a regular source of care, while Kings Daughters Hospital and Delta Regional Medical Center only had 72.7 percent and 75 percent who had a regular doctor.

Table 9. Existence of a Regular Doctor by Hospital

Existence of a Regular Doctor	Hospital Name						
	BMC	DRMC	RRHS	UHC-HC	NWRMC	KDH	Total
No	19	25	21	5	17	27	114
	19.0%	25.0%	21.0%	10.0%	17.3%	27.3%	20.8%
Yes	81	75	79	45	81	72	433
	81.0%	75.0%	79.0%	90.0%	82.7%	72.7%	79.2%
Total	100	100	100	50	98	99	547
	100%	100%	100%	100%	100%	100%	100%

Sought Prior Care (Table 10)

Although the majority of respondents reported that they had a regular source of care, a high percent of respondents (77.7 percent) stated that they had not sought care from a non-urgent provider before presenting at the emergency department. An exception to the rule, of particular interest are the patients at Northwest Regional Medical Center. The percent of patients who stated that they did seek care from their regular provider almost doubles the number of patients in the same category at the other hospitals.

Table 10. Sought Prior Care by Hospital

Sought Prior Care	Hospital Name						
	BMC	DRMC	RRHS	UHC-HC	NWRMC	KDH	Total
No	83	80	77	42	58	86	426
	83.0%	80.0%	77.0%	84.0%	59.2%	86.0%	77.7%
Yes	17	20	23	8	40	14	122
	17.0%	20.0%	23.0%	16.0%	40.8%	14.0%	22.3%
Total	100	100	100	50	98	100	548
	100%	100%	100%	100%	100%	100%	100%

Aware of Community Health Center (Table 11)

Just over three-fourths of respondents were aware of the community health center in their area. Compared to other sites, Delta Regional Medical Center (39.4 percent) and Northwest Regional Medical Center (32.3 percent) patients were less aware than others of the CHC in their areas. Only small numbers of patients at Kings Daughters Hospital (8.1 percent) and University Hospitals and Clinics – Holmes County (6 percent) were not aware of their respective CHCs.

Table 11. Aware of CHC by Hospital

Aware of CHC	Hospital Name						Total
	BMC	DRMC	RRHS	UHC-HC	NWRMC	KDH	
No	23 23.0%	39 39.4%	27 27.0%	3 6.0%	31 32.3%	8 8.1%	131 24.1%
Yes	77 77.0%	60 60.6%	73 73.0%	47 94.0%	65 67.7%	91 91.9%	413 75.9%
Total	100 100%	99 100%	100 100%	50 100%	96 100%	99 100%	544 100%

Sought Care from CHC (Table 12)

Close to 60 percent of all respondents stated that they had ever sought care from the CHC in their area. While Kings Daughters Hospital had a high portion (83.5 percent) of respondents who had previously visited the CHC for care, patients at River Region Health System were more likely to have not sought care at the local CHC (58.9 percent).

Table 12. Sought Care from CHC by Hospital

Sought Care from CHC	Hospital Name						Total
	BMC	DRMC	RRHS	UHC-HC	NWRMC	KDH	
No	35 44.3%	29 48.3%	43 58.9%	19 40.4%	35 44.9%	15 16.5%	176 41.1%
Yes	44 55.7%	31 51.7%	30 41.1%	28 59.6%	43 55.1%	76 83.5%	252 58.9%
Total	79 100%	60 100%	73 100%	47 100%	78 100%	91 100%	428 100%

Discussion/Conclusion

Use of hospital emergency departments for non-urgent care is increasingly viewed as a problem in the health care sector. Provisioning this type of care at an ED can be more costly than the same care at a regular source provider. Non-urgent use of emergency services can cause overcrowding and potentially increase hazardous outcomes for those with urgent needs.

Emergency departments serves as a rich source of information about patients' choices of medical care (Andrulis, Kellerman, Hintz, Hackman & Weslowski, 1991; Grumbach, Keane & Bindman, 1993; Gill & Riley, 1996; Gill, 1999).

Considering the complexity of the problem, solutions must be comprehensive in nature. Emergency department data may prove helpful in developing effective, community-based alternatives to the emergency department for this growing segment of our population.

An on-going, collaborative effort on all levels between health care providers should be top priority in dealing with inappropriate use of health care sources. The specific challenges in accessing appropriate health care that were identified by this study should be used to inform future policies and procedures and also to help focus upcoming efforts based on identifiable needs.

