

# Community Health Needs Assessment

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Epidemiologic and Socio-Demographic Analysis

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# I. METHODOLOGY

# Scope of Analysis

- 1. Demographics**
- 2. Socio-Economic Characteristics**
- 3. Preventive Health Measures**
- 4. Health Outcomes**
- 5. Health Care Resources**
- 6. Other Key Indicators**

# Concept of Relative Risk Analysis

- The relative risk or relative rate (RR) is a comparison of the risk (or rate) of a particular event for different groups of people. For this CHNA, RR calculations compare the rate of a particular demographic characteristic, health condition, health behavior, cause of death, or other statistic among the population of a county vs.:
  - The state of Missouri as a whole
  - The US as a whole
  - Healthy People 2020 goals, where applicable
- For example, if the rate of death due to chronic lower respiratory conditions is 34.8/100,000 for Cape Girardeau County, 21.7/100,000 for Missouri, and 42.1/100,000 for the US, the relative rate of mortality for this condition in Cape Girardeau County is:
  - 160% of the Missouri rate ( $34.8/21.7 = 160\%$  or 1.6 times as much)
  - 83% of the US rate ( $34.8/42.1 = 83\%$  or 0.8 times as much)
- In this report, relative risks or relative rates that are higher than 120% are indicated by **red font**; those that are below 80% are indicated by **blue font**; those that are in the range of 80%-120% are in black font.
- Relative risks or relative rates need to be interpreted in context: high RRs may reflect positive achievements or they may reflect challenges; the same applies to low RRs. In many cases, there is no value judgment associated with a high or low RR; it simply provides a consistent measure of comparison.



## II. DEMOGRAPHICS

# Demographics: Findings and Implications

- The overall direction of demographic shifts anticipated in the next ten years highlights the need for the development and reinforcement of social supports that will help the population remain economically vital and facilitate safe aging in place.
  - Slow population growth vs. MO or US
  - Greater concentration in Cape Girardeau County
  - Static or declining population in outlying counties
  - Greatest growth segment in senior years, ages 65+
  - Fairly low diversity levels (~90%+ in each county classified as White), but rapid projected increases for African-American and Asian-American segment (from a small base) and slow growth of relatively small Hispanic/Latino population
  - Increasing dependency ratio (number of individuals relying on each employment-eligible individual for support), putting greater pressure on the 45-64 segment as it moves toward potential retirement age
  - More pressing need for social supports, in light of the growing dependency ratio as well as the percentage of the population living on their own, outside a coupled/partnered relationship – about 55% overall and 69% among seniors

# Demographics: Topics Addressed

- **Population change**
- **Age distribution**
- **Race**
- **Ethnicity**
- **Gender**
- **Marital status**
- **Household composition**
- **Religious affiliation**



# Demographics: Population Change

- In the next 10 years, the population of the Primary market area will increase by 4% (less than MO or US as a whole), largely due to a 7% net increase in Cape Girardeau County.
- The Reynolds County population will decrease by 2%; Ripley County will grow by 1%.
- Beyond 2025, projected population growth is minimal.

Year	Total Population							For Comparison	
	Market Areas							MO	US
	Primary	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley		
<b>Projected Population</b>									
2010	156,611	12,260	74,106	40,646	29,599	6,495	13,715	5,979,344	308,745,538
2015	159,701	12,403	76,997	40,797	29,504	6,447	13,887	6,184,390	322,365,787
2020	162,793	12,555	79,916	40,948	29,374	6,389	14,003	6,389,850	335,804,546
2025	165,442	12,683	82,551	41,022	29,186	6,332	14,024	6,580,868	349,439,199
2030	167,466	12,805	84,612	41,076	28,973	6,285	14,008	6,746,762	363,584,435
<b>Projected % Change</b>									
2010-2015	2%	1%	4%	0%	0%	-1%	1%	3%	4%
2015-2020	2%	1%	4%	0%	0%	-1%	1%	3%	4%
2020-2025	2%	1%	3%	0%	-1%	-1%	0%	3%	4%
2025-2030	1%	1%	2%	0%	-1%	-1%	0%	3%	4%
<b>Total Change, Next 10 Years</b>									
2015-2025	4%	2%	7%	1%	-1%	-2%	1%	6%	8%



# Demographics: Age Distribution – Subtotals

- The greatest growth from 2015 to 2025 will be in the senior population, with growth rates ranging from +12% to +40% for the age 65-74 segment, and +20% to +36% for seniors age 75+, in the six counties.
- Relative to the state of Missouri as a whole:
  - The midlife or “sandwich generation” population, age 45-64, is contracting (getting smaller) even more rapidly than the state average in all market area counties except Ripley.
  - In all six counties, one or more of the age groups under age 45 is growing considerably more slowly than the state average (or even declining despite growth across the state as a whole).
  - While the market area senior population is growing faster than other age groups, the growth rate for seniors also falls beneath the state average, with the exception of Cape Girardeau County, the largest of the market area counties.

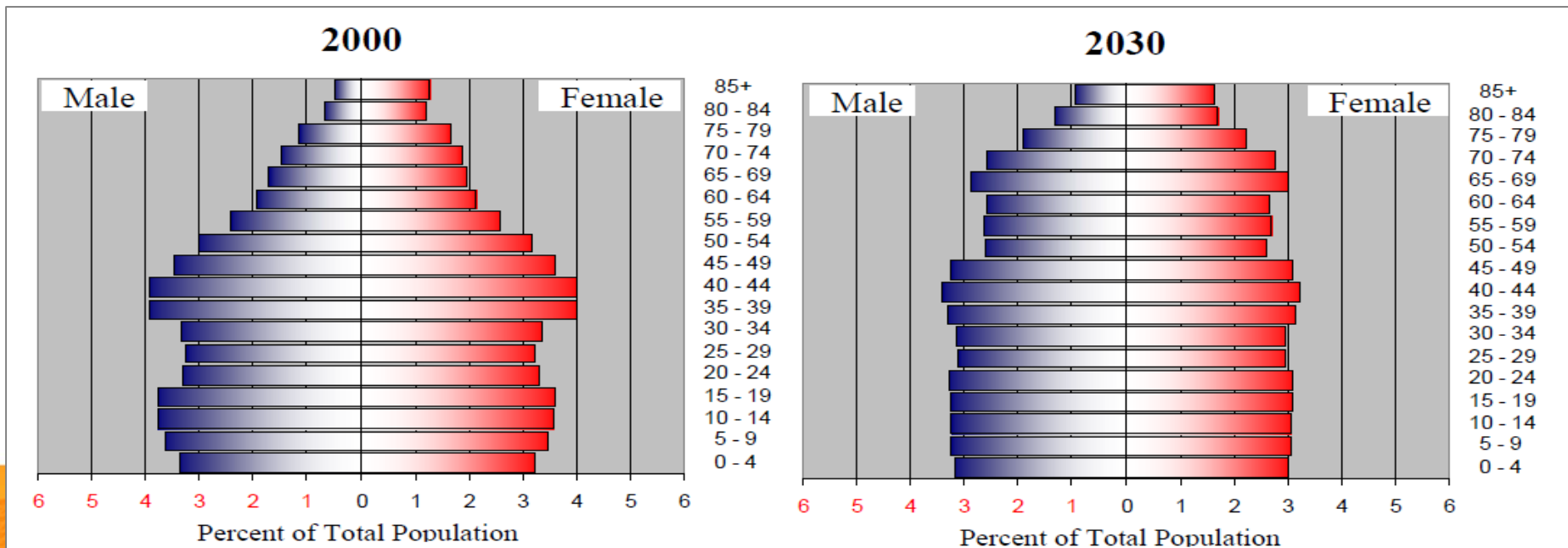
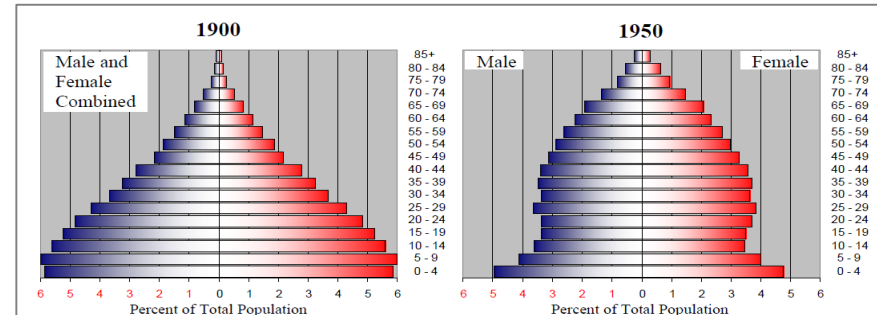
Age	Bollinger			Cape Girardeau			Scott			Stoddard			Reynolds			Ripley			Missouri (Total)		
	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng
0-14	2,485	2,516	1%	13,201	13,998	6%	8,636	8,437	-2%	5,524	5,302	-4%	1,170	1,120	-4%	2,565	2,407	-6%	1,205,047	1,261,450	5%
15-24	1,506	1,515	1%	12,931	12,883	0%	5,261	5,090	-3%	3,583	3,603	1%	719	728	1%	1,487	1,465	-1%	833,672	842,431	1%
25-44	2,932	3,002	2%	19,237	21,005	9%	9,789	9,769	0%	6,862	6,692	-2%	1,397	1,362	-3%	3,144	2,980	-5%	1,603,380	1,714,772	7%
45-64	3,542	3,209	-9%	19,320	17,633	-9%	10,399	9,340	-10%	7,648	6,781	-11%	1,929	1,638	-15%	4,130	3,957	-4%	1,606,312	1,507,281	-6%
65-74	1,217	1,547	27%	6,458	9,066	40%	3,973	4,675	18%	3,088	3,454	12%	806	947	17%	1,555	1,999	29%	528,138	704,985	33%
75+	721	894	24%	5,850	7,966	36%	2,739	3,711	35%	2,799	3,354	20%	426	537	26%	1,006	1,216	21%	407,841	549,949	35%
<b>Total</b>	<b>12,403</b>	<b>12,683</b>	<b>2.3%</b>	<b>76,997</b>	<b>82,551</b>	<b>7.2%</b>	<b>40,797</b>	<b>41,022</b>	<b>0.6%</b>	<b>29,504</b>	<b>29,186</b>	<b>-1.1%</b>	<b>6,447</b>	<b>6,332</b>	<b>-1.8%</b>	<b>13,887</b>	<b>14,024</b>	<b>1.0%</b>	<b>6,184,390</b>	<b>6,580,868</b>	<b>6.4%</b>
<b>Percentage of Total</b>																					
0-14	20%	20%		17%	17%		21%	21%		19%	18%		18%	18%		18%	17%		19%	19%	
15-24	12%	12%		17%	16%		13%	12%		12%	12%		11%	11%		11%	10%		13%	13%	
25-44	24%	24%		25%	25%		24%	24%		23%	23%		22%	22%		23%	21%		26%	26%	
45-64	29%	25%		25%	21%		25%	23%		26%	23%		30%	26%		30%	28%		26%	23%	
65-74	10%	12%		8%	11%		10%	11%		10%	12%		13%	15%		11%	14%		9%	11%	
75+	6%	7%		8%	10%		7%	9%		9%	11%		7%	8%		7%	9%		7%	8%	
<b>Total</b>	<b>100%</b>	<b>100%</b>		<b>100%</b>	<b>100%</b>		<b>100%</b>	<b>100%</b>		<b>100%</b>	<b>100%</b>		<b>100%</b>	<b>100%</b>		<b>100%</b>	<b>100%</b>		<b>100%</b>	<b>100%</b>	

# Demographics: Age Distribution – Detail *(for reference)*

Age	Bollinger			Cape Girardeau			Scott			Stoddard			Reynolds			Ripley			Missouri (Total)		
	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng
0-4	824	770	-7%	4,466	4,752	6%	2,875	2,703	-6%	1,764	1,633	-7%	376	349	-7%	900	752	-16%	406,994	418,296	3%
5-9	834	855	3%	4,365	4,774	9%	2,884	2,854	-1%	1,856	1,775	-4%	400	377	-6%	852	799	-6%	401,219	426,060	6%
10-14	827	891	8%	4,370	4,472	2%	2,877	2,880	0%	1,904	1,894	-1%	394	394	0%	813	856	5%	396,834	417,094	5%
15-19	764	827	8%	5,483	5,605	2%	2,671	2,694	1%	1,856	1,935	4%	395	404	2%	750	814	9%	398,044	415,361	4%
20-24	742	688	-7%	7,448	7,278	-2%	2,590	2,396	-7%	1,727	1,668	-3%	324	324	0%	737	651	-12%	435,628	427,070	-2%
25-29	789	630	-20%	5,530	4,890	-12%	2,593	2,269	-12%	1,704	1,477	-13%	348	307	-12%	762	577	-24%	429,251	398,004	-7%
30-34	752	739	-2%	5,212	5,319	2%	2,503	2,515	0%	1,855	1,624	-12%	398	321	-19%	788	716	-9%	429,960	434,506	1%
35-39	641	837	31%	3,888	5,533	42%	2,268	2,570	13%	1,609	1,753	9%	278	353	27%	722	837	16%	363,554	448,675	23%
40-44	750	796	6%	4,607	5,263	14%	2,425	2,415	0%	1,694	1,838	9%	373	381	2%	872	850	-3%	380,615	433,587	14%
45-49	801	672	-16%	4,472	3,962	-11%	2,458	2,166	-12%	1,749	1,537	-12%	362	281	-22%	836	786	-6%	379,550	359,163	-5%
50-54	947	769	-19%	5,098	4,537	-11%	2,791	2,280	-18%	2,092	1,610	-23%	465	415	-11%	1,141	987	-13%	437,218	369,838	-15%
55-59	931	818	-12%	5,077	4,292	-15%	2,666	2,291	-14%	1,993	1,664	-17%	550	427	-22%	1,133	936	-17%	424,444	364,232	-14%
60-64	863	950	10%	4,673	4,842	4%	2,484	2,603	5%	1,814	1,970	9%	552	515	-7%	1,020	1,248	22%	365,100	414,048	13%
65-69	718	858	19%	3,656	4,766	30%	2,267	2,472	9%	1,703	1,836	8%	450	522	16%	890	1,141	28%	303,316	388,945	28%
70-74	499	689	38%	2,802	4,300	53%	1,706	2,203	29%	1,385	1,618	17%	356	425	19%	665	858	29%	224,822	316,040	41%
75-79	347	466	34%	2,122	3,278	54%	1,207	1,792	48%	1,168	1,429	22%	215	272	27%	486	605	24%	161,701	242,350	50%
80-84	203	242	19%	1,766	2,374	34%	776	1,062	37%	842	985	17%	119	159	34%	278	341	23%	120,971	159,760	32%
85+	171	186	9%	1,962	2,314	18%	756	857	13%	789	940	19%	92	106	15%	242	270	12%	125,169	147,839	18%
<b>Total</b>	<b>12,403</b>	<b>12,683</b>	<b>2.3%</b>	<b>76,997</b>	<b>82,551</b>	<b>7.2%</b>	<b>40,797</b>	<b>41,022</b>	<b>0.6%</b>	<b>29,504</b>	<b>29,186</b>	<b>-1.1%</b>	<b>6,447</b>	<b>6,332</b>	<b>-1.8%</b>	<b>13,887</b>	<b>14,024</b>	<b>1.0%</b>	<b>6,184,390</b>	<b>6,580,868</b>	<b>6.4%</b>

# Demographics: Flattening of the Age Pyramid –Total Missouri

- The flattening of the MO age pyramid by 2030 illustrates the growing dependency rate created by an expanding senior population and a contracting workforce-age population.
- Based on projected changes in population by age, the age pyramid for the SoutheastHEALTH market will flatten even more rapidly than for the state as a whole.



