



*The Future of ...*

# Iowa's Health and Long-Term Care Workforce

The Health and Long-Term Care Workforce Review and Recommendations

In fulfillment of House File 909 Section 110  
2007 Session of the Iowa General Assembly

And at the Request of the  
Commission on Affordable Health Care for Small Businesses and Families

December 2007  
Iowa Department of Public Health

Tom Newton, MPP, REHS, Director

Prepared by the Bureau of Health Care Access  
Contact: Michelle Holst, 515-281-6211 or mholst@idph.state.ia.us

The Iowa Department of Public Health gratefully wishes to acknowledge the approximately 100 organizations and state agencies and associated individuals who contributed considerable time and effort toward this report and without whom its completion would not have been possible.

**“People are a vital ingredient in the strengthening of health systems. But it takes a considerable investment of time and money to train health workers. That investment comes both from the individuals and from institutional subsidies or grants. Countries need their skilled workforce to stay so that their professional expertise can benefit the population. When health workers leave to work elsewhere, there is a loss of hope and a loss of years of investment.”**

-- Dr. LEE Jong-wook, Director-General, World Health Organization, opening message for the World Health Report 2006<sup>1</sup>

**Table of Contents**

**Legislation..... 5**  
**Executive Summary ..... 6**  
**Recommendations Summary ..... 8**  
**Background ..... 10**  
**Health Professions Shortages..... 11**  
**Health Care Occupations ..... 12**  
**State Recruitment and Retention Strategies ..... 13**  
**Iowa’s Workforce Needs by Profession and Professional Groupings..... 15**  
**Recommendations for Iowa ..... 24**  
**End Notes ..... 26**  
**Appendix A ..... 30**  
**Appendix B ..... 31**  
**Appendix C ..... 39**  
**Appendix D ..... 40**  
**Appendix E ..... 51**

## Legislation

This report is in fulfillment of Section 110 of House File 909 enrolled by the 2007 session of the Iowa Legislature:

### Sec. 110. HEALTH AND LONG-TERM CARE WORKFORCE REVIEW AND RECOMMENDATIONS.

1. The department of public health, in collaboration with the department of human services, the department of inspections and appeals, the department of workforce development, and other state agencies involved with relevant health care and workforce issues, shall conduct a comprehensive review of Iowa's health and long-term care workforce. The review shall provide for all of the following:
  - a) Raising of public awareness of the imminent health and long-term care workforce shortage, based upon the rapidly changing demographics in the state.
  - b) A description of the current health and long-term care workforce, including documenting the shortages and challenges that exist throughout the state and analyzing the impact of these shortages on access to care, the quality of care received including outcomes, and the cost of care.
  - c) A projection of the health and long-term care workforce necessary to provide comprehensive, accessible, quality, and cost-effective care during the next twenty-five years.
  - d) Construction of a workforce model to provide the necessary or desirable health and long-term care workforce described in paragraph "c".
2. The department of public health and other agencies collaborating in the review shall actively elicit input from persons involved or interested in the delivery of health and long-term care services, including but not limited to members of the health and long-term care workforce and consumers of health and long-term care.
3. The department shall coordinate the review with other initiatives such as PRIMECARRE and the Iowa collaborative safety net provider network recruitment effort.
4. The department of public health shall submit the findings and recommendations of the review for submission to the general assembly and the governor on or before January 15, 2008. The recommendations shall include specific action steps to assist the state in meeting the health and long-term care workforce shortages and challenges. The action steps shall include but are not limited to all of the following:
  - a) Strategies such as enhanced pay and benefits, expanded initial and ongoing training, flexible work scheduling, reduced workload volume, and utilizing a team-based approach to providing care to both recruit and retain the necessary health and long-term care workforce.
  - b) Utilization of innovative measures, including but not limited to telemedicine and other emerging technologies, and scope of practice changes that allow modifications in roles and responsibilities in various health and long-term care settings.

## Executive Summary

During the 2007 Iowa legislative session House File 909 was enacted, which required the Iowa Department of Public Health (IDPH), in cooperation with other specified state agencies, to examine and report on health and long-term care workforce issues in Iowa. This report includes findings and recommendations from IDPH and a wide variety of health care professionals.

The “Health and Long-Term Care Workforce” includes a wide range of professionals who provide health care services to individuals. It also includes public health professionals who provide and support population-based health services. The workforce consists of health care providers with varying degrees of education that span a continuum of care, including physicians, nurses (licensed and credentialed at several levels), dental hygienists, social workers, mental health counselors, physician assistants, pharmacists, physical and occupational therapists, laboratory workers, direct care workers and others. Services are provided by these professionals in a wide variety of settings including nursing homes, home health agencies, residential facilities for persons with disabilities, hospitals, clinics, and schools. Throughout this report, unless otherwise specified, references to health professionals should be understood to include all public health and long-term care professionals along with those in health care settings.

“Some of the most difficult recruiting in the United States today occurs in the health care sector, where labor shortages are acute, vacancy rates are high and the consequences of unfilled positions range far beyond those found in most industries. ... It is important to note ... that the health care labor shortage will become so acute over the next decade that greater recruiting efficiencies will not be able to breach the growing gap between supply and demand. Health care organizations will have to take a more aggressive collective approach at the national level to increase federal funding for training programs and substantially increase the size of the candidate pool.”

– Fay Hansen, Workforce Management<sup>2</sup>

Iowa’s demographic situation, including a high number of older Iowans (those placing greater demand on the health and long-term care system), means that the state’s efforts to address health and long-term care workforce concerns are acute. The nationwide impact of baby boomer retirements impacts the supply of health care workers at all levels. In Iowa an increasing percentage of elderly in rural counties along with the trend of workers leaving rural counties means the shortage of health care workforce is magnified in rural areas.

Employers of health professionals experience the impact of shortages on a day-to-day basis as do health professionals themselves. Of course, citizens as recipients of health and long-term care services also experience these impacts making the need to find solutions to the health workforce shortage a priority for everyone.

To complete the report, IDPH conducted a literature review and gathered information from existing reports on Iowa’s health workforce. A work group of state agency partners was

convened, including the Iowa Department of Public Health, Department of Human Services, Department of Corrections, Department of Elder Affairs, Department of Education, Department of Inspections and Appeals, Department of Economic Development and Iowa Workforce Development.

IDPH convened a Health and Long-Term Care Workforce Summit on November 9, 2007, in Johnston, Iowa. It was attended by approximately 90 individuals representing various organizations and state agencies. A pre-summit questionnaire gathered information about the health and long-term care professions associated with the organization, workforce data collected by the organization, the organization's efforts to resolve workforce challenges, and recommendations for future actions. Activities at the summit included large-group conversation about workforce challenges, brainstorming about potential solutions, categorizing solutions and small-group work on refining ideas into recommendations. The recommendations in the report come directly from the summit. There are short-term (1-2 years) and long-term (3-5 years) recommendations for action by the state to address health and long-term care workforce challenges.

The recommendations fall within seven areas (not necessarily in priority order):

- A structure or team for coordination of efforts
- Managing health workforce data
- Recruitment, retention and training of health professionals
- Financing in health care
- Raising public awareness
- Wellness and prevention
- Use of best practices

The full report includes details about the recommendations, support data and summaries of summit activities. Literature, trend information and professional and personal experiences have come together in this report to provide these recommendations.

## **Recommendations Summary**

By consensus, attendees at the Health and Long-Term Care Workforce Summit, held November 9, 2007, in Johnston, developed the following recommendations. Full context for these recommendations can be found beginning on page 24 of this report. The detailed notes from the discussions on November 9 are located in Appendix D. Throughout this report, unless otherwise specified, references to health professionals should be understood to include all public health and long-term care professionals along with those in health care settings.

### **Short Term (1 to 2 years)**

1. **Establishment of the Iowa Health Workforce Center:** Summit participants agreed that the current system of tracking health workforce is fragmented, and without coordination improvements cannot be achieved. Multiple entities collect varying data regarding health professions. There is a lack of clear lines of communication and a need for increased collaboration to assure resources are leveraged at maximum benefit for Iowans. An aggressive, targeted and comprehensive approach at the state level is needed. An Iowa Health Workforce Center will conduct and coordinate recruitment and retention of health professionals, increase local capacity for recruitment and retention, and prepare for the future by guiding data-driven decision making on priority needs and efforts.
2. **Expansion of loan repayment programs:** Sustain recruitment/retention/training programs that are working. Recruitment and retention needs were among those most frequently mentioned during summit discussions. Expansion of loan repayment availability in Iowa would strengthen communities' ability to attract quality health professionals to serve Iowans. Increase recruitment, retention, and training/education efforts through known existing tools such as:
  - a. Developing or expanding loan forgiveness and loan repayment programs
  - b. Increasing the number of available Iowa residencies/internships
  - c. Providing technical assistance to communities trying to recruit and/or plan
  - d. Creating mentoring programs, preceptorships, team-based approaches and other similar strategies to prevent turnover/increase retention
3. Continue efforts to increase Medicare/Medicaid reimbursement for Iowa so that providers are able to pay health professionals at rates that are competitive with other states
4. Raise public awareness of the shortages and impact – expanded public awareness of the shortages and impacts will expand the conversations around the state on these issues, and get more people involved in addressing them

### **Long Term (3 to 5 years)**

[Note: At the summit, the long-term timeframe discussed was 3 to 10 years. This is reflected in Appendix D. Following the summit, based on discussion with stakeholders, the long-term time frame for this report was shortened to 3 to 5 years to more accurately reflect the urgency of health and long-term care workforce needs.]

1. Continue efforts to increase Medicare/Medicaid reimbursement for Iowa so that providers are able to pay health professionals at rates that are competitive with other states (short and long term strategy)

2. Maintain infrastructure (a center) established for coordination of health and long-term care workforce efforts (as established in number 2 above)
3. Maintain and improve data collection/tracking/accessibility
4. Continue to sustain recruitment/retention/training programs that are working, adjust those that need changes, and develop new programs to address emerging workforce needs.
5. Align licensure scope of practice with scope of practice taught in education programs – so that “mid-level” aka “physician extender” professions are allowed/expected to maximize use of their training/skills. In conjunction with health and long-term care providers, workers, licensing boards and others, review the opportunities to enhance the efficiency and effectiveness of the workforce via changes to scope of practice. Any changes to scope of practice will require appropriate training and appropriate compensation for the responsibilities possessed.
6. Continue and expand efforts toward wellness and prevention, a health care system rather than a sick care system, to reduce demand
7. Maximize best practices and efficiencies in how professionals deliver services – communicate/share

## **Background**

### *The Global Health Workforce Challenge*

The World Health Organization focused its 2006 World Health Report<sup>1</sup> on the global health workforce. “Working Together for Health” describes significant disparities in health workforce among rich and poor nations not unlike the disparities seen in health care in general. While the populations of poorer nations go without even the most basic of health care services, the populations of wealthier countries enjoy a constant stream of newly discovered treatments and medications. Similarly, the populations of poorer nations cannot produce enough health care workers, and their “best and brightest” are often coaxed away to wealthier countries where greater personal and professional opportunities exist.

Iowa’s health workforce decisions may not be directly impacted by global health concerns and will likely not strive to address them. However, these decisions are made in a climate of national and global shortages, and that point should be recognized. Iowa’s population is in competition for health workers, not only with other states, but with the rest of the world. What Iowa does to “grow its own,” prevent “brain drain,” and recruit from outside the state has significant impact on the state’s ability to address its health workforce shortages.

### *The National Health Workforce Challenge*

Over the next several decades, the increase in the population of Americans age 65 and over will be dramatic. “The number of Americans age 65 and older (35 million in 2000) will rise by more than 19 million to 54 million by 2020. From 2000 to 2050, the number of older adults will increase from 12.5 percent to 20 percent of the U.S. population.”<sup>3</sup> (See Table 1.) Because older adults need and use more health care services than the general population, this increase will place significantly greater demand on the health care system. “Given changing health workforce demographics, looming retirements of health professionals, and increased demand for health services as the Baby Boomer generation ages, experts have estimated that the nation will need to produce 6 million new members of the health workforce by 2014 to replace retiring workers and fill new positions.”<sup>4</sup>

According to the Association of Academic Health Centers (2007), “Historically, states have been dedicated to educating and retaining residents to work within the state after graduation” (p. 3).<sup>4</sup> But, since there is such an increasing demand on the health care system, states already find that they are not educating enough health professionals to meet their own state demand. Therefore, they recruit from other states and countries in an attempt to meet demand.

## Iowa's Health Workforce Challenge

“State action on workforce issues is critical not only in resolving shortages but also in developing a workforce for the future.” -- Association of Academic Health Centers<sup>4</sup>

Iowa's population is among the oldest in the nation. In 2005, 14.7 percent of Iowans were age 65 and over. It is projected that this population will grow to 22.4 percent of the state's total population by the year 2030.<sup>5</sup> (See Table 1.) **Iowa's percentage increase in population age 65 and over will happen two decades faster than the rest of the nation.**

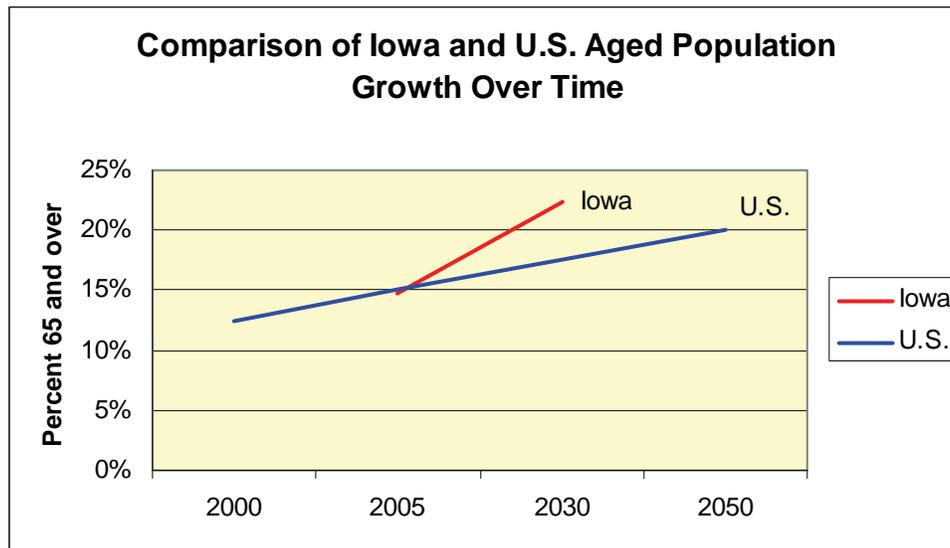


Table 1

By 2030, eighty-four Iowa counties will have 20 percent of their population over the age of 65. In 2000, only 30 counties had 20 percent of their population over the age of 65.<sup>5</sup>

### **Health Professions Shortages**

Health Professional Shortage Areas (HPSAs) are federally-determined geographic areas, populations, or facilities which have fewer than a designated number of health professionals per population. “The Shortage Designation Branch in the HRSA Bureau of Health Professions National Center for Health Workforce Analysis develops shortage designation criteria and uses them to decide whether or not a geographic area or population group is a **Health Professional Shortage Area** or a **Medically Underserved Area or Population**.”

