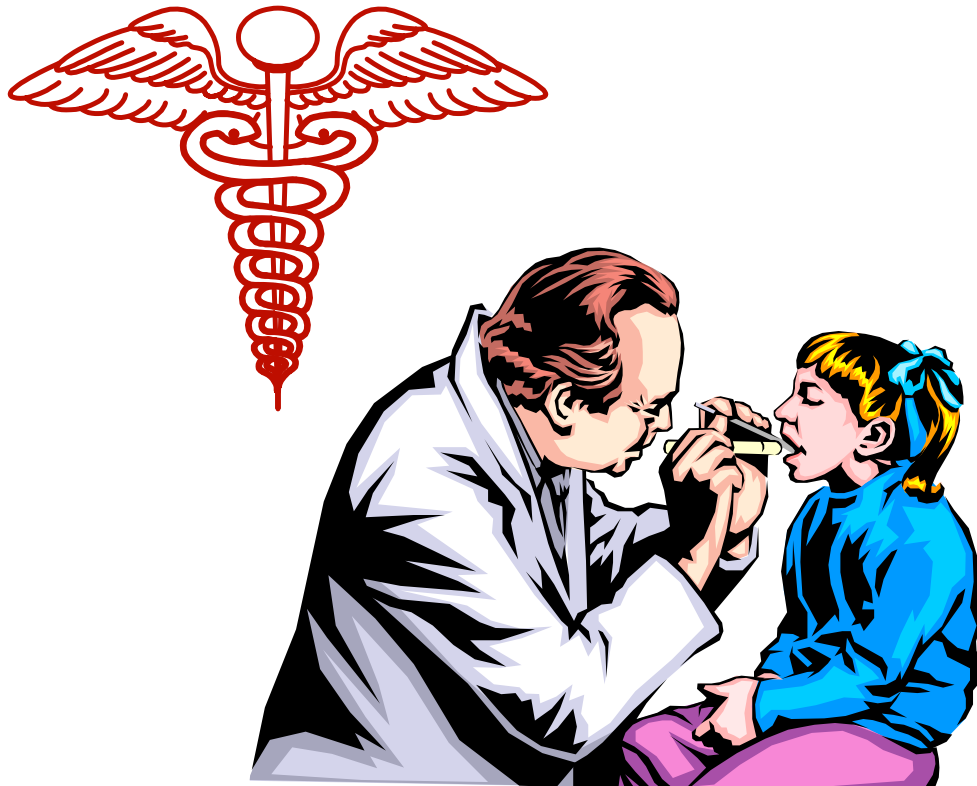


**An Analysis of the Demand for Primary Care Physicians  
for Mason General Hospital Medical Service Area  
in Mason County, Washington**



Prepared by:  
**Oklahoma Cooperative Extension Service**

**Oklahoma Office of Rural Health  
Rural Health Policy & Research Center**

Oklahoma State University

**National Association of Counties Project  
Funded by the federal Office of Rural Health Policy**

July 2005

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for Mason General Hospital Medical Service Area  
in Mason County, Washington**

Prepared for:

**Mason County, Washington**

through

**National Association of Counties Project  
Funded by the federal Office of Rural Health Policy**

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July 2005

# **An Analysis of the Demand for Primary Care Physicians for Mason General Hospital Medical Service Area in Mason County, Washington**

## Introduction

This report will examine the need for primary care physicians for the Mason General Hospital medical service area in Mason County, Washington. Primary care physicians include internal medicine physicians, family practitioners, obstetrics-gynecologists, and pediatricians. Specifically, the study will:

