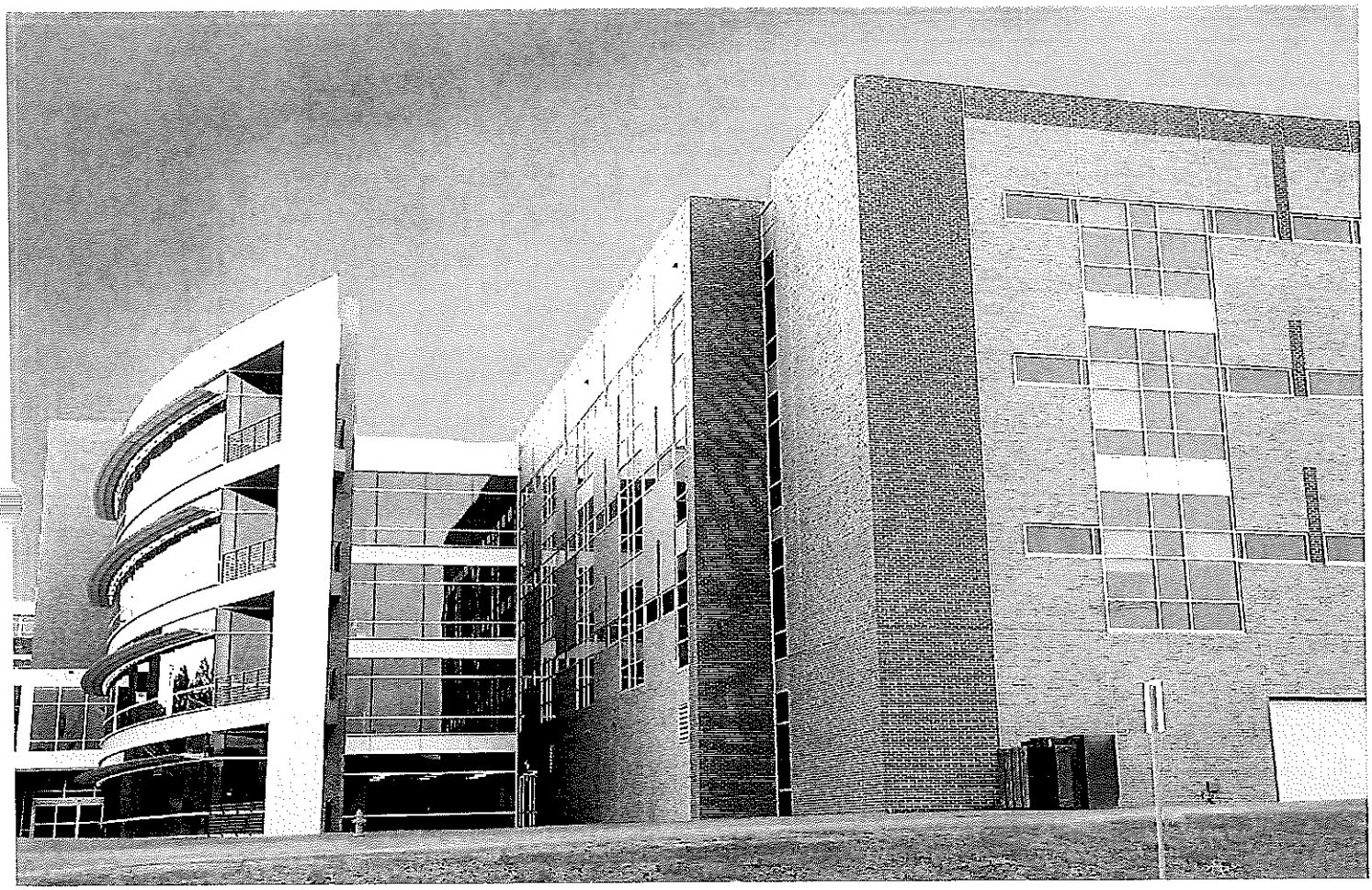
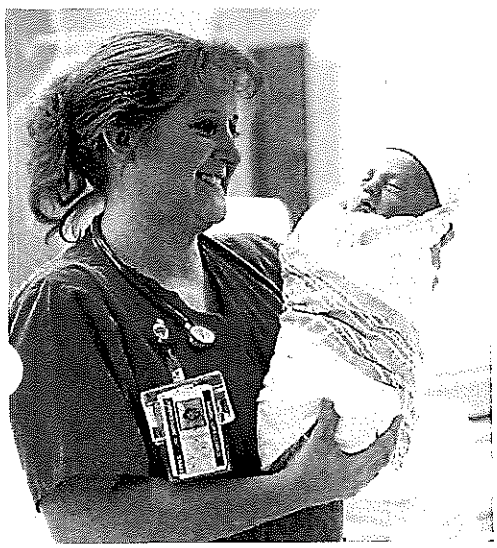
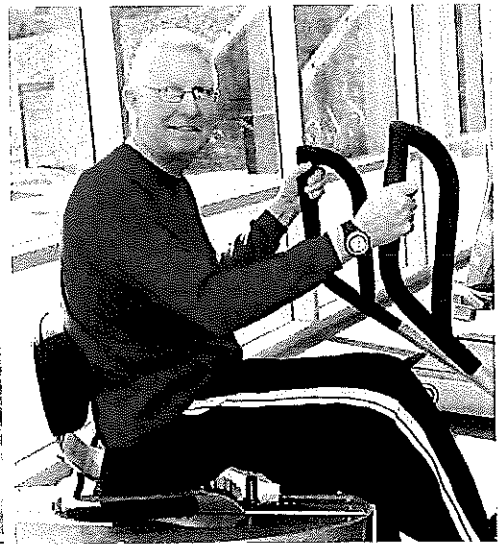
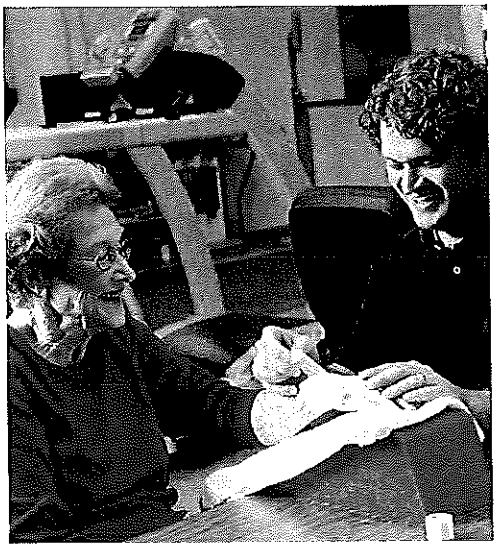
North Arkansas Regional Medical Center

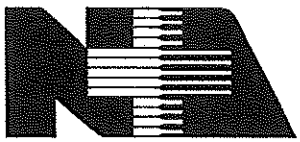
Community Health Needs Assessment – 2013











North Arkansas Regional Medical Center

Community Health Needs Assessment

March 2013

BKD LLP

CPAs & Advisors

North Arkansas Regional Medical Center

Community Health Needs Assessment

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Introduction

As a result of the *Affordable Care Act*, tax-exempt hospitals are required to assess the health needs of their communities and adopt implementation strategies to address identified needs. Compliance with section 501(r) of the Internal Revenue Code (IRC) requires that a tax-exempt hospital facility:

- Conduct a community health needs assessment every three years.
- Adopt an implementation strategy to meet the community health needs identified through the assessment.
- Report how it is addressing the needs identified in the community health needs assessment and a description of needs that are not being addressed with the reasons why such needs are not being addressed.

The community health needs assessment must take into account input from persons who represent the broad interest of the community served by the hospital facility, including those with special knowledge of or expertise in public health. The hospital facility must make the community health needs assessment widely available to the public.

This community health needs assessment is intended to document North Arkansas Regional Medical Center's compliance with IRC Section 501(r). Health needs of the community have been identified and prioritized so that North Arkansas Regional Medical Center (the Medical Center) may adopt an implementation strategy to address specific needs of the community.

The process involved:

- Collection and analysis of a large range of data, including demographic, socioeconomic and health statistics, health care resources and patient use rates.
- Interviews with key interviewees who represent a) broad interests of the community, b) populations of need or c) persons with specialized knowledge in public health.
- Conducting a health survey which gathered a wide range of information which was widely distributed to members of the community.

This document is a summary of all the available evidence collected during the initial cycle of community health needs assessments required by the IRS. It will serve as a compliance document as well as a resource until the next assessment cycle.

Summary of Community Health Needs Assessment

The purpose of the community health needs assessment is to understand the unique health needs of the community served by the Medical Center and to document compliance with new federal laws outlined above.

The Medical Center engaged **BKD, LLP** to conduct a formal community health needs assessment. **BKD, LLP** is one of the largest CPA and advisory firms in the United States, with approximately 2,000 partners and employees in 30 offices. BKD serves more than 900 hospitals and health care systems across the county. The community health needs assessment was conducted from May 2012 through January 2013.

Based on current literature and other guidance from the U.S Treasury Department and the IRS, the following steps were conducted as part of the Medical Center's community health needs assessment:

- The "community" served by the Medical Center was defined by utilizing inpatient and outpatient data regarding patient origin. This process is further described in the section entitled Community Served by the Medical Center.
- Population demographics and socioeconomic characteristics of the community were gathered and reported utilizing various third parties (see references in Appendices). The health status of the community was then reviewed. Information on the leading causes of death and morbidity information was analyzed in conjunction with health outcomes and factors reported for the community by CountyHealthrankings.org. Health factors with significant opportunity for improvement were noted.
- An inventory of health care facilities and resources was prepared and estimated a demand for physician and hospital services was estimated. Both were evaluated for unmet needs.
- Community input was provided through interviews of 20 key interviewees, four focus groups comprised of approximately 30 stakeholders and a widely-distributed community health input questionnaire. The community health input questionnaire was completed by 370 individuals. Results and findings are described in the Key Interviewee and Community Health Input sections of this report.
- Information gathered in the above steps was analyzed and reviewed to identify health issues of uninsured persons, low-income persons and minority groups and the community as a whole. Health needs were ranked utilizing a weighting method that considers 1) the ability to evaluate and measure outcomes, 2) the size of the problem, 3) the seriousness of the problem and 4) the prevalence of common themes.

  Health needs were then prioritized taking into account the perceived degree of influence the Medical Center has to impact the need and the health needs impact on overall health for the community. Information gaps identified during the prioritization process have been reported.
- Recommendations based on this assessment have been communicated to Medical Center management.

General Description of the Medical Center

The Medical Center is an Arkansas nonprofit organization, located in Harrison, Arkansas. A nine-member board of directors governs the Medical Center and ensures that medical services are available to the residents of Harrison and surrounding areas.

The Medical Center is an integrated health care provider serving residents of north Arkansas for more than 60 years. The Medical Center proudly offers a wide range of services and specialties to meet the needs of Arkansans close to home. With more than 100 primary care, mid-level and specialist physicians on the medical staff, and approximately 750 employees, the Medical Center is made up of an experienced and dedicated team. The Medical Center provides health care solutions with compassion and respect for the uniqueness of every individual. Guided by a values-based culture to consistently deliver clinical and service excellence to our patients, the Medical Center strives for excellent care, every time.

Community Served by the Medical Center

The Medical Center is located in Harrison, Arkansas, in Boone County. Harrison is approximately an hour and a half east of Fayetteville, Arkansas, and an hour south of Springfield, Missouri, the closest metropolitan areas. One divided highway serves the area from the north.

Defined Community

A community is defined as the geographic area from which a significant number of the patients utilizing hospital services reside. While the community health needs assessment considers other types of health care providers, the Medical Center is the single largest provider of acute care services. For this reason, the utilization of hospital services provides the clearest definition of the community. The criteria established to define the community is as follows:

- A zip code area must represent two percent or more of the Medical Center's total discharges and outpatient visits.
- The Medical Center's market share in the zip code area must be greater than or equal to 20 percent.
- The area is contiguous to the geographical area encompassing the Medical Center.

Based on the patient origin of acute care inpatient discharges and outpatient visits from April 1, 2011, through March 31, 2012, management has identified the community to include the zip codes listed in *Exhibit 1* (the Community). *Exhibit 1* presents the Medical Center's patient origin for each of the top 27 zip code areas in the Community. These zip codes are listed with corresponding demographic information in *Exhibits 2* through *5*. Pages 5 and 6 present maps of the Medical Center's geographical location and the footprint of the Community. The first map displays the Medical Center's geographic relationship to the Community, as well as significant roads and highways. The second map displays the Community in relation to surrounding counties.

When specific information is not available for zip codes, the community health needs assessment relies on information for specific counties. The geographic area of the defined community based on the identified zip codes covers all of Boone and Newton Counties, significant portions of Carroll, Marion, and Searcy Counties and a small portion of Pope County. (See map on page six.) The community health needs assessment will utilize the five counties with all or significant portions included in the community when that corresponding information is more readily available.

Exhibit 1
Summary of Inpatient Discharges and Outpatient Visits by Zip Code
April 1, 2011 to March 31, 2012

Zip Code	City	County	Acute Inpatient Discharges	Percent of Total Discharges	Outpatient Visits	Percent of Total Visits	Inpatient Market Share†
72601	Harrison	Boone	2,751	51.2%	35,244	57.1%	80.0%
72638	Green Forest	Carroll	307	5.7%	1,977	3.2%	46.8%
72616	Berryville	Carroll	242	4.5%	1,081	1.8%	23.3%
72650	Marshall	Searcy	201	3.7%	2,296	3.7%	34.5%
72641	Jasper	Newton	186	3.5%	2,083	3.4%	65.1%
72687	Yellville	Marion	159	3.0%	1,701	2.8%	15.3%
72644	Lead Hill	Boone	157	2.9%	2,315	3.8%	70.2%
72662	Omaha	Boone	123	2.3%	1,843	3.0%	64.7%
72633	Everton	Boone	104	1.9%	1,322	2.1%	55.9%
72611	Alpena	Boone	104	1.9%	1,295	2.1%	54.2%
72685	Western Grove	Newton	99	1.8%	1,373	2.2%	63.9%
72675	St. Joe	Searcy	91	1.7%	968	1.6%	63.4%
72648	Marble Falls	Newton	56	1.0%	665	1.1%	72.3%
72682	Bruno	Boone	45	0.8%	414	0.7%	56.3%
72655	Mt. Judea	Newton	35	0.7%	360	0.6%	71.4%
72628	Deer	Newton	32	0.6%	471	0.8%	40.8%
72624	Compton	Newton	32	0.6%	377	0.6%	50.0%
72683	Vendor	Newton	31	0.6%	402	0.7%	68.1%
72640	Hasty	Newton	27	0.5%	369	0.6%	59.3%
72856	Pelsor	Pope	22	0.4%	137	0.2%	32.8%
72669	Pindall	Searcy	19	0.4%	247	0.4%	67.9%
72666	Parthenon	Newton	17	0.3%	201	0.3%	89.5%
72686	Witts Springs	Searcy	15	0.3%	52	0.1%	50.8%
72668	Peel	Marion	14	0.3%	317	0.5%	37.8%
72660	Oak Springs	Carroll	8	0.1%	69	0.1%	34.8%
72670	Ponca	Newton	4	0.1%	56	0.1%	32.0%
72679	Tilly	Pope	2	0.0%	24	0.0%	21.1%
	All Other		494	9.2%	4,016	6.5%	
	Total		5,377	100.0%	61,675	100.0%	

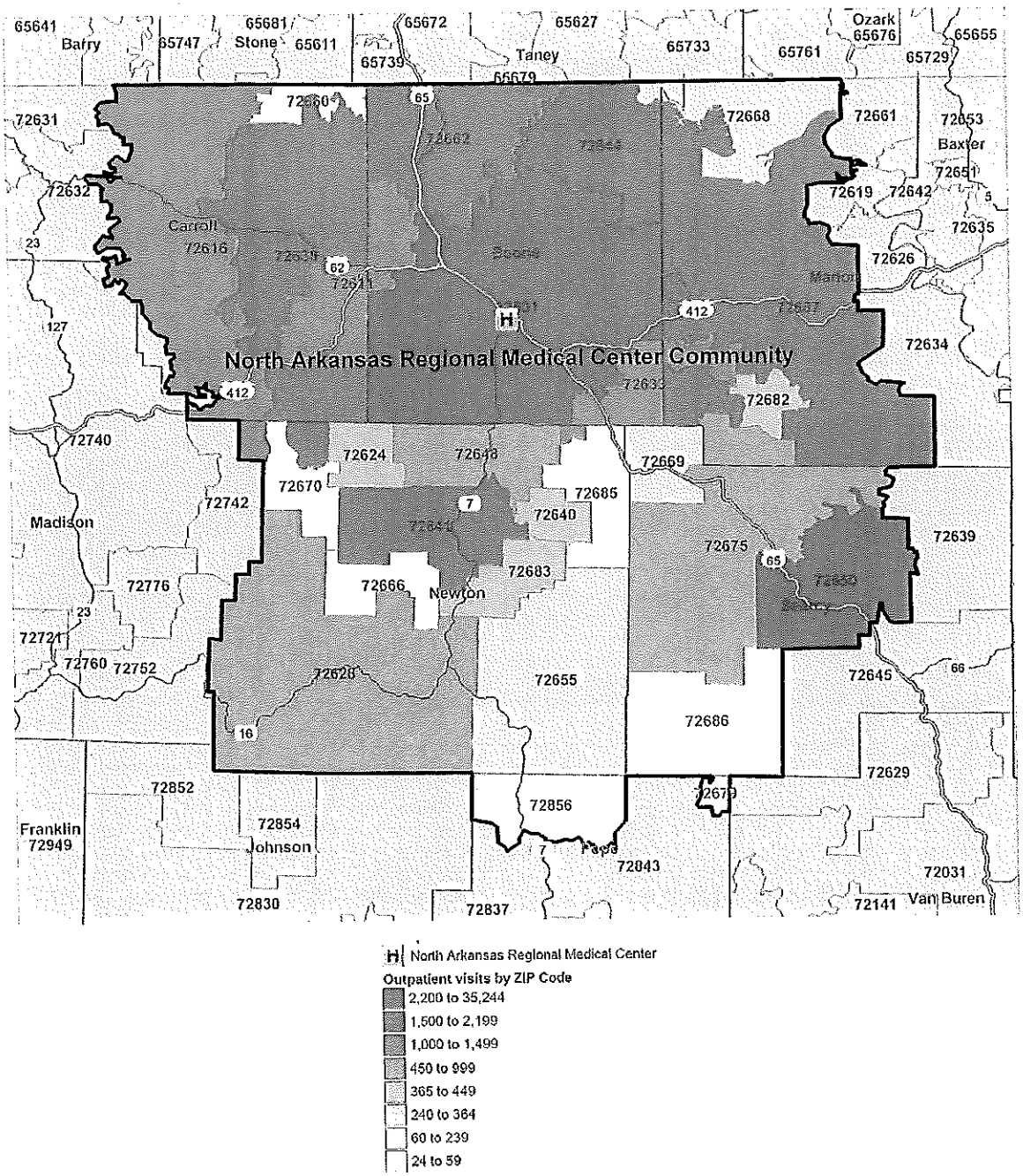
Source: North Arkansas Regional Medical Center and the Arkansas Department of Health

† *Inpatient market share was calculated using data from the Arkansas Department of Health showing total discharges for all hospitals by patient zip code.*

Community Details

Identification and Description of Geographical Community

The following map geographically illustrates the Medical Center's community by showing the community zip codes shaded by number of outpatient visits.



Community Population and Demographics

The U.S. Bureau of Census has compiled population and demographic data based on the 2010 census. The Nielson Company, a firm specializing in the analysis of demographic data, has extrapolated this data by zip code to estimate population trends from 2012 through 2017. The map below shows the community in relation to the five counties that are used for data collection when zip code level data is not available. Population estimates by age and zip code for the Medical Center's community are presented after the map in *Exhibit 2*.

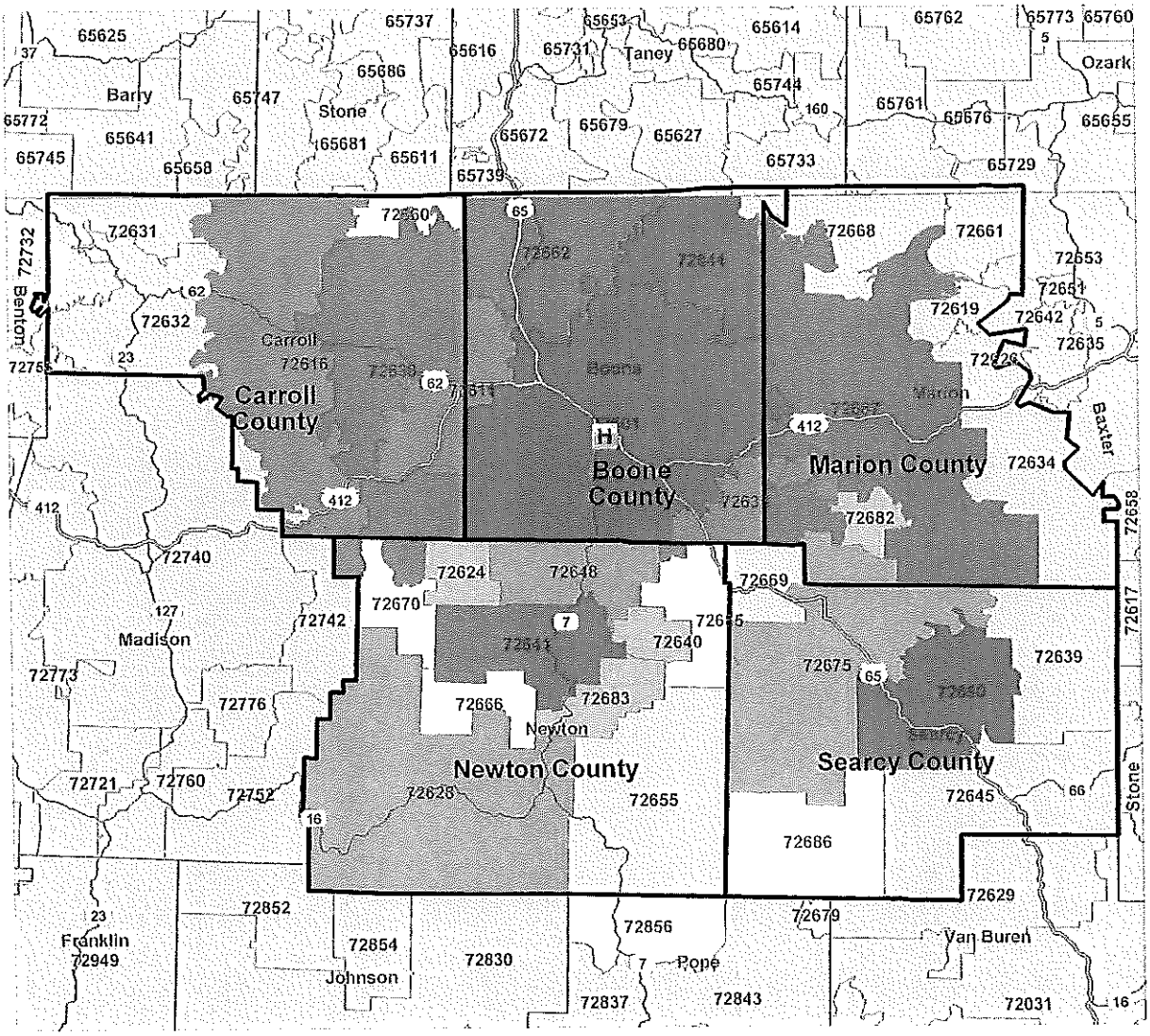


Exhibit 2 illustrates that the overall population is projected to increase over the five-year period from 80,599 to 83,713, or 3.9%. However, the age category that utilizes health care services the most, 65 years and over, is projected to increase from 14,540 to 16,627, or 14.4%. The ratio of males to females in the total community is projected to remain approximately the same over the five-year period.

Exhibit 2
Estimated 2012 Population and Projected 2017 Population

Zip Code	City	Under 15 years	15-44 years	45-64 years	65 years and over	Total	Male	Female
				Estimated 2012 Population				
72601	Harrison	5,856	10,921	7,938	5,569	30,284	14,608	15,676
72638	Green Forest	1,640	2,929	1,797	874	7,240	3,678	3,562
72616	Berryville	2,264	3,979	2,704	1,693	10,640	5,316	5,324
72650	Marshall	571	1,137	1,069	878	3,655	1,764	1,891
72641	Jasper	325	573	568	406	1,872	940	932
72687	Yellville	1,199	2,430	2,480	1,596	7,705	3,826	3,879
72644	Lead Hill	393	744	732	622	2,491	1,268	1,223
72662	Omaha	633	1,056	889	469	3,047	1,525	1,522
72633	Everton	255	549	425	243	1,472	717	755
72611	Alpena	399	737	536	295	1,967	996	971
72685	Western Grove	201	411	339	178	1,129	563	566
72675	St. Joe	302	551	491	302	1,646	842	804
72648	Marble Falls	96	223	205	107	631	322	309
72682	Bruno	40	81	91	47	259	128	131
72655	Mt. Judea	130	252	234	149	765	393	372
72628	Deer	172	432	474	264	1,342	699	643
72624	Compton	43	120	110	53	326	165	161
72683	Vendor	151	275	242	156	824	425	399
72640	Hasty	58	121	99	53	331	163	168
72856	Pelsor	16	40	31	13	100	57	43
72669	Pindall	77	138	114	73	402	210	192
72666	Parthenon	75	163	169	101	508	268	240
72686	Witts Springs	54	114	118	76	362	183	179
72668	Peel	75	175	246	180	676	345	331
72660	Oak Springs	115	224	171	84	594	299	295
72670	Ponca	32	88	82	43	245	130	115
72679	Tilly	10	33	27	16	86	47	39
		15,182	28,496	22,381	14,540	80,599	39,877	40,722
Percent of total		18.8%	35.4%	27.8%	18.0%		49.5%	50.5%

Exhibit 2 (Continued)
Estimated 2012 Population and Projected 2017 Population

Zip Code	City	Under 15 years	15-44 years	45-64 years	65 years and over	Total	Male	Female
				Projected 2017 Population				
72601	Harrison	5,959	11,204	8,128	6,316	31,607	15,261	16,346
72638	Green Forest	1,733	2,914	1,846	1,032	7,525	3,816	3,709
72616	Berryville	2,451	4,119	2,720	1,945	11,235	5,592	5,643
72650	Marshall	576	1,148	1,035	961	3,720	1,800	1,920
72641	Jasper	313	572	532	440	1,857	925	932
72687	Yellville	1,186	2,461	2,460	1,806	7,913	3,921	3,992
72644	Lead Hill	406	774	730	749	2,659	1,354	1,305
72662	Omaha	645	1,125	876	590	3,236	1,619	1,617
72633	Everton	246	541	416	276	1,479	715	764
72611	Alpena	426	750	538	362	2,076	1,046	1,030
72685	Western Grove	209	420	361	213	1,203	597	606
72675	St. Joe	307	548	485	338	1,678	858	820
72648	Marble Falls	92	225	206	124	647	326	321
72682	Bruno	36	85	89	52	262	129	133
72655	Mt. Judea	128	241	215	163	747	384	363
72628	Deer	171	421	456	294	1,342	697	645
72624	Compton	47	115	108	61	331	170	161
72683	Vendor	145	268	223	171	807	422	385
72640	Hasty	63	120	105	65	353	173	180
72856	Pelsor	16	43	28	17	104	51	53
72669	Pindall	63	127	104	78	372	192	180
72666	Parthenon	72	162	167	111	512	262	250
72686	Witts Springs	56	111	107	87	361	185	176
72668	Peel	76	184	270	209	739	370	369
72660	Oak Springs	124	227	159	104	614	310	304
72670	Ponca	34	87	78	50	249	129	120
72679	Tilly	11	37	24	13	85	44	41
		15,591	29,029	22,466	16,627	83,713	41,348	42,365
Percent of total		18.6%	34.7%	26.8%	19.9%		49.4%	50.6%

Exhibit 2 also illustrates the growth in the over 65 population as a percentage of the whole, growing from an estimated 18% in 2012 to a projected 20% in 2017.

Exhibit 2.1 provides the percent difference for the Community from estimated 2012 to projected 2017 as well as a comparison to state and national changes. *Exhibit 2.1* illustrates that the overall population is projected to increase at rates consistent with both state and national projections. Note that the age category that utilizes health care services the most, 65 years and over, is projected to increase by more than 14 percent. This increase in the 65 year and over category will have a dramatic impact on both the amount and type of services required by the community.

Exhibit 2.1

Estimated 2012 Population vs Projected 2017 Population Percent Difference

	Under 15 years	15-44 years	45-64 years	65 years and over	Total	Male	Female
The Community	2.7%	1.9%	0.4%	14.4%	3.9%	3.7%	4.0%
Arkansas 2012 Estimated (1,000s)	608	1,180	756	422	2,966	1,454	1,511
Arkansas 2017 Projected (1,000s)	642	1,200	777	484	3,103	1,523	1,580
Percent Difference	5.6%	1.7%	2.8%	14.7%	4.6%	4.7%	4.6%
U.S. 2012 Estimated (1,000s)	63,291	128,312	81,242	40,251	313,096	154,450	158,646
U.S. 2017 Projected (1,000s)	65,816	127,615	85,317	46,509	325,257	160,511	164,746
Percent Difference	4.0%	-0.5%	5.0%	15.5%	3.9%	3.9%	3.8%

Source: The Nielson Company

While the relative age of the community population can impact community health needs, so can the ethnicity and race of a population. The following *Exhibit 3* shows the population of the community by ethnicity by illustrating the Hispanic versus non-Hispanic residents. In total, the population breakdown for the Community is similar to the state of Arkansas with Hispanic residents comprising less than 10% of the total. However, a review of the specific zip code areas does show a relatively large percentage of Hispanic residents in the Berryville and Green Forest zip codes. Additionally, the Hispanic population is projected to grow nearly 18% from 2012 to 2017 as compared to the 3.7% growth in non-Hispanic population.

Exhibit 3
Estimated 2012 Population vs Projected 2017 Population with Percent Difference

Zip Code	City	Estimated 2012 Hispanic	Estimated 2012 Non-Hispanic	Estimated 2012 Total	Projected 2017 Hispanic	Projected 2017 Non-Hispanic	Projected 2017 Total	Growth, % Hispanic	Growth, % Non-Hispanic	% Total - 2017 Hispanic	% Total - 2017 Non-Hispanic
72601	Harrison	614	29,670	30,284	754	30,853	31,607	22.8%	4.0%	2.4%	97.6%
72638	Green Forest	1,642	5,598	7,240	1,866	5,659	7,525	13.6%	1.1%	24.8%	75.2%
72616	Berryville	1,707	8,933	10,640	1,999	9,236	11,235	17.1%	3.4%	17.8%	82.2%
72650	Marshall	71	3,584	3,655	85	3,635	3,720	19.7%	1.4%	2.3%	97.7%
72641	Jasper	31	1,841	1,872	35	1,822	1,857	12.9%	-1.0%	1.9%	98.1%
72687	Yellville	160	7,545	7,705	207	7,706	7,913	29.4%	2.1%	2.6%	97.4%
72644	Lead Hill	48	2,443	2,491	61	2,598	2,659	27.1%	6.3%	2.3%	97.7%
72662	Omaha	51	2,996	3,047	65	3,717	3,782	27.5%	24.1%	1.7%	98.3%
72633	Everton	22	1,450	1,472	26	1,453	1,479	18.2%	0.2%	1.8%	98.2%
72611	Alpena	95	1,872	1,967	129	1,947	2,076	35.8%	4.0%	6.2%	93.8%
72685	Western Grove	28	1,101	1,129	34	1,169	1,203	21.4%	6.2%	2.8%	97.2%
72675	St. Joe	33	1,613	1,646	40	1,638	1,678	21.2%	1.5%	2.4%	97.6%
72648	Marble Falls	20	611	631	25	622	647	25.0%	1.8%	3.9%	96.1%
72682	Valley Springs	5	254	259	7	255	262	40.0%	0.4%	2.7%	97.3%
72655	Mt. Judea	7	758	765	8	739	747	14.3%	-2.5%	1.1%	98.9%
72628	Deer	11	1,331	1,342	12	1,330	1,342	9.1%	-0.1%	0.9%	99.1%
72624	Compton	11	315	326	13	318	331	18.2%	1.0%	3.9%	96.1%
72683	Vendor	8	816	824	8	799	807	0.0%	-2.1%	1.0%	99.0%
72640	Hasty	8	323	331	11	342	353	37.5%	5.9%	3.1%	96.9%
72856	Pelsor	2	98	100	1	103	104	-50.0%	5.1%	1.0%	99.0%
72669	Pindall	5	397	402	5	353	358	0.0%	-11.1%	1.4%	98.6%
72666	Parthenon	3	505	508	4	508	512	33.3%	0.6%	0.8%	99.2%
72686	Witts Springs	5	357	362	5	356	361	0.0%	-0.3%	1.4%	98.6%
72668	Peel	15	661	676	19	720	739	26.7%	8.9%	2.6%	97.4%
72660	Oak Springs	12	582	594	14	600	614	16.7%	3.1%	2.3%	97.7%
72670	Ponca	9	236	245	9	240	249	0.0%	1.7%	3.6%	96.4%
72679	Tilly	2	84	86	2	83	85	0.0%	-1.2%	2.4%	97.6%
		4,625	75,974	80,599	5,444	78,801	84,245	17.7%	3.7%	6.5%	93.5%
Arkansas (1,000s)		205	2,760	2,965	262	2,841	3,103	27.8%	2.9%	8.4%	91.6%
U.S. (1,000s)		53,183	259,912	313,095	60,902	264,355	325,257	14.5%	1.7%	18.7%	81.3%

Source: The Nielson Company

The Community includes no other non-white population in excess of 1% of the total. The population breakdown for the community shows that over 93 percent of its residents are white, making it much more racially homogeneous than either the state of Arkansas or the United States as a whole.

Socioeconomic Characteristics of the Community

The socioeconomic characteristics of a geographic area influence the way residents access health care services and perceive the need for health care services within society. The economic status of an area may be assessed by examining multiple variables within the community. The following exhibits are a compilation of data that includes household income and poverty, labor force, employees by types of industry, employment rates, and educational attainment for the Community. These standard measures will be used to compare the socioeconomic status of the community to the state of Arkansas and the United States.

Income and Employment

Exhibit 4 presents the average, median and per capita income for households in each zip code. In total, each of these measures is projected to increase 2 to 3 percent, but some individual zip codes are expected to see much greater variation, with a decrease of 0.6 percent and an increase of up to 13.6 percent.

Exhibit 4
Estimated Family Income and Wealth for 2012 and 2017 with Percent Difference

		Estimated 2012			Projected 2017			Growth, %		
Zip Code	City	Average Household Income	Median Household Income	Average Per Capita Income	Average Household Income	Median Household Income	Average Per Capita Income	Average Household Income	Median Household Income	Average Per Capita Income
72601	Harrison	$ 46,431	$ 35,216	$ 19,297	$ 47,612	$ 36,073	$ 20,006	2.5%	2.4%	3.7%
72638	Green Forest	$ 42,351	$ 32,092	$ 15,838	$ 43,066	$ 32,557	$ 16,371	1.7%	1.4%	3.4%
72616	Berryville	$ 41,537	$ 31,086	$ 16,226	$ 41,830	$ 31,368	$ 16,552	0.7%	0.9%	2.0%
72650	Marshall	$ 35,210	$ 26,017	$ 15,599	$ 36,356	$ 26,804	$ 16,171	3.3%	3.0%	3.7%
72641	Jasper	$ 36,834	$ 26,111	$ 16,874	$ 37,626	$ 26,759	$ 17,469	2.2%	2.5%	3.5%
72687	Yellville	$ 38,398	$ 30,712	$ 16,644	$ 39,369	$ 31,250	$ 17,226	2.5%	1.8%	3.5%
72644	Lead Hill	$ 38,088	$ 30,429	$ 16,795	$ 39,157	$ 30,857	$ 17,202	2.8%	1.4%	2.4%
72662	Omaha	$ 44,984	$ 32,514	$ 17,851	$ 45,570	$ 33,026	$ 18,260	1.3%	1.6%	2.3%
72633	Everton	$ 43,655	$ 37,411	$ 17,067	$ 44,568	$ 38,147	$ 17,760	2.1%	2.0%	4.1%
72611	Alpena	$ 44,012	$ 34,429	$ 17,085	$ 44,781	$ 35,000	$ 17,590	1.7%	1.7%	3.0%
72685	Western Grove	$ 38,158	$ 30,667	$ 15,469	$ 37,928	$ 30,895	$ 16,022	-0.6%	0.7%	3.6%
72675	St. Joe	$ 34,153	$ 26,587	$ 15,239	$ 35,103	$ 27,269	$ 15,880	2.8%	2.6%	4.2%
72648	Marble Falls	$ 36,695	$ 32,667	$ 15,729	$ 37,975	$ 33,152	$ 16,486	3.5%	1.5%	4.8%
72682	Bruno	$ 37,611	$ 29,474	$ 16,399	$ 38,196	$ 30,000	$ 16,764	1.6%	1.8%	2.2%
72655	Mt. Judea	$ 37,530	$ 28,136	$ 16,445	$ 39,090	$ 28,772	$ 17,029	4.2%	2.3%	3.6%
72628	Deer	$ 39,179	$ 27,597	$ 18,060	$ 41,042	$ 28,462	$ 18,899	4.8%	3.1%	4.6%
72624	Compton	$ 37,644	$ 33,409	$ 15,796	$ 38,507	$ 34,130	$ 16,644	2.3%	2.2%	5.4%
72683	Vendor	$ 35,214	$ 27,462	$ 14,849	$ 35,473	$ 28,106	$ 15,433	0.7%	2.3%	3.9%
72640	Hasty	$ 37,873	$ 31,154	$ 15,487	$ 38,776	$ 31,111	$ 16,041	2.4%	-0.1%	3.6%
72856	Pelsor	$ 39,295	$ 35,750	$ 14,530	$ 39,643	$ 35,000	$ 15,646	0.9%	-2.1%	7.7%
72669	Pindall	$ 44,770	$ 33,958	$ 18,153	$ 47,023	$ 35,577	$ 19,213	5.0%	4.8%	5.8%
72666	Parthenon	$ 41,756	$ 28,448	$ 18,256	$ 42,784	$ 29,375	$ 19,311	2.5%	3.3%	5.8%
72686	Witts Springs	$ 33,813	$ 26,429	$ 15,957	$ 38,221	$ 27,407	$ 16,794	13.0%	3.7%	5.2%
72668	Peel	$ 41,191	$ 29,322	$ 19,571	$ 42,698	$ 30,000	$ 20,289	3.7%	2.3%	3.7%
72660	Oak Springs	$ 41,090	$ 29,565	$ 15,918	$ 40,971	$ 29,490	$ 16,144	-0.3%	-0.3%	1.4%
72670	Ponca	$ 37,163	$ 33,750	$ 15,846	$ 38,125	$ 33,333	$ 16,680	2.6%	-1.2%	5.3%
72679	Tilly	$ 48,676	$ 33,000	$ 19,812	$ 53,676	$ 37,500	$ 20,203	10.3%	13.6%	2.0%
	Community Average	$ 42,342	$ 32,279	$ 17,514	$ 43,322	$ 32,945	$ 18,112	2.3%	2.1%	3.4%
	Arkansas	$ 50,196	$ 37,982	$ 20,063	$ 51,564	$ 38,933	$ 20,739	2.7%	2.5%	3.4%
	United States	$ 67,315	$ 49,581	$ 25,919	$ 69,219	$ 50,850	$ 26,693	2.8%	2.6%	3.0%

Source: The Nielson Company

Exhibit 5 presents the average annual resident unemployment rates for Boone, Carroll, Marion, Newton, and Searcy Counties in Arkansas and the United States. As *Exhibit 5* illustrates, unemployment rates in most counties peaked in 2010 and improved slightly in 2011. On average, the unemployment rate for these five counties is relatively consistent with the rate for Arkansas as a whole and, in recent years, is stronger than that of the United States.

