MONTANA HEALTHCARE WORKFORCE

STATEWIDE STRATEGIC PLAN

MONTANA HEALTHCARE WORKFORCE ADVISORY COMMITTEE • MONTANA OFFICE OF RURAL HEALTH • AREA HEALTH EDUCATION CENTER

11/01/11

Letter of Introduction

In the spring of 2006, the Montana Office of the Commissioner of Higher Education approached the Montana Area Health Education Center (AHEC) and Office of Rural Health, asking the Advisory Board to provide leadership on healthcare workforce issues. The statewide Montana Healthcare Workforce Advisory Committee (MHWAC) was born. The purpose of the Committee has been to provide guidance to the state on how to assure that there is a well-trained workforce sufficient in number, breadth and quality to meet the need of all regions of the state.

In September 2010, the MHWAC, in partnership with the State Workforce Investment Board (SWIB), was awarded a State Health Care Workforce Development Grant from HRSA (Health Resources and Services Administration in the US Department of Health and Human Services). The outcome of the grant has been the development of a Healthcare Workforce Strategic Plan for Montana.

Membership in the MHWAC has expanded to over 100 enthusiastic and proactive participants representing the many facets of the healthcare industry in Montana. In order to solicit input, monthly meetings were held, as well as focus groups and profession/sector specific workgroups. A listing of participants can be found in the appendix. We sincerely thank you for your support and appreciate your dedication to this worthwhile effort.

We are pleased to present our Montana Healthcare Workforce Strategic Plan. And now, our efforts begin in earnest as we move to prioritize and initiate our strategies. Our plan is a call to action with the ultimate goal of quality provision of healthcare for all Montanans, from Billings to Sweetgrass, and Plains to Ekalaka.

Kristin Juliar, Director
Montana Office of Rural Health/
Area Health Education Center

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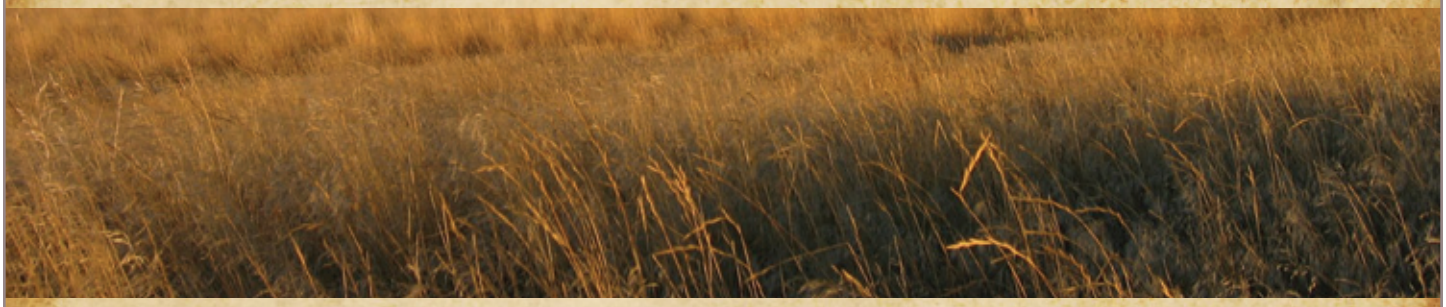

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EXECUTIVE SUMMARY

The State Health Care Workforce Development Grant project has been a very successful endeavor for the Montana Office of Rural Health/AHEC and the State Workforce Investment Board (SWIB). Acknowledgement that workforce planning does not exist in a vacuum, but instead, is the responsibility of varied agencies and organizations across traditional organizational boundaries has been a significant accomplishment. Cross-agency partnerships have been reinforced and reinvigorated. Within state government, we have partnered with several agencies within the Department of Labor and Industry, the Department of Health and Human Services, the Office of Public Instruction and the Office of the Commissioner of Higher Education. We have also expanded our collaborations with professional organizations (such as the Montana Hospital Association, the Montana Medical Association and the Montana Primary Care Association) and healthcare networks and providers. Working collaboratively and leveraging our relationships with key stakeholders, we have developed a healthcare workforce plan that will address the unique needs of Montana.

Healthcare Workforce in Montana…

Montana is a very large but sparsely populated state (fourth largest in land area, but 44th in population). Just one of the 56 counties in Montana is considered urban with more than 50 persons per square mile while ten counties are classified as rural (from six to 50 persons per square mile). The remaining 45 counties are considered frontier with less than six persons per square mile. The Montana Office of Primary Care documents Health Professions Shortage Areas (HPSAs) in all but four counties in the state.

The need for a well-educated and trained workforce is projected to increase significantly in upcoming years. Healthcare reform efforts are expected to increase the number of primary care practitioners needed in practice throughout the country. The Montana population is one of the fastest growing aging populations in the country. Along with the aging population come greater healthcare needs. Additionally, the workforce is aging: nearly 23 percent of physicians in the state are over the age of 60 and likely to retire within five years, while nearly 37 percent of dentists in Montana are at or near retirement age.

The healthcare industry has been a rare bright spot in the recently depressed economy. The Bureau of Labor Statistics predicts that 26 percent of all new jobs created in the US economy from 2008 to 2018 will be in the health care sector. In Montana, the healthcare industry has had a higher rate of employment growth over the last 10 years than the state as a whole. Healthcare employment growth increased by 30 percent or 13,478 jobs from 2000-2009. It has also held strong through the recession. Future projections indicate that healthcare positions will grow from 57,898 to 73,311 (or 26.6 percent growth) for the 2010 to 2020 time period.

In order to address the future healthcare needs of Montana's population, the Montana Healthcare Workforce Plan has been developed. The plan was developed with grant support from HRSA/Office of Rural Health Policy, and was awarded to the Montana Healthcare Workforce Advisory Committee (MHWAC) and the Montana Department of Labor and Industry, State Workforce Investment Board (MT DOLI—SWIB).

In order to develop a plan that addresses the needs of a frontier and aging population, the MHWAC membership was expanded statewide to all persons who wanted to participate. Over 100 committee members have participated in monthly meetings and given input specific to their locations and/or profession or healthcare sector. In addition, ten focus groups have been held in locations throughout the state to determine region specific issues or concerns. Fifteen workgroups helped to develop overall strategies, as well as strategies specifically addressing issues within their profession or sector. Participation has been enthusiastic and stakeholders have been very proactive and supportive of the planning process and outcomes.

EXECUTIVE SUMMARY

Plan Strategies…

Overall strategies have been developed that focus on four main areas:

• Engaging Montanans in understanding and addressing the State's healthcare workforce needs — Although rural Montanans are keenly aware of the health workforce challenges in their communities, many others around the state are not. A focus area in the plan is to engage Montanans in understanding and supporting local, regional and statewide healthcare workforce efforts. Additionally, we must increase the capacity to analyze the State's workforce, target funding to education and training, and create partnerships among involved stakeholders.

• Educating and training Montana's healthcare workforce – The well documented best practice of "growing your own" is a strategy that plays a major role in healthcare workforce development in Montana. Strategies have also been developed to prepare our next generation to succeed in all facets of health professions education from academics, to exposure to health careers, to career guidance and bridges to post-secondary education. Our post-secondary health profession programs must be supported through adequate funding, faculty development, development of clinical sites, increased classroom resources, development of partnerships with healthcare organizations and outreach to rural and underserved areas. We must provide training and education in frontier, rural and underserved communities. Additionally, we must link professional graduate programs to rural and underserved areas. Lastly, Graduate Medical Education programs must be expanded through partnerships.

• Recruiting health professionals to Montana's Health Professions Shortage Areas — Recruiting health professionals may be accomplished via a coordinated, collaborative partnership approach. The plan addresses the need to provide experience in rural and underserved settings for health professions students as well as provision of financial incentives for practice in rural and underserved areas.

• Retaining a skilled healthcare workforce — The plan also addresses strategies to retain a skilled workforce by reducing professional isolation, developing career ladder and skill development programs, and strengthening leadership and quality in healthcare settings. Sector and profession specific strategies were developed with input from workgroups and include strategies for: allied health, behavioral health, community health centers, dental and oral health, direct care, EMS, HIT, medical laboratory science, nursing, pharmacy, physicians, physician assistants and public health.

Accomplishments…

We have succeeded in bringing stakeholder leaders and decision makers to the table to determine how best to address the healthcare workforce needs of Montana. Previous workforce efforts were developed by one sector or interest group. We now recognize that a comprehensive plan that encompasses input and resources from many interests is the best way to succeed. Additionally, we have leveraged our working relationships to develop an infrastructure to pursue other major workforce initiatives.

The Montana Healthcare Workforce Plan is available online at **http://healthinfo.montana.edu.** We look forward to further collaboration with our partners and stakeholders to address the healthcare workforce needs within our state.

OVERALL STRATEGIES

Engage, Educate and Train, Recruit and Retain

ENGAGING Montanans in understanding and addressing the State's healthcare workforce needs.

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
I. Engage Montanans in understanding and supporting local, regional and statewide healthcare workforce efforts		
A. Provide clear, comprehensive, and actionable information about Montana's healthcare workforce **1.** Current employment, across the professions and with regional breakdowns **2.** Analysis of the capacity of postsecondary health professions and training programs **3.** Current and projected shortages of key professions and workers **4.** Regions and communities facing the biggest healthcare workforce challenges	MT DOLI, health licensure boards, professional associations, MHA, MT Primary Care Association, MHWAC, MT ORH/AHEC	Develop the MT Healthcare Workforce Plan, including information on employment, post-secondary training, key shortages and regions facing the most extreme challenges
B. Prepare local, regional and state reports on the economic impact of healthcare and the healthcare workforce	MT DOLI, local healthcare facilities, local governments and businesses, MT ORH/AHEC	Track number of reports prepared that address the MT healthcare workforce
C. Distribute a summary report that provides clear information and strategies that can strengthen the workforce in communities, across regions and for the entire state	MT DOLI, local healthcare facilities, local governments and businesses, MT ORH/AHEC	Develop the MT Healthcare Workforce Plan and make available statewide
D. Through local, regional, and statewide forums, build an understanding of how Montana can support the healthcare workforce the state needs	MT DOLI, local healthcare facilities, local governments and businesses, MT	Track number of forums held to build support for workforce needs

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ENGAGING Montanans in understanding and addressing the State's healthcare workforce needs

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
II. Increase the capacity to analyze the state's workforce and target funding to education and training		
A. Support healthcare workforce analysis functions at the Montana Department of Labor, the Office of the Commissioner of Higher Education, the Montana Primary Care Office at DPHHS, the EMS and Trauma Systems Section at DPHHS, the Montana AHEC/Office of Rural Health and the UW Healthcare Workforce Center	MT DOLI, OCHE, DPHHS—PCO, DPHHS—Trauma Systems, MT ORH/ AHEC, UW Health-care Workforce Center, MHWAC	Availability of consistent healthcare workforce data
B. Provide high quality data **1.** Implement the Minimum Data Set for licensure renewal for health care professions **2.** Prepare annual statewide reports on healthcare workforce supply, demand and projects **3.** Publish the annual Pathways Into Health education brochure, with targeted brochures on specific professions	Healthcare licensure boards, MT DOLI, OCHE, DPHHS—PCO, DPHHS—Trauma Systems, MT ORH/ AHEC, UW Healthcare Workforce, post-secondary education facilities, professional associations	Track licensure boards that have collect MDS information, publish reports on statewide healthcare workforce, publish Pathways brochure—targeted to specific professions
C. Create a Montana Healthcare Workforce Data Collaborative that provides a forum for public and private sector analysis of the multifaceted data around the workforce	Selected membership from data organization around the state	Track analysis of workforce data related issues
D. Do no harm – improve understanding and support for the existing programs that are educating Montana's physicians, nurses, and allied health professionals		
E. Inventory funding from HRSA, DOLETA, and other federal and state programs that are currently used to support health professions education and healthcare workforce training in Montana	MT DPHHS—PCO, SC MT AHEC, HRSA, DOLI, MT OCHE, WICHE, WWAMI	Develop document addressing funding opportunities from federal and state programs

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ENGAGING Montanans in understanding and addressing the State's healthcare workforce needs

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
F. Target grantwriting and funding strategies to clearly identified shortages and underserved areas: **1.** Rural and frontier communities **2.** Primary Care providers – Physicians, APRNs, PAs **3.** Critical Access Hospitals and Rural Health Clinics **4.** Community Health Centers **5.** Health Information Technology workforce **6.** Allied Health Professionals – Graduate, Undergraduate, Certificate Level **7.** Oral Health **8.** Front line patient care, dietary, environmental services and administrative staff **9.** Mental health/behavioral health workforce **10.** Emergency Medical Services workforce	MT AHEC/ORH, HRSA, MHA, MUS, CHCs, HealthShare MT	Track number of grants and funding awarded to support specific workforce professional shortages and underserved areas
III. Create Partnerships		
A. Link employers, higher education, workforce training programs, state agencies, the business community and local government through the Montana Healthcare Workforce Advisory Council	Healthcare employers, post-secondary educational institutions, local businesses and government, MHWAC members	Maintain monthly meetings of MHWAC, including all interested stakeholders
B. Support or create regional healthcare workforce partnerships for regional planning and project development	MT AHECS, healthcare facilities, local governments	Development of regional workforce planning and project committees
C. Utilize the partnerships to target funding to high demand areas; create joint grant proposals; engage in on-going strategic planning; and to evaluate the most effective strategies for regions and states	MHWAC, local businesses and govenments, local healthcare facilities, educational instutions, professional organizations, healthcare stakeholders	Track projects initiated through partnerships, track development of grant proposals, track regional workforce planning efforts and strategies

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EDUCATING AND TRAINING Montana's Healthcare Workforce

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
I. Growing our own – supporting our own residents to become the health professionals and employees Montana needs	All of Montana	Number of health professionals who are Montana natives
A. Admission policies that target Montana students, particularly from rural and underserved communities (WWAMI, WWAMI TRUST, similar programs)	Post-secondary education institutions, WWAMI, WICHE	Track numbers of students from rural and underserved communities admitted to healthcare career education programs
B. Scholarships, tuition policies and loan forgiveness programs to support Montana students in the health professions needed in Montana **1.** WWAMI **2.** WICHE and slots in other out-of-state programs not available in Montana **3.** Montana Rural Physician Incentive Program (MRPIP loan forgiveness) **4.** National Health Service Corps programs (existing) **5.** Pilot project to target NHSC programs to highest demand communities – Montana Health Service Corps **6.** Nursing Education Incentives – Scholarships, Bridge Programs, partnerships with Tribal Colleges **7.** Create an allied health loan forgiveness program similar to MRPIP	MT DPHHS—Primary Care Office, SC MT AHEC, MT post-secondary educational institutions	Track where financial incentive programs are being utilized, develop allied health incentive programs
C. Local financial incentives targeted to link health professions students to practice in the community upon graduation	Local healthcare facilities, local businesses and governments	Track healthcare providers who practice in the communities in which they grew up

EDUCATING AND TRAINING Montana's Healthcare Workforce

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
II. Preparing our next generation, particularly from rural Montana and underserved communities, to succeed in health professions education – academics, exposure to health careers, career guidance, and bridges to post-secondary education	MT OPI Health Science Specialist, MT OPI, MT AHECs	Number of health professionals who are Montana natives – number from rural MT and underserved communities
A. Continue to expand health occupations programs in Montana High Schools through the Office of Public Instruction Health Career Pathways **1.** State health careers program specialist to coordinate program development and implementation **2.** Provide assistance to schools in implementing curriculum, utilizing state/federal funding, and teacher certification **3.** Assure that local programs are approved and eligible to receive funding and resources **4.** Provide teacher training and support with curriculum resources **5.** Link curriculum to graduation requirements and entry into health professions program	MT OPI Health Science Specialist, MT OPI, MT AHECs	Track number of high schools offering health science/occupation programs of study
B. Assist and support partnerships among education and practice settings to create and support local health careers programs	MT AHECs, MT HOSA, MT OPI, local healthcare facilities	Track support for health careers programs through partnerships
C. Support existing Health Occupations Students of America (HOSA) chapters and create new chapters **1.** Provide support for HOSA students to participate in state and national events **2.** Link local healthcare organizations to HOSA programs in the community **3.** Increase post-secondary understanding of HOSA	MT OPI—Health Science Specialist, HOSA chapters, local healthcare organizations, post-secondary education institutions	Track number of HOSA chapters in MT
D. Provide credentials to high school students from health career programs and HOSA that relate to admissions into post-secondary education	MT OPI, post-secondary education institutions, MT HOSA	Track student admission and acceptance of credentials from health career programs
E. Target outreach for health career programs and HOSA to Class C and Tribal High Schools **1.** Teacher recruitment and training **2.** Specific curriculum materials suited to small schools **3.** Distance education delivery for small cohorts of students **4.** Travel and other financial support to allow students to participate in HOSA events	MT HOSA, Class C and Tribal High Schools, MT OPI, MT AHECs	Track numbers of students admitted from Class C and Tribal high schools into health career programs

EDUCATING AND TRAINING Montana's Healthcare Workforce

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
F. Provide academic and career exploration enrichment programs to students from rural and underserved populations through AHEC, health providers, HOSA and OPI **1.** REACH (Research and Explore Awesome Careers in Healthcare) Camps – local short term camps that link students and local providers to explore careers **2.** Great Hospital Adventure – puppet shows for grade school students to explore health careers **3.** In a Box – anatomy curricula prepackaged to circulate among rural/underserved schools **4.** Hands on Health – at UM Spectrum Science Museum and traveling to small communities to explore the science of health **5.** MedStart Summer Camps – summer camps for rural/underserved students on Montana post-secondary campuses to prepare them to enter health professions programs **6.** Pathways into Health – an annual brochure and poster describing all the post-secondary health professionals education/training programs in the Montana University System **7.** Oral Career Pathways – a Pathways brochure and outreach program	MT AHECs, local healthcare providers, MT HOSA, MT OPI	Track number of students (from rural and under-served areas) participating in programs
G. Support programs for American Indian students to explore and achieve success in health professions programs **1.** American Indian Research Opportunities, the MSU Nursing Co-op (Caring for Our Own Program), American Indian Student Services, Salish Kootenai Nursing Program, Tribal College Pre-Health AA Degrees, Idea Network for BioScience Research Excellence – these are a sampling of existing partnerships and Tribal programs for continued support **2.** Develop additional collaborative programs and 2+2 programs that link Tribal Colleges and MUS campuses to provide health professions degrees	AIRO, MSU Nursing Co-op (Caring for Our Own Program), American Indian Student Services, Salish Kootenai Nursing Program, Tribal College Pre-Health program, Idea Network for BioScience Research Excellence, MUS health profession degree programs	Track number of American Indian students enrolling in, and completing, health profession education programs (certificate, AD or baccalaureate)

EDUCATING AND TRAINING Montana's Healthcare Workforce

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
III. Support post-secondary health profession programs through adequate funding, faculty development, clinical sites, classroom resources, partnerships with healthcare organizations, and outreach to rural and underserved areas	Healthcare stakeholders, legislators, Governor, OCHE, campuses, clinical partners	Continued availability of current health professions programs; expansion in numbers and programs
A. Provide the state with more comprehensive information about enrollments, graduates and employment of Montana health professions and career training programs	MT OCHE, DOLI—Research Bureau, MUS health professions education programs	Publish reports on number of MUS healthcare graduates, how long from graduation to employment, wages, where they work, etc.
B. Provide onsite and distance education programs to provide health professionals with training to serve as faculty	MUS, MT Networks, MHA, AHECs and ORH	Track number of faculty training programs provided
C. Document the value of clinical education provided by health organizations in Montana	DOLI—Research Bureau	Develop and publish community specific clinical education impact reports
D. Document the economic impact of health professions and training to Montana communities, regions and the state	DOLI—Research Bureau	Develop and publish community specific healthcare provider impact reports
E. Implement Montana StudentMax clinical coordination project to inventory existing clinical education, and coordinate new clinical training opportunities in rural and underserved settings	MT ORH, MT AHECs, local healthcare facilities, post-secondary education institutions	Utilization of StudentMax tracking software for clinical training opportunities in rural and underserved settings
F. Strengthen partnerships with the Montana Department of Labor to pool resources for healthcare training in economically distressed areas **1.** Funds for training **2.** "Stackable" credentials and pathways to degree programs **3.** Training partnerships	MT DOLI, SWIB, OCHE, MUS, local hospitals and healthcare facilities	Track funding, training partnerships and pathways to degree programs developed in partnership with MT DOLI
G. Develop regional strategies for delivery of training and education in rural/underserved areas through distance delivery and cohort programs	MUS, MT health networks, local hospitals and healthcare facilities	Track number of training programs offered via distance and cohort methods in rural and underserved areas
H. Inventory classroom resources and technology resources needed to meet demand and keep Montana current with changing healthcare practices (HIT, simulation, new care technologies)	Post-secondary education institutions, HealthShare MT, MT health networks, local hospitals and healthcare facilities	Share inventory of needs with stakeholders in education and healthcare facilities

EDUCATING AND TRAINING Montana's Healthcare Workforce

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
IV. Provide training and education in frontier, rural and underserved communities through clinical rotations, distance education, cohorts, and onsite programs		
A. Inventory current clinical settings; post opportunities for rural/underserved clinical rotations/training; match educational program clinical needs to rural/underserved locations	Student Max project, E and SC MT AHECs, local healthcare facilities	Track number of clinical settings, and clinical rotations/training sites in rural/underserved locations
B. Support rotations of WWAMI medical students through **1.** Rural Underserved Opportunities Program (RUOP) 1st year summer experiences **2.** 3rd and 4th year clinical education **3.** Targeted Rural Underserved Track (MT WWAMI TRUST) experiences and education throughout medical school	WWAMI, E and SC MT AHECs	Track number of WWAMI medical students who rotate in rural and underserved areas of MT
C. Support experiences of medical school students with ties or strong interest in Montana through AHEC placements	MT AHECs, healthcare facilities	Medical students placed in Montana settings
D. Support rotations of high demand professions (dental, pharmacy, physical therapy, clinical psychology, speech pathology, etc.) in rural and underserved areas	MT AHECs, healthcare facilities	Healthcare professionals placed in rural and underserved rotations
E. Support opportunities for nursing students in rural settings (e.g. Rural Nurse Residency program, clinical rotations, distance education, cohort programs)	MT nursing education programs, healthcare facilities in rural settings	New graduate nurses will be placed in rural residency programs to enhance retention
F. Provide onsite training for place bound residents via cohorts or distance education: **1.** Degree programs **2.** Graduate education **3.** Incumbent workers **4.** Certificate programs	Post-secondary education programs, DOLI—SWIB	Track number of cohort and distance education programs provided for place bound residents
V. Expanding Graduate Medical Education (residency programs) through partnerships among hospitals, MUS, WWAMI and other medical schools and communities	Hospitals, MUS, WWAMI and other medical schools and communities	GME education (residency) will be expanded in Montana
A. Create Montana Graduate Medical Education Council to oversee strategic planning and funding of GME Montana current with changing healthcare practices (HIT, simulation, new care technologies)	AHEC, Residency Programs, OCHE, MHA, MPCA, and other stakeholders	Expanded and coordinated residency and primary care education
B. Support continued expansion of residency in Billings **1.** Montana Family Medicine Residency **2.** Other potential residencies	E MT AHEC, WWAMI, River-Stone Health	Track number of residents accepted into MT residency programs

EDUCATING AND TRAINING Montana's Healthcare Workforce

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
C. Support creation of the Family Medicine Residency of Western Montana	W MT AHEC, WWAMI	Family Medicine Residency of Western Montana accepts residents
D. Explore feasibility of other residencies through partnerships or development	Local healthcare facilities, University healthcare training programs	Track number of residency programs in MT
E. Do no harm – assure that existing state funding for existing residency is protected	MT Healthcare Stakeholders	Track budget for residency programs
VI. Linking graduate programs in Pharmacy, Physical Therapy, Clinical Psychology, Speech Pathology, Nursing, Healthcare Administration and Dentistry to rural and underserved areas through clinical rotations, residency programs and rural/ underserved experiences	Post-secondary educational facilities, local healthcare facilities in rural and underserved areas	Track number of professional clinical experiences available in rural and underserved areas