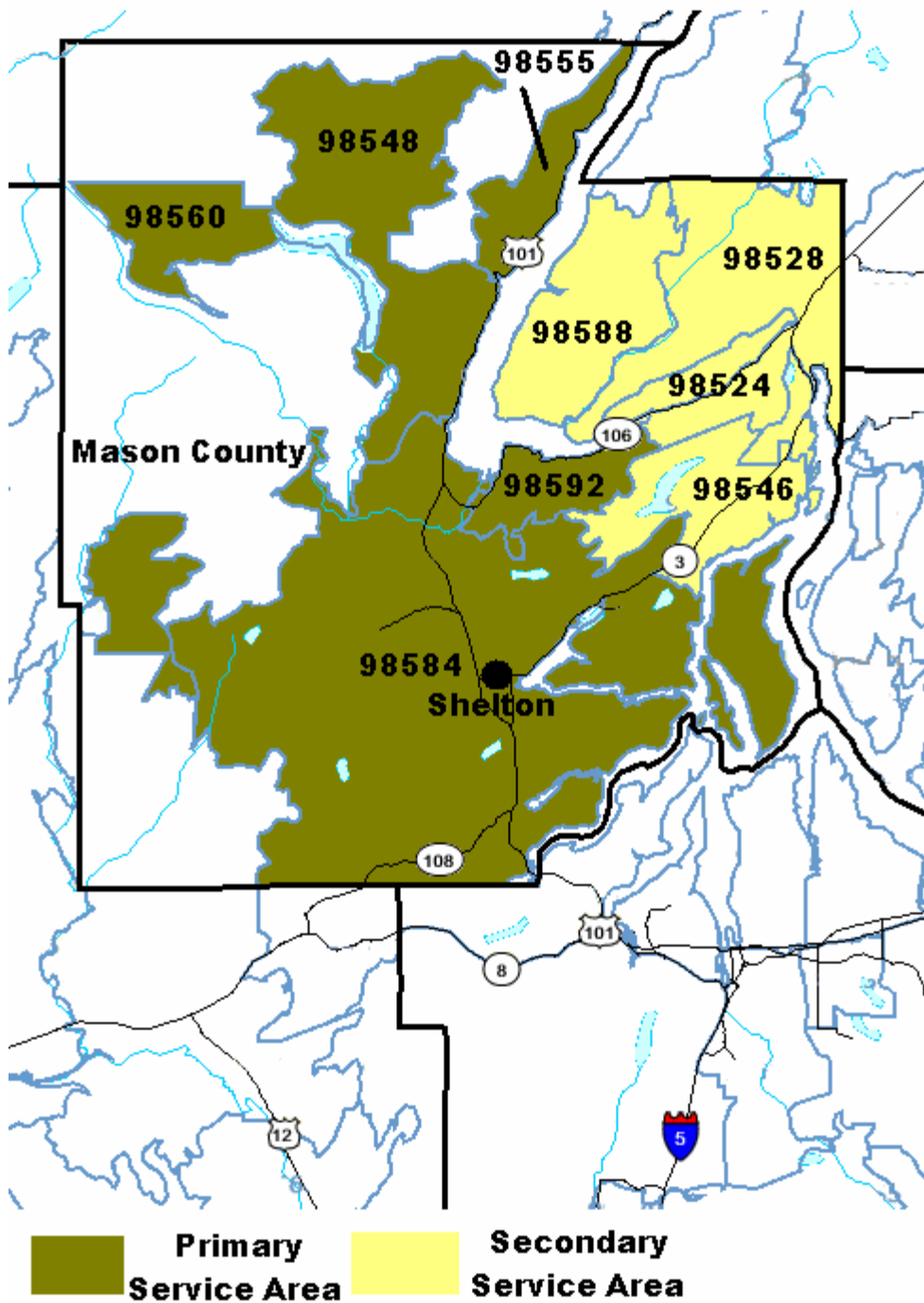
1. Delineate a primary medical service area for the Mason General Hospital and a secondary medical service area, including populations by age and gender for 2000 and projected for years 2005 and 2025;
2. Estimate primary care physician office visits for the Mason General Hospital medical service area for 2000, 2005, and 2025; and
3. Estimate the total demand for primary care physicians in the Mason General Hospital medical service area for 2000, 2005, and 2025.

No recommendations will be made. The information included in this report is designed to assist local decision-makers in assessing the need and potential for primary care physician services.

## Delineate Medical Service Areas in Mason County, Washington

To determine an estimate of the number of visits to primary care physicians, the medical service area must be delineated (**Figure 1**). The Mason County decision makers have determined that there is a primary medical service area which includes five zip codes: Hoodspport 98548, Lilliwaup 98555, Matlock 98560, Shelton 98584, and Union 98592 (**Figure 1**). This area includes Shelton and the Mason General Hospital, which is the only hospital in the county. A secondary medical service area has been delineated that includes four zip codes in the far North Eastern portion of Mason County, including: Allyn 98524, Belfair 98528, Grapeview 98546, and Tahuya 98588 (**Figure 1**). The secondary medical service area includes residents

**Figure 1**  
**Mason General Hospital Medical Service Area**  
**by Primary and Secondary Service Areas**  
**Mason County, Washington**



of Mason County that may utilize primary care health services in the primary medical service area of the Mason General Hospital.

**Table 1a** shows the 2000 Census population by gender and age groups for all five zip codes in the primary medical service area; the 2000 Census population total for the primary medical service area was 34,892. The 2000 Census population for the secondary medical service area was 13,139 and is further broken down by gender and age groups (**Table 1b**). The projected populations for years 2005 and 2025 are provided in **Table 1c** with a 2000 Census population total for both the primary and medical service areas of 48,031. Since the medical service areas are by zip codes, the total of the two zip code areas will not sum to the exact population of Mason County. However, the total of the primary and secondary medical service areas (by zip codes) was just under the Mason County 2000 population total of 49,405. The total service area (combine primary and medical service areas) and Mason County population data are included for comparison purposes.

**Table 1c** also shows the projected 2005 and 2025 populations by gender and age groups for the primary and secondary medical service areas, for the combined total of the primary and secondary areas, and for Mason County. These projections were based on the Washington State Office of Financial Management (OFM) January 2002 report, Washington State County Population Projections for Growth Management by Age and Sex: 2000-2025. Three projections were given by OFM at the low, intermediate, and high levels. The intermediate level projections were utilized to calculate the projected populations for the medical service areas. Zip code level projections were not available from Washington State OFM; zip code area projections were calculated based on the percent increases of county population by age and gender.