Exhibit 5
Unemployment Rates (%)

County	2006	2007	2008	2009	2010	2011
Boone County	5.0	5.1	5.4	7.2	7.4	7.4
Carrol County	4.5	4.4	4.5	5.9	6.6	6.4
Marion County	5.3	5.4	6.2	11.4	10.2	9.4
Newton County	5.3	5.1	5.6	7.6	7.2	7.8
Searcy County	4.9	4.9	5.3	7.4	8.7	8.5
Average	5.0	5.0	5.4	7.9	8.0	7.9
Arkansas	5.3	5.3	5.4	7.5	8.0	8.0
United States	4.6	4.6	5.8	9.3	9.6	9.0

Exhibit 6 summarizes employment by major industry for the five counties.

Exhibit 6
Employment by Major Industry
2010

Major Industries	Boone County	%	Carroll County	%	Marion County	%	Newton County	%	Searcy County	%	Total	%	US %
Goods-producing	2,127	15%	3,917	40%	1,356	38%	40	4%	206	13%	7,646	26%	15%
Natural Resources and Mining	10	0%	282	3%	24	1%	-	0%	-	0%	316	1%	1%
Construction	428	3%	267	3%	68	2%	-	0%	-	0%	763	3%	4%
Manufacturing	1,689	12%	3,368	34%	1,264	36%	40	4%	206	13%	6,567	22%	9%
Service-providing	8,469	62%	4,743	48%	1,509	43%	462	46%	888	55%	16,071	54%	68%
Trade, Transportation, and Utilities	3,817	28%	1,532	16%	544	15%	164	16%	279	17%	6,336	21%	19%
Information	374	3%	75	1%	58	2%	-	0%	13	1%	520	2%	2%
Financial Activities	562	4%	360	4%	188	5%	-	0%	90	6%	1,200	4%	6%
Professional and Business Services	961	7%	209	2%	113	3%	-	0%	24	1%	1,307	4%	13%
Education and Health Services	1,363	10%	934	10%	356	10%	224	22%	375	23%	3,252	11%	15%
Leisure and Hospitality	1,120	8%	1,505	15%	223	6%	69	7%	96	6%	3,013	10%	10%
Other Services	272	2%	128	1%	27	1%	5	0%	11	1%	443	1%	3%
Federal Government	212	2%	96	1%	50	1%	66	7%	61	4%	485	2%	2%
State Government	755	5%	106	1%	80	2%	84	8%	110	7%	1,135	4%	4%
Local Government	2,180	16%	963	10%	533	15%	359	36%	350	22%	4,385	15%	11%
Total Employment	13,743	100%	9,825	100%	3,528	100%	1,011	100%	1,615	100%	29,722	100%	100%

Source: U.S. Department of Census

Major employers by county include the following:

Exhibit 7
Employment by Top Employers

Top Employers	County				
	Boone	Marion	Searcy	Carroll	Newton
Fed-Ex Freight East, Inc.	1001-1500				
North Arkansas Regional Medical Center	500-1000				
Harrison School District	251-500				
Claridge Products & Equipment, Inc.	251-500				
Pace Industries, Inc.	251-500				
North Arkansas College	251-500				
Wal-Mart Stores, Inc.	251-500	75-250		251-500	
Windstream Communications	75-250				
Bergman School District	75-250				
Tankinetics, Inc.	75-250				
Yellville-Summit School		75-250			
Flippin School District		75-250			
Micro Plastics, Inc.		75-250			
Ark-Plas Products, Inc.		75-250			
Marion County Nursing Home		75-250			
Actronix, Inc.		75-250			
Ozark Mountain School District		75-250	75-250	75-250	
Ranger Boats		75-250			
Twin Lakes Nursing and Rehab Center		75-250			
Searcy County School District			75-250		
Harp's Food Stores			75-250		
Friendship Community Care, Inc.			75-250		
ZacBac Apparel LLC			75-250		
Boston Mountain Rural Health			75-250		
Ozark Timber Treating, Inc.			75-250		
McClain Forest Products, Inc.			75-250		
Tyson Foods, Inc.				2501-5000	
Berryville School District				251-500	
St. John's Hospital				251-500	
Green Forest School District				75-250	
First National Bank				75-250	
Kerusso Active Wear, Inc.				75-250	
Eureka Springs School District				75-250	
Carroll Electric Cooperative Corporation				75-250	72-250
Mt. Judea School District					72-250
Jasper School District					72-250
Newton County Nursing Home					72-250
Western Grove School District					72-250
Bob's Markets, Inc.					72-250

Source: Arkansas Economic Development Commission

Major industries within the community include education, which makes up approximately 35 percent of the top employers, manufacturing, which makes up about 30 percent, and healthcare, which makes up about 15 percent. Additionally, some counties are home to single businesses that employ a large percentage of the workforce. In Boone County, Fed-Ex employs over 1,000 people, and in Carroll County, Tyson Foods, Inc., employs over 2,500. Large companies like this can be an economic asset to a community, but too much dependence on them can be a negative thing if they ever relocate or downsize.

Poverty

Exhibit 8 presents the percentage of total population in poverty (including under age 18) and median household income for households in each county versus the state of Arkansas and the United States.

Exhibit 8
Poverty Estimate: Percentage of Total Population in Poverty and Median Household Income
2009 and 2010

County	2009 All Persons	2009 Under Age 18	2009 Median Household Income	2010 All Persons	2010 Under Age 18	2010 Median Household Income
Boone	16.3%	25.3%	$ 37,007	16.0%	26.3%	$ 35,532
Carroll	17.3%	28.0%	35,006	16.4%	26.5%	33,789
Marion	20.4%	34.4%	33,617	19.5%	36.4%	31,438
Newton	25.5%	39.5%	29,403	23.3%	37.1%	30,965
Searcy	27.0%	44.2%	25,397	23.7%	42.0%	27,896
Average	21.3%	34.3%	32,086	19.8%	33.7%	31,924
Arkansas	18.5%	26.6%	37,888	18.7%	27.3%	38,413
United States	14.3%	20.0%	50,221	15.3%	21.6%	50,046

Source: U.S. Census Bureau, Small Areas Estimates Branch

In 2010, a family of two adults and two children was considered poor if their annual household income fell below $22,050 and Arkansas is consistently ranked one of the poorest states in the country. Poverty rates for Newton and Searcy Counties rank unfavorably when compared to the state averages. All counties compare unfavorably to national poverty rates and median income.

Uninsured

Exhibit 9 presents health insurance coverage status by age (under 65 years) and income (at or below 400 percent) of poverty for each county versus Arkansas and the United States.

Exhibit 9
Health Insurance Coverage Status by Age (Under 65 years) and Income (At or Below 400%) of Poverty
2009

	All Income Levels				At or Below 400% of FPL			
County	Under 65 Uninsured	Percent Uninsured	Under 65 Insured	Percent Insured	Under 65 Uninsured	Percent Uninsured	Under 65 Insured	Percent Insured
Boone	5,898	20.2%	23,296	79.8%	5,447	23.8%	17,472	76.2%
Carroll	5,727	25.4%	16,856	74.6%	5,364	29.3%	12,949	70.7%
Marion	2,438	19.8%	9,893	80.2%	2,299	22.8%	7,789	77.2%
Newton	1,523	23.5%	4,946	76.5%	1,448	25.6%	4,212	74.4%
Searcy	1,424	23.5%	4,642	76.5%	1,365	25.1%	4,078	74.9%
Arkansas	471,567	19.6%	1,936,136	80.4%	429,751	24.3%	1,340,100	75.7%
United States	45,041,840	17.3%	216,052,241	82.7%	39,169,168	23.8%	125,426,035	76.2%

Source: U.S. Census Bureau, SAHIE/ State and County by Demographic and Income Characteristics

Education

Exhibit 10 presents educational attainment by age cohort for individuals in each county versus Arkansas and the United States.

Exhibit 10
Educational Attainment - Total Population
2011

	Less Than 9th Grade	9th Grade to 12th Grade	High School Diploma	Some College	Associate's Degree	Bachelor's Degree	Graduate Degree and Higher
Boone	7.0%	9.0%	42.0%	20.0%	7.0%	10.0%	5.0%
Carroll	13.0%	10.0%	33.0%	21.0%	5.0%	11.0%	5.0%
Marion	6.0%	9.0%	39.0%	22.0%	6.0%	10.0%	7.0%
Newton	11.0%	12.0%	41.0%	21.0%	4.0%	9.0%	2.0%
Searcy	15.0%	16.0%	34.0%	20.0%	5.0%	7.0%	3.0%
Community average	10.4%	11.2%	37.8%	20.8%	5.4%	9.4%	4.4%
Arkansas	10.0%	8.0%	35.0%	22.0%	6.0%	13.0%	6.0%
National	9.0%	7.0%	28.0%	21.0%	7.0%	18.0%	10.0%

Source: Census Scope

Education levels obtained by community residents may impact the local economy. Higher levels of education generally lead to higher wages, less unemployment and job stability. These factors may indirectly influence community health. As noted in *Exhibit 10*, educational attainment in the Community is generally lower than both state and national rates. Residents of the Community obtain a bachelor's degree or higher at a rate that is less than half of the national average and less than 75% of the state average.

Health Status of the Community

This section of the assessment reviews the health status of Boone, Carroll, Marion, Newton, and Searcy County residents. As in the previous section, comparisons are provided with the state of Arkansas. This in-depth assessment of the mortality and morbidity data, health outcomes, health factors and mental health indicators of the county residents that make up the community will enable the Medical Center to identify priority health issues related to the health status of its residents.

Good health can be defined as a state of physical, mental and social well-being, rather than the absence of disease or infirmity. According to *Healthy People 2010*, the national health objectives released by the U.S. Department of Health and Human Services, individual health is closely linked to community health. Community health, which includes both the physical and social environment in which individuals live, work and play, is profoundly affected by the collective behaviors, attitudes and beliefs of everyone who lives in the community. Healthy people are among a community's most essential resources.

Numerous factors have a significant impact on an individual's health status: lifestyle and behavior, human biology, environmental and socioeconomic conditions, as well as access to adequate and appropriate health care and medical services.

Studies by the American Society of Internal Medicine conclude that up to 70 percent of an individual's health status is directly attributable to personal lifestyle decisions and attitudes. Persons who do not smoke, who drink in moderation (if at all), use automobile seat belts (car seats for infants and small children), maintain a nutritious low-fat, high-fiber diet, reduce excess stress in daily living and exercise regularly have a significantly greater potential of avoiding debilitating diseases, infirmities and premature death.

The interrelationship among lifestyle/behavior, personal health attitude and poor health status is gaining recognition and acceptance by both the general public and health care providers. Some examples of lifestyle/behavior and related health care problems include the following:

Lifestyle	Primary Disease Factor
Smoking	Lung cancer Cardiovascular disease Emphysema Chronic bronchitis
Alcohol/drug abuse	Cirrhosis of liver Motor vehicle crashes Unintentional injuries Malnutrition Suicide Homicide Mental illness
Poor nutrition	Obesity Digestive disease Depression
Driving at excessive speeds	Trauma Motor vehicle crashes
Lack of exercise	Cardiovascular disease Depression
Overstressed	Mental illness Alcohol/drug abuse Cardiovascular disease

Health problems should be examined in terms of morbidity as well as mortality. Morbidity is defined as the incidence of illness or injury and mortality is defined as the incidence of death. Due to limited morbidity data, this health status report relies heavily on death and death rate statistics for leading causes in death in Boone, Carroll, Marion, Newton, and Searcy Counties, and the state of Arkansas. Such information provides useful indicators of health status trends and permits an assessment of the impact of changes in health services on a resident population during an established period of time. Community attention and health care resources may then be directed to those areas of greatest impact and concern.

Leading Causes of Death

Exhibit 11 reflects the leading causes of death for Boone, Carroll, Marion, Newton, and Searcy County residents and compares the rates, per 100,000, to the state of Arkansas average.

Exhibit 11
Selected Causes of Resident Deaths, 2007

	Boone	Carroll	Marion	Newton	Searcy	Community Total	Arkansas	National
Total Deaths, All Causes	1,045	968	1,264	1,155	1,242	1,135	992	741
Cancer	249	214	286	298	271	264	223	174
Female Breast	37	15	59	24	-	27	31	-
Diabetes Mellitus	16	36	35	24	37	30	29	21
Diseases of the Heart	321	260	324	354	353	323	258	180
Cerebrovascular Diseases	73	63	75	23	130	73	63	41
Pneumonia and Influenza	35	37	17	17	18	25	37	16
Bronchitis, Emphysema, and Asthma	27	8	6	-	26	13	13	42
Chronic Liver Disease and Cirrhosis	8	4	35	-	12	12	9	9
Congenital Anomalies	-	8	7	-	-	3	4	-
Unintentional Injuries	32	43	59	47	97	55	48	37
Homicide	11	-	-	36	-	9	9	6

Source: Arkansas Department of Health

This exhibit indicates that the Community's mortality is higher than the state average and significantly higher than the national average. In fact, the Community's mortality exceeds the national average in all causes except bronchitis, emphysema and asthma.

Health Outcomes and Factors

An analysis of various health outcomes and factors for a particular community can, if improved, help make that community a healthier place to live, learn, work and play. A better understanding of the factors that affect the health of the community will assist with how to improve the community's habits, culture and environment. This portion of the community health needs assessment utilizes information from County Health Rankings, a key component of the Mobilizing Action Toward Community Health (MATCH) project, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute.

The County Health Rankings model is grounded in the belief that programs and policies implemented at the local, state and federal levels have an impact on the variety of factors that, in turn, determine the health outcomes for communities across the nation. The model provides a ranking method that ranks all 50 states and the counties within each state, based on the measurement of two types of health outcomes for each county: how long people live (mortality) and how healthy people feel (morbidity). These outcomes are the result of a collection of health factors and are influenced by programs and policies at the local, state and federal levels.

Counties in each of the 50 states are ranked according to summaries of a variety of health measures. Those having high ranks, *e.g.* 1 or 2, are considered to be the "healthiest". Counties are ranked relative to the health of other counties in the same state on the following summary measures:

- Health Outcomes–rankings are based on an equal weighting of one length of life (mortality) measure and four quality of life (morbidity) measures.
- Health Factors–rankings are based on weighted scores of four types of factors:
    - Health behaviors (six measures)
    - Clinical care (five measures)
    - Social and economic (seven measures)
    - Physical environment (four measures)

A more detailed discussion about the ranking system, data sources and measures, data quality and calculating scores and ranks can be found at the website for County Health Rankings (www.countyhealthrankings.org).

As part of the analysis of the needs assessment for the Community, the five counties that comprise the majority of the community will be used to compare the relative health status of each county to the state of Arkansas as well as to a national benchmark. A better understanding of the factors that affect the health of the Community will assist with how to improve the Community's habits, culture and environment.

The following tables, *Exhibits 12* and *12.1*, from County Health Rankings, summarize the 2012 health outcomes for the five counties that comprise the majority of the Community for North Arkansas Regional Medical Center. Each measure is described in *Exhibit 12* and the related data for each measure is shown in *Exhibit 12.1*.

Exhibit 12
County Health Rankings - Health Factor Descriptions

Factor	Description
Premature death	Years of potential life lost before age 75 per 100,000 population (age-adjusted)
Poor or fair health	Percent of adults reporting fair or poor heatlh (age-adjusted)
Poor physical health days	Average number of physically unhealthy days reported in past 30 days (age-adjusted)
Poor mental health days	Average number of mentally unhealthy days reported in past 30 days
Low birthweight	Percent of live births with low birthweight (<2500 grams)
Adult smoking	Percent of adults that report smoking at least 100 cigarettes and that they currently smoke
Adult obesity	Percent of adults that report a BMI >= 30
Excessive drinking	Percent of adults that report excessive drinking in the past 30 days
Motor vehicle crash death rate	Motor vehicle deaths per 100K population
Sexually transmitted infections	Chlamydia rate per 100K population
Teen birth rate	Per 1,000 female population, ages 15-19
Uninsured adults	Percent of population under age 65 without health insurance
Primary care physicians	Ratio of population to primary care physicians
Diabetic screening	Percent of diabetic Medicare enrollees that receive HbA1c screening
Mammography screening	Percent of female Medicare enrollees that receive mammorgraphy screening
High school graduation	Percent of ninth grade cohort that graduates in 4 years
Some college	Percent of adults aged 25044 years with some post-secondary education
Children in poverty	Percent of children under age 18 in poverty
Inadequate social support	Percent of adults without social/emotional support
Children in single-parent households	Percent of children that live in household headed by single parent
Violent crime rate	Violent Crimes per 100K population
Air pollution-particulate matter days	Annual number of unhealthy air quality days due to fine particulate matter
Air pollution-ozone days	Annual number of unhealthy air quality days due to ozone

Exhibit 12.1

Community County Health Rankings - Health Outcomes and Factors (2011)

Health Outcome/Factor	Boone County		Carroll County		Marion County		Newton County		Searcy County		Arkansas	National Benchmark
	Metric	Rank	Metric	Rank	Metric	Rank	Metric	Rank	Metric	Rank		
Health Outcomes		3		16		33		12		6		
Mortality		25		40		53		15		58		
Premature death	9,494		9,232		10,905		8,879		11,132		9,580	5,466
Morbidity		6		9		14		10		60		
Poor or fair health	15%		21%		16%		18%		21%		19%	10%
Poor physical health days	3.5		4.6		4.9		4.6		6.7		4.0	2.6
Poor mental health days	2.9		4.1		3.6		3.2		5.9		3.7	2.3
Low birthweight	7.70%		6.4%		7.3%		7.5%		8.3%		9.0%	6.0%
Health Factors		5		15		29		10		51		
Health Behaviors		2		26		18		16		50		
Adult smoking	19%		29%		23%						23%	14%
Adult obesity	29%		26%		32%		35%		31%		32%	25%
Excessive drinking	7%		28%		11%		14%		11%		12%	8%
Motor vehicle crash death rate	28		27		28				43		25	12
Sexually transmitted infections	203		174		107		133		87		503	84
Teen birth rate	58		66		48		18		51		61	22
Clinical Care		20		26		30		17		60		
Uninsured adults	20%		25%		20%		24%		24%		20%	11%
Primary care physicians	768:1		916:1		2800:1		2,765:1		1,339:1		867:1	631:1
Diabetic screening	83%		84%		79%		80%		76%		81%	89%
Mammography screening	59%		62%		62%		55%		49%		62%	74%
Social and Economic Factors		12		37		9		22		51		
High school graduation	76%		71%		70%						74%	
Some college	48%		44%		50%		43%		48%		52%	68%
Children in poverty	26%		27%		36%		37%		42%		27%	13%
Inadequate social support	16%		20%		14%		22%		18%		21%	14%
Children in single-parent households	27%		32%		18%		20%		30%		35%	20%
Violent crime rate	322		264		270				91		523	73
Physical Environment		47		1		25		52		58		
Air pollution-particulate matter days	-		-		-		-		-		-	-
Air pollution-ozone days	-		-		-		1		-		2	-

Note: Not all data was available for all counties. Blank fields indicate that data was unavailable. Measures underperforming the state average are presented in red.

Boone County

While most of Boone County health outcomes and behaviors were better than the state average (ranking 9 and 6 out of 75 counties, respectively), most measures were significantly below national benchmarks with opportunities for improvement.

Exhibit 12 indicates that Boone County has significant room for improvement in the following areas:

- Health Behavior–Motor Vehicle Crash Death Rate
- Clinical Care–Mammography Screening

Carroll County

While most of Carroll County health outcomes and behaviors were better than the state average (ranking 16 and 15 out of 75 counties, respectively), most measures were significantly below national benchmarks with opportunities for improvement

Exhibit 12 indicates that Carroll County has significant room for improvement in the following areas:

- Health Outcomes–Poor or fair health
- Health Outcomes–Poor physical health days
- Health Outcomes–Poor mental health days
- Health Behavior–Adult Smoking
- Health Behavior–Excessive Drinking
- Health Behavior–Motor Vehicle Crash Rate
- Health Behavior–Teen Birth Rate
- Clinical Care–Uninsured Adults
- Clinical Care–Primary Care Physicians
- Social & Economic Factors–High School Graduation
- Social & Economic Factors–Some college

Marion County

While most of Marion County health outcomes and behaviors were better than the state average (ranking 34 and 29 out of 75 counties, respectively), most measures were significantly below national benchmarks with opportunities for improvement

Exhibit 12 indicates that Marion County has significant room for improvement in the following areas:

- Health Outcomes–Premature death
- Health Outcomes–Poor physical health days
- Health Behavior–Motor Vehicle Crash Rates
- Clinical Care–Primary Care Physicians
- Clinical Care–Diabetic Screenings
- Social & Economic Factors–Children in Poverty
- Social & Economic Factors–High School Graduation
- Social & Economic Factors–Some college

Newton County

Most of Newton County health outcomes were better than the state average (ranking 13 out of 75 counties), the health behaviors were below the state average (40 out of 75 counties). Many measures were significantly below national benchmarks with opportunities for improvement

Exhibit 12 indicates that Newton County has significant room for improvement in the following areas:

- Health Outcomes–Poor physical health days
- Health Behavior–Adult Obesity
- Health Behavior–Excessive Drinking
- Clinical Care–Uninsured Adults
- Clinical Care–Primary Care Physicians
- Clinical Care–Diabetic Screenings
- Clinical Care–Mammography Screenings
- Social & Economic Factors–Children in Poverty
- Social & Economic Factors–Some college
- Social & Economic Factors–Inadequate social support

Searcy County

Searcy County health outcomes and behaviors were worse than state average (ranking 61 and 41 out of 75 counties, respectively). Also, many measures were significantly below national benchmarks with opportunities for improvement

Exhibit 12 indicates that Searcy County has significant room for improvement in the following areas:

- Health Outcomes–Premature death
- Health Outcomes–Poor or fair health
- Health Outcomes–Poor physical health days
- Health Outcomes–Poor mental health days
- Health Behavior–Motor Vehicle Crash Death Rate
- Clinical Care–Uninsured Adults
- Clinical Care– Primary Care Physicians
- Clinical Care–Diabetic Screening
- Clinical Care–Mammography Screenings
- Social & Economic Factors–Some college
- Social & Economic Factors–Children in Poverty
- Physical Environment–Limited Access to Healthy Foods

Summary

The Community faces numerous challenges to healthy outcomes and behaviors. While several of the counties comprising the Community outperform state averages, almost all measures are below national averages. For instance, while only Newton County's obesity measure exceeded state averages, all counties exceeded the national benchmark.

Areas with repeatedly poor measures include;

- Health Outcomes–Poor or fair health
- Health Behavior–Motor Vehicle Crash Death Rate
- Clinical Care–Uninsured Adults
- Clinical Care– Primary Care Physicians
- Clinical Care–Diabetic Screening
- Clinical Care–Mammography Screenings
- Social & Economic Factors–Some college
- Social & Economic Factors–Children in Poverty

Health Care Resources

The availability of health resources is a critical component to the health of a county's residents and a measure of the soundness of the area's health care delivery system. An adequate number of health care facilities and health care providers is vital for sustaining a community's health status. Fewer health care facilities and health care providers can impact the timely delivery of services. A limited supply of health resources, especially providers, results in the limited capacity of the health care delivery system to absorb charity and indigent care as there are fewer providers upon which to distribute the burden of indigent care. This section will address the availability of health care resources to the residents of Boone, Carroll, Marion, Newton, and Searcy Counties.

Hospitals and Health Centers

The Medical Center has 108 acute beds and is the only hospital located in the Community with the exception of the critical access hospital in Berryville. Residents of the Community also take advantage of services provided by hospitals in neighboring counties. *Exhibit 13* summarizes hospital services available to the residents of Boone, Carroll, Marion, Newton, and Searcy Counties:

Exhibit 13
Summary of Acute Care Hospitals

		Facility Type	Miles from NARMC	Bed Size	Annual Discharges	Annual Patient Revenue
Mercy Hospital Berryville	Berryville, Arkansas	Critical Access	29	25	1,110	$ 2,000,000
Cox Medical Center Branson	Branson, Missouri	Short-term Acute Care	34	152	6,406	$ 150,000,000
Eureka Springs Hospital	Eureka Springs, Arkansas	Critical Access	43	17	407	$ 6,500,000
Baxter Regional Medical Center	Mountain Home, Arkansas	Short-term Acute Care	50	146	9,540	$ 160,000,000
Ozark Health, Inc.	Clinton, Arkansas	Critical Access	72	25	880	$ 20,000,000
Washington Regional Medical Center	Fayetteville, Arkansas	Short-term Acute Care	78	200	11,714	$ 200,000,000
Stone County Medical Center	Mountain View, Arkansas	Critical Access	81	17	842	$ 12,000,000

Source: Costreportdata.com

The following is a brief description of the health care services available at each of these facilities:

Mercy Hospital Berryville – Located in Berryville, Arkansas, Mercy Hospital Berryville is approximately a 35 minute drive west from Harrison. It offers cancer, diabetes, cardiac, orthopedic, trauma and burn services.

Cox Medical Center Branson – Located in Branson, Missouri, Cox Medical Center is approximately a 40 minute drive from Harrison. It is a large hospital offering a full range of inpatient and outpatient services.

Eureka Springs Hospital (ESH) – Located in Eureka Springs, Arkansas, Eureka Springs Hospital is approximately a one hour drive west of Harrison. It offers counseling, laboratory, physical therapy, radiology, and surgical services.

Baxter Regional Medical Center (BRMC) – Located in Mountain Home, Arkansas, Baxter Regional Medical Center is approximately a one hour drive east from Harrison. It is a large hospital offering a full range of inpatient and outpatient services.

Ozark Health, Inc. (Ozark) – Located in Clinton, Arkansas, Ozark Health, Inc., is approximately a one and a half hour drive southeast of Harrison. It offers family practice, cardiology, dermatology, nephrology, orthopedic, podiatry, urology, and surgical services.

Washington Regional Medical Center (WRMC) – Located in Fayetteville, Arkansas, Washington Regional Medical Center is approximately a one and a half hour drive west from Harrison. It is a large hospital offering a full range of inpatient and outpatient services.

Stone County Medical Center (SCMC) – Located in Mountain View, Arkansas, Stone County Medical Center is approximately a two hour drive southeast of Harrison. It offers emergency medicine, family medicine, and orthopedic surgery services. Stone County Medical Center also has an outpatient clinic that specializes in cardiology, general surgery, and obstetrics/gynecology.

Medical Center Market Share

The market share of a hospital relative to that of its competitors may be based largely on the services required by patients and the availability of those services at each facility. For this study, the market share of the Medical Center was considered based on the type of services required by those patients in the community. The ability to attain a certain relative market share (percentage) of the community varies based on a number of factors, including the services provided, geographical location and accessibility of each competing facility. *Exhibit 14* presents the relative market share of each hospital that had discharges of residents from the community (Boone, Carroll, Marion, Newton, and Searcy Counties). This table presents an analysis of data for the most currently available year, showing the percentage of total discharges from each hospital. This information provides an idea of summary market share as well as the outmigration of patients from the community. For 2010, the Medical Center maintained approximately 50 percent of all discharges from the community with Baxter Regional Medical Center capturing about 12 percent and Washington Regional Medical Center capturing around 8 percent of all discharges.

Because Arkansas law prohibits the Arkansas Department of Health from providing hospital-specific discharge information, the data in *Exhibit 14* was estimated based on Medicare discharges by zip code and hospital which is available from the Centers for Medicare and Medicaid Services.

Exhibit 14

Patient Origin Analysis: Estimated Acute Care Discharges by County and Hospital, 2010

Zip Code	City	County	NARMC Dischgs	NARMC Pct	BRMC Dischgs	BRMC Pct	WRMC Dischgs	WRMC Pct	St. John's Dischgs	St. John's Pct	Skaggs Dischgs	Skaggs Pct	Ozark Dischgs	Ozark Pct	SCMC Dischgs	SCMC Pct	ESH Dischgs	ESH Pct	Other Dischgs	Other Pct	Total Dischgs
72601	Harrison	Boone	2,522	73.3%	106	3.1%	221	6.4%	6	0.2%	114	3.3%	-	0.0%	1	0.0%	-	0.0%	469	13.6%	3,439
72638	Green Forest	Carroll	251	38.3%	5	0.8%	93	14.2%	119	18.1%	12	1.8%	-	0.0%	-	0.0%	3	0.5%	173	26.4%	656
72616	Berryville	Carroll	258	24.8%	-	0.0%	132	12.7%	288	27.7%	26	2.5%	-	0.0%	-	0.0%	21	2.0%	314	30.2%	1,039
72650	Marshall	Searcy	158	27.1%	86	14.8%	26	4.5%	-	0.0%	-	0.0%	63	10.8%	33	5.7%	-	0.0%	217	37.2%	583
72641	Jasper	Newton	151	52.8%	15	5.2%	46	16.1%	-	0.0%	7	2.4%	-	0.0%	-	0.0%	-	0.0%	67	23.4%	286
72687	Yellville	Marion	113	10.9%	736	70.8%	16	1.5%	-	0.0%	10	1.0%	-	0.0%	-	0.0%	-	0.0%	164	15.8%	1,039
72644	Lead Hill	Boone	135	60.3%	14	6.3%	10	4.5%	-	0.0%	23	10.3%	-	0.0%	-	0.0%	-	0.0%	42	18.8%	224
72662	Omaha	Boone	122	64.2%	1	0.5%	3	1.6%	2	1.1%	38	20.0%	-	0.0%	-	0.0%	-	0.0%	24	12.6%	190
72633	Everton	Boone	96	51.6%	28	15.1%	7	3.8%	-	0.0%	9	4.8%	-	0.0%	-	0.0%	-	0.0%	46	24.7%	186
72611	Alpena	Boone	116	60.4%	1	0.5%	14	7.3%	9	4.7%	18	9.4%	-	0.0%	-	0.0%	3	1.6%	31	16.1%	192
72685	Western Grove	Newton	99	63.9%	7	4.5%	8	5.2%	-	0.0%	6	3.9%	-	0.0%	-	0.0%	-	0.0%	35	22.6%	155
72675	St. Joe	Searcy	58	40.3%	38	26.4%	8	5.6%	-	0.0%	6	4.2%	-	0.0%	2	1.4%	-	0.0%	32	22.2%	144
72648	Marble Falls	Newton	54	70.1%	-	0.0%	9	11.7%	-	0.0%	2	2.6%	-	0.0%	-	0.0%	-	0.0%	12	15.6%	77
72682	Bruno	Boone	52	65.0%	14	17.5%	7	8.8%	-	0.0%	2	2.5%	-	0.0%	-	0.0%	-	0.0%	5	6.3%	80
72655	Mt. Judea	Newton	39	79.6%	1	2.0%	5	10.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	4	8.2%	49
72628	Deer	Newton	48	61.5%	1	1.3%	7	9.0%	1	1.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	21	26.9%	78
72624	Compton	Newton	59	92.2%	-	0.0%	3	4.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2	3.1%	64
72683	Vendor	Newton	19	41.3%	6	13.0%	14	30.4%	-	0.0%	2	4.3%	-	0.0%	-	0.0%	-	0.0%	5	10.9%	46
72640	Hasty	Newton	34	73.9%	-	0.0%	6	13.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	6	13.0%	46
72856	Pelsor	Pope	10	14.9%	2	3.0%	6	9.0%	-	0.0%	4	6.0%	-	0.0%	-	0.0%	-	0.0%	45	67.2%	67
72669	Pindall	Searcy	13	46.4%	-	0.0%	3	10.7%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	12	42.9%	28
72666	Parthenon	Newton	11	57.9%	1	5.3%	5	26.3%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2	10.5%	19
72686	Witts Springs	Searcy	5	16.7%	-	0.0%	5	16.7%	-	0.0%	-	0.0%	3	10.0%	-	0.0%	-	0.0%	17	56.7%	30
72668	Peel	Marion	10	27.0%	21	56.8%	2	5.4%	-	0.0%	1	2.7%	-	0.0%	-	0.0%	-	0.0%	3	8.1%	37
72660	Oak Springs	Carroll	3	13.0%	-	0.0%	-	0.0%	4	17.4%	2	8.7%	-	0.0%	-	0.0%	-	0.0%	14	60.9%	23
72670	Ponca	Newton	7	53.8%	-	0.0%	4	30.8%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	2	15.4%	13
72679	Tilly	Pope	2	22.2%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	-	0.0%	7	77.8%	9
	Total		4,445	50.5%	1,083	12.3%	660	7.5%	429	4.9%	282	3.2%	66	0.8%	36	0.4%	27	0.3%	1,771	20.1%	8,799

Source: Centers for Medicare and Medicaid Services and the Arkansas Department of Health

After surveying the results of the analysis of acute care discharges, it appears that the residents of Boone, Carroll, Marion, Newton, and Searcy Counties only minimally utilize other area hospitals including Eureka Springs Hospital and Stone County Medical Center. The Medical Center, Baxter Regional, and St. John's - Berryville account for 75 percent of the total market for hospital services.

Other Health Care Facilities and Providers

The Medical Mission Clinic of Harrison, Arkansas – Located in Harrison, Arkansas, this faith-based clinic provides free medical care for adults who are below the federal poverty level and have no insurance.

VistaHealth – Located in Harrison, Arkansas, Vista Health Services provides day treatment, outpatient, and school-based psychiatric care to adults and children.

Health Resources of Arkansas – With several locations throughout Arkansas, this organization provides a wide range of behavioral health services to adults and children. The Harrison, Arkansas, location offers community integration services to adults with chronic psychiatric disabilities.

North Arkansas Partnership for Health Education (NAPHE) – Located in Harrison, Arkansas, NAPHE is a partnership between North Arkansas College and North Arkansas Regional Medical Center. It exists to coordinate continuing education and training for healthcare related learning and to improve the overall quantity of healthcare by providing a more competent labor pool in healthcare occupations.

Area Agency on Aging of Northwest Arkansas – Located in Harrison, Arkansas, the Agency provides various services to senior citizens in the community, including adult day care, emergency response systems, housing, caregiver support programs, medical supply delivery, and in-home care.

Hometown Health Initiative – A community driven initiative facilitated by the Arkansas Department of Health, the Hometown Health Coalition is a volunteer organization made of representatives from all aspects of the community. They identify the community's own unique health issues and work to implement solutions that improve the health of local citizens

County Health Departments – The Health Departments of Boone, Carroll, Marion, Newton and Searcy Counties exist to prevent, promote and protect the public's health. The local health units provide WIC (Women, Infants and Children) which provide nutritious foods, physical assessments and nutrition counseling for Women, Infants & Children who meet certain nutritional guidelines. Other services include family planning, prenatal care, immunizations, communicable disease follow up, sexually transmitted disease and HIV testing, tuberculosis testing & treatment, breast care & cervical cytology follow up, environmental services, Home Health and Personal Care services.

Area Nursing Homes – There are nine nursing homes in the area with a total of 926 beds. They provide residential, medical, and rehabilitative services to the elderly and disabled in the community.

Estimated Demand for Physician Office Visits and Hospital Services

In order to define existing services and develop future plans that may affect the operations of the Medical Center, this study includes an analysis of estimated demand for physician office visits, hospital emergency room visits and hospital discharges using national averages and population estimates. Current and future unmet need can be evaluated based on the changes in the size of the market for certain services as determined by applying these national average use rates to the population of the community. *Exhibit 15* summarizes estimated 2012 and projected 2017 physician office visits, emergency department visits and hospital discharges using national average use rates from the National Center for Health Statistics.

Exhibit 15
Physician Office Visits, Emergency Department Visits, and Discharges

Age	Community Population	Physician Office Visits per Person	Estimated Physician Office Visits	Emergency Department Visits per Person	Estimated Emergency Department Visits	Hospital Discharges per Person	Estimated Community Discharges
Estimated 2012							
0-14	15,182	2.57	39,018	0.46	6,938	0.03	406
15-44	28,496	2.17	61,893	0.48	13,764	0.07	1,957
45-64	22,381	4.01	89,748	0.37	8,326	0.10	2,240
65+	14,540	7.43	108,018	0.52	7,590	0.29	4,196
Total	80,599	3.71	298,677	0.45	36,617	0.11	8,799
Hospital							4,883
Market share							55.5%
Primary Care Visits		56.6%	169,051				
Specialty Care Visits		43.4%	129,626				
Total			298,677				
Projected 2017							
0-14	15,591	2.57	40,069	0.46	7,125	0.03	417
15-44	29,029	2.17	63,051	0.48	14,021	0.07	1,994
45-64	22,466	4.01	90,089	0.37	8,357	0.10	2,248
65+	16,627	7.43	123,522	0.52	8,679	0.29	4,798
Total	83,713	3.78	316,731	0.46	38,183	0.11	9,457
Hospital							5,109
Market share							54.0%
Primary Care Visits		56.6%	179,269				
Specialty Care Visits		43.4%	137,461				
Total			316,731				

Source: The Nielson Company

Based on management's analysis of market share, the Medical Center can sustain its current utilization as it relates to physician office visits, emergency department visits and hospital discharges. Without any significant operational changes, and assuming consistent levels of competition, the Medical Center's market share should remain approximately even through the next five years.