# Demographics: Dependency Ratio

- The dependency ratio in the US is calculated as the number of dependents (ages 0-14 and age 65 and over) to the total working-age population (aged 15-64).
- For this analysis, the ratio also has been calculated using the Canadian formula, which considers dependents as those under age 20 and age 65 and over, and the potential labor force population as those ages 20-64. This adjusts for the fact that most do not enter the full-time labor force until at least age 20.
- The worker/dependent ratio (w/d) is an indication of the number of potential workers per dependent.
- The US dependency ratio is currently 0.50, and is moving in the direction of fewer potential workers per dependent. The dependency ratio in Missouri, and in most counties in the market area, is currently lower (that is, more favorable) than the US average, but is projected to increase from 2015 to 2025, with fewer available potential workers per dependent (see negative percentage change for w/d ratio).

Dependency Ratio and Workers/Dependents

Age	Bollinger			Cape Girardeau			Scott			Stoddard			Reynolds			Ripley			Missouri (Total)		
	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng	2015	2025	% Chng
<b>US Formula</b>																					
ratio	0.45	0.53	17%	0.41	0.52	26%	0.49	0.58	18%	0.53	0.60	14%	0.50	0.59	19%	0.49	0.57	15%	0.43	0.52	20%
w/d	2.22	1.90	-14%	2.44	1.94	-20%	2.04	1.74	-15%	1.90	1.67	-12%	2.01	1.69	-16%	2.03	1.76	-13%	2.32	1.94	-16%
<b>Canadian Formula</b>																					
ratio	0.72	0.84	17%	0.67	0.80	18%	0.79	0.91	15%	0.82	0.93	14%	0.77	0.90	18%	0.73	0.85	16%	0.70	0.80	15%
w/d	1.39	1.19	-14%	1.48	1.25	-16%	1.26	1.10	-13%	1.22	1.08	-12%	1.30	1.11	-15%	1.36	1.18	-14%	1.44	1.24	-13%

“In economics, geography and demography the dependency ratio is an age-population ratio of those typically not in the labor force (the dependent part) and those typically in the labor force (the productive part). It is used to measure the pressure on productive population.” Wikipedia

# Demographics: Gender

- Consistent with the state and US as a whole, the percentage of females is slightly higher than the percentage of males in most of the market area counties. This is generally attributed to women's higher longevity.

	Total Population by Sex								
	Market Areas							For Comparison	
	Primary	Bollinger	Cape G. Scott	Stoddard	Reynolds	Ripley	MO	US	
<b>Population by Sex, 2000</b>									
Male	72,810	6,079	33,132	19,320	14,279	3,371	6,556	2,875,034	138,053,563
Female	78,039	5,950	35,561	21,102	15,426	3,318	6,953	2,720,176	154,468,343
<b>Total</b>	<b>150,849</b>	<b>12,029</b>	<b>68,693</b>	<b>40,422</b>	<b>29,705</b>	<b>6,689</b>	<b>13,509</b>	<b>5,595,210</b>	<b>281,421,906</b>
<b>Population by Sex, 2010</b>									
Male	76,230	6,187	36,612	18,879	14,552	3,414	6,984	2,933,477	151,781,326
Female	80,966	6,176	39,062	20,312	15,416	3,282	7,116	3,055,450	156,964,212
<b>Total</b>	<b>157,196</b>	<b>12,363</b>	<b>75,674</b>	<b>39,191</b>	<b>29,968</b>	<b>6,696</b>	<b>14,100</b>	<b>5,988,927</b>	<b>308,745,538</b>
<b>Percent of Total, 2010</b>									
Male	48.5%	50.0%	48.4%	48.2%	48.6%	51.0%	49.5%	49.0%	49.2%
Female	51.5%	50.0%	51.6%	51.8%	51.4%	49.0%	50.5%	51.0%	50.8%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Percent Change, 2000-2010</b>									
Male	5%	2%	11%	-2%	2%	1%	7%	2%	10%
Female	4%	4%	10%	-4%	0%	-1%	2%	12%	2%
<b>Total</b>	<b>4%</b>	<b>3%</b>	<b>10%</b>	<b>-3%</b>	<b>1%</b>	<b>0%</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>

# Demographics: Race

- The market area population is considerably less diverse than that of MO or the US as a whole, with 90% White (Caucasian) in the Primary area, and 97% in Reynolds and Ripley Counties as of 2010.
- The market area is becoming more diverse, however, with faster growth rates than the state or US among the African-American and Asian-American populations between 2000 and 2010 in most counties.

	Total Population by Race								
	Market Areas							For Comparison	
	Primary	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>Population by Race, 2000</b>									
White alone	139,410	11,763	63,290	35,442	28,915	6,398	13,127	4,748,082	211,460,626
African-Am. alone	8,165	25	3,624	4,246	270	35	6	629,391	34,658,190
Asian alone	662	26	515	93	28	13	30	61,595	10,242,998
Native Am. alone	566	87	248	113	118	86	179	25,076	2,475,956
All Other/Multi.	2,046	128	1,016	528	374	157	167	131,066	22,584,136
<b>Total</b>	<b>150,849</b>	<b>12,029</b>	<b>68,693</b>	<b>40,422</b>	<b>29,705</b>	<b>6,689</b>	<b>13,509</b>	<b>5,595,210</b>	<b>281,421,906</b>
<b>Population by Race, 2010</b>									
White alone	141,999	12,106	67,137	33,606	29,150	6,477	13,649	4,958,770	223,553,265
African-Am. alone	10,105	32	5,330	4,468	275	45	49	693,391	38,929,319
Asian alone	1,108	26	898	133	51	12	47	98,083	14,674,252
Native Am. alone	455	77	186	83	109	41	124	27,376	2,932,248
All Other/Multi.	3,529	122	2,123	901	383	121	231	211,307	28,656,454
<b>Total</b>	<b>157,196</b>	<b>12,363</b>	<b>75,674</b>	<b>39,191</b>	<b>29,968</b>	<b>6,696</b>	<b>14,100</b>	<b>5,988,927</b>	<b>308,745,538</b>
<b>Percent of Total, 2010</b>									
White alone	90.3%	97.9%	88.7%	85.7%	97.3%	96.7%	96.8%	82.8%	72.4%
African-Am. alone	6.4%	0.3%	7.0%	11.4%	0.9%	0.7%	0.3%	11.6%	12.6%
Asian alone	0.7%	0.2%	1.2%	0.3%	0.2%	0.2%	0.3%	1.6%	4.8%
Native Am. alone	0.3%	0.6%	0.2%	0.2%	0.4%	0.6%	0.9%	0.5%	0.9%
All Other/Multi.	2.2%	1.0%	2.8%	2.3%	1.3%	1.8%	1.6%	3.5%	9.3%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Percent Change, 2000-2010</b>									
White alone	2%	3%	6%	-5%	1%	1%	4%	4%	6%
African-Am. alone	24%	28%	47%	5%	2%	29%	717%	10%	12%
Asian alone	67%	0%	74%	43%	82%	-8%	57%	59%	43%
Native Am. alone	-20%	-11%	-25%	-27%	-8%	-52%	-31%	9%	18%
All Other/Multi.	72%	-5%	109%	71%	2%	-23%	38%	61%	27%
<b>Total</b>	<b>4%</b>	<b>3%</b>	<b>10%</b>	<b>-3%</b>	<b>1%</b>	<b>0%</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>



# Demographics: Hispanic or Latino Origin

- The market area has lower representation of the Hispanic/Latino population relative to MO or the US as a whole, with no more than 2% of the 2010 population in any county classified as Hispanic or Latino.
- With the exception of Cape Girardeau County (+137%), the growth rate of the Hispanic/ Latino segment has been slower than for the state as a whole.

Total Population by Hispanic or Latino Origin									
	Market Areas							For Comparison	
	Primary	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>Population by Ethnicity, 2000</b>									
Hispanic	1,371	68	624	448	231	55	132	118,592	35,305,818
Not Hispanic	149,478	11,961	68,069	39,974	29,474	6,634	13,377	5,476,618	246,116,088
<b>Total</b>	<b>150,849</b>	<b>12,029</b>	<b>68,693</b>	<b>40,422</b>	<b>29,705</b>	<b>6,689</b>	<b>13,509</b>	<b>5,595,210</b>	<b>281,421,906</b>
<b>Population by Ethnicity, 2010</b>									
Hispanic	2,635	98	1,476	705	356	64	142	212,470	50,477,594
Not Hispanic	154,561	12,265	74,198	38,486	29,612	6,632	13,958	5,776,457	258,267,944
<b>Total</b>	<b>157,196</b>	<b>12,363</b>	<b>75,674</b>	<b>39,191</b>	<b>29,968</b>	<b>6,696</b>	<b>14,100</b>	<b>5,988,927</b>	<b>308,745,538</b>
<b>Percent of Total, 2010</b>									
Hispanic	1.7%	0.8%	2.0%	1.8%	1.2%	1.0%	1.0%	3.5%	16.3%
Not Hispanic	98.3%	99.2%	98.0%	98.2%	98.8%	99.0%	99.0%	96.5%	83.7%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Percent Change, 2000-2010</b>									
Hispanic	92%	44%	137%	57%	54%	16%	8%	79%	43%
Not Hispanic	3%	3%	9%	-4%	0%	0%	4%	5%	5%
<b>Total</b>	<b>4%</b>	<b>3%</b>	<b>10%</b>	<b>-3%</b>	<b>1%</b>	<b>0%</b>	<b>4%</b>	<b>7%</b>	<b>10%</b>

Data for Missouri and counties, from US Census: <http://censusviewer.com/state/Missouri>.

Data for US total, from US Census, *Overview of Race and Hispanic Origin: 2010*, 2010 Census Briefs.



# Demographics: Marital Status, All Ages 20+

	Marital Status, Male and Female, Age 20+, 2014							
	Market Areas						For Comparison	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>Never married</b>	22%	31%	22%	18%	18%	17%	31%	38%
<b>Married, spouse present</b>	50%	43%	46%	46%	46%	46%	47%	49%
<b>Married, separated</b>	2%	2%	3%	3%	5%	4%	3%	1%
<b>Married, spouse absent/other</b>	1%	2%	1%	4%	2%	3%	3%	2%
<b>Widowed</b>	10%	8%	10%	11%	14%	12%	9%	2%
<b>Divorced</b>	15%	14%	18%	18%	16%	19%	8%	7%
<b>Total</b>	100%	100%	100%	100%	100%	100%	100%	100%

- **Approximately one-half of the adult population in the market area counties are married with the spouse present (43%-50%), consistent with state and national patterns.**
- **About one-fifth have never been married (17%-31%; highest in Cape Girardeau County), 8%-14% per county are widowed, 14%-19% per county are divorced, and the remaining are married but separated or otherwise not living with the spouse.**

## Demographics: Marital Status by Age Group

<b>Marital Status, Total 6-County Region, 2014</b>				
<b>Age Group:</b>	<b>20-44</b>	<b>45-64</b>	<b>65+</b>	<b>Total</b>
<b>Never married</b>	<b>45%</b>	9%	4%	<b>24%</b>
<b>Married, spouse present</b>	<b>37%</b>	<b>61%</b>	<b>31%</b>	<b>45%</b>
<b>Married, separated</b>	3%	3%	2%	3%
<b>Married, spouse absent/other</b>	2%	2%	4%	2%
<b>Widowed</b>	0%	5%	<b>44%</b>	10%
<b>Divorced</b>	13%	20%	15%	16%
<b>Total</b>	100%	100%	100%	100%

- The need for health care and social supports may change with age, as marital status shifts across age groups.
- Seniors, age 65+, for example, are less likely than others to be living in a household with a spouse present.

# Socio-Economic Characteristics: Household Composition

- Household composition among the six market area counties is consistent with the state average.
- Approximately one-third of households are “nonfamily” households, which predominantly include single individuals (including seniors) living on their own.

Household Composition							
	Market Areas						State
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
<b>Family households</b>	69%	64%	70%	65%	65%	70%	65%
Married couple	56%	50%	51%	51%	53%	54%	48%
Male householder	3%	4%	4%	4%	3%	4%	4%
Female householder	10%	10%	15%	9%	9%	12%	12%
<b>Nonfamily households</b>	31%	36%	30%	35%	35%	30%	35%
<i>Including householder living alone</i>							
<b>Average size</b>							
Average household size	2.55	2.48	2.51	2.42	2.42	2.57	2.48
Average family size	3.13	3.03	2.95	3.02	3.00	3.08	3.07
<b>Relative Rate vs. Missouri</b>		<b>Bold = &lt;20% variation from state average</b>					
<b>Family households</b>	106%	99%	108%	100%	100%	108%	
Married couple	116%	104%	105%	106%	110%	112%	
Male householder	<b>79%</b>	95%	102%	100%	79%	95%	
Female householder	<b>79%</b>	84%	126%	78%	73%	99%	
<b>Nonfamily households</b>	89%	102%	84%	99%	99%	85%	
<i>Including householder living alone</i>							
<b>Average size</b>							
Average household size	103%	100%	101%	98%	98%	104%	
Average family size	102%	99%	96%	98%	98%	100%	

# Demographics: Religion

- Between 22% and 48% in each county in the market area belong to Evangelical Protestant congregations. Religious congregations may be viewed as potential partners in identifying and addressing community health needs.