The primary medical service area is projected to increase population from 34,892 in 2000 to 37,964 in 2005, an increase of 8.8%; the projection for 2025 is 53,075, an additional increase of 39.8% from 2005. The secondary medical service area is projected to increase population from 13,139 in 2000 to 14,377 in 2005, an increase of 9.1%. In 2025, the secondary medical service area population is projected to increase to 19,976, an additional increase of 39.33% from

**Table 1a**  
**Population of Mason General Hospital Primary Medical Service Area**  
**Mason County, Washington, 2000**

	Hoodsport 98548			Lilliwaup 98555			Matlock 98560		
Gender/ Age	M	F	Total	M	F	Total	M	F	Total
Under 15	104	81	185	22	21	43	11	14	25
15-24	48	63	111	14	18	32	9	17	26
25-44	140	129	269	31	29	60	20	22	42
45-64	299	353	652	88	89	177	26	23	49
65-74	203	187	390	49	45	94	2	7	9
75+	<u>86</u>	<u>73</u>	<u>159</u>	<u>36</u>	<u>34</u>	<u>70</u>	<u>3</u>	<u>1</u>	<u>4</u>
Total	880	886	1,766	240	236	476	71	84	155
	Shelton 98584			Union 98592			Primary Medical Service Area Totals		
Gender/ Age	M	F	Total	M	F	Total	M	F	Total
Under 15	3,179	2,959	6,138	91	87	178	3,407	3,162	<b>6,569</b>
15-24	2,397	1,785	4,182	31	37	68	2,499	1,920	<b>4,419</b>
25-44	4,895	3,823	8,718	119	116	235	5,205	4,119	<b>9,324</b>
45-64	3,724	3,681	7,405	211	244	455	4,348	4,390	<b>8,738</b>
65-74	1,281	1,323	2,604	114	106	220	1,649	1,668	<b>3,317</b>
75+	<u>897</u>	<u>1,270</u>	<u>2,167</u>	<u>68</u>	<u>57</u>	<u>125</u>	<u>1,090</u>	<u>1,435</u>	<u><b>2,525</b></u>
Total	16,373	14,841	31,214	634	647	1,281	18,198	16,694	<b>34,892</b>

SOURCE: U. S. Census Bureau, 2000

**Table 1b**  
**Population of Mason General Hospital Secondary Medical Service Area**  
**Mason County, Washington, 2000**

	Allyn 98524			Belfair 98528			Grapeview 98546			Tahuya 98588			Secondary Medical Service Area Totals		
Gender/ Age	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total
< 15	106	83	189	845	847	1692	194	169	363	144	135	279	1,289	1,234	<b>2,523</b>
15-24	58	53	111	532	445	977	99	109	208	86	66	152	775	673	<b>1,448</b>
25-44	110	123	233	1,077	1,125	2,202	232	272	504	227	216	443	1,646	1,736	<b>3,382</b>
45-64	232	239	471	1,054	959	2,013	328	344	672	249	242	491	1,863	1,784	<b>3,647</b>
65-74	143	109	252	251	292	543	174	156	330	80	66	146	648	623	<b>1,271</b>
75+	<u>79</u>	<u>89</u>	<u>168</u>	<u>196</u>	<u>237</u>	<u>433</u>	<u>91</u>	<u>88</u>	<u>179</u>	<u>44</u>	<u>44</u>	<u>88</u>	<u>410</u>	<u>458</u>	<b><u>868</u></b>
Totals	728	696	1,424	3,955	3,905	7,860	1,118	1,138	2,256	830	769	1,599	6,631	6,508	<b>13,139</b>

SOURCE: U. S. Census Bureau, 2000

**Table 1c**  
**Total Populations and Projected Populations**  
**for Primary and Secondary Medical Service Areas,**  
**Total Service Area, and Total County**