Examination of the population demographics suggests that the aging of the "baby boom" population will actually slightly increase the overall utilization of hospital and primary care services within the community. The prospect for significant volume increases from changes in the market demographics is unlikely.

Exhibit 16 illustrates the percentage change in the calculated utilization from *Exhibit 15* as an estimated percentage increase in utilization from 2012 to 2017. To increase utilization, the Medical Center must increase its market share within the community through physician recruitment and operational changes. Simply relying on the increase of the market's size and changing demographics for additional utilization would not result in meaningful results.

Exhibit 16
Estimated Difference in Utilization: Physician Office Visits, Emergency Room Visits and Hospital Discharges
Estimated 2012 and Projected 2017

	Estimated 2012	Projected 2017	Percent Difference
Primary Care Physician Office Visits	169,051	179,269	6.0%
Specialty Care Physician Office Visits	129,626	137,461	6.0%
Total Estimated Physician Office Visits	298,677	316,731	6.0%
Emergency Department Visits	36,617	38,183	4.3%
Hospital Discharges	8,799	9,457	7.5%

Source: The Nielson Company

Exhibits 17 and *18* provide detailed analysis of estimated acute care discharges, ambulatory procedures, hospital outpatient department visits and physician office visits. These exhibits categorize the utilization for estimated 2012 and projected 2017 by different age categories to assess possible growth areas. A review of each of the charts indicates no significant percentage increases or decreases in any category. However, potential market growth does exist in a limited number of acute care areas.

Exhibit 17

Estimated and Projected Number of Ambulatory Surgery Procedures by Procedure Category and Age: Provider Service Area

Procedure Category	Estimated 2012 Total	Under 15 years	15-44 years	45-64 years	65 years and over	Projected 2017 Total	Under 15 years	15-44 years	45-64 years	65 years and over	Market Difference Percent
Total Provider Service Area Population	**80,599**	**15,182**	**28,496**	**22,381**	**14,540**	**83,713**	**15,591**	**29,029**	**22,466**	**16,627**	
All procedures	11,211	626	2,294	3,678	4,612	11,947	643	2,337	3,692	5,274	6.6%
Operations on the nervous system	437	3	112	193	130	459	3	114	193	148	4.9%
Operations on the eye	2,194	36	64	366	1,729	2,446	37	65	367	1,977	11.5%
Operations on the ear	235	167	25	25	18	242	172	25	25	21	3.3%
Operations on the nose, mouth, and pharynx	622	179	201	171	71	641	183	205	172	81	3.1%
Operations on the respiratory system	161	11	19	64	67	172	11	19	64	77	6.6%
Operations on the cardiovascular system	349	0	33	151	165	374	0	34	151	188	7.1%
Operations on the digestive system	2,505	49	499	921	1,036	2,668	50	508	925	1,185	6.5%
Operations on the urinary system	539	19	75	178	267	579	20	76	179	305	7.6%
Operations on the male genital organs	174	37	40	42	56	184	38	41	42	64	5.7%
Operations on the female genital organs	562	3	347	159	53	577	3	353	160	61	2.6%
Operations on the musculoskeletal system	1,397	43	472	612	271	1,449	44	480	614	310	3.7%
Operations on the integumentary system	826	32	214	345	235	866	32	218	347	268	4.8%
Miscellaneous diagnostic and therapeutic procedures	1,134	41	178	422	494	1,211	42	181	424	565	6.8%
Other procedures	72	4	19	29	20	16	16	0	0	0	

Source: The Nielson Company and the National Center for Health Statistics

Exhibit 18

Estimated and Projected Number of Acute Care Discharges by Medical Diagnostic Category and Age: Provider Service Area

Procedure Category	Estimated 2011 Total	Under 15 years	15-44 years	45-64 years	65 years and over	Projected 2016 Total	Under 15 years	15-44 years	45-64 years	65 years and over	Market Difference Percent
Total Provider Service Area Population	**80,599**	**15,182**	**28,496**	**22,381**	**14,540**	**83,713**	**15,591**	**29,029**	**22,466**	**16,627**	
All Conditions	11,024	642	2,469	2,636	5,276	11,854	659	2,515	2,646	6,034	7.5%
Infectious and paristic diseases	309	39	39	67	164	335	40	40	68	187	8.3%
Neoplasms	551	9	66	192	284	594	10	67	193	325	7.8%
Endocrine, nutritional & metabolic diseases, and immunity disorders	566	47	88	153	278	610	48	90	154	317	7.7%
Diseases of the blood and blood-forming organs	144	15	25	31	74	156	15	25	31	84	8.0%
Mental Disorders	636	32	287	210	107	658	33	292	211	123	3.5%
Diseases of the nervous system and sense organs	176	20	30	42	83	189	21	31	42	95	7.5%
Diseases of the circulatory system	2,310	8	102	596	1,604	2,544	8	104	598	1,834	10.2%
Diseases of the respiratory system	1,197	172	79	233	713	1,306	176	80	234	816	9.1%
Diseases of the digestive system	1,160	62	196	339	563	1,247	64	200	340	643	7.5%
Diseases of the genitourinary system	624	21	133	157	313	672	22	135	158	358	7.8%
Complications of pregnancy, childbirth, and puerperium	119	0	119	0	0	121	0	121	0	0	1.9%
Diseases of the skin and subcutaneous tissue	223	13	49	67	94	238	14	50	67	107	6.7%
Diseases of the musculoskeletal system and connective tissue	653	10	71	216	356	706	10	73	217	408	8.2%
Congenital anomalies	54	36	7	7	4	55	36	8	7	4	3.1%
Certain conditions originating in the perinatal period	51	51	0	0	0	52	52	0	0	0	2.7%
Symptoms, signs, and ill defined conditions	71	15	18	20	19	75	15	18	20	21	4.9%
Injury and poisoning	902	60	189	224	428	969	62	193	225	489	7.5%
Other conditions	1,266	20	970	82	194	1,313	21	988	82	221	3.7%

Source: The Nielson Company and the Nation Center for Health Statistics

Estimated Demand for Physician Services

Physician needs assessment data has become increasingly important to hospitals developing strategic physician recruitment plans and seeking to comply with federal recruiting regulations. There are several methodologies for estimating physician needs within a community using physician-to-population ratios. These methodologies have been applied to the population of the Center's community to assist with the determination of future need for additional primary care and/or specialty care physicians.

Exhibit 19 provides four different need methodologies widely recognized in the health care industry. These rates serve as a useful starting point in assessing community need for physicians, but alone they should not constitute the basis for a comprehensive medical staff plan. While the rates of the four methodologies offer a general range of physicians needed per 100,000 population, they reflect national numbers and statistics:

- GMENAC (Graduate Medical Education National Advisory Committee) was a one-time, ad hoc committee of health care experts convened by Congress to assess U.S. health care manpower needs. In 1980, GMENAC issued estimates of the number of physicians needed per 100,000 population. The GMENAC numbers are over 30 years old and are considered dated by many.

- Writing in the December 11, 1996, issue of JAMA, David Goodman, MD, et al, projected needs based on three different types of service populations: the patient panel of a large HMO, the population of a community with a high level of managed care and the population of a mostly fee-for-service community. The numbers in this group of rates reflect a mostly fee-for- service community.

- Writing in an 1989 edition of the Journal of Health Care Management, Hicks and Glenn, projected needs based on the current rate of patient visits generated to particular specialists as determined by the Department of Health and Human Services' National Ambulatory Healthcare Administration report divided by the number of patient visits physicians typically handle, as determined by the Medical Group Management Association.

- Solucient was a health care consulting firm that is now part of Thompson Reuters. Its numbers are based on a 2003 study and are, therefore, the most current of the four methodologies used in our analysis. Solucient employed a methodology similar to Hicks & Glenn, which analyzed National Ambulatory Health Care Administration patient/physician visits data, Medical Group Management Association physician productivity data and private and public claims data showing patient/physician visit rates by age.

An average of all four methodologies was calculated and applied to the Hospital's estimated 2012 and projected 2017 community population to estimate the specific physician needs for the area. Recommendations of the Healthcare Strategy Group (HGS) Advanced Manpower Planning guide were considered in calculating the estimated use rates. Most physician-to-population methodologies do not consider technological advancements over time nor do they consider the differing healthcare needs of the local populations. Medicated stents and new imaging procedures are examples of advancements that have greatly impacted the demand for physician services, but are unaccounted for under the four provided models. HGS recommended making technology adjustments to the following specialties: cardiology, cardiac surgery, neurology, neurosurgery and orthopedics. These recommendations are built into the estimated needs calculations that generate the numbers shown in *Exhibit 19*. In addition to technology adjustments, HGS also recommended making adjustments to models based on mortality rate variances by contrasting national and local mortality rates. The five county combined age-adjusted death rate per 100,000 popula-

tion was 808.71 versus a United States national crude rate of 794.5 for a 1.79% unfavorable variance. HGS recommended adjusting for 80% of the variance after the first 10% that recognizes potential annual fluctuations of community need that could be supported by the current complement of physicians in the community. The calculated average estimated need from the four methodologies after adjustments for mortality and technological advances was then compared to current physician supply and an incremental difference was derived.

In rural and small metropolitan areas, general and family practice physicians often have internal medicine specialties. These physicians also may see children within their individual practices. Evaluation of potential need and supply for these physicians becomes more complicated to measure since Internal Medicine and Pediatric physician needs are often served by the General and Family Practice physicians. Therefore, the statistical analysis of General and Family Practice, Internal Medicine and Pediatrics physician groups are presented individually as well as in combination to reflect the nature of these practices.

Exhibit 19 is organized among physician groups, defined by the four physician studies. Primary care includes: general and family practice, internal medicine, pediatrics, OB/GYN and psychiatry. Medical specialties include: allergy/immunology, cardiology, dermatology, endocrinology, gastroenterology, hematology/oncology, infectious disease, nephrology, neurology, pulmonology, rheumatology and other medical specialties. Surgical specialties include: general surgery, neurosurgery, ophthalmology, orthopedic surgery, plastic surgery, urology and other surgical specialties. Hospital-based includes: emergency, anesthesiology, radiology and pathology. Pediatric subspecialties include: pediatric cardiology, pediatric neurology, pediatric psychiatry and other pediatric subspecialties.

Observations

Based on the statistical analysis of physician need presented in *Exhibit 19,* physician shortages appear to exist in nearly every physician group category. Most notable are the physician shortages in the surgical specialties and primary care. Both the general surgery and orthopedic surgery groups are showing need for two more physicians each. While the statistical analysis does show a calculated excess of eight General and Family Practice physicians, the corresponding demand for physicians in the internal medicine and pediatric areas more than offsets that excess.

The analysis of the primary care physician groups appears to suggest that General and Family Practice physicians are attempting to satisfy current demand for Internal Medicine and Pediatric physicians; with the overall demand for primary care physicians still unmet. A significant opportunity to meet unmet need appears to exist within the psychiatry physician group with an unmet need of more than six full-time equivalents and current supply of zero physicians.

Additionally, *Exhibit 12* supports the observation that a general physician shortage exists for the Community of NARMC. All counties within the Community reflect physician-to-population ratios less than the national benchmark and with the exception of Boone County, below the Arkansas average. Marion and Newton Counties are showing physician-to-population ratios of 2,800:1 and 2,765:1 respectively compared to the State of Arkansas at 867:1.

Exhibit 19
North Arkansas Regional Medical Center Community
Summary of Physician Need by Specialty

Physician Group Full Time Equivalents	4 Studies Physician Need per 100,000 Population					Average Physician Age	Physician Supply		Estimated Need Based on Average Physician Need, Mortality, and Technological Advances		Physician Shortage (Excess)	
	GMENAC	Goodman	Hicks & Glenn	Solucient	Average		2012	2017	2012	2017	2012	2017
Primary Care												
General and Family Practice	25.2	-	16.2	22.5	21.3	48	22.0	24.0	16.0	16.7	(6.0)	(7.3)
Internal Medicine	28.8	-	11.3	19.0	19.7	50	4.0	4.0	14.8	15.4	10.8	11.4
Pediatrics	12.8	-	7.6	13.9	11.4	59	2.0	3.0	8.6	8.9	6.6	5.9
	66.8	-	35.1	55.4	52.4		28.0	31.0	39.4	41.0	11.4	10.0
Obstetrics/ Gynecology	9.9	8.4	8.0	10.2	9.1	41	5.0	5.0	6.9	7.1	1.9	2.1
Psychiatry	15.9	7.2	3.9	5.7	8.2		-	-	6.2	6.4	6.2	6.4
Medical Specialties												
Allergy/Immunology	0.8	1.3	-	1.7	1.3		-	-	1.0	1.0	1.0	1.0
Cardiology	3.2	3.6	2.6	4.2	3.4	60	2.0	2.0	2.6	2.7	0.6	0.7
Dermatology	2.9	1.4	2.1	3.1	2.4		-	-	1.8	1.9	1.8	1.9
Endocrinology	0.8	-	-	-	0.8		-	-	0.6	0.6	0.6	0.6
Gastroenterology	2.7	1.3	-	3.5	2.5		-	-	1.9	2.0	1.9	2.0
Hematology/Oncology	3.7	1.2	-	1.1	2.0	59	1.0	1.0	1.5	1.6	0.5	0.6
Infectious Disease	0.9	-	-	-	0.9		-	-	0.7	0.7	0.7	0.7
Nephrology	1.1	-	-	0.7	0.9		-	-	0.7	0.7	0.7	0.7
Neurology	2.3	2.1	1.4	1.8	1.9		-	-	1.4	1.5	1.4	1.5
Pulmonology	1.5	1.4	-	1.3	1.4		-	-	1.1	1.1	1.1	1.1
Rheumatology	0.7	0.4	-	1.3	0.8	47	1.0	1.0	0.6	0.6	(0.4)	(0.4)
Other Medical Specialties	-	-	-	2.0	2.0		-	-	1.5	1.6	1.5	1.6
Surgical Specialties												
General Surgery	9.7	9.7	4.1	6.0	7.4	49	3.0	3.0	5.6	5.8	2.6	2.8
Neurosurgery	1.1	0.7	-	-	0.9		-	-	0.7	0.7	0.7	0.7
Ophthalmology	4.8	3.5	3.2	4.7	4.1	45	2.0	2.0	3.1	3.2	1.1	1.2
Orthopedic Surgery	6.2	5.9	4.2	6.1	5.6	41	2.0	2.0	4.2	4.4	2.2	2.4
Plastic Surgery	1.1	1.1	2.3	2.2	1.7		-	-	1.3	1.3	1.3	1.3
Urology	3.2	2.6	1.9	2.9	2.6	49	2.0	2.0	2.0	2.1	-	0.1
Other Surgical Specialties	-	-	-	2.2	2.2		-	-	1.7	1.7	1.7	1.7
Hospital-Based												
Emergency	8.5	2.7	-	12.4	7.9	42	10.0	10.0	5.9	6.2	(4.1)	(3.8)
Anesthesiology	8.3	7.0	-	-	7.7	52	2.0	3.0	5.8	6.0	3.8	3.0
Radiology	8.9	8.0	-	-	8.5	57	3.0	3.0	6.4	6.6	3.4	3.6
Pathology	5.6	4.1	-	-	4.9	61	1.0	1.0	3.7	3.8	2.7	2.8
Pediatric Subspecialties												
Pediatric Cardiology	-	-	-	0.2	0.2		-	-	0.2	0.2	0.2	0.2
Pediatric Neurology	-	-	-	0.1	0.1		-	-	-	-	-	
Pediatric Psychiatry	-	-	-	0.5	0.5		-	-	0.3	0.4	0.3	0.4
Other Pediatric Subspecialties	-	-	-	0.9	0.9		-	-	0.7	0.7	0.7	0.7

Key Interviewees

Speaking with key interviewees (community stakeholders that represent the broad interest of the community with knowledge of or expertise in public health) is a technique employed to assess public perceptions of the county's health status and unmet needs. These interviews are intended to ascertain opinions among individuals likely to be knowledgeable about the community and influential over the opinions of others about health concerns in the community.

Methodology

Dialogues with 20 key interviewees were conducted in September 2012. Interviewees were determined based on their a) specialized knowledge or expertise in public health, b) their affiliation with local government, schools and industry or c) their involvement with underserved and minority populations.

Interviews were conducted both at the Medical Center and in locations more convenient for the interviewee.

All interviews were conducted by BKD personnel using a standard questionnaire. A copy of the interview instrument is included in *Appendix C*. A summary of their opinions is reported without judging the truthfulness or accuracy of their remarks. Community leaders provided comments on the following issues:

- Health and quality of life for residents of the primary community
- Barriers to improving health and quality of life for residents of the primary community
- Opinions regarding the important health issues that affect Community residents and the types of services that are important for addressing these issues
- Delineation of the most important health care issues or services discussed and actions necessary for addressing those issues

Interview data was initially recorded in narrative form. Themes in the data were identified and representative quotes have been drawn from the data to illustrate the themes. Interviewees were assured that personal identifiers such as name or organizational affiliations would not be connected in any way to the information presented in this report. Therefore, quotes included in the report may have been altered slightly to preserve confidentiality.

This technique does not provide a quantitative analysis of the leaders' opinions, but reveals community input for some of the factors affecting the views and sentiments about overall health and quality of life within the community.

Key Interviewee Profiles

Key interviewees from the community (see *Appendix A* for a list of key interviewees) worked for the following types of organizations and agencies:

- Social service agencies
- Local school system
- Local city and county government
- Religious institutions
- Public health agencies
- Industry
- Medical providers

Key Interviewee Interview Results

As stated earlier, the interview questions for each key interviewee were identical. The questions on the interview instrument are grouped into four major categories for discussion:

1. General opinions regarding health and quality of life in the community
2. Underserved populations and communities of need
3. Barriers
4. Most important health and quality of life issues

A summary of the leaders' responses by each of these categories follows. Paraphrased quotes are included to reflect some commonly held opinions and direct quotes are employed to emphasize strong feelings associated with the statements. This section of the report summarizes what the key interviewees said without assessing the credibility of their comments.

1. General opinions regarding health and quality of life in the community

The key interviewees were asked to rate the health and quality of life in their respective county. They were also asked to provide their opinion whether the health and quality of life had improved, declined or stayed the same over the past few years. Lastly, key interviewees were asked to provide support for their answers.

Most of the key interviewees described the community's health as "average" or "fair," with several noting that while the community may compare favorably to the rest of the state of Arkansas, there are many other parts of the country with better health and quality of life. When asked whether there are groups of people within the community who may experience lower quality of life, several interviewees noted that people whose incomes are too high to qualify for Medicaid but too low to afford private insurance often struggle to find affordable care. Additionally, other interviewees noted that Medicare and Medicaid recipients often have trouble finding a physician who will see them.

When asked whether the health and quality of life had improved, declined or stayed the same, most key interviewees noted that health and quality of life had improved over the last few years. Several of

the remaining key interviewees noted that health and quality of life had stayed the same over the last few years, while a few said that quality of life had gone down due to increased rates of obesity.

Many key interviewees noted that the community had made progress in implementing new programs meant to improve the community's health and quality of life. These included creating public hiking trails for exercise, applying for government grants aimed at reducing tobacco consumption in adults and risky behavior in teens, and creating a coalition between the Center and the local college to assess and solve health problems within the community. Several of the key interviewees were optimistic that these efforts would have a positive effect on the community's quality of life.

However, despite these programs, many key interviewees noted that many members of the community did not take advantage of them. Some people living in more rural areas desired to improve their health, but lacked the transportation or gas money necessary to travel to the facilities. Others had insurance, but could not afford copays. Many key interviewees also noted that the community's culture had a negative impact on people's health choices. Unhealthy habits such as smoking, smokeless tobacco, drug use, and eating unhealthy foods are ingrained in many people's lifestyles, and several key interviewees felt that they are simply not motivated to change.

Overall, key interviewees value the attempts the Community has made to improve health and quality of life for its residents, but feel that much more needs to be done. The regional culture, including healthy habits or lack thereof, was generally seen as the reason behind poor health and quality of life. Lack of access was seen as an issue for certain populations. Poor economic conditions are seen as detriment to community health.

"Children, while they may be eligible for Medicaid, are going untreated because of paperwork issues."

"Very, very low income area. Health is not a huge priority for most folks."

"A lot of the problems come from home nutrition and environment."

"Access to care is also an issue – I hear people saying they choose not to seek out preventative measures because they can't afford it."

"Biggest problem is culture and our like of fried, greasy foods."

2. Underserved populations and communities of need

Key interviewees were asked to provide their opinions regarding specific populations or groups of people whose health or quality of life may not be as good as others. We also asked the key interviewees to provide their opinions as to why they thought these populations were underserved or in need. We asked each key interviewee to consider the specific populations they serve or those with which they usually work. Responses to this question varied.

One underserved group is the rural poor. Many of these residents do not have adequate or reliable transportation that they need to access health care facilities, which are primarily located in larger towns. They also do not have access to pharmacies or drugstores. High gas prices pose an additional problem to people living in these areas, making trips to town much more expensive.

Another underserved group the key interviewees noted is those struggling with mental health issues. This is a problem for both adults and teens in the community, and alcohol and drug use can exacerbate this problem. Key interviewees said that there are not enough services available to deal with mental health issues, especially for those living in more isolated areas.

A third underserved group is the "working poor." Several key interviewees mentioned that there is a large number of people whose incomes are too high to qualify for Medicaid, but they do not have enough money to buy their own health insurance. These people suffer from a lack of access to necessary health care, especially preventative care, causing even greater problems for the community in the long run.

"There is a lack of healthcare in the more rural areas, if you don't have transportation. People won't spend their money on healthcare."

3. Barriers

The key interviewees were asked what barriers or problems keep community residents from obtaining necessary health services in their community. Responses from key interviewees include community culture, lack of funding, lack of transportation and general decline in economic conditions.

Being a rural community with limited public transportation options is viewed as being a barrier to accessing regular health care for those without personal transportation. Those interviewed believe it is difficult to reach out to isolated or marginalized people in the community. There is a lack of transportation for low-income residents to receive services and a lack of personal "know-how" of the medically indigent for accessing needed services. Additionally, even those rural residents with personal transportation find that high gas prices are a significant barrier to receiving the care they need.

Several key interviewees noted that the community could not afford many needed health improvements. They mentioned successful programs that had to be shut down because of a lack of funding, such as a welfare-to-work program and a public swimming pool.

As previously noted, people's attitudes and culture, surrounding health and lifestyle choices, are seen as a barrier. Bad habits are passed down from generation to generation and there are not enough resources to bring about a change.

"If we had money, we could really work on the problems with drugs and alcohol."

"[We] need a fitness center. Right now, if you are a mid to low income person, you don't have a place to go work out."

"Some people have access but don't take initiative. Diet, obesity, diabetes—it's people's decisions. Awareness is all over the place."

"Many people are Medicaid eligible but do not enroll because of pride, lack of government trust"

"Entitlement creates barriers to seeking jobs which sometimes equate to health and quality of life"

"Transportation is a big issue. We have some patients that don't have reliable transportation. People cancel all the time because their cars break down. A pregnant lady recently walked to an appointment."

4. Most important health and quality of life issues

Key interviewees were asked to provide their opinion as to the most critical health and quality of life issues facing the county. The issues identified most frequently were:

1. Diabetes/obesity
2. Mental/behavioral health
3. Lack of health education
4. Lack of access to primary care/transportation

Other issues that were reported are primary care and dental providers who would not accept Medicare and Medicaid patients. Poverty both discourages people from seeking preventative care and encourages unhealthy habits.

"Poverty and poor health go hand-in-hand."

"Drug abuse problems—Kids don't have anything else to do."

"It's just easier to stop and get [fast food] rather than cook. Lots of diseases come from being overweight. I think there are some educational opportunities, but we need to start younger."

"One area we continue to struggle with is mental health. Some mental health groups have never really been actually involved in to the community."

Key Findings

A summary of themes and key findings provided by the key interviewees follows:

- Quality of health is not always caused by a lack of access. People's attitudes and choices lead to poor health. Residents are apathetic regarding wellness and health as a result of socioeconomic status and culture.
- Information and education on health issues is a problem. There is a significant need to inform, educate and counsel specific categories of the community.
- The Medical Center is seen as a significant asset to the community, along with its partnership with the local community college's nursing program.
- There is a lack of access for mental health services, particularly outpatient services.
- Drug and alcohol abuse are seen as a health and quality of life issue.
- Transportation is an issue for people living in isolated rural areas.
- Abuse of prescription drugs through excess prescribing and fraudulent activities has become a significant problem.
- While there are many health services available to residents of the community, they are not always fully utilized due to cultural habits, and they often suffer due to a lack of funding.

Stakeholder Focus Groups

In addition to speaking with the key interviewees, four focus groups (see *Appendix A* for a list of participants) were conducted in September 2012. The purpose of these focus groups was to initiate an open discussion of the health challenges facing the area.

Methodology

The four focus groups were conducted over a two-day period in September 2012 and included over two dozen participants. Participants were determined based on their community involvement and awareness of health issues. The focus groups were conducted at the Medical Center.

The group discussions were guided by BKD personnel and focused on the following issues:

- Health and quality of life for residents of the primary community
- Barriers to improving health and quality of life for residents of the primary community
- Opinions regarding the important health issues that affect Community residents and the types of services that are important for addressing these issues
- Delineation of the most important health care issues or services discussed and actions necessary for addressing those issues

At the end of the discussion, the participants were asked to rank the community health needs in order of importance by distributing pennies in receptacles in a manner representing the relative importance.

Focus Group Participant Profiles

Participants in the focus groups (see *Appendix A* for a list of participants) worked for the following types of organizations and agencies:

- Social service agencies
- Local school system
- Local city and county government
- Public health agencies
- Industry
- Medical providers

Focus Group Discussion Topics

The focus groups were designed to be informal discussions, rather than more structured interviews. However, the following questions were asked to help guide the discussion.

- How would you describe the general health and quality of life of the community?
- What are some underserved populations in the community?
- What barriers to health to these underserved populations face?
- What do you consider to be necessary factors for a healthy community?
- What are some health assets that the community already has?
- What are some critical health issues the community faces?
- What do you think are the community's top ten health needs?

Focus Group Results

While numerous suggestions and comments were made during the discussions, the following summarizes recurring topics, which indicate the main barriers to healthy living in the area.

Systemic Barriers

Access to Care

Many participants brought up the fact that a main reason why people do not receive necessary medical care is that they do not have access to it. Because the Medical Center is located in a sparsely populated rural area, people who do not own reliable vehicles have few transportation alternatives. One problem that arises from this situation is the misuse of ambulance services. One participant noted that some "frequent fliers" in the community had made a habit of using ambulances as taxicabs whenever they were in need of medical care, even in non-emergency situations. This leads to unnecessary expenditures by the Medical Center and the possibility of the ambulance not being available for actual emergencies. A larger problem that stems from a lack of transportation is that many people simply to not receive the care that they need. Many participants noted that some form of non-emergency medical transportation would be extremely beneficial to rural residents who otherwise would be unable to seek care.

Another issue related to access to care is the lack of medical specialists in the area. Residents often have to drive long distances to seek care for more complex health issues, which makes it less likely for them to be willing and able to do so. An additional issue is the lack of healthcare options in the most rural parts of the community. For example, the only local drugstores are located in Harrison itself, which can be difficult to get to for those who live farther away.

Insurance

Another major problem mentioned by the focus group participants is a lack of sufficient insurance coverage. The area has a high percentage of the "working poor," people who make too much money to qualify for Medicaid, but not enough to purchase private health insurance. This leads to overuse of the emergency room, as that is often the only place where the uninsured can seek care. Many participants noted that there was a need for free or reduced-price clinics where those without insurance could receive care without going to the emergency room.

Even those with insurance are not immune to having trouble paying for medical care. Many needed procedures are not covered by all insurance plans, making them out of reach for many people. Also, some people who have insurance may not be able to afford the co-pays for routine doctor's office visits, leading to more health problems later on.

Health Care Prioritization

Many participants described the issue of waiting to seek medical care until a condition has become serious and potentially life-threatening. This is partially caused by a lack of preventative care. Deferring health care leads to unnecessary emergency room visits and higher medical bills for those who end up with a serious medical condition that could have been prevented.

There are many reasons why residents might not seek preventative care. One is simply a lack of motivation, which can be caused by cultural attitudes toward medical care. Additionally, many insurance plans do not cover preventative care, leaving people with no choice but to wait until the situation has escalated before seeking medical attention. Finally, there are many people in the area who live near or below the federal poverty line and do not always have the funds for expenditures that are not immediately necessary. Faced with the choice between buying groceries or going to the doctor for a check-up, these people will understandably choose the former, leading to more serious and more expensive health problems in the future. Many focus group participants noted that promoting affordable preventative care options would have an enormous positive impact on the health of the community.

Specific Health Issues

Diabetes/Obesity

As is the case nationwide, the Medical Center's Community struggles with high rates of diabetes and obesity resulting largely from unhealthy lifestyle choices. Many of the above barriers also impact lifestyle choices and help establish behavior patterns that can be passed down generationally. Breaking these ingrained and detrimental lifestyle choices, including bad diet and lack of exercise, would be extremely difficult even if financial and logistical barriers were removed.

Mental Health

Lack of mental health resources was repeatedly mentioned as a critical health issue. Mental health challenges are faced by both old and young residents and there are no psychiatrists or mid-level psychiatric professionals in the Community.

Diseases of the Heart

Cardiovascular disease is the leading cause of death in Arkansas as well as the Medical Center's Community. The Community's rate of heart disease is higher than both state and national benchmarks per capita and makes up a greater percentage of total deaths.

Substance Abuse

Substance abuse includes the use of legal and illegal substances. The problem likely impacts every member of the community. Prescription drug abuse was highlighted during the focus group process.

Community Health Input Questionnaire

The Medical Center circulated community health input questionnaires in order to gather broad community input regarding health issues. The input process was launched on September 7, 2012, and was closed on November 6, 2012.

The community health questionnaire was intended to gather information regarding the overall health of the community. The results are intended to provide information on different health and community factors. Requested community input included demographics and socioeconomic characteristics, behavioral risk factors, health conditions and access to health resources

Methodology

A web-based tool, Question Pro, was utilized to conduct the community input process. Paper questionnaires, which were identical to the electronic questionnaire, were also distributed to populations who may not have access to the internet or generationally are more likely to complete a paper questionnaire. Electronic and paper questionnaires were circulated to the residents of the primary community.

There were 370 questionnaires completed and returned. The ages of the respondents skewed significantly older than the latest census data reported for the community, with over 70 percent of the respondents being 45 or older, compared to 46 percent in the community. Over 75 percent of the survey respondents were female, which is significantly higher than the percentage of the community. The respondents also tended to have higher education levels than the community as a whole.

Input Questionnaire

The instrument used for this input process was based largely on the Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS), as well as various other public health surveys and customized questions. The final instrument was developed by the Medical Center representatives in conjunction with BKD.

Community Health Input Results

The questionnaire was quite detailed in nature, including many specific questions regarding general health, satisfaction with specific and general providers, and demographic information. A compilation of the results is included in *Appendix C* for each question to allow for a more detailed analysis. Health needs indicated include:

- *Assessment of Personal Health*

  When asked to assess their personal health status, 22 percent of the respondents described their health as being "excellent", while 63 percent stated that their overall health was "good."

  When asked to rate their community as a "healthy community", 11 percent of the respondents indicated their community was healthy or very healthy. Nearly 20 percent of the respondents indicated their community was unhealthy.

- *Health Care Access Issues*

  Over 96 percent of the respondents reported having health insurance with almost 70 percent of health insurance being provided by private insurance companies. Health care access issues are primarily related to cost. Respondents noted the following main reasons for not receiving medical care:

  1. Health insurance did not cover procedure or test
  2. Deductible or co-pay was too high

  Nine percent of respondents noted they did not receive medical care because they were unable to schedule an appointment.

- *Lifestyle Behavioral Risk Factors*

  Proper diet and nutrition seem to be a challenge as only 22 percent of the respondents report always eating the daily recommended servings of fruits and vegetables. Approximately 25 percent of the respondents report that they never exercise, but 35 percent report exercising at least three times per week. Nearly 9 percent of the respondents habitually smoke cigarettes. Use of seat belts is high (over 83 percent) and when applicable, respondents' children use seat belts and/or child safety seats.

- *Social and Mental Health*

  Over 12 percent of the respondents reported always being stressed out, with almost 77 percent responding that they were sometimes stressed out. 22 percent of the respondents rated their stress level as high or very high. Almost 16 percent of the respondents reported that they did less than they would like because of mental health or emotional issues.

  Approximately 25 percent of respondents reported that their current employment is stressful, while almost 31 percent reported that finances are stressful. Nearly 50 percent of the respondents worry about losing their job.

What do citizens say about the health of their community?

- *The five most important "health problems:"*
  1. Drug abuse
  2. Obesity
  3. Cancer
  4. Aging problems (e.g. arthritis, hearing/vision loss, etc.)
  5. Heart disease and stroke
- *The five most "risky behaviors:"*
  1. Drug abuse
  2. Alcohol abuse
  3. Tobacco use/second hand smoke
  4. Poor eating habits
  5. Lack of exercise
- *The five most important factors for a "healthy community:"*
  1. Affordable and available hospital care
  2. Affordable and available physician care
  3. Emergency response services (ambulance/fire/police)
  4. Clean and safe environment
  5. Healthy food sources (affordable, accessible)

Additional items to consider in planning

Respondents were asked to provide input as to what items the Medical Center should consider in planning for the next three years. The following items were recurring suggestions provided:

1. The Medical Center should try to increase the level of community involvement, especially in the areas of health promotion and disease programs.
2. Increased wellness programs that include general education, preventive procedures/screenings, and affordable clinics and health fairs.
3. More specialized services are needed in the community. Many respondents mentioned having to drive long distances to get the care they need.
4. Additional mental health services that include drug abuse programs and services to deal with depression. The community needs more mental health providers.

Prioritization of Identified Health Needs

The Medical Center has accomplished much over the past several years and continues to work on the development and implementation of programs and initiatives that work toward the improvement of community health and wellness. Primary and secondary data from this assessment process will be a valuable resource for future planning. The community input findings obtained through interviews and the community input questionnaire should be especially useful in understanding residents' health needs. The findings provide the Medical Center a lot of information to act upon. In order to facilitate prioritization of identified health needs, a ranking process was used and is described in the section below.

Analysis of community health information, key interviewee interviews, focus groups and the community health input questionnaire were all used to assess the health needs of the community in *Exhibit 20*:

Exhibit 20
Ranking of Community Health Needs

Health Problem	Ability to evaluate and measure outcomes based on data	How many people are affected by the issue?	What are the consequences of not addressing this problem?	Prevalence of common themes	Total Score	Weighted Score
Adult obesity/ diabetes	4	4	4	4	16	24
Diseases of the heart	4	4	4	4	16	24
Affordable healthcare	3	4	4	4	15	23
Uninsured residents	4	3	4	4	15	22
Mental health	4	3	3	4	14	20
Access to recreational facilities/ Limited physical activity	3	4	3	3	13	20
Substance abuse	3	3	3	4	13	19
Shortage of physicians	3	4	2	4	13	19
Children in poverty	4	4	2	3	13	19
Cancer	4	3	3	2	12	18
Adult smoking	4	3	3	2	12	18
Lack of health education	2	3	3	4	12	18
Access to healthy foods	2	3	3	3	11	17
Alcohol abuse	2	3	3	2	10	16
Transportation	2	2	2	3	9	13
Motor vehicle crashes	3	2	2	2	9	13
Dental health	3	2	2	1	8	12
Access to specialists	3	1	2	3	9	12

Health needs were ranked based on four factors:

1. The ability of the Medical Center to evaluate and measure outcomes, weighted at 1:1.
2. How many people are affected by the issue or size of the issue, weighted at 2:1.
3. What are the consequences of not addressing this problem, weighted at 2:1.
4. Prevalence of common themes, weighted at 1:1.

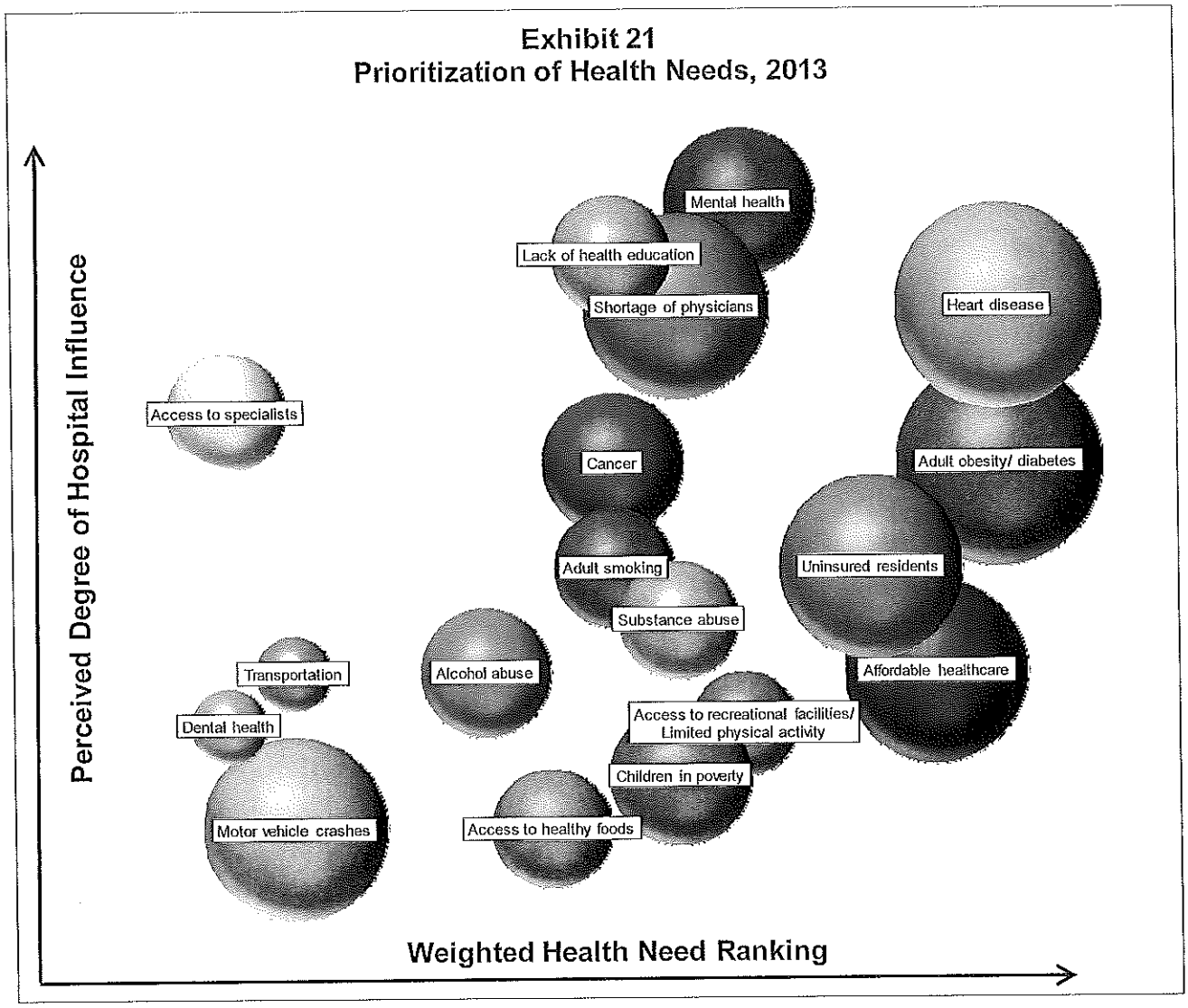
Community health needs were then prioritized and charted on *Exhibit 21,* taking into account their overall ranking, the degree to which the Medical Center can influence long-term change and the identified health needs impact on overall health.