	Congregational Membership, 2010								
	Market Areas							For Comparison	
	Primary	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>Evangelical Protestant</b>	59,525	2,836	36,396	13,017	7,276	3,252	3,066	1,518,847	50,013,107
<b>Catholic</b>	19,528	1,225	11,162	6,531	610	83	208	724,315	58,934,906
<b>Mainline Protestant</b>	14,069	802	9,177	2,522	1,568	139	259	462,246	22,568,258
<b>Black Protestant</b>	1,065	0	530	354	181	0	182	93,900	4,837,067
<b>Orthodox</b>	27	0	27	0	0	0	0	6,745	1,056,535
<b>Other</b>	1,916	1	888	891	136	139	0	144,841	13,146,919
<b>Unclaimed</b>	61,066	7,499	17,494	15,876	20,197	3,083	10,435	3,038,033	158,148,746
<b>Total</b>	<b>157,196</b>	<b>12,363</b>	<b>75,674</b>	<b>39,191</b>	<b>29,968</b>	<b>6,696</b>	<b>14,150</b>	<b>5,988,927</b>	<b>308,705,538</b>
<b>Evangelical Protestant</b>	<b>38%</b>	<b>23%</b>	<b>48%</b>	<b>33%</b>	<b>24%</b>	<b>49%</b>	<b>22%</b>	<b>25%</b>	<b>16%</b>
<b>Catholic</b>	12%	10%	15%	17%	2%	1%	1%	12%	<b>19%</b>
<b>Mainline Protestant</b>	9%	6%	12%	6%	5%	2%	2%	8%	7%
<b>Black Protestant</b>	1%	0%	1%	1%	1%	0%	1%	2%	2%
<b>Orthodox</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%
<b>Other</b>	1%	0%	1%	2%	0%	2%	0%	2%	4%
<b>Unclaimed</b>	39%	61%	23%	41%	67%	46%	74%	51%	51%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Source: The Association of Religion Data Archives. <http://www.thearda.com/rcms2010/selectCounty.asp>

“Other” includes non-Christian denominations such as Buddhist, Jain, Jewish, and Moslem. The “unclaimed” population are those that are not adherents of any of the 236 groups included in the Religious Congregations & Membership Study, 2010. This number should not be used as an indicator of irreligion or atheism, as it also includes adherents of groups not included in these data.



### III. SOCIO-ECONOMIC CHARACTERISTICS

# Socio-Economic Characteristics: Findings and Implications

- **The population of the six-county area faces several challenges that may affect socio-economic self-sufficiency, and therefore lead to both direct and indirect effects on health status:**
  - **Relatively low rates of higher education in comparison with the US total (but consistent with the state level) in all counties except Cape Girardeau**
  - **Higher-than-average dropout rates among Black and Hispanic students (in Cape Girardeau County)**
  - **High levels of unemployment in Stoddard, Reynolds, and Ripley Counties (vs. both state and US levels)**
  - **Lower median and per capita incomes, and high rates of persons living in poverty, in comparison with the state and national level, affecting five of the six counties (all except Cape Girardeau)**
  - **The lack of health insurance and/or the cost of healthcare services are substantial barriers to care in all counties except Cape Girardeau.**
  - **Several measures related to hunger and food uncertainty are more prevalent than average in Reynolds and Ripley Counties.**
  - **The lack of public transportation, and limited access to or high cost of personal transportation among some segment in the rural counties, creates barriers to access for healthcare services – further exacerbating the access issue in rural counties with relatively few providers per population.**

# Socio-Economic Characteristics: Topics Addressed

- **Education**
- **Employment**
- **Income**
- **Poverty status**
- **Health insurance coverage**
- **Medicaid and Public Assistance participation**
- **Hunger and food uncertainty**
- **Women, Infants, and Children (WIC) Participation**
- **Transportation**

# Socio-Economic Characteristics: Educational Attainment

Note substantially lower levels of higher education attainment (BA or higher) among all counties except Cape Girardeau, and lower levels of high school completion within Reynolds and Ripley County, in comparison with the state and US means.

	Educational Attainment, Age 25+, 2010-2014								
	Market Areas						For Comparison		
	Primary	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
Less than 9th grade	5.8%	7.3%	4.4%	7.1%	7.0%	9.0%	10.2%	3.9%	5.8%
9th - 12th grade, no diploma	10.3%	12.6%	7.5%	12.4%	13.3%	15.8%	15.1%	8.1%	7.8%
High school graduate (incl. GED)	37.6%	43.6%	33.1%	41.9%	40.4%	46.0%	37.3%	31.4%	28.0%
Some college, no degree	21.0%	21.1%	21.9%	20.6%	19.2%	19.1%	22.0%	22.7%	21.2%
Associate's degree	4.9%	3.9%	4.9%	4.0%	6.4%	3.8%	4.7%	7.2%	7.9%
Bachelor's degree	13.2%	7.5%	18.4%	9.1%	8.5%	4.3%	6.5%	16.7%	18.3%
Graduate or professional degree	7.1%	4.0%	9.7%	4.9%	5.2%	1.9%	4.2%	10.0%	11.0%
<b>Subtotals</b>									
High school graduate or higher	83.8%	80.1%	88.0%	80.5%	79.7%	75.2%	74.7%	88.0%	86.3%
Bachelor's degree or higher	20.4%	11.5%	28.1%	14.0%	13.7%	6.2%	10.7%	26.7%	29.3%
<b>Relative Rate vs. MO</b>									
High school graduate or higher	95%	91%	100%	91%	91%	85%	85%		
Bachelor's degree or higher	<b>76%</b>	<b>43%</b>	105%	<b>52%</b>	<b>51%</b>	<b>23%</b>	<b>40%</b>		
<b>Relative Rate vs. US</b>									
High school graduate or higher	97%	93%	102%	93%	92%	<b>87%</b>	<b>87%</b>		
Bachelor's degree or higher	<b>69%</b>	<b>39%</b>	96%	<b>48%</b>	<b>47%</b>	<b>21%</b>	<b>37%</b>		

Source: American Community Survey, five-year averages as of 2014.  
Relative rates in bold, red font indicate percentages that are 20 percentage points or more below the state or US means.



# Socio-Economic Characteristics: High School Drop-Out Rates by County

- The cumulative dropout rate for the period 2011-2015 was 2.48% across all Missouri high schools (grades 9-12), reflecting a decrease from a rate around 3.5% in the preceding few years.
- The dropout rate is similar to the state average in Cape Girardeau and Ripley Counties, and considerably lower than average in all other market area counties.

High School Dropout Rate, 2011-2015 Total							
	Market Areas						State
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
	Leopold	Cape G 63	Chaffee	Advance	Bunker	Doniphan	
Dropouts 9th-12th	0	253	3	5	0	64	
Enrolled	282	5745	946	610	314.5	2270.5	
Dropout Rate	0.00%	4.40%	0.32%	0.82%	0.00%	2.82%	
	Meadow Hts	Delta R-V	Kelso	Bell City	Centerville	Naylor	
Dropouts 9th-12th	12	0	0	0	0	14	
Enrolled	850	443	0	332	0	534	
Dropout Rate	1.41%	0.00%	--	0.00%	--	2.62%	
	Woodland	Jackson	Oran	Bernie	Lesterville	Ripley III	
Dropouts 9th-12th	6	113	0	4	0	0	
Enrolled	1345	7403	600	823	282	0	
Dropout Rate	0.45%	1.53%	0.00%	0.49%	0.00%	--	
	Zalma	Nell Holcomb	Scott City	Bloomfield	Southern Reynolds	Ripley IV	
Dropouts 9th-12th	2	0	1	16	2	0	
Enrolled	351	0	1380	1049	753	0	
Dropout Rate	0.57%	--	0.07%	1.53%	0.27%	--	
		Oak Ridge	Scott Co Ctrl	Dexter			
Dropouts 9th-12th		4	5	89			
Enrolled		525	567	2841			
Dropout Rate		0.76%	0.88%	3.13%			
			Scott Co R	Puxico			
Dropouts 9th-12th			31	4			
Enrolled			1508	1044			
Dropout Rate			2.06%	0.38%			
			Sikeston	Richland R-I			
Dropouts 9th-12th			39	0			
Enrolled			4889	379			
Dropout Rate			0.80%	0.00%			
<b>Total</b>							
Dropouts 9th-12th	20	370	79	118	2	78	33217
Enrolled	2827	14114	9889	7076	1350	2805	1341466
Dropout Rate	0.71%	2.62%	0.80%	1.67%	0.15%	2.78%	2.48%
Rel Rate vs. Mo	<b>29%</b>	106%	<b>32%</b>	<b>67%</b>	<b>6%</b>	112%	

# Socio-Economic Characteristics: High School Drop-Out Rates, Cape Girardeau, by Race/Ethnicity

- The drop-out rate among high school students in Cape Girardeau is substantially higher than the county average for students of African-American and Hispanic backgrounds, and considerably lower than average for those of White and other or multi-ethnic backgrounds.

Cape Girardeau High School Dropout Rate, 2011-2015, by Race/Ethnicity			
		<u>Relative Rate vs. CG Total</u>	
<b><u>Black</u></b>			
Dropouts 9th-12th	112		
Enrolled	1,865		
Dropout Rate	6.01%		<b>229%</b>
<b><u>Hispanic</u></b>			
Dropouts 9th-12th	11		
Enrolled	294		
Dropout Rate	3.75%		<b>143%</b>
<b><u>White</u></b>			
Dropouts 9th-12th	242		
Enrolled	11,615		
Dropout Rate	2.08%		<b>79%</b>
<b><u>Other/Multi</u></b>			
Dropouts 9th-12th	5		
Enrolled	341		
Dropout Rate	1.47%		<b>56%</b>
<b><u>Total</u></b>			
Dropouts 9th-12th	370		
Enrolled	14,114		
Dropout Rate	2.62%		

# Socio-Economic Characteristics: Employment

	Unemployment Rates							For Comparison	
	Market Areas						MO	US	
	Bollinger	Cape G.	Scott*	Stoddard	Reynolds	Ripley			
February, 2015	5.0%	6.6%	5.8%	8.1%	8.3%	9.2%	6.1%	5.8%	
February, 2016	4.5%	5.8%	5.8%	7.4%	7.3%	7.4%	5.0%	5.2%	
Percent change, 2015-2016	-10%	-12%	0%	-9%	-12%	-20%	-18%	-10%	
<b>Relative Rate vs. MO</b>									
February, 2015	82%	108%	95%	<b>133%</b>	<b>136%</b>	<b>151%</b>			
February, 2016	90%	116%	116%	<b>148%</b>	<b>146%</b>	<b>148%</b>			
<b>Relative Rate vs. US</b>									
February, 2015	86%	114%	100%	<b>140%</b>	<b>143%</b>	<b>159%</b>			
February, 2016	87%	112%	112%	<b>142%</b>	<b>140%</b>	<b>142%</b>			

- As of February, 2016, the unemployment rates in all market area counties (except Bollinger) are substantially higher than both the Missouri and US levels.
- The unemployment rate in Bollinger County is considerably lower than both the Missouri and US rates.
- Note that unemployment rates in Bollinger, Cape Girardeau, and Scott Counties were fairly close to the US and Missouri averages in February, 2015. From 2015 to 2016, however, unemployment rates in the market area counties (except Ripley) have not declined as quickly as the total across the state as a whole.

Source: MERIC, Missouri Economic Research and Information Centre, Missouri Department of Economic Development. Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state or US values.

\*Scott County data reflect the Sikeston/Scott County "Micropolitan" area; data for Scott County alone not available.

# Socio-Economic Characteristics: Income and Poverty

	Income and Poverty, 2010-2014							
	Market Areas						For Comparison	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
Median HH income (in 2014 dollars)	\$38,906	\$45,849	\$39,076	\$39,229	\$34,432	\$31,473	\$47,764	\$53,482
Per capita income (in 2014 dollars)	\$20,186	\$23,684	\$20,637	\$23,923	\$18,791	\$16,843	\$26,006	\$28,555
Persons in poverty (percent)	20.1%	17.0%	20.9%	19.0%	21.5%	25.1%	15.5%	14.8%
<b>Relative Rate vs. MO</b>								
Median HH income (in 2014 dollars)	81%	96%	82%	82%	<b>72%</b>	<b>66%</b>	<80% = high relative rate	
Per capita income (in 2014 dollars)	<b>78%</b>	91%	<b>79%</b>	92%	<b>72%</b>	<b>65%</b>		
Persons in poverty (percent)	<b>130%</b>	110%	<b>135%</b>	<b>123%</b>	<b>139%</b>	<b>162%</b>	>120% = high relative rate	
<b>Relative Rate vs. US</b>								
Median HH income (in 2014 dollars)	<b>73%</b>	86%	<b>73%</b>	<b>73%</b>	<b>64%</b>	<b>59%</b>	<80% = high relative rate	
Per capita income (in 2014 dollars)	<b>71%</b>	83%	<b>72%</b>	<b>84%</b>	<b>66%</b>	<b>59%</b>		
Persons in poverty (percent)	<b>136%</b>	115%	<b>141%</b>	<b>128%</b>	<b>145%</b>	<b>170%</b>	>120% = high relative rate	

- Median and per capita incomes in all market area counties (other than Cape Girardeau) are substantially below the statewide levels, and poverty rates are considerably higher.
- In comparison with the US as a whole, income levels throughout the market area are substantially lower, and poverty levels are higher than average.

# Socio-Economic Characteristics: Barriers to Accessing Health Care Services

Barriers to Accessing Health Care Services								
	Market Areas						For Comparison	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>No health insurance, age &lt;65</b> ( <i>American Community Survey, 2010-2014</i> )								
	18.3%	13.2%	14.6%	16.9%	18.1%	18.3%	13.7%	12.0%
<b>Relative Rate vs. MO</b>	<b>134%</b>	96%	107%	<b>123%</b>	<b>132%</b>	<b>134%</b>		
<b>Relative Rate vs. US</b>	<b>153%</b>	110%	<b>122%</b>	<b>141%</b>	<b>151%</b>	<b>153%</b>		
<b>Unable to see doctor due to cost, among adults</b> ( <i>BRFS, 2006-2012</i> ) [US-2014]								
	--	11.0%	22.0%	14.0%	14.0%	20.0%	14.0%	14.3%
<b>Relative Rate vs. MO</b>	--	<b>79%</b>	<b>157%</b>	100%	100%	<b>143%</b>		
<b>Relative Rate vs. US</b>	--	<b>77%</b>	<b>154%</b>	98%	98%	<b>140%</b>		

- In comparison with the state as a whole, four of the six counties in the market area have a substantially higher percentage of residents under age 65 who lack health insurance coverage, and five of the six counties have a higher percentage without health insurance relative to the US. (*See percentages in red font on top half of table.*)
- Cape Girardeau County fares relatively well, with a “no health insurance rate” within 10 percentage points of the MO and US rates, and a substantially lower percentage of adults unable to see a doctor due to cost (relative to MO and the US).

# Socio-Economic Characteristics: Hunger and Food Uncertainty

- All six counties include a sizable population affected by food uncertainty and potential hunger. About one-quarter in each county are income-eligible for the SNAP program, and about one-quarter of households with children face food uncertainty.
- The rates of food uncertainty and hunger problems are heightened in Reynolds and Ripley County, in comparison to the state averages.

