

# Health Care Services Infrastructure

## Summary

Washington State's health care services infrastructure delivers acute, primary, specialty, and long-term care. Infrastructure allows, but does not guarantee, access to services. It currently faces pressures from growing demand, the gap between rising costs and flat or declining revenue, and increasing numbers of uninsured patients.

## Introduction

Health care services infrastructure includes the physical facilities, personnel, administrative systems, and financial investments needed to deliver essential health services. Primary care services represent a crucial entry point into the health care system. The adjusted primary care staffing ratio—the ratio of population to full-time equivalent (FTE) primary care physicians in direct service—provides an index of the availability of primary care.

## Time Trends

Based on data from the American Medical Association (AMA), Washington's adjusted primary care staffing ratio for 2005 was nearly 1,492:1.<sup>1</sup> Data for a thorough trend analysis are not available, but in 1993, the ratio was 1,477:1, and in 1999, it was 1,390:1<sup>2</sup> (See Technical Notes for details on primary care staffing ratios and FTE adjustments.)

AMA data for 2005 also show that among all physician specialties within primary care, Washington had relatively more physicians in family medicine compared to the United States as a whole (45% vs. 32%) and relatively fewer physicians in general internal medicine (28% vs.

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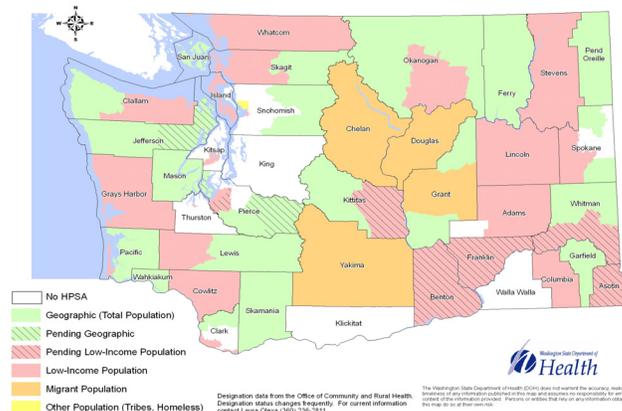
35%), pediatrics (15% vs. 19%), and obstetrics-gynecology (12% vs. 15%).

## Year 2010 Goals

There are no *Healthy People 2010* goals addressing primary care infrastructure, but there is a minimum federal standard for the ratio of population to primary care physicians. This standard assumes that a population's adjusted primary care staffing ratio should not exceed 3,000:1. Areas that fall short of this federal standard may apply to be designated "significant shortage" areas for primary care. There are 56 federally designated Health Professional Shortage Areas (HPSAs) for primary care in Washington.

## Geographic Variation

Federally Designated Health Professional Shortage Areas for Primary Care December 21, 2006



HPSA designations for primary care can cover a sub-area in a county, an entire county, a group of counties, an area's low-income population, or special populations (such as migrant workers). Nearly every county in Washington except King, Walla Walla, and Klickitat counties has a shortage designation for at least some areas or sub-

populations. The map above shows federally designated HPSAs for primary care in Washington State. Updated maps reflecting changes over time are available on the Department of Health website at [http://ww4.doh.wa.gov/gis/standard\\_maps.htm](http://ww4.doh.wa.gov/gis/standard_maps.htm).

Health care infrastructure is more precarious in rural areas than in urban places. Difficulty achieving economies of scale leads to greater fixed costs in rural areas, and weaker economies limit local health investment. In these parts of the state, the number of health care providers in relation to population is often less than in urban areas.

## Other Service Providers

**Hospitals.** About 98% of Washington residents live within 30 minutes of one of the state's 94 general acute care hospitals. From 2000 to 2005, while the number of hospitals increased from 93 to 95, the number of beds declined from 14,037 beds to 13,890 beds.<sup>3</sup> The number of emergency department visits increased from 327 per 1,000 population to 342 per 1,000 during this period.<sup>4</sup>

**Dental care.** The University of Washington Center for Health Workforce Studies reports shortages of dentists and dental hygienists in both rural and urban areas of the state. Long-term projections of workforce deficits are not reliable because of information gaps.<sup>5</sup> Currently, some areas or populations in all but five Washington counties are designated as federal dental care HPSAs. A current map of dental shortage areas can be found on the Department of Health website at [http://ww4.doh.wa.gov/gis/pdf/dental\\_2006.pdf](http://ww4.doh.wa.gov/gis/pdf/dental_2006.pdf).