Gender/Age	Primary Service Area			Secondary Service Area			Total Service Area	Total County
	M	F	Total	M	F	Total	Total	Total
<b>2000</b>								
< 15	3,407	3,162	6,569	1,289	1,234	2,523	9,092	9,384
15-24	2,499	1,920	4,419	775	673	1,448	5,867	6,031
25-44	5,205	4,119	9,324	1,646	1,736	3,382	12,706	13,080
45-64	4,348	4,390	8,738	1,863	1,784	3,647	12,385	12,761
65-74	1,649	1,668	3,317	648	623	1,271	4,588	4,704
75+	<u>1,090</u>	<u>1,435</u>	<u>2,525</u>	<u>410</u>	<u>458</u>	<u>868</u>	<u>3,393</u>	<u>3,445</u>
Totals	18,198	16,694	34,892	6,631	6,508	13,139	48,031	49,405
<b>2005</b>								
< 15	3,469	3,226	6,695	1,312	1,259	2,571	9,266	9,565
15-24	2,702	2,019	4,721	838	708	1,546	6,267	6,442
25-44	5,036	4,089	9,125	1,593	1,724	3,316	12,441	12,809
45-64	5,202	5,183	10,386	2,229	2,106	4,335	14,721	15,168
65-74	1,836	1,923	3,759	721	718	1,440	5,199	5,330
75+	<u>1,442</u>	<u>1,836</u>	<u>3,278</u>	<u>543</u>	<u>586</u>	<u>1,129</u>	<u>4,407</u>	<u>4,475</u>
Totals	19,687	18,277	37,964	7,236	7,101	14,337	52,301	53,789
<b>2025</b>								
< 15	4,405	4,196	8,601	1,667	1,638	3,304	11,905	12,292
15-24	3,124	2,381	5,505	969	835	1,803	7,308	7,518
25-44	6,158	4,988	11,146	1,947	2,102	4,050	15,195	15,652
45-64	6,252	6,563	12,815	2,679	2,667	5,346	18,162	18,715
65-74	3,905	3,945	7,850	1,534	1,473	3,008	10,858	11,135
75+	<u>3,161</u>	<u>3,998</u>	<u>7,159</u>	<u>1,189</u>	<u>1,276</u>	<u>2,465</u>	<u>9,624</u>	<u>9,776</u>
Totals	27,005	26,071	53,075	9,985	9,991	19,976	73,051	75,088

SOURCE: U. S. Census Bureau, 2000; Washington State County Population Projections for Growth Management by Age and Sex: 2000-2025, Washington State Office of Financial Management(OFM), Forecasting Division, Phone 360-902-0599, January 2002.

\* Zip code level projections not available from Washington State OFM; zip code projections calculated based on the percent increases of county population by age and gender.

2005. The combined primary and secondary medical service area totals (total service area) are given to compare with the Mason County total populations.

#### Estimate Primary Care Physician Office Visits for 2000, 2005, and 2025

The number of physician office visits generated in the Mason County medical service areas is estimated by using the medical service area population data and the data from state and national research [1,2,3]. Research shows the number of annual physician office visits for specified age group breakdowns and these are represented by primary and secondary medical service areas in **Tables 2a** and **2b**. For instance, for males under age 15, the average number of physician office visits is 2.7 visits per year [3]. This average annual visit rate is applied to the populations for each gender and age group. From **Table 2a** the number of males under age 15 for the primary medical service area for 2000 were 3,407 and the total estimated physician office visits for the males under age 15 were 9,199 ( $3,407 \times 2.7 = 9,199$ ). In 2000, residents in the primary medical service area were estimated to make 116,705 total physician office visits (**Table 2a**). Of these total physician office visits, 62.7 percent or 73,174 office visits ( $116,705 \times 62.7\% = 73,174$ ) will be made to physicians active in primary patient care while the remainder will be made to specialists [1]. The total estimated physician office visits for all scenarios are calculated with the same methodology. The secondary medical service area was estimated to have total physician office visits of 44,552 for the year 2000 and further estimated 27,934 primary care physician office visits (**Table 2b**).

**Tables 3a** and **3b** illustrate the calculations of total physician office visits and total primary care physician office visits for the primary and secondary medical service areas, based on the 2005 projected populations. **Tables 4a** and **4b** illustrate the calculations of

**Table 2a**  
**Total Physician Office Visits and Total Primary Care Physician Office Visits**  
**Generated in the Mason General Hospital Primary Medical Service Area, 2000**

Age	ANNUAL PHYSICIAN OFFICE VISITS						Total Medical Service Area Population	Total Annual Physician Office Visits
	MALE			FEMALE				
	2000 Pop.	2002 Visit Rate	Total Visits	2000 Pop.	2002 Visit Rate	Total Visits		
Under 15	3,407	2.7	<b>9,199</b>	3,162	2.6	<b>8,221</b>	6,569	<b>17,420</b>
15-24	2,499	1.4	<b>3,499</b>	1,920	2.3	<b>4,416</b>	4,419	<b>7,915</b>
25-44	5,205	1.6	<b>8,328</b>	4,119	3.1	<b>12,769</b>	9,324	<b>21,097</b>
45-64	4,348	3.1	<b>13,479</b>	4,390	4.2	<b>18,438</b>	8,738	<b>31,917</b>
65-74	1,649	5.8	<b>9,564</b>	1,668	6.3	<b>10,508</b>	3,317	<b>20,072</b>
75+	<u>1,090</u>	6.9	<u><b>7,521</b></u>	<u>1,435</u>	7.5	<u><b>10,763</b></u>	<u>2,525</u>	<u><b>18,284</b></u>
Total	18,198		<b>51,590</b>	16,694		<b>65,115</b>	34,892	<b>116,705</b>