RECRUITING Health Professionals to Montana's Health Professions Shortage Areas

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
I. Support a coordinated, collaborative partnership approach to health professions recruitment		
A. Support the work of the Montana Recruitment Collaborative **1.** Membership **2.** Joint recruitment materials, materials and participation in recruitment opportunities (events attended by likely candidates) **3.** Use of 3RNET internet recruiting system **4.** Assistance to communities in creating successful recruitment strategies and information **5.** Using the Idaho Community APGAR process to train communities to target successful recruitment strategies **6.** Matching of candidates to community openings that have high potential for success	SC and NC MT AHECs, 3RNET, CHSD through MT Office of Rural Health	New hires recruited through the MT Recruitment Collaborative
B. Recruit health professions students from rural and underserved areas of Montana **1.** TRUST model **2.** CO-OP and other American Indian Programs **3.** Summer camps and mentorship programs **4.** Continued linkages to back to the community	MT AHECs, MT Health Science Education programs (K-12), MT OCHE, post-secondary institutions, local healthcare institutions	Track numbers of participants and home city/state in health professionals recruitment programs

RECRUITING Health Professionals to Montana's Health Professions Shortage Areas

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
C. Outreach to Montanans living in other states **1.** "Come Back to Montana" campaign **2.** Visits to residency programs in nearby states **3.** Outreach to WICHE students	WICHE program, residency programs in surrounding states, WWAMI	Track numbers of practitioners who return to Montana for employment
II. Provide extensive opportunities for health professions students to experience rural and underserved settings throughout their education **A.** TRUST Model **B.** Clinical rotations **C.** Mentorships **D.** Rural/underserved experiences	MT AHECs, local healthcare institutions, CHCs, MT DPPHS Primary Care Office	Track numbers of rotations/ intern opportunities in rural and underserved settings
III. Provide financial incentives for practice in rural and underserved areas **A.** MRPIP Loan Repayment Program for primary care physicians in rural and underserved communities (administered by OCHE) **B.** National Health Service Programs promoted by Montana Recruitment Collaborative, and well understood by the communities that can use them **C.** Seek an NHSC Pilot project that will target NHSC scholarship or loan programs to primary care providers at the beginning of their education, with a requirement to stay in Montana **D.** Develop MRPIP style loan repayment fund for nursing and allied health practitioners who serve in rural and underserved communities **E.** Provide guidance to communities in structuring effective financial incentive programs to attract and needed health professionals	MT DPHHS Primary Care Office, SC and NC MT AHECs, MT OCHE, MT Recruitment Collaborative, MHA, local communities and healthcare facilities	Track number of new hires applying for and receiving financial incentives

RETAINING A SKILLED HEALTHCARE WORKFORCE

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
I. Reduce professional isolation by providing opportunities for professional development and continuing education		
A. Participate in the Montana Healthcare Continuing Education Advisory Council **1.** Provide a coordinated approach **2.** Publish monthly calendar and newsletter of CE and Training Opportunities **3.** Identify gaps in offerings **4.** Work with partners to develop required and/or lacking CE and training via appropriate delivery (distance, onsite, regional, statewide)	MT Healthcare Continuing Education Advisory Council, MT ORH/AHEC, MHA	Publication of monthly CE and training opportunities, publication of newsletter documenting CE offerings, track number of training programs developed with partners through MT Healthcare Continuing Education Advisory Council
B. Identify opportunities for rural practitioners to engage with peers for skill development and quality improvement **1.** Performance Improvement Collaborative of MHREF **2.** Support for speakers and offerings at statewide meetings and conferences **3.** Training for rural practitioners to serve as clinical faculty and preceptors	MHA—REF, local healthcare facilities, WWAMI, MT AHEC and ORH	Track number of opportunities for skill development, quality improvement, and faculty and preceptor training
C. Provide opportunities for rural practitioners to participate in research efforts **1.** PIN **2.** HSM **3.** Clinical trials **4.** Partnerships with MUS **5.** Lean process improvement projects	MUS scientific researchers, Lean process experts at MSU, PIN, HSM	Track number of research opportunities available for rural practitioners and participation in research
II. Develop Career Ladder and Skill Development Programs that allow rural healthcare workers to obtain degrees and certificates to advance in their career	SWIB, healthcare licensure boards, post-secondary education institutions (MUS and two year programs)	Track numbers of degree and certificate holders who have participated in career ladder/skill development programs
A. Establish state and regional partnerships among workforce development programs, employers, and education to identify career training opportunities	DOLI—SWIB, local employers, MT OPI and OCHE, local healthcare facilities	Track number of available career training opportunities
B. Deliver training programs that meet identified employment needs with opportunities for increased wages to rural providers via onsite, distance education or cohort programs	Local healthcare facilities, DOLI—SWIB, MT OPI and OCHE, post-secondary education institutions, MT AHECs, MT Health Networks	Track number of training programs available via onsite, distance or cohort methods
C. Identify DOL and other funding sources that can be targeted to needed incumbent worker programs in healthcare settings	DOLI—SWIB, local healthcare facilities	Track available funding for training
D. Implement HIT training programs with the educational collaborative and local healthcare facilities	MT Health Networks, local healthcare facilities	Track availability of HIT training programs

RETAINING A SKILLED HEALTHCARE WORKFORCE

STRATEGY	RESOURCES & ORGANIZATIONS	MEASURES & OUTCOMES
E. Develop career ladder models that can be delivered by educational programs and have employment potential, and provide training on implementation of those models	Existing career ladder models, local post-secondary education institutions, local healthcare facilities, DOLI—SWIB	Track availability of, and participation in, training programs based on career ladder models
F. Deliver an entry level curriculum to potential new employees that will train them in skills needed to succeed in work in healthcare settings (for high school grads, displaced workers, others new to healthcare) **1.** Confidentiality and legal requirements of healthcare settings **2.** Communications and teamwork **3.** Safety and standard precautions **4.** Behaviors for success in healthcare settings **5.** Ethics in healthcare **6.** Interacting with patients	DOLI—SWIB, local healthcare facilities HR, post-secondary educational institutions	Track employer satisfaction with new employees for basic skills
III. Strengthen leadership and quality in healthcare settings		
A. Support continuing education and professional development programs for administrators and clinical leaders, through membership and professional organizations, and partnerships with post-secondary programs	Healthcare administrators and clinical leaders, professional organizations, MHA, post-secondary educational institutions, health networks in MT	Track number of available education/development opportunities, track participation in programs
B. Link healthcare organizations to education and training **1.** In quality improvement **2.** Performance Improvement Network **3.** AHRQ **4.** Use of health information via electronic health records and HealthShare Montana for use in quality improvement and improved health outcomes **5.** Lean **6.** Community assessments	HealthShare Montana, Performance Improvement Network, AHRQ, MHA, MT AHEC/ORH	Track number of available education/training opportunities, track participation in trainings
C. Link clinical leaders and administrators to mentors and leadership training programs available through their associations and national resources	MHA, local and national professional associations, MT health networks	Track number of participants in leadership training programs

INDIVIDUAL PROFESSIONS or SECTORS

Click header to visit specified section...

Allied Health

Behavioral Health

Community Health Centers

Dental/Oral Health

Direct Care Worker

Emergency Medical Services

Health Informatics Staff

Medical Laboratory Science and Technicians

Nurses

Pharmacists/Pharmacy Technicians

Physician Assistants

Physicians

Public Health

Allied Health/ Therapists

Description

Allied Health professionals are experts in a multitude of therapeutic, diagnostic and preventive health interventions. These professionals comprise a significant percentage of the healthcare workforce and include more than 85 distinct occupations. Some of the most common occupations include: physical therapists, occupational therapists, respiratory therapists, speech/language pathologists, clinical laboratory scientists, medical assistants and radiologic technologists. These professionals are formally educated and credentialed via certification, registration and/or licensure. They collaborate with other healthcare team members to deliver services in a variety of settings including hospitals, outpatient facilities, nursing homes and rehabilitation facilities. (From Healthpronet.org)

Overview

Allied health professionals serve as a vital component in overall healthcare. When professional shortages are noted, particularly in the assisting fields, there is a ripple effect throughout the entire system. For instance, when medical technicians are in short supply, the medical technologists must do tasks that would normally be delegated, thereby taking time away from higher level tasks that only technologists are trained to perform. The cost of healthcare rises because graduate trained professionals are spending their time on tasks that could be done by technicians. While every community deserves the same access to healthcare, appropriate levels of service may not be possible (for rural residents in particular), due to lack of allied health resources.

Workforce Data

Allied Health Occupations (list is not inclusive)	2010 Employment	Annual Growth 2000 to 2010	2010 Vacancy	Projected 2018 Employment	Location Quotients (+)
Occupational Therapist	260	2.05%	17.1%	447	.72
OT Assistant	30	2.71%	*	56	.34
Physical Therapist	820	5.45%	7.2%	996	1.42
PT Assistant	110	4.89%	10.9%	105	.52
PT Aides	210	2.16%	*	217	1.43
Speech/Language Pathologists	280	1.35%	*	320	.78
Respiratory Therapist	360	1.63%	1.4%	379	1.03
Respiratory Therapist Techs	40	-1.90%	0.0%	*	.92
Radiologic Techs	700	0.41%	1.5%	907	1.01
Surgical Techs	300	1.04%	6.5%	347	1.01
Clinical Laboratory Technologists	570	-0.87%	0.6%	731	1.08
Clinical Laboratory Technicians	330	14.73%	2.2%	307	.66
Medical Assistants	990	6.98%	*	1450	.59
Pharmacists	980	2.94%	3.8%	1496	1.14
Pharmacy Techs	810	8.43%	0.2%	1110	.76

+Location Quotients compare the number of employed healthcare workers in one area to the number employed in a larger area. Location quotients below 1 indicate fewer healthcare workers in MT than the US, greater than 1 indicate more healthcare workers in MT than the US.
*Blank cell indicate no data available
Data for 2010 employment, annual growth, 2018 projections and location quotient derived from BLS Occupation Employment Survey **http://www.bls.gov/oes**.
Vacancy/turnover information from Montana Hospital Association Survey.

Education and Training

Due to the small numbers of students that are trained in the allied health professions, training programs can be very expensive to initiate and maintain. Two year programs in particular face several challenges: meeting accreditation requirements that specify student to faculty ratios, recruiting and retaining faculty, enrolling students who can meet the prerequisite course work, and the complications of distance that are inherent in rural Montana. Training programs for the allied health professions include certificate programs, two-year degree programs, baccalaureate and graduate level programs. Noticeably, some allied health training programs are not offered anywhere in Montana, such as occupational therapy and clinical laboratory technician programs. Montana healthcare facilities must compete with other states to recruit the needed professionals.

Montana University Allied Health Educational Programs	Degree / Certificate	Number of Programs Offered	Locations
Pharmacy	Doctor of Pharmacy	1	U of M
Speech Language Pathology	Graduate	1	U of M
Physical Therapy	Graduate	1	U of M
Clinical Laboratory Technology	Baccalaureate	1	Montana State
Radiologic Technology	Associate	7	Flathead Valley CC; MSU, Great Falls COT; MSU, Billings; Miles CC; MSU, Billings COT; MT Tech of the U of M; U of M, Missoula COT
Medical Assisting	Associate	7	Dawson CC; Flathead Valley CC; MSU, Great Falls COT; MSU, Billings COT; MT Tech of the U of M; U of M, Helena COT; U of M, Missoula COT
Surgery Technology	Associate	6	Flathead Valley CC; MSU, Great Falls COT; MSU, Billings COT; MT Tech of the U of M; U of M, Helena COT; U of M, Missoula COT
Pharmacy Technician	Certificate	4	Flathead Valley CC; MSU, Great Falls COT; U of M, COT; MT Tech of the U of M
Physical Therapy Asst.	Certificate	1	MSU, Great Falls COT

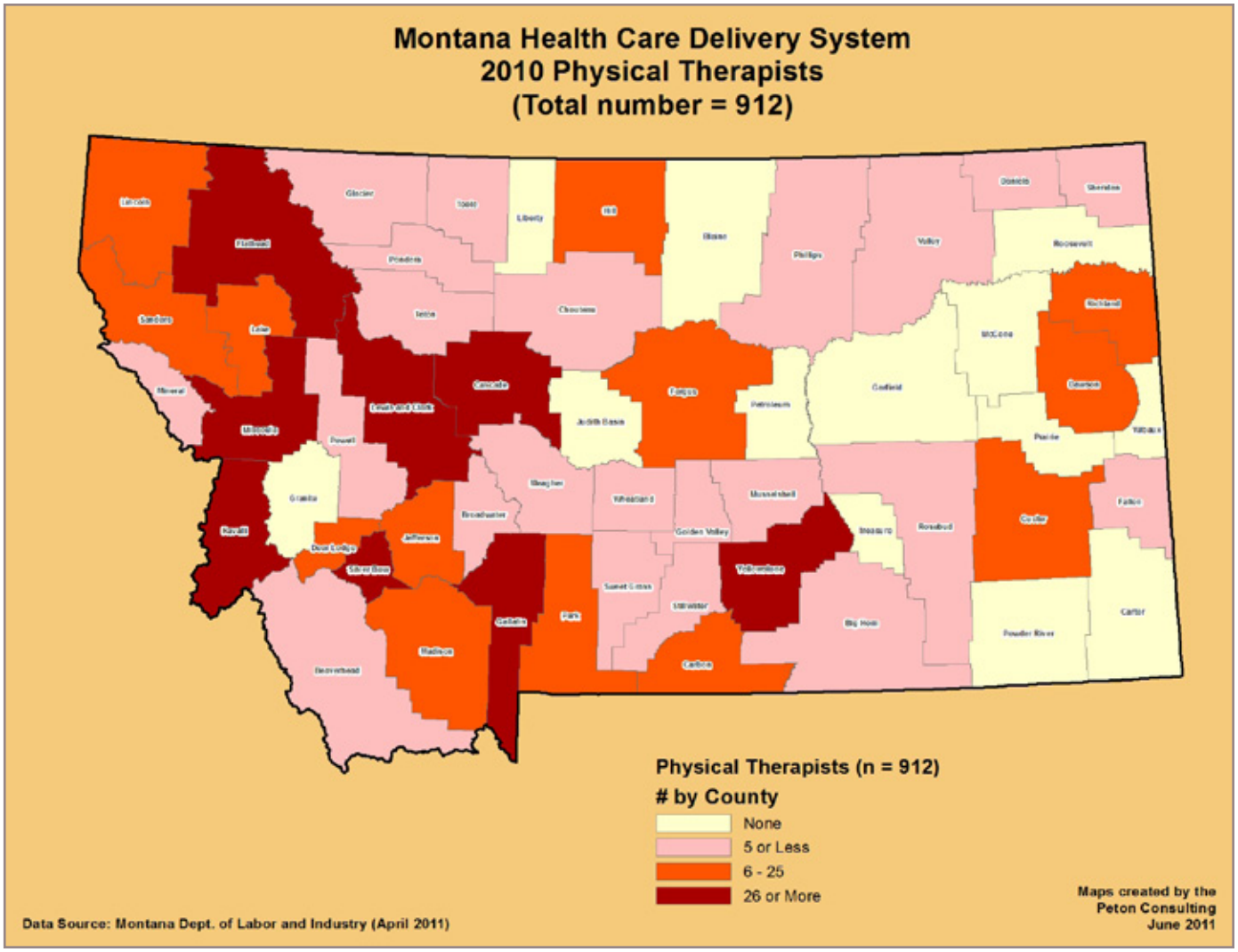
Allied Health/ Therapists

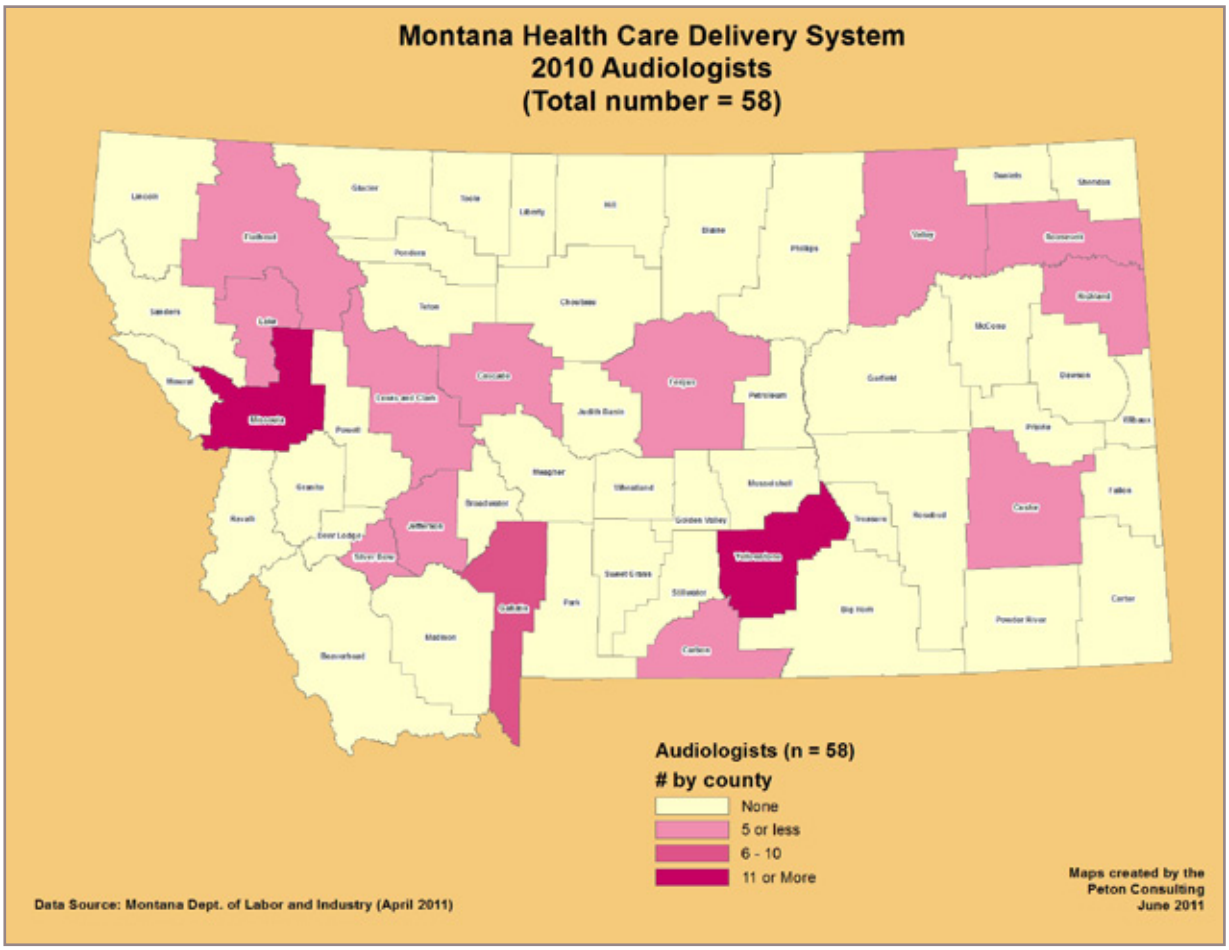
Strategies

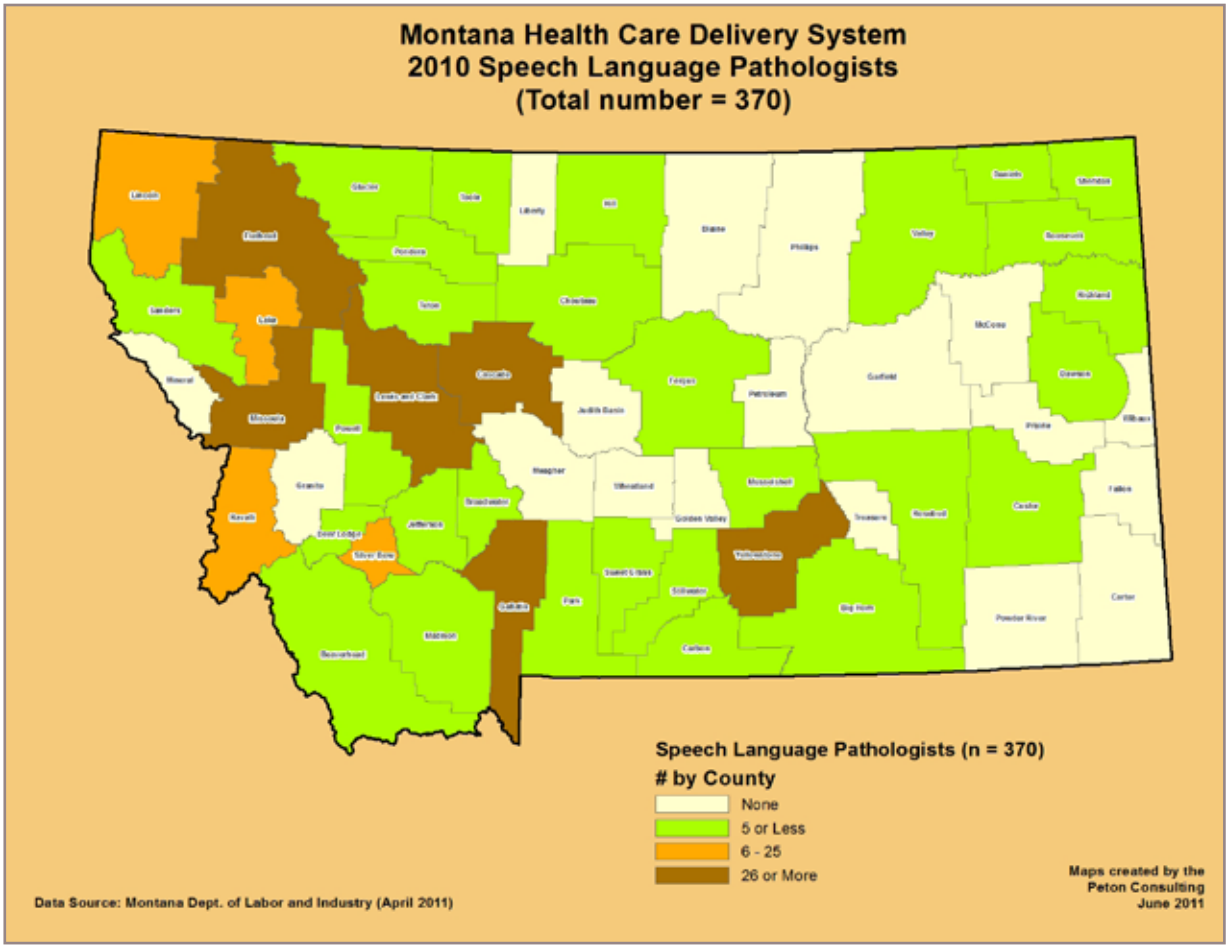
Allied Health Strategies	Resources & Organizations	Measures & Outcomes
Provide loan forgiveness programs and financial incentives to encourage allied health professionals to practice in rural and underserved areas	Montana Healthcare Loan Forgiveness Program – South Central AHEC; NHSC, Faculty Loan Repayment Program—Primary Care Office; Local programs	• Number of loans provided • Number of requests for technical assistance • Number of programs developed • Track vacancies and employment in rural and underserved areas
Increase awareness and support for the existing allied health education programs available through MT colleges and universities • Providing information about available programs and contributions of graduates to Montana health care sector • Provide statewide information via Pathways Into Health brochure and other public information efforts • Provide information useful to Board of Regents and Legislature on allied health programs	Montana colleges and universities offering allied health training programs; AHECs, MHWAC; MHA; healthcare organizations	Continued enrollment and placement of graduates
Strengthen educational/provider linkages for future growth • Collaboratively assess allied health workforce needs in the state, region and local communities • Determine feasibility of new courses of study in areas of high demand • Develop continuing education and distance education programs that will allow students to continue current employment while enhancing their careers • Improve recruitment efforts at the educational institution sites • Identify and sponsor promising students immediately out of high school in return for an agreed upon work requirement in the field upon graduation	• Montana colleges and universities offering allied health training programs • Healthcare facilities throughout the state including hospitals, CHCs, medical offices, public health offices • Local governments and businesses	• Track new allied health employees hired • Track new educational programs offered
Promote practice parameters that are nationally recognized. Review national certification requirements and consider acceptance of certificate in lieu of state licensure	• Montana allied health professions licensure boards • Allied health professional accreditation organizations	Track number of recruits and new hires from out of state

Strategies cont...

