An Estimate of the Number of Primary Care, OB-GYN, and Pediatric Physicians for the Hartshorne/Haileyville, Oklahoma, Medical Service Area

Jeanne M. Hutchins, Extension Associate, Oklahoma State University, Stillwater
405-744-6081

Cheryl F. St. Clair, Extension Associate, Oklahoma State University, Stillwater
405-744-6081

Gerald A. Doeksen, Extension Economist, Oklahoma State University, Stillwater
405-744-6081

Jack Frye, Area Rural Development Specialist, Ada
405-332-4100

Ted L. Evicks, Pittsburgh County Extension Director, McAlester
918-423-4120

RURAL DEVELOPMENT
OKLAHOMA COOPERATIVE EXTENSION SERVICE
OKLAHOMA STATE UNIVERSITY

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Local decision makers in Hartshorne/Haileyville are reviewing the need for primary care, pediatric, and OB-GYN physicians to service the medical needs of Hartshorne/Haileyville. This report is based on a number of important assumptions, as described throughout the paper. The report will:

1. Estimate the total annual number of physician office visits and estimate the number of primary care physicians needed to support the medical needs of the service area;
2. Estimate the total annual number of OB-GYN office visits for the service area and the number of OB-GYN physicians needed to support the medical needs of the service area; and
3. Estimate the total annual number of pediatric office visits for the service area and the number of pediatric physicians needed to support the medical needs of the service area.

No recommendations will be made.

An Analysis of Physician Annual Office Visits and Needed Primary Care Physicians

The medical service area is defined for this study as the Hartshorne/Haileyville communities and surrounding rural areas (Figure 1). Population by age and sex of the Hartshorne/Haileyville medical service area is needed to perform these analyses. The U. S. Census of Population, Population Estimates Branch, has released estimates for the 1994 population for the Hartshorne/Haileyville medical service area and these estimates will be utilized to perform the analyses [5]. Total estimated population for 1994 for the Hartshorne/Haileyville medical service area is 3,925; 2,184 for Hartshorne, 945 for Haileyville, and 796 for the rural areas (Table 1). Of the total 1994 population the number of males is estimated to be 1,925 and the number of females 2,000.

The methodology for determining the annual number of physician office visits and needed primary care physicians is described in the publication, "Internal Medicine - A Systematic Approach to the Planning and Development of a Community Practice - A Step-by-Step Guide," University of Oklahoma Health Sciences Center, 1993 [1]. Primary care physicians include general and family practice physicians, pediatricians, internal medicine physicians, and obstetrics and gynecology physicians.

Table 2 is shown with the 1994 population estimates for Hartshorne/Haileyville, with the breakdown by sex and age distribution as needed. The U. S. Department of Health and Human Services, Public Health Service, National Center of Health Statistics, performed a survey to determine the average annual number of physician office visits per person by age and sex for the United States in 1991 ("National Ambulatory Medical Care Survey: 1991 Summary," Series 13, No. 116, 1991) [2]. These average annual number of physician office visits per person are included in Table 2. To determine the total annual number of all physician office visits for males, the average annual number of physician office visits per person is multiplied times the 1994 population groups to arrive at the total male physician office visits. For the 25-44 age group, the average annual number of visits per male is 1.6; this is multiplied times the 1994 male population for this age group of 557 to arrive at the total male office visits for the 25-44 age group of 891 (1.6 x 557).

The total annual male physician office visits for the Hartshorne/Haileyville service area is estimated to be 4,659. The same process is used to arrive at the total annual female physician office
visits of 6,729. The final column of Table 2 shows the combined male and female totals for the grand
total of all annual physician office visits for the Hartshorne/Haileyville service area of 11,388.

This total, 11,388, represents the annual total of all physician office visits in
Hartshorne/Haileyville. Primary care physicians include general and family practice physicians,
pediatricians, internal medicine physicians, and obstetrics and gynecology physicians. To determine the
annual number of primary care physician office visits, it has been determined that 62.2% of the total
annual physician office visits are primary care physician annual office visits [1]. The number of primary
care physician annual office visits is 7,083 (11,388 x 62.2%). It has also been determined that each
primary care physician has an average number of annual office visits of 4,296 [1]. By dividing the total
number of primary care physician annual office visits by the average number of annual office visits per
primary care physician (7,083/4,296), the total primary care physicians needed to service the
Hartshorne/Haileyville area is estimated to be 1.6 primary care physicians. The total number of 1.6
primary care physicians includes the OB-GYN physicians and pediatricians that will be described in the
next two sections.
An Analysis of OB-GYN Physician Annual Office Visits and Needed Ob-GYN Physicians

The medical service area and the population estimates will be the same as described in the primary care physician section. The methodology for determining number of office visits and the number of OB-GYN physicians is the same as the primary care physician methodology. The number of OB-GYN physician office visits per 100 population was determined from the U. S. Department of Health and Human Services, Public Health Service, National Center for Health Statistics, "National Ambulatory Medical Care Survey: 1991 Summary," Series 13, No. 116, 1991 [2].