Total Annual Physician Office Visits = 116,705  
 Estimated Total Annual Primary Care Physician Office Visits = 73,174

62.7% of Total Annual Physician Office Visits =  
 Estimated Total Annual Primary Care Physician Office Visits (62.7% x 116,705 = 73,174)

SOURCE: U. S. Census Bureau, 2000

SOURCE: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics, "National Ambulatory Medical Care Survey: 2002 Summary," No. 346, August 2004

**Table 2b**  
**Total Physician Office Visits and Total Primary Care Physician Office Visits**  
**Generated in the Mason General Hospital Secondary Medical Service Area, 2000**

Age	ANNUAL PHYSICIAN OFFICE VISITS						Total Medical Service Area Population	Total Annual Physician Office Visits
	MALE			FEMALE				
	2000 Pop.	2002 Visit Rate	Total Visits	2000 Pop.	2002 Visit Rate	Total Visits		
Under 15	1,289	2.7	<b>3,480</b>	1,234	2.6	<b>3,208</b>	2,523	<b>6,688</b>
15-24	775	1.4	<b>1,085</b>	673	2.3	<b>1,548</b>	1,448	<b>2,633</b>
25-44	1,646	1.6	<b>2,634</b>	1,736	3.1	<b>5,382</b>	3,382	<b>8,016</b>
45-64	1,863	3.1	<b>5,775</b>	1,784	4.2	<b>7,493</b>	3,647	<b>13,268</b>
65-74	648	5.8	<b>3,758</b>	623	6.3	<b>3,925</b>	1,271	<b>7,683</b>
75+	<u>410</u>	6.9	<u><b>2,829</b></u>	<u>458</u>	7.5	<u><b>3,435</b></u>	<u>868</u>	<u><b>6,264</b></u>
Total	6,631		<b>19,561</b>	6,508		<b>24,991</b>	13,139	<b>44,552</b>

Total Annual Physician Office Visits = 44,552

Estimated Total Annual Primary Care Physician Office Visits = 27,934

62.7% of Total Annual Physician Office Visits =

Estimated Total Annual Primary Care Physician Office Visits (62.7% x 44,552 = 27,934)

SOURCE: U. S. Census Bureau, 2000

SOURCE: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics, "National Ambulatory Medical Care Survey: 2002 Summary," No. 346, August 2004

**Table 3a**  
**Total Physician Office Visits and Total Primary Care Physician Office Visits**  
**Generated in the Mason General Hospital Primary Medical Service Area, 2005**

Age	ANNUAL PHYSICIAN OFFICE VISITS						Total Medical Service Area Population	Total Annual Physician Office Visits
	MALE			FEMALE				
	2005 Pop.	2002 Visit Rate	Total Visits	2005 Pop.	2002 Visit Rate	Total Visits		
Under 15	3,469	2.7	<b>9,366</b>	3,226	2.6	<b>8,387</b>	6,695	<b>17,753</b>
15-24	2,702	1.4	<b>3,782</b>	2,019	2.3	<b>4,644</b>	4,721	<b>8,426</b>
25-44	5,036	1.6	<b>8,057</b>	4,089	3.1	<b>12,677</b>	9,125	<b>20,734</b>
45-64	5,202	3.1	<b>16,127</b>	5,183	4.2	<b>21,770</b>	10,386	<b>37,897</b>
65-74	1,836	5.8	<b>10,646</b>	1,923	6.3	<b>12,117</b>	3,759	<b>22,763</b>
75+	<u>1,442</u>	6.9	<u>9,952</u>	<u>1,836</u>	7.5	<u>13,771</u>	<u>3,278</u>	<u>23,723</u>
<b>Total</b>	<b>19,687</b>		<b>57,930</b>	<b>18,277</b>		<b>73,366</b>	<b>37,964</b>	<b>131,296</b>
<p>Total Annual Physician Office Visits = 131,296</p> <p>Estimated Total Annual Primary Care Physician Office Visits = 82,323</p> <p>62.7% of Total Annual Physician Office Visits =</p> <p>Estimated Total Annual Primary Care Physician Office Visits</p>								

SOURCE: Estimated 2005 populations from U. S. Census Bureau, 2000; Washington State County Population Projections for Growth Management by Age and Sex: 2000-2025, Washington State Office of Financial Management(OFM), Forecasting Division, Phone 360-902-0599, January 2002

SOURCE: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics, "National Ambulatory Medical Care Survey: 2002 Summary," No. 346, August 2004

**Table 3b**  
**Total Physician Office Visits and Total Primary Care Physician Office Visits**  
**Generated in the Mason General Hospital Secondary Medical Service Area, 2005**