Contact Information:

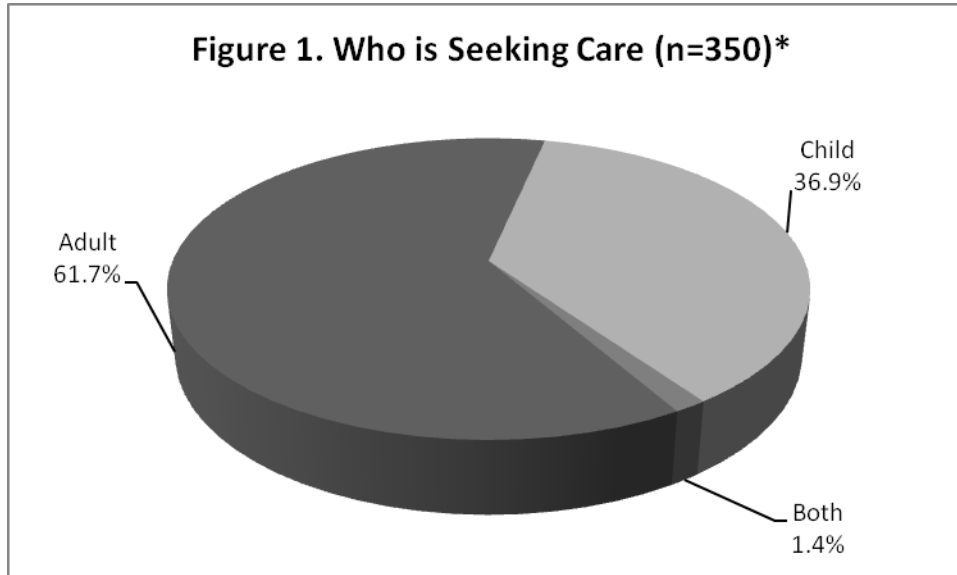
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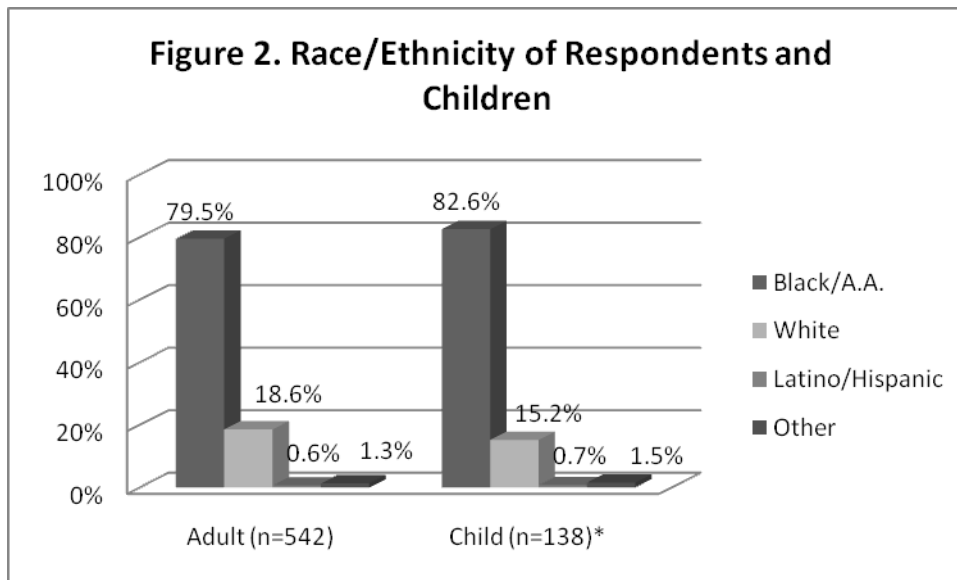
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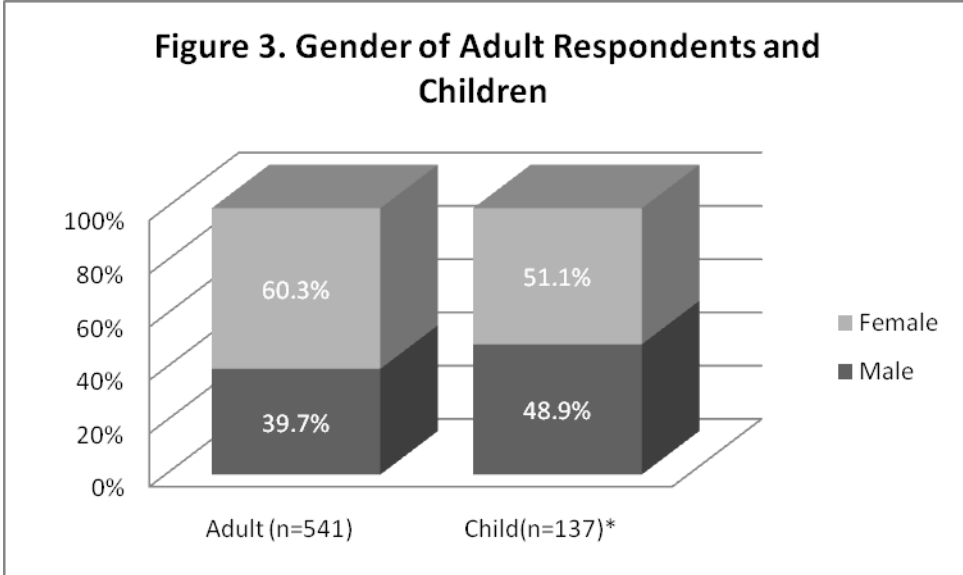
Appendix Figures