Utilizing the statistical median (12) as the horizontal axis, the weighted-average ranking was plotted on *Exhibit 21.* Next, each identified health need was assigned a value between 1 and 12, representing the perceived degree of influence the Medical Center has on impacting health outcomes related to the identified health need. Utilizing the statistical median (6) as the vertical axis, this value was charted.

Lastly, each health need was evaluated and assigned a rating between 1 and 12 regarding the health needs impact on overall health. Those health needs receiving the highest rating are represented by the largest spheres.

The graphical representation included on *Exhibit 21* is intended to aid in identifying health priorities for the organization. By addressing those needs in the upper right quadrant, overall community health will likely improve as these needs have the greatest impact on overall health and the Medical Center is more likely to influence a positive impact on these needs. Additionally, the largest circles represent the most significant health needs of the Community.

Exhibit 21
Prioritization of Health Needs, 2013



Considerations for Meeting Identified Health Needs

After compiling and analyzing all of the data in this assessment, we recommend that management consider the following benchmarking, targets, ideas and strategies in its implementation strategy. Some of the strategies will address multiple needs. These lists are not intended to be exhaustive and do not imply there is only one way to address the identified health needs.

Access to Care

Access to care, uninsured residents, affordable health care, access to physicians and access to specialists were some of the health needs with the highest priority. Increasing access to both routine medical care and medical insurance are vital steps in improving the health of the community.

Recommendations to improve community health related to access to care include the following:

- Extended services and increased hours of operation at community health clinics for the working poor.
- Recruitment of additional primary care and specialty physicians to the community as well as increased collaboration among physicians and other agencies such as school programs, clinics, etc.
- The implementation of a community health resource center to be located within the Medical Center which would provide assistance to those needed to access health resources. Additionally, routine screening and education sessions could be provided at the resource center.
- The compilation of a health resource directory providing the listing of available health resources in the community with primary contact information for each resource.
- Strive to be the "thought leader" and convener of agencies serving the health needs of the community.

Obesity

Adult obesity, access to healthy foods and access to recreational facilities are some of the highest ranked health needs in the community. Additionally, changes in these areas can have a high impact to the overall health of the community.

The rate of obesity is increasing in the state of Arkansas. The counties representing the community for the Medical Center have obesity rankings that vary in comparison to the state average but are all below the national average. Nearly one in three adults in the community are obese. Lack of physical activity, poor dietary choices and obesity are linked with the increased risk of several medical conditions.

Recommendations to improve the obesity rate are as follows:

- A community-wide fitness initiative led by the Medical Center focusing on fitness, nutrition and physical activity.

Substance Abuse

Substance abuse includes the use of legal and illegal substances. The problem likely impacts every member of the community. Prescription drug abuse was highlighted during the key interviewee interview process. Additionally, Arkansas has one of the highest rates of adult smoking in the United States. Of the counties in the Community, Carroll has the most smokers at 29%. Cigarette smoking is a leading avoidable cause of preventable death in Arkansas and the nation.

Key interviewee interviews reflected drug and alcohol abuse as a health and quality of life issue impacting the community. The community health input process indicated that drug abuse was one of the most important health problems impacting the community.

Recommendations to improve substance abuse include:

- Education and monitoring of prescription drug abuse. Physicians should focus on decreasing prescription drug abuse.
- Increased education and training in the school-based programs regarding substance abuse.
- Increased outpatient programs for substance abuse.

Clinical Preventative Services (Diseases of the Heart and Cancer)

Cardiovascular disease is the leading cause of death in Arkansas. Approximately 28 percent of all deaths occur from cardiovascular disease within the community annually. According to 2009 United States cancer statistics, Arkansas's incident rate for cancer is 197.0 per 100,000 persons. This ranks Arkansas with the fourth worst cancer rate in the United States. Cancer is the second leading cause of death for the defined community in the assessment.

Clinical preventive services, such as routine disease screening and scheduled immunizations, are key to reducing death and disability and improving the Nation's health. These services both prevent and detect illnesses and diseases—from flu to cancer—in their earlier, more treatable stages, significantly reducing the risk of illness, disability, early death and medical care costs (Healthy People 2020).

Strategies that address this priority area should consider the following:

- Provision of increased clinical preventive services.
- Logistical factors such as transportation.
- Challenges faced by the elderly population.

Mental and Emotional Well Being

The Medical Center's assessment indicated strong feelings concerning the lack of access for mental health services in the community. Strategies that address this priority area should consider the following:

- Increase the number of mental health providers.
- Increase depression screenings by primary care physicians.

Health Issues of Uninsured Persons, Low-Income Persons and Minority Groups

Certain key interviewees were selected due to their positions working with low-income and uninsured populations. Several key interviewees were selected due to their work with minority populations. Based on information obtained through key interviewee interviews and the community health input process, the following chronic diseases and health needs were identified:

- Uninsured/low income population
  - ✓ Access to specialists
  - ✓ Dental care
  - ✓ Mental and emotional health
- Hispanic population
  - ✓ Dental care
  - ✓ Prenatal care
  - ✓ Access to care due to not having legal status

APPENDICES

Acknowledgements

The project Steering Committee was the convening body for this project. Many other individuals including community residents, key interviewees and community-based organizations contributed to this community health needs assessment.

Key Interviewees

Thank you to the following individuals who participated in our key interviewee interview process:

Dr. Jackie Elliot, President of North Arkansas College
Nicole Fairchild, Jasper School Health Coordinator
Robin Fojas, NARMC Claude Parish RHC
Tina James, School Nurse-Jasper Schools
Debbie Johnson, Boone County Health Department-Retired
Dr. James Justice, Newton County Family Clinic
Dr. John Leslie, NARMC Family Practice
Dr. Ali Abdelaal, Member, Board of Directors
Vince Leist, President and CEO
Dr. Melinda Moss, Superintendent of Harrison Schools
Bill Nay, Member, Board of Governors
James Norton, Boone County Judge
Sherri Plumlee, RN, Local Health Unit Administrator, Carroll County Department of Health
Ken Reeves, Vice-President and General Counsel, FedEx
Nestor Rivera, Minister, First American Baptist Church, Hispanic Advocate Carroll County Department of Health
Libby Seftar, Searcy County Department of Health
Valerie Shipman, Marion County Department of Health
Tommy Stokes, Boone County Special Services
Regina Tkachuk, Administrator, Newton County Department of Health

Focus Groups

Thank you to the following individuals who participated in our focus groups:

Dr. Charles Adair, Member, Board of Directors
Dr. Brad Allen, Family Practice Physician
Ronnie Bell, Harrison Daily Times
John Berry, Retired FedEx, Committee for Progress
Dan Bowers, Chairman, Board of Directors
John Burris, State Representative
Brian Cash, Member, Board of Governors
Kirk Campbell, Co-Owner and Agent, Campbell Insurance
Jeff Christenson, Retired Publisher, Harrison Daily Times
Helen Clavey, President of Claridge Products
Jeff Crockett, Mayor
Dennise Pollyea , Area Agency on Aging
Nicole Fairchild, Jasper School Health Coordinator
Mark Feldman, President of Flexsteel

Sara Jo Fendley, Member, Board of Governors
Jerry Greenhaw, Justice of the Peace
Ralph Guynn, Justice of the Peace
John Paul Hammerschmidt, Former Congressman
Sherri Hinrichs, North Arkansas Partnership for Health Education
Wes Hudson, Member, Board of Directors
Johnny Key, Senator
Ann Kimes, Justice of the Peace
J.E. Lawrence, Justice of the Peace
Marcille Lawrence, Former Board Member
Dr. Sharron Leslie, Member, Board of Directors
Dennis Lott, Member, Board of Governors
Ann Main, Member, Board of Directors
Allen Mallioux, Justice of the Peace
Jeff Martens, Member, Board of Governors
Mike McNutt, Member, Board of Directors
Robert Meek, Justice of the Peace
Patty Methvin, Chamber of Commerce President
Dr. Charles Nichols, Psychologist
Mike Norton, Member, Board of Directors
John O'Dell, Past Member, Board of Governors, New York Life
Bob Parkhill, Justice of the Peace
Joy Prater, Share & Care
Dan Roberts, Justice of the Peace
Diane Roberts, Vice President, Quality & Patient Care and Chief Nursing Officer
Sandy Stroope, Member, Board of Directors
David Thompson, Justice of the Peace
Sam Tinsley, Justice of the Peace
Layne Wheeler, Former Chamber President, Anest Financial
James Widner, Justice of the Peace
Darrell Wilson, Member, Board of Governors

KEY INTERVIEWEE INTERVIEW PROTOCOL

KEY INTERVIEWEE INTERVIEW PROTOCOL

Community Health Needs Assessment for:

NARMC

Interviewer's Initials:

Date: _ Start Time: End Time:

Name: Title:

Agency/Organization:

# of years living in _ County: # of years in current position:

E-mail address:

Introduction: Good morning/afternoon. My name is **[interviewer's name]**. Thank you for taking time out of your busy day to speak with me. I'll try to keep our time to approximately 40 minutes, but we may find that we run over – up to 50 minutes total - once we get into the interview. **(Check to see if this is okay).**

[Name of Organization] is gathering local data as part of developing a plan to improve health and quality of life in County. Community input is essential to this process. A combination of surveys and key interviewee interviews are being used to engage community members. You have been selected for a key interviewee interview because of your knowledge, insight, and familiarity with the community. The themes that emerge from these interviews will be summarized and made available to the public; however, individual interviews will be kept strictly confidential.

To get us started, can you tell me briefly about the work that you and your organization do in the community?

Thank you. Next I'll be asking you a series of questions about health and quality of life in County. As you consider these questions, keep in mind the broad definition of health adopted by the World Health Organization: 'Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity,' while sharing the local perspectives you have from your current position and from experiences in this community.

Questions:

1. In general, how would you rate health and quality of life in County?

2. In your opinion, has health and quality of life in County improved, stayed the same, or declined over the past few years?

3. Why do you think it has (based on answer from previous question: improved, declined, or stayed the same)?

4. What other factors have contributed to the (based on answer to question 2: improvement, decline **or** to health and quality of life staying the same)?

5. Are there people or groups of people in the County whose health or quality of life may not be as good as others?

a. Who are these persons or groups (whose health or quality of life is not as good as others)?

b. Why do you think their health/quality of life is not as good as others?

6. What barriers, if any, exist to improving health and quality of life in County?

7. In your opinion, what are the most critical health and quality of life issues in County?

8. What needs to be done to address these issues?

9. In your opinion, what else will improve health and quality of life in the County?

10. Is there someone (who) you would recommend as a "key interviewee" for this assessment?

Close: Thanks so much for sharing your concerns and perspectives on these issues. The information you have provided will contribute to develop a better understanding about factors impacting health and quality of life in County. Before we conclude the interview,

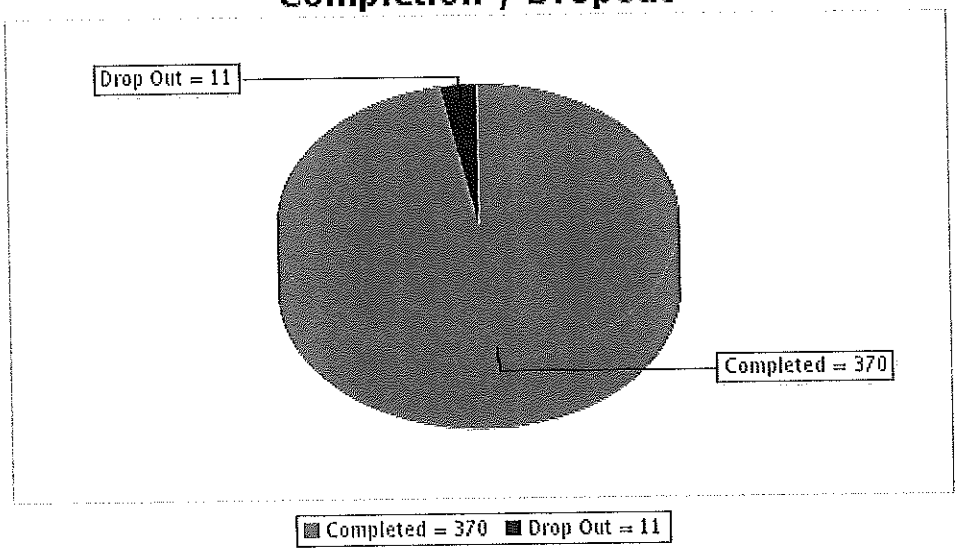
Is there anything you would like to add?

As a reminder, summary results will be made available by the **[Name of organization]** and used to develop a community-wide health improvement plan. Should you have any questions, please feel free to contact _____ at **[Name of organization]**. Here is his/her contact information [provide business card]. Thanks once more for your time. It's been a pleasure to meet you.

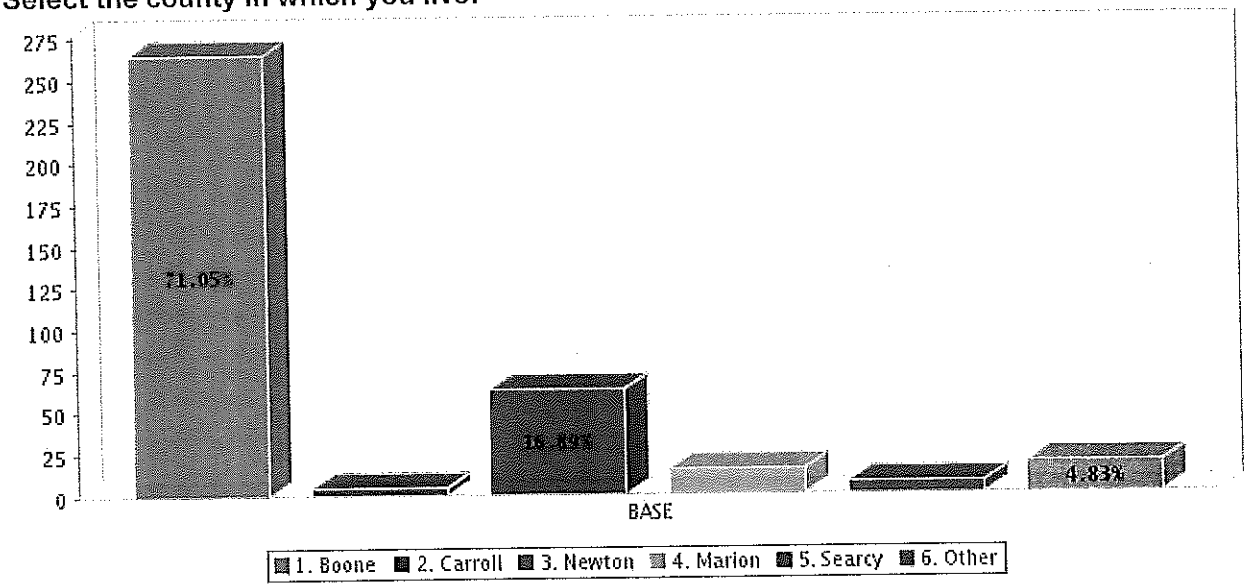
COMMUNITY HEALTH INPUT QUESTIONNAIRE DETAIL RESULTS

Survey Overview

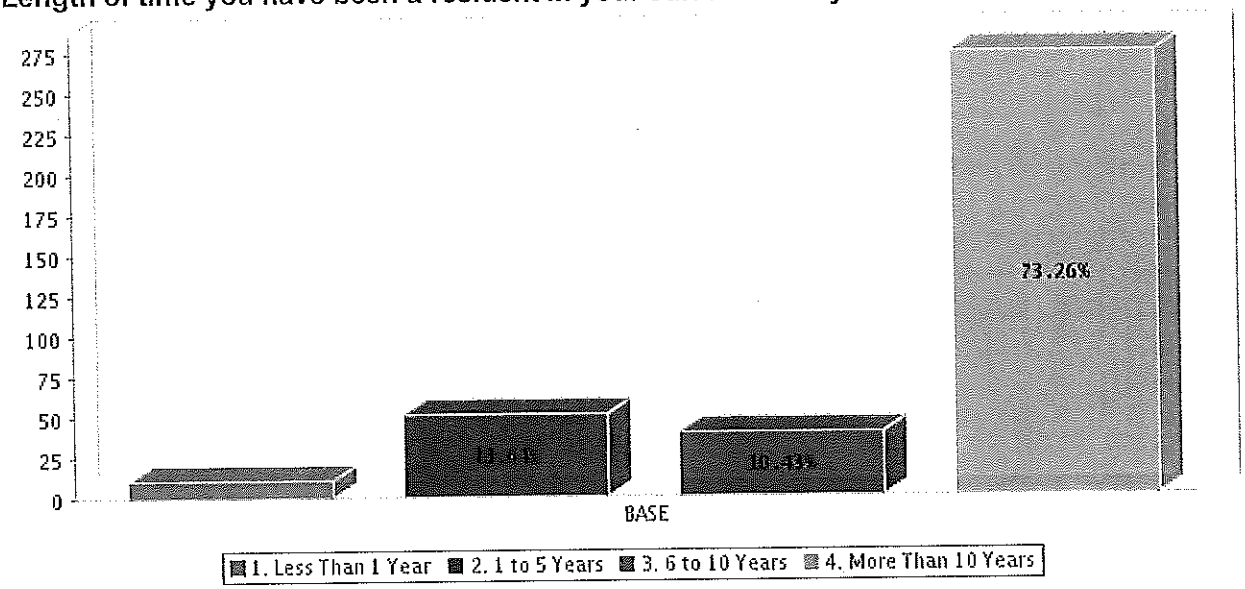
Completion / Dropout



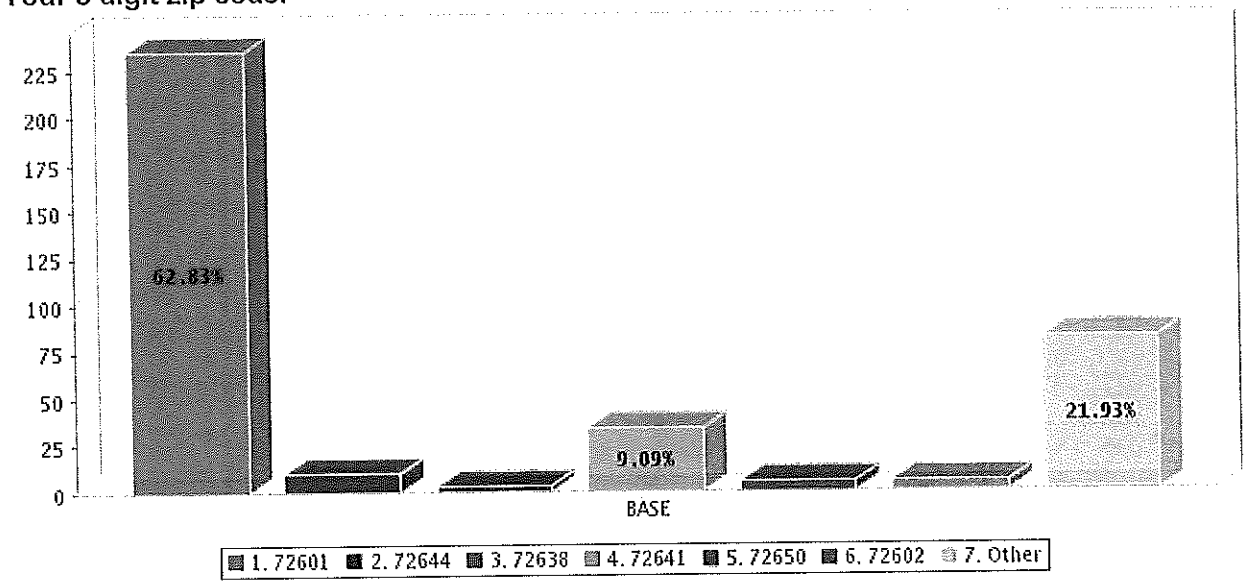
Select the county in which you live:



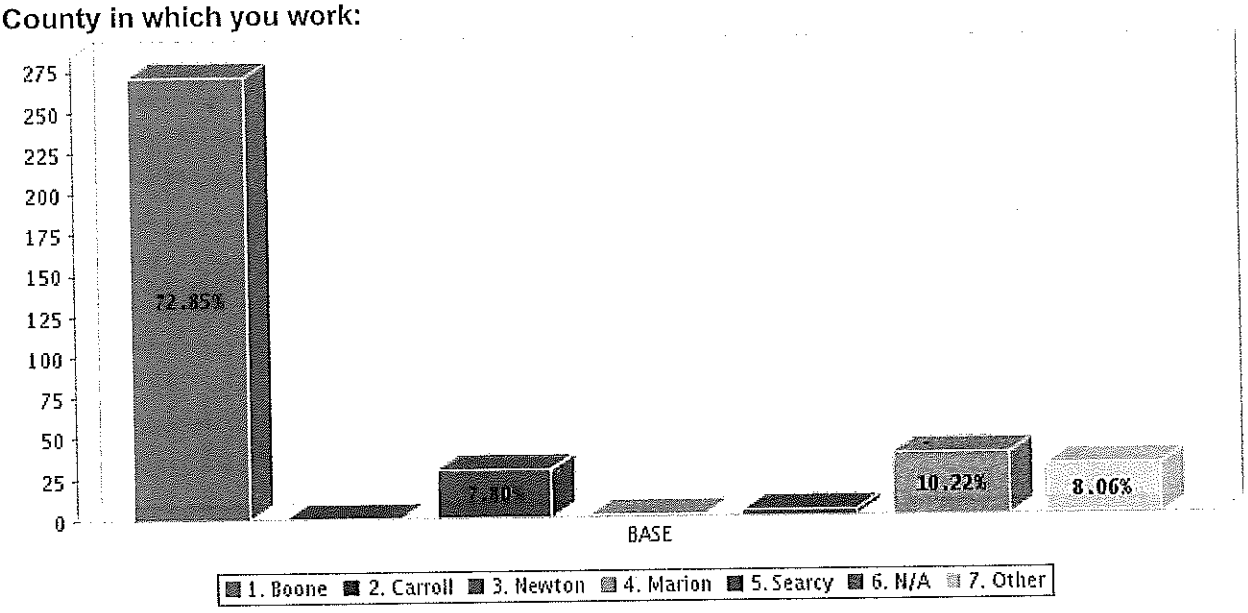
Length of time you have been a resident in your current county:



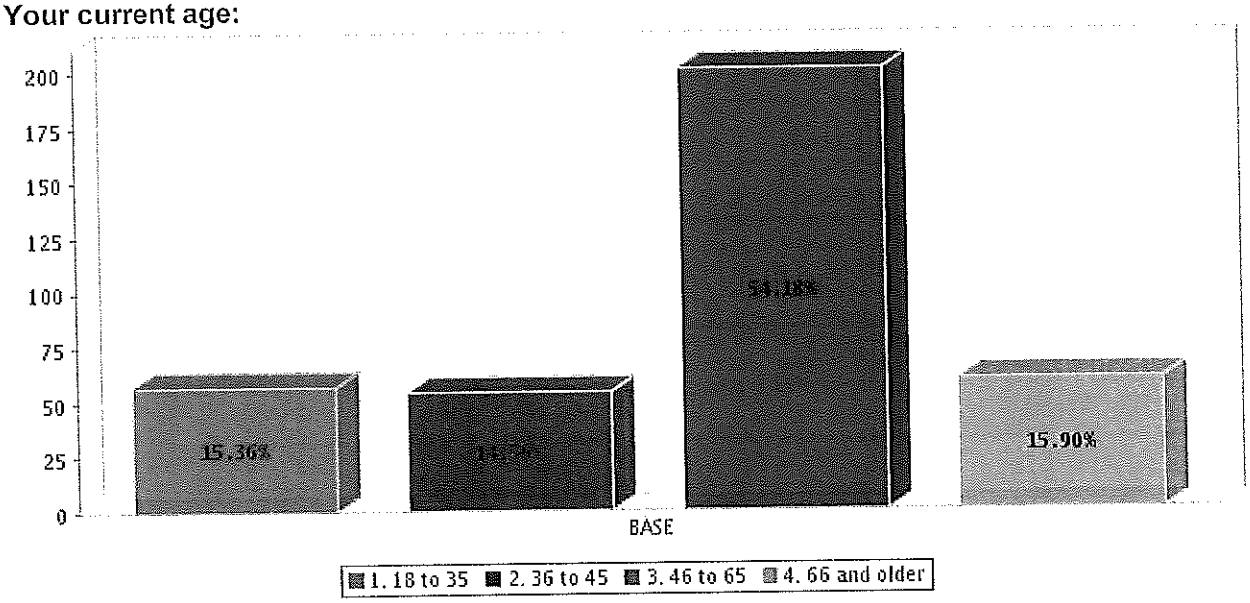
Your 5 digit zip code:



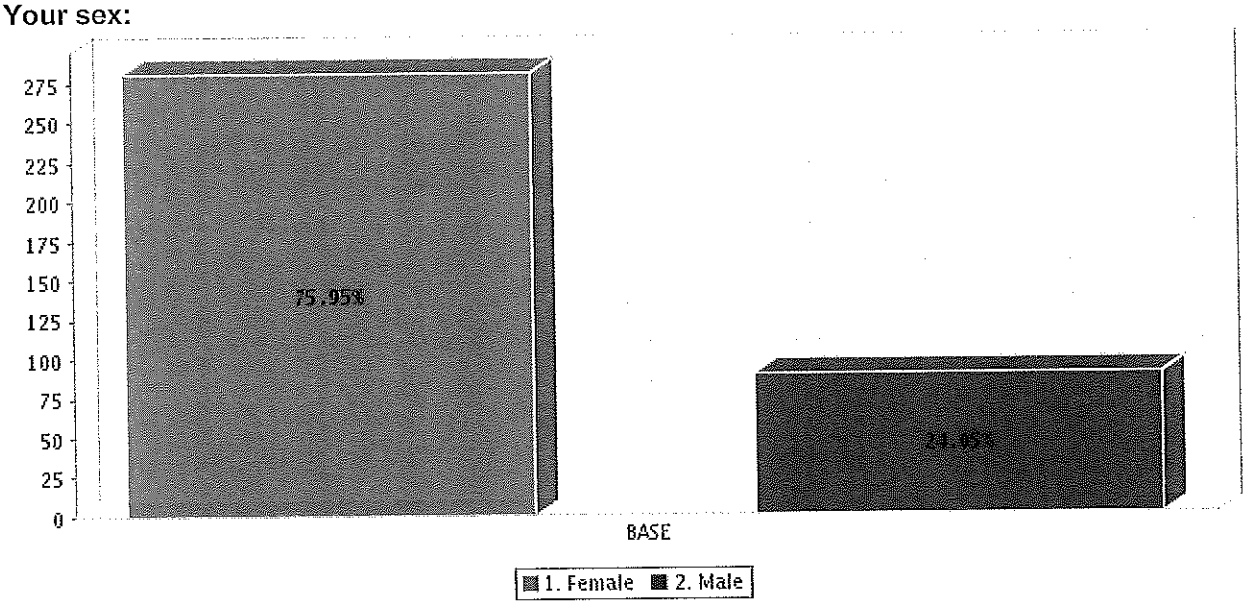
County in which you work:



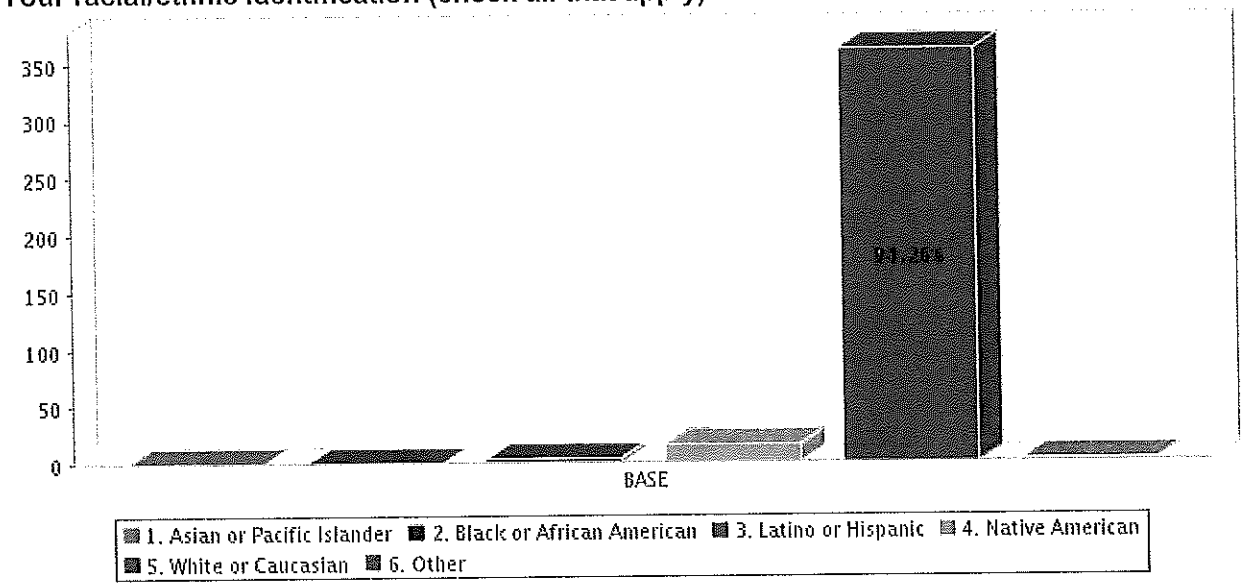
Your current age:



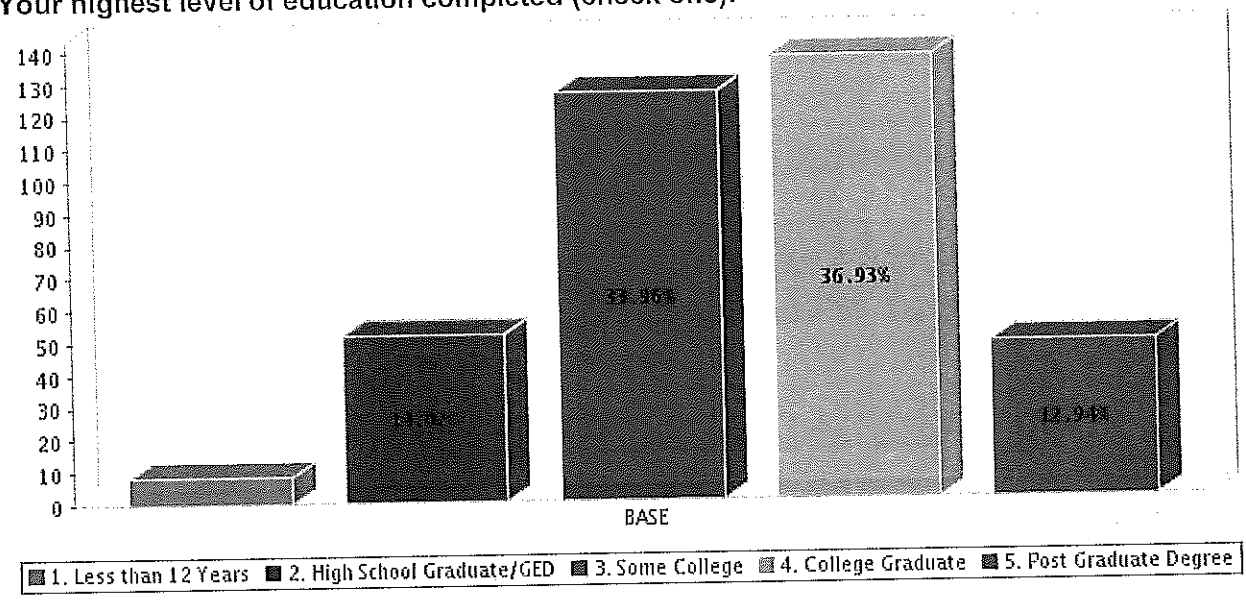
Your sex:



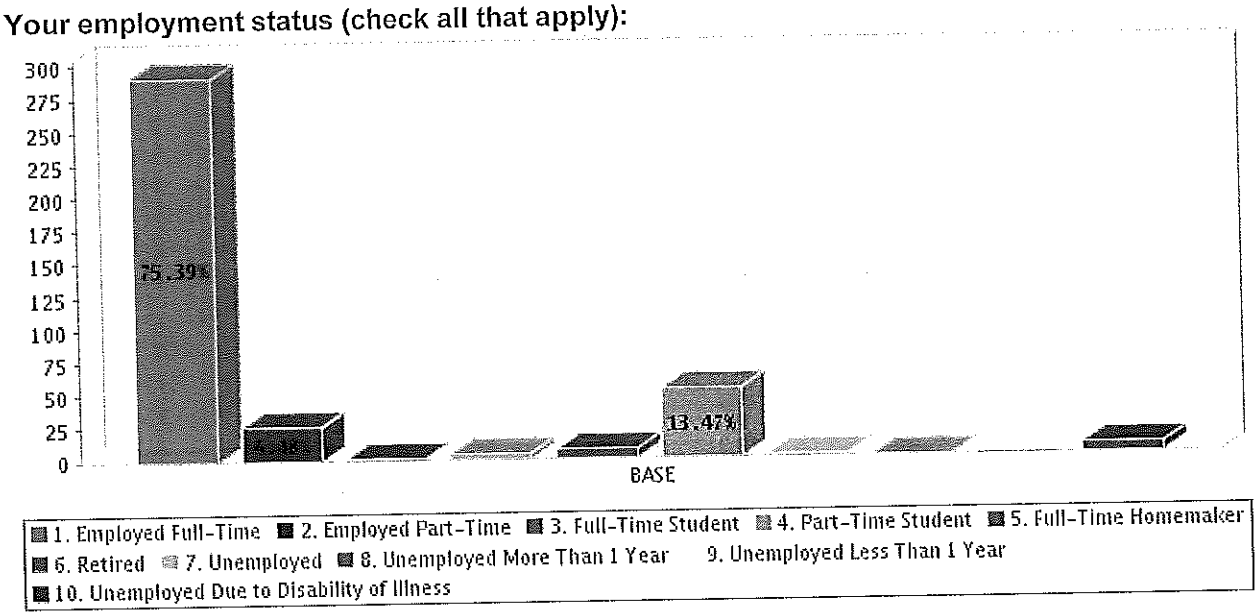
Your racial/ethnic identification (check all that apply):



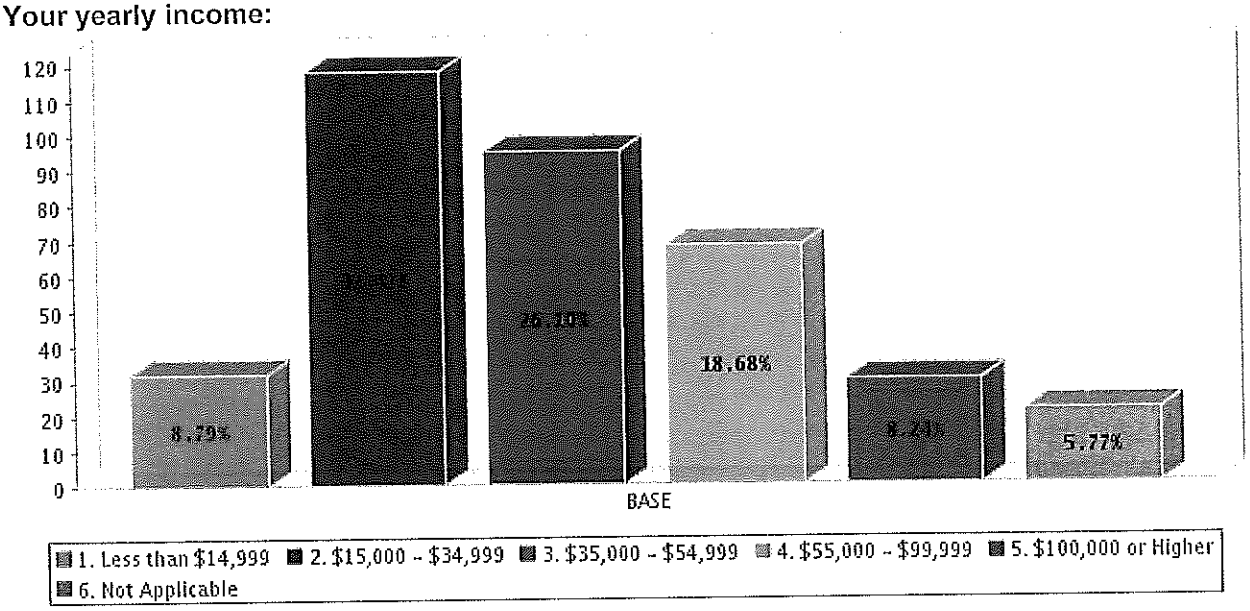
Your highest level of education completed (check one):