- More than 34 federal programs depend on the shortage designation to determine eligibility or as a funding preference.
- About 20 percent of the U.S. population resides in primary medical care Health Professional Shortage Areas.”<sup>6</sup>

- The percentage of Iowans located within a designated primary health care professional shortage area as defined by federal criteria is 36 percent.<sup>7</sup>

There are 214 **Primary Care** Health Professional Shortage Areas in Iowa that comprise a variety of shortage designation types. Thirty-eight counties are full or partial HPSAs. This means that the population to physician ratio in these counties is greater than 3,500:1 for a geographic HPSA or where the population to physician ratio is greater than 3,000:1, and at least 30 percent of the population is below 200 percent of the federal poverty level to qualify for a special population HPSA. To put this into perspective, according to the 2007 U.S. Department of Health and Human Services Federal Poverty Guidelines, a family of four making \$20,650 annually meets 100 percent of the federal poverty level (see Appendix A). The remainder of the 214 HPSAs mentioned are facility designations that include Rural Health Clinics, Community Health Centers, correctional facilities and state hospitals. A facility designation means that the facility has a shortage of providers to serve the populations it exists to serve.

Forty-nine of Iowa's counties are **Dental Health** Professional Shortage Areas. There are 10 Geographic HPSAs in which the population to dentist ratio exceeds 5,000:1. Thirty-nine Iowa counties are special population (low income and Medicaid) HPSAs with at least a 4,000:1 population to dentist ratio and the at least 30 percent of the populations is at or below 200 percent of the federal poverty level. It should be noted that if the requirement stating that at least 30 percent of the population must be at or below 200 percent of the federal poverty level did not exist, then 89 of the 99 counties in Iowa would be designated as Dental Health Professional Shortage Areas.

Eighty-four of Iowa's counties are **Mental Health** Professional Shortage Areas. This means that there is at least a 20,000:1 population to psychiatrist ratio within a designated "catchment area." Iowa is divided into 16 catchment areas. Most catchment areas contain multiple counties. Criteria for catchment areas are established according to section 238 of the federal Community Mental Health Centers Act.<sup>7</sup>

### **Health Care Occupations**

Every two years, Iowa Workforce Development provides revised projections regarding expected growth or decline among occupations in the state's workforce and among industries. The most recent projections available are for the time period from 2004 to 2014. Seven health care occupations are among those ranked in the 20 most likely to grow in Iowa during the period from 2004 to 2014.<sup>8</sup> Ambulatory health care services and social assistance are among industries with the most anticipated growth from during that same time period.<sup>9</sup> Registered nurses are among the 10 occupations projected to incur the most annual openings, and nursing aides, orderlies and attendants fall within the 20 most likely to grow.<sup>8</sup> (Note: these rankings exclude the category of "all other" occupations.)

The variety of educational levels, time required for training, income levels, job mobility and other factors within the health workforce leads to a different discussion of supply, demand, recruitment and retention issues by profession. Throughout this report, references to health

professionals should be understood to include all public health and long-term care professionals along with those in health care settings. A common theme across professions is that recruitment and retention in rural areas is and will become increasingly difficult. “Some of the most difficult recruiting in the United States today occurs in the health care sector, where labor shortages are acute, vacancy rates are high and the consequences of unfilled positions range far beyond those found in most industries. ... the health care labor shortage will become so acute over the next decade that greater recruiting efficiencies will not be able to breach the growing gap between supply and demand. Health care organizations will have to take a more aggressive collective approach at the national level to increase federal funding for training programs and substantially increase the size of the candidate pool.”<sup>2</sup>

### **State Recruitment and Retention Strategies**

To address health care worker access issues the IDPH currently accesses four federal programs to recruit and retain health care providers.

#### 1. Primary Care Recruitment and Retention Endeavor

Primary Care Recruitment and Retention Endeavor (PRIMECARRE) was authorized by the Iowa Legislature in 1994 to strengthen the primary health care infrastructure in Iowa. PRIMECARRE allocations currently support the Iowa Loan Repayment Program, with matching federal and state funds. The Iowa Loan Repayment Program:

- a. Offers two-year grants to primary care medical practitioners for use in repayment of educational loans.
  - b. Requires a two-year practice commitment in a public or non-profit hospital or clinic located in a health professional shortage area (HPSA). HPSAs are designed to identify communities with diminishing health care services and provide them with opportunities to improve access to and availability of care. By identifying health professional shortage areas, communities become eligible for state and federal assistance to recruit and retain health professionals, access additional reimbursement dollars, and eventually alleviate the shortage. Primary care providers must practice in a primary care HPSA, dental providers in a dental HPSA, and mental health professionals in a mental health HPSA.
  - c. Provides up to \$30,000 per year for primary care physicians, psychiatrists, and clinical psychologists; up to \$20,000 per year for dentists; and up to \$15,000 per year for physician assistants, registered nurse practitioners, certified nurse midwives, dental hygienists, clinical social workers, and psychiatric nurse specialists.
- #### 2. National Health Service Corps Loan Repayment Program and Scholarship Program

3. The National Rural Recruitment and Retention Network  
3R Net is a job search Web site devoted exclusively to rural health care recruitment. Candidates log in, select job titles of interest, and contact facilities directly. Hospitals and clinics log in, post job openings, and communicate with candidates.
4. The J-1 Visa Waiver Program  
The J-1 Visa Waiver Program is for foreign medical graduates who wish to remain in the U.S. after their studies are completed. At the completion of their studies they are expected to return to their home countries for two years before applying for a permanent visa in the United States. A J-1 Visa Waiver waives the two year home residency requirement and allows a physician to stay in the country to practice in a federally designated Health Professional Shortage Area (HPSA) or Medically Underserved Area (MUA) if sponsored by an interested U.S. government agency. State government agencies may also sponsor J-1 physician waiver requests which are called Conrad State 30 programs.

Other state entities such as the Iowa Academy of Family Physicians, Des Moines University School of Osteopathic Medicine and the University of Iowa, Carver College of Medicine have either scholarship, loan repayment programs or both. The Annapolis Coalition 2007 report, *An Action Plan for Behavioral Health Workforce Development*<sup>30</sup> provides recommendations for recruitment and retention. They state “Expanded financial incentives are necessary in the form of training stipends, tuition assistance, and loan forgiveness.”

The goals and strategies of the Annapolis Commission report mirror those that can be applied to all health professions.

In addition, two newly funded programs have started in Iowa that will address the supply and distribution of health care professionals through community/academic educational partnerships. Des Moines University and the University of Iowa, College of Nursing have been funded through federal grants to create a total of seven area health education centers (AHEC) as part of the National AHEC organization. “AHECs essentially create a network to recruit and retain health care workers in rural areas, these centers will address workforce and medical shortages in Iowa. Each AHEC will recruit Iowans to health care careers by educating students as young kindergarten age about career options. The centers will provide more clinical training sites for students and create more continuing education opportunities for current practitioners. Until now, Iowa was one of only four U.S. states without an AHEC.”<sup>10</sup>

“Des Moines University (DMU) received a \$1.9 million dollar grant. This grant matches the money DMU will put toward the school’s \$3.8 million dollar three-year project to create four AHECs. The DMU organized centers will focus on counties north of I-80 and will likely be based in Carroll, Mason City, Waterloo and in Des Moines at Broadlawns Medical Center.

Kathleen Hanson, Ph.D., RN, interim associate dean for academic affairs at the University of Iowa College of Nursing, said, “The University of Iowa’s AHECs will focus on the counties south of I-80, from the Mississippi to the Missouri River. The University of Iowa’s approach is also interdisciplinary and involves the colleges of dentistry, medicine, pharmacy and public health.”<sup>10</sup>

## **Iowa's Workforce by Profession and Professional Groupings**

Within the health sector, there are a wide range of health professions. The professions and professional groupings listed in this report are those that seem, based on public input and research, to have emerged as areas of particular interest in Iowa.

### *Direct Care*

“Seven out of ten elder services workers in long-term care is a paraprofessional, and at least eight out of every ten hours of paid services provided to an elder in non-acute settings is offered not by a doctor, nor a nurse, but by a paraprofessional worker.”<sup>11</sup>

Direct care workers, as defined by the Iowa Direct Care Worker Task Force, are individuals who provide “... services, care, supervision, and emotional support to people with chronic illnesses and disabilities. This definition does not include nurses, case managers, or social workers.”<sup>12</sup>

Direct care workers may perform a variety of tasks, “depending on the setting where the services are being provided and who is being served. People familiar with direct care services generally categorize them into three broad categories: environmental/chore, instrumental activities of daily living, and personal care.”<sup>12</sup> Some job titles which may be included under the umbrella of the term “direct care worker” would include certified nurse aide (CNA), home health aide, residential care aide, and others.

Settings where direct care workers provide services include, “... long-term care facilities (which includes nursing homes), residential care facilities, intermediate care facilities; hospitals; assisted living agencies; home care agencies; supported community living agencies; other community-based settings; and individual homes.”<sup>12</sup> The demand for direct care workers is high in long-term care settings and in community- and home-based settings where elderly and people with disabilities receive assistance with day-to-day activities of daily living.

As with other occupations, the supply is impacted by the compensation offered for the occupation, educational requirements, benefits, working conditions, and other factors. Direct care workers are among the lowest paid of health care workers and receive the most limited job-related benefits such as employer-paid health insurance. “Nearly one in four wage and salary workers age 25 and older living in rural (nonmetro) America in 2005 were low-wage workers”<sup>13</sup> as defined by living at 100 percent of the federal poverty level. Of these, one out of every 12 is a direct care worker. Because the long-term care industry is growing so quickly, that figure will become one in ten within ten years.”<sup>11</sup> “Among all rural workers, low-wage workers are ... more likely to participate in Federal assistance programs such as food stamps and school lunch programs as a means to ensure a measure of economic security.”<sup>13</sup>

In December 2005, the Iowa Senior Living Coordinating Unit<sup>14</sup> reported that Iowa has more nursing facility beds per population than any other state. Iowa also ranked 6<sup>th</sup> in the nation for the number of Medicare-certified home health agencies per population and 8<sup>th</sup> in the nation for adult day facilities per population. While not all-inclusive (because direct care workers are employed in other settings), these figures are indicative of the heavy demand for direct care workers in Iowa.

In Iowa nursing facilities alone, vacancy rates for just one type of direct care worker, certified nurse aides (CNAs), are more than seven percent.<sup>15</sup> This compares to a national figure of eight percent. The Iowa Home Care Association and the Iowa Center for Assisted Living report that Iowa's staff turnover rates among CNAs are more than 60 percent. The Iowa Association of Homes and Services for the Aging finds that annual turnover rates among nursing assistants, home health aides, and personal care attendants range from 40 to 100 percent.<sup>16</sup> "Direct-care workers leave their jobs due to low pay, poor health care and other benefits, lack of initial and ongoing training, few advancement opportunities and the emotional and physical demands of the work."<sup>17</sup>

This level of turnover directly impacts the quality of care provided to Iowans. According to a recent publication by the Iowa CareGivers Association and the Health Care for Health Workers campaign, "When a person with knowledge of and a relationship with a client or resident is replaced by someone new – quality and client satisfaction declines. When turnover leads to a shortage of staff, those who stay on the job have to do more work, do it faster, and do it with more stress and frustration. The impact? Rushed care. Delayed care. Forgone care."<sup>17</sup>

According to the Iowa CareGivers Association, "... Iowa's rate of uninsured nursing home aides mirrors the national average. One in four - 25 percent - of Iowa's CNAs report that they are not currently covered by health insurance of any kind. Moreover, 12 percent of CNAs rely on the state's Medicaid and *hawk-i* programs for health care coverage. Direct-care workers often fall into multiple groups with disproportionately low rates of insurance access:

- Low-wage workers;
- Workers in service occupations;
- Part-time workers; and
- Minorities or foreign-born individuals.

While 80 percent of nursing homes and home health care providers in Iowa offer health insurance, these benefits remain out of reach for many direct care workers. ..."<sup>18</sup>

### Dental/Oral Health

Oral health care access, both in provider supply and service demand is a complex issue and cannot be resolved simply by determining the correlation between available providers in a geographic area and population seeking services. Many reasons and factors exist that impact demand and the adequacy of available services.

The American Dental Association, in a recent dental workforce publication<sup>19</sup> confirms that a trend was seen between 1982 to 2000 for dental practices to trade labor for leisure time in the

form of less available hours per week a dental practice is open. The publication further suggests that the dentist-to-population ratio is a misleading figure and should be replaced by factors such as the population's need and desire for dental care and dentists' ability to produce those services. However, the general consensus is that a typical dental practice requires an effective population between 3,000 to 4,500 patients both able to purchase services and effectively demand care to remain busy and viable. Many small Iowan rural communities lack such numbers and the percentage of poverty within those communities further reduces the effective demand for care.

According to a recent publication from the Agency for Health Care Research and Quality<sup>20</sup> there has been little change, less than one percent, within the overall population accessing dental care services between 1996 and 2004. Adults from middle income groups had a significantly less likelihood of receiving a dental visit across the same period of years. Furthermore, individuals with no dental insurance saw a decrease in likelihood of obtaining dental care while public insured individuals saw only a small increase in access to care, and much below that of privately insured individuals. The addition of factors such as race, ethnicity, income, and education levels were also major determinants in both lower access opportunities and lower demand for care.

While the national data does indicate a slight rise in dental care access for children ages 21 and under, the Centers for Disease Control (CDC) in a recent report,<sup>21</sup> reveals that dental decay rates in children ages 2-5 continue to rise and have increased nearly four percent from 1988 through 2004. The negative trend for children's oral health and implications for Iowa are seen in a publication generated by the University of Iowa<sup>22</sup> where Iowa dentists' referral patterns are cited as having a direct impact on dental workforce issues and access to care. The study shows that in addition to geographic maldistribution of dental workforce and lower concentrations of dentists in rural areas, many general dentists seek to refer children below age 5 to pediatric dental specialists rather than treating them in their own practices. This is especially true if the patient has public insurance. In a state where pediatric dentists represent less than five percent of the overall dental workforce, the access issue becomes more complicated for young children. For children below the age of 3, over 50 percent of general dentists refer these patients due to inexperience and difficulty managing very young children.<sup>23</sup>

The addition of an inadequately prepared workforce and other factors such as Iowa's aging dentists, the inability of Iowa's many small rural communities to sustain a financially viable dental practice, a growing trend toward increased leisure time versus labor among dentists, and the large percentage of dental graduates that leave the state after training at the University of Iowa Dental School present a critical challenge to maintaining an adequate dental workforce in Iowa. According to an article published in the Journal of Dental Education,<sup>24</sup> Iowa was ranked among the top five largest exporter of dental graduates among U.S. dental schools, retaining only 39.34 percent of graduates in Iowa between 1985 -1995 a minimum of nine years after graduation. High financial indebtedness and less attractive practice opportunities for graduates compared to opportunities in other states likely contribute to this exodus.