Allied Health Strategies	Resources & Organizations	Measures & Outcomes
Develop workforce tracking mechanisms to collect and analyze allied health workforce trends and opportunities • Develop data driven allied health workforce projections. • Increase understanding of hiring patterns – where are allied health professionals being educated (in Montana and out of state) • Identify shortages and high need areas	• State licensure boards • Education facilities • Certification associations • Montana Department of Labor and Industry	Track license renewals through various licensure boards




Montana Health Care Delivery System
2010 Audiologists
(Total number = 58)
Audiologists (n = 58)
by county
None
5 or less
6 - 10
11 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011


Montana Health Care Delivery System
2010 Speech Language Pathologists
(Total number = 370)
Speech Language Pathologists (n = 370)
by County
None
5 or Less
6 - 25
26 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011

Description

Historically, neither state agencies nor professional associations have collected standardized data on the behavioral health workforce, making it difficult to determine what the workforce looks like or compare the job functions that are a part of it. Professional occupations include social workers, counselors, psychologists, case worker and primary caregivers. Provider maldistribution is a concern within the behavioral health workforce. Ninety percent of psychologists and psychiatrists and 80% of masters-level social workers work in metropolitan areas, but 85% of Mental Health HPSAs (Health Professional Shortage Areas) are in rural locations (information from NOSORH Policy Statement). As of September 2009, there were 3,291 Mental Health HPSAs with 80 million people living in them. The Health Resources and Services Administration estimates that it would take 5,338 practitioners to meet the need for mental health providers (a population to practitioner ratio of 10,000:1). Particular shortages exist for professionals trained to work with children and youth, and geriatrics.

Overview

The 2009 National Association for Mental Illness report "Grading the States," gave Montana a grade of D for mental health services, up from an F in the 2006 report. Montana's Assertive Community Treatment teams (six throughout the state) were noted to be an appreciable improvement for provision of services and could serve as a national model. Unfortunately, the state has significant behavioral healthcare workforce shortages, and in fact, nearly the entire state is classified as a mental health HPSA. The only counties not considered HPSAs are Yellowstone, Cascade and Lewis and Clark. Access to behavioral health services in a rural setting is impeded by limited availability of resources, stigma, economic issues, caregiver stress and isolation, and overlapping relationships in small communities.

Workforce Data

Behavioral Health Occupations	2010 Employment	Annual Growth 2000 to 2010	Projected 2018 Employment
Psychologists	40	8.33%	62
Mental Health / Substance Abuse Social Workers	280	10.72%	612
Mental Health Counselors	530	14.01%	783
Substance Abuse / Behavioral Disorder Counselors	730	7.33%	589
Psychiatric Aides	600	37.53%	568
Psychiatric Technicians	140	7.92%	94

(Data derived from the BLS Occupational Employment Survey)

Additionally, the Board of Nursing has licensed 14 family psychiatric mental health nurse practitioners in 2011, and the Montana Medical Association lists 103 actively practicing psychiatrists for 2010 (86 psychiatrists, 2 geriatric psychiatrists, 14 child and adolescent psychiatrists and 1 forensic psychiatrist).

Education and Training

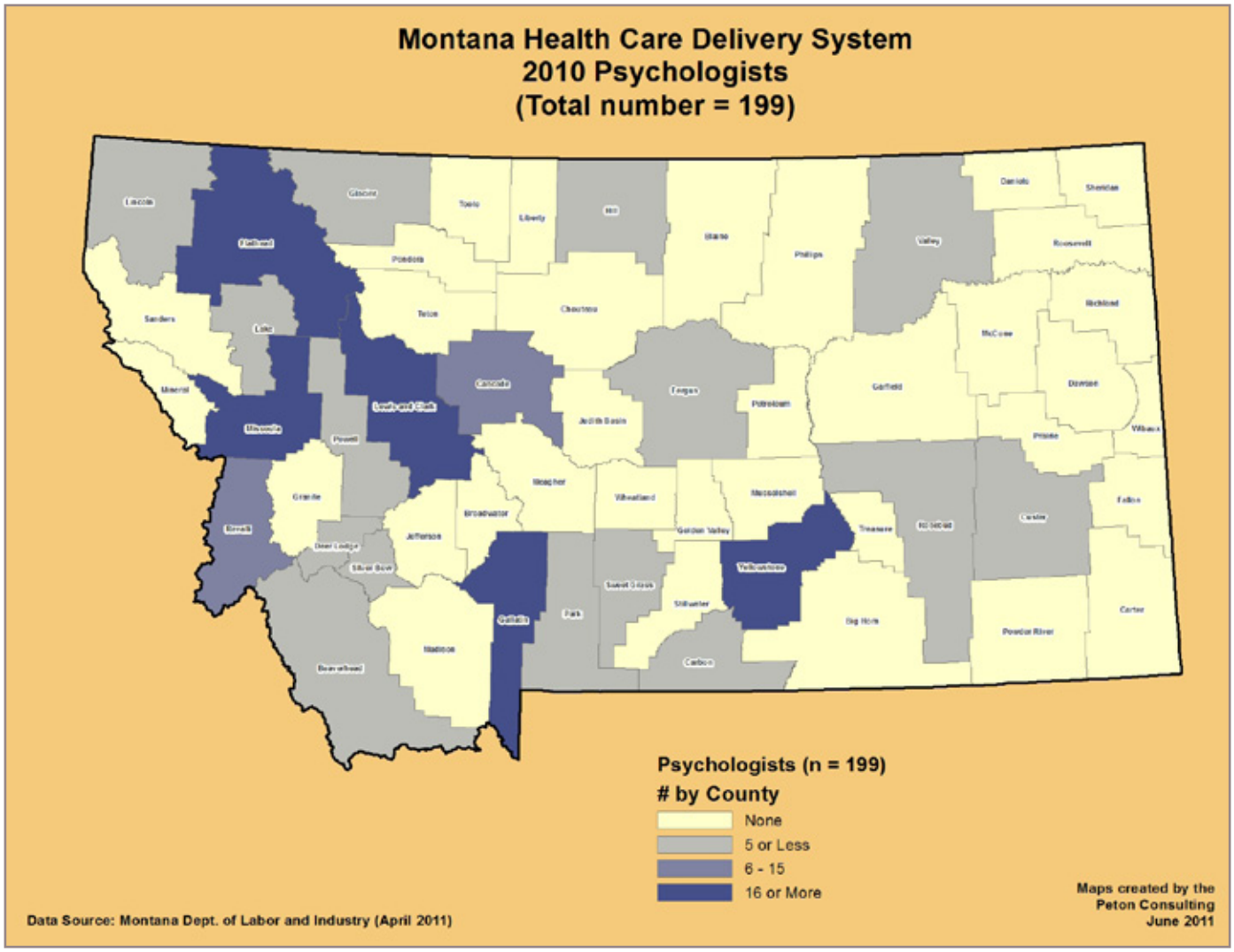
MSU College of Nursing offers a graduate level, distance based program for family psychiatric mental health nurse practitioners--advanced practice nurses who provide a full range of services, especially for families and individuals living in rural communities. The Family Medical Residency Program in Billings has incorporated behavioral health rotations into the overall residency program. The University of Montana offers undergraduate and graduate degrees in Clinical Psychology. Other professional programs for Social Work, Mental Health Counseling, and Psychiatric and Mental Health Rehabilitation are offered at the baccalaureate and graduate level. Chemical Dependency Counseling is offered as an associate degree program at four locations around the state.

Education and Training cont...

The Western AHEC in partnership with the University of Montana and one or more Critical Access Hospitals (CAH) has developed a rural behavioral health pilot project for post-graduate clinical psychologists and social workers. The program will place a two person team in a rural Critical Access Hospital for supervised clinical practicum. The team will support behavioral health services at the CAH as well as rural and frontier health clinics or mental health centers in the vicinity. Team members will be supervised by U of M staff via tele-supervision and internet based methods. The project is intended to increase access to behavioral health services for those in rural communities as well as expose the team members to rural behavioral health practice, thereby encouraging them to practice in rural areas.

Strategies

Behavioral Health Strategies	Resources & Organizations	Measures & Outcomes
To increase the rural behavioral health workforce, support and develop rural training opportunities for physicians, nurses and other behavioral health professionals.	• Healthcare facilities including hospitals, CHCs, Indian Health Service, VA facilities, Public Health Offices • Montana post-secondary training programs in behavioral health occupations, WWAMI and WICHE facilities	• Track numbers of professionals who participate in rural training programs • Track numbers of professionals that are hired into rural practice
Utilize telemedicine practices to the maximum extent. Ensure telemedicine services are reimbursed.	Montana telehealth networks, Providers and clinics utilizing tele-health services, Insurance companies, Medicaid and Medicare	Track number of behavioral health providers using telehealth practices to provide services.
To create better access to behavioral health providers, develop collaborative teams including primary care, pharmacy and psychiatry.	CHCs, local providers, public health offices, hospitals, pharmacies	
Support the post-graduate behavioral health team practicum experience in western Montana.	Western MT AHEC, Critical Access Hospitals, behavioral health providers, University of MT—Missoula	Track services offered, track numbers of professionals hired in rural areas after participation in the one year practicum.
Improve the analysis of the behavioral health workforce to better project needs and target education programs.	Montana Healthcare Workforce Advisory Committee	

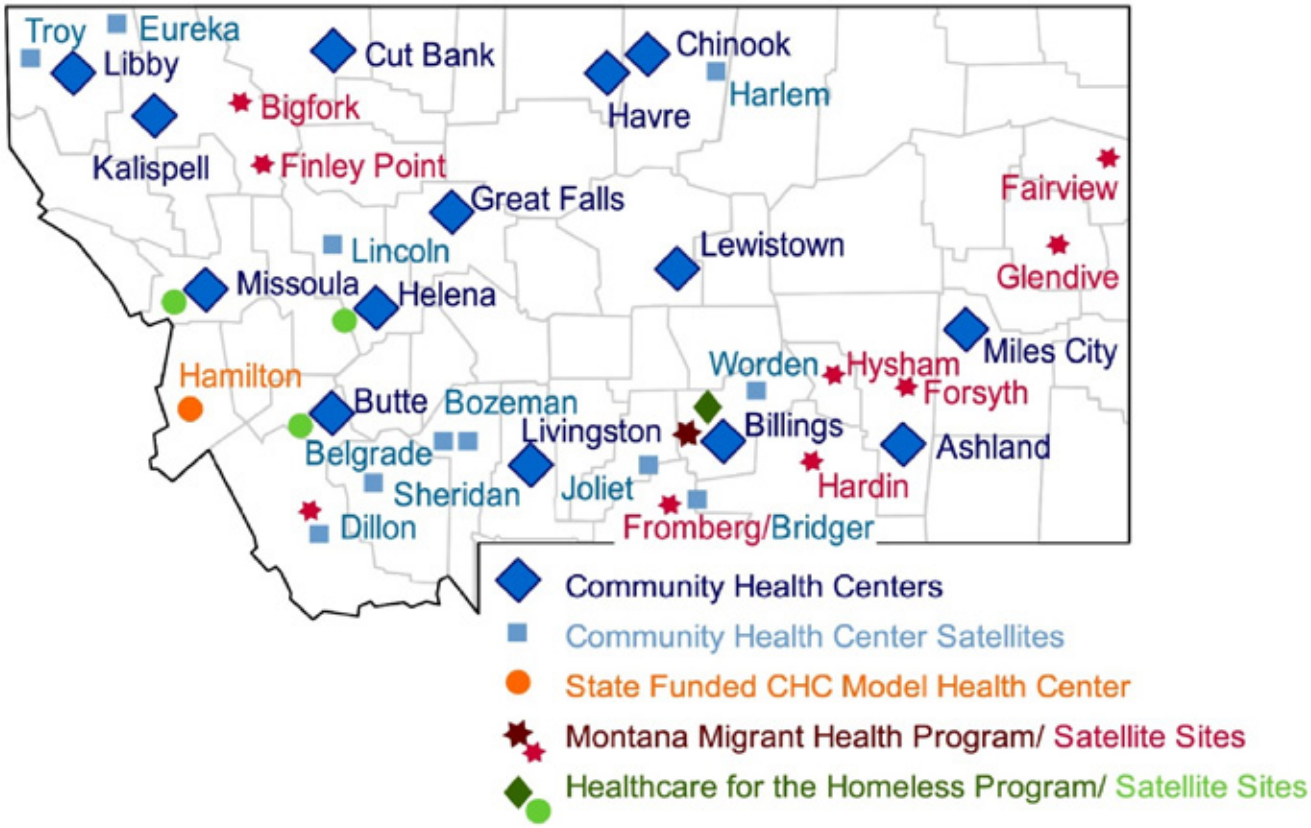

Montana Health Care Delivery System
2010 Psychologists
(Total number = 199)
Psychologists (n = 199)
by County
None
5 or Less
6 - 15
16 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011

Description

Community Health Centers (including Migrant and Homeless healthcare) have provided high-quality, affordable primary and preventive care for over 40 years. CHCs also provide dental and mental health services. Community Health Centers serve as the medical home for 20 million people across the nation. Most patients are low income and tend to be members of minority groups. Additionally, 38% of health center patients are uninsured, while 36% are Medicaid eligible. About 50% of all health center patients reside in rural areas. Community Health Centers strive to provide high quality, cost-effective care to patients, regardless of their ability to pay. At present, about 1200 health centers deliver care through over 7500 service sites in all states.

Overview

Montana's CHCs serve as the safety net health care provider for uninsured and underinsured Montanans. In 2009, CHCs provided primary care services to 90,448 patients—nearly 1 in 10 Montanans. Currently, there are 40 total sites throughout the state that provide integrated healthcare services. With increased funding through the American Recovery and Reinvestment Act, a new center was opened in Kalispell, and CHCs statewide were able to see 26,631 new patients. The Affordable Care Act will offer significantly greater access to care for underserved citizens, but, increasing access will also increase the need for providers. MT CHCs have served as community-based training sites for numerous healthcare professionals including medical, dental, mental health, mid-level, nursing and allied health.



Workforce

The Montana Primary Care Association reports that 545 full-time employees worked in CHCs in 2009. Major occupations include:

Physicians	**35**	**Dental Hygienists**	**8**
Nurse Practitioners	**16**	**Dental Assistants**	**30**
Physician Assistants	**19**	**Clinical Psychologists**	**2**
Nurses	**86**	**Clinical Social Workers**	**8**
Dentists	**15**	**Other Mental Health**	**5**

CHCs across the nation anticipate provider shortages in the wake of health reform activities. CHCs offer competitive salaries, benefits, financial incentives (including loan forgiveness programs), and a collegial work environment, but rural clinics still have difficulty recruiting primary care providers.

Education and Training

CHCs function very well as community based training sites for medical, dental, mental health, mid-level, nursing and allied health professionals. The Billings residency program, based at RiverStone Health CHC, has demonstrated great success in placing medical graduates in Montana. The new primary care residency program being developed in Missoula will also be located in a CHC (Partnership Health Center).

Strategies

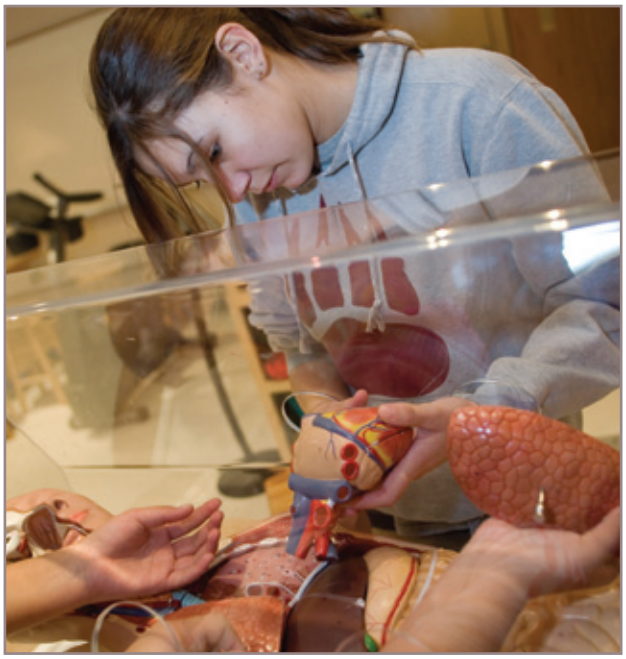
CHC Strategy	Resources & Organizations	Measures & Outcomes
To recruit and retain the primary care workforce at rural Community Health Centers, support and expand financial incentives and loan forgiveness programs that favor very difficult to recruit for areas (i.e. NHSC, MRPIP, MT state loan repayment, and private programs). Expand medical education slots and develop new capacity in residency training in Montana, taking advantage of training opportunities in community health centers. Develop better systems to connect Montana-trained students/residents and all Montana citizens in out-of-state programs with CHC job opportunities in Montana.	MT Primary Care Association (MPCA); MT Primary Care Office; local CHCs; South Central MT AHEC – MT Recruitment Collaborative; Eastern MT AHEC	Track number of new providers hired into CHC programs, track professions that are hired New or expanded incentives developed for hard to recruit for areas # of new medical student slots # of new residency program slots # of students/residents receiving training in CHCs Percentage of students in Montana health training programs choosing Montana jobs # of students /residents recruited due to new marketing efforts

Strategies cont...

CHC Strategy	Resources & Organizations	Measures & Outcomes
Engage community support to recruit/retain providers: • Determine current and future needs • Identify the benefits that each community can offer to new recruits • Develop recruitment tools for non-traditional providers (i.e. older or non-medical training) • Help communities improve environment with programs such as APGAR and Community Health Services Development (CHSD) • Develop network for rural professionals to help deal with isolation through mentoring or networks linked to educational institutions • Work with high school counselors to encourage students toward health careers, develop career exploration opportunities in healthcare settings in the community	CHCs and partnering community organizations; MPCA; AHECs; MT Office of Rural Health; local secondary education institutions; local healthcare facilities, businesses and governments	Survey new recruits at rural facilities—how were they recruited Track non-traditional providers that have been recruited to CHCs # of communities completing APGAR and/or CHSD program Track length of time to recruit new providers # networks developed and # of participating providers/professionals # school counselors participating in programs # students participating in career exploration opportunities
Develop system for relief providers (i.e. locum tenens or respite provider pool) to allow for personal time off for primary providers.		Track number of hours of locum tenens provided
Develop capacity to better analyze workforce data and plan workforce needs. Develop a system that can react to needs with flexibility and in a timely manner.	MT Department of Labor and Industry; MPCA; MHWAC; AHEC/MORH	

Strategies cont...

CHC Strategy	Resources & Organizations	Measures & Outcomes
Education/training strategies: • Provide incentives for training at rural CHCs. • Review training programs to train a workforce with skills adapted to patient centered medical home model. • Implement best practices for selecting students with the highest probability for rural primary care practice. • Increase number of rural rotation sites and develop funding sources to help support students in these rotations. • Expand continuing education opportunities for all providers, particularly online options. • Broaden Healthcare IT education programs to train the healthcare IT workforce with competencies encompassing both the medical and technical components.	NHSC; Montana GME Council; CHCs; MT DPHHS—PCO; Admissions committees; AHECs; WWAMI; other health professions programs	# students placed in rural CHCs # rural CHC preceptors Changes in training programs to accommodate new delivery models, i.e. increase in medical assistants Amount of new funding for students rotations Number of continuing education opportunities provided Number of participants in continuing education offerings Changes in training program # of health professionals/ providers/ students who receive additional IT training # internship opportunities for IT students in healthcare settings #healthcare IT program graduates



Description

Oral health is integral to overall health and well-being. Although the traditional delivery model for oral health care in America has been separate from the delivery of routine health care, the connection between oral health and overall health is leading providers, policymakers, and the public to bring them together. Typically, poor oral health is associated with conditions of the oral cavity itself, i.e. tooth decay and periodontal disease. However, evidence indicates that poor oral conditions reflect general health conditions, and can exacerbate those conditions such as heart disease, stroke, diabetes, pre-term and low weight births and respiratory diseases.

Historically, dentists have been the primary providers of oral health services. Dentistry is defined as the evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body; provided by a dentist, within the scope of his/her education, training and experience, in accordance with the ethics of the profession and applicable law. (from the American Dental Association)

Dental hygienists work in association with dentists. They are licensed oral health care professionals who have completed extensive educational and clinical preparation in preventive oral health care. Registered dental hygienists can provide a wide range of services as determined by laws in each state, including: assessment of a patient's individual oral health condition, specific dental hygiene treatment for children, adolescents, adults, older adults, and patients who are medically compromised, performing thorough head and-neck examinations to look for oral cancer and other problems, removal of plaque and calculus, both above and below the gum line, provide nutrition counseling, apply fluorides or pit-and-fissure sealants, and in some states, polish and contour fillings. Because dental hygienists specialize in preventive oral health care, they educate their patients, the community, and schools on oral health and its effect on overall health, as well as provide dietary education and counseling. In some states, registered dental hygienists administer local anesthesia and/or nitrous oxide. (from the American Dental Hygienists Association)

Concerns for oral health have recently come to the forefront of many national health policy groups. The Institute of Medicine has recently (July, 2011) reported on lack of access to basic oral health care. The report, "Improving Access to Oral Health Care for Vulnerable and Underserved Populations" discusses those populations, including rural residents, American Indians, and older adults; all significant components of the Montana population. The recommendations from this report focus on:

- Integrating oral health care into overall health care
- Creating optimal laws and regulations
- Improving dental education and training
- Reducing financial and administrative barriers
- Promoting research
- Expanding capacity

The Centers for Disease Control have developed an Oral Health Program Strategic Plan for 2011-2014 which was released in May, 2011. The goals of this plan include:

- Prevent and control dental caries across the life stages.
- Prevent and control periodontal diseases.
- Prevent and control oral and pharyngeal cancers and their risk factors.
- Eliminate disparities in oral health.
- Promote prevention of disease transmission in dental health care settings.
- Increase state oral health program infrastructure capacity and effectiveness.
- Increase use of cross-cutting policy development and translational approaches to promote oral health.
- Assure an efficient and effective organization.

Overview

As of July 2011, the Bureau of Health Professions (HRSA) notes that there are 4,661 Dental Health Professional Shortage Areas (HPSAs) with 52 million people living in them. It would take 10,152 practitioners to meet their need for dental providers (a population to practitioner ratio of 3,000:1). Forty-seven counties in Montana (of 56 counties total) are classified as Dental HPSAs. Twelve counties in Montana have no practicing dentists, while seven counties have 26 or more practicing dentists (Board of Dentistry 2010). Dental Hygienists are also maldistributed throughout the state; nine counties have no dental hygienists available (Board of Dentistry 2010).

The Montana Oral Health Alliance, recognizing the many concerns and issues with oral health statewide, developed the Montana Oral Health Plan in 2006. The plan was developed to promote oral health and prevent dental disease, reduce health disparities that affect low-income, underinsured or uninsured people, those who are geographically isolated, and persons who are vulnerable because of special health care needs. Goals of the plan include:

1. Increase awareness of the importance of oral health as a part of overall health throughout the life cycle.
2. Increase oral health promotion and disease prevention efforts throughout the State.
3. Assure adequate numbers, diversity and distribution of dental professionals in Montana.
4. Increase access to dental care in the State.
5. Improve and increase funding and other resources for oral health and dental care in Montana.
6. Develop an integrated, comprehensive oral health surveillance system that can track data at state and community levels.

The Montana Area Health Education Center/Office of Rural Health, in collaboration with the Department of Public Health and Human Services Oral Health Services Division, has recently been awarded a grant specifically to Improve Oral Health in Montana. Focus areas include expanding dental recruitment and retention programs, and expanding educational programs to promote oral health professions. Funding will allow for the establishment of new partnerships, development of new recruitment and educational materials, increased efforts to place dental professionals in underserved/rural areas, and increased efforts in presenting education programs that promote oral health professions in more schools.

Workforce

The Montana Dental Association reports 520 actively practicing dentists in their current membership. Of those, 129 dentists are age 55 to 64 and 61 dentists are age 65 and over—nearly 37% of currently practicing dentists are near or at retirement age. The Montana Board of Dentistry reports 674 currently active Dental Hygienists. Bureau of Labor Statistics employment projections indicate 962 dental hygienists will be needed by 2018, a 42.7% increase.

Community Health Centers employed 15 dentists, 8 dental hygienists and 30 dental assistants in 2009.

Education and Training

Montana does not have a dental school. Currently, the state provides support for three students to attend out-of-state dental schools (typically two University of Minnesota slots and one WICHE (Western Interstate Commission for Higher Education) slot).

The Regional Initiatives in Dental Education (RIDE) program was proposed in 2008 with the goal of developing a dental education program in Montana. The program would have been a collaborative effort with the University of Washington School of Dentistry and Montana State University, utilizing shared resources with other health professional students at MSU. The RIDE program would have accepted eight Montana students per year and included clinical rotations in rural and underserved communities across the state. Although the proposal had wide support, it was not funded.

An associate degree in Dental Hygiene is offered through MSU Great Falls College of Technology—the only dental hygiene training available in the state. Sixteen new students are accepted into the program yearly.