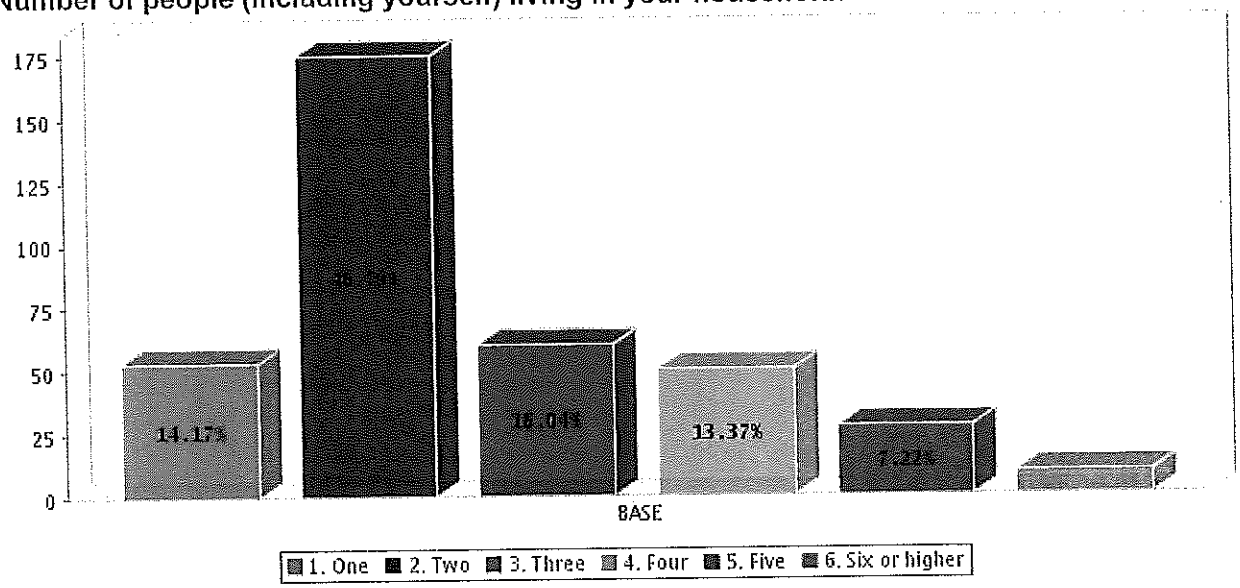
Your employment status (check all that apply):



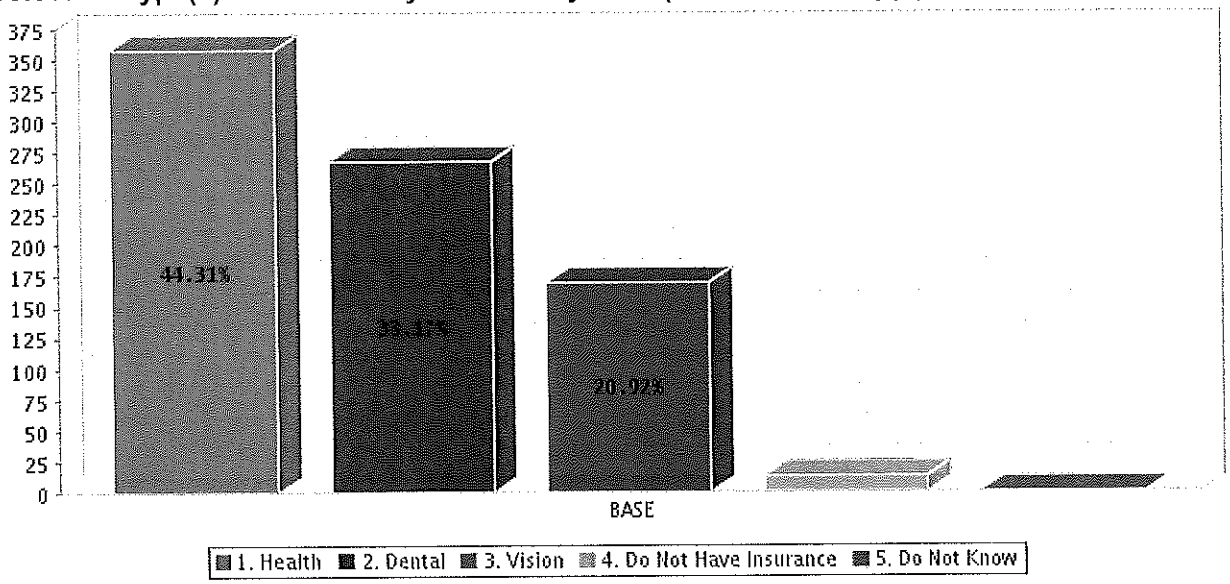
Your yearly income:



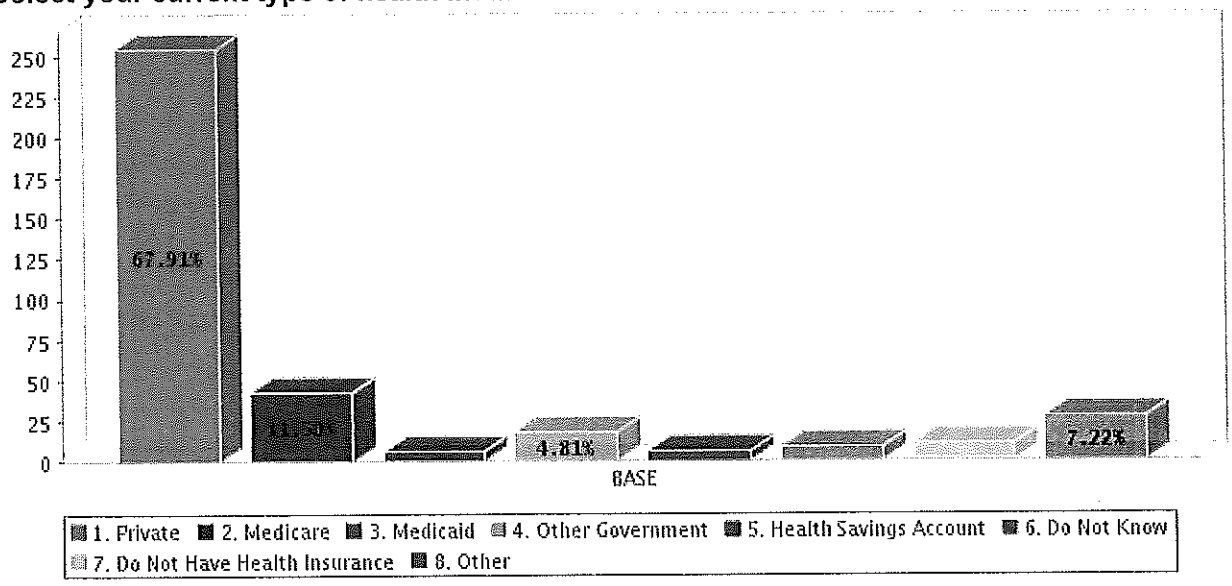
Number of people (including yourself) living in your household:



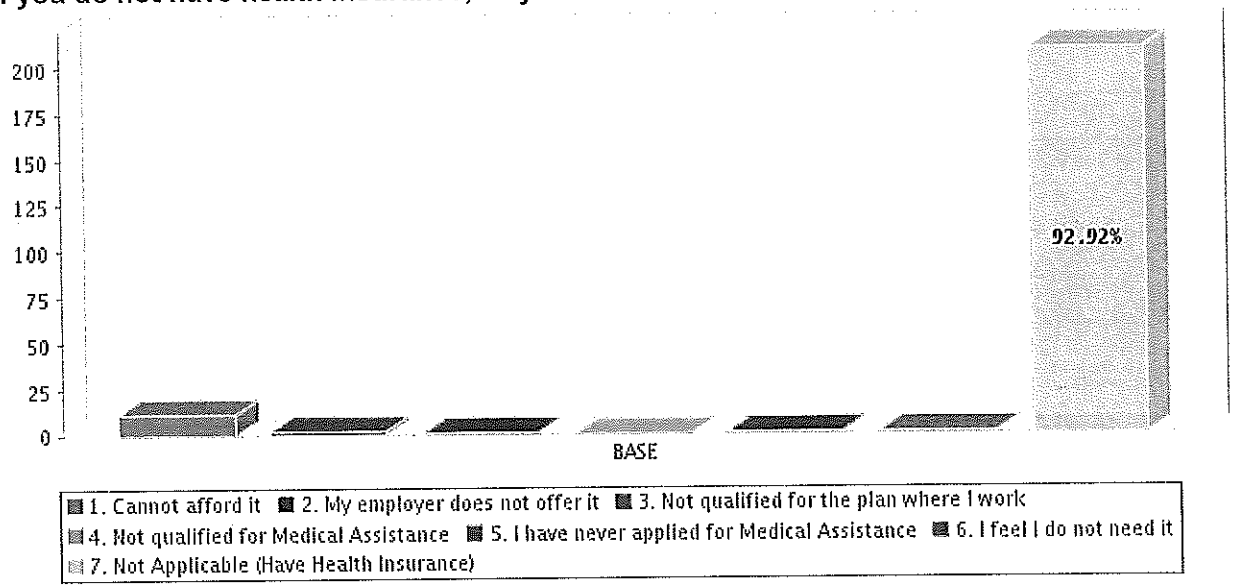
Select the type(s) of insurance you currently have (check all that apply:



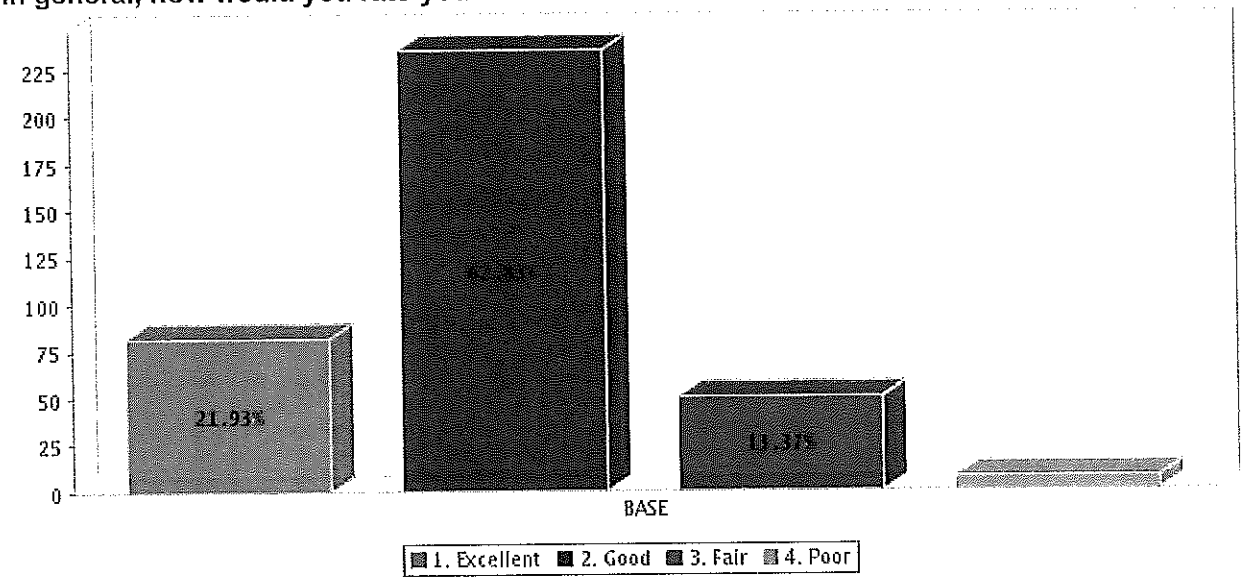
Select your current type of health insurance:



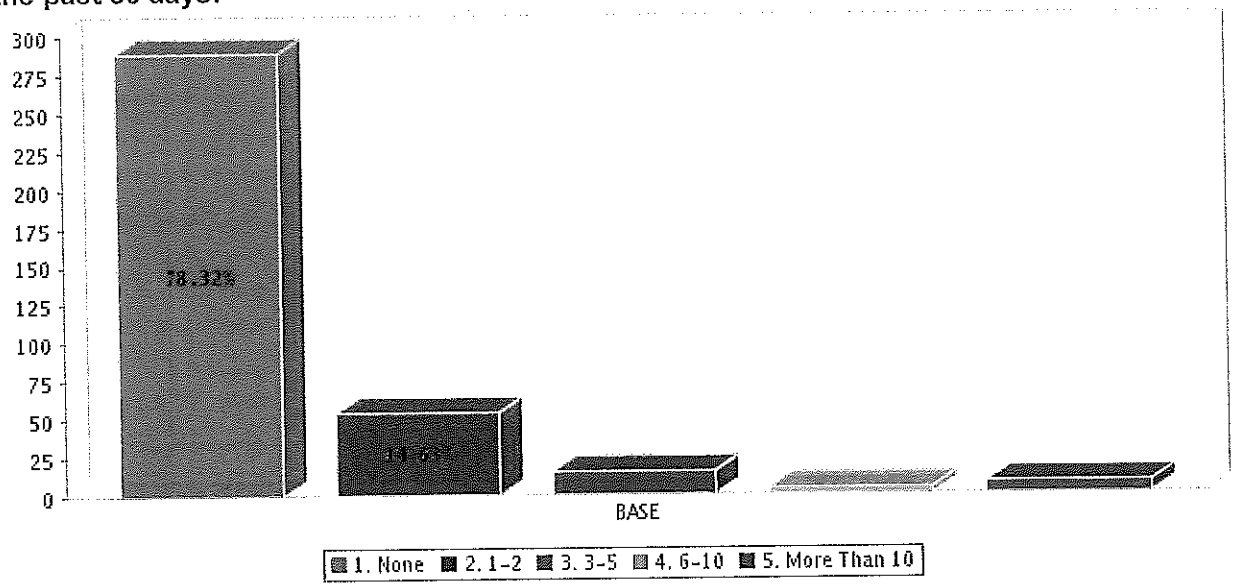
If you do not have health insurance, why not?



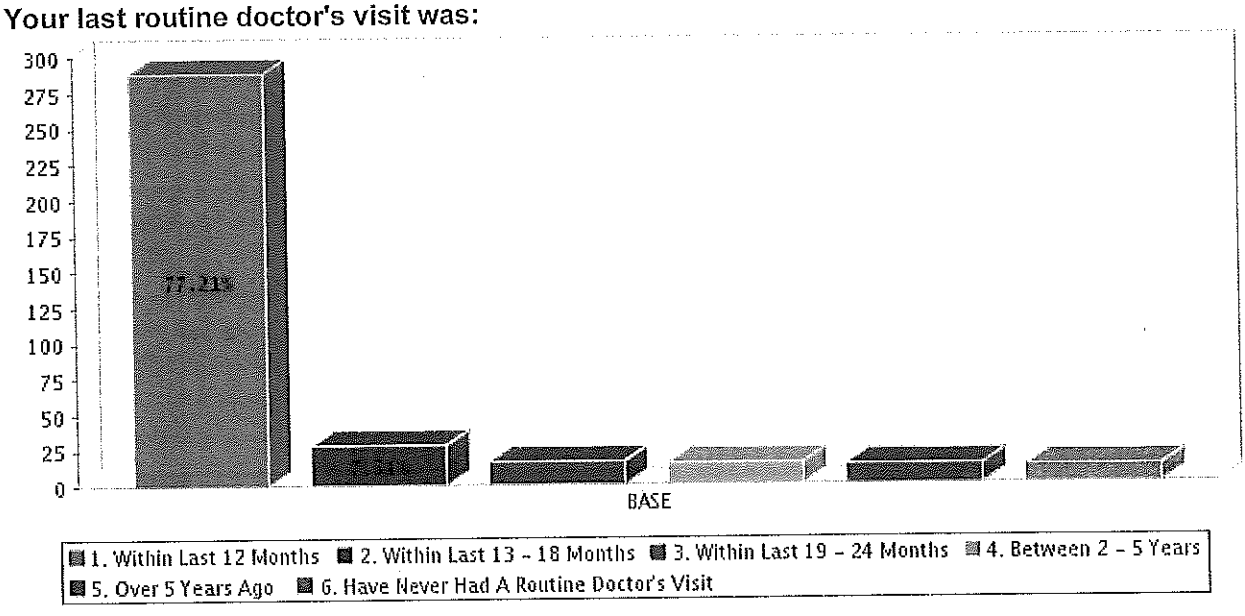
In general, how would you rate your current health status?



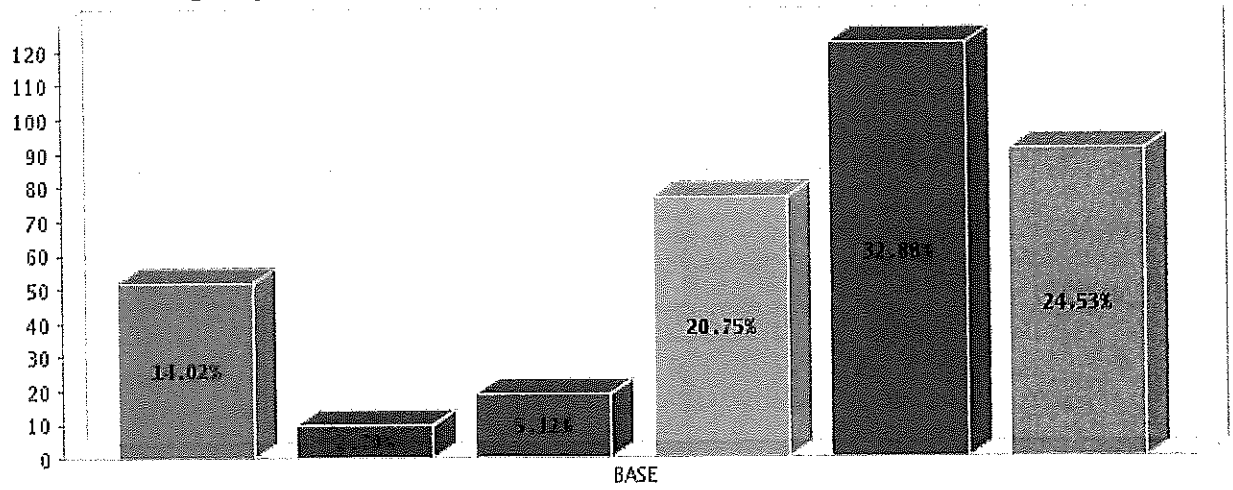
Number of days you have been too sick to work or carry out your usual activities during the past 30 days:



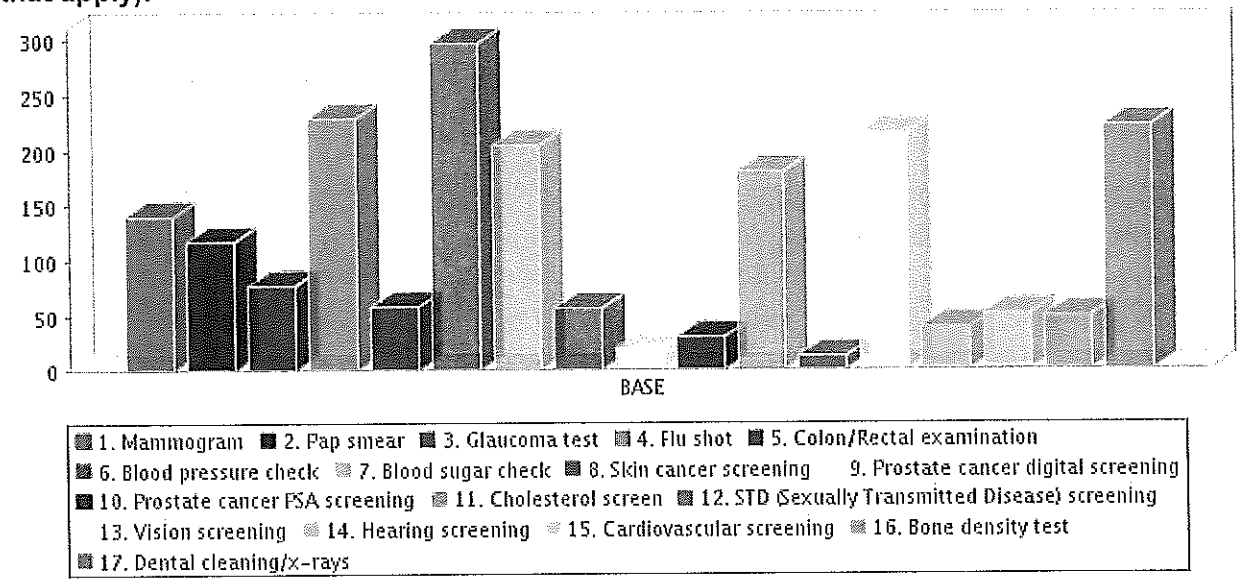
Your last routine doctor's visit was:



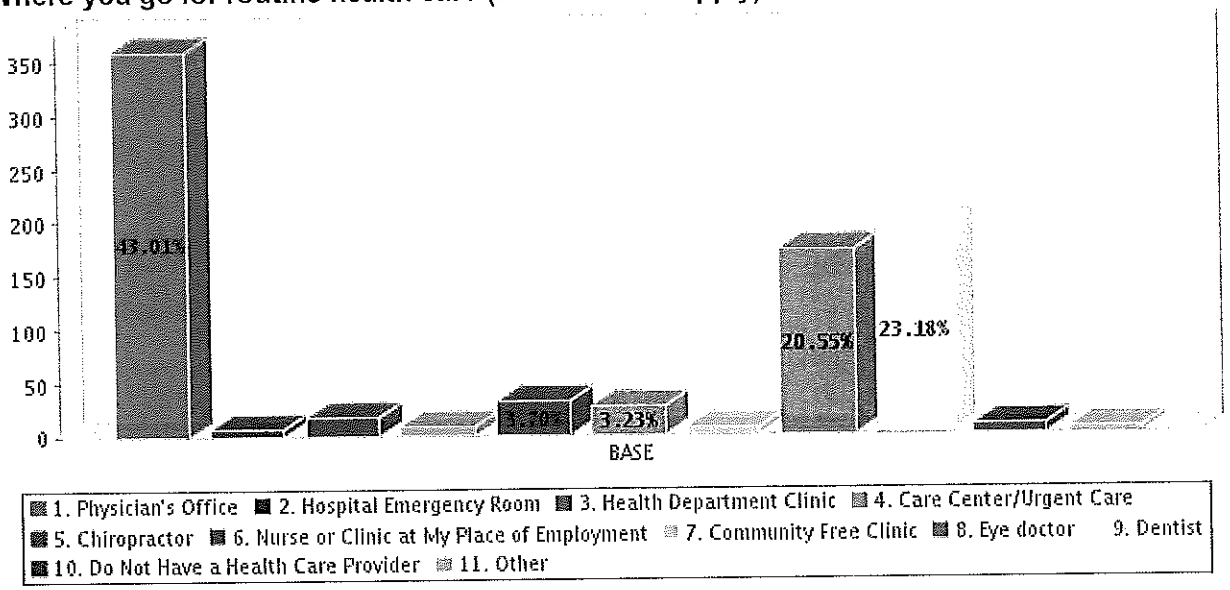
Your last emergency room visit:



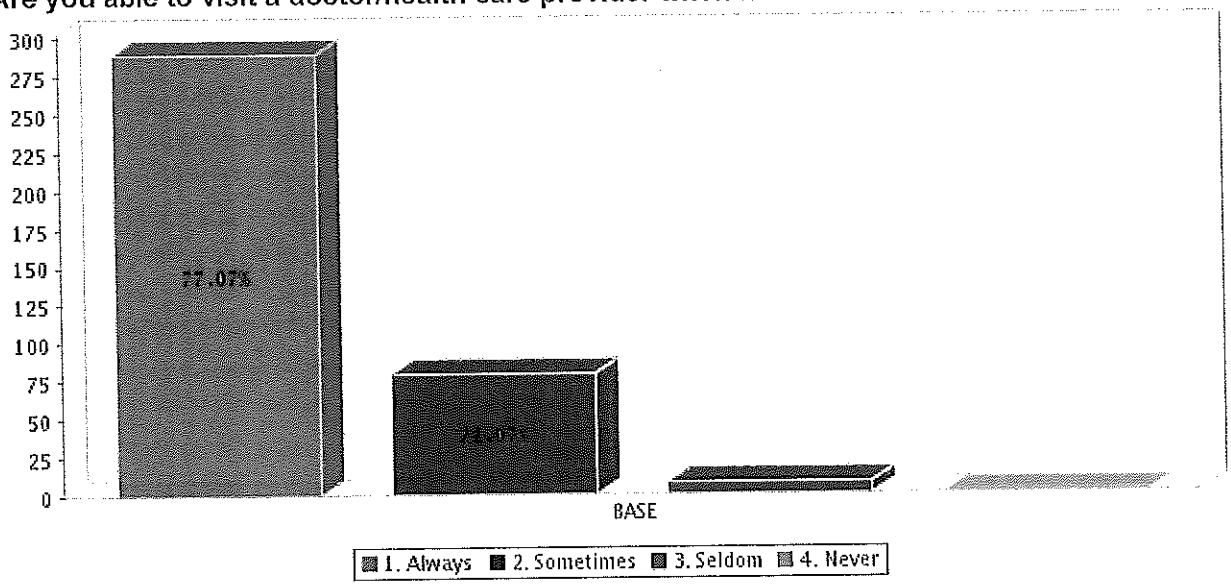
Select any of the following preventive procedures you have had in the last year (check all that apply):



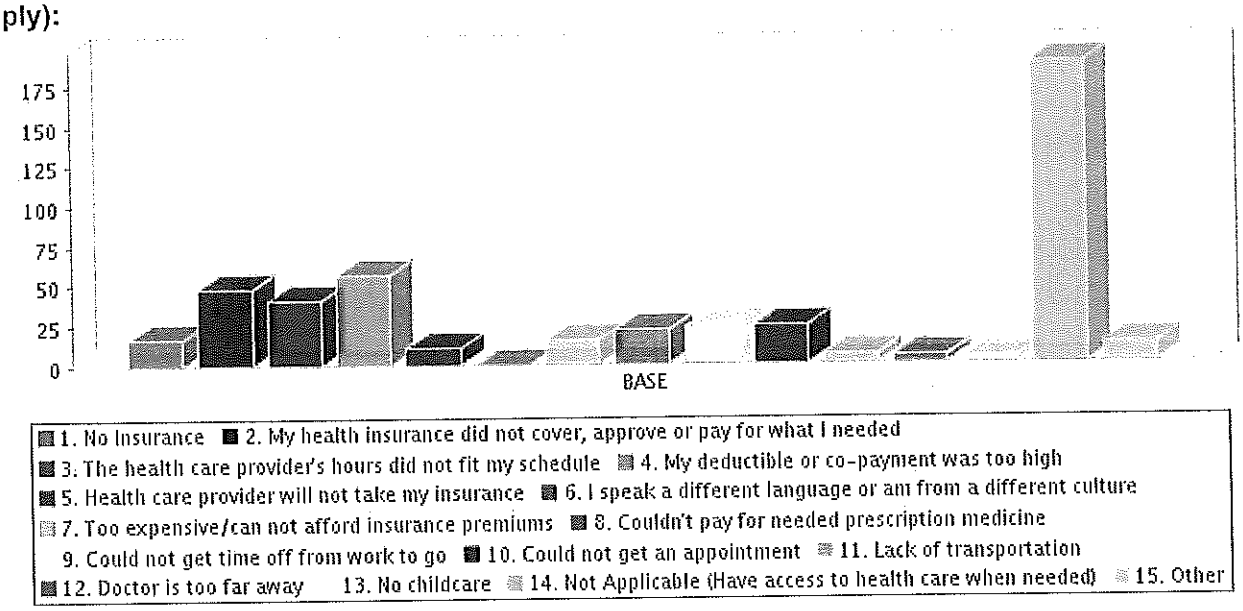
Where you go for routine health care (check all that apply):



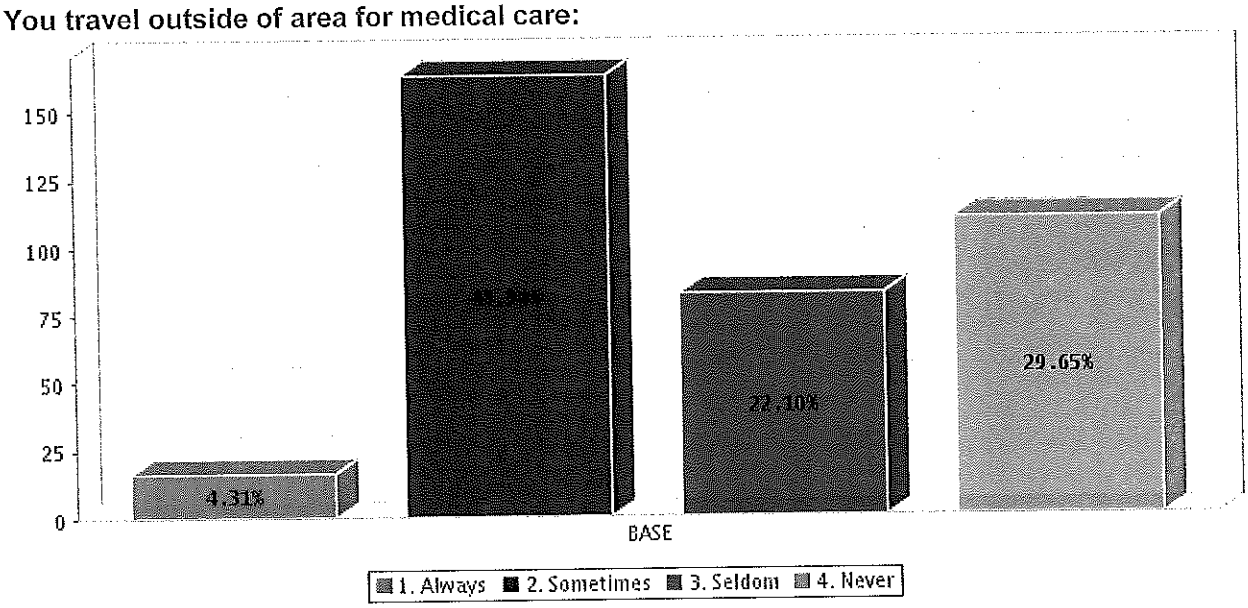
Are you able to visit a doctor/health care provider when needed?



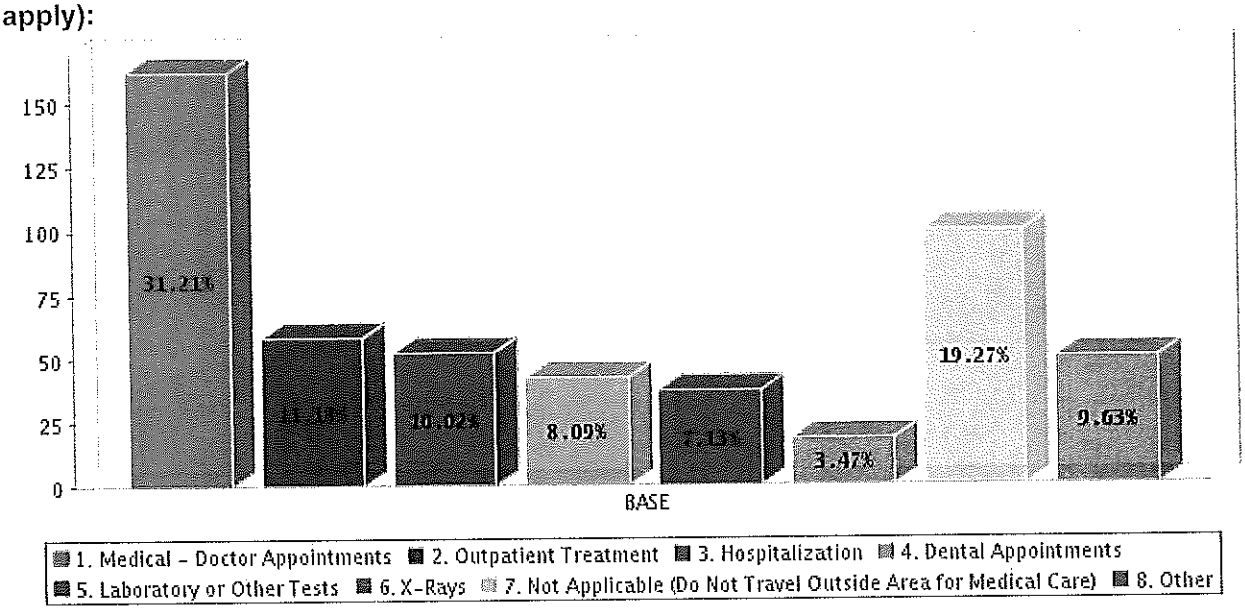
The following have stopped you from getting the health care you need (check all that apply):



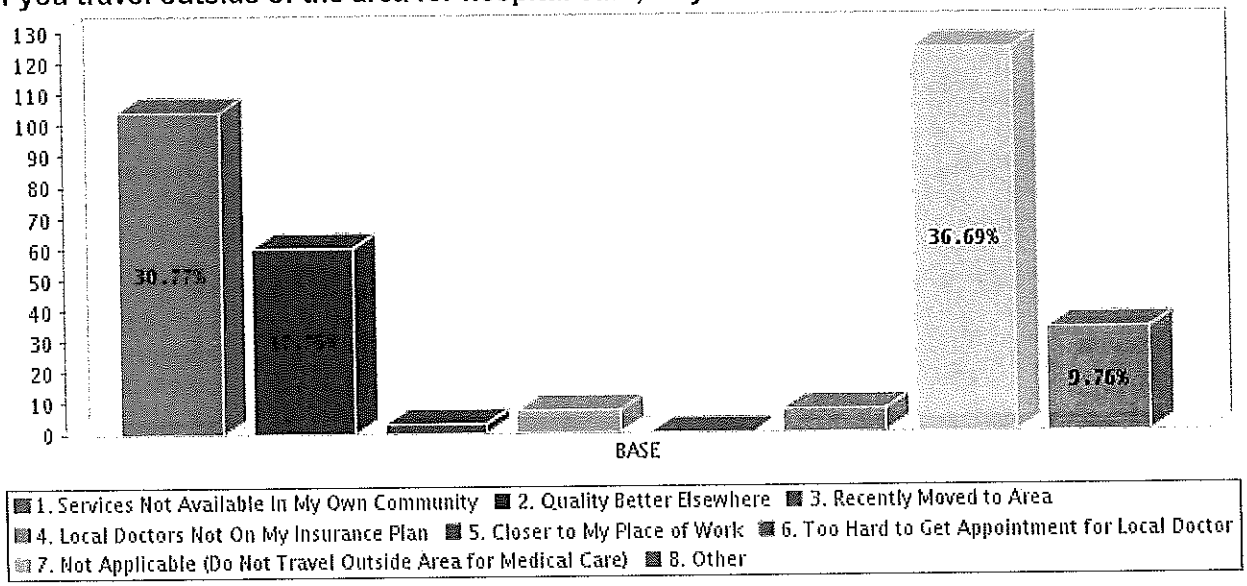
You travel outside of area for medical care:



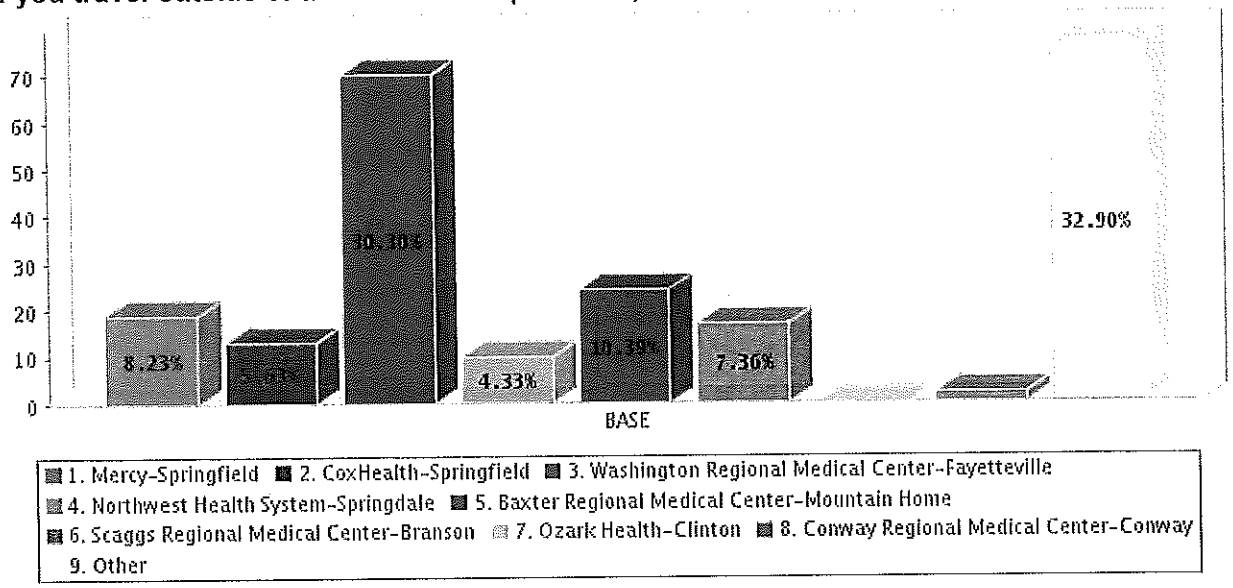
If you travel outside of area for medical care, select the service you seek (check all that apply):



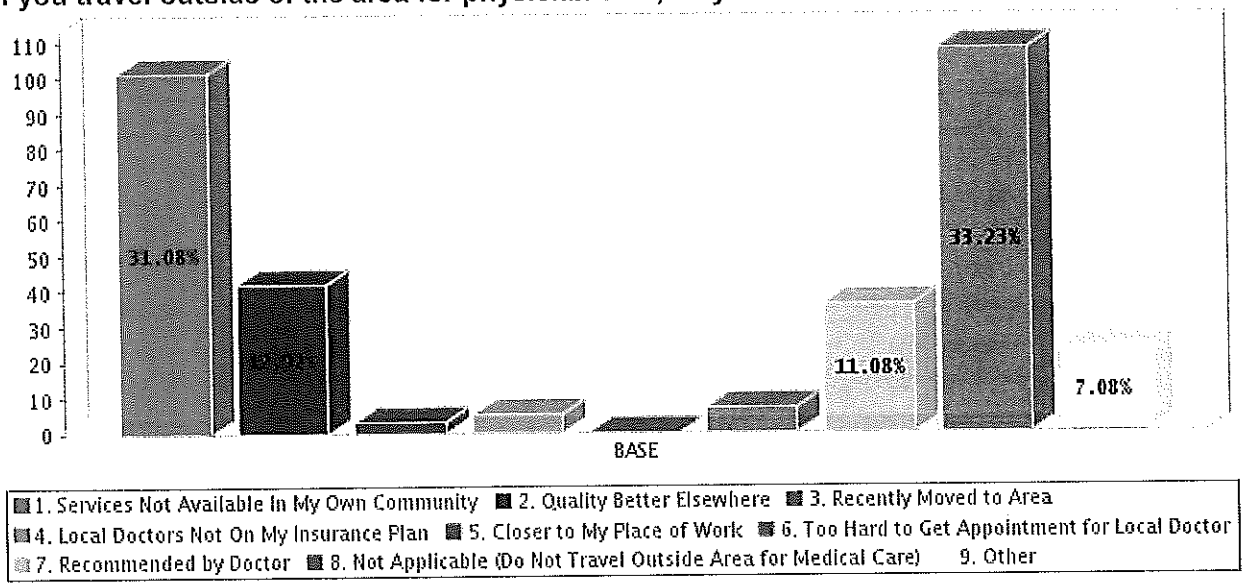
If you travel outside of the area for hospital care, why?