Hunger and Food Uncertainty Indicators, 2010-2012							
	Market Areas						State
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
<b><u>Food Uncertainty</u></b>							
% Households Food Uncertain	14%	13%	16%	14%	16%	18%	14%
% HH w/Children Food Uncertain	26%	23%	24%	23%	24%	24%	23%
% HH Food Uncertain w/Hunger	6%	5%	6%	6%	7%	7%	6%
<b><u>Supplemental Nutrition Assistance Program (SNAP Food Stamps)</u></b>							
% Total Population Income Eligible	25%	18%	24%	27%	30%	35%	23%
% <18 Years Income Eligible	39%	25%	29%	36%	36%	50%	31%
<b><u>National School Lunch Program</u></b>							
% Students Eligible	59%	25%	37%	58%	72%	52%	52%
<b><u>Women, Infants, and Children Program (WIC)</u></b>							
% < 5 Years Income Eligible	59%	58%	48%	59%	46%	51%	51%
<b>Relative Rate vs. Missouri</b>							
<i>Red font = heightened relative rate; blue = low relative rate</i>							
<b><u>Food Uncertainty</u></b>							
% Households Food Uncertain	101%	96%	114%	99%	117%	<b>129%</b>	
% HH w/Children Food Uncertain	111%	98%	102%	101%	103%	105%	
% HH Food Uncertain w/Hunger	100%	93%	111%	98%	<b>121%</b>	<b>128%</b>	
<b><u>Supplemental Nutrition Assistance Program (SNAP Food Stamps)</u></b>							
% Total Population Income Eligible	108%	<b>77%</b>	106%	115%	<b>130%</b>	<b>151%</b>	
% <18 Years Income Eligible	<b>127%</b>	81%	95%	117%	118%	<b>164%</b>	
<b><u>National School Lunch Program</u></b>							
% Students Eligible	113%	<b>49%</b>	<b>70%</b>	112%	<b>139%</b>	100%	
<b><u>Women, Infants, and Children Program (WIC)</u></b>							
% < 5 Years Income Eligible	116%	114%	95%	116%	91%	100%	

# Socio-Economic Characteristics: Transportation

	Average Commute Time to Work (Minutes)							
	Market Area						For Comparison	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
Average work commute	33.2	18.6	18.5	21.3	23.3	23.6	23.1	25.5
Relative to MO average	144%	81%	80%	92%	101%	102%		
Relative to US average	130%	73%	73%	84%	91%	93%		

- Transportation can function as a support – or a barrier – in access to healthcare services.
- For most market area residents, commute times to work are well within (or below) state and US averages, freeing up time for other purposes. Commute time takes 30%-44% longer than average for Bollinger County residents, however.
- Missouri’s 2010-2013 Rural Health Plan notes the lack of public transportation, lack of private transportation among some segments (those who do not drive, elderly, disabled, and low-income), and sometimes unaffordable cost of transportation creates a barrier to healthcare access in rural communities. *(Quantitative data not provided.)*



## IV. RISK FACTORS AND PREVENTIVE HEALTH MEASURES



# Risk Factors and Preventive Health Measures: Findings and Implications

- **Data on risk factors and the use of recommended preventive measures indicate the presence of elevated preventable risks across the market area with respect to:**
  - **Smoking – among adolescents, adults, and pregnant women**
  - **Physical inactivity (in most counties) and adult obesity (in Scott County)**
  - **Regular dental care**
  - **Alcohol use – especially among adults**
  - **Substance abuse – among adolescents, generally related to a range of substances other than marijuana**
  - **Relatively low use of recommended screenings such as pap tests, mammograms, and colon cancer screening, with varying levels of under-utilization by county**
  - **Late-onset prenatal care in Bollinger and Cape Girardeau Counties**
  - **Rates of insufficient weight gain during pregnancy (perhaps related to food insufficiency issues) in several counties**
- **Expectant mothers throughout the market area make higher-than-average use of the available support systems (Medicaid, WIC, and food stamps) to mitigate some of these prenatal care risks.**

# Risk Factors and Preventive Health Measures: Topics Addressed

- **Risk Factors**
  - Tobacco use
  - Substance use
  - Diet and exercise
- **Preventive Health Measures**
  - Immunizations
  - Screening tests
  - Oral and dental health
  - Maternal-child health
    - Prenatal care
    - Smoking and substance use during pregnancy
    - Breastfeeding

# Selected Risk Factor Measures Among Adults

	Risk Factors, 2014							
	Market Areas						For Comparison	
	Bolinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>2014 BRFSS (from County Health Rankings &amp; Roadmaps project)</b>								
Adult smoking	25%	20%	24%	29%	23%	47%	23%	17%
Adult obesity	37%	29%	38%	32%	33%	34%	31%	27%
Physical inactivity	33%	27%	34%	33%	36%	31%	26%	23%
Excessive drinking	--	11%	14%	18%	--	22%	17%	7%
<b>Relative Rate vs. MO</b>								
Adult smoking	109%	87%	104%	<b>126%</b>	100%	<b>204%</b>		
Adult obesity	119%	94%	<b>123%</b>	103%	106%	110%		
Physical inactivity	<b>127%</b>	104%	<b>131%</b>	<b>127%</b>	<b>138%</b>	119%		
Excessive drinking	--	<b>65%</b>	82%	106%	--	<b>129%</b>		
<b>Relative Rate vs. US</b>								
Adult smoking	<b>147%</b>	118%	<b>141%</b>	<b>171%</b>	<b>135%</b>	<b>276%</b>		
Adult obesity	<b>137%</b>	107%	<b>141%</b>	119%	<b>122%</b>	<b>126%</b>		
Physical inactivity	<b>143%</b>	117%	<b>148%</b>	<b>143%</b>	<b>157%</b>	<b>135%</b>		
Excessive drinking	--	<b>157%</b>	<b>200%</b>	<b>257%</b>	--	<b>314%</b>		

- Relative to the US, all counties except Cape Girardeau show heightened rates for three or more of these four potentially modifiable risk factors among adults.
- Even relative to the higher (less favorable) MO statewide rates, Scott, Stoddard, and Ripley Counties show heightened rates for two of these factors.

Source: University of Wisconsin Population Health Institute. Blank values reflect unreliable or missing data. Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state or US values.

# Substance Use, Grades 6-12

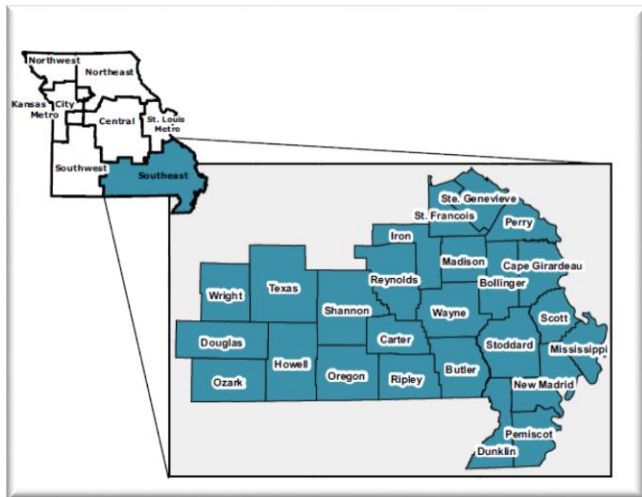
- Five counties (all except Scott) have heightened rates of cigarette use vs. the state average, among children in grades 6-12.
- Stoddard and Reynolds counties have excessive relative use of alcohol and/or E-cigs, the leading substances used by this population.
- Binge drinking is heightened in three of the counties.
- Cape Girardeau County has relatively high rates of use of many of the lower prevalence substances.
- Note the relatively low use of marijuana and hookahs across this market.

Substance Use, Grades 6-12, 2014 -- 30 Day Use							
	Market Areas						State
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
Alcohol	10%	14%	11%	17%	12%	--	14%
E-Cigs	6%	6%	7%	13%	13%	--	10%
Cigarettes	10%	15%	7%	14%	10%	--	8%
Marijuana	4%	2%	6%	7%	6%	--	8%
Hookah	1%	3%	3%	4%	3%	--	7%
Binge Drinking	3%	8%	4%	9%	7%	--	6%
Rx Abuse	4%	5%	5%	5%	3%	--	4%
OTC Abuse	1%	2%	2%	2%	1%	--	2%
Inhalants	1%	2%	3%	1%	1%	--	1%
Synthetics	1%	2%	0%	1%	1%	--	1%
<b>Relative Rate vs. MO</b>							
Alcohol	<b>70%</b>	101%	<b>79%</b>	<b>124%</b>	83%	--	
E-Cigs	<b>54%</b>	<b>56%</b>	<b>67%</b>	<b>124%</b>	<b>129%</b>	--	
Cigarettes	<b>120%</b>	<b>188%</b>	91%	<b>174%</b>	<b>127%</b>	--	
Marijuana	<b>46%</b>	<b>32%</b>	80%	97%	<b>76%</b>	--	
Hookah	<b>19%</b>	<b>36%</b>	<b>45%</b>	<b>51%</b>	<b>40%</b>	--	
Binge Drinking	<b>46%</b>	<b>138%</b>	<b>57%</b>	<b>143%</b>	<b>121%</b>	--	
Rx Abuse	95%	<b>130%</b>	<b>143%</b>	<b>141%</b>	<b>78%</b>	--	
OTC Abuse	82%	<b>141%</b>	100%	<b>124%</b>	82%	--	
Inhalants	<b>64%</b>	<b>164%</b>	<b>273%</b>	82%	<b>127%</b>	--	
Synthetics	88%	<b>213%</b>	<b>0%</b>	<b>75%</b>	<b>175%</b>	--	

Source: Missouri State Epidemiological Profile, April 2015; MO Behavioral Epidemiology Workgroup.  
 Relative rates in bold red or blue font indicate percentages that diverge  
 . by 20 percentage points or more from state values.  
 “-” indicates data not available.

# Substance Use, Age 18+

- Rates of substance use among adults in the Southeast Region of Missouri (which includes the targeted counties as well as some others), for adults age 18 and over, are generally close to the state average.
- Note the substantially higher use of cigarettes and lower than average use of marijuana and other substances, vs. the US averages.



Substance Use, Ages 18+, 2010-2012 -- 30 Day Use			
	Market Areas	For Comparison	
	Southeast Region	MO	US*
Alcohol	48%	55%	57%
Cigarettes	32%	28%	21%
Binge Drinking	24%	25%	--
Marijuana	4%	6%	8%
Pain Reliever Abuse	5%	5%	--
Illicit Drug (ex MJ)	3%	3%	9%
<b>Relative Rate</b>		<b>Vs. MO</b>	<b>Vs. US</b>
Alcohol		88%	84%
Cigarettes		115%	<b>151%</b>
Binge Drinking		96%	--
Marijuana		<b>72%</b>	<b>55%</b>
Pain Reliever Abuse		100%	--
Illicit Drug (ex MJ)		104%	<b>30%</b>

Source: Missouri State Epidemiological Profile, April 2015; MO Behavioral Epidemiology Workgroup.

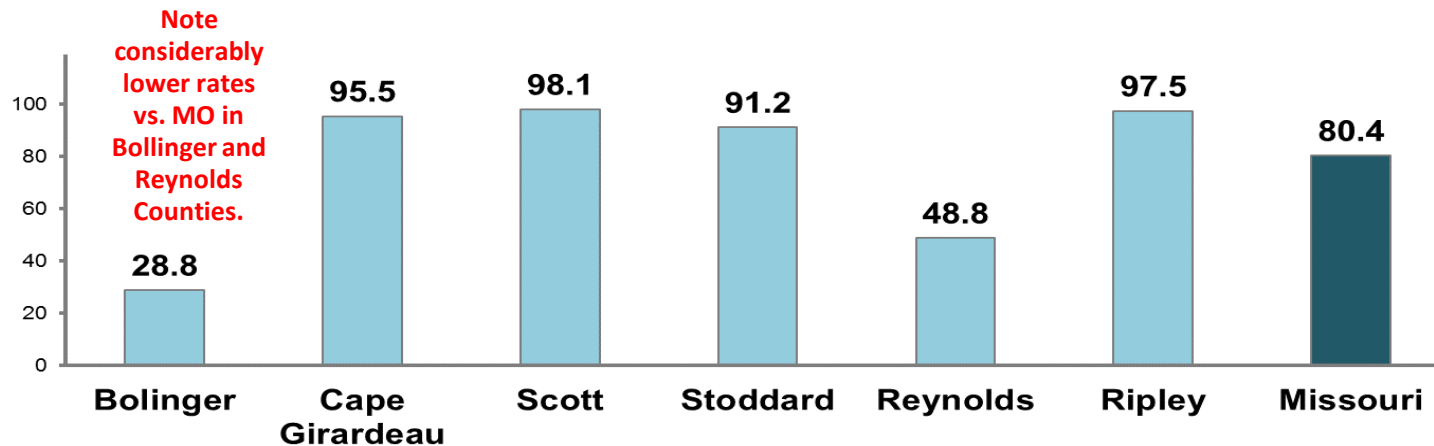
Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state values.

Data are available only by region. The Southeast Region includes the six counties in the SoutheastHEALTH Market area.

\*US data for cigarettes, marijuana, and illicit drugs are for ages 12+; other US data are for age 18+. US rates reflect 2013 data.

# Childhood Immunizations, at Age 36 Months

## Immunization Rate per 100 Children Enrolled in WIC, 2008



- The most recent childhood immunization data available by county are for WIC participants in 2008, as updated in 2010. Since Missouri requires immunization prior to entrance to kindergarten, with limited exemptions, it is likely that rates have increased across the market area, as they have statewide.
- As of 2012-2013, between 94% and 95% of MO children entering kindergarten had complied with each of the vaccination requirements for Dtap, IPV/Polio, MMR, HepB, and Varicella.
- The HP2020 goal for completion of these five immunization requirements by age 36 months is 95/100, or 95%.

# Selected Screening Tests – Utilization

*(for reference; see relative rates on following page)*

	Prevention and Screening						
	Market Areas, 2011						State
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
<b>Never had mammogram: F 40+</b>	12%	12%	7%	21%	13%	12%	10%
<b>No mammogram or clinical breast exam in last year: F 40+</b>	33%	35%	35%	40%	44%	58%	31%
<b>Never had a pap test: F18+</b>	9%	7%	7%	15%	4%	5%	8%
<b>No pap test in last 3 years: F 18+</b>	33%	30%	33%	35%	36%	43%	26%
<b>Never had a blood stool test: M &amp; F 50+</b>	64%	65%	69%	62%	75%	69%	66%
<b>No blood stool test in last year: M &amp; F 50+</b>	88%	92%	90%	86%	95%	91%	90%
<b>Never had a sigmoidoscopy or colonoscopy: M&amp;F 50+</b>	33%	36%	41%	44%	45%	42%	34%
<b>Had no sigmoidoscopy or colonoscopy in last 10 years: M&amp;F 50+</b>	38%	39%	45%	--	55%	44%	38%

Source: Missouri Department of Health and Senior Services, Missouri County-Level Study.

Note, data not considered reliable for sigmoidoscopy/colonoscopy in Stoddard County due to small number of observations.