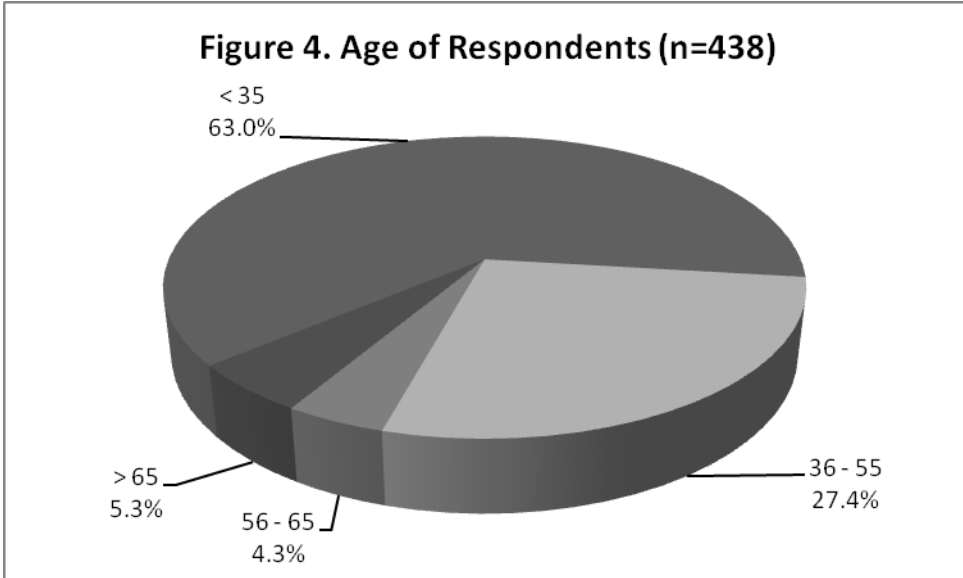
* A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