**Specialty care.** In 2005, physicians with specialties other than primary care made up 53% of all physicians statewide.<sup>1</sup> While the number of physicians in various specialties is known, there are no minimum federal standards for assessing shortages, as there are for primary care providers. More research is needed to evaluate possible gaps in supply and access to specialty care.

**Long-term and chronic care.** Demand for long-term and chronic care continues to increase rapidly as Washington's population ages.<sup>6</sup> During the past decade, demand has shifted from high intensity care settings, such as nursing homes, to less intensive residential care

settings (such as assisted living and adult family homes) and home care services. From 1995 through 2005, the number of nursing home facilities, beds, and average daily residents all declined by about 15%. The number of nursing home beds per 1,000 residents ages 65 and older declined from 45 to 33.<sup>7</sup> The fraction of Medicaid long-term care expenditure that goes for nursing home care also declined from 45% in FY 2000 to 35% in FY 2006.<sup>8</sup> Meanwhile, the number of licensed boarding home beds, including assisted living and other adult residential care, increased from 22,140 in 2000 to 24,498 in 2004.<sup>9</sup> Compared to other states, Washington ranks high in its use of home and community residential care and low in its reliance on nursing homes.<sup>10</sup>

**Mental health care.** In 2000, about 296,000 Washington residents had serious mental illnesses.<sup>11</sup> Of these, about 126,000 received mental health care through the state's public mental health care system. Three state mental health facilities with 1,247 total beds provide long stays for individuals with serious and persistent illnesses. Most residential care, whether paid for with public or private funds, occurs in private facilities. From 2000 to 2006, the number of community inpatient mental health beds declined 18%, from 799 to 657.<sup>12</sup>

Most public mental health patients in Washington receive outpatient care through community programs operating under contract to 14 Regional Support Networks (RSNs), which are responsible for coordinating care and assuring quality.

Nearly half of low-income people without private health insurance cannot access state-funded mental health services. Medicaid clients with mental illness can usually be served, but RSN funding is not adequate to serve everyone in need.<sup>13</sup> A recent study of inpatient psychiatric capacity concluded that state spending for residential mental health treatment in Washington remains significantly lower than spending for comparable services in peer states and that inadequate residential treatment leads to backlogs in other areas of the mental health system.<sup>14</sup>

Shortages of psychiatrists and other mental health providers also exist throughout Washington, especially in rural areas.<sup>15</sup> Thirty-eight of Washington's 39 counties have mental health shortage designations for at least some areas or sub-populations. A current map of mental health shortage designations can be found on the Department of Health website at [http://ww4.doh.wa.gov/gis/pdf/mental\\_2006.pdf](http://ww4.doh.wa.gov/gis/pdf/mental_2006.pdf).

**Genetic services.** Advances in genetics research and technology have vastly improved our understanding of how individual genetic traits combine with environmental and behavioral factors to affect health status. An understanding of the influence of human genetics on health can help individuals and medical personnel make decisions that affect both prevention and disease management.

Developments of new, more efficient, and more effective tests to predict, diagnose, and treat disease are advancing rapidly. In 2007, genetic testing was available for 1,464 diseases (1,181 clinical and 283 research-only). Additionally, family health history is receiving renewed attention as a way to help people detect and prevent diseases that run in the family.

Such developments in genetics technology have raised many concerns, however. More genetic tests are being marketed directly to both health care providers and consumers, some via the internet, without regard for whether the test or “product” has demonstrated effectiveness. Additionally, health care providers face an ever-widening knowledge gap, while patient demand for genetic testing and interpretation of results increases. As a result, there is a growing need for genetics education and quality assurance.