Dental/Oral Health

Strategies

Dental/Oral Health Strategies	Resources & Organizations	Measures & Outcomes
Review the RIDE proposal to determine feasibility of implementation, develop a collaborative dental education program.	MSU, U of Washington—School of Dentistry, MT Dental Association, Board of Regents, MT Legislature	Track numbers of MT students admitted to dental school
Identify practice models that will allow for increased access to oral health services: oral health in family practice, CHCs, team health training and practice (interdisciplinary educational experiences), mobile dental clinics.	CHCs, MT Board of Dentistry, MT Dental Association, MT Dental Hygienists' Association, post-secondary educational facilities, MT Primary Care Association, MT DPHHS—Primary Care Office, MT Oral Health Alliance, MT Oral Health Program	Increased access to dental/oral health services for rural and underserved populations
Encourage dental student participation in rural residency and rotation programs.	MT AHECs, CHCs, local dental offices, regional dental schools	Increased number of dental students training in MT
Develop unified credentialing and licensure, particularly for rural western states.	MT Board of Dentistry, MT Dental Association, MT Dental Hygienists' Association, national professional associations	Increased access to dental providers
Maintain or increase financial incentives for dental/oral health providers in rural and underserved areas.	DPHHS—Primary Care, SC AHEC, Indian Health Service, CHCs.	Increased numbers of rural dental/oral health providers
Design, establish and institutionalize a standardized data collection gathering system to track workforce data.	DPHHS—Primary Care, MT Dental Association, MT Dental Hygienists' Association, Board of Dentistry, MT DOLI, MT Healthcare Workforce Advisory Committee	Increased understanding of the dental/oral health work-force, shortages, maldistribution of professionals, workforce demographics, etc.

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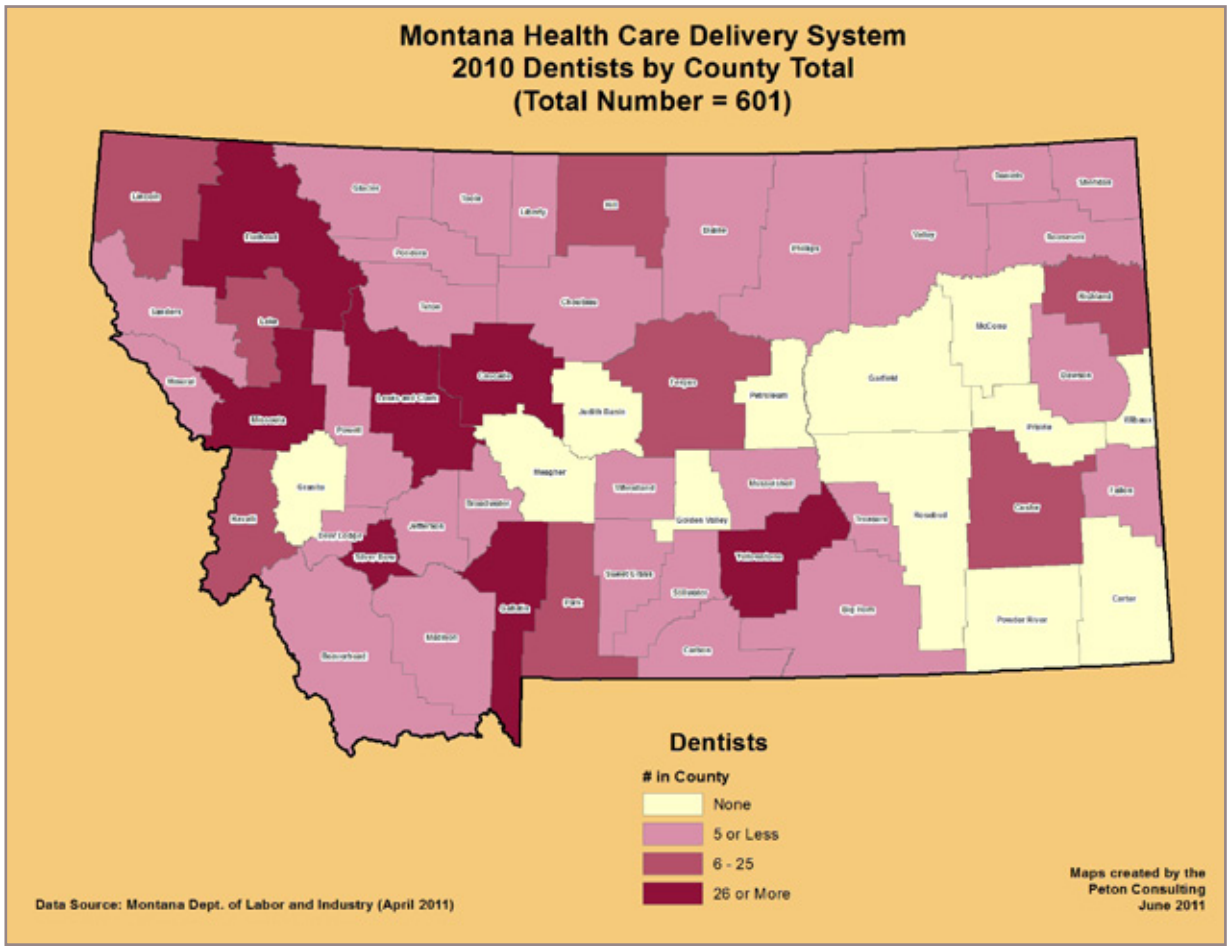
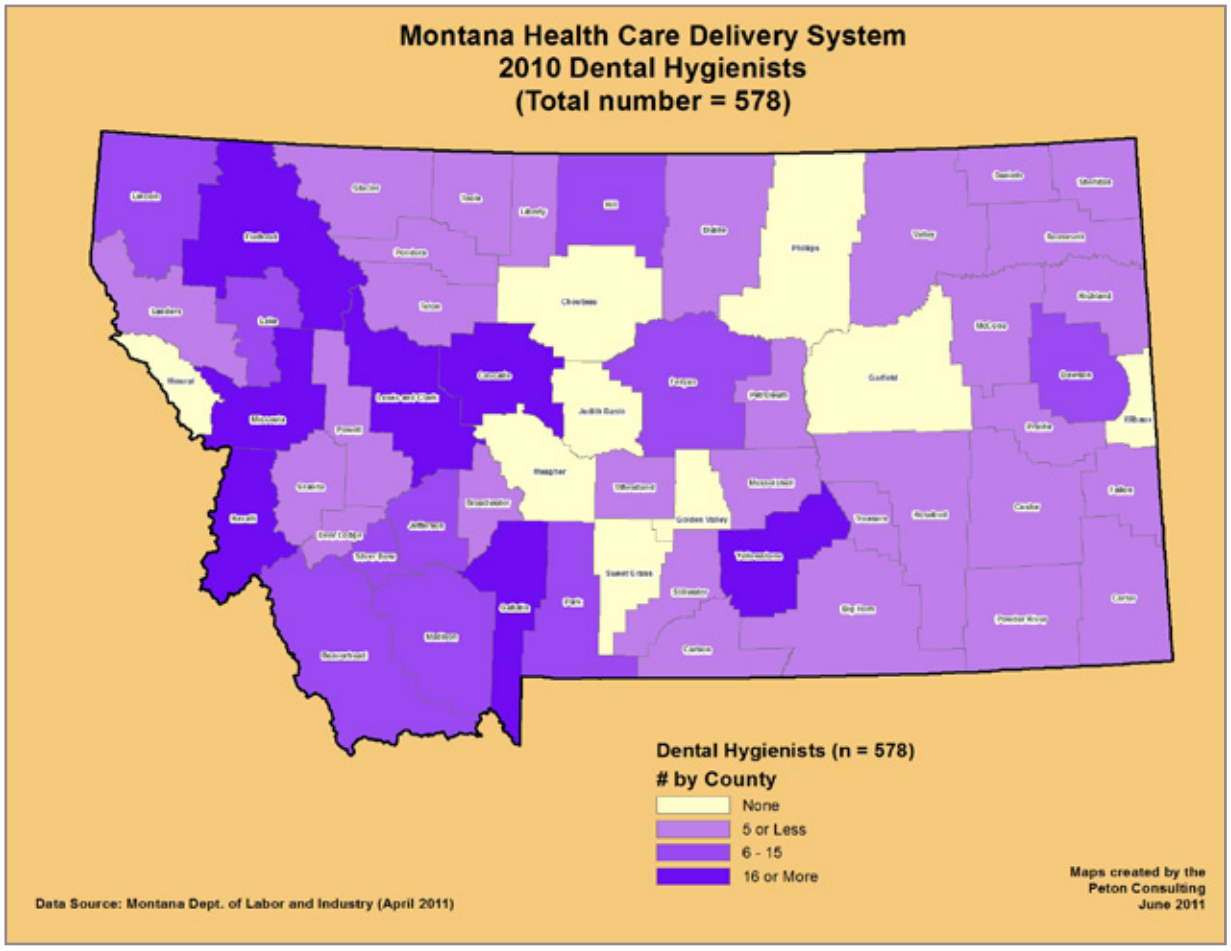

Montana Health Care Delivery System
2010 Dentists by County Total
(Total Number = 601)
Dentists
in County
None
5 or Less
6 - 25
26 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011


Montana Health Care Delivery System
2010 Dental Hygienists
(Total number = 578)
Dental Hygienists (n = 578)
by County
None
5 or Less
6 - 15
16 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011

Direct Care Worker

Description

Direct care workers, with job titles of Certified Nursing Assistants, Home Health Aides and Personal Care Aides, when taken together, form the third largest occupation in the United States with over 3.2 million workers. These workers provide hands-on care for patients who are elderly, disabled or living with other chronic conditions. They are typically employed in nursing homes, hospitals, private homes, large community based residential settings and non-residential day programs. Work duties include monitoring vital signs; understanding the physical, emotional and developmental characteristics of the people served; mental health and social service skills; knowledge of how to care for cognitively impaired persons; and infection-control and emergency procedures.

Overview

To work in Montana, Certified Nursing Assistants (CNA) and Home Health Aides (HHA) must be certified through the Department of Health and Human Services, Quality Assurance Division. Requirements include: a 75 hour (minimum) training course, and passing a written and clinical examination. Those holding an HHA certificate must take 12 hours of Continuing Education per year.

The Montana Research and Analysis Bureau reports that the direct care workforce is expected to show dramatic growth over the 2008-2018 time period. The HHA workforce is projected to grow by 23.9% (or 2.2% annually), while the Personal and Home Health Care Aides workforce is projected to grow by 21.8% (or 2.0% annually). There are several reasons that account for the rapid growth in this area, primarily, the overall aging of the population. Additionally, the high cost of residential nursing care has led many families to consider in-home care as a viable option, and this will lead to increased numbers of home health aides that are needed in the workforce. More people with injuries and illnesses are choosing to recover and rehabilitate in their own homes as opposed to a lengthy hospital stay, requiring additional numbers of direct care workers.

Workforce data

The Licensing/Certification Bureau of the Quality Assurance Division at DPHHS reports that approximately 10,000 people are certified CNAs and HHAs in Montana for 2011. The Department of Labor reports actual employment of 5850 nursing aides, orderlies and attendants, and 3790 home health aides for 2009. The direct care workforce typically experiences high turnover rates: 19.3% in 2010 and 28% in 2009 (per MHA workforce staffing survey). High turnover may be linked to low wages, limited or no benefits, inadequate training, unsafe working conditions, and few opportunities for advancement.

Education and Training

Formal certificate programs for Nursing Assistants are offered at four Community Colleges/Colleges of Technology throughout Montana. Additionally, basic CNA training is offered in many other locations throughout the state, including some high schools, hospitals, and long-term facilities. CNAs and HHAs often utilize their experience as the first step in a career pathway that leads to an LPN or RN certification.

Strategies

Direct Care Worker Strategies	Resources & Organizations	Measures & Outcomes
Develop partnerships between workforce development programs, postsecondary programs, high schools and employers to recruit and provide training for workers.	Post-secondary institutions, State Workforce Investment Board, Local Health Occupations Programs, Employers	Track CNA and HHA vacancies and turnover rates Track new hires
Identify and provide training opportunities to increase retention oriented to direct care workers.	Montana Hospital Association, Employers, MT Health Care Association, MT ORH/AHEC CE and Training Newsletter	Track numbers and types of educational opportunities offered to CNA and HHA workforce

Direct Care Worker

Strategies cont...

Direct Care Worker Strategies	Resources & Organizations	Measures & Outcomes
Develop partnerships between workforce development programs, postsecondary programs, high schools and employers to recruit and provide training for workers.	Post-secondary institutions, State Workforce Investment Board, Local Health Occupations Programs, Employers	Track CNA and HHA vacancies and turnover rates Track new hires
Identify and provide training opportunities to increase retention oriented to direct care workers.	Montana Hospital Association, Employers, MT Health Care Association, MT ORH/AHEC CE and Training Newsletter	Track numbers and types of educational opportunities offered to CNA and HHA workforce
Create opportunities for career advancement and job enrichment: • Create career ladder programs and implement career pathways that lead to LPN and RN licensure • Create career ladder programs that lead to other allied health professions (i.e. physical therapy aide, occupational therapy aide, cardio-vascular technician, surgical technologist, etc.) • Support employees in obtaining advanced certifications in Direct Care areas (i.e. Home Health Aides, Medication Aide, Gerontology, etc.)	Employers; Post-secondary institutions; Board of Nursing; MT Health Care Association; MT Nurses Association; State Workforce Investment Board	Track numbers of LPNs, RNs and entry level allied health professionals who participated in career pathway programs. Track numbers of advanced certificates earned
Work to ensure a living wage for all direct care workers. Offer competitive wages and benefits that will reward tenure and enhancement of skills.	Employers; MT Health Care Association	Track turnovers and vacancies
Work with DPHHS Quality Assurance Division to gather quality workforce data, including vacancy and turnover rates.	DPHHS Quality Assurance Division, MT Department of Labor and Industry, MT Health Care Association	Quality data related to Direct Care Workforce—how many, age, how long in field, vacancy and turn-over rates, etc.

Emergency Medical Services

Description

Emergency medical services are just one component of an intricate emergency care system which includes response agencies, communication and transportation networks and trauma systems. The system is staffed by physicians, nurses, government officials, and career and volunteer "prehospital" personnel.

Overview

Montana communities design their own EMS systems which may be comprised of many elements, including volunteer squads, hospital or commercial ambulance services, fire departments, and hospital emergency staff members. The challenges to providing quality EMS in the rural/frontier setting are many: adequate financing is difficult to come by, few providers (paid or volunteer) are available, provider experience is low, and response times may be lengthy due to significant distances.

Emergency Medical Services

Workforce

The MT Board of Medical Examiners reports the following numbers for currently licensed EMTs:

First responders	**703**
Basic EMT	**3135**
Intermediate EMT	**57**
Paramedics	**51**

All EMTs are required to be licensed; therefore, these numbers include paid as well as volunteer providers.

Montana workforce data from the Bureau of Labor Statistics, Occupational Employment Survey indicates 820 EMTs and Paramedics were employed in 2010. That number is an underestimate of the true number of emergency providers, however, as much of the rural EMS workforce functions in a volunteer capacity. Overall, the field has shown 36.7% growth from 2000 to 2010 (BLS OES data).

Education and Training

EMS/Paramedic training culminating in a certificate or associate degree is offered at four two-year colleges in Montana—Flathead Valley, MSU Great Falls College of Technology, MSU Billings College of Technology and MSU Billings. In addition, EMT instructional courses are offered throughout the state by EMS providers. The state of Montana requires that all EMTs and Paramedics be nationally certified by the NREMT before they can be licensed. Applicants must pass an approved EMT class and then pass both the computer based NREMT exam as well as the hands on practical examination.

Strategies

EMS Strategies	Resources & Organizations	Measures & Outcomes
Create an EMS Workforce Data system which will provide current and ongoing information about the status of Montana's EMS workforce.	MT EMS systems, DPHHS-State EMS Office	Accurate and timely data on the EMS workforce
Create and support a workforce workgroup through the Emergency Care Council at DPHHS to develop an EMS workforce plan, and to act as a forum for improving the EMS and emergency care workforce.	DPHHS—Emergency Care Council, MT Office of Rural Health	Development of a statewide EMS workforce plan
Identify and implement alternative education strategies for the initial and ongoing education of Montana's EMS workforce, including regionalized education, mobile labs, distance learning and telemedicine Develop and implement education strategies for EMS instructors.	State EMS stakeholders	Track numbers of EMS workforce that have received training via alternative education strategies
Develop and implement strategies for EMS provision of community health programs. • Conduct statewide forums and education about opportunities for EMS involvement in community health.	Local EMS providers, community health organizations, local health facilities, local business organizations	Increased EMS provision of community health programs

Emergency Medical Services

Strategies cont...

EMS Strategies	Resources and Organizations	Measures and Outcomes
Support leadership, professional development and technical assistance programs for EMS service managers and medical directors.	EMS administrators and medical directors	Retention of EMS administrators and medical directors
Develop public information and education programs which help citizens to understand and support system development.	State and local EMS organizations, community health organizations, local health facilities, local business organizations	Increase in public knowledge and awareness of EMS in Montana
Develop partnerships with the larger healthcare system.	Local healthcare providers, local EMS service providers	Increased collaboration among local EMS and the larger healthcare system

Health Informatics Staff

Description

Health care informatics joins the fields of information technology, communications and healthcare to bridge the technology transfer gap between health care professionals and the managers of complex information systems. The field is rapidly expanding with a variety of work environments including hospitals, clinics, public health agencies, IT firms, research institutes and the insurance industry. Additionally, the requirement for Electronic Medical Records (EMRs) for all medical facilities (by 2014) will further increase the demand for a well trained workforce with high salaries. Career paths include Project Management, Project Design, Research or Research Assistant, Systems Analysts and Trainers/System Support Specialists. With the help of health IT, health care providers will have:

- Accurate and complete information about a patient's health. That way, they can give the best possible care, whether during a routine visit or a medical emergency.
- The ability to better coordinate the care they give. This is especially important if a patient has a serious medical condition.
- A way to securely share information with patients and their family caregivers over the Internet, for patients who opt for this convenience. This means patients and their families can more fully take part in decisions about their health care.
- Information to help doctors diagnose health problems sooner, reduce medical errors, and provide safer care at lower costs.

The Office of the National Coordinator for Health Information Technology is committed to growing the HIT workforce, and has awarded $116 million to fund the Community College Consortia to Educate Health Information Technology Professionals, and the Program of Assistance for University-Based Training. The programs will help more than 1500 people receive certificate of advanced study or master's degrees in Health IT. The certificate programs can be completed in one year or less, while the masters programs can be completed in two years or less. Involved colleges offer distance learning to cover all 50 states.

Overview

A recent survey conducted by HealthShare Montana indicated that health care facilities are aware of the upcoming requirement for EMRs, but view cost as a main barrier to implementation. 57% of the responding organizations have selected a technology manager/coordinator, and that person likely has an appropriate level of education to meet the needs of their specialized role (i.e. computer science/information technology, health information management, or health/medical informatics). Of the organizations that had not selected a manager/coordinator, 42% noted lack of resources, 40% did not feel it was necessary, and 37% noted that no one on staff was qualified.

Overview cont...

Personnel in rural health care settings routinely "wear many hats" and that holds true for the HIT workforce as well—duties in addition to HIT vary from emergency preparedness coordinator, to financial counselor, to marketing and payroll assistant to student insurance plan representative.

Focus group participants often discussed the need for well trained staff including medical coders, transcriptionists and billing office staff, and staff with basic computer skills and knowledge.

Workforce Data

Health Informatics encompasses many job titles. National staffing need estimates for HIT range from 35,000 workers by 2018 (Bureau of Labor), to 40,000 additional workers for electronic medical records implementation (Health Information Management and Systems Society), to 50,000 HIT workers over the next five years (Office of the National Coordinator for HIT). The Community College Consortia to Educate Health IT Professionals has announced that 3000 Health IT graduates are now available for hire (April, 2011). The Consortia will help to train more than 10,500 new professionals by 2012.

It is estimated that an additional 500 HIT professionals will be needed in Montana within the next five years (ONC HIT estimate). It is expected that the projected numbers of employees will continue to grow at a fast pace, especially in anticipation of the EMR requirement.

MT DOLI information (from BLS OES) shows 850 workers were employed as Medical Records and Health Information Technicians in 2010. In addition, 440 Medical Transcriptionists were employed in 2010. While Medical Transcription has shown limited growth (10%) over the 2000 to 2010 timeframe, the Medical Records and Health Information Technician field has experienced significant growth (46.5%) for the same time frame.

Education and Training

Montana Tech is a member of the Community College Consortia in Region A (northwestern area of the US). MT Tech, in turn, works with UM Helena, MSU Great Falls and Flathead Valley Community College to offer online coursework in the HIT field leading to advanced certification.

MT Tech's core programs include a two-year Associate degree as well as a four-year Baccalaureate degree. Two new certificate programs will be offered beginning in the fall of 2011: a graduate certificate program, and an undergraduate level Health Informatics Technology certificate. Both courses will be offered entirely on-line. The Graduate Certificate will emphasize HIT Management and Leadership, while the undergraduate certificate is aimed at career changers who want to fast-track into healthcare. Several Montana educational institutions offer certificates in Health Information Coding, Medical Billing, Medical Office Technology and Medical Transcription.

Strategies

HIT Strategies	Resources & Organizations	Measures & Outcomes
Develop partnerships between healthcare facilities and post-secondary institutions to develop training programs offered "in-house" for existing staff wanting to expand their skill level and attain certification, or for staff wishing to transition into HIT.	MHA; Community College Consortia	Track numbers of employees who move into HIT from another positions Track numbers of participants in the "in-house" training programs Track number of individuals receiving new certifications

Health Informatics Staff

Strategies cont...

HIT Strategies	Resources & Organizations	Measures & Outcomes
Develop partnerships between healthcare facilities and post-secondary institutions to develop training programs offered "in-house" for existing staff wanting to expand their skill level and attain certification, or for staff wishing to transition into HIT.	MHA; Community College Consortia	Track numbers of employees who move into HIT from another positions Track numbers of participants in the "in-house" training programs Track number of individuals receiving new certifications
Use regional AHECs to start recruiting (K-12) and educating for HIT. Develop outreach programs for high school students that address HIT careers.	MT AHECs; MT post-secondary institutions offering HIT coursework and certifications	Track numbers of high school grads who participate in Montana HIT training programs, receive certifications
Survey existing HIT programs offered at post-secondary institutions to determine relevance in the era of EMRs and other IT tools. Transition and develop new programs to more fully meet the IT needs of the future.	HealthShare Montana; Community College Consortia; MT AHECs	Track numbers of new programs offered/numbers of programs that are reconfigured to be more relevant and offer better efficiency in era of new IT tools
Engage existing networks to serve as clearing houses for best practices, shared knowledge and resources.	MT health information networks, HealthShare Montana, Montana Pacific Quality Health Foundation, National Resources—Office of the National Coordinator for HIT, The Community College Consortia, Regional Extension Centers	Best practices in Healthcare HIT will be shared throughout the state by health care facilities and training institutions

Medical Laboratory Science and Technicians

Description

Medical Laboratory Technologists are bachelor level trained and have obtained national certification. They work in clinical laboratories and perform testing on patient samples that help determine the diagnosis and treatment of disease. The four main areas of testing include: microbiology, chemistry, hematology and immunohematology (blood banking). It is estimated that 70 to 80% of objective information used in patient diagnosis and treatment is a result of testing performed by Medical Technologists (Mayo Clinic report). Medical Laboratory Technologists are in high demand for several reasons: the aging population requires more services and more tests; complex new tests are being introduced which require a highly skilled workforce; bioterrorism, emerging infectious diseases and emergency preparedness add another layer of complexity for lab personnel; and the expanding roles of Medical Technologists in health care and biotechnical industries.

Medical laboratory technicians, also called clinical laboratory technicians, perform routine laboratory procedures on blood, tissue, and other bodily fluids using instruments such as microscopes, chemicals, computers, and complex laboratory equipment. They usually perform these duties under the supervision of a medical laboratory scientist, pathologist, or other professionals that specialize in biological sciences.

Description cont...
The technician has knowledge of specific techniques and instruments and is able to recognize factors that directly affect procedures and results. Medical laboratory technicians can specialize in one of five different areas: blood banking, chemistry, hematology, immunology, or microbiology. They are also called upon to report lab results to other medical personnel, maintain equipment, and maintain laboratory records.