The calculations are basically the same (Table 3). The average office visits per 100 population is multiplied times the number of females to arrive at the total female office visits of 408. It has been determined that males visit OB-GYN physicians at the rate of 1% of the female office visits, for a total male office visits to the OB-GYN physicians of 4. The total OB-GYN office visits is 412.

It has been determined that the average annual number of office visits per OB-GYN physician is 3,288 [2]. By dividing the annual total OB-GYN office visits of 412 by the average annual number of office visits per OB-GYN physician of 3,288 (412/3,288), the total number of OB-GYN physicians needed to support the medical needs of the Hartshorne/Haileyville area is 0.13 OB-GYN physicians. Since the OB-GYN physicians number of 0.13 is included in the total primary care physicians number of 1.6, the OB-GYN medical need may already be covered through other primary care physicians or through OB-GYN physicians outside of the Hartshorne/Haileyville service area. The need for the 0.13 OB-GYN physicians is an estimate and much depends on the mix of local and regional primary care providers.

An Analysis of Pediatrician Annual Office Visits and Needed Pediatricians

The medical service area and the population estimates will be the same as described in the primary care physician section. The methodology for determining number of office visits and the number of pediatric physicians is the same as the primary care physician methodology. The average annual number of pediatrician office visits per 100 population was determined from the U. S. Department of Health and Human Services, Public Health Service, National Center of Health Statistics publication, "1992 National Ambulatory Medical Care Survey," CD-Rom Series 13, No. 4, 1992 [3].

The calculations are basically the same (Table 4). The average office visits per 100 population is multiplied times the 1994 population by age groups to arrive at the total annual female office visits to pediatricians of 488 and the total annual male office visits of 375. The total annual pediatrician office visits is 863.

It has been determined that the average annual number of office visits per pediatrician is 5,163 [3]. By dividing the annual total pediatrician office visits of 863 by the average annual number of office visits per OB-GYN physician of 5,163 (863/5,163), the total number of pediatricians needed to support the medical needs of the Hartshorne/Haileyville area is 0.17 pediatricians. Since the pediatricians number of 0.17 is included in the total primary care physicians number of 1.6, the pediatricians medical need may already be covered through other primary care physicians or through pediatricians outside of the Hartshorne/Haileyville service area. The need for the 0.17 pediatricians is an estimate and much depends on the mix of local and regional primary care providers.
Summary

The data and information provided in this report are estimates of the number of primary care, OB-GYN, and pediatric physicians needed to support the medical needs of the Hartshorne/Haileyville medical service area. The estimates of 1.6 primary care physicians, 0.13 OB-GYN physicians, and 0.17 pediatric physicians are based on many assumptions. The number of OB-GYN and pediatric physicians are included in the total number of primary care physicians. The actual mix of local and regional primary care physicians, the proximity to metropolitan service markets, and patient utilization of OB-GYN and pediatric primary care providers all greatly effect the need for and the type of primary care physicians within a specific community. For instance, as the number of family practice physicians increases in a community, the number of visits to pediatricians decreases.

The assumptions must be clearly evaluated by local decision makers and additional local information must be utilized to supplement this report when any decisions are made. No recommendations are made. If further analysis is desired, please contact your local county extension office.
References


Table 1
Population Estimates for Hartshorne/Haileyville Service Area

<table>
<thead>
<tr>
<th>City</th>
<th>1994 Estimated Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hartshorne</td>
<td>2,184</td>
</tr>
<tr>
<td>Haileyville</td>
<td>945</td>
</tr>
<tr>
<td>Rural Areas</td>
<td>796</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3,925</td>
</tr>
<tr>
<td>Age Groups</td>
<td>Average Number of Visits/Person</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>&lt;15</td>
<td>2.3</td>
</tr>
<tr>
<td>15-24</td>
<td>1.2</td>
</tr>
<tr>
<td>25-44</td>
<td>1.6</td>
</tr>
<tr>
<td>45-64</td>
<td>2.6</td>
</tr>
<tr>
<td>65-74</td>
<td>4.2</td>
</tr>
<tr>
<td>75+</td>
<td>6.1</td>
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<tr>
<td>Population Totals</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL OFFICE VISITS: 4,659, 6,729, 11,388