Such access problems are not limited to younger Iowans. According to a recent survey taken by the Iowa Health Care Association, 61 percent of nursing home professionals report having difficulty finding a dentist, while 64 percent report transportation difficulty taking residents to a dental office where available. Given that there are 233,000 older Iowans (75+), and of those

25,000 reside in nursing facilities for an average time of 19 months, the lack of readily available dental providers for the aged and elderly is a significant problem. Iowa is among the top five states having the highest percentage of population aged 65 and older. The number of Iowa seniors that are age 80 and over is increasing more rapidly than any other age group. In fact, Iowa ranks fifth in the nation for percentage of persons aged 60 and older and fourth in the nation of percentage of persons aged 75 and older.<sup>25</sup>

Access issues are not limited to nursing home bound elderly. A recent 2002 health assessment survey taken by the Quad City Health Initiative in the Scott County area reported that only 50.1 percent of low-income elderly reported receiving routine dental care. An Iowa Department of Public Health Oral Health Bureau survey of 146 elderly homebound Medicaid waiver participants in three Iowa Counties (Black Hawk, Jasper, and Decatur) found that only 48 percent reported having a dentist of record. The low willingness among Iowa dentists to see new Medicaid clients further aggravates the access issue for the elderly in addition to the decreasing overall dentist workforce.

### Nursing

The United States Department of Labor ranks Iowa as the lowest paying state in the nation for registered nurses.<sup>26</sup>

An excellent summary of the current nurse workforce situation was provided in a recent Time.com article: "... The health-care system faces a deficit of as many as 1 million RNs by 2020. Yet American nursing programs turned away nearly 150,000 qualified applicants for all degree levels last year—including 38,415 from bachelor's programs—according to the National League for Nursing (NLN). The profession is trapped in a catch 22: hospitals, desperate for staff, poach nurses from one another with bonuses and perks. Nursing colleges can't fill the gap with new graduates because the schools can't compete in this overheated marketplace for the experienced nurses they need as teachers. 'Clinical salaries are so high that nurses don't want to leave for academia,' says NLN CEO Beverly Malone. 'But how do you train new nurses without teachers?'"<sup>27</sup>

And the National Rural Health Association<sup>28</sup> summarized the special challenges that rural areas face: "In rural areas, nursing shortages are exacerbated by the already difficult task of recruiting nurses coupled with rural employers' inability to compete with urban employers in terms of wages, start up bonuses and benefits that are offered. Non-acute health care settings fare the worst, in particular private practice settings, schools, health departments, extended care facilities and other community-based agencies that typically have even lower salaries than those offered by hospitals."

Finally, the Iowa situation was explained in these excerpts from the 2003 Issue Brief on Nursing Supply and Demand, Center for Health Workforce Planning, Iowa Department of Public Health<sup>29</sup>:

“In 2000, the national supply of full-time equivalent registered nurses was estimated at 1.89 million while demand was estimated at 2 million, a shortage of 110,000 or 6 percent. The shortage is expected to grow relatively slowly until 2010 when it will have reached 12 percent. At that point, demand will begin to exceed supply at an accelerated rate, and by 2015, will have almost quadrupled to 20 percent. If not addressed, and if current trends continue, the shortage is projected to grow to 29 percent by 2020.

Several factors are driving a growth in demand. These include an 18 percent increase in population, a larger proportion of elderly persons requiring more care, and medical advances that increase the need for nurses and nursing assistive personnel.

In Iowa, the driving forces behind supply and demand reflect every national trend, including a high percentage of nurses who are approaching retirement, a diminished supply of new nurses and projections of over 2,000 RN vacancies at any point in time. Factors unique to Iowa include the following:

- The economic challenges of a rural state with small, independent farming communities;
- A declining population between the ages of 18 and 24;
- A relatively high percentage of elderly Iowans with multi-system and accessibility needs;
- A growing population of new Iowans employed in low income jobs who are not enrolling in nursing programs;
- A significant tuition and loan burden for students in pre- and post-licensure education programs;
- Low pay in the health fields related to reimbursement rates in Iowa;
- Departure of newly licensed registered nurses in pursuit of higher wages; and
- Aggressive recruitment of students and nurses by states experiencing acute shortages.”

### *Mental/Behavioral Health*

Increases in the population of aged citizens impact the mental/behavioral portion of the health care system. For example, ... “only 700 practicing psychologists view older adults as their principal population of focus, well short of the estimated 5,000 to 7,500 geropsychologists necessary to meet current needs.”<sup>30</sup> However, in the case of mental/behavioral health, the demand for services is also increasing for children and adolescents. “... the federal government has projected the need for 12,625 child and adolescent psychiatrists by 2020, far exceeding the projected supply of 8,312.”<sup>30</sup> These are only a couple of examples of increasing demands in the mental/behavioral health field which encompasses a wide variety of health professions and paraprofessions including various levels of counseling, social work, substance abuse, and direct care.

Because of the recognized needs in mental/behavioral health, the supply of professionals in this arena has already been addressed specifically nationwide and in Iowa. Based on a May 2005 report<sup>31</sup> which gathered data about the Iowa health professions most in need, Iowa’s Center for Health Workforce Planning conducted a comprehensive examination of Iowa’s mental health

workforce in March 2006.<sup>32</sup> It reported that the Health Resources and Services Administration (HRSA) had ranked Iowa 47<sup>th</sup> among states in psychiatrists per 100,000 population and 46<sup>th</sup> for psychologists per 100,000 population in 2000. In addition, the professions serving the mental health needs of Iowans exhibited the highest combined percentage of licensed professionals age 55 and older (approaching retirement). It concluded that Iowa is likely to lose a considerable number of experienced mental health professionals in the next 10 years due to retirement.

As with other professions, the most rural areas of Iowa are among the most hard-hit by shortages in the mental health professions. The southern two tiers of counties and the northeast quadrant of Iowa have the fewest mental health professionals of all types. At the time of the Center's study, there were three mental health catchment areas with no psychiatrist at all. The need for child and adolescent psychiatrists is most acute in western Iowa. In a study<sup>33</sup> conducted by Iowa's Critical Access Hospitals (CAHs), 72 percent of respondents deemed mental health services to be a key issue facing rural communities. That study identified reimbursement issues and lack of insurance coverage as primary factors affecting access to mental health services. Recruitment and retention of mental health workers were also important issues.

Iowa's legislature has already recognized and addressed some segments of the mental health workforce shortage. In House File 909 passed during the 2007 session, Iowa's legislature charged the Division of Mental Health and Disability Services with consulting with behavioral health workforce experts regarding implementation of the mental health and disability services training and the curriculum and training opportunities offered.

Several other initiatives are also in place to begin to address Iowa's mental/behavioral health workforce needs. The state-run Cherokee Mental Health Institute operates a training program which allows certified physician assistants (PAs) to receive advanced training in psychiatric practice. The University of Iowa is developing a psychiatric PA residency program similar to the program at Cherokee MHI. Similarly, the University of Iowa offers specified training to Advanced Registered Nurse Practitioners to qualify them to provide psychiatric services. Funding was recently contracted to the Iowa Psychological Association to begin efforts to establish more certified doctoral training programs in the state, increasing the likelihood that PhD-prepared practitioners will remain in the state. Further, a program has been initiated to establish incentives for psychiatrists to accept positions as directors of community mental health centers in Iowa.

### Physicians

"If we look at the economic impact of rural health care we find that for each additional 100 rural family physicians there is a \$100 million per year impact on those rural communities. This impacts rural health care jobs and preserves rural health related facilities. Declines in rural physicians devastates education, population, and quality of life, thus reducing new jobs and local businesses. Once communities are affected by this economic impact, they have a tremendous uphill battle finding the resources to support a salaried practice that new graduates seek."<sup>34</sup>

A discussion of physician supply and demand is complex. Physician supply and demand varies by specialty, including those specialties which are considered as “primary care”: family medicine, general internal medicine (adult non-surgical), general pediatrics, obstetrics/gynecology, and general psychiatry.<sup>35</sup> Indeed, a full discussion of these issues would require an entire report focused only on physician supply and demand in Iowa. So, an attempt will be made to consolidate known information in this report as an overview.

Iowa faces difficulties with a maldistribution of physicians. While, for many areas of specialty, there are enough physicians in Iowa’s urban areas, Iowa’s rural areas are often short of the number of providers needed. This problem is not unique to Iowa. In fact, it is generally known that the physician who chooses to provide primary care in a rural area is becoming a rarity. The trend is for physicians to specialize and therefore choose more heavily populated areas which can support a specialty practice. Studies have shown that particular traits are common in those who choose primary care practice in rural areas. These doctors typically grew up in a rural area or are married to someone who grew up in a rural area. They also had an early interest in primary care practice in a rural area. Some type of experience with rural practice settings while in medical school has been found to be important as well.<sup>36</sup> In order for Iowa to address its need for physicians who practice in rural areas, the state will need to focus on finding and training the right individuals.

Iowa’s physician supply has not gone unrecognized by those groups within the state who work extensively with physician professions. In December 2006, the Iowa Medical Society (IMS) presented information to the legislative Health and Human Services Appropriations Subcommittee.<sup>37</sup> This group cited Iowa as 44<sup>th</sup> in the nation in physicians per population. Recall that Iowa is 3<sup>rd</sup> in the nation in those age 65 and over, and the associated increased health needs of older citizens, and the disparity in these rankings alone is striking.

The vitality of the economy affects the demand and use of physician services. Multiple studies by health economists have shown that the growth of the health sector, including physician services, is directly tied to overall economic growth. Health spending in general and spending on physician services in particular are closely related to the growth of the economy.”<sup>38</sup>

The University of Iowa, Carver College of Medicine hosted the Task Force on the Iowa Physician Workforce, concluding with a final report published in January 2007.<sup>38</sup> This report focused on sorting out the intensity of the demand for various physician specialties in Iowa. The report provides various findings and recommendations.

The Iowa Association of Family Physicians has also initiated a study related to physician issues in Iowa, with data expected to be available in 2008.

Like many states, Iowa uses a federal program referred to as the Conrad 30 J-1 Visa Waiver program to recruit International Medical Graduates (IMGs) to Iowa. Our state makes full use of

this program, typically recruiting the maximum allowed number of doctors each year, and allowing needed specialty physicians to use the program, rather than restricting it to primary care physicians alone. Not all states use this maximum number of 30 doctors each year. The maximization of the program by the state of Iowa shows that there is a significant and ongoing need and difficulty in finding physicians who want to practice in needed specialties and geographic areas in Iowa.

### Public Health

The public health system is a vital component of the overall health care system in the state. Public health provides population-based prevention and promotion health services and serves a gap-filling function in many medically underserved areas in Iowa. According to the Institute of Medicine, public health is defined as “activities that society undertakes to assure the conditions in which people can be healthy. This includes organized community efforts to prevent, identify, and counter threats to the health of the public.”

In Iowa, local boards of health have responsibility for local public health matters. The Iowa Code grants broad authority to local boards of health to determine what services to provide and how to provide the services through local public health agencies within their jurisdictions. The size and structure of local public health agencies and the services provided vary greatly throughout the state. The role of the Iowa Department of Public Health is to provide funding, technical support, consultation, and policy development for Iowa’s 98 county boards of health, two city boards of health, and one district board of health.

Public health is being addressed in this report as a collective body of professions rather than individual professions. For purposes of this report the term “public health workforce” encompasses the various disciplines under the broad umbrella of public health such as epidemiologists, public health nurses, environmental health specialists, health educators, nutritionists, dental hygienists, etc.

“The most difficult challenge state and local public health agencies face in developing the capacity to respond to terrorist events, emerging infectious diseases, and other public health threats and emergencies is assuring a qualified workforce is available to carry out these functions. If current workforce demographic trends are left unchecked, they will have an adverse affect on the capacity of state health agencies to carry out their mission; including responsibilities that have continued to expand since the events of September 11, 2001, and the ensuing anthrax attacks.”<sup>39</sup>

The following is an excerpt of findings included in a study<sup>40</sup> completed by the National Center for Health Workforce Analysis in January 2005:

- The single biggest barrier to adequate staffing of governmental public health agencies was budget constraints.
- Public health agencies in all six states [studied] reported difficulty recruiting public health nurses (PHNs), especially in rural areas, but less difficulty retaining them.

- Public health physicians and dentists comprise a very small part of the public health workforce; they can be hard to recruit when vacancies arise, particularly in rural areas.
- In addition to the difficulty they experienced recruiting public health nurses and to a lesser extent, physicians and dentists, governmental public health agencies in the case study states reported difficulty recruiting for a variety of occupations, including:
  - health educators,
  - nutritionists,
  - social workers,
  - clerical staff,
  - epidemiologists,
  - dental hygienists,
  - dental assistants,
  - laboratory personnel, and
  - home health aides.
- Beyond budget constraints, recruitment difficulties were attributed to general shortages of workers within an occupation (e.g., registered nurses, nutritionists), non-competitive salaries, and lengthy processing time for new hires.
- Rural public health agencies in most states reported drawing their staff from the local labor market and had more difficulty recruiting more educated, skilled public health workers than their urban or suburban counterparts.

In Iowa, no comprehensive public health workforce assessments have been conducted. The Iowa Association of Public Health Administrators conducted an enumeration study in 2005<sup>41</sup> which listed the numerous professions that fall under the public health umbrella. This study provides a foundation for future analysis of the public health workforce in Iowa.

The public health workforce is being addressed in the Iowa Public Health Standards. The standards describe the basic public health services and infrastructure that all Iowans can reasonably expect from local and state public health no matter where they live in the state. Public health standards were developed through a partnership of local and state public health professionals. The standards and a public health accreditation system are scheduled to be implemented by July 1, 2011.

The workforce component of the standards provide for appropriately qualified workers, a sufficient number of personnel with skill mixes, and on-going training to maintain competency and currency in the public health workforce. Implementing the Iowa Public Health Standards puts even greater emphasis on Iowa's need to address its supply of health workers, including those with specialized training in public health.

### Pharmacists

Demand for pharmacists is expected to increase through 2020.<sup>42</sup> Somnath<sup>42</sup> cites an annual five percent growth rate for outpatient prescription orders, and 2.5 percent for hospital drug orders along with significant administrative burdens and increased complexity of multiple-prescription users as key to the increased demand.

The supply of pharmacists was studied by the Health Resources and Services Administration (HRSA) as part of its work to examine the pharmacist workforce. In its report to Congress,<sup>43</sup> HRSA noted that while demand was the key factor influencing pharmacist shortage, supply factors also contributed. A weak applicant pool to pharmacy education programs was cited, along with a trend toward a greater percentage of women occupying positions in the field. The study provided information indicating that women generally tend to work fewer hours than men, thereby causing a need for more workers to meet demand.

The Iowa Pharmacy Association estimates that 56 pharmacies have closed since 2005.<sup>44</sup> And, the Iowa Hospital Association has found pharmacist vacancies in the top 10 professions with vacancies at Iowa hospitals over the last three years.<sup>45</sup>

### **Recommendations for Iowa**

On November 9, 2007, IDPH convened a Health and Long-Term Care Workforce Summit to collaborate with stakeholders in development of recommendations and strategies to address the health and long-term care workforce. Approximately 85 people from various organizations attended and participated in this one day event. Educators, providers, associations, state government, and organizations connected to health services were represented.