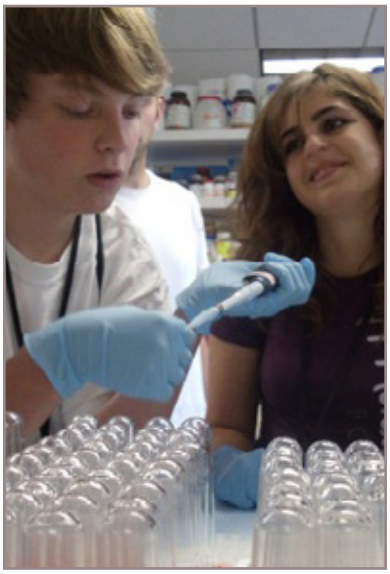
Overview
Rural hospitals and clinics have reported difficulty in filling vacant laboratory positions. There are 72 laboratories in Montana which employ Medical Technologists. Of these, 44 labs employ 3 or fewer Medical Technologists. If the lab loses even one position and cannot fill that position for some time, the healthcare facility and patients are at risk. A national shortage of 12,000 medical technologists has been reported, with only 4500 new students being trained per year (per National Bureau of Labor Statistics).

Workforce
The Montana Department of Labor reports that 570 Medical Technologists were employed in 2010, while projections indicate that Montana will need 731 Medical Technologists by 2018. The Montana Hospital Association Vacancy and Turnover survey reports a vacancy rate of just 0.6% for 2011. There were 330 Medical Technicians employed in Montana in 2010 (per MT DOL information), with a stable projected need of 307 by 2018. The vacancy rate for Medical Technicians in 2011 was 2.2%

Education and Training
The Montana Medical Laboratory Science program, administered through MSU Bozeman, accepts 15 students per year from MSU Bozeman, MSU Billings and the University of Montana. Many of the student applicants have already received a baccalaureate degree. Students spend the first summer of their program in Bozeman, and then go to clinical hospital training sites (eight total in Bozeman, Butte, Great Falls, Missoula, Kalispell, Helena, and two sites in Billings). The MLS program includes a two week rural rotation in one of 26 possible rural sites. The program has received $350,000 of in-kind contributions from the larger hospitals in the state, as well as in-kind contributions from the rural rotation sites. The MLS program began accepting students in 2008. Of 27 graduates, 23 have remained in Montana to pursue their careers (85%).

MSU Bozeman has potential to develop a master's degree program for post-baccalaureate students. The program would allow for students to specialize in several areas, such as industry, research, or management.

There are no Medical Laboratory Technician training programs in the state.



Medical Laboratory Science and Technicians

Strategies

Medical Laboratory Workforce Stategies	Resources & Organizations	Measures & Outcomes
Support Montana Medical Laboratory Science training program at Montana State University.	MMLS program, Board of Regents	Continued enrollment in program. Track employment numbers and locations post-graduation
Expand ongoing partnerships with the Montana Lab Forum and the Northern Plains Consortium (ND, SD, WY and MT) to raise public awareness of Medical Laboratory Science education, career opportunities and workforce needs.	Montana Lab Forum, Northern Plains Consortium, Additional laboratory partners, MT AHECs	Increased public awareness of overall laboratory science careers and workforce issues. Increased enrollment in the Medical Laboratory Science program.
Develop clinical rotation sites within state laboratories to expose students to the state laboratory environment.	DPHHS, state labs, MSU MMLS program, Public Health Office	Track number of Medical Laboratory Science employees hired at state lab
Develop career ladders that will encourage technicians to move into technologist positions—a model process has been well documented by the American Society for Clinical Laboratory Science Career Ladder Task Force.	American Society for Clinical Laboratory Science Career Ladder Task Force, Educational institutions	Track number of technicians that move through process to become technologists.
Develop awareness of laboratory careers through regional AHEC activities for K-12 students.	MT AHECs	Increased interest in MLS careers
Develop and analyze reliable workforce data to assist state planning efforts for educational programs and future workforce needs.	State DOLI, Laboratory Science licensure board, laboratory science certification associations	
Determine feasibility of developing a Medical Laboratory Technician training program within the Montana University System – two year program format.	MUS—Board of Regents, local laboratories, two year colleges	Development of new educational training program for Medical Laboratory Technicians—two year program, if determined feasible.

Description

"Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy, promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles."
(From the International Council of Nurses **http://www.icn.ch/about-icn/icn-definition-of-nursing/**)

Registered Nurses (RNs)

Comprise the largest group of healthcare workers and function as the primary point of contact between the patient and the world of health care. They are the only health care professionals who surround the patient with 24-hour care, both at the bedside and in out-patient settings. They are responsible for: treatment, safety, and recovery of acutely or chronically ill individuals; health promotion and maintenance within families, communities and populations; and treatment of life-threatening emergencies in a wide range of health care settings. RN job descriptions also include developing day-to-day nursing care plans, both in the hospital and for care after discharge, to be administered by families and visiting nurses. Montana state laws define the scope of nursing practice.

Licensed Practical Nurses (LPNs)

Have a more limited scope of practice than RNs and cannot legally perform all of the duties of an RN. LPN educational programs are shorter than RN programs. Both RNs and LPNs must pass an NCLEX exam to be licensed through the Board of Nursing in order to practice.

Advanced Practice Registered Nurse (APRN) is a nurse:

- who has completed an accredited graduate-level education program in one of the four recognized APRN roles;
- who has passed a national certification examination that measures APRN, role and population-focused competencies and who maintains continued competence as evidenced by recertification in the role and population through the national certification program;
- who has acquired advanced clinical knowledge and skills to provide direct primary care to patients, as well as a component of indirect care; however, the defining factor for all APRNs is that a significant component of the education and practice focuses on direct care of individuals;
- whose practice builds on the competencies of registered nurses (RNs) by demonstrating a greater depth and breadth of knowledge, a greater synthesis of data, increased complexity of skills and interventions, and greater role autonomy;
- who is educationally prepared to assume responsibility and accountability for health promotion and/or maintenance as well as the assessment, diagnosis, and management of patient problems, which includes the use and prescription of pharmacologic and non-pharmacologic interventions;
- who has clinical experience of sufficient depth and breadth to reflect the intended license; and
- who has obtained a license to practice as an APRN in one of the four APRN roles: certified registered nurse anesthetist (CRNA), certified nurse-midwife (CNM), clinical nurse specialist (CNS), or certified nurse practitioner (CNP).

Montana is one of just 19 states (including Washington DC) in which APRNs are able to practice independently and to the full extent of their education and training.

Overview

The US has been experiencing a nursing shortage for several years. Additionally, Montana experiences a maldistribution of nurses throughout the state. Rural hospitals and health care facilities have a difficult time with recruitment and retention of their nursing staff. The work expectations for a rural nurse require less specialization of skills, but instead, a broader skill set in all aspects of nursing. Historically, it has been difficult to arrange rural clinical practicum experiences.

The North West Rural Nurse Residency Program, developed at Idaho State University, is a Transition to Practice program which has recently been initiated in several hospitals and healthcare facilities in Montana. Nurse residents are prepared with an emphasis on rural nursing and are trained in the setting of their new employer. New nurses, nurses returning to work in the field and nurses with urban nursing skills who are accepting positions in rural facilities are encouraged to participate. A long-term goal of the program is to create a cadre of nursing professionals who remain in rural nursing and fill the need for the state.

The Montana Center to Advance Health through Nursing (MT CAHN) has been selected as an Action Coalition by the Future of Nursing: Campaign for Action, coordinated through the Center to Champion Nursing in America, an initiative of AARP, the AARP Foundation and the Robert Wood Johnson Foundation. The Campaign for Action envisions a health care system where all Americans have access to high-quality care, with nurses contributing to the full extent of their capabilities. The MT CAHN will focus on the areas of nurse leadership development, seamless nursing education pathways, and transition to practice programs. Additionally, the MT CAHN is working with the Montana Healthcare Workforce Advisory Committee to develop infrastructure for healthcare workforce data collection and analysis.

Workforce Data

	2000 Number of Nurses Employed	2010 employment	Total Growth 2000 - 2010	2011 Employer Vacancy Rate	2018 Projected Nurses Needed
RN	7490	8500	13.48%	4.2%	9968
LPN	2350	2920	24.26%	4.8%	3504

Vacancy rate from Montana Hospital Association Workforce Staffing Survey. Nurse employment numbers, growth and projections from Bureau of Labor Statistics Occupational Employment Survey, Montana Healthcare Employment
(http://www.bls.gov/oes/current/oes_mt.htm#29-0000 and http://www.ourfactsyourfuture.org/cgi/databrowsing/?PAGEID=4&SUBID=158).

Statewide, nursing vacancy rates have been lower during the recent economic downturn compared to 2007 and prior. It is speculated that nurses have not retired as early as planned, and have not changed jobs as readily compared to better economic times. However, future trends still point to continued shortages due to aging of the population and aging of the nursing workforce.

Education and Training

Baccalaureate and Graduate Programs – Montana State University

The baccalaureate program includes two years of lower-division study that can be completed at any campus and two years of study at an upper-division campus site (Bozeman, Billings, Great Falls, Kalispell and Missoula). Faculty members are assigned to a campus where they live, work and supervise students in a variety of health care agencies

Education and Training

An accelerated option is offered for students who already hold a bachelor's degree in a discipline other than nursing and desire to earn the BSN from the MSU-Bozeman College of Nursing's undergraduate nursing program. This option is offered in four consecutive semesters on the Bozeman campus. The courses offered, and the number of credits earned in the nursing courses, are identical to those in the generic traditional undergraduate curriculum; however, they are offered in a compressed timeframe of 16 months rather than the traditional program length of 29 months.

The Masters of Nursing (MN) graduate degree program focuses on the needs of people living in rural areas regarding assessment and management of their health as well as the unique challenges associated with delivering health care services in sparsely populated areas. The program is fully accredited by the Commission on Collegiate Nursing Education (CCNE). Students are prepared to take certification examinations as a **Clinical Nurse Leader (CNL), a Family Nurse Practitioner (FNP), or a Family Psychiatric Mental Health Nurse Practitioner (FPMHNP).**

The college provides educational preparation plus opportunities to practice in rural and frontier areas of Montana. Graduate students access nursing courses through a variety of teaching methods any of the college's campuses in Billings, Bozeman, Great Falls, Kalispell, and Missoula. Graduate courses are offered primarily online with teleconference and interactive video used to supplement content. Travel to Bozeman is required at the beginning of the Fall semester.

The College of Nursing is developing a Doctor of Nursing Practice program for the current Family Nurse Practitioner and Family Psychiatric Mental Health Nurse Practitioner tracks. The DNP focuses on providing leadership for evidence-based practice. This requires competence in translating research in practice, evaluating evidence, applying research in decision-making, and implementing viable clinical innovations to change practice.

Caring for Our Own Project (CO-OP)

The College of Nursing has been awarded a three year grant for $970,405 from the Health Resources and Services Administration (HRSA) to support The Caring for Our Own Project (CO-OP). The grant will increase nursing education opportunities for individuals from economically and educationally disadvantaged backgrounds, specifically American Indian students from rural Montana. CO-OP students will be prepared to deliver better access to high quality, culturally competent health care for underserved populations. CO-OP is designed to provide the needed support to students as they progress through the undergraduate nursing curriculum thus increasing retention through graduation by providing pre-entry preparation, retention activities, and stipends to eligible students.

Carroll College

The Nursing Program at Carroll College (Helena) offers a baccalaureate degree with a major in Nursing, preparing students to practice as professional nurses or for graduate studies in nursing. Clinical experience begins in the 200-level nursing courses and occurs in diverse community settings, varying from Helena's hospitals to public health, assisted-living, long-term care, home-visits, and psychiatric and school settings. Clinical work is primarily done in Helena, allowing for one-on-one interaction with faculty.

Great Falls University

The Bachelor of Science in Nursing degree completion program is a selective program offered primarily for the licensed, practicing Registered Nurse in the Providence Health and Services System and for other Registered Nurses in Montana with at least two years of clinical nursing experience. The program is delivered through a combination of distance technologies and commences with a two-week intensive immersion session in the summer. Nurses progress through the program on a part-time, cohort-based model with required nursing courses being offered on a single day per week. Employees of Providence Health and Services may be eligible to receive scholarship support through the PH and S Programmatic Support program.

Education and Training

Salish Kootenai College

The SKC Nursing Program has been recognized for its unique focus on Native American culture and health issues, as well as teaching culturally appropriate, evidence-based nursing interventions. A critical concept in the college's nursing program is cultural competence. Many students, faculty and staff are of Native American heritage. All faculty and staff are committed to weaving cultural experiences throughout the curriculum, including lab, classroom, and clinical settings.

Associate Degree in Nursing

- Miles City Community College

Associate Degree in Nursing (using the Montana University System Model Curriculum)

- MSU - Billings COT
- MSU - Great Falls COT
- MSU Northern (Havre)
- MT Tech (Butte)
- UM - Helena COT
- UM - Missoula COT
- Flathead Valley CC

The Associate Degree in Nursing is a 72 credit degree program, with a common curriculum across Montana campuses. Nurses who complete the Associate Degree and pass the NCLEX exam can complete the Baccalaureate degree in nursing at Montana Tech and MSU – Northern.

Practical Nursing

- MSU - Billings COT
- MSU - Great Falls COT
- UM - Helena COT
- UM - Missoula COT
- Flathead Valley CC

These LPN programs use the model curriculum of 51/52 credits with the opportunity to continue on to an Associate Degree in Nursing (RN) with an additional 27 credits over two semesters. The practical nurse uses specialized knowledge and skills that meet the health care needs of people in a variety of settings under the direction of qualified health professions. The curriculum focuses on preparation for employment. Students learn practical nursing skills through independent study, lectures, simulation demonstrations, and practice in the skills lab. Under instructor supervision, students also provide patient care in a variety of health care settings. The program is approved by the Montana State Board of Nursing.

Graduates of the program are eligible to apply for the National Council of Licensing Examination (NCLEX) PN licensure examination to be licensed by the Montana State Board of Nursing. Upon passing the examination, the graduate becomes a Licensed Practical Nurse, LPN. After licensure, graduates typically find employment in hospitals, nursing homes, physician offices, and other health care agencies.

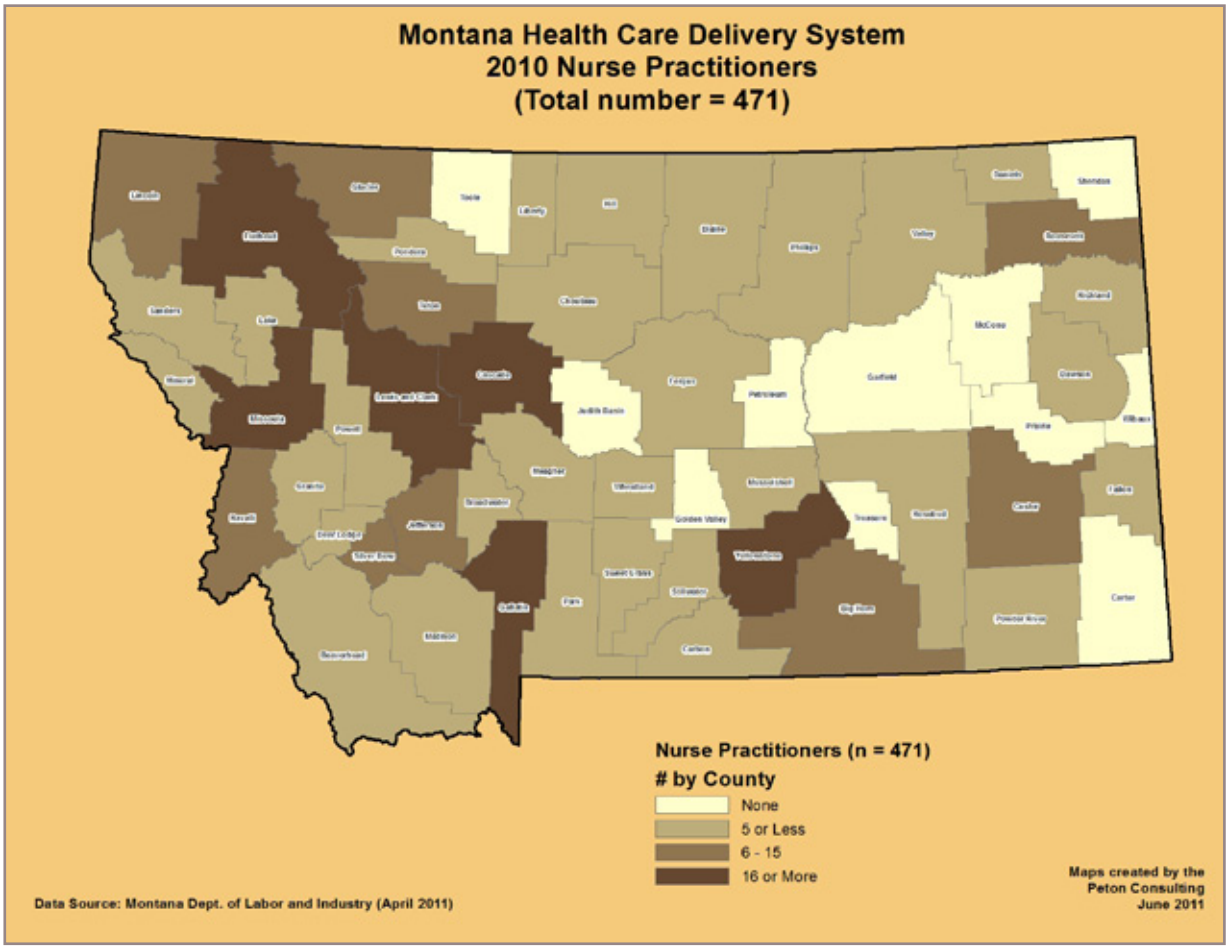
Information about approved and accredited programs, along with pass rates for NCLEX exams is found at the Montana Board of Nursing website:

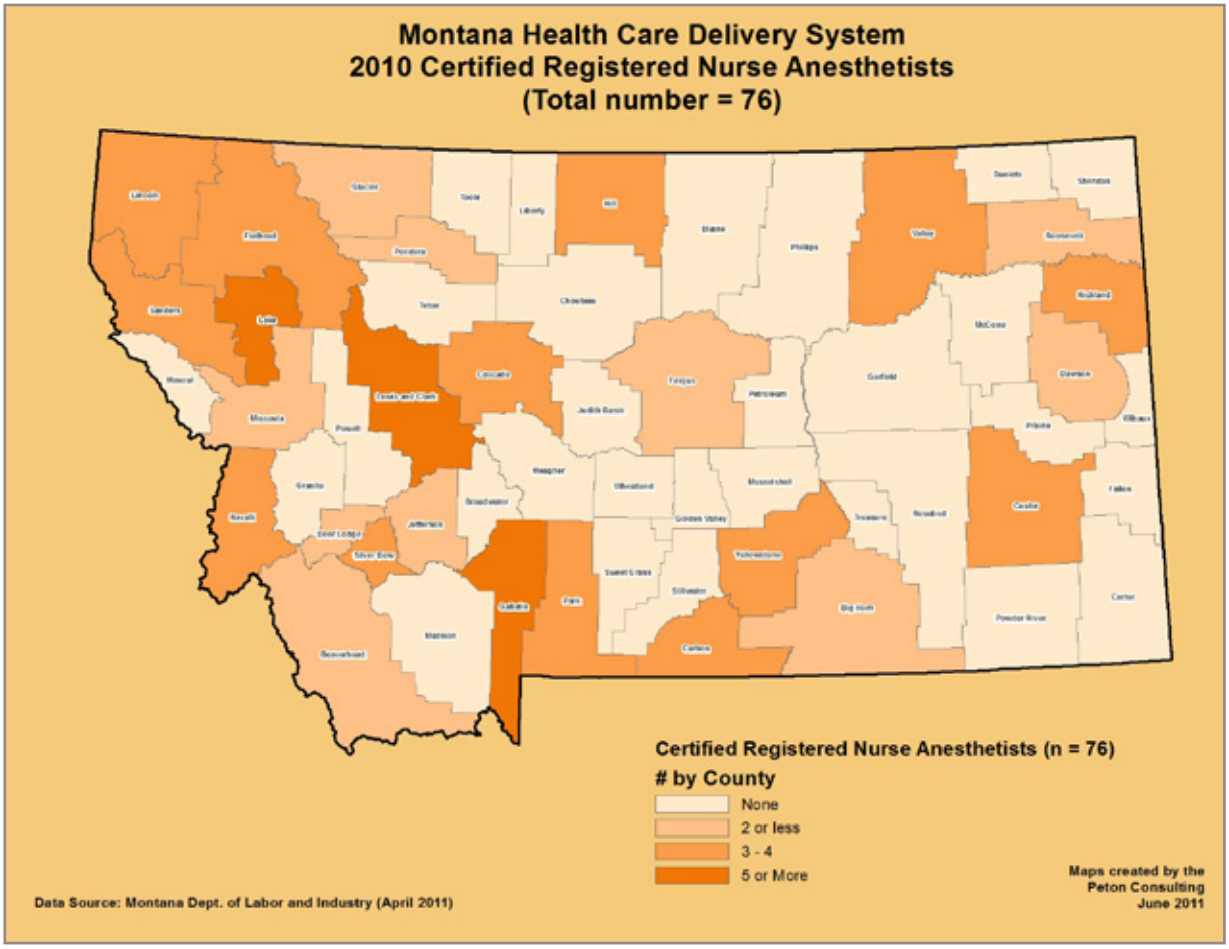
www.nurse.mt.gov (education tab) or this link

http://bsd.dli.mt.gov/license/bsd_boards/nur_board/pdf/education.pdf

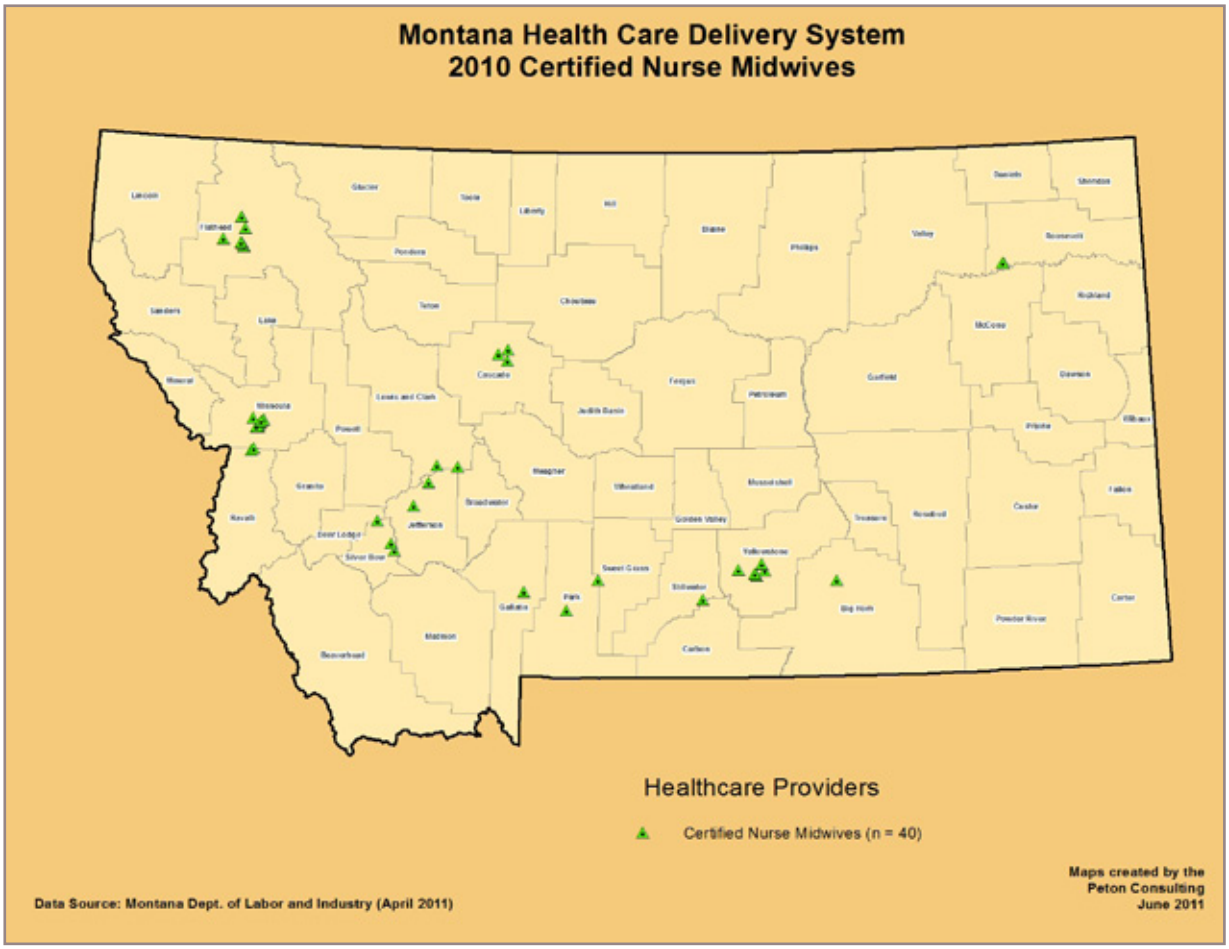
Strategies

Nursing Stategies	Resources & Organizations	Measures & Outcomes
Develop an infrastructure for the collection and analysis of interprofessional healthcare workforce data	Board of Nursing, Montana Nurses Association, Montana Hospital Association, Montana Office of Rural Health, Department of Labor and Industry	Utilize Minimum Data Set questions (which have already been developed by the Forum of State Nursing Workforce Centers) to track nursing data
Promote financial opportunities for scholarships (National Health Service Corps, Nurse Education Loan Repayment, scholarship opportunities) for advanced practice nursing and nursing faculty education and preparation. Publicize the available opportunities.	Board of Nursing, Montana Nurses Association, Montana Hospital Association, Department of Primary Care at DPHHS, SC MT AHEC	Track increased numbers of nurses utilizing incentive opportunities to further their education (for advanced practice or faculty preparation)
Streamline career pathways to help nurses move from CNA to LPN to RN to BSN with the goal of 80% BSN educated nurses by 2020 (IOM recommendation) • Articulation agreements • Common applications • Online or distance learning • Flexible scheduling • Minimal cost	Montana University System—standardized curriculum in Nursing, nursing education programs, Board of Nursing	Alignment with national benchmarks (MT Nursing workforce to be 80% baccalaureate prepared by 2020)
Promote and expand graduate preparation options for Advance Practice Nursing, including Doctorate in Nursing Practice option with the IOM goal to double the number of nurses with doctorate degrees by 2020	Montana State University College of Nursing, other post-secondary education institutions	Track numbers of students enrolled in graduate nursing training programs, increase the number of nurses with doctorate degrees by two times by 2020
Expand rural clinical education opportunities	Post-secondary education facilities, healthcare facilities, MT AHECs, CHCs, StudentMax	Track rural clinical opportunities through StudentMax and nursing program reports
Support programs of study that increase workforce diversity in Montana • CO-OP program through MSU College of Nursing • Tribal Recruitment • Partnership between Benefis and Billings Clinics • Partnership between Flathead Valley Community College and Blackfeet Tribal College	MT AHECs, Center for Native American Health Partnerships, MSU College of Nursing, Tribal Colleges, healthcare facilities	Track student numbers through annual reports from the nursing programs to the Board of Nursing
Promote innovation in nursing education • Simulations • Multi-disciplinary teams • Dedicated educational units for clinical education	Nursing education programs, health system institutions	Inventory of use of simulation, multi-disciplinary education and other innovations