# Selected Screening Tests – Relative Rate vs. MO

Relative Rate vs. MO	Prevention and Screening					
	Market Areas, 2011					
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley
Never had mammogram: F 40+	118%	<b>123%</b>	<b>69%</b>	<b>213%</b>	<b>132%</b>	117%
No mammogram or clinical breast exam in last year: F 40+	109%	114%	114%	<b>131%</b>	<b>144%</b>	<b>190%</b>
Never had a pap test: F 18+	116%	97%	96%	<b>197%</b>	57%	61%
No pap test in last 3 years: F 18+	<b>126%</b>	113%	<b>126%</b>	<b>133%</b>	<b>135%</b>	<b>164%</b>
Never had a blood stool test: MF 50+	97%	98%	104%	93%	113%	105%
No blood stool test in last year: MF 50+	98%	101%	99%	95%	105%	101%
Never had a sigmoidoscopy or colonoscopy: MF 50+	97%	106%	<b>122%</b>	<b>129%</b>	<b>134%</b>	<b>123%</b>
Had no sigmoidoscopy or colonoscopy in last 10 years: MF 50+	101%	103%	117%	--	<b>144%</b>	115%

- All six counties have higher rates of “non-use” of recommended routine screening tests than the state as a whole. Five of the six counties substantially exceed the state rate for “No pap test in last 3 years: F 18+” and four exceed the state rate for “Never had a sigmoidoscopy or colonoscopy: MF 50+.”
- Scott County’s rate of mammography for eligible women is substantially better than the state average, however; that is, fewer women age 40+ have “never had a mammogram.”

Source: Missouri Department of Health and Senior Services, Missouri County-Level Study.

Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from MO rates.

Note, data not considered reliable for sigmoidoscopy/colonoscopy in Stoddard County due to small number of observations.



# Selected Screening Tests – Relative Rate vs. HP2020

	Prevention and Screening							Comparison HP2020
	Market Areas, 2011							
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley		
Had mammogram/clinical breast exam in last year: F 40+	67%	65%	65%	60%	56%	42%	81%	
Had pap test in last 3 years: F 18+	67%	70%	67%	65%	64%	57%	93%	
Had sigmoidoscopy or colonoscopy in last 10 years: M&F 50+	62%	61%	55%	--	45%	56%	71%	
<b>Relative Rate vs. HP2020</b>								
Had mammogram/clinical breast exam in last year: F 40+	82%	81%	80%	<b>74%</b>	<b>69%</b>	<b>52%</b>	HP2020 rates reflect the goal for "screening consistent with current guidelines."	
Had pap test in last 3 years: F 18+	<b>72%</b>	<b>76%</b>	<b>72%</b>	<b>70%</b>	<b>69%</b>	<b>61%</b>		
Had sigmoidoscopy or colonoscopy in last 10 years: M&F 50+	88%	86%	<b>79%</b>	--	<b>64%</b>	80%		

- All market area counties lag substantially behind HP2020 target with respect to the use of pap tests among women age 18 and older.
- Reynolds County's utilization of these three illustrative screening tests falls well below HP2020 targets for mammography or breast exam, pap test, and colonoscopy.
- Scott County's screening colonoscopy rate also is well below the HP2020 target.

Source: Missouri Department of Health and Senior Services, Missouri County-Level Study.

Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from HP2020 goals.

Note, data not considered reliable for sigmoidoscopy/colonoscopy in Stoddard County due to small number of observations.

# Oral and Dental Health

	Dental Health Status							
	Market Areas						For Comparison	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>Availability of Dentists to Population, 2014</b> <sup>(1)</sup>								
Population:Dentist Ratio	6,245:1	1,406:1	1,786:1	4,963:1	1,320:1	7,016:1	1,920:1	1,897.5:1
<b>Relative Dentist Provider "Load"</b>								
vs. Missouri	325%	73%	93%	212%	69%	365%		
vs. US	329%	74%	94%	262%	70%	370%		
<b>Dental Care Status by County, 2012</b> <sup>(2)</sup>								
Dental Care HPSA (Shortage) Area	Yes	Yes	Yes	Yes	Yes	Yes		
Reason	Low income	Low income	Low income	Geographic	Geographic	Geographic		
<b>Emergency Department Visit Rate for Dental Complaints, 2012</b>								
Vs. state average	Sig. low	Sig. high	n/a	n/a	Sig. high	Sig. high		
<b>Visited a Dentist in the Last Year, 2011</b>								
	50.1%- 62.9%	63.9%- 78.9%	63.9%- 78.9%	50.1%- 62.9%	40.0%- 50.0%	<40%	59%	64%
							(MO & US data for 2014.)	

- The entire region faces barriers to compliance with dental health care standards:
  - Insufficient numbers of providers in Bollinger, Stoddard, and Ripley counties; lack of access due to low income or geographic barriers; and lower than average rates of annual dental visits among adults.
  - One impact is the significantly higher than average rates of ED visits for dental complaints. Poor dental health may affect developmental milestones (among children), chronic health issues (at all ages), and self-sufficiency (among seniors).

# Maternal-Child Health – Prenatal Care, vs. Missouri

Measure	Prenatal Profile, 2013						Comp.
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
Care Began First Trimester	70.1	69.8	75.6	74.7	72.9	75.7	74.5
Late Care (2nd/3rd Trimester)	29.9	29.3	24.2	24.1	27.12*	24.3	24.3
No Prenatal Care	0*	0.90*	0.20*	1.18*	0*	0*	1.1
Inadequate Prenatal Care	13.64*	14.6	14.8	12.2	22.41*	13.0	15.6
<b>Relative Rates v. MO</b>							
<i>Red highlighting = heightened risks; blue highlighting = reduced risks.</i>							
Care Began First Trimester	94%	94%	101%	100%	98%	102%	
Late Care (2nd/3rd Trimester)	<b>123%</b>	<b>120%</b>	99%	99%	--	100%	
No Prenatal Care	--	--	--	--	--	--	
Inadequate Prenatal Care	--	94%	94%	<b>78%</b>	--	83%	

- Late-starting prenatal care is about 20% more predominant in Bollinger and Cape Girardeau counties, relative to the state average.

Source: Missouri Department of Health and Senior Services, Community Data Profiles. <http://health.mo.gov/data/mica/>

\* Indicates too few observations; data not projectable.

Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state or US values.



# Maternal-Child Health – Prenatal Process Measures, vs. Missouri

Measure	Prenatal Profile, 2013						Comp.
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
Mother Smoked During Pregnancy	26.5	20.4	27.1	28.9	32.8	23.2	17.5
Weight Gain <15 Lbs., Term Singleton	12.3	9.4	13.5	14.8	13.1	12.4	10.8
Weight Gain >= 45 Lbs., Term Singleton	23.9	22.7	22.2	21.2	15.6	19.6	20.2
Prenatal Medicaid	55.3	44.2	59.4	60.3	63.9	73.9	43.0
Prenatal WIC	67.0	43.4	67.0	60.5	66.7	78.4	45.2
Prenatal Food Stamps	52.6	31.5	46.4	42.7	44.1	57.1	33.1
<b>Relative Rates v. MO</b>							
	<i>Red highlighting = heightened risks; blue highlighting = reduced risks.</i>						
Mother Smoked During Pregnancy	<b>151%</b>	117%	<b>155%</b>	<b>165%</b>	<b>188%</b>	<b>132%</b>	
Weight Gain <15 Lbs., Term Singleton	114%	87%	<b>125%</b>	<b>137%</b>	<b>121%</b>	114%	
Weight Gain >= 45 Lbs., Term Singleton	118%	112%	109%	105%	<b>77%</b>	97%	
Prenatal Medicaid	<b>128%</b>	103%	<b>138%</b>	<b>140%</b>	<b>149%</b>	<b>172%</b>	
Prenatal WIC	<b>148%</b>	96%	<b>148%</b>	<b>134%</b>	<b>148%</b>	<b>174%</b>	
Prenatal Food Stamps	<b>159%</b>	95%	<b>140%</b>	<b>129%</b>	<b>133%</b>	<b>172%</b>	

- All counties other than Cape Girardeau show extremely high relative rates of maternal smoking, relative to the state levels.
- Scott, Stoddard, and Reynolds counties also have high rates of insufficient weight gain during pregnancy.
- Relative to the state as a whole, expectant mothers in all counties (other than Cape Girardeau) are utilizing supportive programs such as prenatal Medicaid, prenatal WIC, and prenatal food stamps at relatively high rates.

Source: Missouri Department of Health and Senior Services, Community Data Profiles. <http://health.mo.gov/data/mica/>

\* Indicates too few observations; data not projectable.

Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state or US values.

# Maternal-Child Health – Prenatal Care Measures, vs. HP2020

Measure	Prenatal Profile, 2013						Comp.
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	HP2020
Care Began First Trimester	70.1	69.8	75.6	74.7	72.9	75.7	77.9
Mother Smoked During Pregnancy	26.5	20.4	27.1	28.9	32.8	23.2	1.4
<b><u>Relative Rates v. HP2020</u></b>							
Care Began First Trimester	90%	90%	97%	96%	94%	97%	
Mother Smoked During Pregnancy	<b>1889%</b>	<b>1456%</b>	<b>1936%</b>	<b>2064%</b>	<b>2342%</b>	<b>1654%</b>	

*(Note, HP2020 goal is no smoking among 98.6% of pregnant women, or a smoking rate of 1.4%.)*

- All counties in the market area are close to the HP2020 guideline (within 10 percentage points) with respect to the use of prenatal care beginning in the first trimester.
- In contrast, however, all counties in the market area have substantially elevated rates of prenatal smoking relative to the HP2020 guideline.
- Note: The Missouri Department Health and Senior Services has made prenatal smoking cessation a priority program. In addition, SoutheastHEALTH is planning new programs to address some of the prenatal and infant health risk factors identified in this section.



# WIC Participation

□ All counties other than Cape Girardeau reflect relative high levels of infant Medicaid participation, and all but Cape Girardeau and Reynolds have high levels of infant WIC participation, relative to the Missouri total.

- Among those participating in WIC, three counties show relatively low rates of ever breastfeeding, in comparison to the MO rate.
- In all counties except Bollinger, the percentage who ever breastfed (among WIC participants) falls substantially below the HP2020 target.

Measure	WIC and Medicaid Participation of Infants, 2012							For Comparison	
	Market Areas						MO	HP2020	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley			
<u>As percent of total life births</u>									
Infants Participating in WIC	78.1	54.1	78.1	75.4	65.6	82.4	58.1		
Infants on Medicaid	69.9	54.6	68.8	66.0	67.2	77.5	51.4		
<u>As percent of infants participating in WIC</u>									
WIC Infants - Ever Breastfed	72.3	59.4	51.3	58.1	51.2	52.4	66.1	81.9	
<u>Relative Rate vs. MO</u>									
<u>As percent of total life births</u>									
Infants Participating in WIC	<b>135%</b>	93%	<b>135%</b>	<b>130%</b>	113%	<b>142%</b>		>120% = high relative rate	
Infants on Medicaid	<b>136%</b>	106%	<b>134%</b>	<b>128%</b>	<b>131%</b>	<b>151%</b>			
<u>As percent of infants participating in WIC</u>									
WIC Infants - Ever Breastfed	109%	90%	<b>78%</b>	88%	<b>77%</b>	<b>79%</b>		<80% = low rel. rate	
<u>Relative Rate vs. HP2020</u>									
WIC Infants - Ever Breastfed	88%	<b>73%</b>	<b>63%</b>	<b>71%</b>	<b>63%</b>	<b>64%</b>		<80% = low rel. rate	



## V. HEALTH OUTCOMES

# Health Outcomes: Findings and Implications

- The data reveal high relative rates of various sources of morbidity and mortality in the six county market area. *(Note that some detailed rates are not available or are not reliable for every condition in the smaller counties, so some areas of elevated risk may not be identified in this analysis.)*
- The main areas of concern include:
  - Heightened rates of negative outcomes around infant health, such as preterm births and neonatal and infant deaths – especially in Scott, Stoddard, and Ripley counties
  - High rates of probable child abuse or neglect in some counties
  - High rates of teen pregnancy (ages 15-19) vs. the state as a whole, despite a substantial decline in those rates
  - Increasing numbers of STDs, and/or elevated rates vs. the state and US norms, affecting most of the six counties
  - A rate of serious mental illness among adults that is 31% higher than the US average
  - High levels of preventable hospitalizations, especially in Scott, Reynolds, and Ripley counties
  - Elevated mortality rates vs. the state and US for multiple conditions, varying by county. Areas of specific concern across several counties include chronic lower respiratory disease, motor vehicle accidents, and Alzheimer's.



# Health Outcomes: Findings and Implications (continued)

- **Some conditions have moderate prevalence – neither elevated nor exceptionally low – but nonetheless affect a large segment of the population.**
  - **Diabetes and heart disease reflect, to some extent, multiple potentially modifiable risk factors. (*See page 35.*)**
  - **The prevalence of diabetes and heart disease in the six-county area is about the same as the state and US rates.**
  - **It is nonetheless important to continue to address the underlying causes of these conditions in light of the number of ER visits, hospital stays, and other health care costs incurred by and on behalf of affected individuals.**

# Health Outcomes: Findings and Implications (continued)

- **The data also showcase some positive trends:**
  - **Good compliance with lead testing – although rates of elevated blood lead levels are relatively high in Ripley County, and possibly in Reynolds County (insufficient data)**
  - **Total cancer incidence rates parallel the state in general, with a few areas of elevated risk**
  - **Very low rates of HIV/AIDS in contrast to the state and US rates**
  - **Relatively low rates of preventable hospitalization for asthma across the market, and for diabetes in some areas**
  - **High participation in the WIC and other supportive programs, potentially addressing some of the healthcare disparities in the population**

# Health Outcomes: Topics Addressed

- **Health indicators by life stage**
  - **Newborn and infant health indicators**
  - **Child health indicators**
  - **Adolescent health issues**
- **Incidence/Prevalence**
  - **Cancer**
  - **Diabetes**
  - **Heart Disease**
  - **Infectious Disease: STDs, HIV/AIDS**
  - **Mental Health**
- **Hospitalization rates**
  - **Preventable hospitalizations**
- **Mortality**
  - **Leading causes of death**

# Health Outcomes – By Life Stage:

## Newborn and Infant Health Indicators *(for reference)*

Measure	Infant Health Indicators							Comparison	
	Market Areas						MO	US	
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley			
<b>Morbidity</b> (2008-2012 combined for MO and Counties)									
Preterm Births (<37 Weeks Gestation)	10.8	12.0	14.5	14.9	11.9	18.0	12.2	9.6	a
Low Birth Weight	6.7	8.3	9.5	9.2	7.2	10.4	8.0	8.0	a
Low Birth Weight and Term	3.7	3.2	4.2	4.0	3.6*	4.8	3.1		
Very Low Birth Weight	1.1*	1.4	1.9	1.8	1.6*	1.7*	1.5	1.4	a
Small for Gestational Age	9.3	9.8	11.3	11.5	7.8	11.5	9.5		
<b>Birth Defects</b> (2007-2011 combined for MO and counties)									
Birth Defects per 10,000	557.8	798.2	712.3	636.7	569.6*	373.2	643.6		
Neural Tube Defects(NTD) per 10,000	0.0*	10.6*	0.0*	5.7*	31.7*	0.0*	6.4		
<b>Utilization</b> (2008-2012 combined for MO and counties)									
VLBW Infants Del. in Level III Ctrs.	75.0*	77.4	72.0	51.6*	80.0*	43.8*	82.8		
<b>Mortality</b> (2002-2012 combined for MO and counties)									
Neonatal Deaths per 1,000	6.9*	4.9	5.7	6.3	8.4*	9.1*	4.7	4.06	b
Perinatal Deaths per 1,000	13.0	9.1	11.3	10.6	16.7*	13.1	10.5		
Postneonatal Deaths per 1,000	1.3*	2.3	3.5	1.5*	8.4*	4.1*	2.6	2.01	b
Infant Deaths per 1,000	8.1*	7.1	9.1	7.8	16.9*	13.2	7.3	6.07	b
-Sudden Infant Death (SIDS) per 1,000	0.0*	0.4*	0.3*	0.3*	5.6*	2.0*	0.5		

Source for MO and county data: <http://health.mo.gov/data/CommunityDataProfiles/index.html>, table for Infant Health, MO and county data are for 2008-2012 combined, except WIC data are 2012 only.