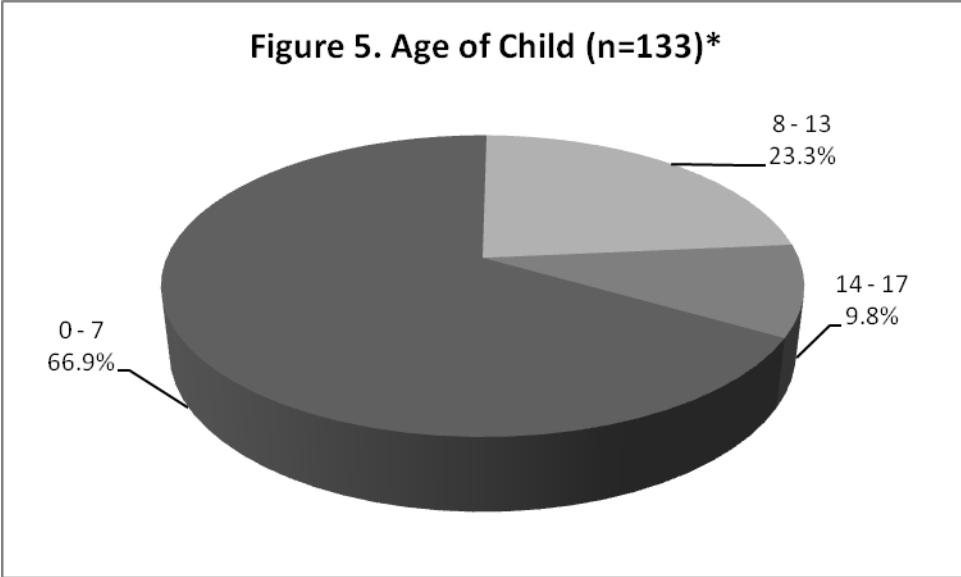


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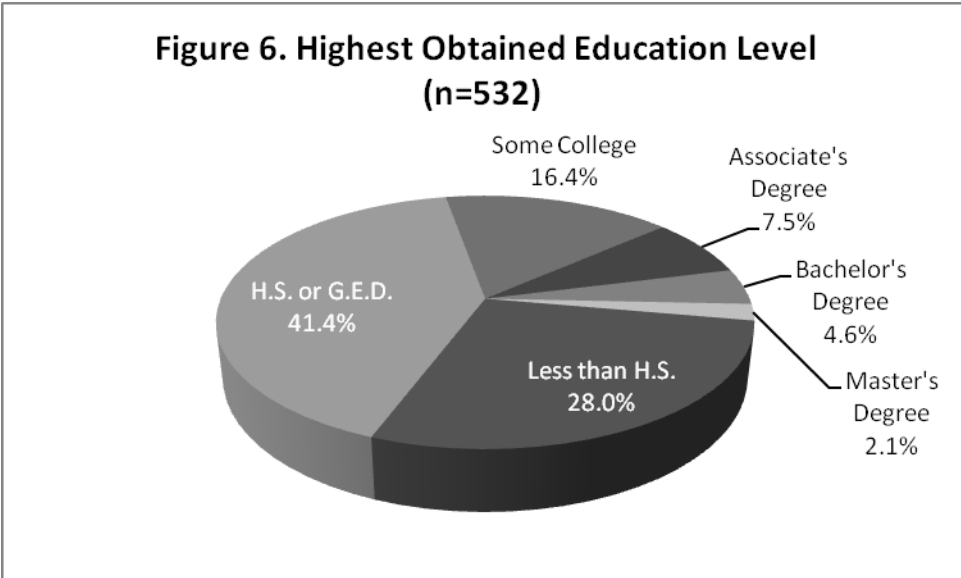


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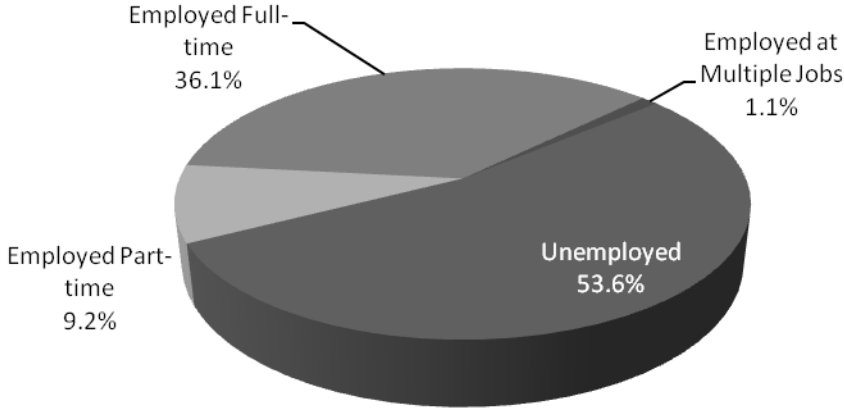




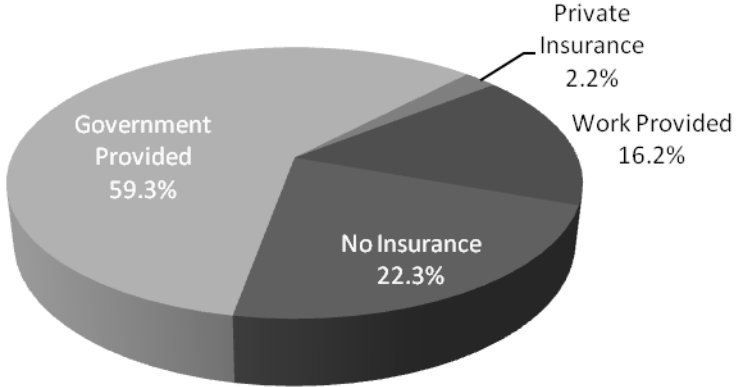
* A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