TOTAL PHYSICIAN OFFICE VISITS: 11,388

Percent of Primary Care Physician Office Visits: 62.2%

Total Primary Care Physician Office Visits: 11,388

Average Number of Annual Visits to Primary Care Physicians: 4,296

TOTAL PRIMARY CARE PHYSICIANS NEEDED TO SERVICE MEDICAL AREA: 1.6

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Table 3
Hartshorne/Haileyville
OB-GYN Physicians
Estimated Number of OB-GYN Physician Office Visits and Estimated Number of OB-GYN Physicians

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Office Visits Per 100 Population</th>
<th>Number of Females</th>
<th>Total Office Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;15</td>
<td>0.9</td>
<td>375</td>
<td>3</td>
</tr>
<tr>
<td>15-24</td>
<td>35.4</td>
<td>231</td>
<td>82</td>
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<tr>
<td>25-45</td>
<td>42.6</td>
<td>521</td>
<td>222</td>
</tr>
<tr>
<td>46-64</td>
<td>14.8</td>
<td>451</td>
<td>67</td>
</tr>
<tr>
<td>65-74</td>
<td>9.9</td>
<td>213</td>
<td>21</td>
</tr>
<tr>
<td>75+</td>
<td>6.0</td>
<td>209</td>
<td>13</td>
</tr>
</tbody>
</table>

Population Total: 2,000

TOTAL FEMALE PATIENTS OFFICE VISITS: 408
TOTAL MALE PATIENTS OFFICE VISITS (1%): 4

TOTAL OB-GYN OFFICE VISITS: 412

Total OB-GYN Office Visits: 412
Average Annual Office Visits per OB-GYN Physician: 3,288

TOTAL OB-GYN PHYSICIANS NEEDED TO SERVICE MEDICAL AREA: 0.13

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Table 4
Hartshorne/Haileyville Pediatricians\(^1\)
Estimated Pediatricians Office Visits and Estimated Number of Pediatricians

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Average Number of Visits/100 Population</th>
<th>1994 Estimated Office Visits</th>
<th>Total Female Visits</th>
<th>Average Number of Visits/100 Population</th>
<th>1994 Estimated Office Visits</th>
<th>Total Male Visits</th>
<th>Estimated Total Pediatrician Office Visits</th>
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</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>466.65</td>
<td>22</td>
<td>103</td>
<td>332.41</td>
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<td>83</td>
<td>186</td>
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<td>1</td>
<td>275.93</td>
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<td>61</td>
<td>191.52</td>
<td>25</td>
<td>48</td>
<td>109</td>
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<tr>
<td>2-5</td>
<td>138.30</td>
<td>91</td>
<td>126</td>
<td>101.42</td>
<td>102</td>
<td>103</td>
<td>229</td>
</tr>
<tr>
<td>6-10</td>
<td>76.91</td>
<td>130</td>
<td>100</td>
<td>53.07</td>
<td>147</td>
<td>78</td>
<td>178</td>
</tr>
<tr>
<td>11-14</td>
<td>44.11</td>
<td>110</td>
<td>49</td>
<td>30.43</td>
<td>124</td>
<td>38</td>
<td>87</td>
</tr>
<tr>
<td>15-20</td>
<td>17.51</td>
<td>150</td>
<td>26</td>
<td>10.02</td>
<td>165</td>
<td>17</td>
<td>43</td>
</tr>
<tr>
<td>21+</td>
<td>1.55</td>
<td>1,475</td>
<td>23</td>
<td>0.58</td>
<td>1,337</td>
<td>8</td>
<td>31</td>
</tr>
<tr>
<td>Population Totals</td>
<td>2,000</td>
<td></td>
<td></td>
<td>1,925</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL PEDIATRICIAN OFFICE VISITS</td>
<td>488</td>
<td></td>
<td></td>
<td>375</td>
<td></td>
<td>863</td>
<td></td>
</tr>
</tbody>
</table>

Total Pediatrician Office Visits 863
Average Annual Office Visits Per Pediatrician 5.163
TOTAL PEDIATRICIANS NEEDED TO SERVICE MEDICAL AREA 0.17