Montana Health Care Delivery System
2010 Nurse Practitioners
(Total number = 471)
Nurse Practitioners (n = 471)
by County
None
5 or Less
6 - 15
16 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011


Montana Health Care Delivery System
2010 Certified Registered Nurse Anesthetists
(Total number = 76)
Certified Registered Nurse Anesthetists (n = 76)
by County
None
2 or less
3 - 4
5 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011

Nurses



Pharmacists, Pharmacy Technicians

Description

The traditional task of pharmacists was to distribute prescription drugs to individuals. That very narrow description has been greatly expanded in today's pharmacy workforce. Currently, pharmacists advise patients, physicians and other health practitioners on the selection, dosages, interactions, and side effects of medications, as well as monitor the health and progress of those patients to ensure that the medications are used safely and effectively. Pharmacists also advise patients on general health topics such as diet, exercise and stress management, and provide information on products. Pharmacists may specialize in specific drug therapy areas (i.e. intravenous nutrition support, oncology, nuclear pharmacy, geriatric pharmacy, or psychiatric pharmacy), and may be employed in community pharmacies, hospital pharmacies, nursing homes, mail-order warehouses or research labs. Even within a hospital, specific units may have designated pharmacists, i.e. transplant floors, intensive care units, emergency room and oncology/chemotherapy locations.

As the population ages—and uses more prescription drugs—pharmacy jobs are expected to increase at a faster than average rate. Additionally, pharmacists are becoming more involved in patient care—increased patient counseling is necessary for complex medication. Demand for pharmacists is also increasing in mail-order pharmacies.

Pharmacy technicians serve as assistants to the licensed pharmacists and help to prepare prescriptions, provide customer service and perform administrative duties. As pharmacists experience expanded duties, pharmacy techs will also experience expansion of their role. Job growth is expected to be good for this occupation also.

Pharmacists, Pharmacy Technicians

Overview

The Pharmacy Manpower Project conducts a national survey on the pharmacist workforce that is updated monthly. Data is used to compile the Aggregate Demand Index (ADI)—a quick indicator of the demand for Pharmacists throughout the country. An ADI of 5 indicates high demand with difficulty filling open positions, while 3 would indicate a balanced demand and supply, and 1 would indicate much less demand than supply available.

The most recent (May 2011) ADI for Montana is 3.5, indicating a relatively balanced supply and demand. The average ADI for Montana for 2011 (through May) is 3.22—balanced supply and demand. The regional ADI for the Mountain states (AZ, CO, ID, MT, NV, NM, UT, WY) is the lowest—or best, in the country at 3.4. There are no states that are experiencing extremely high demand or extremely high supply: 20 states are experiencing moderate demand, while the remaining states are experiencing balanced demand.

The Location Quotient (LQ) is a calculation that compares the number of workforce employed in one area to the number employed in a larger area. For Pharmacists in Montana, the LQ is 1.14, indicative of a greater pharmacist supply in MT when compared to the nation overall.

These indicators (ADI and LQ) point to an overall balanced supply of pharmacists for the state. However, the pharmacists supply appears to be distributed in urban centers, not in rural and frontier areas. In fact, six MT counties have no pharmacist while another six counties have 51 or more—indicating a maldistribution of the pharmacy workforce.

Education and Training

The Skaggs School of Pharmacy at the University of Montana, established in 1907, is the only pharmacy training program in the state. Sixty-five students are admitted to the program annually, with 80% of those students being in-state, Montana residents. Skaggs School of Pharmacy administration suggests that about 50% of new grads stay in Montana to pursue their careers. The curriculum consists of a six year program with the first two years spent in basic physical and biological sciences. The final (sixth) year of the program is spent entirely in experiential practice.

The IPHARM program was established by the Skaggs School of Pharmacy in 2002. The program's focus is to provide screening services to detect health problems earlier before complications develop. Another goal of the program is to improve access to health care services for those in rural, underserved or otherwise disadvantaged areas across the state. IPHARM provides the following screenings and counseling: bone density, cholesterol, hemoglobin A1c (a measure of average blood glucose), blood pressure, balance testing (through Physical Therapy), and memory and depression screening (through Social Work). Health care professionals, faculty, and students work together along with community members to provide IPHARM services at a nominal fee. Additionally, the program provides a valuable teaching tool for fourth year pharmacy students as well as nursing, physical therapy and social work students. This practice provides them with hands on training working directly with patients in real-life settings.

Pharmacy Technicians can receive certificates from four MT institutions: the College of Technology (COT) at University of Montana Missoula, COT at Montana State University Great Falls, COT at Montana Tech of the University of Montana, and Flathead Valley Community College.

Workforce Data

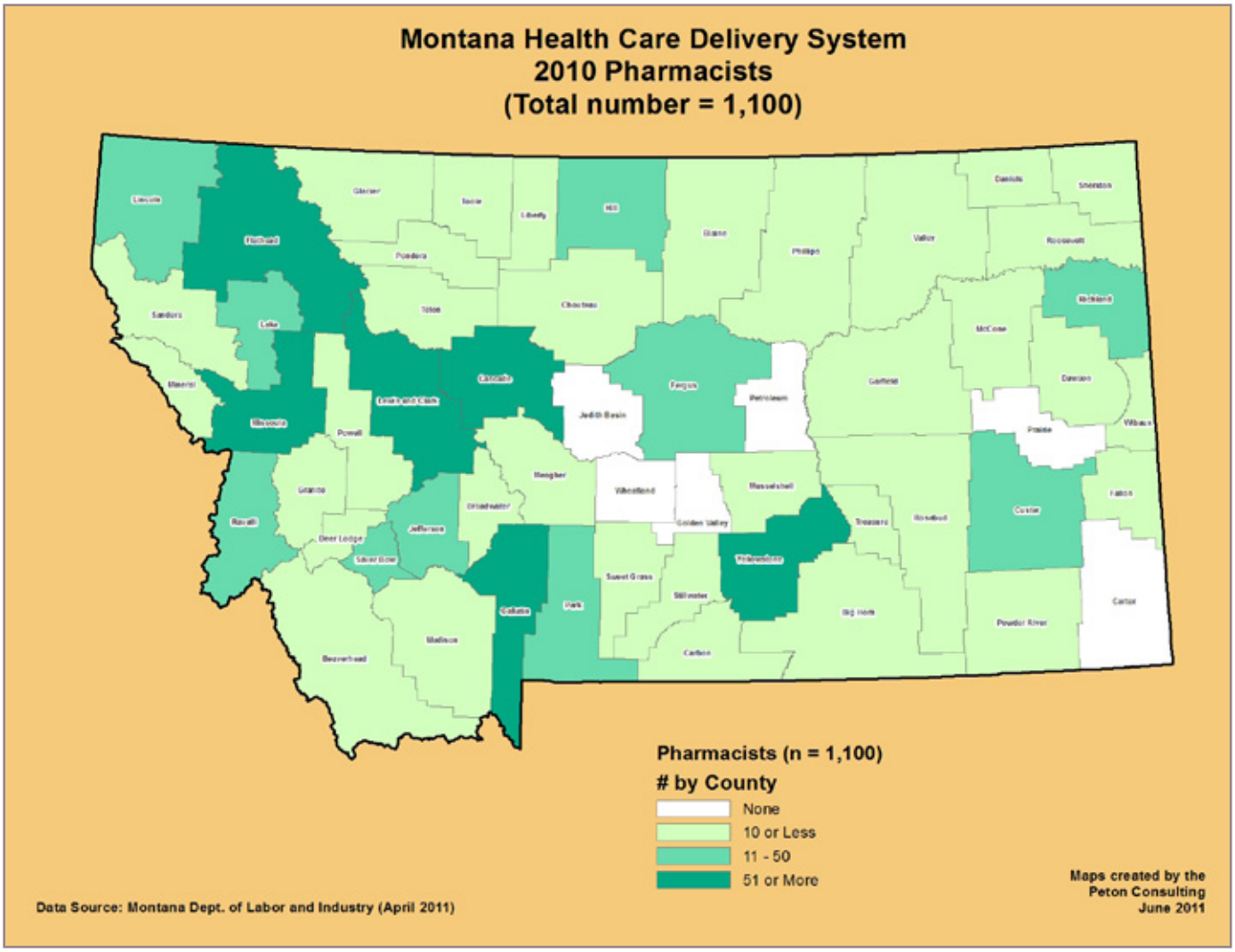
The Montana Board of Pharmacy currently reports 1113 actively licensed pharmacists. Additionally, 99 independent pharmacies and six telepharmacies are licensed. The Bureau of Labor Statistics-- Occupational Employment Statistics (BLS-OES) indicates that the workforce has experienced 29% growth over the recent 10 year period (2000 to 2010). Employment projections suggest continued growth and the need for 1496 pharmacists by 2018 (BLS-OES).

Pharmacy technicians in active practice total 1148 in 2011 (MT Board of Pharmacy). Additionally, 192 Techs-in-Training are currently licensed. Although the field has shown average annual growth of 8.43% and total growth of 113.16% for the 2000 to 2010 timeframe, the location quotient is just 0.76, indicating an undersupply of professionals. As rural pharmacists are called upon to expand their duties into team patient management, technicians will be required to fill the basic provision of prescriptions. The pharmacy technician workforce is also expected to experience significant growth.

Pharmacists, Pharmacy Technicians

Strategies

Pharmacists and Pharmacy Technician Stategies	Resources & Organizations	Measures & Outcomes
Develop practicum sites in rural and underserved areas	Post-secondary educational institutions, local healthcare facilities, local pharmacies	Track number of practicum sites in rural and underserved areas
Offer financial incentives for practice in rural and underserved areas	MT DPHHS—Primary Care Office, SC MT AHEC, MHA	Track financial incentives offered
Expand telepharmacy options throughout the state	MT Board of Pharmacy, local pharmacy providers	Increased number of telepharmacy options
Develop and support interdisciplinary training programs, continued support of U of M Pharm.D. program	Skaggs School of Pharmacy, additional post-secondary healthcare training programs, Board of Regents	Track number of interdisciplinary programs, track number of Pharm.D. grads
Support recruitment in rural areas	MT regional AHECs, local pharmacies	Track number of pharmacy providers in rural areas, track retention of pharmacy providers in rural areas



Physician Assistant

Description

Physician Assistants deliver a broad range of medical and surgical services to diverse populations in rural and urban settings. They are health professionals who practice medicine as members of a team with their supervising physicians. As part of their comprehensive responsibilities, PAs conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on preventive health care, assist in surgery, and prescribe medications. Physician assistants are certified by the National Commission on Certification of Physician Assistants and are also state-licensed. Nationally, about 45% of the PA workforce works in a primary care capacity. Employment of PAs is expected to grow by 39% from 2008 to 2018, with much faster growth than the average for all occupations (BLS projections). Growth projections reflect the expansion of healthcare coverage through healthcare reform and efforts made for cost containment.

Overview

Physician Assistants play a crucial role in rural healthcare in Montana and are well-suited to improve access in rural locations. PAs often serve as the sole primary care provider for the community in locations that have difficulty recruiting physicians. Interestingly, Eastern Montana is one of the top paying nonmetropolitan areas in the country ($98,450 annual mean wage per May 2010 Occupational Employment and Wages report, BLS).

Workforce

The Montana Physician Assistant workforce has shown significant growth since 2000, increasing from 150 to the current 398, an average annual growth rate of 15.16% (per DOLI). The Bureau of Labor Statistics projects that 783 PAs will be needed in Montana by 2018. The American Academy of Physician Assistants reports that about 33% of the practicing PAs in Montana were employed in a primary care capacity (family/general medicine, general internal medicine and general pediatrics) in 2009.

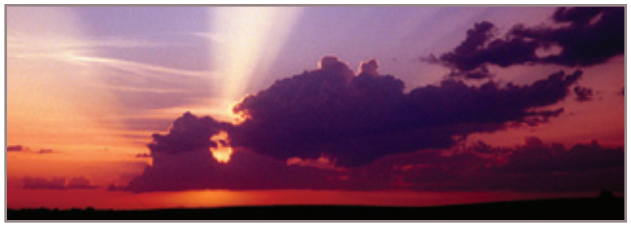
The Kaiser Foundation reports 41 PAs per 100,000 population in MT while the national figure is 24/100,000. The Location Quotient for PA's is 1.26, also suggesting an oversupply. We also know that seven counties in MT have no practicing PAs at all, while four counties have 26 or more, suggesting maldistribution of the PA workforce.

Education and Training

There are 156 accredited PA training programs nationally. The only PA training program available in Montana (and the northern Rockies) is Rocky Mountain College in Billings. The Masters level program strives to excel as a center of health care education and is dedicated to providing medical services to the underserved and rural populations of the intermountain region. Administration at Rocky reports that about 25% of the incoming class of 33 is from Montana. Likewise, about 25% of graduates will stay in the state to practice upon graduation. It's also estimated that about 40% of grads will work in primary care upon completion of their program.

The Medex PA training program originated in 1970 and is offered through the University of Washington School of Medicine. The program is offered at three campus locations in Washington state (Seattle, Spokane and Yakima) and one in Alaska. Recent information indicates approximately 7% of the incoming class are students from Montana and approximately 16% of graduates will practice in a WWAMI state other than Washington.

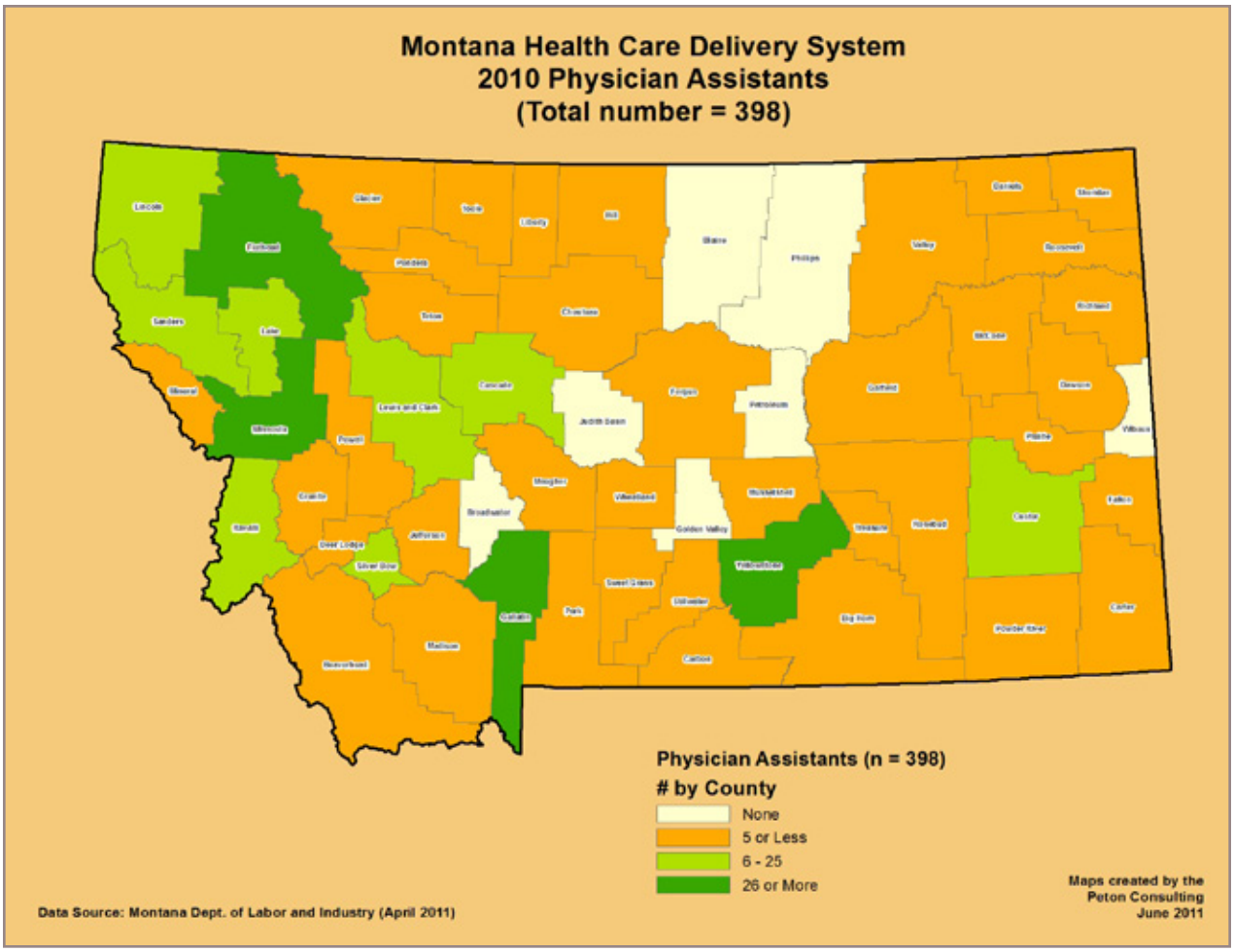
The Monida Healthcare Network has received a grant to develop a six-month practicum experience for PAs specifically oriented to emergency care. Upon successful completion of the practicum, the PAs will be able to practice without on-site physician supervision. The initial project is slated for three hospitals in Western Montana. If successful, the program could be shared throughout the state.



Physician Assistant

Strategies

Physican Assistant Strategies	Resources & Organizations	Measures & Outcomes
To increase confidence and skill levels of new PAs , and to expose potential recruits to the demands required in the rural/frontier position, support intern/residency programs and continuing education opportunities.	Rocky Mountain College, Medex (through U of Washington), Monida Healthcare Network, local CHCs, local healthcare facilities, AHECS	Number of students participating in rural residency programs, number of graduates accepting positions in rural facilities
Encourage supportive community involvement/partnerships in recruiting and retention efforts.	Local businesses, governments, healthcare facilities, MORH—CHSD	Track number of PAs recruited to rural and underserved location, track length of time in current position of the PA workforce
Maintain or increase financial incentive programs for practice in rural and underserved settings—NHSC, MT State Loan Repayment, private grants/scholarships.	DPHHS—PCO, SC AHEC	Number and dollar amount of financial incentives offered for rural practice
Develop systems for relief providers (locum tenens or respite pool) to allow for personal time for providers.	Health networks in MT, CHCs, local healthcare facilities	



Description

Primary care physicians are usually the first medical contact for a person with an undiagnosed health issue, but they are also charged with providing continual, comprehensive, and coordinated care to their patients. Montana's health-care system faces a difficult challenge regarding both the increased demand of primary care physicians and the inadequate supply of these physicians. Compounding this situation further is the declining number of medical school graduates who pursue careers in primary care. This is troubling given the important role primary care has in ensuring and promoting healthy outcomes in communities, especially in rural areas. Studies have confirmed that primary care improves health outcomes, increases quality and reduces health care costs. (Montana's Primary Care Workforce, Rivard, 2009)

Access to health care and the delivery of quality health care to the citizens of Montana is dependent on an adequate supply of physicians. Montana is a rural and frontier state, with nearly two-thirds of the population living in these designated counties. Primary care physicians are particularly important to rural health care delivery systems. Surgeons and psychiatrists are also in short supply. Additionally, both Montana's general population as well as its physicians, are aging putting further demand on a diminishing workforce. (Montana's Healthcare Workforce Resource Document, Bernier, 2009)

Overview

Montana healthcare facilities consistently report challenges in recruiting physicians to Montana. 19,625 Montana residents live in counties without primary care physicians. This is significant for two reasons: 1) the primary care physicians, if any, in these counties are more burdened and are responsible for a greater patient population than their peers nationally; and, 2) approximately 308,648 Montanans or 31.2% of Montana's population live in counties with fewer primary care physicians than the national average. For these Montanans, access to primary care is quite limited, and physicians who do not want to be overly burdened are reluctant to practice in this type of setting. (Montana's Primary Care Workforce, Rivard, 2009)

Additional barriers to successfully recruiting primary care physicians in rural areas are lack of spousal employment, lack of cultural activities, insufficient housing, poor-quality schools, and inadequate compensation. (JAMA, Rosenblatt, 2006) Even the more urban areas of Montana may feel rural to physicians and their families. Montana's largest city has a population of around 100,000 people. To increase Montana's primary care physician workforce and thereby increase access to primary health care, effective efforts to recruit, retain, and produce more primary care physicians in Montana are vital.

Education and Training

Investing in Montana's medical education is vital for its future. It is a proven fact that training doctors locally is the strongest predictor of where they will stay and practice medicine. Becoming a physician takes 11 to 16 years after graduation from high school. Creating more opportunity for students to train in Montana provides a pipeline for Montana medical students to remain connected to their state. Studies indicate there is a high correlation between growing up in a rural area, training in a rural area and staying within a rural area to practice medicine. It is also known that medical students graduating with high debt are less likely to pursue family practice or primary care. While there is no educational institution in the state of Montana that offers MD or DO degrees, residents may attain a medical education, paying state tuition, through the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) Program. This program is run by the University of Washington School of Medicine and currently admits 20 Montana residents annually. (Montana's Medical School: The Economic and Social Impact of the Montana WWAMI Program, 2011)

Education and Training

For more than 30 years hospitals and clinics in Montana have been teaching sites for Montana WWAMI medical students. Hospitals, clinics and physicians throughout Montana offer clinical rotations of 3rd and 4th year medical students. Fifty-one communities in Montana provide one or more experiential components for undergraduate medical education including required 3rd and 4th year clerkships; five-month integrated rural clerkships (WRITE: WWAMI Rural Integrated Training Experience); a rural/underserved clinical experience called R/UOP (Rural/Underserved Opportunity Program); and graduate medical education.