Consumers need to understand the availability and relevance of genetic testing to their particular circumstances as well as the advantages and disadvantages of such testing so that they can make informed choices about genetic services. Clinics, laboratories, and accrediting organizations must establish mechanisms to monitor and improve the quality of genetic services. These may take the form of proficiency testing for laboratories providing genetic testing or continuous medical education credits to health care providers who receive additional training in genetics.

## **Risk and Protective Factors**

**Safety net capacity.** The federal Institute of Medicine<sup>16</sup> defines the core health services safety net as community and free clinics with a legal mandate or expressed mission to serve all patients, including those on Medicaid and Medicare, and the uninsured. An auxiliary safety net of providers and clinics plays an essential supporting role.

In 2007, Washington’s 22 Community and Migrant Health Centers (CMHCs) provided care through 130 clinical sites in 26 counties.<sup>17</sup> Twenty free clinics in 15 counties are also part of the safety net. Safety net clinics receive funding from sources such as the Washington Health Care Authority’s Community Health Services program.

Additional resources augment this core and include the federally certified Rural Health Clinics (RHCs), tribal clinics, and residency clinics. While not subject to explicit mandates, these clinics might receive public and community support. They are more likely than most other private practices to serve Medicare, Medicaid, and uninsured patients.

With the exception of the large CHMC systems of King and Pierce counties, about 9% of primary care physician capacity in 2004 was located at “core” safety net facilities. RHCs had an additional 16% of capacity, while tribal clinics and residency programs each accounted for 2%.<sup>18</sup> Approximately 71% of primary care providers do not work in safety-net facilities.

### **Financial stability of acute health care providers.**

The financial stability of Washington’s health care system is threatened by the persistent gap between rising costs of providing medical care and limitations on available reimbursement. But after declining significantly during the 1990s, hospital operating margins (revenue minus expenses) have increased. In 2005, 72% of hospitals reported positive margins compared to 48% in 2000. Urban hospitals generally reported better margins than rural hospitals.<sup>19</sup>

### **High dependence on federal, state, and local taxes.**

In 2004, public tax dollars funded 45% of national health care expenditures through Medicare, Medicaid, and other government programs. This public support is projected to reach 48% by 2015.<sup>20</sup> Hospitals, long-term care services, and safety net clinics rely heavily on government support. In 2005, 51% of hospital revenue in Washington (60% in rural areas) came from Medicare or Medicaid.<sup>19</sup>

### **Levels of reimbursement and subsidy for publicly insured patients.**

A payment-level analysis conducted by Premera Blue Cross concluded that hospitals in Washington incurred negative margins of 15% on both Medicare and Medicaid patients in FY 2004.<sup>21</sup> Physician payments from commercial payers are typically 24% to 45% greater than Medicare rates. Commercial rates are 13% to 55% greater than Medicaid rates for children and twice or more the Medicaid rates for adults. Recent legislative changes, however, might lead to

improvements in Medicaid reimbursement rates for prenatal and pediatric care services.<sup>22</sup>

**Provider participation in public programs and restriction of practices.** With few exceptions, primary care providers limit Medicare and Medicaid patients to no more than 50% of their practices. Some providers have a 25% limit. A 2006 poll of Washington State Medical Association members reported that about 39% of physicians were not accepting new Medicare patients.<sup>23</sup> Physician and nurse practitioner participation in Medicaid Healthy Options—managed care plans for low-income people—declined from 2001 to 2004. But participation of primary care physicians in the Medicaid fee-for-service program increased by 5% per year over this period, with increases in 28 counties and decreases in only six. Specialist participation in the fee-for-service program increased by only 1% per year, and participation decreased in half of the counties (both urban and rural).<sup>24</sup>

**Health workforce shortages.** Washington faces shortages of many health care providers, including physicians, nurses, physician's assistants, pharmacists, and providers of mental health and dental services.<sup>25</sup> In the first quarter of 2007, there were 49 vacant positions for family physicians listed with the Department of Health.<sup>26</sup> AMA projections show that an additional 886 family physicians will be needed in Washington State by 2020.<sup>27</sup> Currently, about 75% of all family physicians in the state are recruited from outside.<sup>1</sup> The shortage of family physicians is especially worrisome considering that residency positions for family physicians declined nationally from 3,262 per year in 1997 to 2,621 per year in 2007.<sup>28</sup>