Sources for US data: (a) National Vital Statistic Profile, Vol. 64, No. 2, 12/23/15.

(b) <http://mchb.hrsa.gov/chusa14/health-status-behaviors/infants/infant-mortality.html>

\* = small N; data unstable

# Health Outcomes – by Life Stage: Newborn and Infant Health Indicators, Relative Rates vs. US

Relative Rate vs. US	Infant Health Indicators					
	Market Areas					
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley
Preterm Births (<37 Weeks)	113%	<b>125%</b>	<b>152%</b>	<b>156%</b>	<b>124%</b>	<b>188%</b>
Low Birth Weight	84%	104%	119%	115%	90%	<b>130%</b>
Very Low Birth Weight	--	100%	<b>136%</b>	<b>129%</b>	--	--
Neonatal Deaths per 1,000	--	<b>121%</b>	<b>140%</b>	<b>155%</b>	--	--
Postneonatal Deaths per 1,000	--	114%	<b>174%</b>	--	--	--
Infant Deaths per 1,000	--	117%	<b>150%</b>	<b>129%</b>	--	<b>217%</b>

- ❑ **Relative to the US, the market area has high risks or rates for many infant morbidity and mortality indicators. These issues are especially pronounced for Scott and Stoddard counties. (Note, however, that data are not available or are unstable due to small sample size for many of the indicators in Bollinger, Reynolds, and Ripley Counties.)**
- ❑ **Barriers to access to prenatal care, as well as non-compliance with some prenatal health guidelines, may be factors reflected in these relatively high rates.**

*Relative rate analysis reflects data on the previous page.*

*Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state or US values.*

*"--" indicates analysis not available due to unstable data, generally due to small sample size.*

# Health Outcomes – By Life Stage: Newborn and Infant Health Indicators, Relative Rates vs. MO

Relative Rate vs. Missouri	Infant Health Indicators					
	Market Areas					
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley
<b><u>Morbidity</u></b>						
Preterm Births (<37 Weeks)	88%	98%	119%	<b>122%</b>	97%	<b>147%</b>
Low Birth Weight	83%	103%	118%	115%	90%	<b>130%</b>
Low Birth Weight and Term	<b>121%</b>	105%	<b>138%</b>	<b>131%</b>	--	<b>157%</b>
Very Low Birth Weight	--	97%	131%	<b>124%</b>	--	--
Small for Gestational Age	98%	103%	119%	<b>121%</b>	82%	<b>121%</b>
<b><u>Birth Defects</u></b>						
Birth Defects per 10,000	87%	<b>124%</b>	111%	99%	--	<b>58%</b>
<b><u>Utilization</u></b>						
VLBW Infants Del. in Level III Ctrs.	--	94%	87%	--	--	--
<b><u>Mortality</u></b>						
Neonatal Deaths per 1,000	--	104%	<b>121%</b>	<b>133%</b>	--	--
Perinatal Deaths per 1,000	<b>124%</b>	87%	108%	101%	--	<b>125%</b>
Postneonatal Deaths per 1,000	--	90%	<b>137%</b>	--	--	--
Infant Deaths per 1,000	--	98%	<b>125%</b>	107%	--	<b>182%</b>

- Relative to Missouri as well, the market area has rates for many infant morbidity and mortality markers, with an apparent concentration of these risks within Scott, Stoddard, and Ripley counties.

*(Note, however, that data are not available or are unstable due to small sample size for many of the indicators in some counties.)*

Relative rate analysis reflects data on previous pages.

Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state or US values.

"--" indicates analysis not available due to unstable data, generally due to small sample size.

# Health Outcomes – By Life Stage: Child Health Indicators

Child Health Indicators -- Percentage of Age-Specific Population -- 2014									
Measure		Market Areas						For Comparison	
		Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO	US
<b>WIC Participation, 12-59 Months</b>	Rate	58.7%	28.4%	47.3%	52.2%	44.0%	45.8%	35.1%	51.1%
Relative rate vs.:	-MO	<b>167%</b>	81%	<b>135%</b>	<b>149%</b>	<b>125%</b>	<b>130%</b>		
	-US	115%	56%	93%	102%	86%	90%		
<b>Lead Testing &lt;Age 6</b>	Rate	20.0%	19.8%	21.0%	24.0%	22.9%	21.5%	19.8%	10.3%
Relative rate vs.:	-MO	101%	100%	106%	<b>121%</b>	116%	109%		
	-US	<b>194%</b>	<b>192%</b>	<b>204%</b>	<b>233%</b>	<b>223%</b>	<b>209%</b>		
<b>Blood Lead Elevation per Tested</b> (Under age 6; >=10 ug/dL)	Rate	0.0%	0.5%	0.3%	0.2%	4.1%	0.9%	0.8%	0.5%
			*	*	*	*	*		
Relative rate vs.:	-MO	0%	63%	38%	25%	<b>513%</b>	113%		
	-US	0%	97%	58%	39%	<b>794%</b>	<b>174%</b>		
<b>Probable Child Abuse/Neglect</b> Age <18	Rate	0.4%	0.2%	0.6%	1.0%	0.9%	0.7%	0.4%	--
		*				*			
Relative rate vs.:	-MO	95%	55%	<b>139%</b>	<b>227%</b>	<b>200%</b>	<b>166%</b>		

- These six counties are on track (at or better than state and US rates) for lead testing among children. Higher than average elevated blood lead levels are found, however, in Ripley and possibly Reynolds Counties.
- WIC participation is high except in Cape Girardeau County, consistent with the food uncertainty and income/employment issues identified elsewhere in this report.
- Probable child abuse/neglect rates are higher than the state average in Scott, Stoddard, Reynolds, and Ripley Counties.

# Health Outcomes – By Life Stage: Fertility Rate by Age

- There is positive news in the declining fertility rate among teenage women ages 15-19 across most market area counties (from -10% in Bollinger County to -15% in Cape Girardeau County). However, this decline is not as rapid as the statewide decline (-22%) in the period 2006-9 to 2010-13.
- As a result, fertility rates among the 15-19 age group in the market area remain substantially elevated above the state average, in all except Cape Girardeau County.
- Another potential concern in terms of stability of the market area population is the decline in the fertility rate for women age 20-34 and 35-44 in some of the counties.

Live Births Fertility Rate per 1,000 Women by Age Group							
Age	Market Areas						Comp. Missouri
	Bollinger	Cape G	Scott	Stoddard	Reynolds	Ripley	
<b>2010-2013</b>							
10-14	--	--	--	--	--	--	0.3
15-19	43.9	28.6	60.8	49.7	41.9	70.6	33.5
20-34	114.1	84.4	113.8	112.5	112.8	119.8	100.6
35-44	12.3	18.3	13.4	12.1	--	14.2	21.9
45-64	--	--	--	--	--	--	0.1
All Ages	65.1	56.4	71.9	68.1	63.0	75.7	64.5
<b>2006-2009</b>							
10-14	--	--	--	--	--	--	0.5
15-19	49.0	33.8	70.4	49.9	46.9	68.7	43.0
20-34	126.2	92.9	124.9	107.7	103.4	120.2	108.7
35-44	9.0	16.8	16.3	11.7	--	9.8	21.1
45-64	--	--	--	--	--	--	0.2
All Ages	67.6	59.7	78.0	64.0	59.4	71.1	68.1
<b>Trend, 2010-13 v. 2006-09</b>							
10-14	--	--	--	--	--	--	-40%
15-19	-10%	-15%	-14%	0%	-11%	3%	-22%
20-34	-10%	-9%	-9%	4%	9%	0%	-7%
35-44	37%	9%	-18%	3%	--	45%	4%
45-64	--	--	--	--	--	--	-50%
All Ages	-4%	-6%	-8%	6%	6%	6%	-5%
<b>Relative Rate vs. MO, 2010-2013</b>							
10-14	--	--	--	--	--	--	--
15-19	<b>131%</b>	85%	<b>181%</b>	<b>148%</b>	<b>125%</b>	<b>211%</b>	--
20-34	113%	84%	113%	112%	112%	119%	--
35-44	56%	84%	61%	55%	--	65%	--
45-64	--	--	--	--	--	--	--
All Ages	101%	87%	111%	106%	98%	117%	--

Source: Fertility Rate MICA (interactive).

Relative rates in bold red or blue font indicate percentages that diverge by 20 percentage points or more from state values



# Health Outcomes – Incidence/Prevalence: Cancer Incidence

Cancer Incidence Rate per 100,000 Population, All Stages, 2010-2012 Cumulative							
Site	Market Area						Comp. MO
	Bollinger	Cape G	Scott	Stoddard	Reynolds	Ripley	
Breast	64.9	80.6	70.4	70.1	44.6 @	79.3	81.2
Lung and bronchus	89.1	64.9	105.1	90.2	58.7 @	102.3	75.0
Prostate	40.9	54.6	50.8	56.00	60.2 @	53.7	49.1
Colon, rectum, and rectosigmoid	44.8	40.7	43.8	65.0	45.0 @	49.6	45.2
Urinary bladder	10.0 @	15.4	17.9	19.5	19.2 @	22.9 @	18.9
Corpus and Uterus NOS	12.9 @	13.4	12.0 @	6.8 @	5.7 @	13.4 @	14.0
Cervix	1.7 @	4.6 @	3.5 @	2.6 @	@	@	4.4
<b>All</b>	<b>464.2</b>	<b>446.2</b>	<b>515.4</b>	<b>483.9</b>	<b>410.00</b>	<b>511.00</b>	<b>474.1</b>
<b>Relative Rate vs. Missouri</b>							
Breast	80%	99%	87%	86%	--	98%	
Lung and bronchus	119%	87%	140%	120%	--	136%	
Prostate	83%	111%	103%	114%	--	109%	
Colon, rectum, and rectosigmoid	99%	90%	97%	144%	--	110%	
Urinary bladder	--	81%	95%	103%	--	--	
Corpus and Uterus NOS	--	96%	--	--	--	--	
Cervix	--	--	--	--	--	--	
<b>All</b>	98%	94%	109%	102%	86%	108%	

- Breast and lung/bronchus cancers account for 33% of all new cases of cancer in Missouri.
- While total cancer incidence rates in each of the six counties are close to the state average, there is a high relative rate of lung/bronchus cancer in three counties (Scott, Stoddard, and Ripley), and a high rate of colorectal cancer in Stoddard County.

All rates are per 100,000 population, for cumulative 2010-2012.

Source for MO data: Missouri Department of Health & Senior Services, Cancer MICA (interactive table).

@ = small N; data unstable. >120% = elevated rate

# Health Outcomes – Incidence/Prevalence: Diabetes

	Impact of Diabetes								
	Market Areas						Total		
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	6 Counties	MO	US
<b>Diabetes Prevalence Among Adults Age 18+</b> (2012, 20+)									
% of Adults*	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	12.0%	11.1%	12.3%
Est. # Affected	1,135	7,261	3,667	2,744	605	1,305	16,716	526,197	--
...vs. US	--	--	--	--	--	--	98%	90%	--
<b>Total Visits and Charges, ER Visits with Diabetes as Principal Diagnosis, 2013</b>									
ER Visits	19	112	99	92	14	51	387	--	--
\$ Millions	\$0.6	\$0.3	\$0.2	\$0.2	\$0.2	\$0.1	\$1.7	--	--
<b>Total Days and Charges, Inpatient Stays with Diabetes as Principal Diagnosis, 2013</b>									
Inpatient Days	39	384	363	302	22	139	1,249	--	--
\$ Millions	\$0.3	\$2.6	\$2.6	\$2.1	\$0.2	\$1.2	\$9.1	--	--
<b>Average Annual Mortality Rate per 100,000 Population with Diabetes as Underlying Cause, 2003-2013</b> (2014)									
Rate	21.6	19.7	22.8	21.5	25.3	20.4	--	22.0	20.9
...vs. MO	98%	90%	104%	98%	115%	93%	--	--	--
...vs. US	103%	94%	109%	103%	121%	98%	--	105%	--

- Diabetes affects about 12% of adults in the 6-county market, consistent with the US and Missouri rates. Diabetes also affects about 0.25% of children in this region.
- Diabetes is the principal diagnosis for almost 400 ER visits per year, and over 1,200 days of inpatient care, accounting for \$10.8 million in hospital charges. Many more patients with a secondary diagnosis of diabetes receive ER and inpatient care each year as well.
- The diabetes mortality rate in the six counties is generally consistent with US and state rates, with a slightly higher death rate in Reynolds County in comparison with the US rate.

Source for diabetes prevalence among adults age 18+: BRFSS, Southeastern Region, 2014.

\*Note, prevalence rate is for Southeast region of MO; county level data are not statistically stable due to small sample size.