Age	ANNUAL PHYSICIAN OFFICE VISITS						Total Medical Service Area Population	Total Annual Physician Office Visits
	MALE			FEMALE				
	2005 Pop.	2002 Visit Rate	Total Visits	2005 Pop.	2002 Visit Rate	Total Visits		
Under 15	1,312	2.7	<b>3,544</b>	1,259	2.6	<b>3,273</b>	2,571	<b>6,817</b>
15-24	838	1.4	<b>1,173</b>	708	2.3	<b>1,628</b>	1,546	<b>2,801</b>
25-44	1,593	1.6	<b>2,548</b>	1,724	3.1	<b>5,343</b>	3,316	<b>7,891</b>
45-64	2,229	3.1	<b>6,910</b>	2,106	4.2	<b>8,847</b>	4,335	<b>15,757</b>
65-74	721	5.8	<b>4,183</b>	718	6.3	<b>4,526</b>	1,440	<b>8,709</b>
75+	<u>543</u>	6.9	<u><b>3,743</b></u>	<u>586</u>	7.5	<u><b>4,395</b></u>	<u>1,129</u>	<u><b>8,138</b></u>
Total	7,236		<b>22,101</b>	7,101		<b>28,012</b>	14,337	<b>50,113</b>
<p>Total Annual Physician Office Visits = 50,113</p> <p>Estimated Total Annual Primary Care Physician Office Visits = 31,421</p> <p>62.7% of Total Annual Physician Office Visits =</p> <p>Estimated Total Annual Primary Care Physician Office Visits</p>								

SOURCE: Estimated 2005 populations from U. S. Census Bureau, 2000; Washington State County Population Projections for Growth Management by Age and Sex: 2000-2025, Washington State Office of Financial Management(OFM), Forecasting Division, Phone 360-902-0599, January 2002

SOURCE: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics, "National Ambulatory Medical Care Survey: 2002 Summary," No. 346, August 2004

**Table 4a**  
**Total Physician Office Visits and Total Primary Care Physician Office Visits**  
**Generated in the Mason General Hospital Primary Medical Service Area, 2025**

Age	ANNUAL PHYSICIAN OFFICE VISITS						Total Medical Service Area Population	Total Annual Physician Office Visits
	MALE			FEMALE				
	2025 Pop.	2002 Visit Rate	Total Visits	2025 Pop.	2002 Visit Rate	Total Visits		
Under 15	4,405	2.7	<b>11,894</b>	4,196	2.6	<b>10,910</b>	8,601	<b>22,804</b>
15-24	3,124	1.4	<b>4,373</b>	2,381	2.3	<b>5,476</b>	5,505	<b>9,849</b>
25-44	6,158	1.6	<b>9,852</b>	4,988	3.1	<b>15,463</b>	11,146	<b>25,315</b>
45-64	6,252	3.1	<b>19,383</b>	6,563	4.2	<b>27,565</b>	12,815	<b>46,948</b>
65-74	3,905	5.8	<b>22,648</b>	3,945	6.3	<b>24,852</b>	7,850	<b>47,500</b>
75+	<u>3,161</u>	6.9	<u>21,811</u>	<u>3,998</u>	7.5	<u>29,984</u>	<u>7,159</u>	<u>51,795</u>
<b>Total</b>	27,005		<b>89,961</b>	26,071		<b>114,250</b>	53,075	<b>204,211</b>
<p>Total Annual Physician Office Visits = 204,211</p> <p>Estimated Total Annual Primary Care Physician Office Visits = 128,040</p> <p>62.7% of Total Annual Physician Office Visits =</p> <p>Estimated Total Annual Primary Care Physician Office Visits</p>								

SOURCE: Estimated 2025 populations from U. S. Census Bureau, 2000; Washington State County Population Projections for Growth Management by Age and Sex: 2000-2025, Washington State Office of Financial Management(OFM), Forecasting Division, Phone 360-902-0599, January 2002

SOURCE: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics, "National Ambulatory Medical Care Survey: 2002 Summary," No. 346, August 2004

**Table 4b**  
**Total Physician Office Visits and Total Primary Care Physician Office Visits**  
**Generated in the Mason General Hospital Secondary Medical Service Area, 2025**

Age	ANNUAL PHYSICIAN OFFICE VISITS						Total Medical Service Area Population	Total Annual Physician Office Visits
	MALE			FEMALE				
	2025 Pop.	2002 Visit Rate	Total Visits	2025 Pop.	2002 Visit Rate	Total Visits		
Under 15	1,667	2.7	<b>4,500</b>	1,638	2.6	<b>4,258</b>	3,304	<b>8,758</b>
15-24	969	1.4	<b>1,356</b>	835	2.3	<b>1,919</b>	1,803	<b>3,275</b>
25-44	1,947	1.6	<b>3,116</b>	2,102	3.1	<b>6,517</b>	4,050	<b>9,633</b>
45-64	2,679	3.1	<b>8,305</b>	2,667	4.2	<b>11,202</b>	5,346	<b>19,507</b>
65-74	1,534	5.8	<b>8,900</b>	1,473	6.3	<b>9,282</b>	3,008	<b>18,182</b>
75+	<u>1,189</u>	6.9	<u>8,204</u>	<u>1,276</u>	7.5	<u>9,570</u>	<u>2,465</u>	<u>17,774</u>
Total	9,985		<b>34,381</b>	9,991		<b>42,748</b>	19,976	<b>77,129</b>
<p>Total Annual Physician Office Visits = 77,129</p> <p>Estimated Total Annual Primary Care Physician Office Visits = 48,360</p> <p>62.7% of Total Annual Physician Office Visits =</p> <p>Estimated Total Annual Primary Care Physician Office Visits</p>								