Recent hospital surveys report more than 9,300 additional registered nurses were employed in 2005 compared with 2001. The vacancy rate and number of vacancies for registered nurses in hospitals is declining.<sup>29</sup> The projections, however, show future shortages of nurse practitioners (NPs). More than half of currently practicing NPs are 50 years of age or older, and they will be retiring soon.<sup>30</sup> This has wider implications for primary care service delivery, since nearly half of all NPs in the state are family practice certified. Especially in rural areas, a large proportion of NPs are functioning as primary care providers.<sup>31,30</sup> Vacancies for nursing assistants in hospitals are rising as

well.<sup>25</sup> More than half of the hospitals report great difficulty recruiting physical and occupational therapists and ultrasound and nuclear medicine technologists.<sup>25</sup>

The future demand growth for most health professions outpaces overall population growth because of higher utilization rates among the rapidly growing elderly population ages 65 and older.<sup>1</sup>

**Emergency preparedness.** The latest annual assessment by the Trust for America's Health found that Washington meets its standards on eight of 10 preparedness indicators (better than 39 states). Washington did not satisfy "surge capacity" (adequate hospital beds needed within two weeks of a moderately severe pandemic flu outbreak) and adequacy of the nursing workforce.<sup>32</sup>

### Intervention Strategies

Interventions to improve health care infrastructure include governmental programs and collaborative efforts with the private sector. Although many of these programs show promise, none has been systematically evaluated.

**Loan repayment and scholarship programs for health professionals.** Training programs are expensive, and demand for scholarships and the loan repayment program greatly exceed available resources. The Washington State Department of Health, in collaboration with the Higher Education Coordinating Board, grants scholarships to students and assists many health professionals with loan repayment. In 2006, 61 health professionals received funding for loan repayment, and 24 students were awarded scholarships. In exchange, many of these awardees work in federally designated HPSAs, and about 47% of them stay in their posts beyond their obligation period.<sup>33</sup>

**Physician recruitment and retention programs.** Given the shortages of health professionals, recruitment and retention are two major challenges. The Washington Recruitment Group is a collaborative effort among several state and non-profit agencies. It focuses on recruitment and retention of primary health care practitioners who want to provide health care to medically underserved populations. During the past seven years, this program placed 143 providers.<sup>34</sup>

The Department's J-1 Visa Waiver program helps primary care clinics in rural and underserved areas recruit foreign physicians for 30 available slots per

year. During 1995-2003, 93% of all recruitments stayed through their three-year-obligation period, and 74% of them remained in physician shortage areas afterward at least for one year.<sup>35</sup>

**Improving the training pipeline for health care providers.** Maintaining Washington's health care workforce requires investments at all stages of the practitioner's training and career. Recent promising strategies include working with the next generation of health professionals at earlier ages from kindergarten to 12<sup>th</sup> grade and encouraging them to choose health care careers.

Two such youth programs are currently operating: Project Hope and ConneX. They both work with teenage students from rural and underserved areas with diverse backgrounds through summer programs and internships in a variety of health care professions. Even though these programs are too recent to produce effective increases in the health care workforce, the preliminary evaluations show high school achievement among their graduates.<sup>36, 37</sup> National data also suggest that students from rural backgrounds are more likely to work in rural communities.<sup>38</sup>

**Regulation of health care providers, services, and facilities.** To maintain the standards and quality of the existing health care infrastructure, the Department of Health and its affiliated boards and commissions currently regulate nearly 300,000 health care practitioners in 57 professions. Regulation includes screening applicants, setting standards for practice, and imposing disciplinary actions against practitioners who fall below standards.<sup>39</sup>

The Department also regulates more than 3,000 facilities across Washington, about half of which are health care facilities including hospitals and residential treatment centers. It measures compliance with state and federal regulations, conducts licensing inspections, and investigates complaints.