Opening conversations and idea generation processes were used to identify the following list of key issues (not in priority order):

- Financing the workforce
- Rebalancing the health and long-term care system
- Health care coverage (insurance)
- Workforce focused on health promotion
- Statewide oversight and coordination
- Database collection/management/analysis and technology
- Administrative reform (decreasing administrative burden for health professionals)
- Training, recruitment and retention of health care providers and educators

### **Themes from the discussion**

Common interest revolved around some type of statewide oversight and coordination of health and long-term care workforce efforts. Financing the workforce was a common theme; including better pay and benefits and improving Iowa Medicare reimbursements, allowing Iowa to be more competitive in recruitment.

The group was generally interested in assuring that data is used for decisions about workforce. The group identified that some data needed to be collected, some gathered from other partners and that workforce decisions should be informed decisions with full awareness of the measures of workforce.

By, consensus, the gathering developed the following recommendations (not necessarily listed in priority order).

**Short Term (1 to 2 years)**

1. Establish a structure (team) for coordination of all health and long-term care workforce efforts, including data collection/management/analysis and recruitment/retention/training. Consider public-private partnership in this structure.
2. Increase recruitment, retention, and training/education efforts through known existing tools such as:
  - a. Developing or expanding loan forgiveness and loan repayment programs
  - b. Increasing the number of available Iowa residencies/internships
  - c. Providing technical assistance to communities trying to recruit and/or plan
  - d. Creating mentoring programs, preceptorships and other similar strategies to prevent turnover/increase retention
3. Continue efforts to increase Medicare/Medicaid reimbursement for Iowa so that providers are able to pay health professionals at rates that are competitive with other states
4. Raise public awareness of the shortages and impact

**Long Term (3 to 5 years)**

1. Continue efforts to increase Medicare/Medicaid reimbursement for Iowa so that providers are able to pay health professionals at rates that are competitive with other states (short and long term strategy)
2. Maintain infrastructure (a center) established for coordination of health and long-term care workforce efforts (as established in number 2 above)
3. Maintain and improve data collection/tracking/accessibility
4. Sustain recruitment/retention/training programs that are working. Develop new programs or adjust those that need changes.
5. Align licensure scope of practice with scope of practice taught in education programs – so that “mid-level” aka “physician extender” professions are allowed expected to maximize use of their training/skills
6. Continue and expand efforts toward wellness and prevention, a health care system rather than a sick care system, to reduce demand
7. Maximize best practices and efficiencies in how professionals deliver services – communicate/share

Note: House File 909 Section 10 also indicated that telemedicine was a strategy which should be addressed by this report. Therefore, while telemedicine did not appear as a specific strategy or action step, Appendix E provides information about telemedicine.

## End Notes

---

<sup>1</sup> World Health Organization. 2006. *The World Health Report 2006: Working Together For Health*. Available at <http://www.who.int/whr/2006/en/> (accessed 29 November 2007).

<sup>2</sup> Hansen, Fay. 2007. Reorganizing the Recruiting Function. *Workforce Management*. Available at <http://www.workforce.com/section/06/feature/24/99/92/index.html> (accessed 29 November 2007).

<sup>3</sup> Center for Health Workforce Studies. 2006. *The Impact of the Aging Population on the Health Workforce in the United States: Summary of Key Findings*. Rensselaer, NY: CHWS. Available at [http://www.apha.org/apha/PDFs/Geron/aging\\_short\\_version6.doc](http://www.apha.org/apha/PDFs/Geron/aging_short_version6.doc) (accessed 29 November 2007).

<sup>4</sup> Moskowitz, M.C. 2007. *State Actions and the Health Workforce Crisis*. Washington: Association of Academic Health Centers. Available at [http://www.aahcdc.org/policy/reports/AAHC\\_Workforce\\_State\\_Actions.pdf](http://www.aahcdc.org/policy/reports/AAHC_Workforce_State_Actions.pdf) (accessed 29 November 2007).

<sup>5</sup> State Data Center of Iowa and Iowa Department of Elder Affairs. May, 2007, *Older Iowans: 2007*. Available at <http://www.state.ia.us/elderaffairs/Documents/OlderAmericansMonth2007.pdf> (accessed 29 November 2007).

<sup>6</sup> U.S. Health Resources and Services Administration (HRSA), Bureau of Health Professions, Shortage Designation Branch. *Shortage Designation*. Washington: HRSA. Available at <http://bhpr.hrsa.gov/shortage/> (accessed 7 December 2007).

<sup>7</sup> Primary Care Office, Bureau of Health Care Access, Division of Health Promotion and Chronic Disease Prevention. 2007. Des Moines: Iowa Department of Public Health.

<sup>8</sup> Iowa Workforce Development. *Iowa Workforce Development State of Iowa Occupational Projections: 2004-2014, Listed by Major Occupational Groups*. Available at <http://www.iowaworkforce.org/lmi/occupations/projections/stateoccproj.pdf> (accessed 29 November 2007).

<sup>9</sup> Iowa Workforce Development. *Iowa Statewide Projections (2004-20014)*. Available at <http://www.iowaworkforce.org/lmi/occupations/projections/indprojstatewide.pdf> (accessed 29 November 2007).

<sup>10</sup> Des Moines University. 2007. *Press Release: DMU, U of I receive millions to improve Iowans' health care access, awareness*. Des Moines: Des Moines University. Available at <http://www.dmu.edu/news/index.cfm?NewsID=184> (accessed 6 December 2007).

<sup>11</sup> Dawson, S.L. 2007 *Recruitment and Retention of Paraprofessionals*. The Paraprofessional Healthcare Institute. Available at [http://www.paraprofessional.org/publications/Dawson\\_IOM\\_6-28-07.pdf](http://www.paraprofessional.org/publications/Dawson_IOM_6-28-07.pdf) (accessed 29 November 2007).

<sup>12</sup> Iowa Direct Care Worker Task Force. 2006. *Iowa Direct Care Worker Task Force Report and Recommendations*. Des Moines: Iowa Department of Public Health. Available at [http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/dcw\\_taskforce\\_1206.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/dcw_taskforce_1206.pdf) (accessed 29 November 2007).

<sup>13</sup> Gibbs, R. and Parker, T. (2007) Rural Low-Wage Workers Face Multiple Economic Disadvantages. *Amber Waves*. USDA: Economic Research Service. Available at

---

<http://www.ers.usda.gov/AmberWaves/June07/Findings/Rural.htm> (accessed 29 November 2007).

<sup>14</sup> Senior Living Coordinating Unit. (2005) *A Long-Range Plan for Long-Term Care in Iowa*. Des Moines: Iowa Department of Elder Affairs. Available at <http://www.state.ia.us/elderaffairs/Documents/SLCU/LongRangePlanReport.pdf> (accessed 29 November 2007).

<sup>15</sup> Iowa Health Care Association/Iowa Center for Assisted Living. 2007. *Issue Brief: Workforce Issues in LTC*. Des Moines: Iowa Health Care Association/Iowa Center for Assisted Living. Available at [http://www.iowahealthcare.org/userdocs/Documents/Workforce\\_Issues\\_in\\_LTC.pdf](http://www.iowahealthcare.org/userdocs/Documents/Workforce_Issues_in_LTC.pdf) (accessed 30 November 2007).

<sup>16</sup> Iowa Association of Homes and Services for the Aging. 2007. *The Long-Term Care Workforce Crisis*. Submitted in response to Iowa Department of Public Health pre-summit questionnaire for the Health and Long-Term Care Workforce Summit held November 9, 2007.

<sup>17</sup> Iowa CareGivers Association. Health Care for Health Care Workers. *Providing Health Care for Direct-Care Workers*. Available at <http://www.hchcw.org/uploads/pdfs/IA%20FactSheetFinal.pdf> (accessed 3 January 2008).

<sup>18</sup> Iowa CareGivers Association. *Iowa's Direct Care Workers Lack Health Insurance*. Available at <http://www.iowacaregivers.org/uploads/pdf/Health%20Insurance%20Fact%20Sheet.pdf> (accessed 29 November 2007).

<sup>19</sup> Brown L.J. 2005. *Adequacy of the Current and Future Dental Workforce: Theory and Analysis*. Chicago: American Dental Association, Health Policy Resource Center.

<sup>20</sup> Manski, R.J. and Brown. E. 2007. *Dental Use, Expenses, Private Dental Coverage, and Changes, 1996 and 2004*. Rockville (MD): Agency for Healthcare Research and Quality. MEPS Chart book No. 17. Available at [http://www.meps.ahrq.gov/mepsweb/data\\_stats/Pub\\_ProdResults\\_Details.jsp?pt=Chartbook&opt=2&id=827](http://www.meps.ahrq.gov/mepsweb/data_stats/Pub_ProdResults_Details.jsp?pt=Chartbook&opt=2&id=827) (accessed 30 November 2007).

<sup>21</sup> Dye, B.A., Tan, S., Smith V., Lewis, B.G., Barker, L.K., and Thornton-Evans, G., et al. 2007. *Trends in oral health status: United States, 1988-1994 and 1999-2004*. Washington: National Center for Health Statistics. Vital Health Stat 11(248). Available at <http://www.cdc.gov/nchs/pressroom/07newsreleases/oralhealth.htm> (accessed 30 November 2007).

<sup>22</sup> McQuistan, M.R., Kuthy, R.A., Damiano, P.C., and Ward M.M. 2006. General dentists' referral of 3 to 5 year old children to pediatric dentists. *Journal of the American Dental Association*. 137: 653-60. Available at <http://jada.ada.org/cgi/reprint/137/5/653> (accessed 30 November 2007).

<sup>23</sup> McQuistan M.R., Kuthy R.A., Damiano P.C., Ward M.M. 2005. General dentists' referral of children younger than age 3 to pediatric dentists. *Pediatric Dentistry*. 27:277-83.

<sup>24</sup> Hsuan L.L., Rowland M.L., Fields, H.W. 2006. In-State Graduate Retention for U.S. Dental Schools *Journal of Dental Education*. 70:1320-1326.

<sup>25</sup> U.S. Census Bureau. 2005. *U.S. Census Population Estimates*. Washington: U.S. Administration on Aging. Available at <http://www.aoa.gov/prof/statistics/2005pop/Stterr2005.xls> (accessed 6 December 2007).

<sup>26</sup> U.S. Department of Labor. 2007. *Highest and lowest paying states by selected occupations*. Available at <http://www.bls.gov/news.release/ocwage.t06.htm> (accessed 29 November 2007).

- 
- <sup>27</sup> Kingsbury, K. 2007. Become a Nurse, Get a Tan. *Time, Inc.* Available at <http://www.time.com/time/magazine/article/0,9171,1651518,00.html> (accessed 29 November 2007).
- <sup>28</sup> National Rural Health Association. 2005. *Recruitment and Retention of a Quality Health Workforce in Rural Areas; A series of policy papers on The Rural Health Careers Pipeline: Number 2: Nursing.* Available at <http://www.nrharural.org/advocacy/sub/issuepapers/nursing.pdf> (accessed 29 November 2007).
- <sup>29</sup> Iowa Department of Public Health, Bureau of Health Care Access, Center for Health Workforce Planning. 2003. *Nursing Supply and Demand.* Available at [http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/nursing\\_supply\\_and\\_demand.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/nursing_supply_and_demand.pdf) (accessed 30 November 2007).
- <sup>30</sup> The Annapolis Coalition on the Behavioral Health Workforce. 2007. *An Action Plan for Behavioral Health Workforce Development.* Cincinnati: The Annapolis Coalition. Available at [http://www.annapoliscoalition.org/national\\_strategic\\_planning.php](http://www.annapoliscoalition.org/national_strategic_planning.php) (accessed 29 November 2007).
- <sup>31</sup> Iowa Department of Public Health, Bureau of Health Care Access, Center for Health Workforce Planning. 2005. *A Report Prioritizing a Shortage of Licensed Health Professionals in Iowa.* Available at [http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/mentalhealth\\_0306.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/mentalhealth_0306.pdf) (accessed 29 November 2007).
- <sup>32</sup> Iowa Department of Public Health, Bureau of Health Care Access, Center for Health Workforce Planning. 2006. *Iowa's Mental Health Workforce.* Available at [http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/mentalhealth\\_0306.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/mentalhealth_0306.pdf) (accessed 29 November 2007).
- <sup>33</sup> Iowa Department of Public Health, Bureau of Health Care Access, Iowa FLEX Program. 2005. *Critical Access Hospitals: Mental Health Services Assessment.* Available at [http://www.idph.state.ia.us/hpcdp/common/pdf/health\\_care\\_access/critical\\_access\\_assessment.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/health_care_access/critical_access_assessment.pdf) (accessed 29 November 2007).
- <sup>34</sup> National Rural Health Association. 2006. *Recruitment and Retention of a Quality Health Workforce in Rural Areas; A series of policy papers on The Rural Health Careers Pipeline: Number 1: Physicians.* Available at <http://www.nrharural.org/advocacy/sub/issuepapers/Physician-1.pdf> (accessed 30 November 2007).
- <sup>35</sup> U.S. Department of Health and Human Services. National Health Service Corps. *About NHSC: Who We Are.* Available at: <http://nhsc.bhpr.hrsa.gov/about/who.asp> (accessed 30 November 2007).
- <sup>36</sup> Kimball, E.B. and Crouse, B.J. 2007. Perspectives of Female Physicians Practicing in Rural Wisconsin. *Wisconsin Medical Journal.* 106: 256-259. Available at [http://www.wisconsinmedicalsociety.org/\\_WMS/publications/wmj/issues/wmj\\_v106n5/Crouse.pdf](http://www.wisconsinmedicalsociety.org/_WMS/publications/wmj/issues/wmj_v106n5/Crouse.pdf) (accessed 30 November 2007).
- <sup>37</sup> Iowa Medical Society. 2007. *Iowa Medical Society presentation to the Iowa Legislature Health and Human Services Appropriations Subcommittee.* Available at [http://www.legis.state.ia.us/lsadocs/SC\\_MaterialsDist/2007/SDSLL049.PDF](http://www.legis.state.ia.us/lsadocs/SC_MaterialsDist/2007/SDSLL049.PDF) (accessed 30 November 2007).

---

<sup>38</sup> Task force on the Iowa Physician Workforce. 2007. *Report of the Task Force on The Iowa Physician Workforce*. Iowa City: University of Iowa Carver College of Medicine and University of Iowa Hospitals and Clinics. Available at <http://www.healthcare.uiowa.edu/CCOM/Administration/IowaPhysicianWorkforce.pdf> (accessed 30 November 2007).

<sup>39</sup> Association of State and Territorial Health Officials (ASTHO). 2004. *State Public Health Employee Worker Shortage Report: A Civil Service Recruitment and Retention Crisis*. Washington: ASTHO. Available at <http://www.astho.org/pubs/Worker-Shortage-Booklet.pdf> (accessed 30 November 2007).

<sup>40</sup> National Center for Health Workforce Analysis. 2005. *Public Health Workforce Study*. Washington: U.S. Department of Health and Human Services, Bureau of Health Professions. Available at <http://bhpr.hrsa.gov/healthworkforce/reports/publichealth/default.htm> (accessed 30 November 2007).