SOURCE: Estimated 2025 populations from U. S. Census Bureau, 2000; Washington State County Population Projections for Growth Management by Age and Sex: 2000-2025, Washington State Office of Financial Management(OFM), Forecasting Division, Phone 360-902-0599, January 2002

SOURCE: U. S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center of Health Statistics, "National Ambulatory Medical Care Survey: 2002 Summary," No. 346, August 2004

total physician office visits and total primary care physician office visits for the primary and secondary medical service areas, based on the 2025 projected populations.

To summarize **Tables 2, 3, and 4**, **Table 5** shows the total annual physician office visits and the total annual primary care physician office visits for the three selected years for the primary and secondary medical service areas, as well as totals for the total service area and for Mason County. For instance, for the year 2005, the primary medical service area is projected to have a population of 37,964, resulting in total annual physician office visits of 131,296 and total annual primary care physician office visits of 82,323. The next step is to estimate the percent of residents that actually utilize primary care physicians in the primary medical service area, rather than going outside the primary medical service area for primary care.

The total number of primary care physician office visits given various usage rates are presented in **Tables 6a, 6b** and **6c**. These tables illustrate the number of primary care physician office visits given a range from 60 – 100% usage in the primary medical service area and given a range from 5 - 40% usage from the secondary medical service area for the three selected years, 2000, 2005, and 2025. All the assumptions are based on 80% usage from the primary medical service area and 10 – 15% usage from the secondary medical service area to determine the estimated annual primary care physician office visits and the estimated number of primary care physicians to service the Mason General Hospital medical service area. All the assumptions are based on a primary care physician with an average of 5,000 patient office visits annually. All the assumptions have been calculated utilizing the 2002 physician office visit rates with no adjustments.

For the year 2000, there were estimated between 61,133 and 62,729 total primary care physician office visits in the Mason General Hospital medical service area and, therefore, it is estimated that the Mason General Hospital medical service area needed an estimated 12.2 to 12.5

**Table 5**  
**Summary of Total Annual Physician and Total Annual Primary Care Physician Office Visits**  
**for the Medical Service Areas for 2000, 2005, and 2025**

Service Areas by Year	Total Medical Service Area Population	Total Annual Physician Office Visits	Total Annual Primary Care Physician Office Visits
<b>2000</b>			
Primary Medical Service Area	34,892	116,705	73,174
Secondary Medical Service Area	<u>13,139</u>	<u>44,552</u>	<u>27,934</u>
Total Zip Code Area	<u>48,031</u>	<u>161,259</u>	<u>101,109</u>
Mason County	49,405		
<b>2005</b>			
Primary Medical Service Area	37,964	131,296	82,323
Secondary Medical Service Area	<u>14,337</u>	<u>50,113</u>	<u>31,421</u>
Total Zip Code Area	<u>52,301</u>	<u>181,409</u>	<u>113,743</u>
Mason County	53,789		
<b>2025</b>			
Primary Medical Service Area	53,075	204,211	128,040
Secondary Medical Service Area	<u>19,976</u>	<u>77,129</u>	<u>48,360</u>
Total Zip Code Area	<u>73,051</u>	<u>281,340</u>	<u>176,400</u>
Mason County	75,088		

**Table 6a**  
**Estimated Primary Care Physician Office Visits Given Usage**  
**By Local Residents in Mason County Zip Code Medical Service Areas, 2000**

Usage by Residents in Primary Service Area (South Zip Code Area)						
		60%	70%	80%	90%	100%
Usage by Residents in Secondary Service Area (North Zip Code Area)	5%	45,301	52,619	59,936	67,253	74,571
	10%	46,698	54,015	61,333	68,650	75,967
	15%	48,095	55,412	62,729	70,047	77,364
	20%	49,491	56,809	64,126	71,443	78,761
	25%	50,888	58,205	65,523	72,840	80,158
	30%	52,285	59,602	66,919	74,237	81,554
	35%	53,681	60,999	68,316	75,634	82,951
	40%	55,078	62,395	69,713	77,030	84,348
	<p>If 80% primary medical service area and 10 to 15% secondary medical service area, then the usage would be:</p> <p align="center">61,333 to 62,729 total primary care physician office visits <b>LOCALLY</b>  for an estimated <b>12.2 - 12.5 Total Primary Care Physicians in the South Zip Code Area</b>  Based on 5,000 average annual primary care office visits per physician</p>					

**Table 6b**  
**Primary Care Physician Office Visits Given Usage**  
**By Local Residents in Shelton Medical Service Areas, 2005**