Facilities monitoring increasingly focuses on prevention. Currently, the Department is incorporating national standards (National Quality Forum, 2007)<sup>40</sup> for reportable adverse health events, as required by 2006 state legislation. The purpose is to track adverse events in hospitals to minimize their risk of occurrence and to improve patient safety.

**Reimbursement and subsidy programs for publicly insured patients and safety net clinics.** A number of federal and state programs attempt to increase the financial stability of the health care safety net through targeted subsidies. Grants and enhanced reimbursement help support nearly 60% of primary care capacity in rural Washington counties. Excluding King and Pierce counties, for which data are incomplete, 15% of urban primary care is subsidized.

An increasing number of clinics are choosing to become federally certified Rural Health Clinics, which are eligible to receive enhanced Medicare and Medicaid reimbursement. This certification helps stabilize clinic finances and assure access to health care for Medicare and Medicaid patients. As of June 2007, there were 126 federally certified RHCs in Washington.<sup>41</sup>

In 2004, the Washington Legislature approved tax authority for counties to increase their sales tax to fund mental health and substance abuse treatment services. As of April 2007, Clallam, Clark, Okanogan, Skagit, and Spokane counties had passed this local tax.

**Developing infrastructure for health information technology, including electronic health records.**

A growing national consensus supports the development of electronic health records and a system of secure exchange of health care information.<sup>42</sup> The benefits of such a system include increased safety, quality, efficiency, and patient involvement in health care. The Washington Legislature in 2006 created a Health Information Infrastructure Advisory Board to develop recommendations for creating this infrastructure. The Health Care Authority also collaborates with private groups in funding the Washington Health Information Collaborative, which made 20 grants in 2006 totaling \$1 million for the acquisition, implementation, and expansion of health information technology by health care providers.<sup>43</sup>

**Support for collaborative approaches and for development of formal health care networks.**

Reducing health system duplication, coordinating services, and providing mutual support among organizations helps ensure that increasingly limited resources are used most effectively. Recent federal efforts include the Rural Network and Outreach Grants, Rural Hospital Flexibility Grants, and the Healthy Communities Access Program (2000-2006). State programs include the Washington State Department of Health System Resources Grants and the Health Care Authority's Community Health Care

Collaborative Grant Program that the Legislature established in 2006.

**See Related Chapters:** See the [section overview](#) and related chapter on [Access to Primary Health Care Services](#).

### Data Sources

Federally Designated Health Professional Shortage Area Data (December 21, 2006), Office of Community and Rural Health, Washington State Department of Health.

### For More Information

Office of Community and Rural Health, Health Care Access Analysis Section, (360) 236-2800  
<http://www.doh.wa.gov/hsqa/ocrh>

University of Washington Center for Health Workforce Studies <http://depts.washington.edu/uwchws/>

### Technical Notes

Population to Physician Ratios for Primary Care: Three estimates (1993, 1999, and 2005) for Washington State are available from the masterfile of the American Medical Association (AMA) [See Endnotes 1 and 2 below]. The data refer to primary care physicians who are in direct patient care; however, their distribution by amount of time worked is not shown. To reach estimates of the full-time equivalent (FTE), an adjustment factor is needed. This factor is estimated approximately by comparing two reports for 1998, one without any adjustment to FTE (HRSA)<sup>44</sup> and the other adjusted to FTE from the statewide Washington Health Professionals Survey.<sup>45</sup> The population to primary care physician ratio in the second study is 1.32 times greater than in the first one (2,069:1 vs. 1,563:1). Assuming this relationship is stable over time, the three AMA estimates are each multiplied by 1.32 to obtain estimates for FTEs.

### Endnotes

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<sup>14</sup> Brown, T., & Brimmer, K. (2004). *Capacity and demand study for inpatient hospital, community residential beds, adults and children*. Final Report. Public Consulting Group for Washington State Department of Social and Health Services, Mental Health Division. Retrieved December 27, 2006 at [www1.dshs.wa.gov/pdf/hrsa/mh/2004\\_Capacity\\_Demand\\_%20Final\\_Report.pdf](http://www1.dshs.wa.gov/pdf/hrsa/mh/2004_Capacity_Demand_%20Final_Report.pdf).

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