Source for US prevalence rate, 2012: <http://www.cdc.gov/nchs/fastats/diabetes.htm>

Source for US mortality rate, 2014: National Vital Statistics Reports, Vol. 65 No. 4, 6/30/16 ≥120% = elevated rate



# Health Outcomes – Incidence/Prevalence: Heart Disease

	Impact of Heart Disease								
	Market Areas						Total		
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	6 Counties	MO	US
<b><u>Angina or Coronary Heart Disease (CHD) Prevalence Among Adults Age 18+, 2014</u></b> (US, 2010)									
% of Adults*	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	6.5%	5.8%	6.0%
Est. # Affected	615	3,933	1,986	1,486	328	707	9,055	274,950	--
...vs. US	--	--	--	--	--	--	108%	97%	--
<b><u>Estimated Number of ER Visits with Heart Disease as Principal Diagnosis, 2013</u></b>									
ER Visits	101	647	327	245	54	116	1,491	69,212	
<b><u>Total Days and Charges, Inpatient Stays, Diseases of Heart as Principal Diagnosis, 2013</u></b>									
Inpatient Days	233	3,741	2,681	1,527	546	1,090	9,818	--	--
\$ Millions	\$2.0	\$48.6	\$32.8	\$22.8	\$8.2	\$16.9	\$131.3	--	--
<b><u>Average Annual Mortality Rate per 100,000 Population with Heart Disease as Underlying Cause, 2003-2013</u></b> (US, 2013)									
Rate	271.8	208.3	238.7	212.9	241.4	311.7	--	216.7	252.0
...vs. MO	<b>125%</b>	96%	110%	98%	111%	<b>144%</b>	--	--	--
...vs. US	108%	83%	95%	84%	96%	<b>124%</b>	--	86%	--

- Heart disease affects about 6.5% of adults in the 6-county market, consistent with the US and Missouri rates.
- Each year, heart disease is the principal diagnosis for almost 1,500 ER visits and almost 10,000 days of inpatient care across the six counties. The inpatient care alone leads to charges of more than \$131 million each year. Many more patients with a secondary diagnosis of heart disease receive ER and inpatient care each year as well. (Note, ER charges not available for heart disease.)
- The heart disease mortality rate in Bollinger County is substantially higher than the state rate; in Ripley County, the heart disease mortality rate exceeds both the state and US rates.

Source for angina and CHD prevalence among adults age 18+: BRFSS, Southeastern Region, 2014.

\*Note, prevalence rate is for Southeast region of MO; county level data are not statistically stable due to small sample size.

Source for US prevalence rate, 2010: Prevalence of Coronary Heart Disease, United States, 2006-2010, Morbidity & Mortality Weekly Report, 10/14/11.

Source for US mortality rate, 2013: National Vital Statistics Reports, Volume 64, No. 2, 2/16/16. >120% = elevated rate



# Health Outcomes – Incidence/Prevalence: Infectious Disease – Number of STD Cases

- There were substantial increases from 2013 to 2015 in the number of chlamydia cases reported in Bollinger, Scott, Stoddard, and Ripley Counties – even as chlamydia numbers declined across Missouri as a whole.
- Scott County also experienced a substantial increase in the number of reported cases of gonorrhea.
- The increase in gonorrhea cases in Bollinger County is less significant due to the very small number of cases in that county.

	Reported Cases of Sexually Transmitted Diseases						
	Market Areas						State
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
<b><u>Chlamydia</u></b>							
2013	14	371	156	75	9	19	27,328
2014	11	393	180	85	8	34	27,981
2015*	18	381	181	102	6	21	22,744
<b>% Change</b>	<b>29%</b>	<b>3%</b>	<b>16%</b>	<b>36%</b>	<b>-33%</b>	<b>11%</b>	<b>-17%</b>
<b><u>Gonorrhea</u></b>							
2013	2	141	49	11	3	3	7,541
2014	2	99	47	16	1	4	7,387
2015*	3	149	82	7	0	3	8,308
<b>% Change</b>	<b>50%</b>	<b>6%</b>	<b>67%</b>	<b>-36%</b>	<b>-100%</b>	<b>0%</b>	<b>10%</b>
<b><u>Relative Rate of Change vs. MO</u></b>							
Chlamydia: Counties with 10%+ increase in # cases							
	✓	--	✓	✓	--	✓	
Gonorrhea: Counties with greater increase in # cases vs. MO							
	✓	--	✓	--	--	--	

# Health Outcomes – Incidence/Prevalence: Infectious Disease – Relative Rate of STDs

- Cape Girardeau and Scott Counties have much higher rates of chlamydia vs. MO as a whole, but about the same as the (higher) US rate.

- Cape Girardeau and Scott Counties both have substantially higher rates of gonorrhea than MO or the US. All other counties have considerably lower rates.

	Rate per 100,000 Population in 2015							State MO	Total US
	Market Areas								
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley			
<b><u>Chlamydia</u></b>									
Rate/100,000	145	495	444	346	93	151	368	479	
...vs. MO	39%	135%	121%	94%	25%	41%	--	--	
...vs. US	30%	103%	93%	72%	19%	32%	77%	--	
<b><u>Gonorrhea</u></b>									
Rate	24	194	201	24	0	22	134	124	
...vs. MO	18%	144%	150%	18%	0%	16%	--	--	
...vs. US	20%	156%	162%	19%	0%	17%	108%	--	

- Nationwide, the rates of common STDs are increasing. From 2013-2015, the US rate of chlamydia increased by 8% to 479/100,000 population; the US rate of gonorrhea increased by 18%, to 124/100,000.
- The total rate of gonorrhea across the six counties in 2015 was 149/100,000 – substantially higher than the US rate. However, the total rate of chlamydia across the six counties in 2015 was 394/100,000 – substantially lower than the US rate.

# Health Outcomes – Incidence/Prevalence: Infectious Disease – HIV/AIDS

Rate per 100,000  
population living with ever-  
diagnosed AIDS, as of 2013

- US: 353
- Missouri: 237
- Scott Co.: 89
- Cape G. Co.: 85
- Stoddard Co.: 21

- In Missouri as a whole, the number of newly diagnosed cases of HIV/AIDS declined from an average of 548 cases per year in 2008-2012 to an average of 471 per year from 2013-2015, or from a rate of about 9.2 per 100,000 population in 2008-2012 to a rate of 7.6 per 100,000 in 2013-2015.
- Statewide, the number of HIV-related deaths has fallen from an average of 201 per year in 2008-2012 to an average of 118 per year in 2013-2015.
- Across Missouri, the total rate of people living with ever-diagnosed HIV/AIDS was 237.3/100,000 in 2013, declining to 199.6/100,000 as of 2015.
- In the three largest counties served by SoutheastHEALTH, the rate of people living with ever-diagnosed HIV/AIDS is less than one-half of the state average. *(See chart to the right. Note, due to the small number of cases of HIV/AIDS in some areas, and out of privacy concerns, the rate of people living with HIV/AIDS is not available for some counties.)*



# Health Outcomes – Incidence/Prevalence: Mental Health – Size of Affected Population

	Presence of Mental Health-Related Conditions						
	Market Areas						Total
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	6 Counties
<b>Estimated Prevalence of Mental Illness Among Adults, 18+, 2014</b>							
% of Adults	20.9%	20.9%	20.9%	20.9%	20.9%	20.9%	20.9%
Estimated # Affected	1,977	12,646	6,387	4,779	1,053	2,272	29,114
<b>Estimated Prevalence of Serious Mental Illness Among Adults, 18+, 2014</b>							
(These numbers and percentages are included in the total prevalence estimate above.)							
% of Adults	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
Estimated # Affected	520	3,328	1,681	1,258	277	598	7,662

- County-specific data on mental health are limited. For many statistics, this report relies on data for the entire Southeast region of Missouri. Data sources do not break out information by county when the number of people in a category is very small, due to privacy concerns.
- To convey a sense of the scope and impact of mental health issues, the prevalence rates for mental illness in general and for serious mental illness (a subset of, and included in, the overall prevalence rate) were multiplied by the population age 18+ in each county.
- In total, almost 30,000 adults across the 6-county market area are affected by some type of mental health concern each year, with almost 8,000 of those affected by a serious mental illness, based on self-reported data. The actual toll of mental health issues may be higher, if some respondents are reluctant to come forward with these issues.
- The total prevalence of mental illness in the six-county area is 13% higher than the US average of 18.5%; the prevalence of serious mental illness is **31%** higher than the US average.

See pages 36-37 for related information on substance abuse among youth and adults.  
 Source for prevalence: County Behavioral Health Profiles, MO Dept. of Mental Health, based on BRFSS Survey.  
 Source for US data: <http://www.nami.org/Learn-More/Mental-Health-By-the-Numbers>.  
 Red font shows elevated relative rate for six counties vs. the US.

# Health Outcomes – Incidence/Prevalence: Mental Health – Use of Services

	Treatment for Psychiatric or Mental Health Conditions						
	Market Areas						Total
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	6 Counties
Hospital Discharges*	114	737	549	433	70	182	2,085
Hospital Outpatient Visits*	347	2,143	1,248	649	97	300	4,784
# Clients Treated at Publicly-Funded Facilities**	486	2,085	995	587	45	163	4,361

- **Mental health conditions accounted for over 2,000 hospital discharges per year (at any hospital) among residents of the 6-county market area, almost 5,000 hospital outpatient visits, and over 4,000 clients treated at publicly-funded facilities.**
- **Data are not available to show the number of affected individuals who seek private counseling outside the 6-county area, or do not seek care at all.**
- **There are no mental health care services in Reynolds and Ripley Counties, limited services available in the other four counties, and extremely high mental health provider loads (or low provider-to-population ratios) in Bollinger, Scott, Stoddard, and Ripley Counties. (See details, pages 74-76.)**

Diagnostic Mix of Hospital-Based Care, Psychiatry Service Line, 10/2014 - 9/2015	Inpatient Discharges	Outpatient Visits
Psychosis	73%	7%
Addiction/Chemical Dependency	12%	17%
Neuroses & Adjustment/Personality Disorders	7%	16%
Developmental Disorders	5%	18%
Mood	4%	22%
Anxiety Disorders	0%	15%
Delirium/Dementia/Amnesic/Other Cognitive	0%	6%
Other	0%	0%
<b>Total</b>	<b>100%</b>	<b>100%</b>

\* Data are for 12 months, 10/2014 to 9/2015; Source: HIDI.

\*\* Data are for FY2014. Source: County Behavioral Health Profiles, MO Dept. of Mental Health.



# Health Outcomes – Incidence/Prevalence:

## Mental Health – Suicide

- There were 29 total suicides across the total six-county area (adult and youth combined) in 2013, the most recent year for which data are available.

Suicide and Related Issues							Total 6 Counties
Market Areas							
Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley		
<b><u>Among Students in 6th-12th Grades, 2014</u></b>							
% Considered Suicide in Past Year							
8.8%	9.7%	12.1%	8.8%	8.8%	n.a.	n.a.	
% Made a Suicide Plan							
6.8%	6.9%	7.6%	7.9%	5.8%	n.a.	n.a.	
% Attempted Suicide, Resulting in an Injury							
1.4%	1.4%	0.9%	3.1%	1.5%	n.a.	n.a.	
<b><u>Among Total County Population, All Ages, 2013</u></b>							
Number of Suicides							
1	10	7	7	1	3	29	

- Suicide is a consideration even among students in the 6<sup>th</sup> through 12<sup>th</sup> grades, with approximately 10% across the six-county area considering suicide in the past year, more than 5% making a suicide plan, and 1%-3% actually attempting suicide, resulting in an injury, each year.**
- The latest CDC statistics suggest that these rates, while substantial, may be lower than the national average. Nationwide, 16% of US high school students considered suicide, 13% made a suicide plan, and 8% attempted suicide. (Note older age mix of students in CDC data.)**

Data are for FY2014. Source: County Behavioral Health Profiles, MO Department of Mental Health.  
 Aggregate percentages across the six counties are not available.  
 Percentages for Ripley County have been suppressed in the source documents to preserve confidentiality.  
 Source for US averages: [http://www.cdc.gov/violenceprevention/suicide/youth\\_suicide.html](http://www.cdc.gov/violenceprevention/suicide/youth_suicide.html)



# Health Outcomes – Hospitalization: Preventable Hospitalizations *(for reference)*

Preventable Hospitalizations, Cumulative Rate/10,000, Age Under 65, 2010-2013							
Diagnosis	Market Area Counties						Comp.
	Bollinger	Cape G	Scott	Stoddard	Reynolds	Ripley	Missouri
Dehydration/volume depletion	23.1	26.6	44.1	34.9	41.3	62.4	30.4
Bacterial pneumonia	21.7	18.4	34.1	29	33.1	43.4	16.9
Cellulitis	13.6	13.7	19.7	18.4	16.6	23.9	14.0
Diabetes	7.7	9.9	16.1	14.5	8.4	27.2	12.6
Asthma	5.6	5.4	14.6	7.6	5.7 @	8.9	11.8
COPD	16.8	9.9	17.4	20.4	49.4	34	11.2
Congestive heart failure	5.2	7	15	9	10.3	13.9	9.0
Kidney/Urinary infection	9.6	7.6	12.5	11.8	8.5 @	15.2	7.8
Epilepsy	5.6	4.7	7.1	4.2	5.5 @	11.1	6.3
Gastroenteritis	2.6 @	3.5	4.6	5.6	19.6	12.00	3.7
Convulsions	2.5 @	2.7	4.7	3	2.3 @	4.0 @	3.1
Nutritional deficiencies	1.1 @	1.1	2.5	2.1	2.1 @	9.5	3.1
Hypertension	1.7 @	2.2	3.7	1.8	2.7 @	4.8	2.7
Severe ENT infections	1.5 @	1.5	2.9	3.8	7.8 @	11.0	1.6
Dental conditions	2.7 @	0.7 @	1.2 @	1.2 @	@	1.7 @	1.1
Pelvic inflammatory disease	0.3 @	1.0	0.7 @	0.9 @	1.7 @	0.8 @	0.9
Angina	1.0 @	0.1 @	1.7	0.9 @	1.0 @	1.8 @	0.5
Failure to thrive	@	0.5 @	0.2 @	0.3 @	@	1.7 @	0.4
Hypoglycemia	0.3 @	0.1 @	0.2 @	0.2 @	0.5 @	0.3 @	0.1
Immunization preventable	0.8 @	0.1 @	0.1 @	0.1 @	@	@	0.1
Tuberculosis	@	@	0.1 @	@	@	@	0.1
Congenital syphilis	@	0.1 @	@	@	@	@	0.0 @
<b>All diagnoses</b>	<b>123.5</b>	<b>116.7</b>	<b>203.1</b>	<b>169.8</b>	<b>216.6</b>	<b>287.7</b>	<b>137.4</b>

All rates are per 10,000 population, among the population up to age 65, for cumulative 2010-2013.

Source for MO data: Missouri Department of Health & Senior Services, Preventable Hospitalization MICA (interactive table).

@ = small N; data unstable.