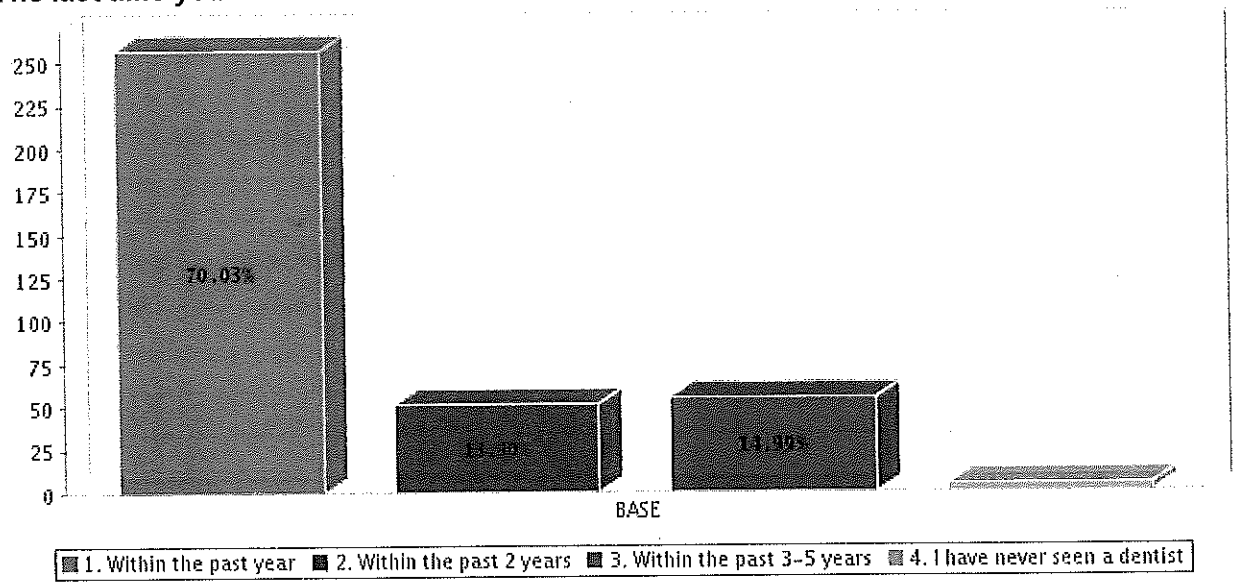
If you travel outside of the area for hospital care, where?



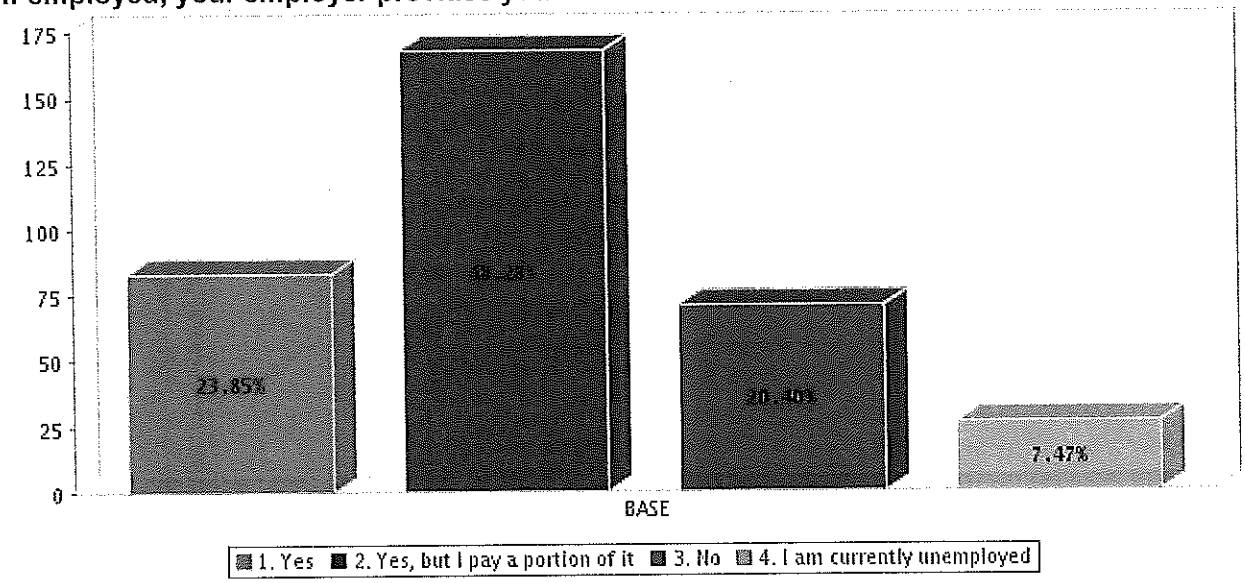
If you travel outside of the area for physician care, why?



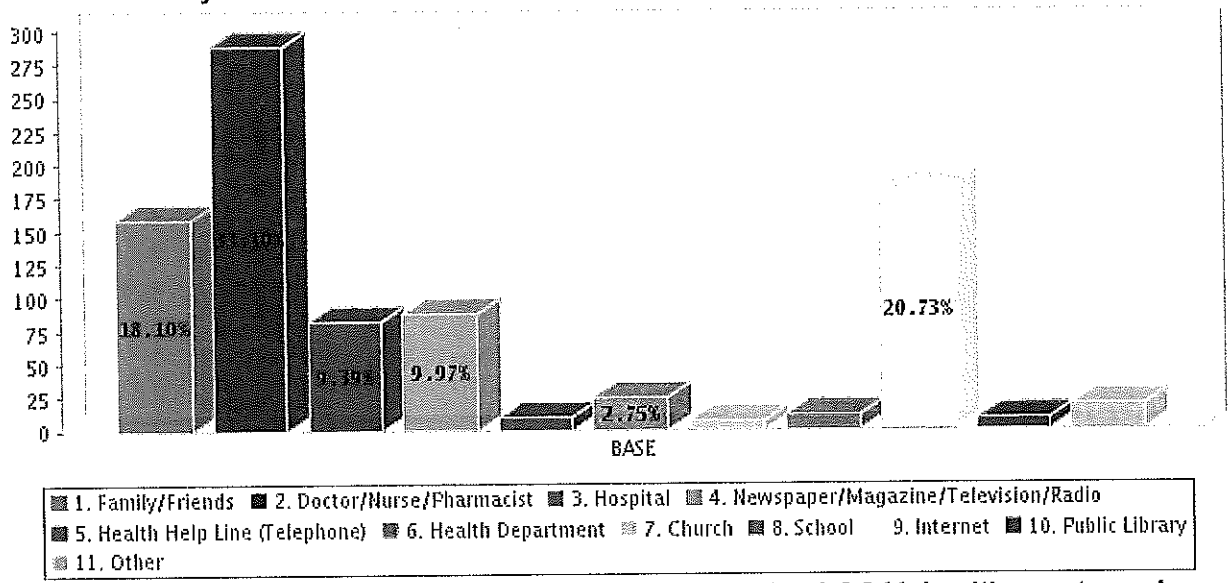
The last time you have seen a dentist was:



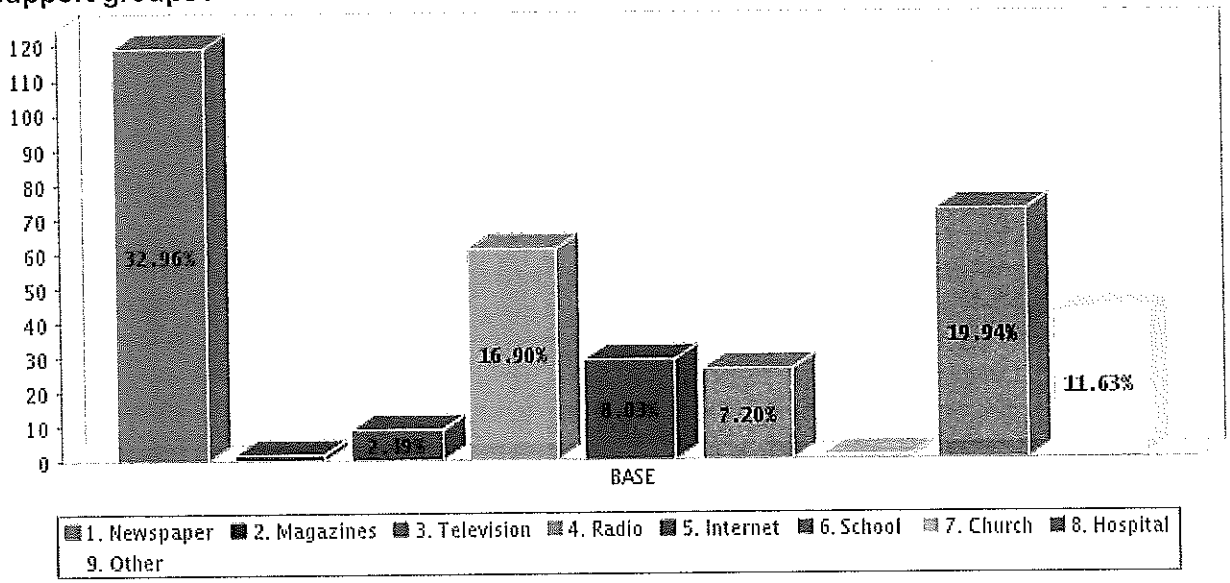
If employed, your employer provides you dental health insurance:



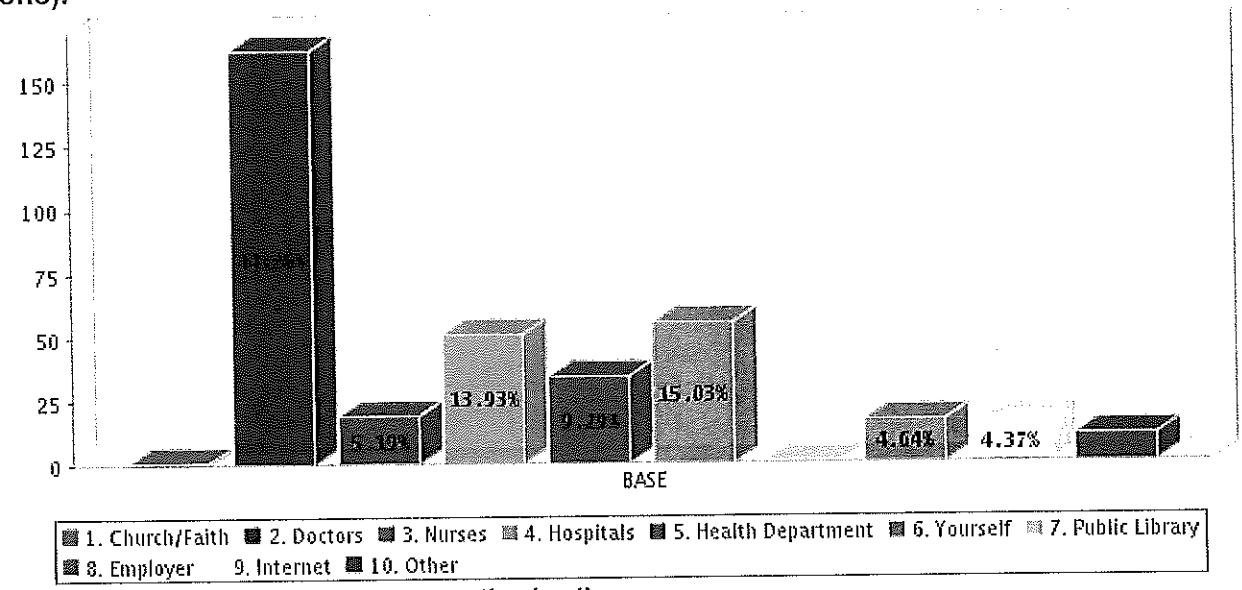
Sources where you obtain most health-related information (check all that apply):



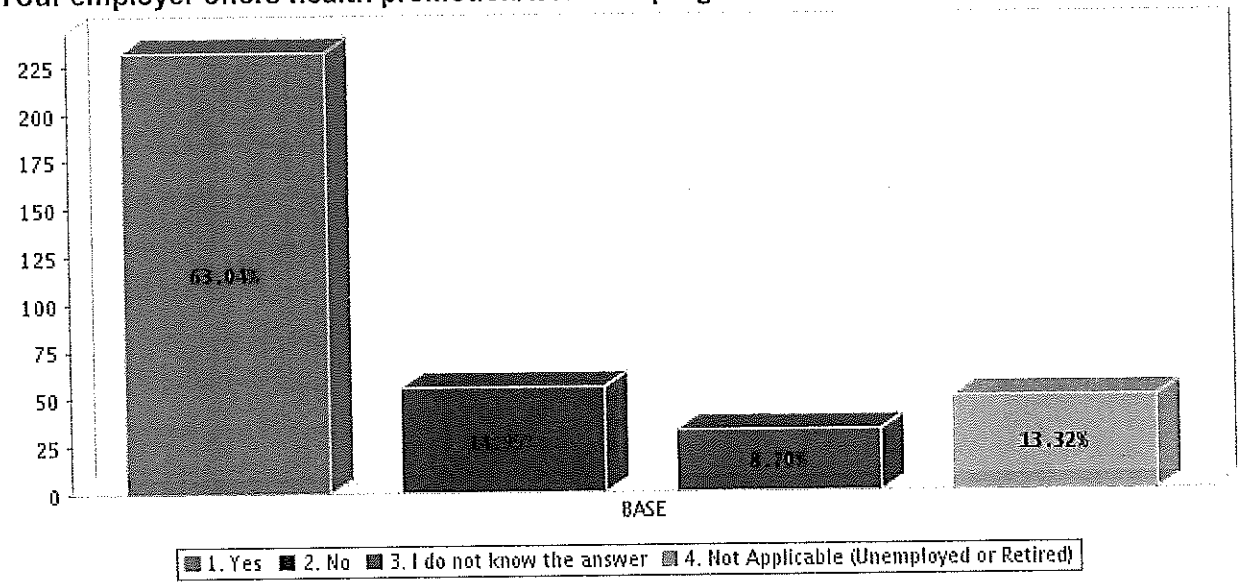
What is the source where you obtain information concerning LOCAL health events such as health and wellness, education events, screenings, health and dental services, and support groups?



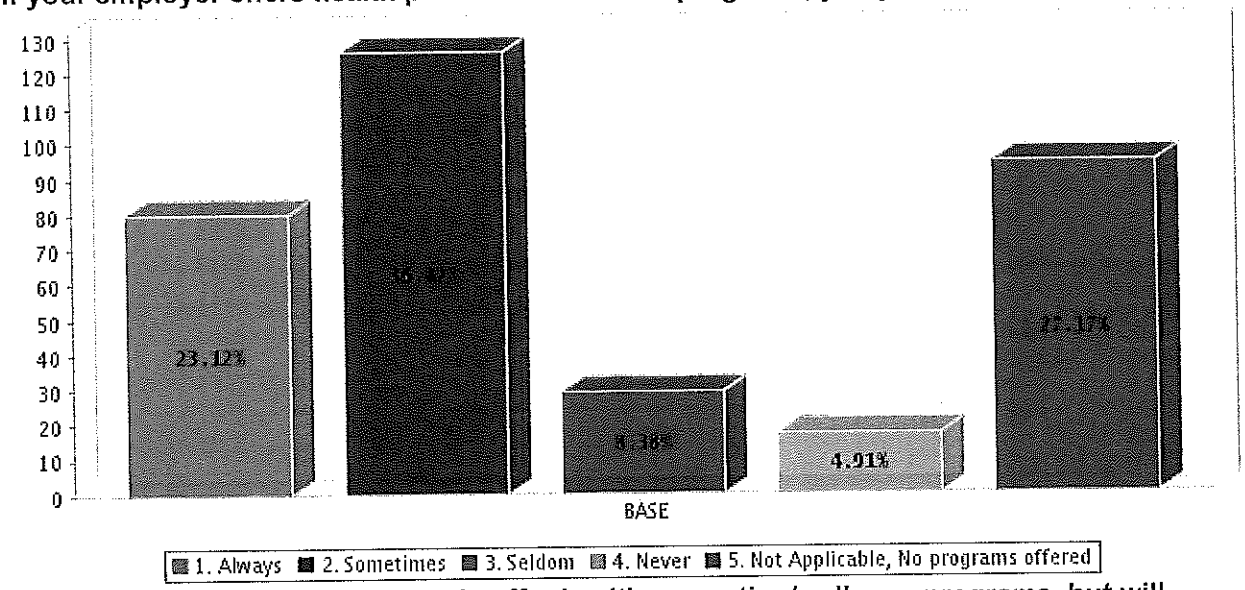
Person or entity you feel is most responsible for providing health information (check one):



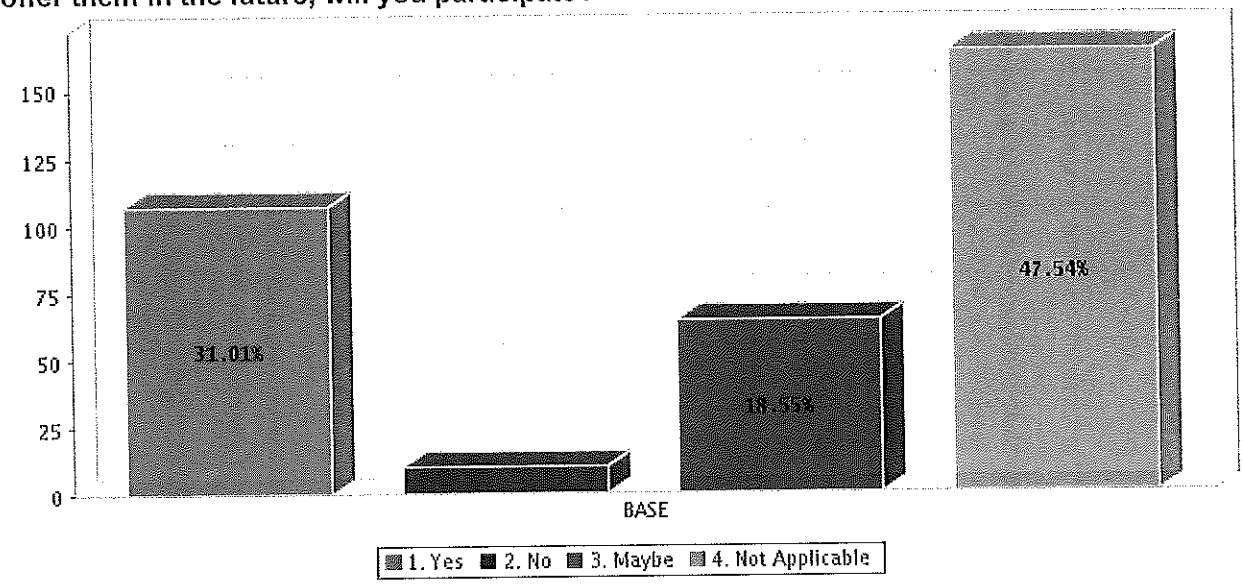
Your employer offers health promotion/wellness programs:



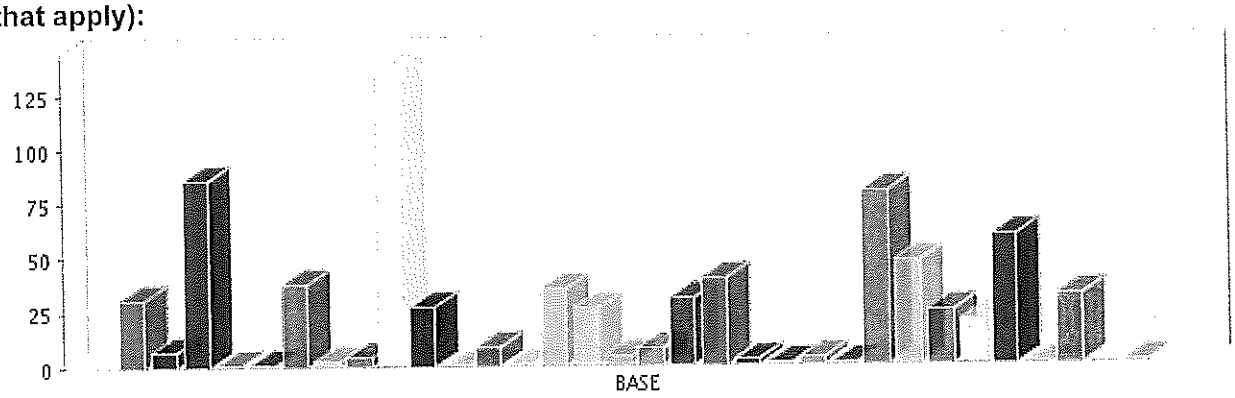
If your employer offers health promotion/wellness programs, you participate:



If your employer does not currently offer health promotion/wellness programs, but will offer them in the future, will you participate?

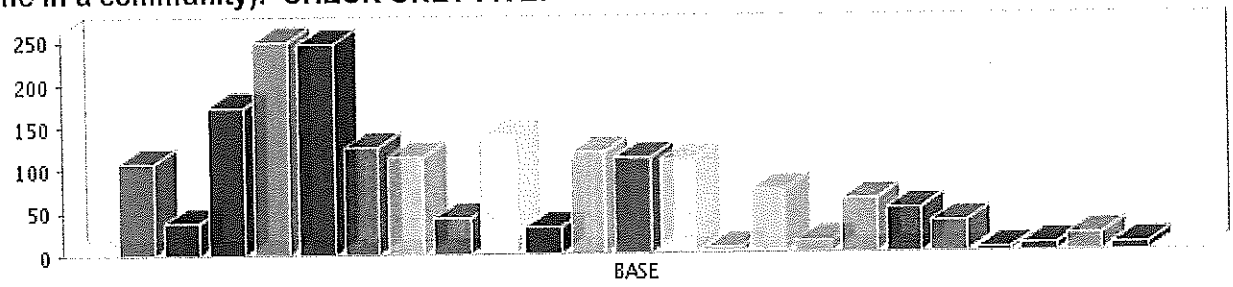


Please check if you have been diagnosed by a doctor with any of the following (check all that apply):



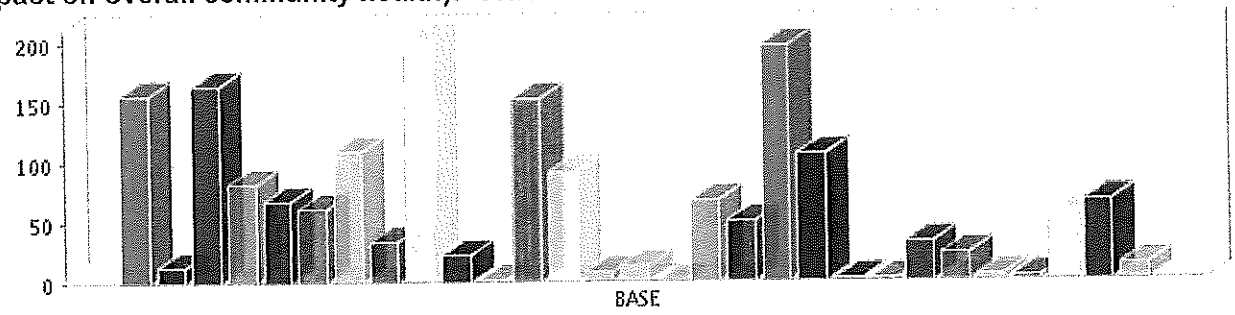
1. Diabetes 2. Stroke 3. Sinus problems 4. Epilepsy 5. Alcohol abuse 6. Eye disorders 7. TB
8. Memory loss 9. High blood pressure 10. Heart Disease 11. Sickle cell anemia 12. Kidney Disease
13. Mental disorders 14. Depression 15. Hearing disorders 16. Lupus 17. Glaucoma 18. Cancer 19. Asthma
20. Infant death 21. Liver disease 22. Sexually-transmitted disease 23. HIV/AIDS 24. Arthritis 25. Stress
26. Dental health problems 27. Lung or respiratory disease 28. Obesity/weight problems 29. Drug abuse/addiction
30. Migraine headaches 31. Hepatitis 32. Family violence

In the following list, please mark what you think are the FIVE MOST IMPORTANT FACTORS FOR A "HEALTHY COMMUNITY". (Those factors that most improve the quality of life in a community). CHECK ONLY FIVE:



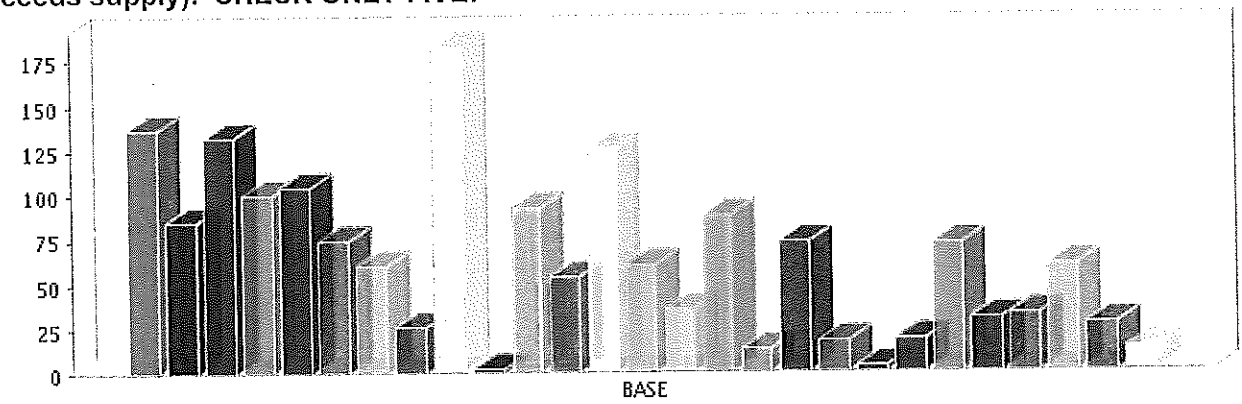
1. Affordable housing 2. Disability services (safe, affordable, available)
3. Emergency response services (ambulance/fire/police) 4. Hospital care (affordable, available)
5. Physician care (affordable, available) 6. Healthy food sources (affordable, accessible) 7. Job security
8. Childcare (safe, affordable, available) 9. Clean and safe environment 10. Emergency preparedness
11. Good schools 12. Healthy behaviors and lifestyles 13. Job availability 14. Low adult death and disease rates
15. Low crime/safe neighborhoods 16. Low level of child abuse
17. Nursing home care/assisted living/senior housing (safe, affordable, available) 18. Parks and recreation facilities
19. Prenatal health care (affordable, available) 20. Low infant death rate 21. Pedestrian/bicycle safety
22. Public transportation 23. Other (please specify)

In the following list, please mark what you think are the FIVE MOST IMPORTANT "HEALTH PROBLEMS" in our community. (Those problems which have the greatest impact on overall community health). CHECK ONLY FIVE:



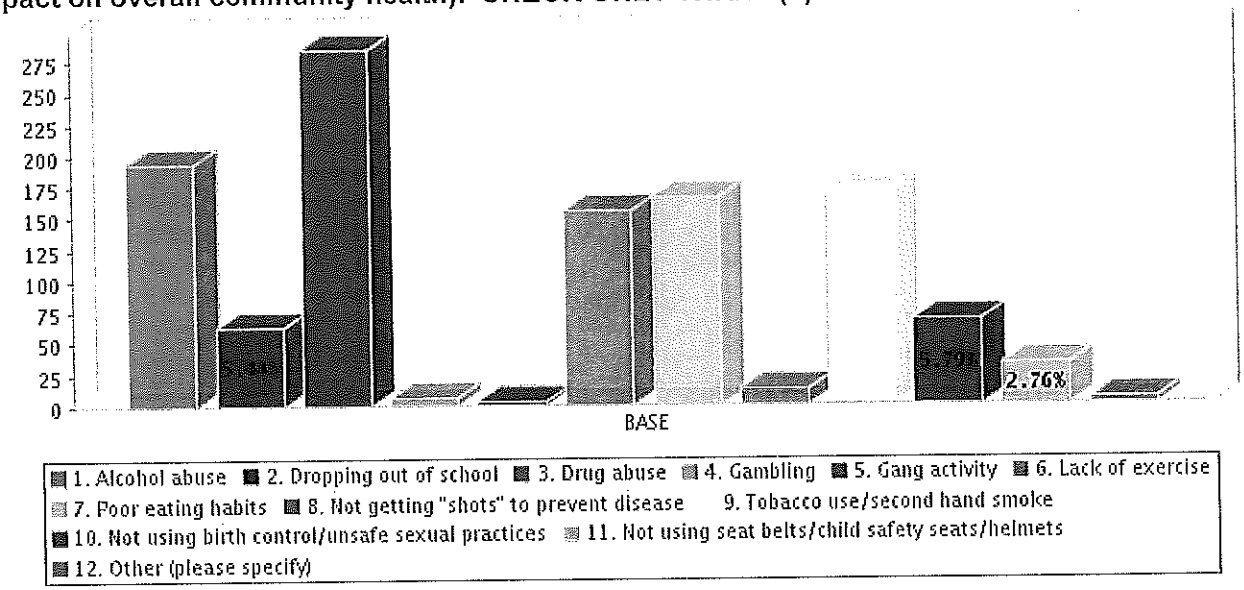
1. Aging problems (e.g. arthritis, hearing/vision loss, etc.) 2. Availability of ambulance service 3. Cancer
4. Child abuse/neglect 5. Dementia/Alzheimer's 6. Dental problems 7. Diabetes 8. Domestic abuse
9. Drug Abuse 10. Elder abuse/neglect 11. Firearm related injuries 12. Heart disease and stroke
13. High blood pressure 14. Industrial/farming injuries 15. Infectious diseases (Hepatitis, TB, etc.)
16. Lead poisoned children 17. Mental health problems 18. Motor vehicle crash injuries 19. Obesity (adult)
20. Obesity (child) 21. Poor birth outcomes (prematurity, low birth weight, defects, etc.) 22. Rape/sexual assault
23. Respiratory/lung disease 24. School violence/ bullying 25. Sexually transmitted diseases 26. Suicide
27. Teenage pregnancy 28. Underage drinking 29. Other (please specify)

In the following list, please mark which you think are the FIVE MOST NEEDED PHYSICIAN SPECIALTIES in our community. (Those specialties for which demand most exceeds supply). CHECK ONLY FIVE:

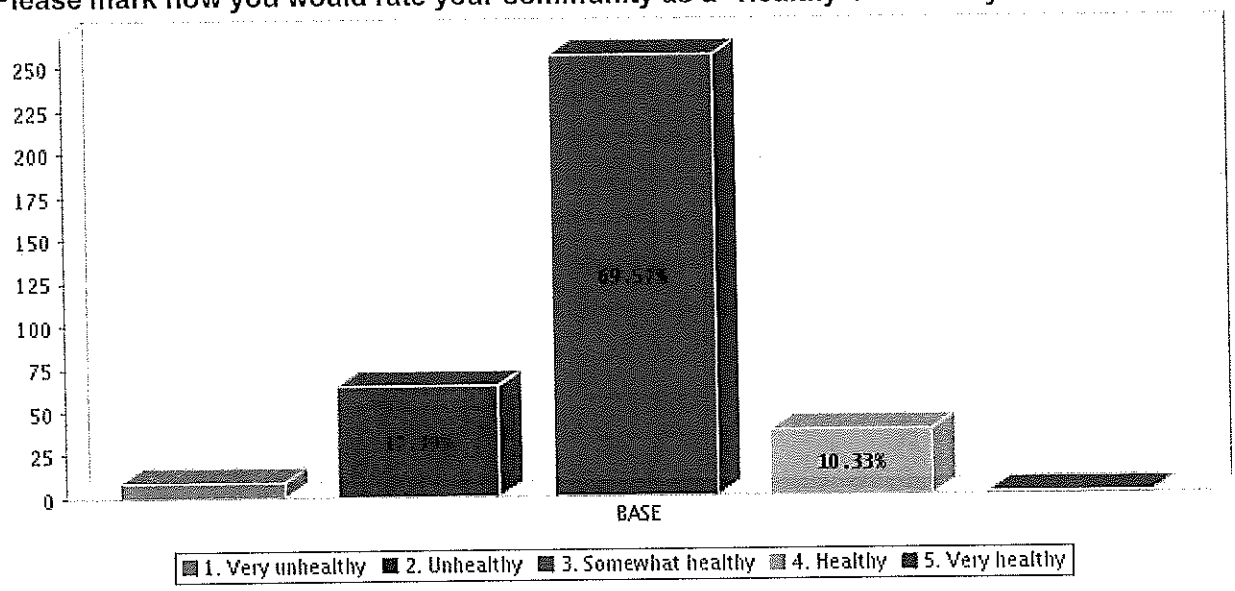


1. General and Family Practice 2. Internal Medicine 3. Pediatrics 4. Psychiatry 5. Obstetrics and Gynecology
6. General Surgery 7. Orthopedic Surgery 8. Opthalmology 9. Cardiology 10. Pathology 11. Neurology
12. Otolaryngology (ear, nose & throat) 13. Dermatology 14. Gastroenterology 15. Hematology/ Oncology
16. Pulmonary Disease 17. Plastic Surgery 18. Allergy 19. Nephrology 20. Anethesiology 21. Radiology
22. Emergency Medicine 23. Urology 24. Reumatology 25. Endocrinology 26. Infectious Disease 27. Other

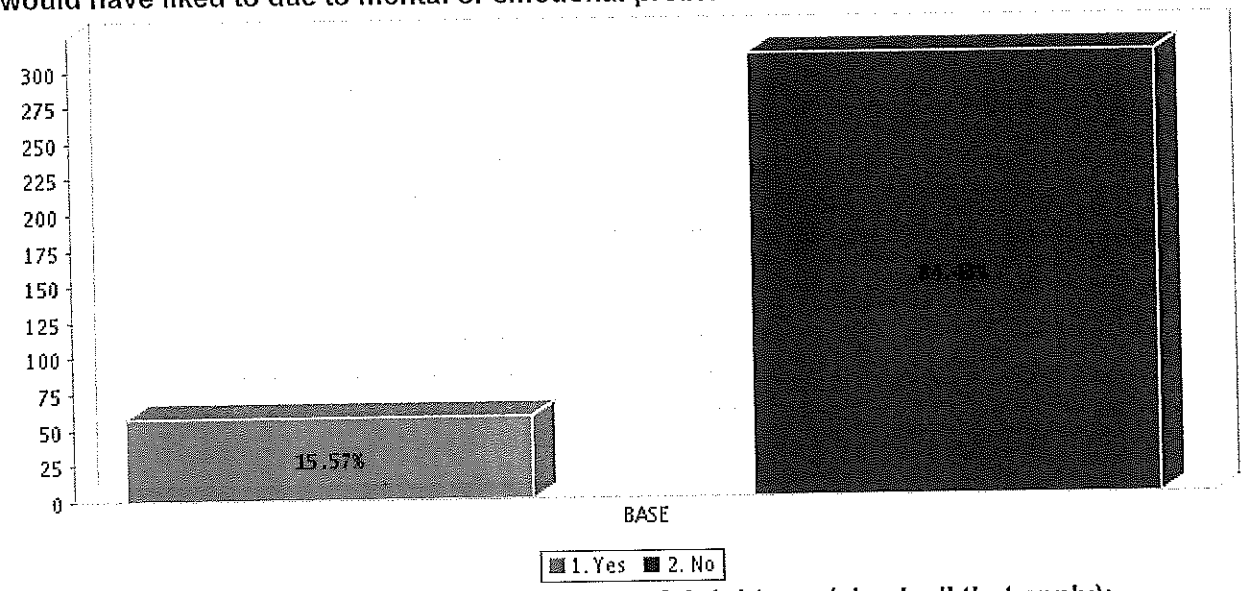
In the following list, please mark what you think are the THREE MOST PREVELANT "RISKY BEHAVIORS" in our community. (Those behaviors which have the greatest impact on overall community health). CHECK ONLY THREE (3):



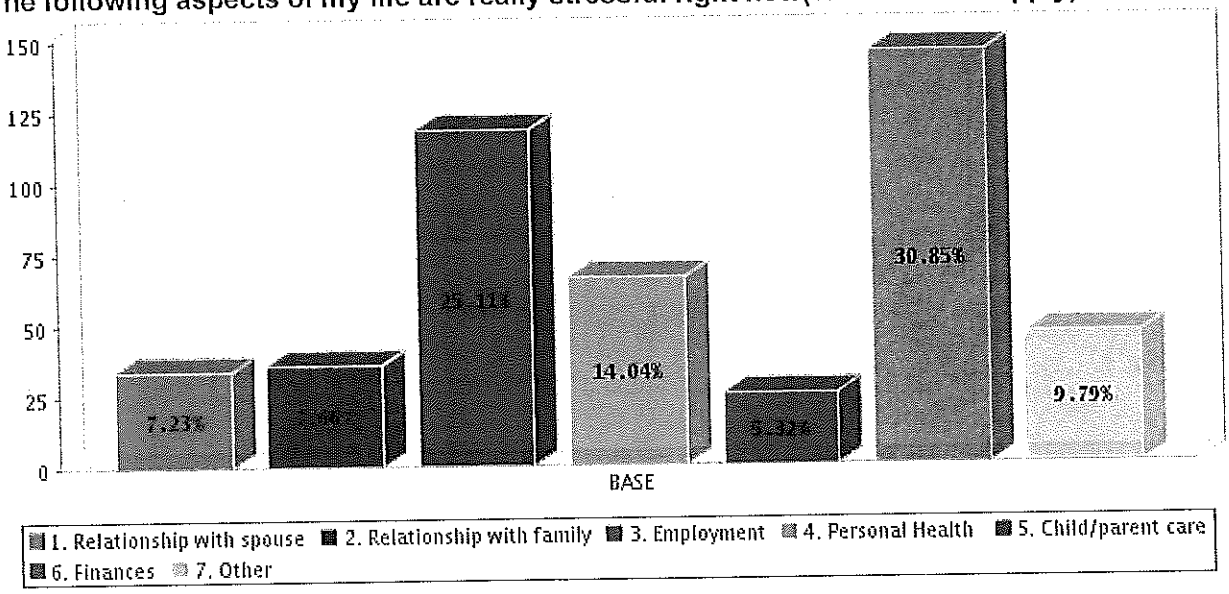
Please mark how you would rate your community as a "Healthy Community":