Usage by Residents of Primary Service Area (South Zip Code Area)						
Usage by Residents in Secondary Service Area (North Zip Code Area)		60%	70%	80%	90%	100%
	5%	78,395	91,199	104,003	116,807	129,611
	10%	79,966	92,770	105,574	118,378	131,182
	15%	81,537	94,341	107,145	119,949	132,753
	20%	83,108	95,912	108,716	121,520	134,324
	25%	84,679	97,483	110,287	123,091	135,895
	30%	86,250	99,054	111,858	124,662	137,466
	35%	87,821	100,625	113,429	126,233	139,037
	40%	89,392	102,196	115,000	127,804	140,608
	<p>If 80% primary medical service area and 10 to 15% secondary medical service area, then the usage would be:  105,574 to 107,145 total primary care physician office visits  for an estimated <b>21.1 - 21.4 Total Primary Care Physicians</b>  Based on 5,000 average annual primary care office visits per physician</p>					

**Table 6c**  
**Primary Care Physician Office Visits Given Usage**  
**By Local Residents in Shelton Medical Service Areas, 2025**

Usage by Residents of Primary Service Area (South Zip Code Area)						
Usage by Residents in Secondary Service Area (North Zip Code Area)		60%	70%	80%	90%	100%
	5%	79,242	92,046	104,850	117,654	130,458
	10%	81,660	94,464	107,268	120,072	132,876
	15%	84,078	96,882	109,686	122,490	135,294
	20%	86,496	99,300	112,104	124,908	137,712
	25%	88,914	101,718	114,522	127,326	140,130
	30%	91,332	104,136	116,940	129,744	142,548
	35%	93,750	106,554	119,358	132,162	144,966
	40%	96,168	108,972	121,776	134,580	147,384

If 80% primary medical service area and 10 to 15% secondary medical service area, then the usage would be:  
107,268 to 109,686 total primary care physician office visits  
for an estimated **21.5 - 21.9 Total Primary Care Physicians**  
Based on 5,000 average annual primary care office visits per physician

primary care physicians (**Table 6a**). For the year 2005, there were estimated between 105,574 and 107,145 total primary care physician office visits in the Mason General Hospital medical service area and, therefore, it is estimated that the Mason General Hospital medical service area needed an estimated 21.1 to 21.4 primary care physicians (**Table 6b**). For the year 2025, there were estimated between 107,268 and 109,686 total primary care physician office visits in the Mason General Hospital medical service area and, therefore, it is estimated that the Mason General Hospital medical service area needed an estimated 21.5 to 21.9 primary care physicians (**Table 6c**).

**Table 7** is included to show three different usage rates for each of the selected years. Higher usage levels would indicate more physicians could be supported and lower usage levels would indicate fewer physicians. All assumptions and local conditions must be taken into consideration by decision-makers before deciding if additional physicians could successfully locate in the Mason General Hospital medical service area. The actual usage level should be determined by local decision makers. Again, primary care physicians include the physician practices of internal medicine, pediatrics, family medicine, and OB-GYN. All of these types of physicians should be considered when analyzing the usage levels in the medical service area.

### Summary

Many assumptions have been made in the preceding analysis. These include items that may change such as the population of the service area or service area delineation. For example, the service area depicted here may change due to the exit or entry of physicians from nearby communities. Should this occur, revised estimates of physician office visits should be calculated.

Populations have been projected based on the best possible data available today. Physician office visit rates have been derived based on the latest data available. All assumptions should be

**Table 7**  
**Summary of Total Estimated Primary Care Physician Office Visits and**  
**Estimated Number of Primary Care Physicians**  
**for the Medical Service Areas for 2000, 2005, and 2025**

Service Areas by Year	Assume 100% Primary, 5 - 10% Secondary				Assume 90% Primary, 25 - 30% Secondary				Assume 80% Primary, 10-15% Secondary			
	Estimated Primary Care Office Visits		Estimated Number of Primary Care		Estimated Primary Care Office Visits		Estimated Number of Primary Care		Estimated Primary Care Office Visits		Estimated Number of Primary Care	
	Range		Range		Range		Range		Range		Range	
<b>2000</b>												
Mason General Hospital Medical Service Area	74,571	75,967	14.9	15.2	67,253	68,650	13.5	13.7	61,333	62,729	12.3	12.5
<b>2005</b>												
Mason General Hospital Medical Service Area	129,611	131,182	25.9	26.2	123,091	124,662	24.6	24.9	105,574	107,145	21.1	21.4
<b>2025</b>												
Mason General Hospital Medical Service Area	130,458	132,876	26.1	26.6	127,326	129,744	25.5	25.9	107,268	109,686	21.5	21.9

closely examined by local decision-makers to verify that they reflect local conditions. If additional local data are available, they should be included to derive the most realistic analysis possible. If further analysis is needed, contact the authors from the National Center for Rural Health Works listed on the title page of this document.

## References

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