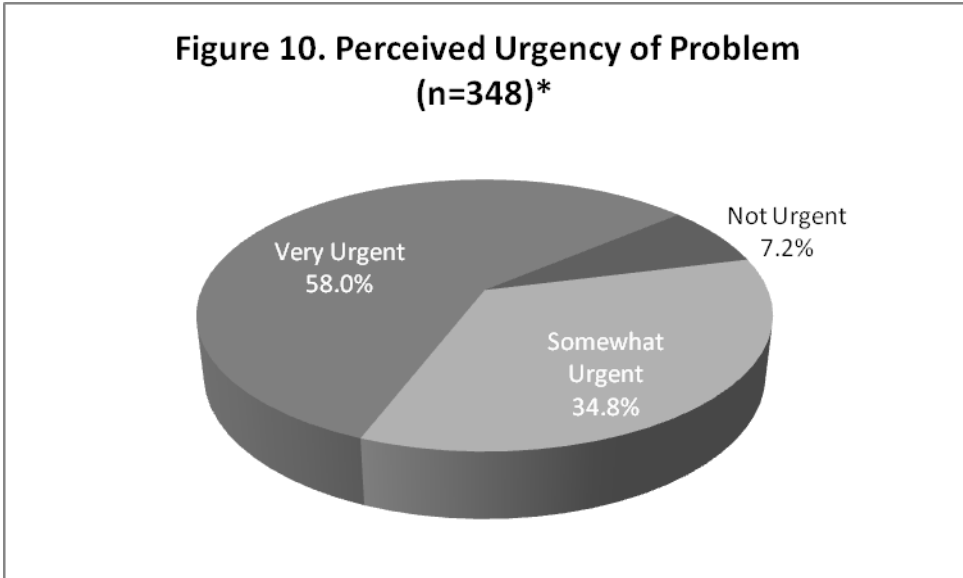
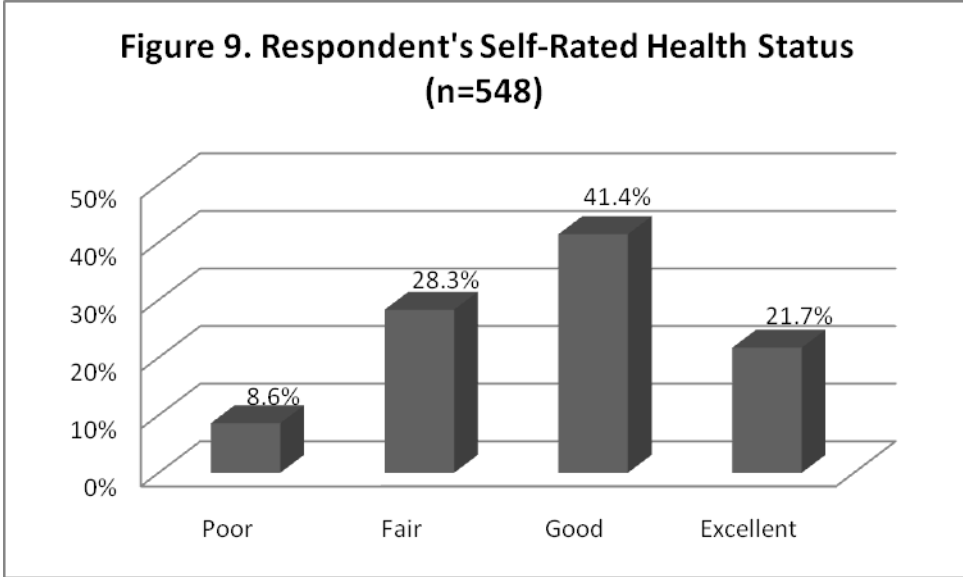