<sup>41</sup> Iowa Association of Local Public Health Agencies, University of Iowa College of Public Health, and Institute for Public Health Practice. 2005. *Public Health Workforce Enumeration Survey Report*. Personal communication, Graham Dameron, August, 9, 2007.

<sup>42</sup> Somnath, P. 2002. Pharmacist Shortage to Worsen in 2020. *U.S. Pharmacist*. New York: Jobson Medical Information LLC. 27:12. Available at [http://www.uspharmacist.com/index.asp?show=article&page=8\\_1008.htm](http://www.uspharmacist.com/index.asp?show=article&page=8_1008.htm) (accessed 5 December 2007).

<sup>43</sup> Health Resources and Services Administration. 2000. *Report to Congress: The Pharmacist Workforce: A Study of the Supply and Demand for Pharmacists*. Washington: U.S. Department of Health and Human Services, Bureau of Health Professions.

<sup>44</sup> Iowa Pharmacy Association. 2007. Personal communication, Nichole Schultz; August 16, 2007.

<sup>45</sup> Iowa Hospital Association. 2007. *Health Professional Work Force Survey Trends: April 2007*. Des Moines: Iowa Hospital Association. Available at: <http://www.ihaonline.org/info/services/workforcetrend/2007%20Workforce%20Survey%20Trend%20Analysis.pdf> (accessed 13 December 2007).

## Appendix A

<b>2007 U.S. Department of Health and Human Services Federal Poverty Guidelines</b>			
<b>Persons in Family or Household</b>	<b>48 Contiguous States and D.C.</b>	<b>Alaska</b>	<b>Hawaii</b>
1	\$10,210	\$12,770	\$11,750
2	13,690	17,120	15,750
3	17,170	21,470	19,750
4	20,650	25,820	23,750
5	24,130	30,170	27,750
6	27,610	34,520	31,750
7	31,090	38,870	35,750
8	34,570	43,220	39,750
For each additional person, add	3,480	4,350	4,000

**SOURCE:** *Federal Register*, Vol. 72, No. 15, January 24, 2007, pp. 3147–3148

<sup>1</sup>U.S. Department of Health and Human Services (HHS). 2007. *The 2007 HHS Poverty Guidelines*. Washington: 2007. Available at <http://aspe.hhs.gov/poverty/07poverty.shtml> (accessed 29 November 2007).

## **Appendix B**

### **Snapshots of Available Health Professions Information**

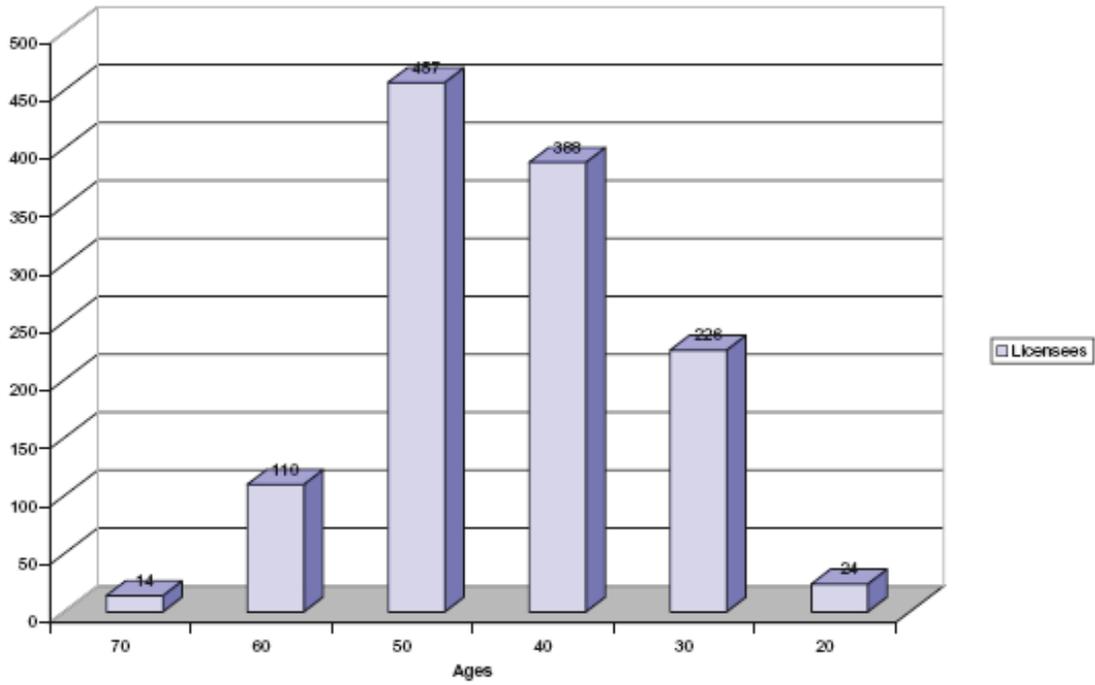
In 2005, the Center for Health Workforce Planning within the Bureau of Health Care Access at the Iowa Department of Public Health completed a report describing potential shortages in Iowa's health workforce. This appendix includes charts from that report which show snapshots of ages of professionals within various categories. The full report was titled *A Report Prioritizing a Potential Shortage of Licensed Health Care Professionals in Iowa* and is available (with methodology and data sources) at

[http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/prioritizing\\_potential\\_shortage.pdf](http://www.idph.state.ia.us/hpcdp/common/pdf/workforce/prioritizing_potential_shortage.pdf).

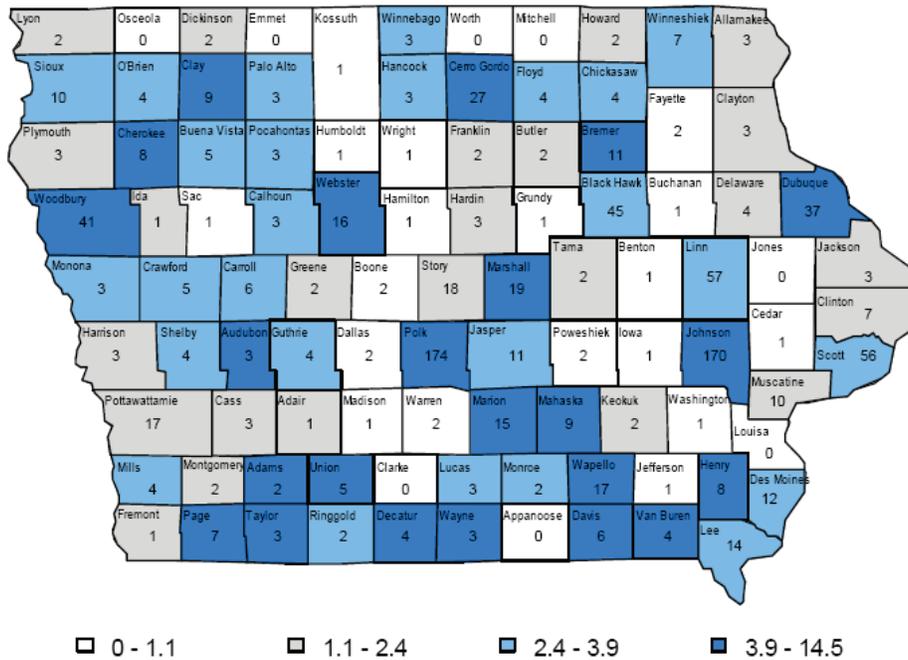
Every two years, the University of Iowa College of Public Health and the Iowa Department of Public Health produce the *Iowa Health Fact Book*. Included in the document are maps of the state with numbers of practitioners by county from the *2007 Iowa Health Fact Book*. This appendix includes maps from that source. The Office of Statewide Clinical Education Programs (OSCEP) at the University of Iowa Carver College of Medicine, the Iowa Department of Public Health, Board of Nursing, and the Bureau of Emergency Medical Services collect the health care provider data presented in the *Iowa Health Fact Book*. The full report explains its sources and is available at <http://www.public-health.uiowa.edu/Factbook/>.

The reader should note, then, that bar charts and maps on each page represent different point-in-time snapshots. Also, snapshots are provided for those professions for which charts and data were readily available. They are not intended to be a full representation of all professions shortages.

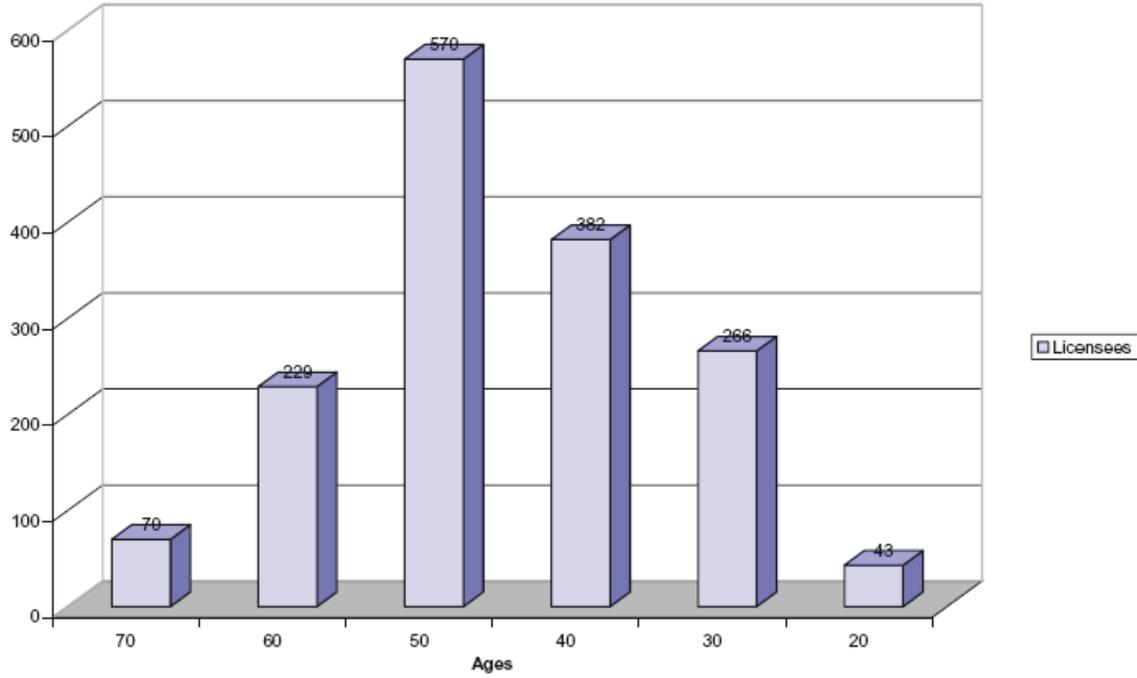
Advanced Registered Nurse Practitioners



Advanced Registered Nurse Practitioners  
2007 Counts and Crude Rates per 10,000 (shaded)