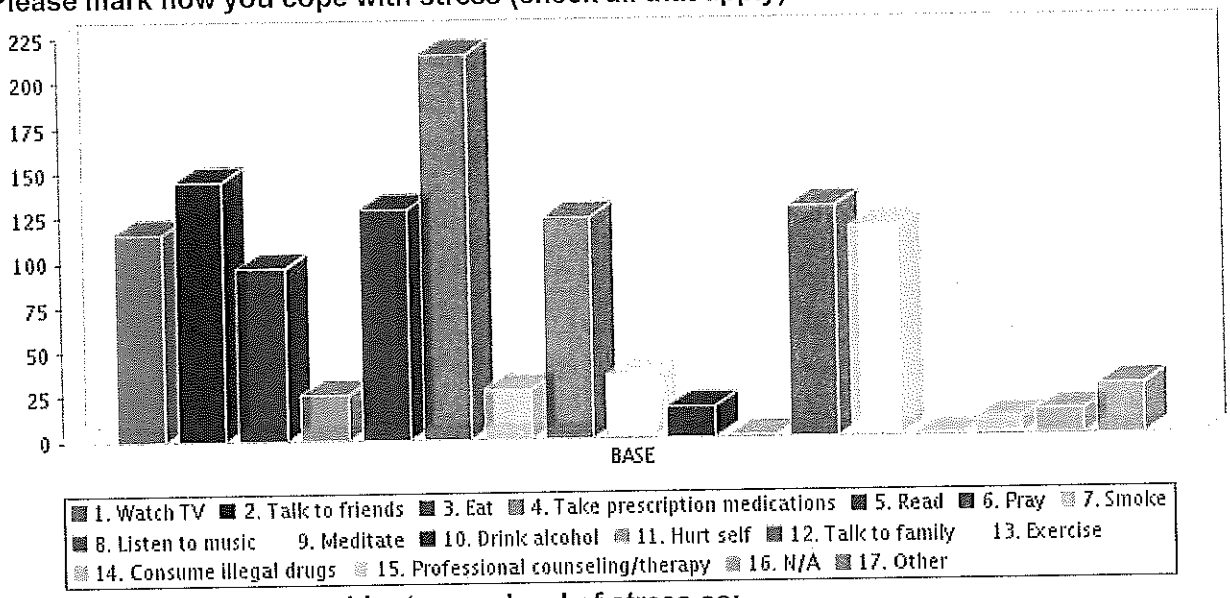
Please think about your daily activities during the past 4 weeks. You did less than you would have liked to due to mental or emotional problems:



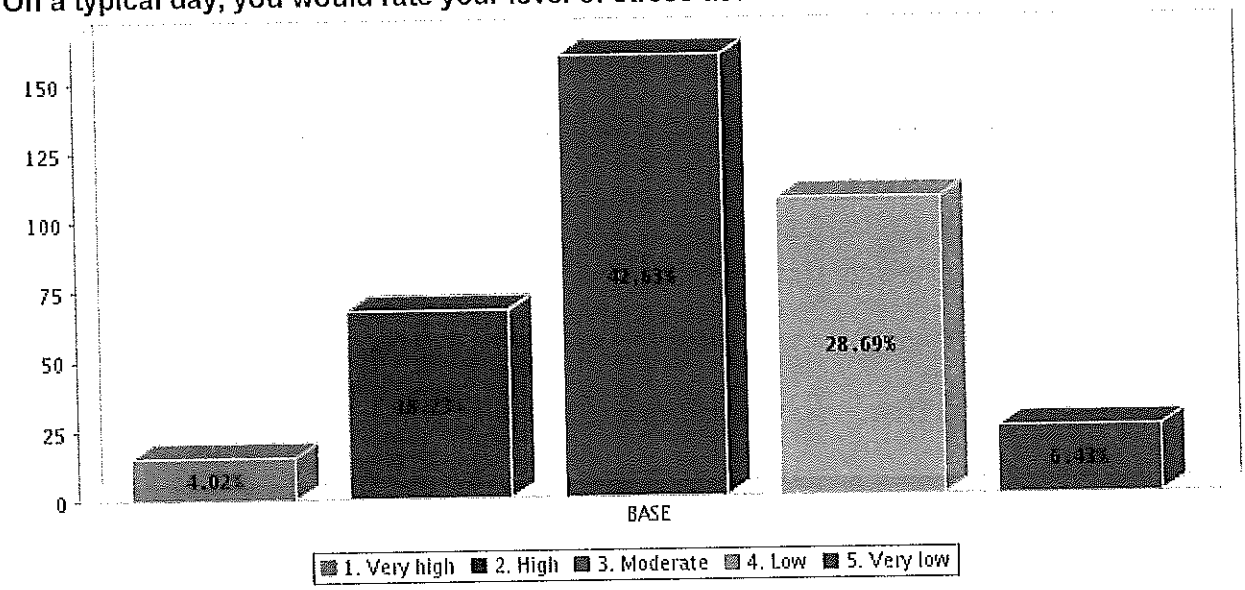
The following aspects of my life are really stressful right now(check all that apply):



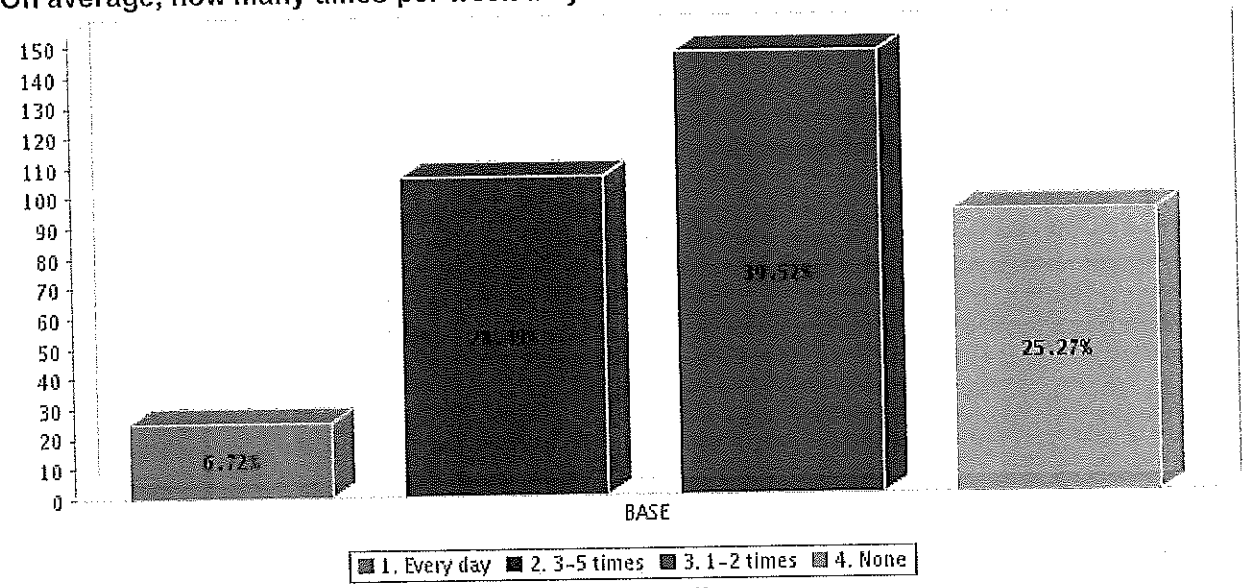
Please mark how you cope with stress (check all that apply):



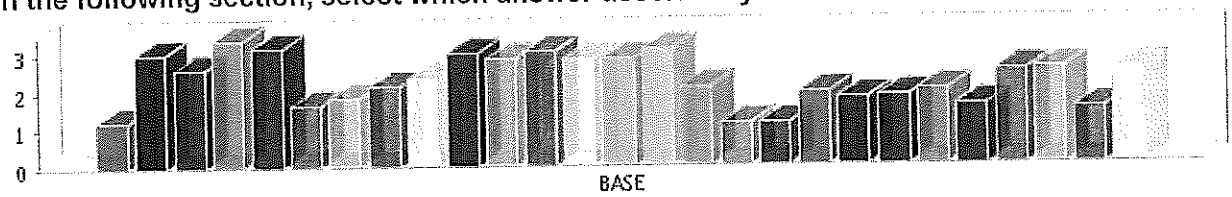
On a typical day, you would rate your level of stress as:



On average, how many times per week do you exercise?

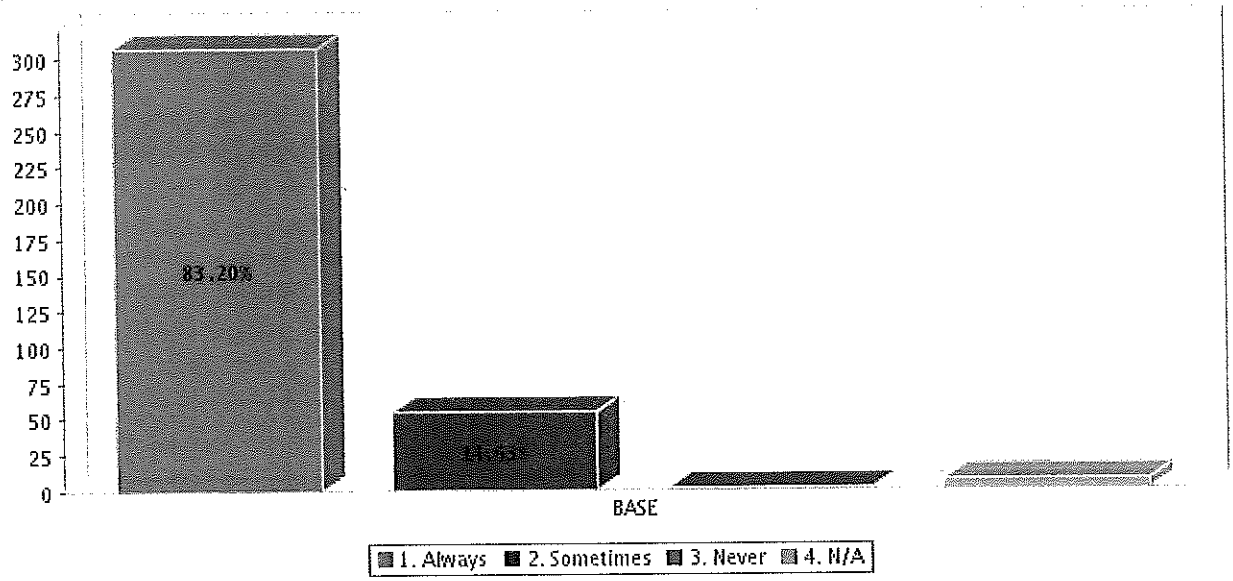


In the following section, select which answer describes you.

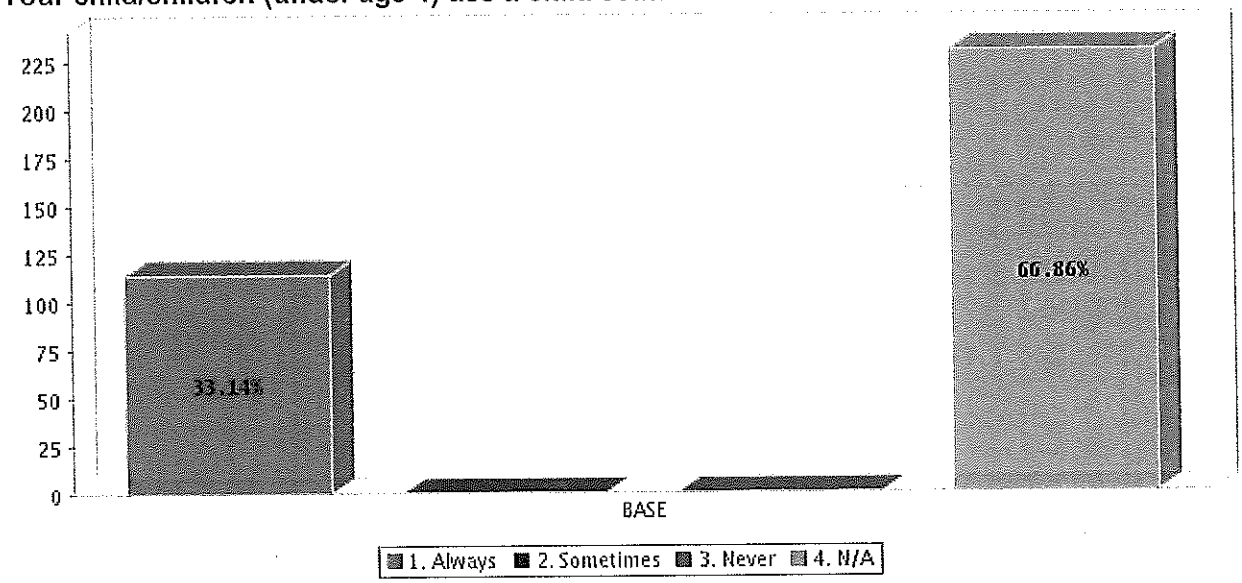


1. You wear a seat belt:
2. Your child/children (under age 4) use a child seat
3. Your child/children (age 4 or older) use a seat be
4. You wear a helmet when riding a bicycle, rollerbla
5. You wear a helmet when riding a motor scooter, ATV
6. You drive the posted speed limit:
7. You eat at least 3 servings of fruits and vegetabl
8. You eat fast food more than once a week:
9. You exercise at a moderate pace at least 30 minute
10. You consume more than 3 alcoholic drinks per day (
11. You smoke cigarettes:
12. You use chewing tobacco:
13. You text while driving a motor vehicle:
14. You are exposed to secondhand smoke in your home o
15. You use illegal drugs (marijuana, cocaine, methamp
16. You perform self-exams for cancer (breast or testi
17. You wash your hands with soap and water after usin
18. You wash your hands with soap and water before pre
19. You apply sunscreen before planned time outside:
20. You get a flu shot each year:
21. You get enough sleep each night (7-9 hours):
22. You feel stressed out:
23. You feel happy about your life:
24. You feel lonely:
25. You worry about losing your job:
26. You feel safe in your community:
27. You practice safe sex (condom, abstinence or other

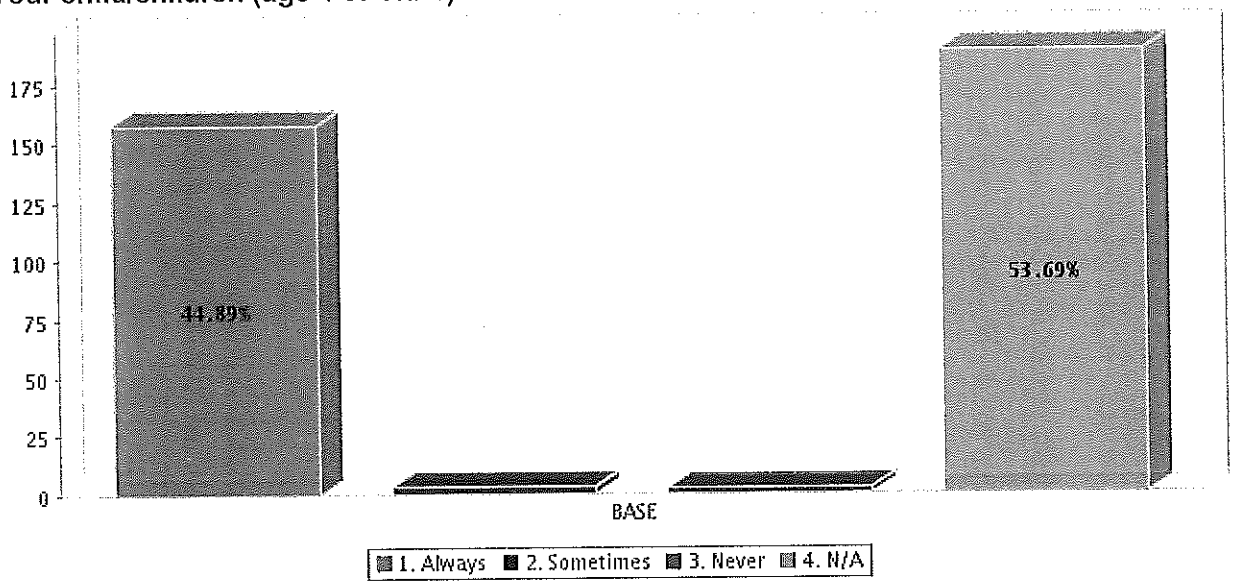
You wear a seat belt:



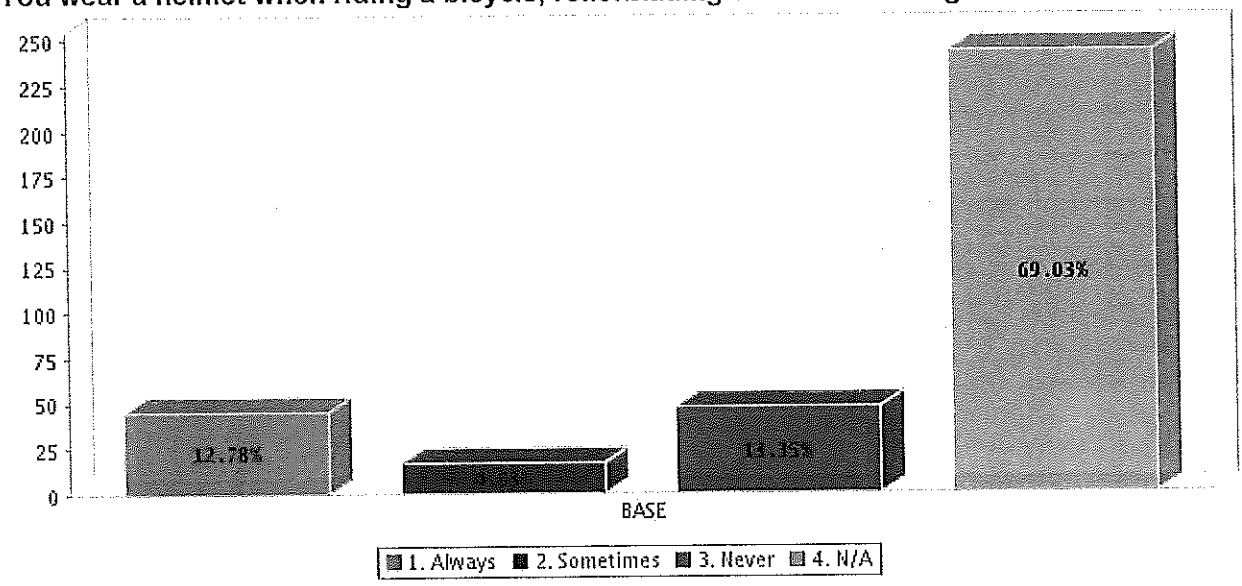
Your child/children (under age 4) use a child seat:



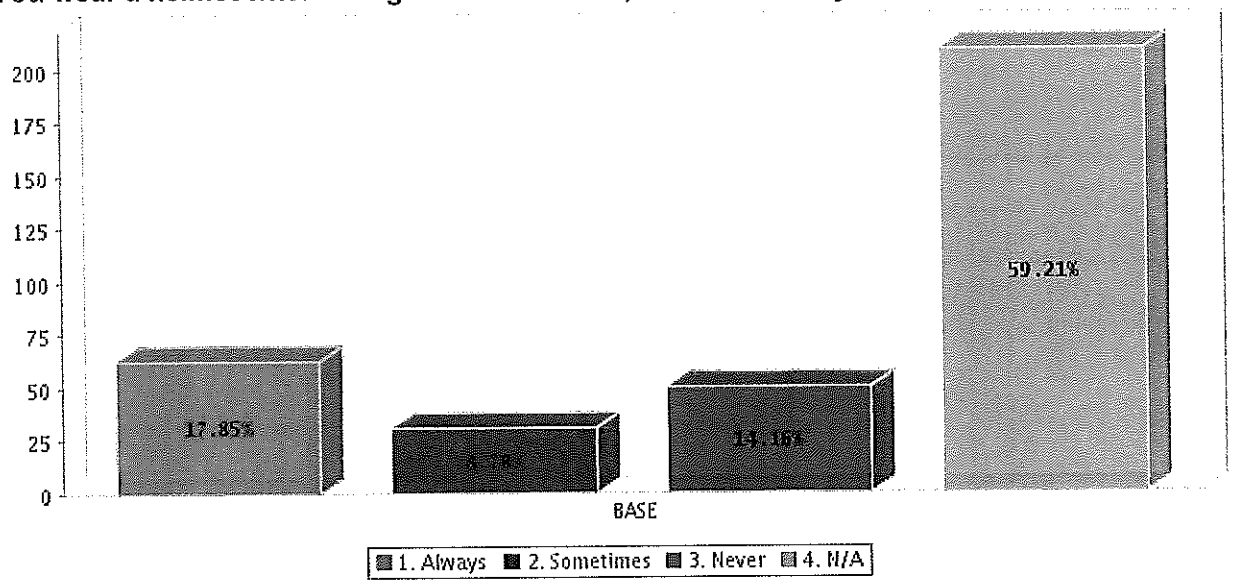
Your child/children (age 4 or older) use a seat belt:



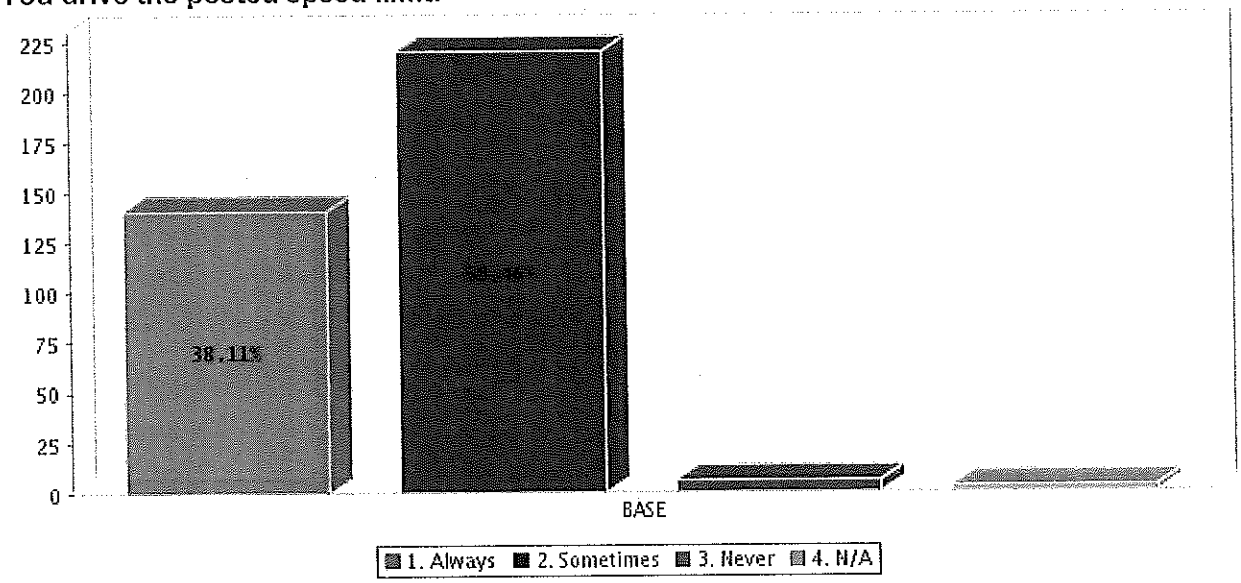
You wear a helmet when riding a bicycle, rollerblading or skateboarding:



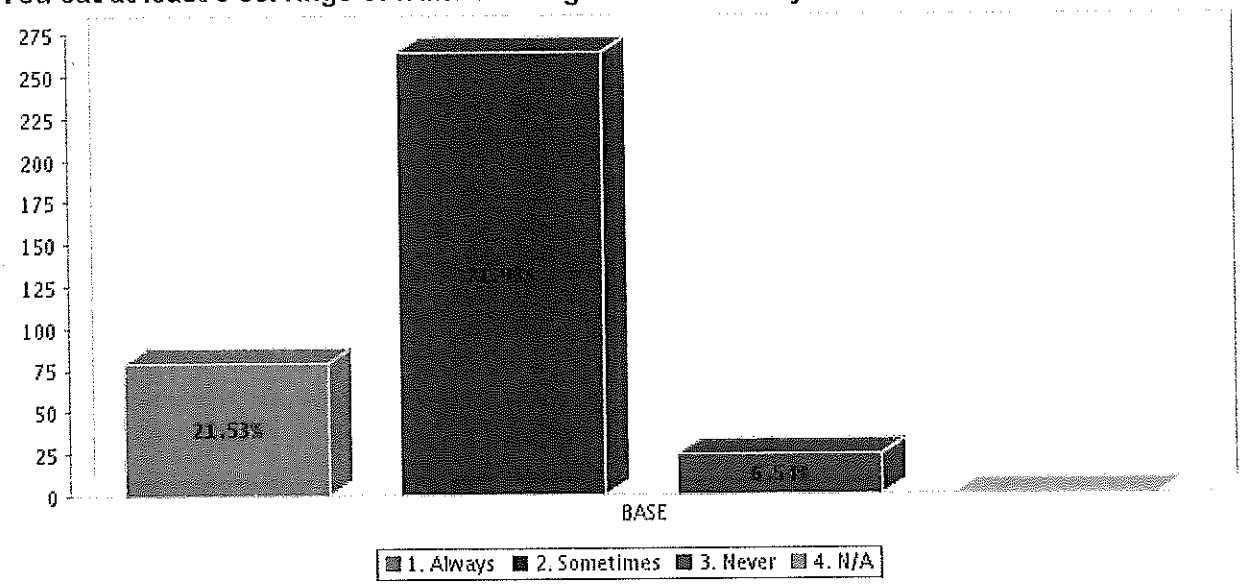
You wear a helmet when riding a motor scooter, ATV or motorcycle:



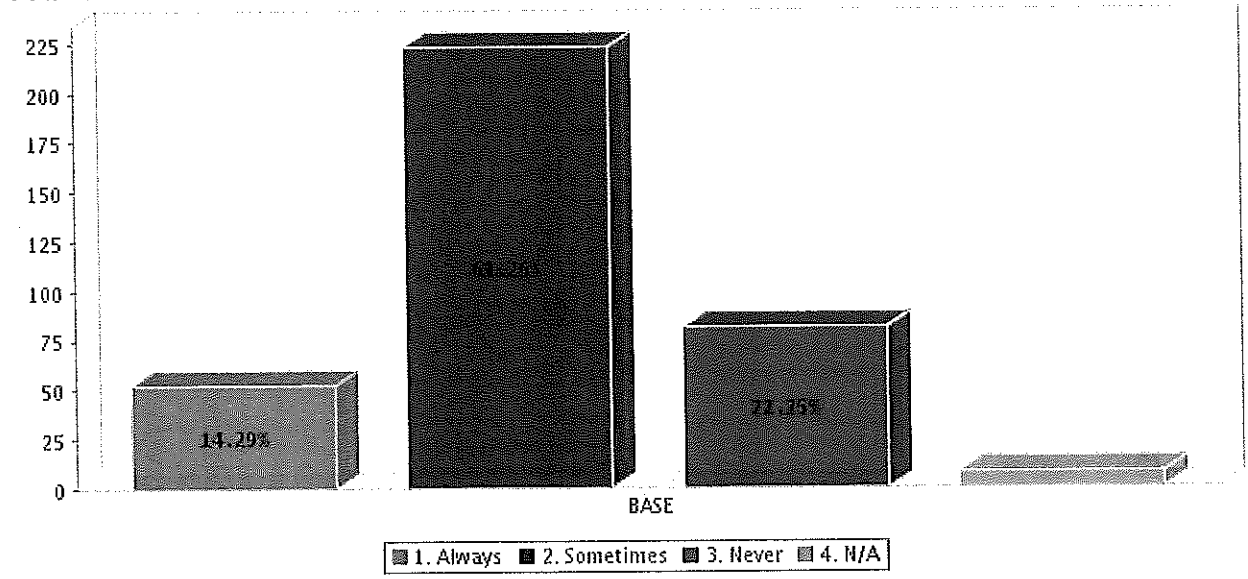
You drive the posted speed limit:



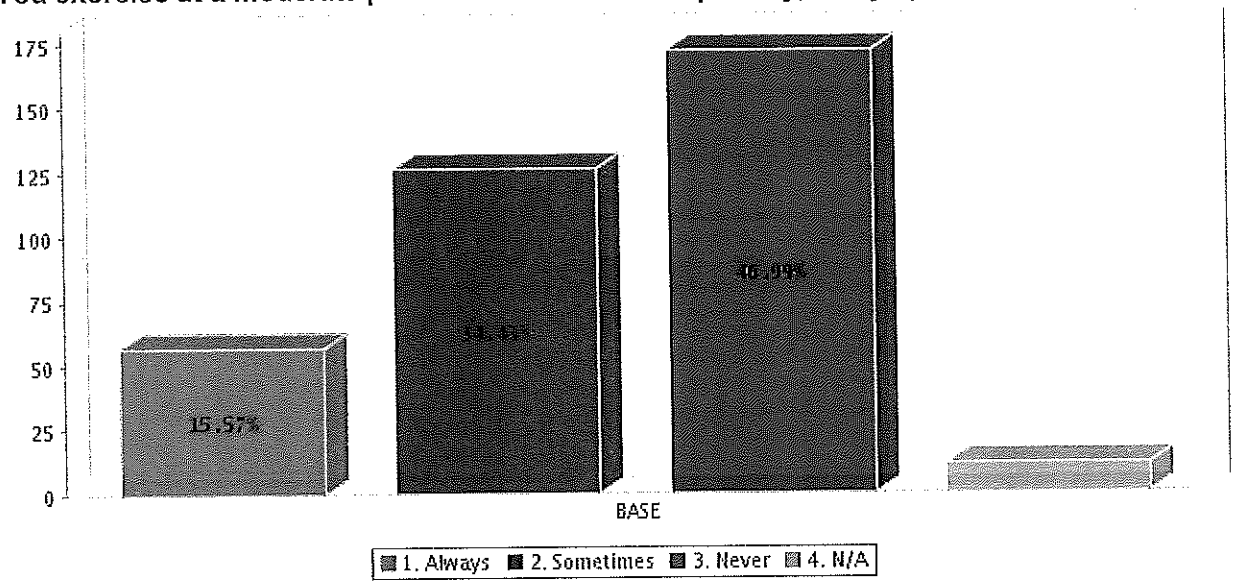
You eat at least 3 servings of fruits and vegetables each day:



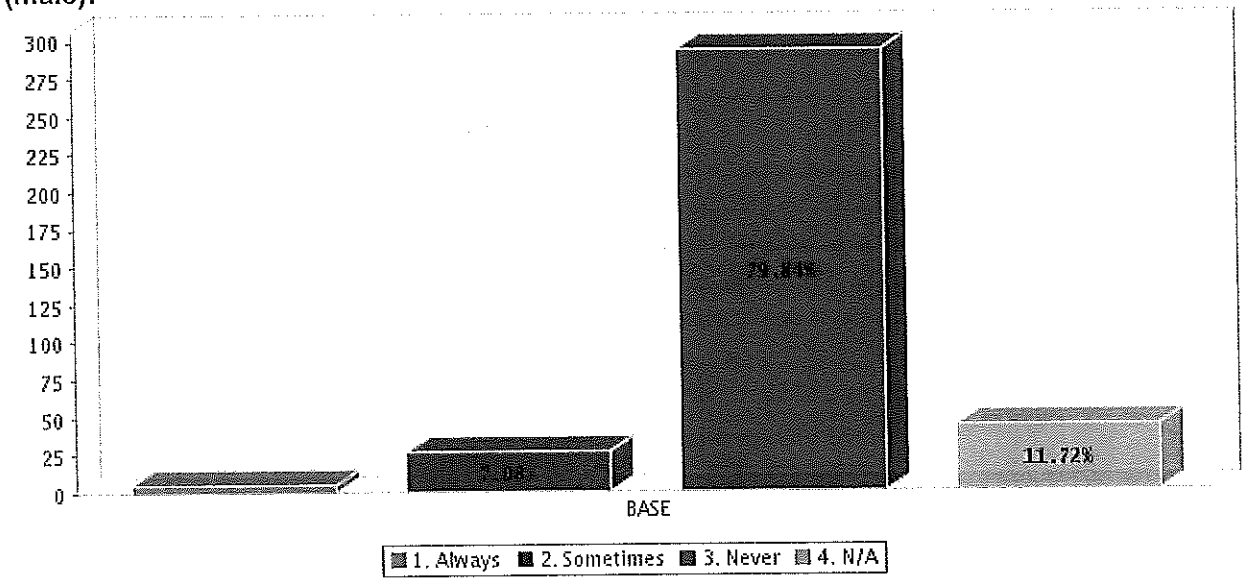
You eat fast food more than once a week:



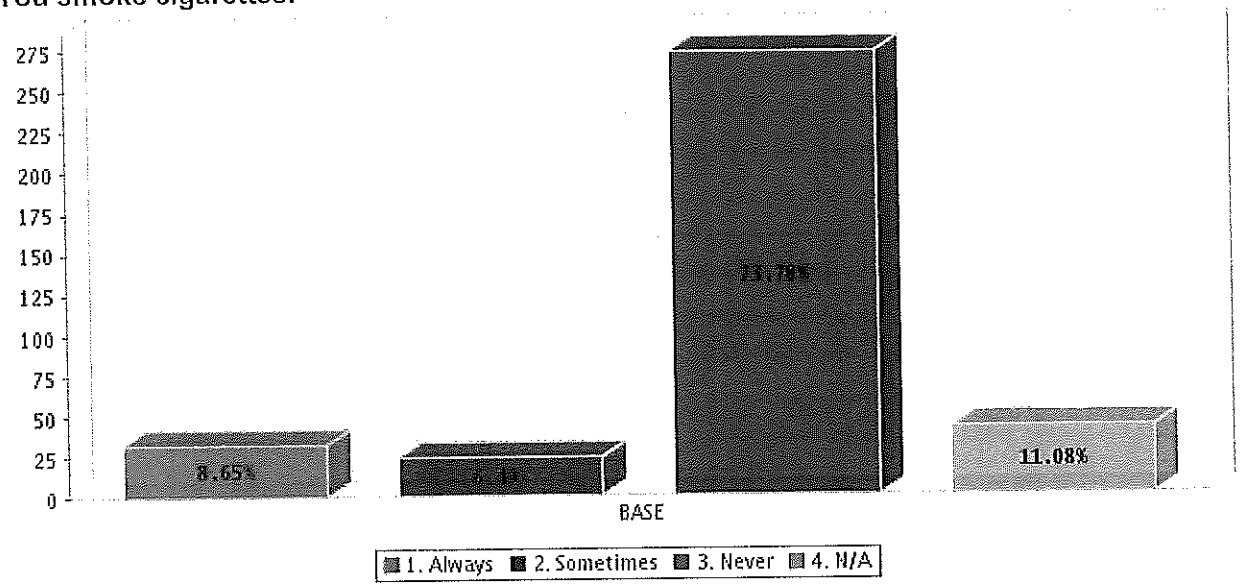
You exercise at a moderate pace at least 30 minutes per day, 5 days per week:



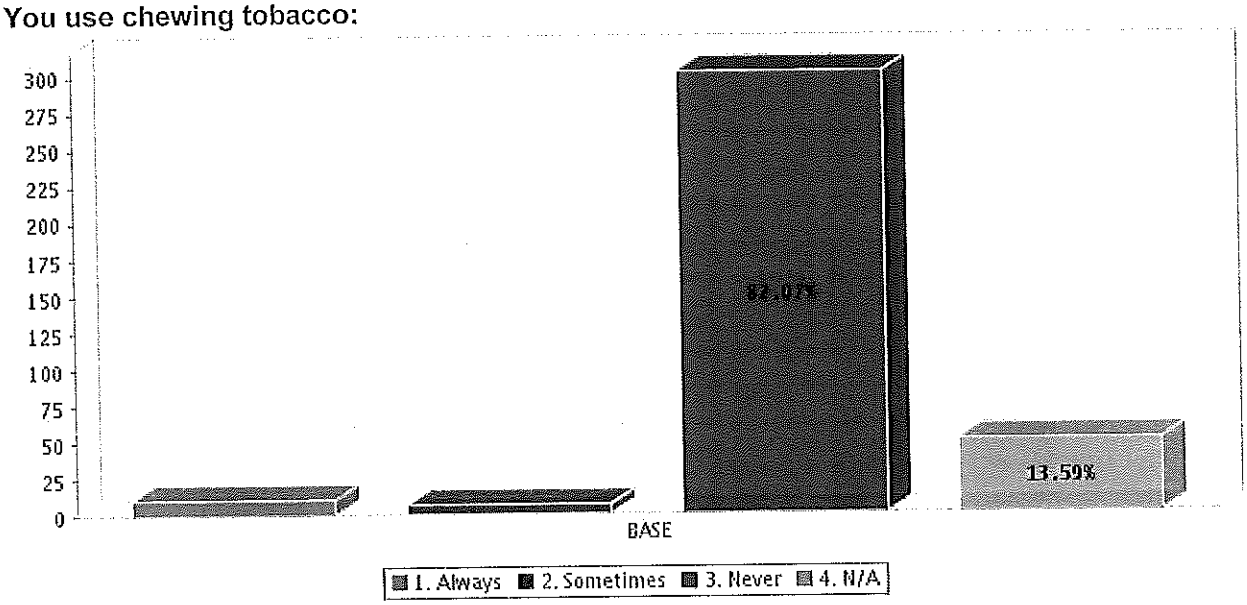
You consume more than 3 alcoholic drinks per day (female) or more than 5 per day (male):