**Figure 7. Employment Status of Respondents
(n=534)**



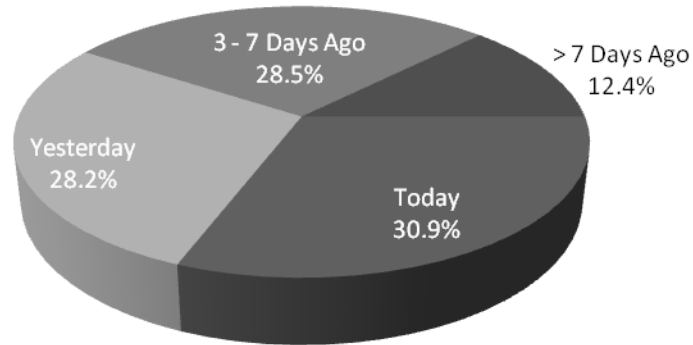
**Figure 8. Insurance Status of Respondents
(n=537)**





* A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

**Figure 11. When the Problem was First Noticed
(n=547)**



**Figure 12. Existence of Regular Doctor and
Sought Prior Care (n=548)**

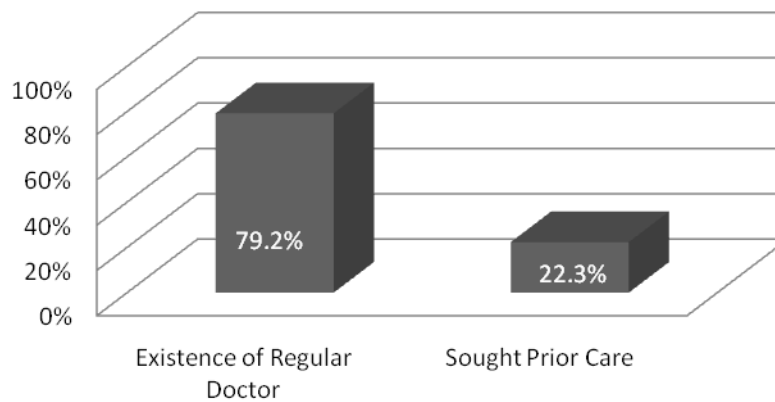


Figure 13. Reasons Why Prior Care Was Not Sought (n=548)

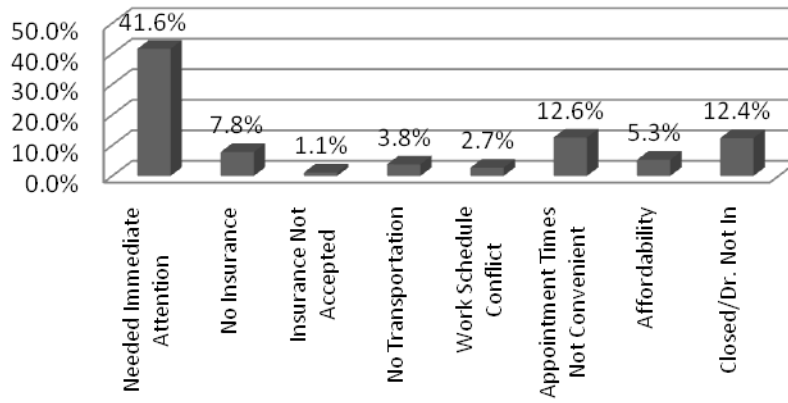
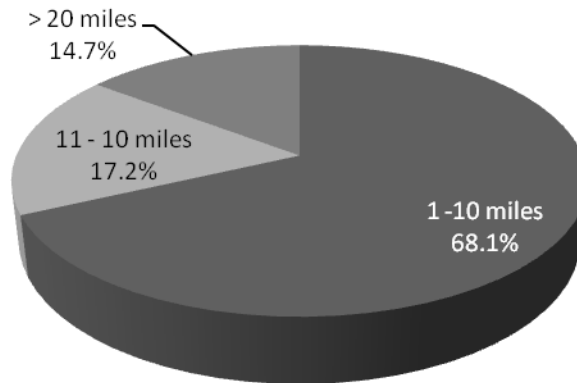
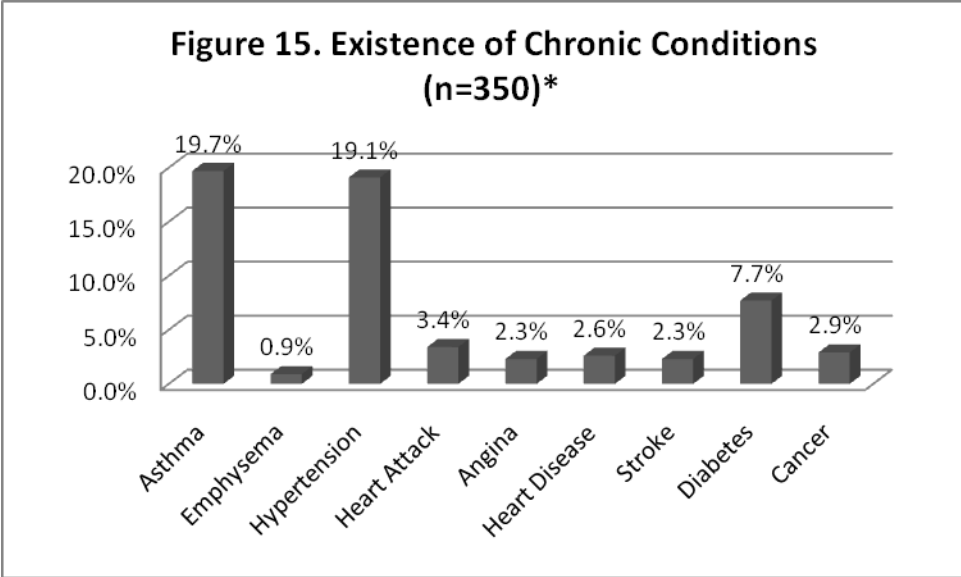