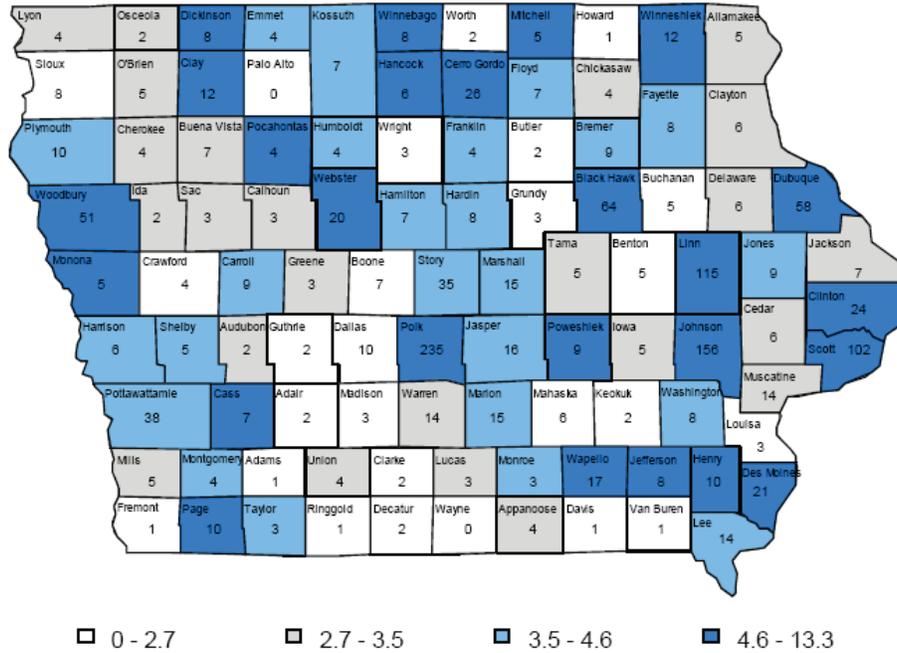


Dentist Licensees Per Decade

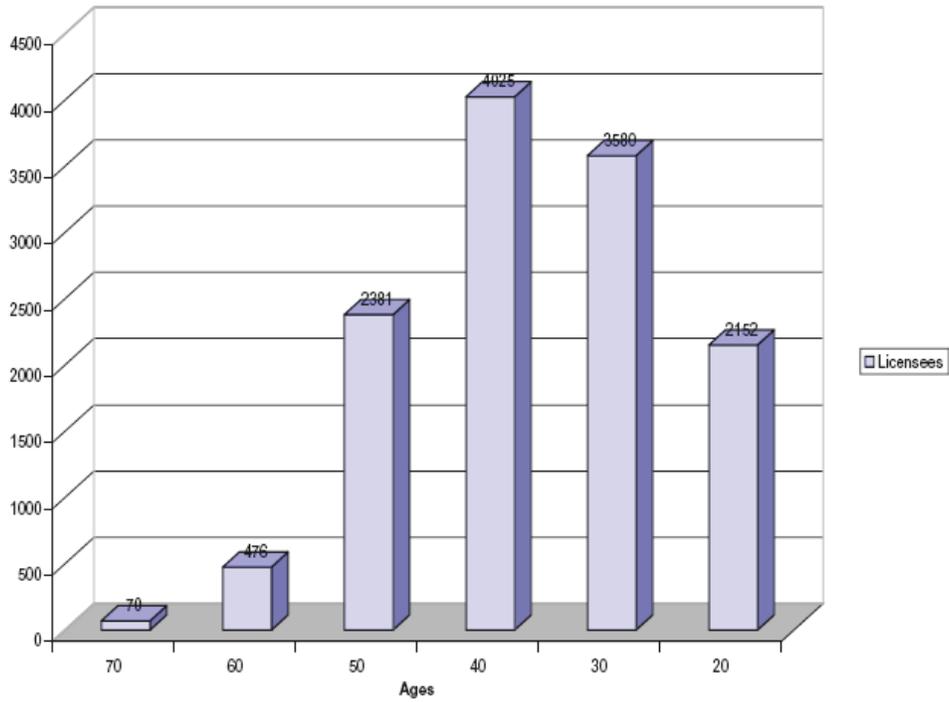


Total Dentists

2007 Counts and Crude Rates per 10,000 (shaded)

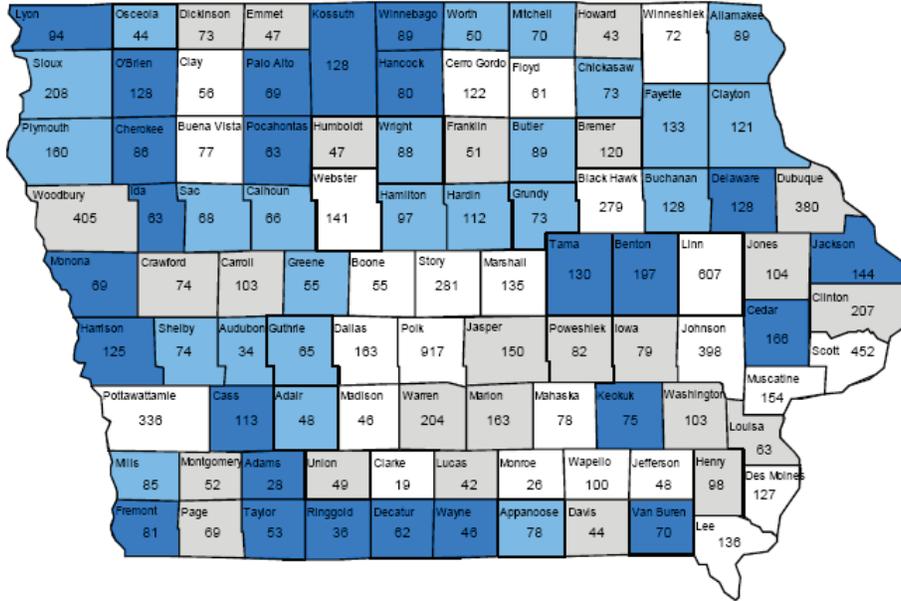


Emergency Medical Services Worker Licensees per Decade

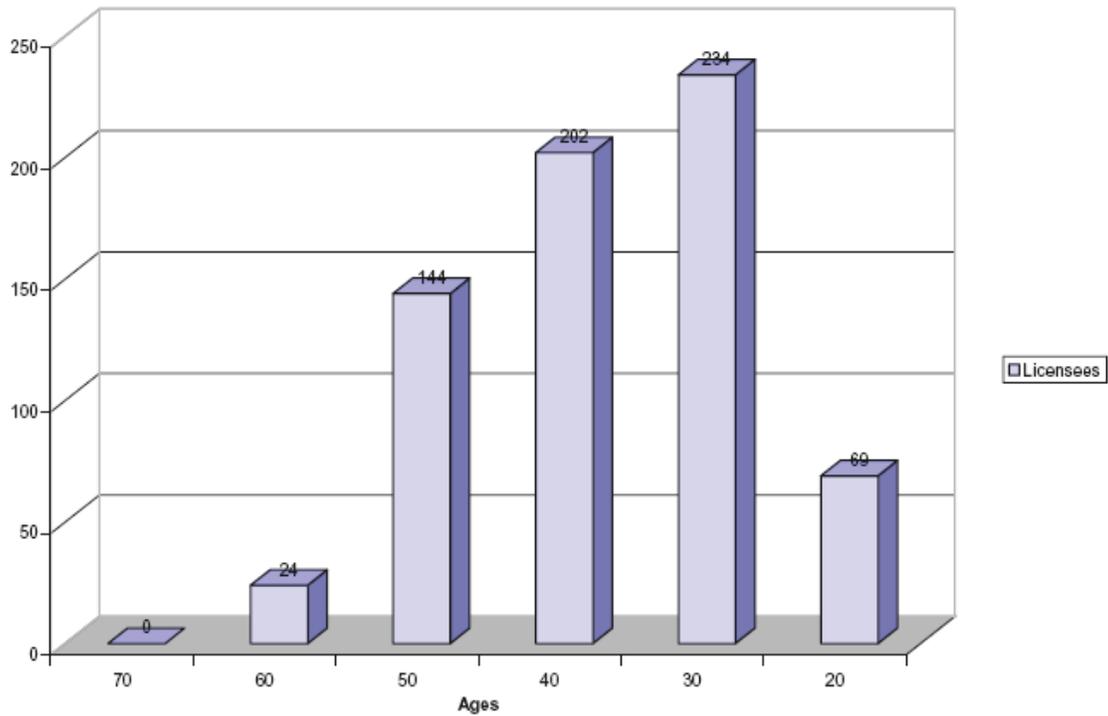


Emergency Medical Services Workers

2007 Counts and Crude Rates per 10,000 (shaded)

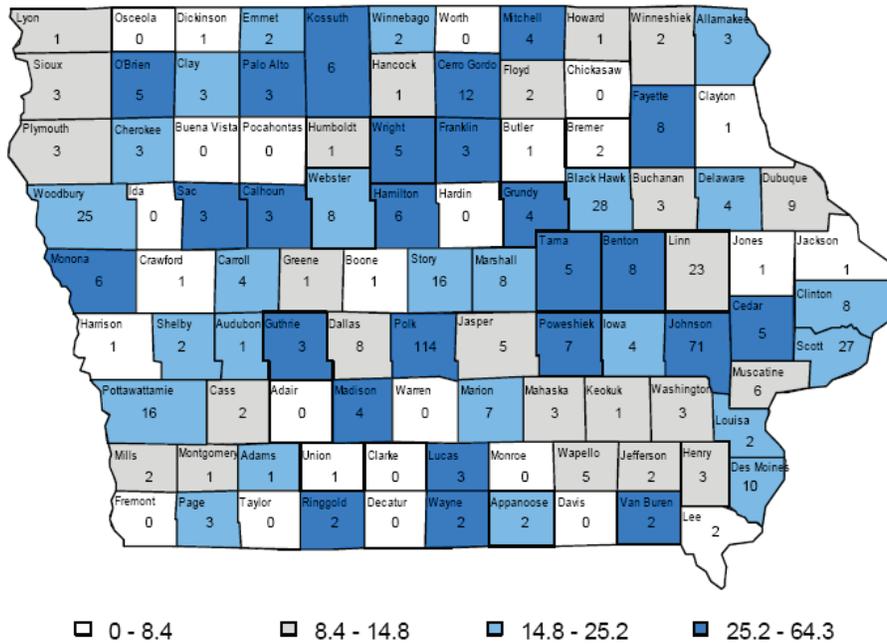


Physician Assistant Licensees per Decade

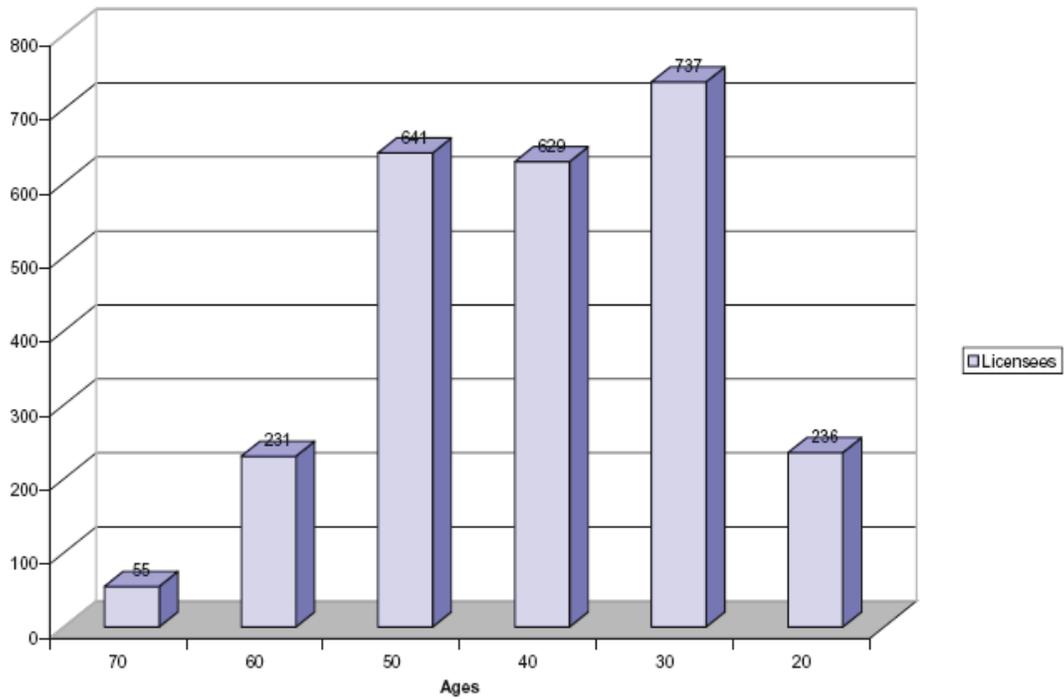


Physician Assistants

2007 Counts and Crude Rates per 100,000 (shaded)

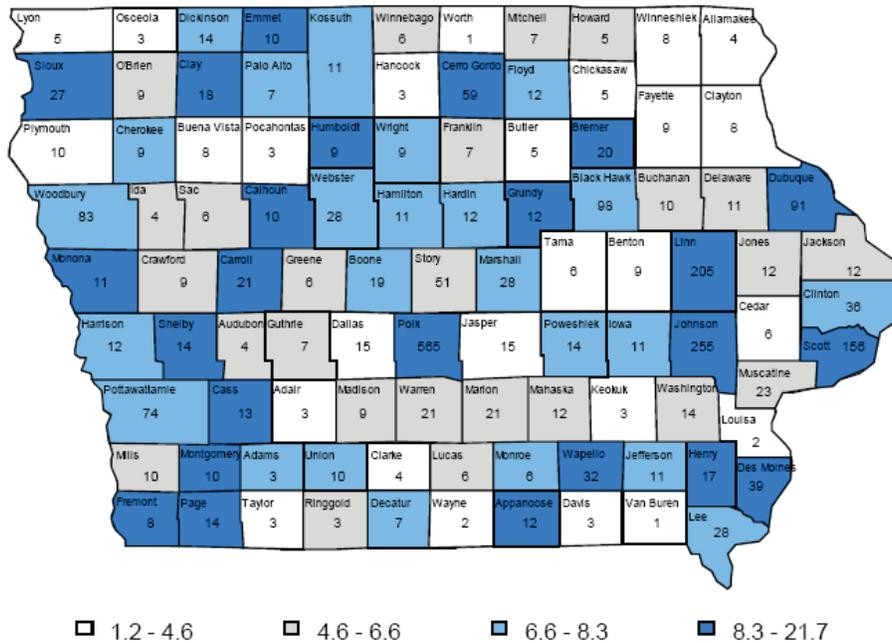


Pharmacist Licenses per Decade

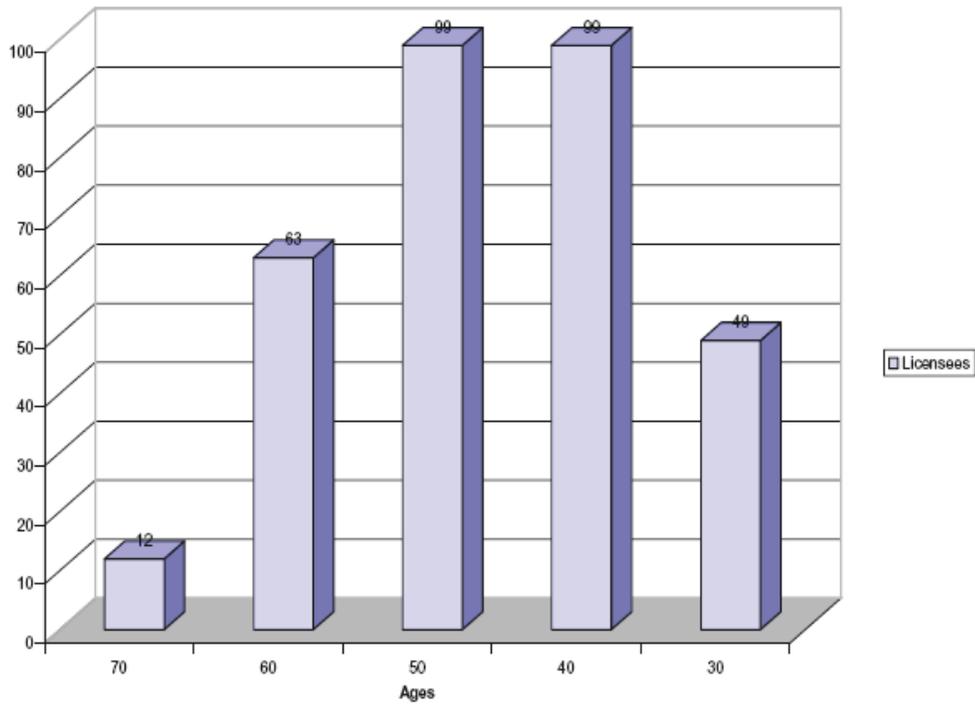


Pharmacists

2007 Counts and Crude Rates per 10,000 (shaded)

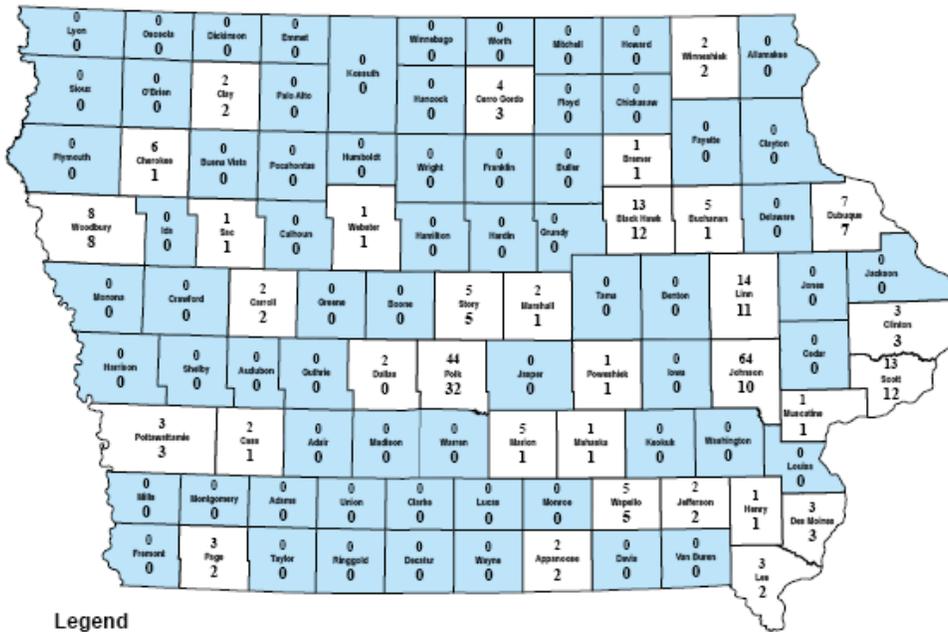


Psychiatrist Licensees per Decade



Psychiatrists Total & Practicing

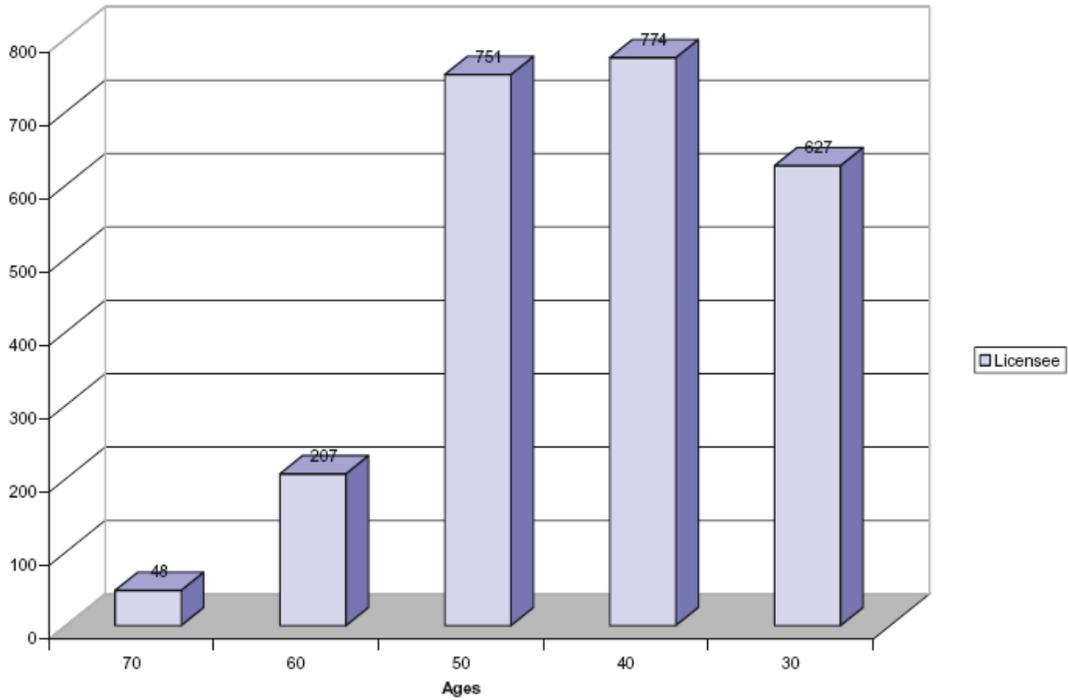
Upper Number = Total Psychiatrists Lower Number = Actual Practicing Psychiatrists



Legend  
 Zero Providers  All Other Providers

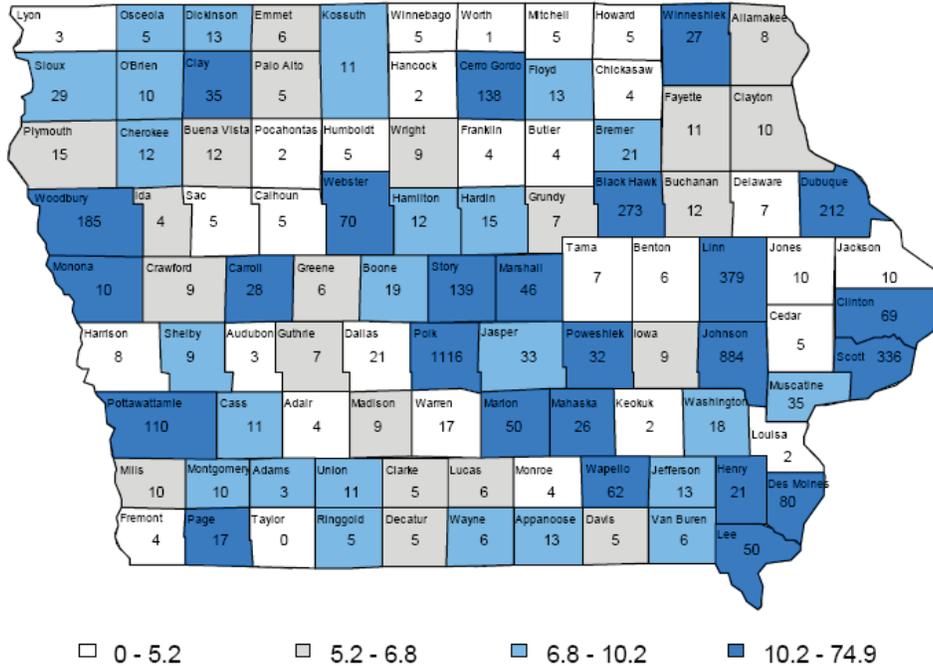
Source: Office of Statewide Clinical Education Programs, Carver College of Medicine, University of Iowa

Physician Licensee per Decade



Total Physicians

2007 Counts and Crude Rates per 10,000 (shaded)



## Appendix C

### Pre-Summit Questionnaire Responses

As part of the registration process for the Health and Long-Term Care Workforce Summit held November 9, 2007, interested parties responded to a questionnaire. To the extent possible those listings were gathered from the submitted documents and encompassed within this appendix. The questions were as follows:

- 1. List the services provided by members of your association/college/group that are affected by health workforce shortages.**
- 2. Please list the specific health professions and health care entities with which your association/college/group works.**
- 3. Provide a list of all data sets maintained by your association/college/group that assist in demonstrating the need for public policy initiatives to address health workforce shortages.**
- 4. Please provide a one-page description of health workforce issues or problems already identified by your association/college/group.**
- 5. List strategies or solutions you currently employ to address health workforce shortages.**
- 6. Please provide a one-page description of public policy solutions which have already been identified by your association/college/group as potential solutions to the health workforce issues or problems already identified. This should include solutions which would require legislative action/authority and therefore could be considered as a recommendation in the report we provide to the governor and legislature. (Label the document with your association/college/group name.)**

Due to the length of the full appendix, it is not printed with the report but is available on-line at: [www.idph.state.ia.us](http://www.idph.state.ia.us) under Topics of Interest, Health Workforce. For a printed copy of the appendix, please contact:

Kevin Wooddell  
Iowa Department of Public Health  
Bureau of Health Care Access  
321 E 12<sup>th</sup> Street  
Des Moines, IA 50319-0075  
515-242-6563

## Appendix D

### Summary of Input Received at Health Workforce Summit

Concluding activities at the Health and Long-Term Care Workforce Summit held November 9, 2007, in Johnston included break-out work groups who developed action steps based on ideas submitted and categorized by the overall group. This appendix presents the full detail of results of these concluding discussions. Recommendations developed in this report are based on these discussions and notes.

## Financing the Workforce

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<p><b>Incentive Program Steps:</b>            Loan repayment/scholarship/recruitment funding at state and private levels for areas in the healthcare profession with role shortage areas.</p> <ul style="list-style-type: none"> <li>• Identify shortages/needs by profession &amp; demographics</li> <li>• Identify funding streams and maintain viable funding streams</li> <li>• Develop needs through expansion of state programs and through private programs</li> <li>• Provide technical assistance to communities to development and implement local incentives</li> <li>• Expand state programs to cover additional healthcare professions with shortages (consider other funding streams such as Iowa Values Fund, non-taxable, etc.)</li> <li>• Sustain the programs</li> </ul>	<p>Short term</p> <p>Short term/long term</p> <p>Short term</p> <p>Short term</p> <p>Short term/long term</p> <p>Long term</p>	<p>Stipulation that the program is in place for a certain amount of years (3, 5, 7, ?) and then be reassessed prior to the end of the term with a decision to continue or discontinue, or decision on which areas of the health care profession are supported by funding</p>
<p><b>Advocate to improve Medicare/Medicaid reimbursement rates at the federal level:</b></p> <ul style="list-style-type: none"> <li>• Investigate and develop creation of state advocacy group</li> </ul>	<p>Short term/long term</p>	
<p><b>Improve wage and benefits for health care</b></p>		

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<b>workers:</b> <ul style="list-style-type: none"> <li>• Explore and develop benefit program plans that employers could offer new and existing employees</li> <li>• Creation of network or web-based clearinghouse for healthcare professionals to share best practice ideas/benefit and wage info/recruiting info/etc.</li> <li>• Promote programs that support and develop local economies and industry, which in turn will lead to increased demand for healthcare professionals</li> <li>• Investigate private business participation in state sponsored benefits programs</li> </ul>	Short term  Short term/long term  Short term/long term  Short term/long term	
<b>Cost of living standard for home and community health workers</b>	Short term	

## Administrative Reform

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<b>Define administrative barriers</b> <ul style="list-style-type: none"> <li>• Regulatory/agency rules</li> <li>• IA Code/ Statutory changes; especially those sections that are out of date</li> <li>• Private sector examples: insurance, small businesses</li> </ul>	1-2 years short term  3-5 years	