The Montana Family Medicine Residency (MFMR)—the only residency of any medical specialty in the state of Montana—began in 1996. It is one of the first residency programs to be based at a community health center (River-Stone Health in Billings, MT.) The program is well recognized for its commitment to rural and underserved care. It has graduated 71 family medicine physicians, with 51 of the graduates in active medical practice in Montana—a 72% retention rate for the state. Six physicians each year enter the three-year program, for a total of 18 residents training at any one time. During their training, the resident physicians work with the faculty physicians to provide ongoing high-quality medical care using the patient-centered medical home model to nearly 18,000 patients. The program is well recognized for its commitment to rural and underserved care, and in 2010 it interviewed 48 of over 480 total applicants for its 6 slots, with 8 of those being WWAMI applicants and 5 being WICHE (Western Interstate Commission for Higher Education) applicants. This year, MFMR had over 790 applicants for positions in its first-year class. It was recently named as one of only 82 primary care residency programs nationwide to receive a DHHS Primary Care Residency Expansion grant. This grant will help pay for a seventh training position in the residency for the next 5 years. Additionally, the Program was one of eleven recipients nationwide to receive a Teaching Health Center Designation.

The number of residents in the Billings-based Montana Family Medicine Residency is poised to expand, and new opportunities for Family Medicine training in other areas around the state are well underway. A new family medicine residency program in Missoula will be sponsored by the University of Montana and will be admitting students in 2013. Additional opportunities exist to create training programs in Internal Medicine and Psychiatry, especially using a shared teaching model with the University of Washington School of Medicine and for expanding residency opportunities in Surgery, Pediatrics and Obstetrics and Gynecology. (Montana's Medical School: The Economic and Social Impact of the Montana WWAMI Program, 2011)

Workforce Data

At least 54 of the 56 counties in Montana are federally designated in part or total as primary-care physician shortage areas. Eleven counties in Montana are without any physicians, therefore, all 11 are without primary-care doctors, which include family medicine, pediatric and internal medicine. About 308,648 Montanans live in counties with fewer primary care physicians than the national average. At least 22.4 percent of active Montana physicians are age 60 or older (higher than the national average) and are likely to retire within five years. The Montana Department of Labor and Industry reports there are 19 openings annually for primary-care physicians. Currently, 14 percent of Montana's population is 65 or older, a group that is expected to increase to 25 percent by the year 2025.

Forty percent of total Montana physicians are practicing in a primary care field (i.e., family medicine, general practice, internal medicine, or pediatrics). However, the primary care physician workforce is not evenly distributed throughout the state. Thirty-nine of Montana's 56 counties are below the national average physician to patient ratio for primary care. Approximately 38.7% of Montana's primary care physicians practice in Billings, Missoula, or Great Falls (Montana Medical Association). Nationally, Montana ranks 36th (101.8/100,000) among all states in the number of primary care physicians per 100,000 population (this number includes OB/GYN physicians). The national average is 120.5/100,000 (America's Health Rankings, 2010).

Physicians

The following table indicates the top Montana Physicians by subspecialty in 2010

Physician Specialty	Count	Percent of Physicians
Family Medicine	508	22.46
Internal Medicine	294	13
Anesthesiology	145	6.41
Emergency Medicine	120	5.31
Orthopedic Surgery	107	4.73
Pediatrics	103	4.55
Obstetrics and Gynecology	94	4.16
Psychiatry	86	3.8
General Surgery	79	3.49
Ophthalmology	56	2.48
Diagnostic Radiology	49	2.17
Cardiovascular Disease	41	1.81
Radiology	39	1.72
Neurology	36	1.59
Anatomic/Clinical Pathology	36	1.59
Dermatology	31	1.37
Otolaryngology	30	1.33
Urology	29	1.28
Neurological Surgery	22	.97

Source: Montana Medical Association 2010

Strategies

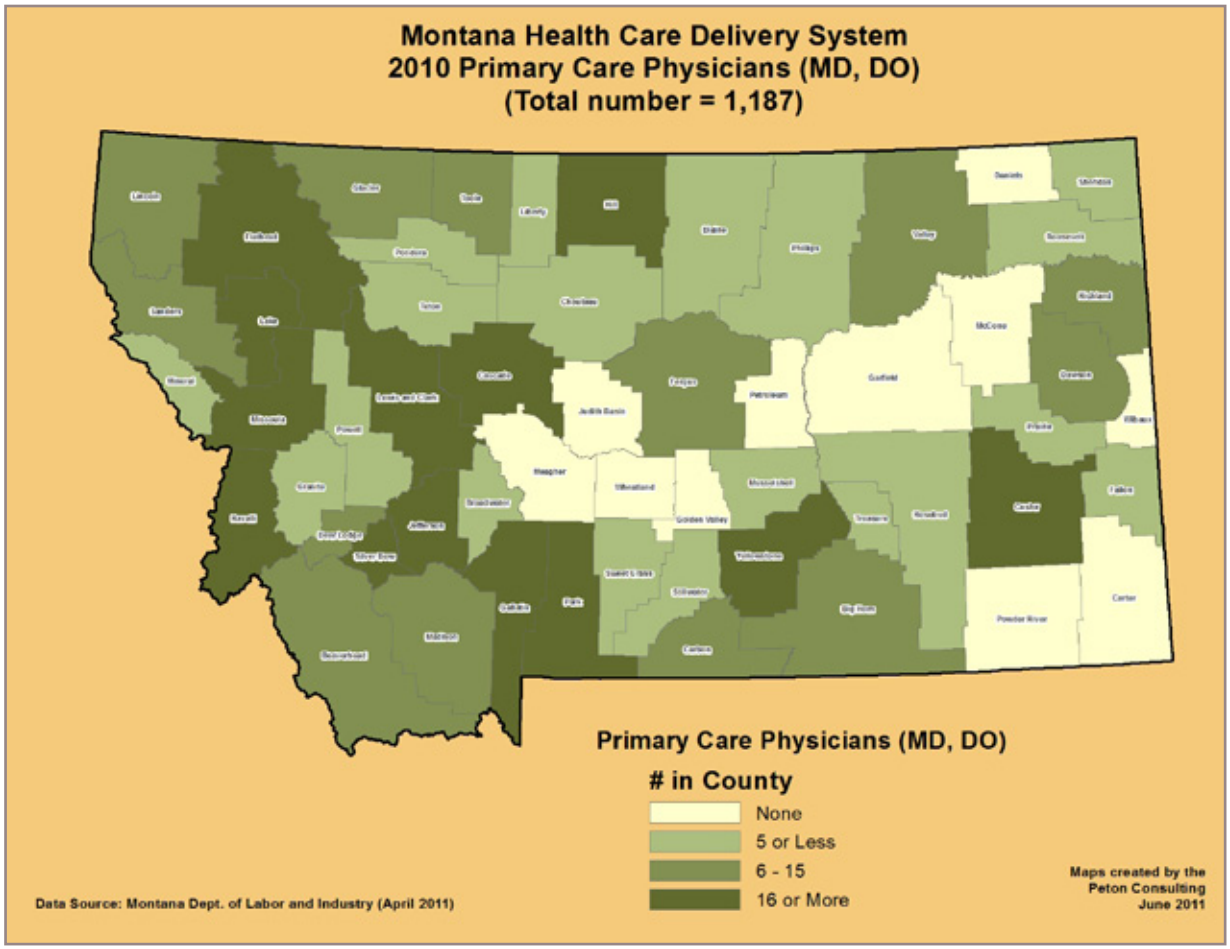
Physician Strategies	Resources & Organizations	Measures & Outcomes
To expand the number of Montana's student slots in the WWAMI Program	Montana WWAMI University of Washington (UW)	20 additional slots per year by 2015
To increase the number of Residency slots in the Montana Family Residency Program	Montana Family Residency Program; supporting organizations	Increased number of Residency slots
To develop a Family Medicine Residency Program in Western Montana	Western Montana partners, UM, Montana WWAMI, UW, MT GME Council	Residents accepted into the program in 2013
To add additional residency programs including internal medicine • Coordination of residency development through the Montana Graduate Medical Education Council • Identification of new residency opportunities, key organizations, and funding streams	Billings Clinic, UW, MSU, UM, MT GME Council, Montana AHEC, major hospitals throughout Montana	Additional residency programs developed

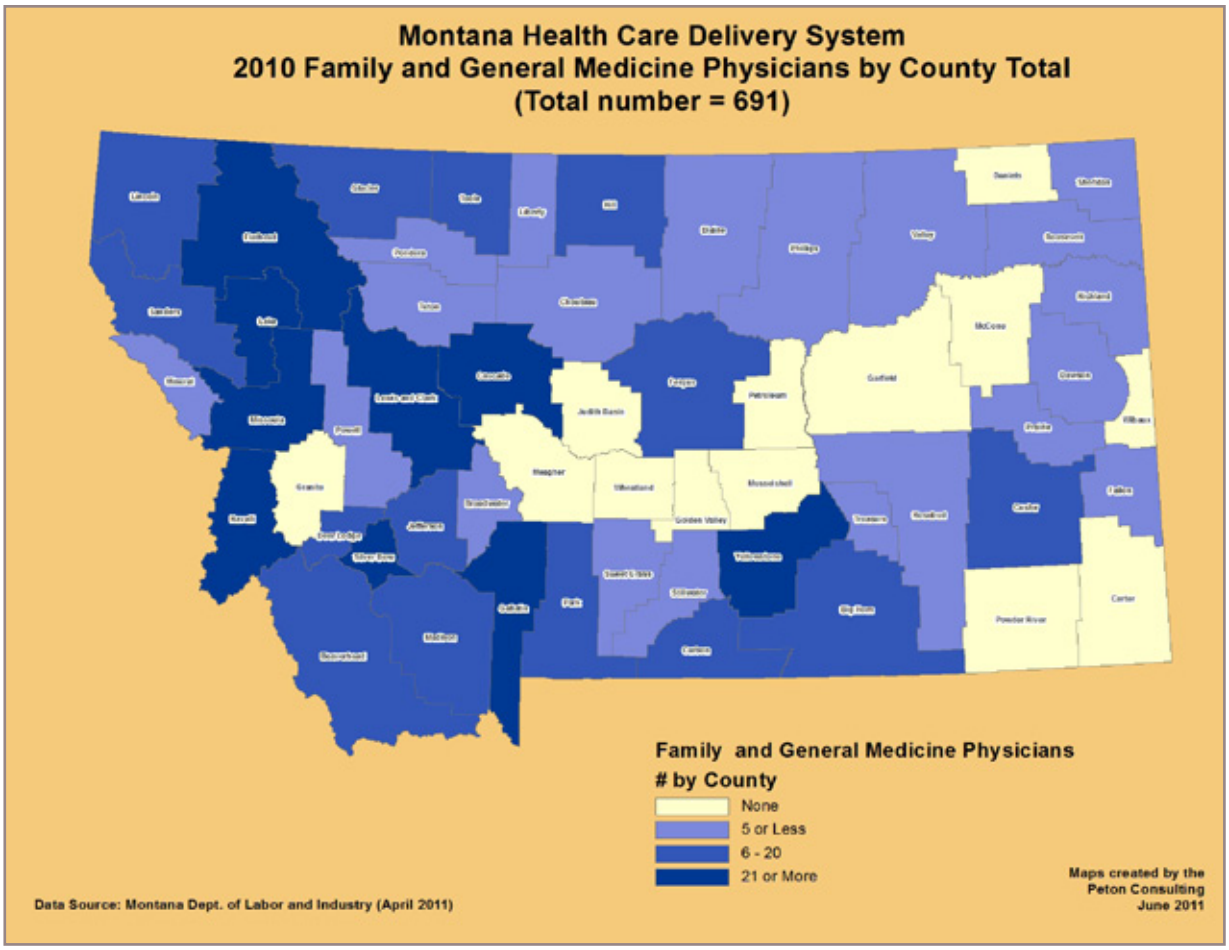
Strategies cont...

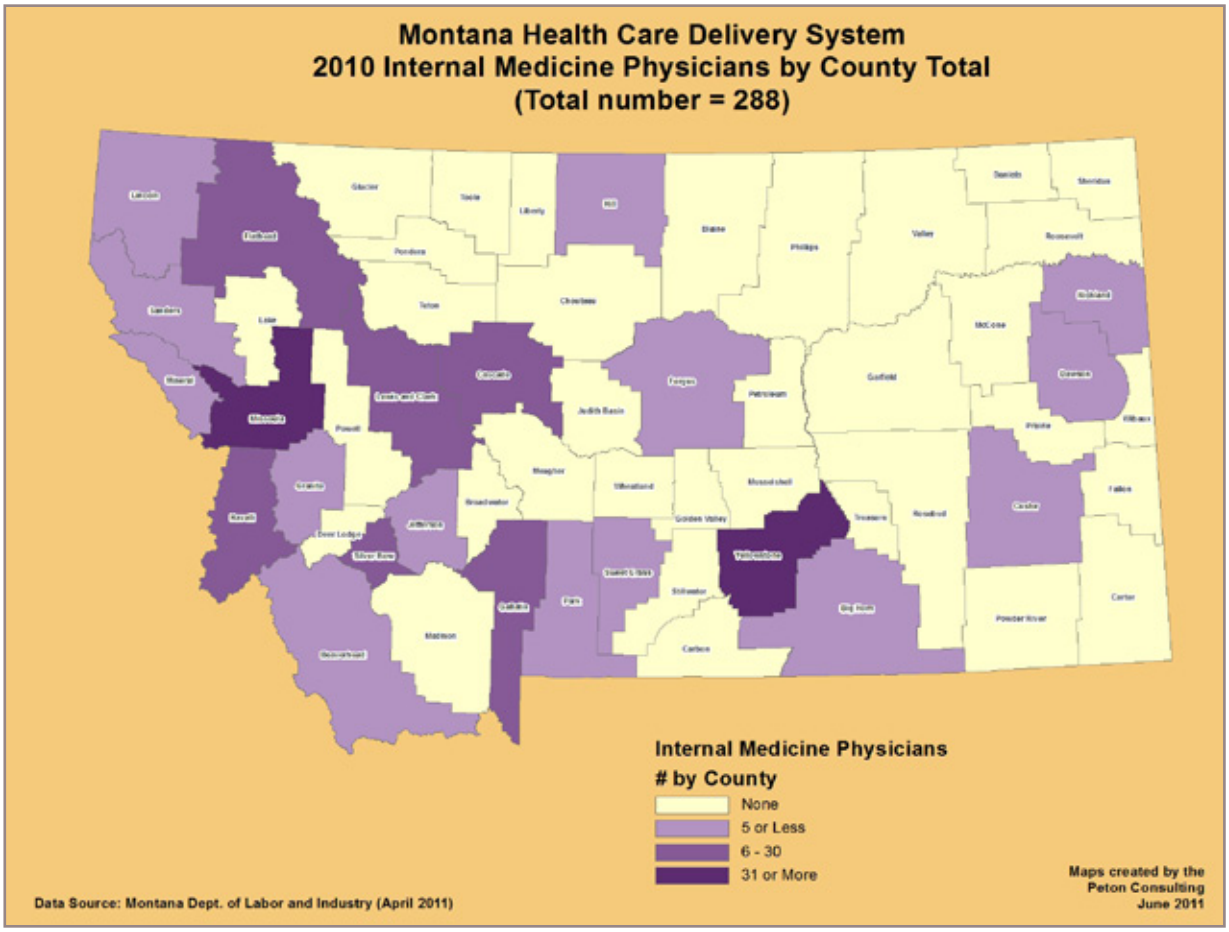
Physician Strategies	Resources & Organizations	Measures & Outcomes
To provide loan forgiveness programs and financial incentives to encourage graduates to practice in Montana's rural and underserved areas	Montana Healthcare Loan Forgiveness Program – South Central AHEC NHSC Montana Rural Physician Incentive Program	Number of loans provided Track vacancies and employment in rural and underserved areas
To provide students and residents training opportunities in rural settings (TRUST Program)	Montana WWAMI UW School of Medicine Montana AHEC	5 students admitted to TRUST Program expanding to 10
To provide education and training for practicing primary care physicians serving as preceptors and mentors in rural communities	TRUST Director Montana AHEC Montana WWAMI Clinical Dean Montana Family Residency Program UW	40 Preceptor Physicians trained each year
To provide 1st year WWAMI students with precepted rural clinical experience	Montana AHEC Montana Rural Clinical Sites	25 medical students in rural clinical settings spring semester each year beginning in 2012
To sponsor a Pre-Med Conference for Montana undergraduates to assist in preparing medical school applications	Montana AHEC Montana Healthcare Workforce Advisory Council	200 Postsecondary students and post bachelor students attend conference
To provide information and education about HIT, HIE, E.H.R. to medical students training in rural communities, to rural physicians serving as preceptors, and to healthcare facilities in rural communities	Montana Office of Rural Health Montana AHEC HealthShare Montana	25 students increase awareness of HIT/HIE in rural practice 40 rural physician preceptors increase knowledge of HIT/HIE to communicate to students
To provide community outreach activities for students such as implementing community based research projects; wellness and health improvement projects; assess rural/frontier community culture	Montana Office of Rural Health Montana AHEC WWAMI Faculty/Students TRUST Director	Each activity area has 25 WWAMI students

Strategies cont...

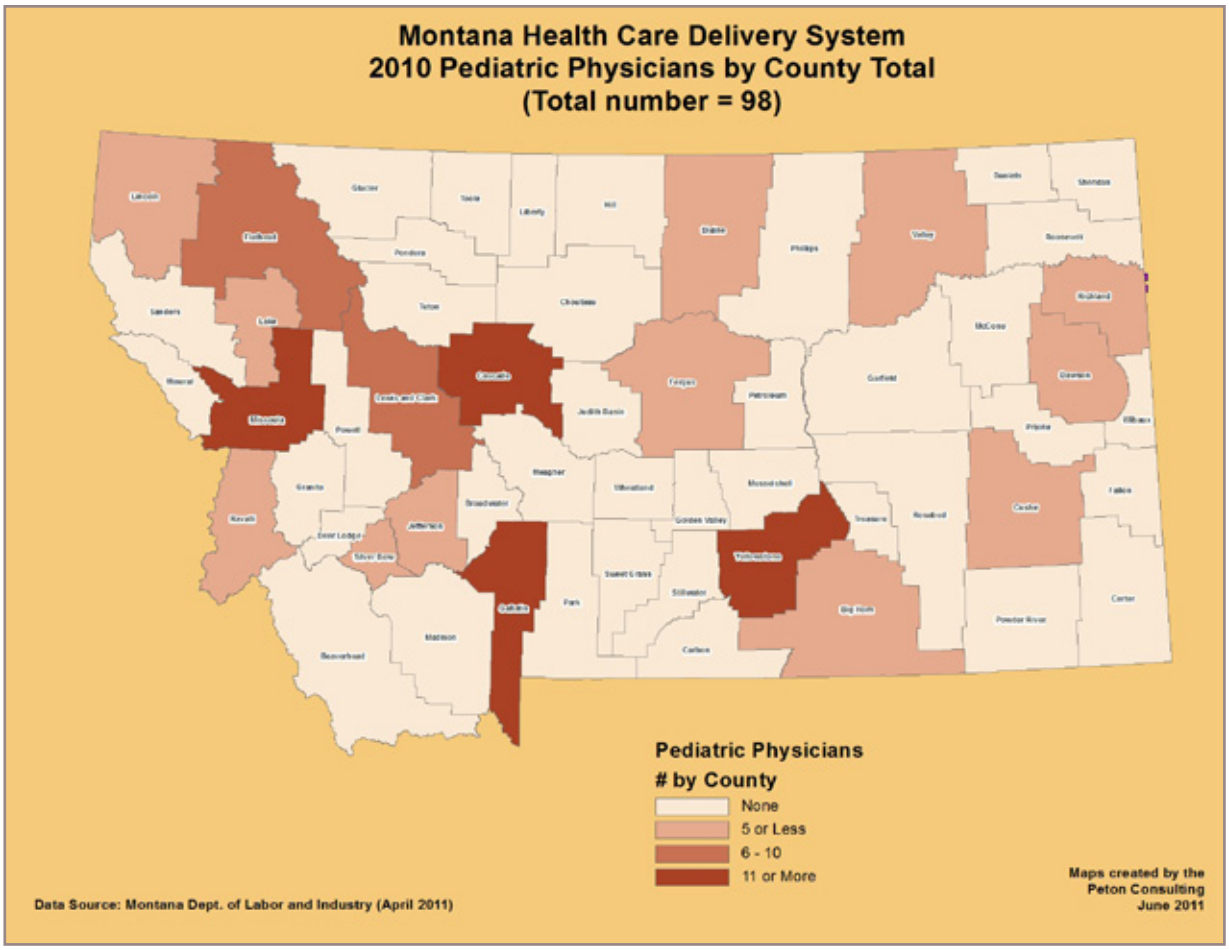
Physician Strategies	Resources & Organizations	Measures & Outcomes
Prepare Montana K-12 and postsecondary students to acceptance into medical school • Camps and school programs for Montana rural and underserved K-12 students (UM, MSU, AHECs, Tribal Colleges, OPI) • Health Professions Advising and Job Shadowing Opportunities at postsecondary programs • Pre-Med Conference • Information on WWAMI, WICHE and other medical schools specializing in primary care	HOSA OPI OCHE Postsecondary campuses AHECs WWAMI WICHE	Number of Montana students applying to and being accepted into medical school
Recruit physicians to rural and underserved practices in Montana	Montana Recruitment Collaborative, local practice sites	Number of physicians recruited to active recruiting sites in Montana




Montana Health Care Delivery System
2010 Family and General Medicine Physicians by County Total
(Total number = 691)
Family and General Medicine Physicians
by County
None
5 or Less
6 - 20
21 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011


Montana Health Care Delivery System
2010 Internal Medicine Physicians by County Total
(Total number = 288)
Internal Medicine Physicians
by County
None
5 or Less
6 - 30
31 or More
Data Source: Montana Dept. of Labor and Industry (April 2011)
Maps created by the
Peton Consulting
June 2011

Physicians



Public Health

Description

Public Health is defined by the Institute of Medicine as "what we as a society do collectively to assure the conditions in which people can be healthy." Public health efforts have significantly improved the health of the general public through such efforts as vaccines, improved sanitation and hygiene, safer workplaces, enhanced food and drug safety and preventive health services. The 10 essential services that public health provides include:

- Monitor health status to identify and solve community health problems.
- Diagnose and investigate health problems and hazards in the community.
- Inform and educate people regarding health issues.
- Mobilize community partnerships and action to identify and solve health problems.
- Develop policies and plans that support individual and community health efforts.
- Enforce laws and regulations that protect health and ensure safety.
- Link people to needed personal health services and ensure the provision of health care when otherwise unavailable.
- Ensure a competent public and personal health care workforce.
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
- Research for new insights and innovative solutions to health problems.

(Source: Public Health in America, Public Health Functions Steering Committee, 1999)

Description cont...
The workforce is multidisciplinary and includes clinicians and health program administrators, educators, planners, policy analysts, occupational and environmental health specialists, epidemiologists, biostatisticians and economists. Historically, attempts to gather workforce data on this group have been difficult, in part due to the many functions within the overall field. National projections suggest a significant gap between actual workers and need. National projected need in 2020 (per the Association of Schools of Public Health) is 714,839 public health workforce workers, approximately 250,000 more workers than are currently available.

Overview
The Montana Department of Health and Human Services, Public Health and Safety Division, in association with the Western Montana AHEC, has recently completed a public health workforce survey, designed to assess basic workforce demographic information including education and licensure/certification status, overall numbers of employees in public health, employee turnover, difficulty in recruitment, and overall workforce challenges. Approximately 55% of the public health workforce participated in the survey.

Survey results indicate that the top occupations within public health include nursing, administrative support, health educator, environmental health, allied health and lead public health official. Epidemiologists were the most difficult position to fill and laboratory workers had the highest turnover rate. The major job functions within public health were monitoring, assessment or evaluation; public education, communication and media, administration and clerical; population based health promotion, and population based disease prevention. Some of the workforce challenges faced in public health include: low wages, lack of overall funding, and lack of experienced recruits/lack of qualified applicants/limited pool of applicants. Of the respondents who were college graduates, 84% graduated from a Montana college or university.

Workforce
Specific data on the Montana Public Health workforce is not readily available as there is no centralized licensure or certification. Although other occupations may have data available on the overall field, there is no "breakout" for the public health workforce. The workforce survey documented 1114 employees in the public health workforce (with an estimated 55% of the workforce accounted for in the survey).