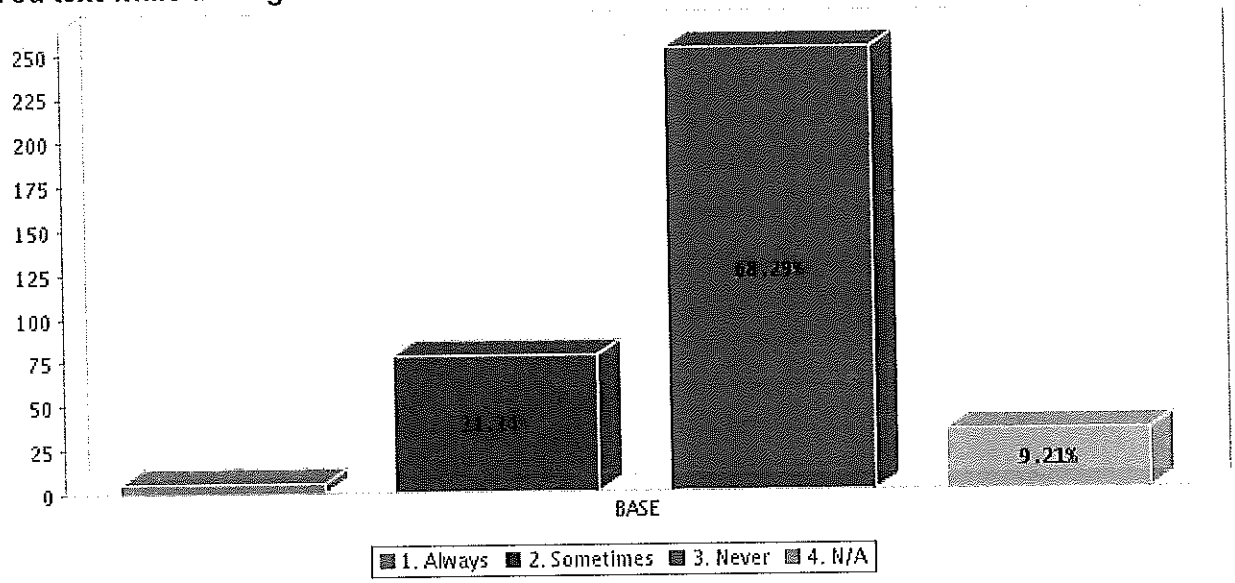
You smoke cigarettes:



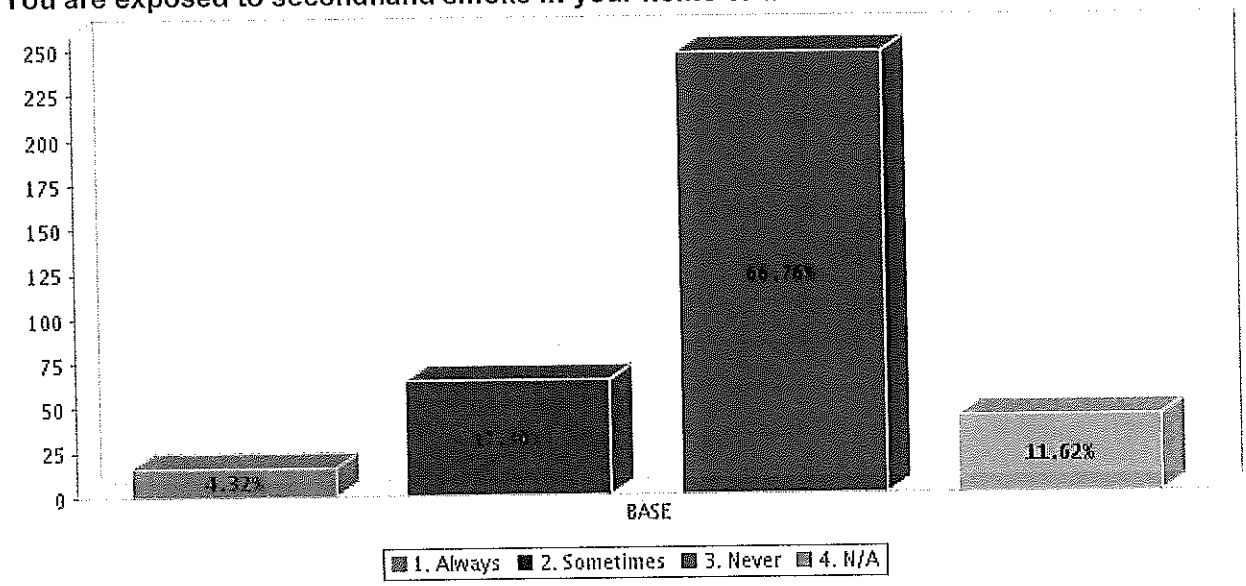
You use chewing tobacco:



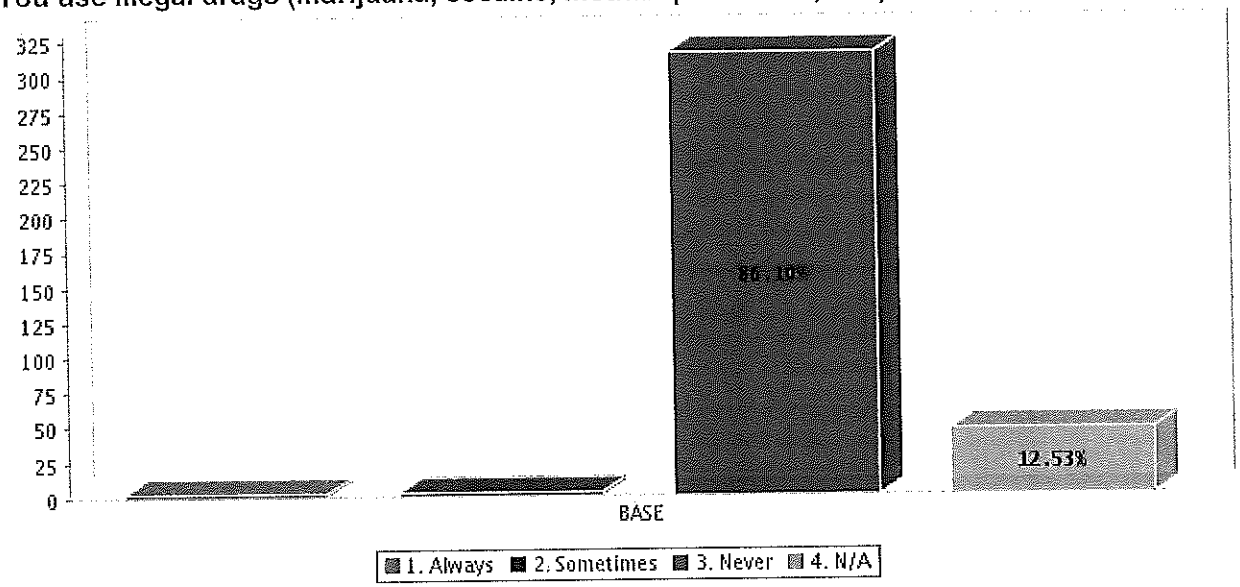
You text while driving a motor vehicle:



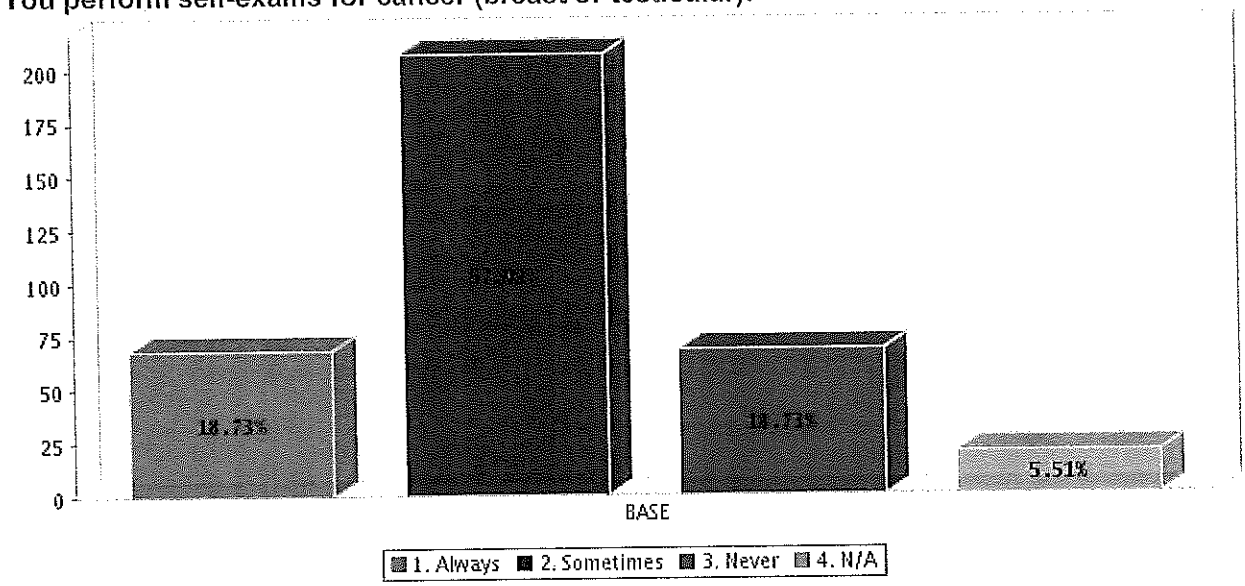
You are exposed to secondhand smoke in your home or at work:



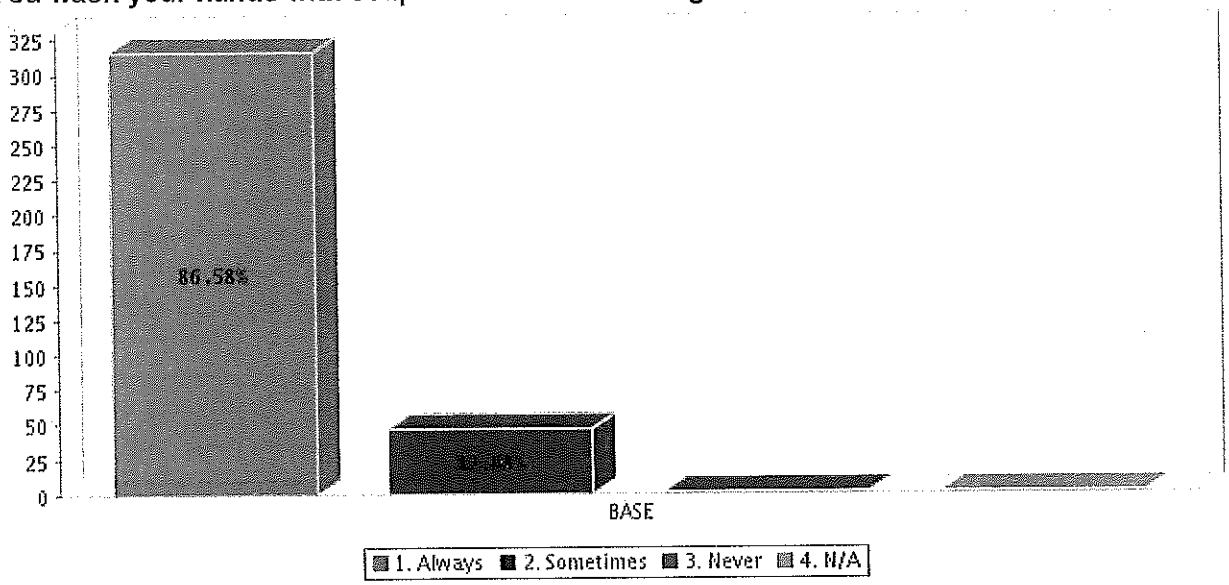
You use illegal drugs (marijuana, cocaine, methamphetamine, etc.):



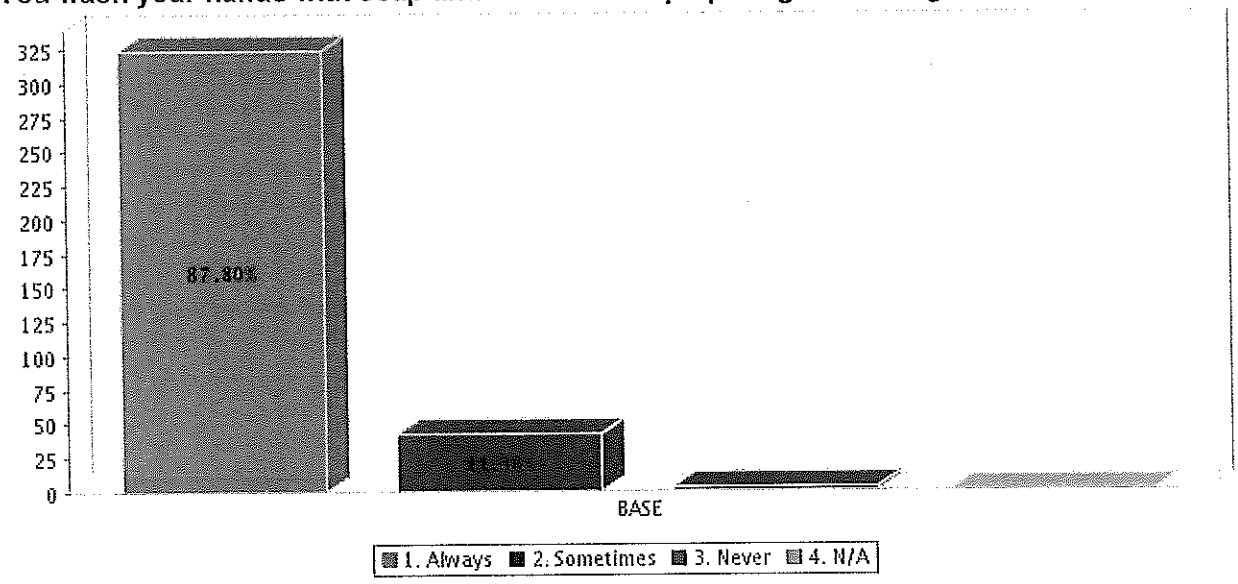
You perform self-exams for cancer (breast or testicular):



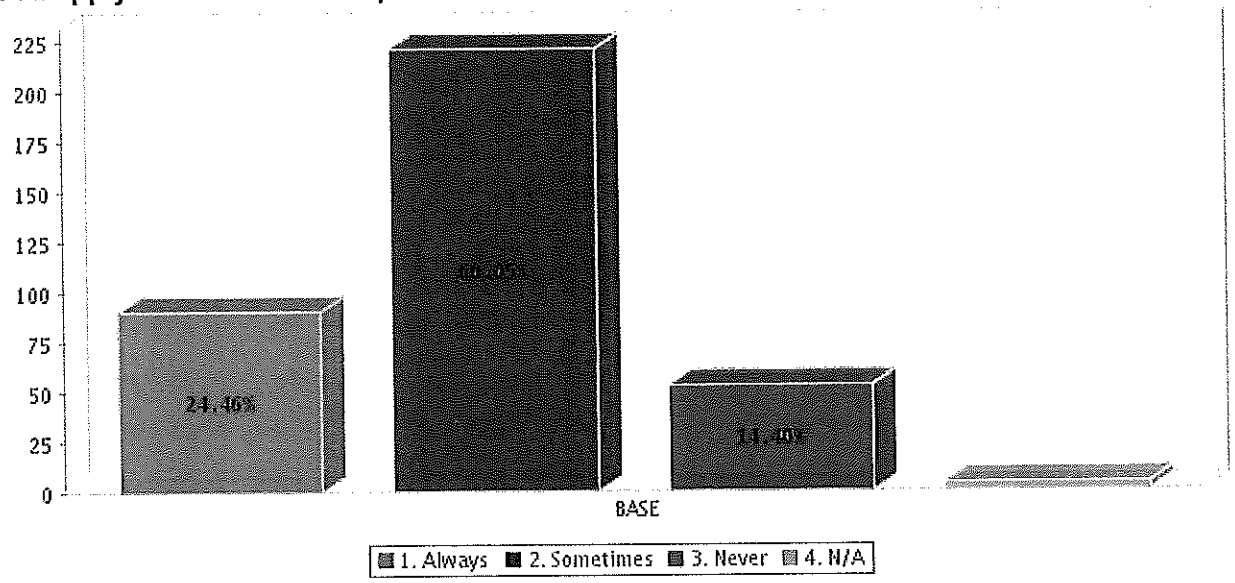
You wash your hands with soap and water after using the restroom:



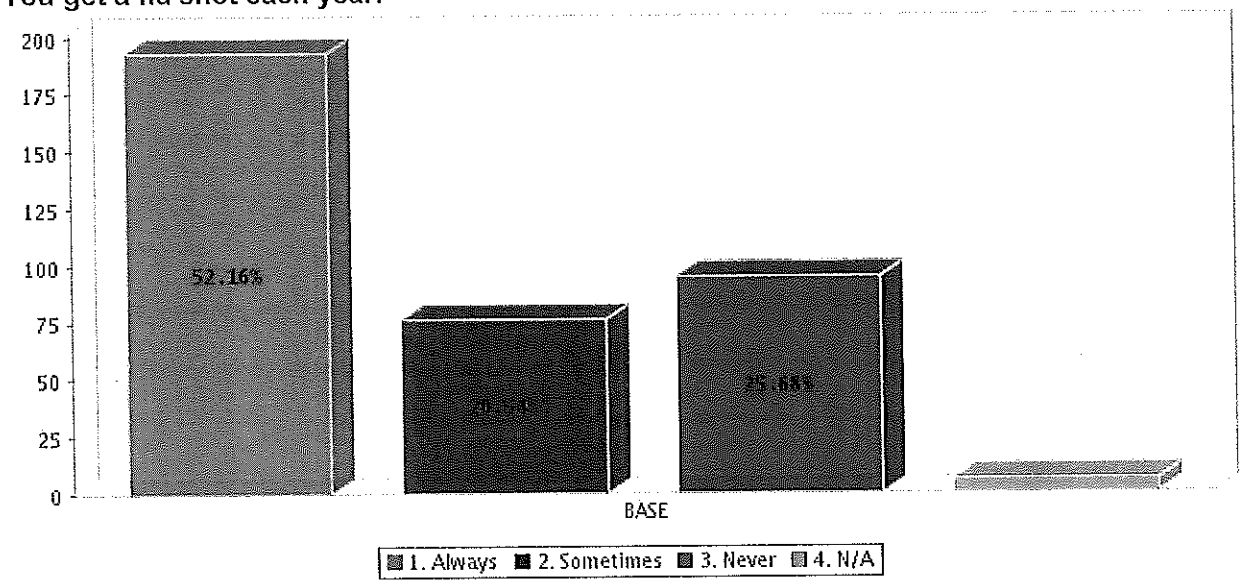
You wash your hands with soap and water before preparing and eating meals:



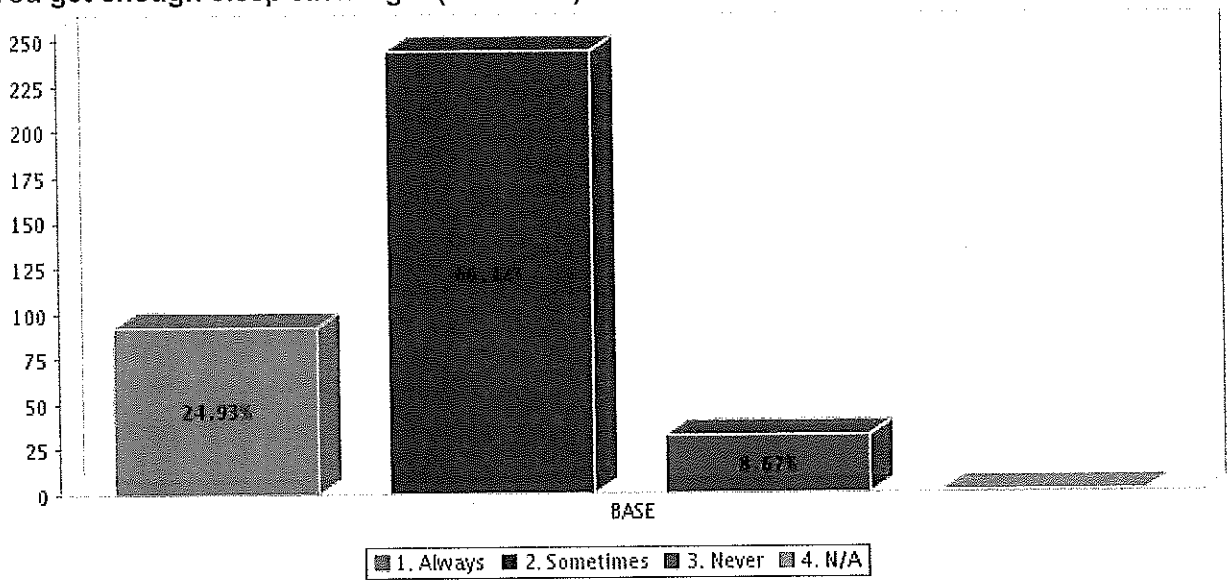
You apply sunscreen before planned time outside:



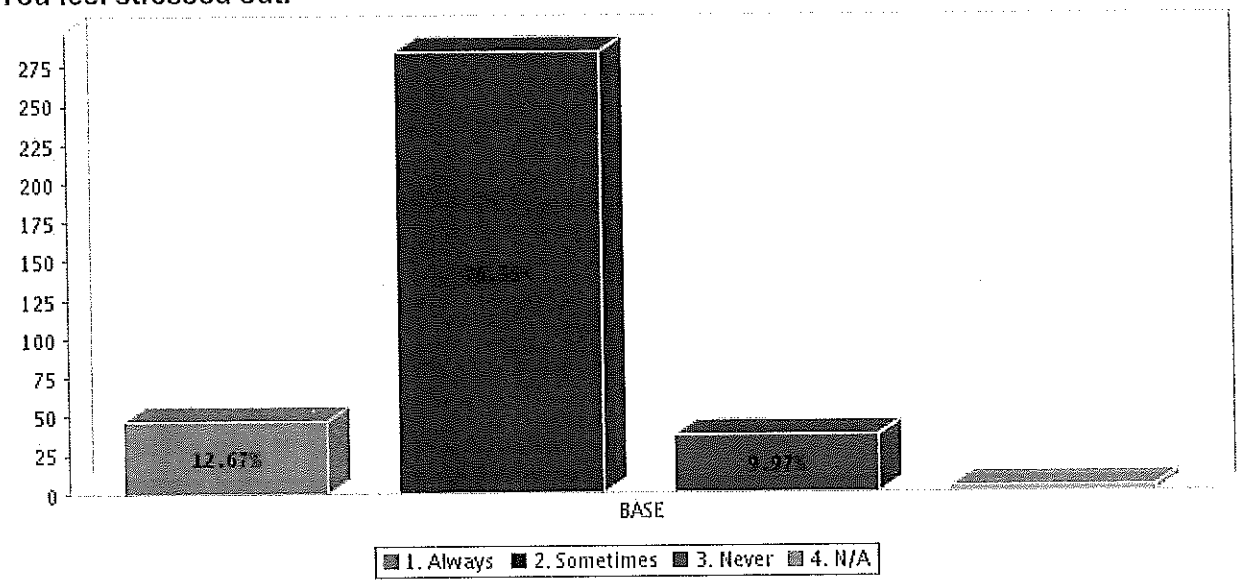
You get a flu shot each year:



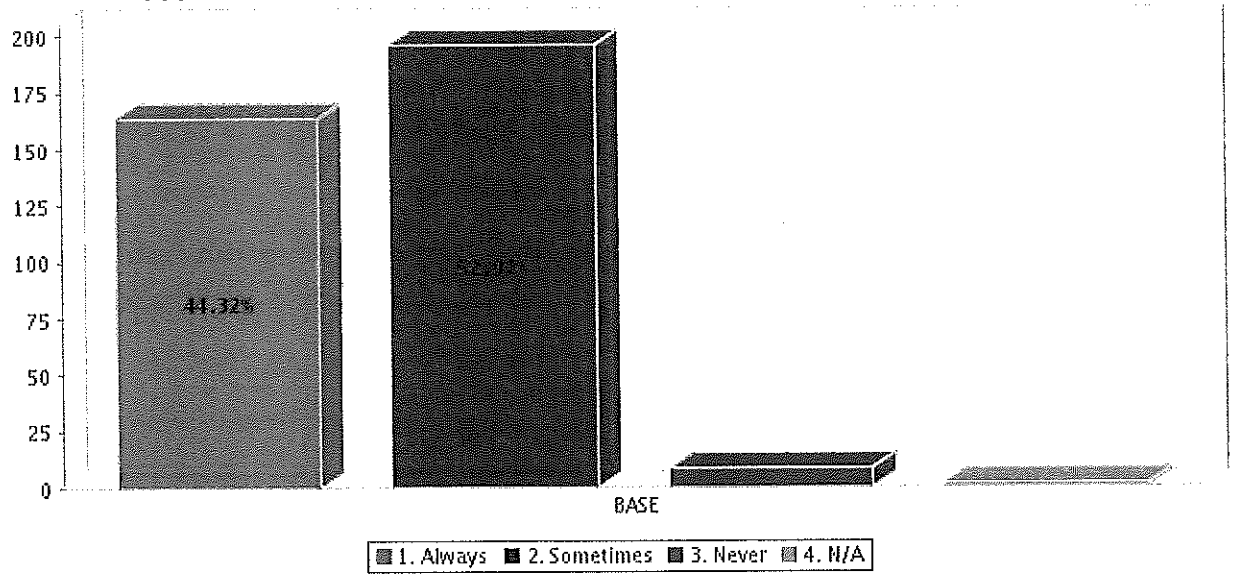
You get enough sleep each night (7-9 hours):



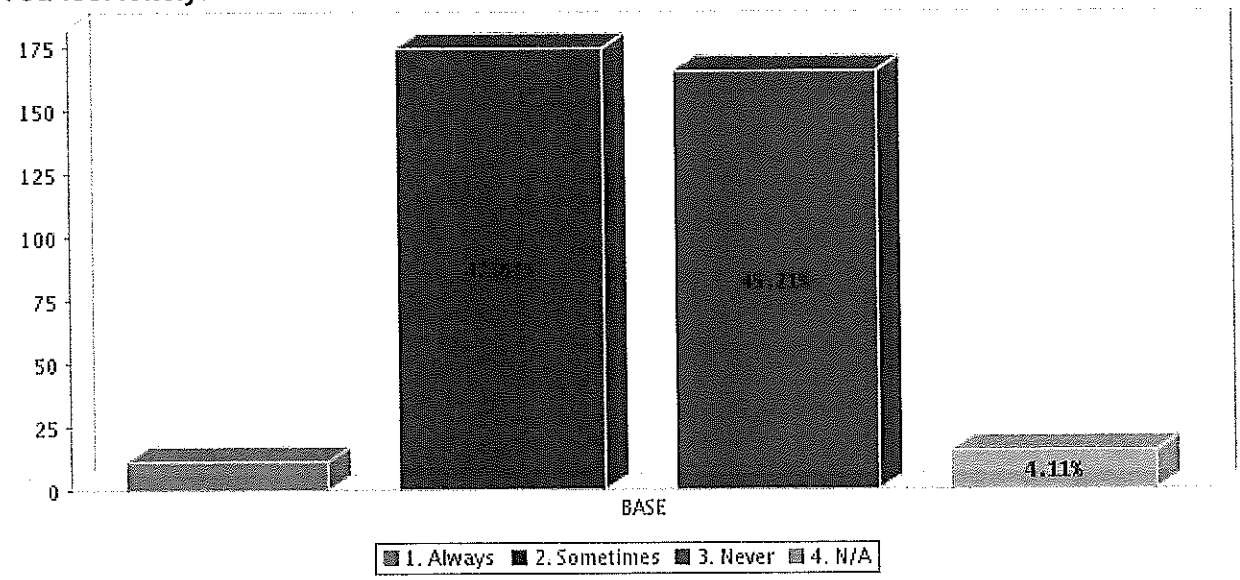
You feel stressed out:



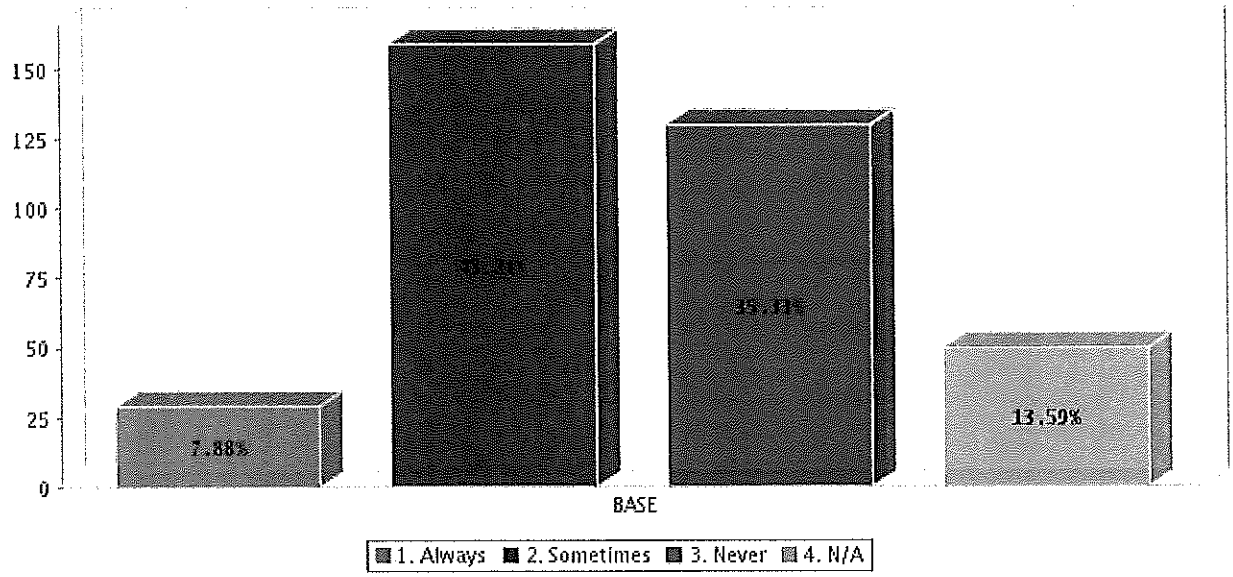
You feel happy about your life:



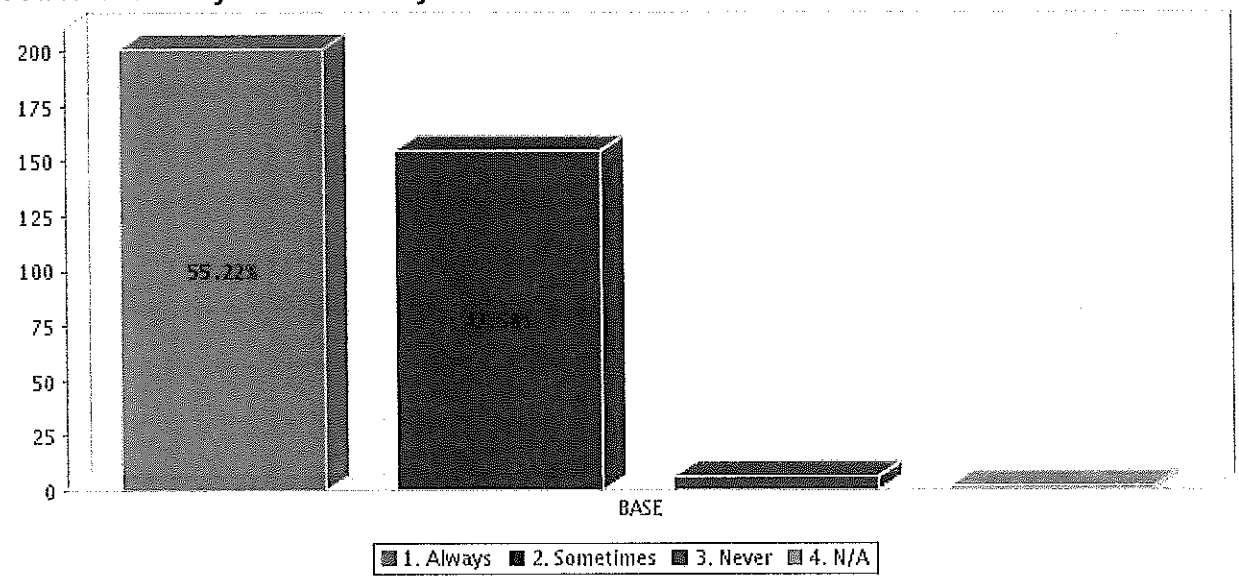
You feel lonely:



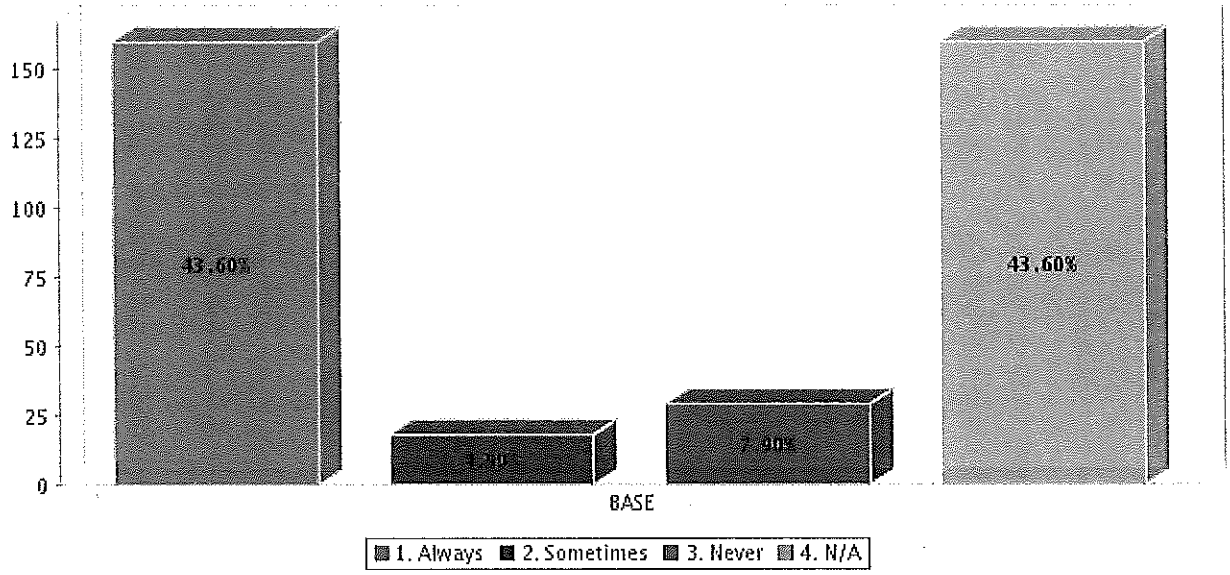
You worry about losing your job:



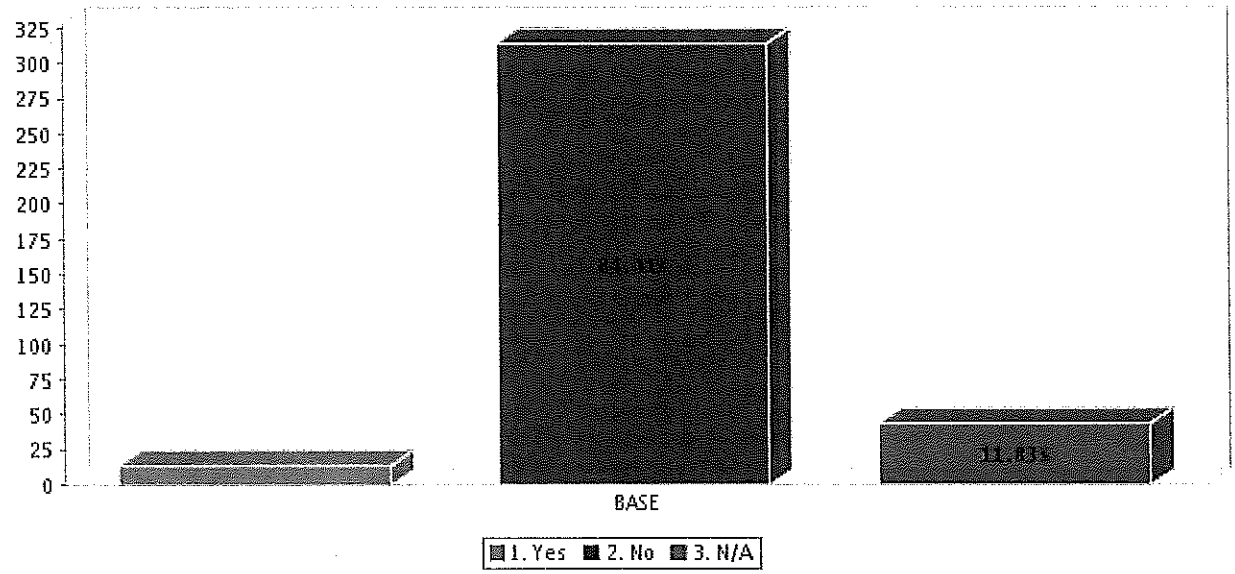
You feel safe in your community:



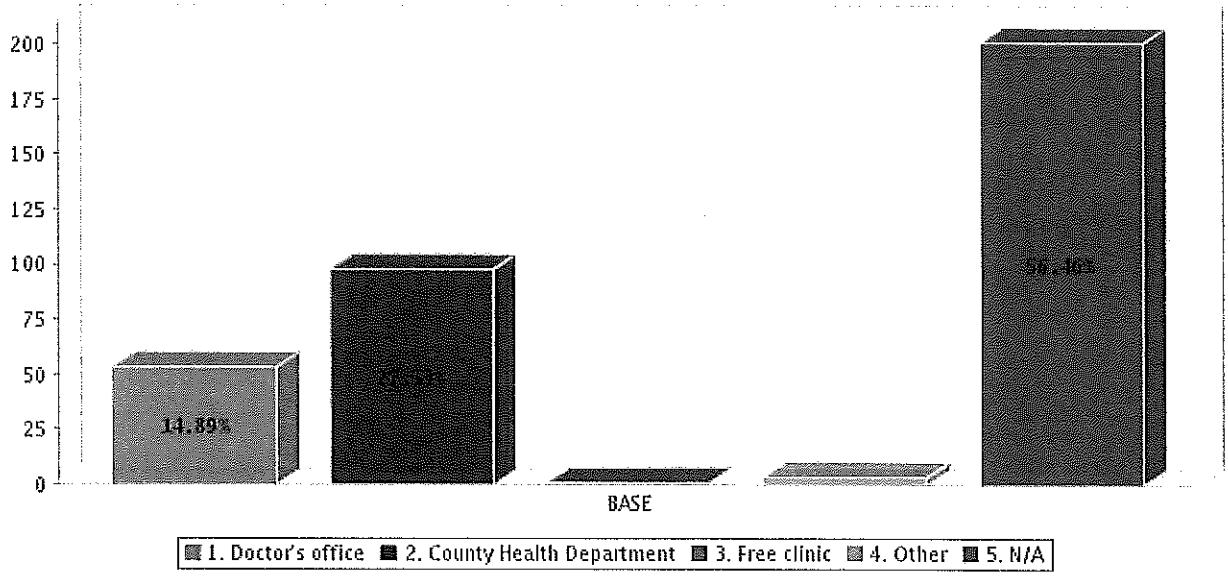
You practice safe sex (condom, abstinence or other barrier method, etc.):



Does domestic violence impact your life?



If you have children, what is your primary resource for obtaining childhood immunizations?



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