Figure 14. Miles Traveled to Receive Health Care (n=546)





* A different survey instrument was used for data collection in two of the hospital emergency departments. This question was omitted from one of the questionnaires resulting in a smaller total sample.

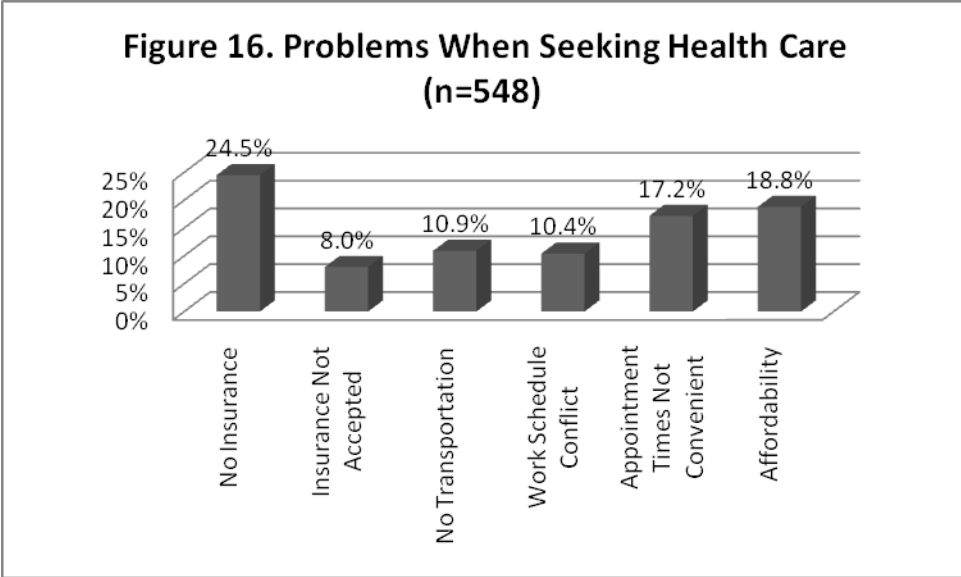


Figure 17. Percentage of Respondents Who are Aware of CHC and Have Received Services from CHC

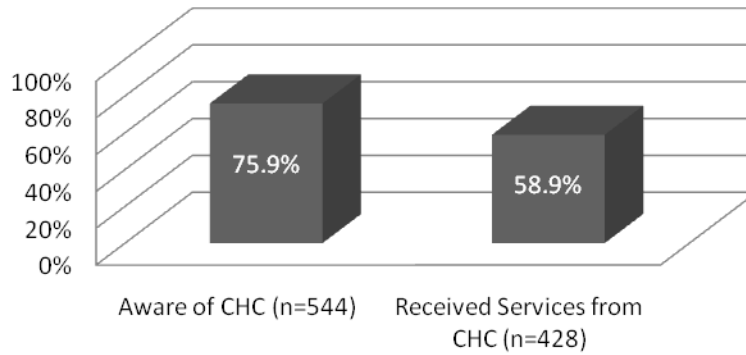


Figure 18. Reasons For Not Seeking Care From CHC (n=432)