<b>Research solutions to increasing faculty and facilities.</b> <ul style="list-style-type: none"> <li>• Work with Board of Regents and educational institutions</li> </ul>	1-2 years 1-2 years	

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<ul style="list-style-type: none"> <li>• Increase salaries for educators</li> <li>• Research successful solutions what other states have done to increase faculty and reduce/eliminate admission waiting lists</li> </ul>	1-2 years	
<p><b>Build collaborative relationships to process the administrative changes that are needed.</b></p> <ul style="list-style-type: none"> <li>• Among boards (regulators), professional associations, &amp; providers</li> </ul>	1-2 years and ongoing	
<p><b>Explore current state of health provider certification &amp; qualifications</b></p> <ul style="list-style-type: none"> <li>• Look at disparities between health providers that have certifications with those who may not have qualifications to attain certifications</li> <li>• Educate consumers of health care to help them to have a better understanding about certifications and qualifications of health care providers, for example: <ul style="list-style-type: none"> <li>• laboratory technologists not certified</li> <li>• Caregiver certifications in Alzheimer's care</li> <li>• Lay midwives wanting to be legally recognized, about whether they can provide, and documentation of qualifications.</li> <li>• Physicians mandated by Code of Iowa to sign forms, but no requirement that they have special training in psychiatric evaluations, or in judging ability to drive a car or etc -- for those forms.</li> </ul> </li> </ul>	1-2 years  1-2 years	
<p><b>Look at barriers to working part-time after retirement a day or two a week.</b></p> <ul style="list-style-type: none"> <li>• Look at IPERS retirement plan</li> </ul>	1-2 Years	

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
restrictions <ul style="list-style-type: none"> <li>○ Example: having to wait to get benefits before returning to work for one or two days</li> <li>• Reducing the waiting the period &amp; income cap</li> </ul>	3-10 Years	

## Statewide Oversight and Coordination

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<b>Create Steering Committee</b> with agencies: DPH, IWD,DHS,DOE	1-2 years	Defines the responsibilities for the model and appoints the members of the Advisory Committee
<b>Identify the players</b> for Project Team Leaders including from public AND private, state AND local and private individuals/agencies that need to be involved. Interagency – have representation from every key area of H.C. workforce needs identified.	1-2 years	Collaborative between health care providers, health care educators, public and private, etc.
<b>Defining roles and responsibilities</b>	1-2 years	One of the responsibilities is to develop public awareness
<b>Develop an organizational model</b> based on above roles and responsibilities	1-2 years	
<b>Developing a team</b>	1-2 years	
<b>Implement a strategic plan</b> that flows from the 8 categories of Workforce Development needs identified here today	3-10 years	

Discussion Items: IDPH might be better for oversight than Workforce Development.

# Data

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<p><b>EMR (Electronic Medical Record)</b></p> <p>Important, but being addressed in another subcommittee and therefore will only mention here as a subject to be addressed in near term rather than long term</p>	<p>More near term than long term</p> <p>Being addressed in another (legislative) subcommittee</p>	<p><b>Needs:</b></p> <ul style="list-style-type: none"> <li>• Universal data definitions</li> <li>• Benefit to the consumer</li> <li>• Cost of implementing EMR for small providers</li> </ul> <p>Not directly workforce issue, but relates indirectly to workforce issues – by increasing efficiencies. Table issue until report from Subcommittee (Sen. Upmeyer’s) is received and reviewed.</p>
<p><b>Database – data</b></p> <p>Develop a data clearinghouse/warehouse for data shortage</p> <p>Perform data analysis and projections Use to identify shortage Workforce / manpower across all professions</p> <p>Fully refund the Center for Workforce Shortage</p> <p>Early entry point into data systems.</p> <p>Standardized data collection</p> <p>Use technology to streamline data collection and analysis</p>	<p>1-2 years</p> <p>3-10 years – long term</p> <p>1-2 years</p> <p>1-2 years</p> <p>1-2 years</p> <p>1-2 years</p>	<p><b>Multiple issues and details, including:</b></p> <ul style="list-style-type: none"> <li>• Different state departments track data but their systems do not communicate with each other.</li> <li>• Data currently being collected is not being utilized.</li> <li>• Draw the line with licensed professionals for data collection.</li> <li>• Still there is a transient population or those who fall outside the licensed professionals.</li> <li>• Compile old and new studies to come up with an analysis and develop recommendations off the results. How can this data be of service?</li> <li>• No new studies until we know exactly what data we have.</li> <li>• Data on individual professions could be used</li> </ul>

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
		<p>to track, indicate those needing retention initiatives.</p> <ul style="list-style-type: none"> <li>• Tracking turn over for direct care workers.</li> <li>• Database should be easily accessible to those wanting access.</li> <li>• Are we proposing the Center be oversight and administration of the data</li> <li>• Using technology more to update the data of healthcare professions.</li> <li>• Make sure this data is across the whole spectrum of health professions</li> <li>• Include educators in the data systems. Teachers and students and what track they are on. Use to make future projections.</li> </ul>
<p><b>Ultimate result is to disseminate and utilize information to correlate recruitment and retention and projections and policy of workforce needs.</b></p>	<p>3 – 10 years</p>	

**Timeline discussion:**

- Data is already being collected for all licensed professionals.
- Colleges already collect data on degree tracks. Where students go after graduation.
- Minnesota is already collecting where the female population is located. This data would indicate where primary care providers are located.