# Health Outcomes – Hospitalization: Preventable Hospitalizations, Relative Rate vs. Missouri

Preventable Hospitalizations, Age Under 65, 2010-2013 -- Relative Rate vs. MO						
Diagnosis	Market Area Counties					
	Bollinger	Cape G	Scott	Stoddard	Reynolds	Ripley
Dehydration/volume depletion	76%	88%	145%	115%	136%	205%
Bacterial pneumonia	128%	109%	202%	172%	196%	257%
Cellulitis	97%	98%	141%	131%	119%	171%
Diabetes	61%	79%	128%	115%	67%	216%
Asthma	47%	46%	124%	64%	--	75%
COPD	150%	88%	155%	182%	441%	304%
Congestive heart failure	58%	78%	167%	100%	114%	154%
Kidney/Urinary infection	123%	97%	160%	151%	--	195%
Epilepsy	89%	75%	113%	67%	--	176%
Gastroenteritis	--	95%	124%	151%	530%	324%
Convulsions	--	87%	152%	97%	--	--
Nutritional deficiencies	--	35%	81%	68%	--	306%
Hypertension	--	81%	137%	67%	--	178%
Severe ENT infections	--	94%	181%	238%	--	688%
Pelvic inflammatory disease	--	111%	--	--	--	--
Angina	--	--	340%	--	--	--
All diagnoses	90%	85%	148%	124%	158%	209%

- With the exception of Cape Girardeau, each of the counties has elevated rates of preventable hospitalizations among the <65 population, relative to the state average.
- Ripley County has the highest relative rate of preventable hospitalizations, and rates that are more than double the state level for many conditions.
- Several counties are doing considerably better than the state average, with low rates of preventable hospitalizations for conditions such as asthma and diabetes.

Source for MO data: Missouri Department of Health & Senior Services, Preventable Hospitalization MICA (interactive table).

"--" not able to calculate due to unstable data. Rates not shown for lowest-incidence conditions due to unstable data for all counties.

>120% = elevated risk;

>200% = highly elevated risk; <80% = reduced risk.

# Health Outcomes – Mortality: Leading Causes of Death (for reference)

	10-Year Rates 2003-2013							US 2013
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	Missouri	
<b>All Causes</b>	900.6	808.3	928.3	925.7	910.9	1061.6	837.3	731.9
<b>Heart Disease</b>	271.8	208.3	238.7	212.9	241.4	311.7	216.7	169.8
<b>All Cancers (Malignant Neoplasms)</b>	198.8	177.7	207.6	219.7	195.6	237.8	188.9	163.2
Lung Cancer	65.8	56.0	73.4	73.2	60.8	77.2	58.7	43.4
Breast Cancer	12.0	13.1	15.8	18.1	13.4*	11.8	13.6	13.1
<b>Chronic Lower Respiratory Dis.</b>	59.1	45.4	67.7	82.6	67.3	71.5	50.3	42.1
<b>Stroke/Other Cerebrovascular Dis.</b>	43.8	47.5	54.1	55.6	44.0	64.7	47.8	36.2
<b>Total Unintentional Injuries</b>	49.4	27.4	50.4	51.4	105.7	70.5	47.5	39.4
Motor Vehicle Accidents	31.8	10.5	19.4	27.1	56.4	40.3	16.4	10.9
<b>Alzheimer's Disease</b>	32.3	41.6	27.6	36.3	14.2*	16.8	25.8	23.5
<b>Diabetes Mellitus</b>	21.6	19.7	22.8	21.5	25.3	20.4	22.0	21.2
<b>Pneumonia and Influenza</b>	23.3	16.4	25.4	21.8	13.8*	41.0	20.3	15.9
<b>Kidney Disease</b>	29.7	21.6	24.8	20.1	18.7*	24.1	18.1	13.2
<b>Suicide</b>	15.0	12.1	16.0	13.7	18.0*	13.4	13.7	12.6
<b>Septicemia</b>	9.8*	8.8	11.4	12.0	15.6*	16.4	11.5	12.1
<b>Chronic Liver Disease/Cirrhosis</b>	3.8*	6.2	10.0	8.4	7.2*	8.7*	7.5	10.2
<b>Homicide</b>	2.9*	3.1	4.5*	2.7*	4.9*	5.5*	7.2	5.2
<b>HIV/AIDS</b>	0.0*	1.2*	0.7*	0.3*	0.0*	0.8*	1.9	2.1
<b>Smoking-Attributable (estimated)</b>	169.0	137.7	177.8	184.5	173.7	214.1	145.2	tbd
<b>Alcohol/Drug-Induced</b>	8.3*	14.5	21.5	16.9	19.0*	18.6	20.2	tbd
<b>All Injuries and Poisonings</b>	71.8	51.2	73.0	72.8	131.3	104.5	70.5	tbd
<b>Firearm</b>	11.8*	9.9	11.4	10.8	18.9*	19.8	13.2	tbd
<b>Injury at Work</b>	3.3*	1.6*	3.4*	2.0*	7.1*	3.6*	1.7	tbd

All rates are per 100,000 population, standardized to 2000 US population.

Source for MO data: Missouri Department of Health & Senior Services, Community Data Profiles. Data are for 2003-2013.

Source for US data: Health US 2014; US data are for 2013. \* = small N; data unstable.

>120% = elevated risk (not bold font if \*); >120% = positive relative finding.

# Health Outcomes – Mortality:

## Relative Risk of Mortality, vs. State of Missouri

- Mortality rates for several leading causes of death are elevated relative to the state average, with the greatest number of elevated rates occurring in Ripley County.

- Both Reynolds and Ripley counties have mortality rates for motor vehicle accidents that are more than double the state rate, as well as some other extremely high rates.

	Relative Risk vs. State of Missouri					
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley
<b>All Causes</b>	108%	97%	111%	111%	109%	<b>127%</b>
<b>Heart Disease</b>	<b>125%</b>	96%	110%	98%	111%	<b>144%</b>
<b>All Cancers (Malignant Neoplasms)</b>	105%	94%	110%	116%	104%	<b>126%</b>
Lung Cancer	112%	95%	<b>125%</b>	<b>125%</b>	104%	<b>132%</b>
Breast Cancer	88%	96%	116%	<b>133%</b>	--	87%
<b>Chronic Lower Respiratory Dis.</b>	117%	90%	<b>135%</b>	<b>164%</b>	<b>134%</b>	<b>142%</b>
<b>Stroke/Other Cerebrovascular Dis.</b>	92%	99%	113%	116%	92%	<b>135%</b>
<b>Total Unintentional Injuries</b>	104%	58%	106%	108%	<b>223%</b>	<b>148%</b>
Motor Vehicle Accidents	<b>194%</b>	64%	118%	<b>165%</b>	<b>344%</b>	<b>246%</b>
<b>Alzheimer's Disease</b>	<b>125%</b>	<b>161%</b>	107%	<b>141%</b>	--	65%
<b>Diabetes Mellitus</b>	98%	90%	104%	98%	115%	93%
<b>Pneumonia and Influenza</b>	115%	81%	<b>125%</b>	107%	--	<b>202%</b>
<b>Kidney Disease</b>	<b>164%</b>	119%	<b>137%</b>	111%	--	<b>133%</b>
<b>Suicide</b>	109%	88%	117%	100%	--	98%
<b>Septicemia</b>	--	77%	99%	104%	--	<b>143%</b>
<b>Chronic Liver Disease/Cirrhosis</b>	--	83%	<b>133%</b>	112%	--	--
<b>Homicide</b>	--	43%	--	--	--	--
<b>HIV/AIDS</b>	--	--	--	--	--	--
<b>Smoking-Attributable (estimated)</b>	116%	95%	<b>122%</b>	<b>127%</b>	120%	<b>147%</b>
<b>Alcohol/Drug-Induced</b>	--	72%	106%	84%	--	92%
<b>All Injuries and Poisonings</b>	102%	73%	104%	103%	<b>186%</b>	<b>148%</b>
<b>Firearm</b>	--	75%	86%	82%	--	<b>150%</b>

# Health Outcomes – Mortality: Relative Risk of Mortality, vs. US Average

	Relative Risk vs. Total US					
	Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley
<b>All Causes</b>	<b>123%</b>	110%	<b>127%</b>	<b>126%</b>	<b>124%</b>	<b>145%</b>
Heart Disease	<b>160%</b>	<b>123%</b>	<b>141%</b>	<b>125%</b>	<b>142%</b>	<b>184%</b>
<b>All Cancers (Malignant Neoplasms)</b>	<b>122%</b>	109%	<b>127%</b>	<b>135%</b>	<b>120%</b>	<b>146%</b>
Lung Cancer	<b>152%</b>	<b>129%</b>	<b>169%</b>	<b>169%</b>	<b>140%</b>	<b>178%</b>
Breast Cancer	92%	100%	<b>121%</b>	<b>138%</b>	--	90%
<b>Chronic Lower Respiratory Dis.</b>	<b>140%</b>	108%	<b>161%</b>	<b>196%</b>	<b>160%</b>	<b>170%</b>
<b>Stroke/Other Cerebrovascular Dis.</b>	<b>121%</b>	<b>131%</b>	<b>149%</b>	<b>154%</b>	<b>122%</b>	<b>179%</b>
<b>Total Unintentional Injuries</b>	<b>125%</b>	70%	<b>128%</b>	<b>130%</b>	<b>268%</b>	<b>179%</b>
Motor Vehicle Accidents	<b>292%</b>	96%	<b>178%</b>	<b>249%</b>	<b>517%</b>	<b>370%</b>
Alzheimer's Disease	<b>137%</b>	<b>177%</b>	117%	<b>154%</b>	--	71%
Diabetes Mellitus	102%	93%	108%	101%	119%	96%
Pneumonia and Influenza	<b>147%</b>	103%	<b>160%</b>	<b>137%</b>	--	<b>258%</b>
Kidney Disease	<b>225%</b>	<b>164%</b>	<b>188%</b>	<b>152%</b>	--	<b>183%</b>
Suicide	119%	96%	<b>127%</b>	109%	--	106%
Septicemia	--	73%	94%	99%	--	<b>136%</b>
Chronic Liver Disease/Cirrhosis	--	61%	98%	82%	--	--
Homicide	--	60%	--	--	--	--

- Mortality rates for many leading causes of death are elevated relative to the US average, across all market area counties.
- Mortality rates related to motor vehicle accidents are more than double the US average, in four counties.
- Other highly elevated mortality rates apply to kidney disease, pneumonia and influenza, and total unintentional injuries in selected counties.

Source for MO data: Missouri Department of Health & Senior Services, Community Data Profiles. Data are for 2003-2013.

Source for US data: Health US 2014; US data are for 2013. >120% = elevated risk.; >200% = highly elevated risk.

Values of "--" could not be calculated due to unstable rates, or US comparative data not yet available.



## VI. HEALTH CARE RESOURCES

# Health Care Resources: Findings and Implications

- **Provider-to-population ratios for primary care, mental health, and dental services substantially exceed the state average in Bollinger, Stoddard, and Ripley counties, potentially indicating a significant barrier to access for those areas.**
- **Ratios also exceed the state average for primary care and mental health providers in Scott County, and for primary care in Reynolds County.**
- **In contrast, the better-than-average ratios for all types of providers in Cape Girardeau and for some providers in Reynolds County may make them destinations for the surrounding counties.**



# Health Care Resources: Topics Addressed

- **Hospitals**
- **Primary care**
- **Specialty care**
- **Emergency services**
- **Mental health**
- **Dental service**
- **Optometry services**
- **Long-term care**
- **Other community health resources**

# Summary of Health Care Resources Available in Four-County Primary Market

Resources:	Bollinger	Cape G.	Scott	Stoddard
<b><u>Hospitals</u></b>	none	Southeast: 263 beds St. Francis: 284 beds Landmark (LTAC): 30 beds <i>24/7 ED: Southeast</i> <i>Air Ambulance: Southeast</i> <i>Level III trauma: St. Francis</i>	Missouri Delta MC, 160 beds	Southeast Hosp. of Stoddard Co., 45 beds
<b><u>Primary Care</u></b>		Multiple FP practices	Ferguson Med. Grp. Other family practices	Multiple practices via SoutheastHEALTH, retail clinics, etc.
<b><u>Federally Qualified Health Center</u></b>	Cross Trails MC	Cross Trails MC	SEMO Health Network	Cross Trails MC SEMO Health Network
<b><u>Other Health Centers</u></b>		Rural Health Clinic River City Clinic	Family Medical Clinic	
<b><u>Mental Health</u></b>	Comm. Counseling Ctr. Private PLPC	Comm. Counseling Ctr.	Bootheel Couns. Svcs.	Bootheel Couns. Svcs. Berthelot Couns.
<b><u>Dental Care</u></b>	2 gen.	17 gen. 3 peds. 3 oral surg.	8 gen.	6 gen. Also: Dental Clinics at Cross Trails & SEMO
<b><u>Eye Care</u></b>	<i>Opticians/optometrists</i>	21	5	>4 Also: retail clinics
<b><u>Long-Term Care</u></b>				
<i>Assisted</i>	1	6	5	2
<i>Residential</i>	4	7	--	4
<i>Skilled</i>	1	8	4	6
<b><u>Other</u></b>	Bollinger County Health Center	Cape Girardeau County Health Department	Scott County Health Department	Stoddard County Public Health Center

See separate Appendix document for details by County. (forthcoming in final report)

# Summary of Health Care Resources Available in Reynolds and Ripley Counties

	Reynolds	Ripley
<b><u>Hospitals</u></b>	None	Southeast Health Center of Ripley County, 27 beds
<b><u>Primary Care</u></b>	Ellington Family Clinic	
<b><u>Federally Qualified Health Center</u></b>	MO Highlands Health Care	Naylor Medical Clinic (part of MO Highlands)
<b><u>Other Health Centers</u></b>	SoutheastHEALTH Family Medicine of Ellington	<i>[Note recent closure of SoutheastHEALTH clinics]</i>
<b><u>Mental Health</u></b>		
<b><u>Dental Care</u></b>	Big Springs Dental Clinic; 7 general dentists accepting Medicaid	1 general dentist
<b><u>Eye Care</u></b> <i>Opticians/optometrists</i>		
<b><u>Long-Term Care</u></b>		
<i>Assisted</i>	0	2
<i>Residential</i>	1	0
<i>Skilled</i>	1	1

# Provider to Population Ratios

Health Care Resources						State
Bollinger	Cape G.	Scott	Stoddard	Reynolds	Ripley	MO
<b>Population:PCP Ratio</b>						
12,382:1	1,084:1	1,779:1	1,862:1	3,334:1	7018:1	1,439:1
<b>Relative PCP "Load" vs. MO</b>						
<b>860%</b>	<b>75%</b>	<b>124%</b>	<b>129%</b>	<b>232%</b>	<b>488%</b>	
<b>Population:Mental Health Provider Ratio</b>						
3,123:1	413:1	786:1	1,861:1	600:1	1,754:1	632:1
<b>Relative Mental Health Provider "Load" vs. MO</b>						
<b>494%</b>	<b>65%</b>	<b>124%</b>	<b>294%</b>	95%	<b>278%</b>	
<b>Population:Dentist Ratio</b>						
6,245:1	1,406:1	1,786:1	4,963:1	1,320:1	7,016:1	1,920:1
<b>Relative Dentist Provider "Load" vs. MO</b>						
<b>325%</b>	<b>73%</b>	93%	<b>212%</b>	<b>69%</b>	<b>365%</b>	