## Rebalancing the System

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<b>Assess what the needs of the people are:</b> <ul style="list-style-type: none"> <li>Public health community assessment</li> <li>Community plans</li> </ul>	Short term	Local
<b>Assess capacity</b> of existing system	Short term	State wide
<b>Identify potential strategies:</b> <ul style="list-style-type: none"> <li>Expanded use of existing providers</li> <li>Technology solutions</li> <li>Policy/regulation recommendations</li> <li>Chronic care management strategies</li> </ul>	Short term	State wide
Community will engage in <b>creating its own “livable community”</b> solutions: <ul style="list-style-type: none"> <li>Housing/transportation/service delivery</li> </ul>	Long term	Local
<b>Institute chronic care management strategies</b>	Long term	State wide
<b>Create incentives for health promotion &amp; wellness</b>	Long term	State wide

These are notes that were taken during the discussion that are in addition to the specific action steps:

- Resource allocation to match demand
- How are the pharmacists not being used where they have the capacity to be used
- Identifying the need – recognizing something that needs to be changed
- We all live longer and our needs are going to be more chronic in the future – managing a chronic illness
- Baby boomers want community-based care, which takes more direct care staff to do that in the home, as opposed to the staff needs to care for people in facilities
- The generations following the baby boomers have fewer people (workforce) so we need to use technology to make the best use of the smaller workforce
- The worry is that if more people are placed in facilities earlier, they will be more dependent than they need to be
- Possibly training family members to be care-givers
- Tele-monitoring can help decrease the need for nurses to visit patients in the home

# Training, Recruitment and Retention

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
<b>Training Recruitment Retention K-12</b> <ul style="list-style-type: none"> <li>• Programming at HS and middle school level.</li> </ul>	Both short term and long term 1-2	
<ul style="list-style-type: none"> <li>• HIPAA rule-not while seeing patients, can do before and after but not during</li> </ul>	Long term	
<ul style="list-style-type: none"> <li>• Job shadow-central campus partnership</li> </ul>	Both	- controversial
<ul style="list-style-type: none"> <li>• Students interested in health care will “shadow” professionals-knowing full well that all info shared is completely confidential, and the student knows this.</li> </ul>		
<ul style="list-style-type: none"> <li>• Develop a marketing strategy for high school and second careers in youth.</li> </ul>	Short term	
<ul style="list-style-type: none"> <li>• Strategy- new thinking in education pathway-better prepared student when they reach the college level. Math and science. Understand the profession through career model courses</li> </ul>	Long term	
<ul style="list-style-type: none"> <li>• Encourage careers pathways in youth professionals</li> </ul>	Both	Courses in focused professions
<b>College/ Professional</b>		
<ul style="list-style-type: none"> <li>• Continuing education; integrated workshops</li> <li>• Faculty development programs: especially nursing</li> <li>• Need for more clinic sites. Need for more simulation</li> <li>• Careers ladder</li> <li>• Consider innovative training processes and programs</li> <li>• Statewide curriculum for reentry level professionals (nursing)</li> <li>• Stimulate interest in moving on, provide information in basic public health care.-short</li> <li>• Waiting list should only have qualified</li> </ul>	Both Both Short term 3-5 years  Short term Long term  Short term Short term  Long term	Community college/College/professional school

Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
students on it <ul style="list-style-type: none"> <li>Statewide initiative to have better prepared students</li> </ul>		
<b>Licensure</b>		
<ul style="list-style-type: none"> <li>For lab technicians</li> <li>Creating shortages for individuals that are close to retirement. Grandfather them in?</li> <li>Moving up to where other states are in the prestige and recruitment of being within the standards.</li> </ul>	Short term	Does licensing improve a long term shortage? More training entities and opportunities for these people. Gets in the way of having providers in the state. Increase prestige. Help with retention and recruitment.
<b>Professional school</b>		
<ul style="list-style-type: none"> <li>Increase critical thinking skills</li> <li>Report and recruit faculty</li> <li>Be in touch with all physicians who are leaving or who have left. Short questionnaire as to why they left or are leaving</li> </ul>	Both  Short term with funding	Retaining health care professionals: why do they leave? Mistaken notion that they are leaving practice due to age or retirement. 61 percent relocation-reimbursement, contract issues.
<ul style="list-style-type: none"> <li>Create preferential treatments to Iowan-educated: train-residency in Iowa, more likely to stay in Iowa.</li> <li>Preferential treatment on m-cats, GPA, etc.</li> </ul>	Short term	15 percent of the doctors are international medical graduates–will typically be here for 2 years.
<ul style="list-style-type: none"> <li>Simulation in professional schools - expense</li> <li>Innovative programs</li> <li>Tuition forgiveness</li> <li>Apply loan forgiveness and state support to other specialties that are in critically short circumstances - Psychiatry, Ob/Gyn.</li> <li>Public health curriculum and exposure to PH in schools</li> <li>Increase higher level of learning between the professions. Be able to cross over credits</li> <li>Professional slots for more professions? Work force development- needs adequate funding so as not to lose the</li> </ul>	Short and long term	



Step	Time Frame: [short (1-2 Years) or will take a long term (3-10 year) solution]	Notes:
practice issues. Right care from right person at the right time		
<b>Reaching out to workers:</b>		
<ul style="list-style-type: none"> <li>• Reach out to older workers</li> <li>• Mentoring: need to develop programming in order to establish this. May not be state funded.</li> <li>• Understand new work force better</li> <li>• Innovation IN JOB STRUCTURE: important in all employment areas.</li> <li>• Such competitions between agencies. Losing because of age, higher wages, and better benefits.</li> <li>• Burnout issue-need to change culture</li> </ul>	Near-term/ low cost	
<b>HS Counselors</b>		
<ul style="list-style-type: none"> <li>• HS counselors encouraging students to leave state.</li> <li>• Need to connect with counselors -- “Selling Iowa”</li> </ul>	Short term	How many come back?
<b>Engage new technologies to catch target audience.</b>	Short term	<a href="http://www.3rnet.org">www.3rnet.org</a> : resource for vacanct of positions.

## Appendix E

### Telemedicine as Part of Iowa's Solution

The term **telehealth** is at times wrongly interchanged with **telemedicine**. Like the terms "medicine" and "health care," telemedicine often refers only to the provision of clinical services while the term telehealth can refer to clinical and non-clinical services such as medical education, administration, and research. The term e-health is often used, particularly in the UK and Europe, as an umbrella term that includes telehealth, electronic medical records, and other components of health information technology.

Telehealth is the delivery of health-related services and information via telecommunications technologies. Telehealth delivery could be as simple as two health professionals discussing a case over the telephone, or as sophisticated as using videoconferencing between providers at facilities in two countries.

Telemedicine is most beneficial for populations living in isolated communities and remote regions and is currently being applied in virtually all medical domains. Specialties that use telemedicine often use a "tele-" prefix; for example, telemedicine as applied by radiologists is called Teleradiology. Similarly telemedicine as applied by cardiologists is termed as telecardiology, etc.

Telemedicine is also useful as a communication tool between a general practitioner and a specialist available at a remote location.<sup>1, 2</sup>

**Telehealth** is an expansion of telemedicine that encompasses preventive, promotive *and* curative aspects. The clinical uses of telehealth technologies include:

- Transmission of medical images for diagnosis
- Telemedicine is practiced on the basis of two concepts: real time (synchronous) and store-and-forward (asynchronous)
- Groups or individuals exchanging health services or education live via videoconference
- Transmission of medical data for diagnosis or disease management
- Advice on prevention of diseases and promotion of good health by patient monitoring and follow-up

The nonclinical uses of telehealth technologies include:

- Distance education including continuing medical education, grand rounds, and patient education
- Administrative uses including meetings among telehealth networks, supervision, and presentations
- Research
- Online information and health data management
- Health care system integration

- Asset identification, listing, and patient to asset matching, and movement
- Overall health care system management
- Patient movement and remote admission

**Two types of telehealth modes exist**, store-and-forward and real time telehealth. In store-and-forward telehealth, digital images, video, audio and clinical data are captured and "stored" on the client computer; then at a convenient time transmitted securely to a clinic at another location where they are studied by relevant specialists. The opinion of the specialist is then transmitted back. Based on the requirements of the participating health care entities, this roundtrip could take between two to 48 hours. In many store-and-forward specialties, such as teleradiology, an immediate response is not critical. Dermatology, radiology and pathology are common specialties that are conducive to store-and-forward technologies.

In real-time telehealth, a telecommunications link allows instantaneous interaction. Video-conferencing equipment is one of the most common forms of synchronous telemedicine. Peripheral devices can also be attached to computers or the video-conferencing equipment which can aid in an interactive examination. With the availability of better and cheaper communication channels, direct two-way audio and video streaming between centers through computers is leading to lower costs.

Examples of real-time clinical telehealth include:

- Telemental health
- Telerehabilitation
- Telecardiology
- Teleneurology
- Telenursing
- Teleradiology
- Teletriage

Telehealth benefits patients in rural areas where traditional delivery of health services are affected by distance and lack of local specialist clinicians to deliver services. The rate of adoption of telehealth services in any jurisdiction is frequently influenced by factors such as the adequacy and cost of existing conventional health services in meeting patient needs; the policies of governments and/or insurers with respect to coverage and payment for telehealth services; and medical licensing requirements that may inhibit or deter the provision of telehealth second opinions or primary consultations by physicians.<sup>2</sup>

**Telemedicine** is a rapidly developing application of clinical medicine where medical information is transferred via telephone, the Internet or other networks for the purpose of consulting, and sometimes remote medical procedures or examinations.

Telemedicine may be as simple as two health professionals discussing a case over the telephone, or as complex as using satellite technology and video-conferencing equipment to conduct a real-time consultation between medical specialists in two different countries. Telemedicine generally

refers to the use of communications and information technologies for the delivery of clinical care.

Real time telemedicine could be as simple as a telephone call or as complex as robotic surgery. It requires the presence of both parties at the same time and a communications link between them that allows a real-time interaction to take place. Video-conferencing equipment is one of the most common forms of technologies used in synchronous telemedicine. There are also peripheral devices which can be attached to computers or the video-conferencing equipment which can aid in an interactive examination. For instance, a tele-otoscope allows a remote physician to 'see' inside a patient's ear; a tele-stethoscope allows the consulting remote physician to hear the patient's heartbeat. Medical specialties conducive to this kind of consultation include psychiatry, internal medicine, rehabilitation, cardiology, pediatrics, obstetrics and gynecology and neurology.

Store-and-forward telemedicine involves acquiring medical data (like medical images, biosignals etc) and then transmitting this data to a doctor or medical specialist at a convenient time for assessment offline. It does not require the presence of both parties at the same time. Dermatology, radiology, and pathology are common specialties that are conducive to asynchronous telemedicine. A properly structured Medical Record preferably in electronic form should be a component of this transfer.

**Telemental Health** is the use of telecommunications technology to provide mental health services to individuals in communities or locations that are under serviced. Under service is typically a result of geographic isolation. Examples of telemental health services include providing health workers in remote areas with continuing education on mental health topics, videoconferenced consultations on routine and urgent mental health cases using a "virtual" case management team, and providing direct mental health care services through two-way interactive systems.

**Teleradiology** is the ability to send radiographic images (x-rays) from one location to another. For this process to be implemented, three essential components are required, an image sending station, a transmission network, and a receiving / image review station. The most typical implementation is two computers connected via Internet. The computer at the receiving end will need to have a high-quality display screen that has been tested and cleared for clinical purposes. Sometimes the receiving computer will have a printer so that images can be printed for convenience.

The teleradiology process begins at the image sending station. The radiographic image and a modem or other connections are required for this first step. The image is scanned and then sent via the network connection to the receiving computer.<sup>2</sup>

**In Iowa**, telecommunications efforts for telehealth and telemedicine activities are fragmented despite the establishment of the Iowa Communications Network (ICN) in 1987. Located in all 99 counties in Iowa, the ICN was primarily intended for educational purposes. However, in 1994,

medical and health care facilities were given access to the ICN with the hope of enhancing and supporting rural medical institutions. The infrastructure cost enabling hospitals to connect to broadband access was not economically feasible. However, this issue will be addressed over the next couple of years as result of the Federal Communications Commission funding announcement. The impact of this announcement is further delineated on upcoming pages. The ICN backbone is an integral part of this project.

The Iowa Communications Network is the state agency that administers the statewide fiber optics network. The Network enables authorized users such as hospitals, state and federal government, public defense armories, libraries, schools, and higher education, to communicate via full-motion video; high-speed Internet connections; and telephones. There are 767 ICN classrooms in Iowa that include the following types of locations:<sup>3</sup>

K-12 Schools	402
National Guard	52
Community Colleges	104
State Agencies	53
Regent Universities	44
Federal Agencies	20
Independent Colleges/Universities	17
Hospitals	8
AEA's	17
Public Libraries	50

**Barriers to telemedicine** include technology, standardization, and cost. At the present time the there is relatively little standardization in equipment, hardware, and software. People living in rural areas typically have reduced access to high-speed Internet because most service providers find it too expensive to build networks in sparsely populated areas.<sup>2</sup>

In urban areas of the state telehealth and telemedicine is being employed via the internet and ICN. The main groups that employ these strategies for expanding access to health care include:

- The University of Iowa – University of Iowa Hospitals and Clinics and the Hardin Library
- Iowa Department of Corrections
- Avera Health
- The Midwest Rural Telemedicine Consortium (MRTC) (Iowa Methodist and Mercy Hospital Medical Centers - both in Des Moines)

Recently the Federal Trade Commission announced \$417 million in grants to help rural health care groups nation wide build high-speed Internet networks to connect isolated clinics to sophisticated medical resources in urban areas.

The three-year pilot program aims to help extend broadband lines to about 6,000 hospitals, research centers, universities and clinics in hard-to-reach regions, many of which still rely on dial-up Internet service. The faster connection could be used to upload patient records or for sending videos and pictures to diagnose the illness of someone hundreds of miles away.

In Iowa, the FCC program will help fund organizations for what they spend to put the infrastructure in place. Four awards that include Iowa sites in their plan include: <sup>4</sup>

**Heartland Unified Broadband Network (SD, ND, IA, MN, NE, WY)**

Existing networks will interconnect to a fiber optic DS3 44.7 Mbps-capacity line forming an expanded network of about 180 facilities with connections to Internet2. The expanded and enhanced network will address health problems of the area's aging population, increase the use and quality of teleradiology, and increase distance education activities.

**Sanford Health Collaboration and Communication Channel (SD, IA, MN)**

Project will connect seven existing networks at speeds of up to 100 Mbps to access administrative services and connect with educational institutions. Facilities served include the Aberdeen, S.D. area Indian Health Services.

**Iowa Health System (IA, IL)**

The new network connections will link approximately 78 health care facilities, including 52 rural facilities, to an existing statewide, dedicated, broadband health care network and National LambdaRail.

**Iowa Rural Health Telecommunications Program (IA, NE, SD)**

To solve the problems of isolation, travel and limited resources that constrain health care delivery in rural Iowa and its surrounding regions, a new statewide broadband network will link approximately 100 facilities in Iowa, Nebraska and South Dakota to Internet2 at speeds of 1 Gbps.

**To fully utilize telehealth**, telemedicine and health information technology in Iowa there needs to be better integration of existing providers and a full assessment of services provided. A state-wide workgroup to conduct an assessment and provide recommendations and a work plan should be established.

Notes for Appendix E:

1. The National Telehealth Resource Center (NTRC) 2006. *Frequently Asked Questions* <http://www.telehealthlawcenter.org/content/?page=18>
2. Telemedicine Information Exchange. 2005. *Telemedicine, Telehealth, and the Consumer Telemedicine Coming of Age*. Nancy Brown, September 28, 1996 (<http://tie.telemed.org>)
3. Iowa Telecommunications and Technology Commission (ITTC) [http://www.icn.state.ia.us/about\\_icn/index.html](http://www.icn.state.ia.us/about_icn/index.html)

4. Federal Communications Commission (FCC). November 2007. *FCC Launches Initiative to Increase Access to Health Care in Rural America Through Broadband Telehealth Services*.  
<http://www.fcc.gov/aboutus.html><http://www.nrharural.org/>
5. National Rural Health Association. October 2006. *Telehealth Technical Assistance Manual*. Samuel G. Burgiss, Ph.D.
6. Health Resources and Services Administration, Office for the Advancement of Telehealth  
<http://www.hrsa.gov/telehealth/>