Education and Training
The University of Montana offers online, digital learning programs leading to a Master of Public Health (MPH) and a Certificate of Public Health (CPH). The mission of The University of Montana Master of Public Health Program is to prepare professionals to improve the health of the people of Montana and other rural areas around the world by providing interdisciplinary education - especially using digital learning technologies to allow current working professionals, as well as those embarking on a career in public health, to participate - that fosters critical thinking, research-based practice, and community collaboration. Graduate practitioners are competent to address the unique challenges resulting from the intersection of rural and global public health issues.

The Certificate program is geared toward those who currently work in a public health setting but have no formal public health training and are not interested in the MPH, those who wish to update their public health training and those who work in related fields and wish to broaden their knowledge of public health issues and concepts. The CPH may also be a good way to get started on the MPH degree.

Education and Training cont...

The Montana Public Health Training Institute is a career-long learning center offering courses for people working in and with the public health system including related health and social service areas and emergency responders. The Institute is part of the Montana Public Health System Improvement and Training Section of the Public Health System Improvement and Preparedness Bureau. The goals of the Institute are to provide training that:

- improves public health workers' knowledge and understanding of the mission and goals of the public health system in relationship to the larger community;
- increases communication and collaboration with community partners thereby reducing duplication and expanding efforts to reach target populations with services;
- increases policy makers', community leaders' and the public's awareness of the range of public health responsibilities, programs and priorities and their impact on the community;
- encourages/enables leaders to recognize emerging problems and mobilize the community into needed action ; and
- results in development of a recognized certification program that becomes the minimum competency level for employees of the Montana public health system.

The Public Health Summer Institute, co-sponsored by the Montana Department of Public Health and Human Services and the Northwest Center for Public Health Practice at the University of Washington, offers short-term, intensive educational opportunities for public health system professionals, community partners, and students.

Strategies

Public Health Strategies	Resources & Organizations	Measures & Outcomes
To increase public awareness, market the role and functions of public health in communities throughout the state.	Public Health Offices, MT DPHHS —Public Health, local governments, local businesses	Increased community support for public health (financial)
Develop partnerships between state agencies and post-secondary education institutions. Encourage development of internships/practicum sites with state agencies to encourage recruitment and retention, especially in hard to fill positions (for example, state laboratories).	MT DPHHS—Public Health, Public Health Offices, state laboratories, Montana University System, other post-secondary education systems, MT AHEC, Student Max	Decreased employee turnover, decreased time to fill positions
Explore the possibilities of part-time public health positions embedded within critical access hospitals.	Critical Access Hospitals, Public Health Offices, Montana Hospital Association	Track number of partnerships
Explore the possibilities of fitting public health within the framework of the Frontier Community Hospital Integration Project (F-CHIP) proposal.	Critical Access Hospitals, Public Health Offices, Montana Hospital Association	Inclusion in Frontier Community Integration Project plan and demonstration
Increase development and training opportunities for public health workforce (i.e. Public Health Summer Institute with U of Washington). Offer programs via distance education, online opportunities.	MT Public Health Training Institute (through DPHHS), local Public Health Offices, MT telenetworks, Montana Hospital Association	Increased numbers of continuing education opportunities, increased numbers of public health participants, increased workforce retention
Develop a process for workforce data collection of the public health workforce in order to identify current and project future needs.	DPHHS—Public Health, MT DOLI, MT Healthcare Workforce Advisory Committee	More accurate knowledge of the Public Health workforce, better staffing projections

APPENDIX

click title to view document...

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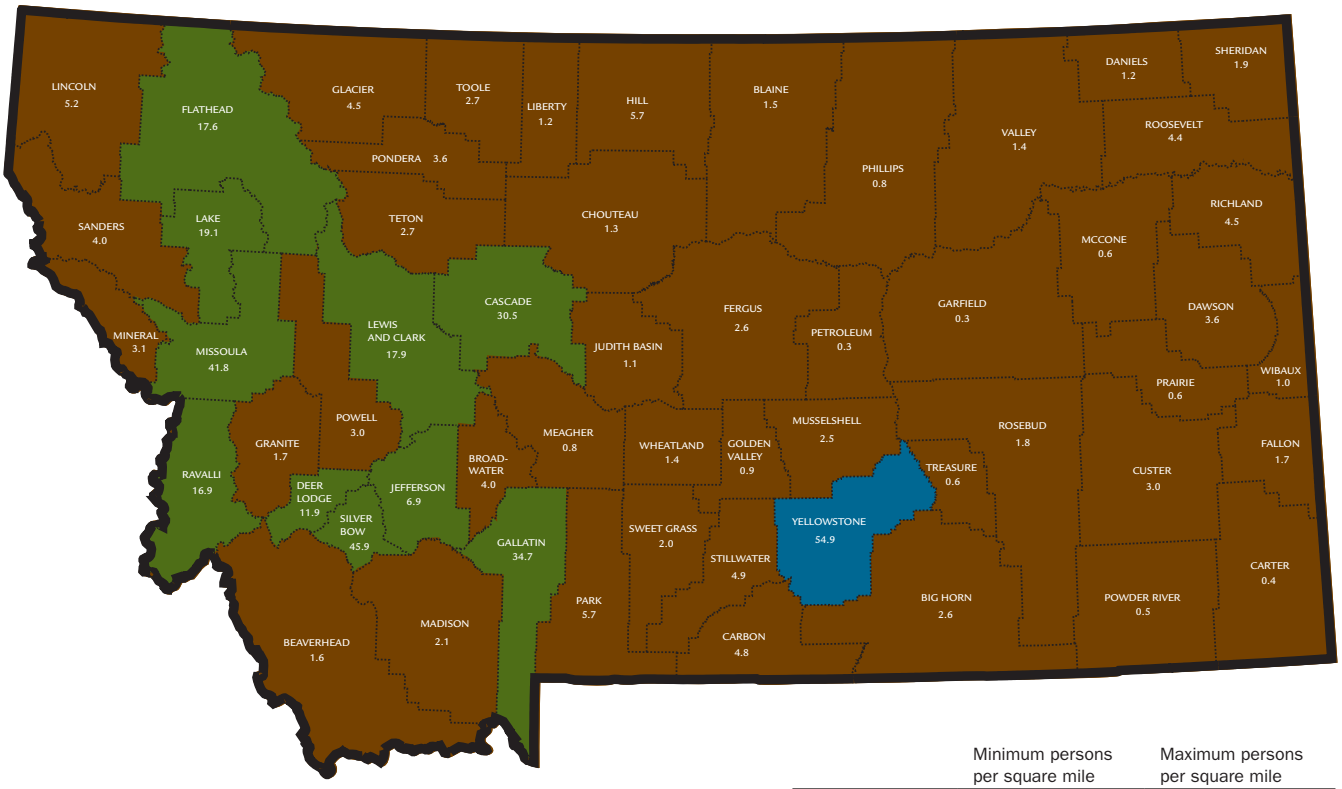
Urban, Rural and Frontier counties

MONTANA URBAN, RURAL AND FRONTIER COUNTIES

Source: Population Division, US Census Bureau, Estimates of Population – Population Density: July 1, 2009, released March 20, 2010



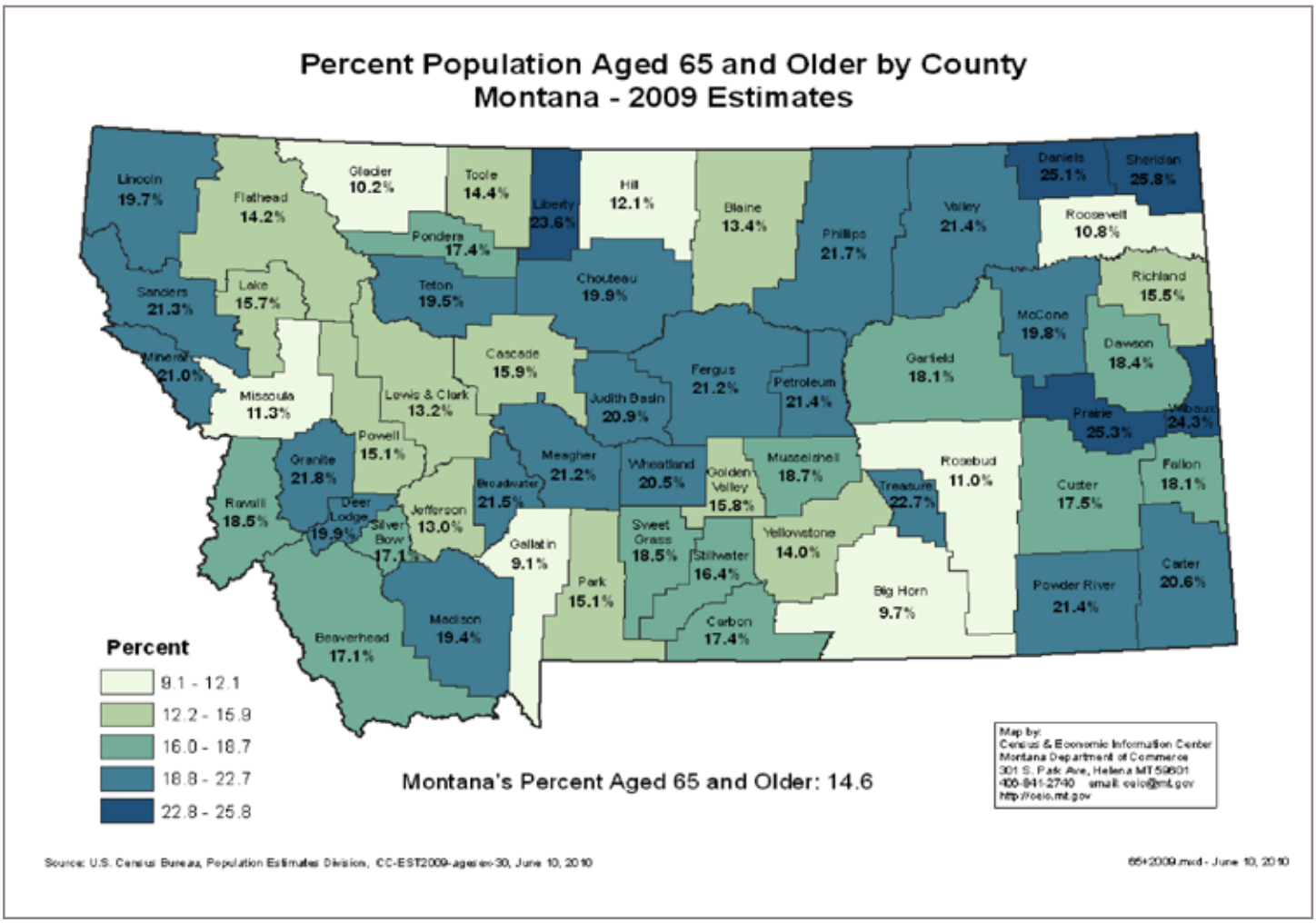
	Minimum persons per square mile	Maximum persons per square mile
Urban	more than 50	none
Rural	more than 6	fewer than 50
Frontier	none	6 or fewer

MONTANA STATE UNIVERSITY | Office of Rural Health
Area Health Education Center

For more information, please call 406-994-6002

(from US Department of Health & Human Services, Bureau of Primary Health Care)

Population 65 And Older By County, map



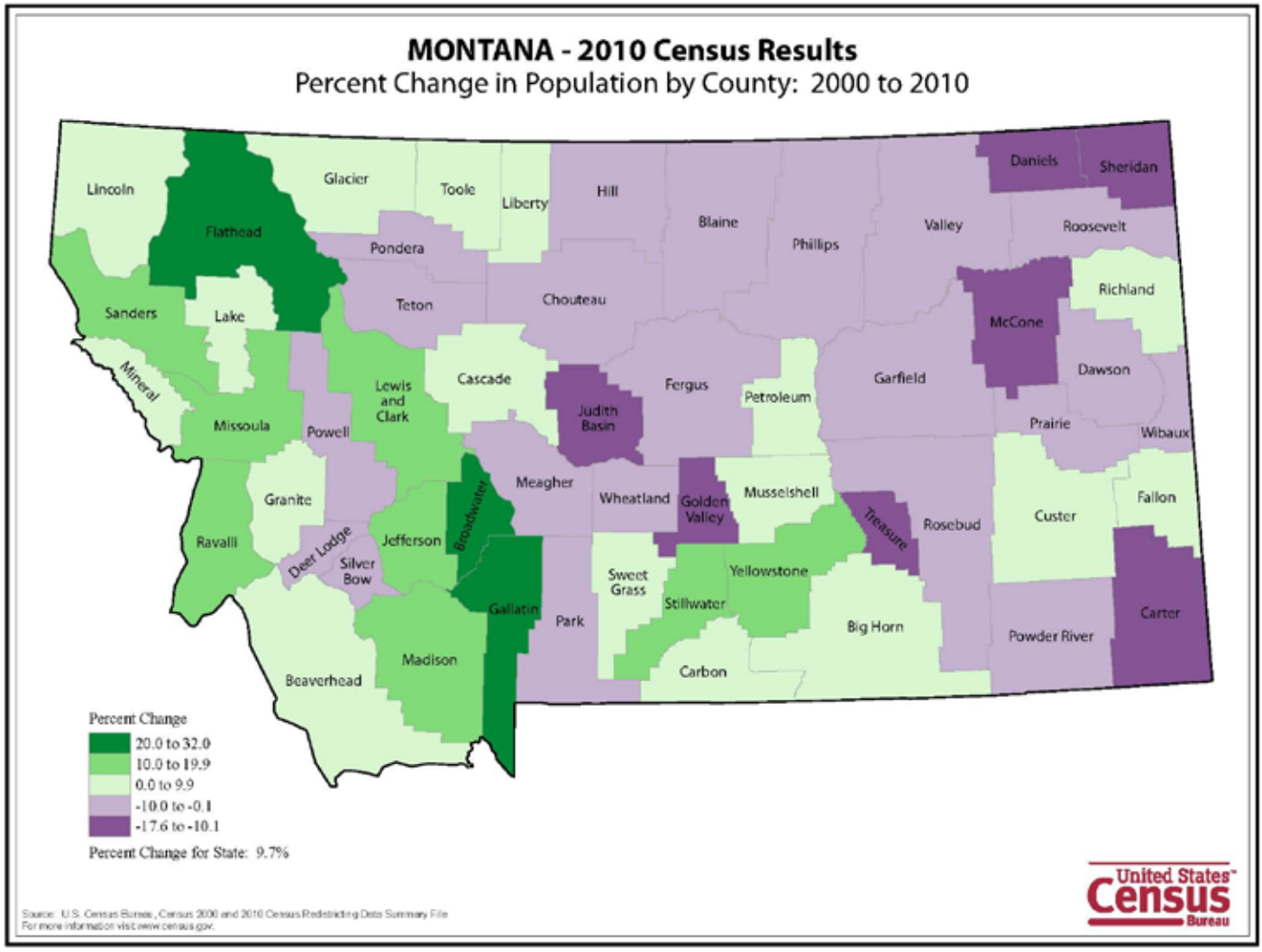
Population Over 60, Over 65 By County, table (page 1 of 2)

	% of population over 60	% of population over 65
Montana	**21.3**	**14.9**
Beaverhead County	24	17
Big Horn County	15	10
Blaine County	19.3	13.6
Broadwater County	25.7	17.8
Carbon County	27.7	18.8
Carter County	30.4	23.1
Cascade County	21.4	15.6
Chouteau County	23.7	17.4
Custer County	24.1	17.5
Daniels County	33	25
Dawson County	24.2	17.9
Deer Lodge County	26.5	19.2
Fallon County	23.2	17.4
Fergus County	29.6	21.5
Flathead County	21.2	14.5
Gallatin County	14.2	9.4
Garfield County	28.4	20.6
Glacier County	15.1	10.5
Golden Valley County	29	21.4
Granite County	33.9	24.5
Hill County	18.3	12.8
Jefferson County	22.5	14
Judith Basin County	28.4	20.7
Lake County	23.7	16.7
Lewis and Clark County	20.6	13.8
Liberty County	25.8	19.7
Lincoln County	29.3	20.5
McCone County	30.1	22
Madison County	30.4	20.9
Meagher County	31.5	22.6
Mineral County	30.6	21.9
Missoula County	17.1	11.4
Musselshell County	28	18.8
Park County	24.1	16.5
Petroleum County	28.3	20.8
Phillips County	26.9	20.2
Pondera County	24.9	18.9
Powder River County	31	22.7
Powell County	23.4	16.5
Prairie County	37.3	26.1
Ravalli County	27.4	19.3

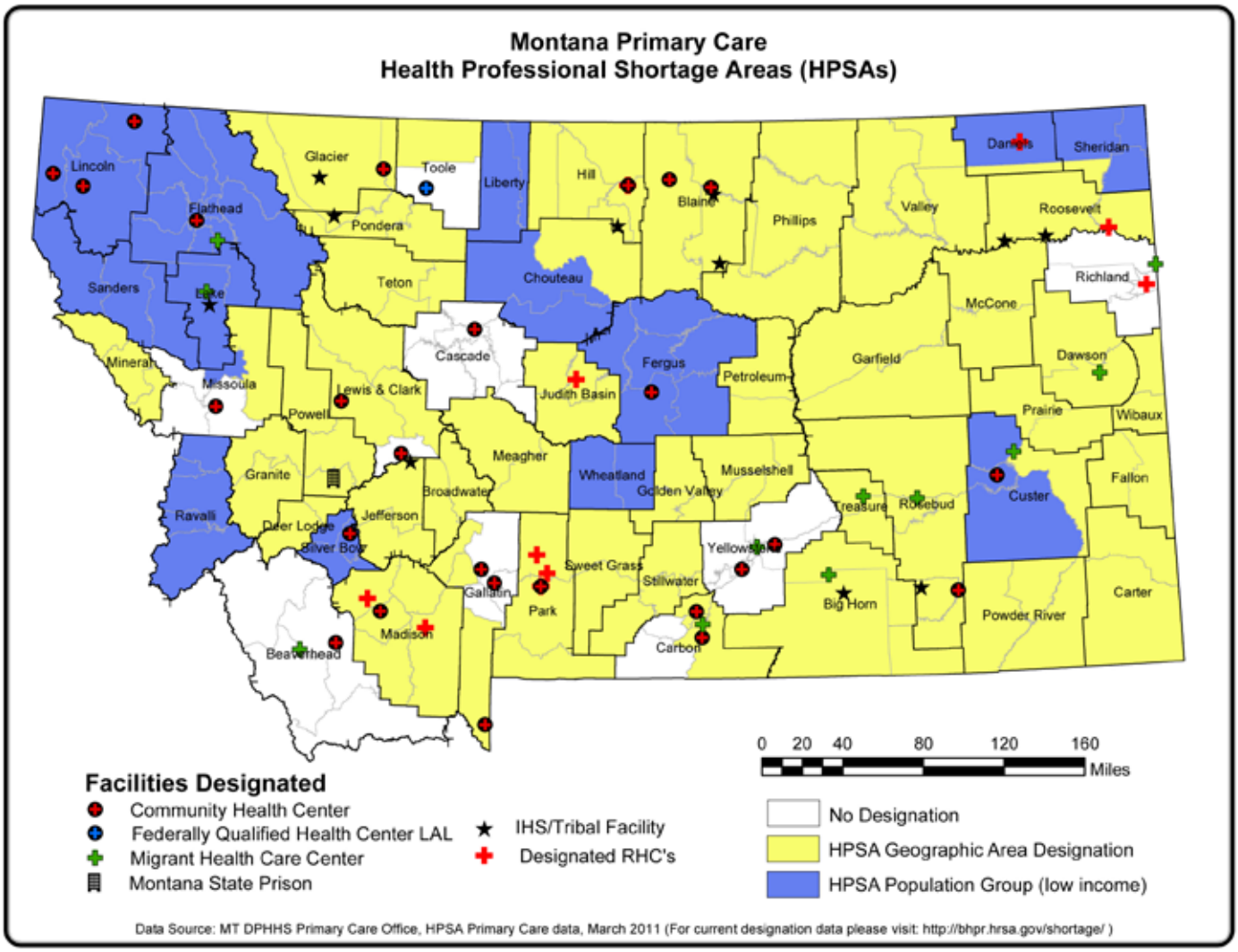
Population Over 60, Over 65 By County, table (page 2 of 2)

County	% of population over 60	% of population over 65
Richland County	21	14.8
Roosevelt County	15.3	10.8
Rosebud County	17.6	11.5
Sanders County	31.1	21.5
Sheridan County	30.3	23.1
Silver Bow County	22.4	16.4
Stillwater County	24.1	16.4
Sweet Grass County	28.1	20.6
Teton County	27.6	20.8
Toole County	19.8	13.8
Treasure County	31.3	23.8
Valley County	27.6	20.6
Wheatland County	28.2	20.7
Wibaux County	31.3	23.8
Yellowstone County	19.7	14.1

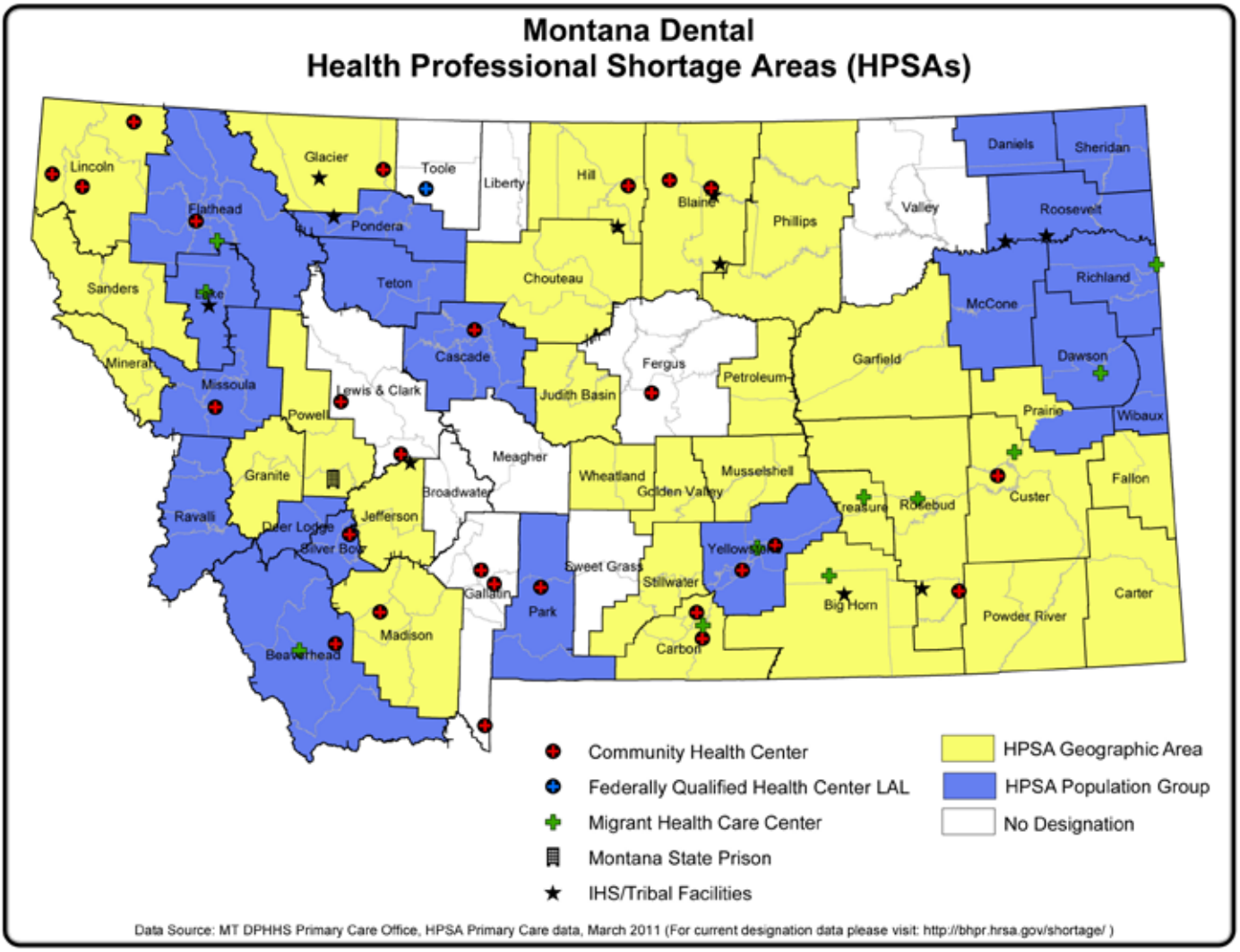
Change in Population by County, 2000 to 2010, map



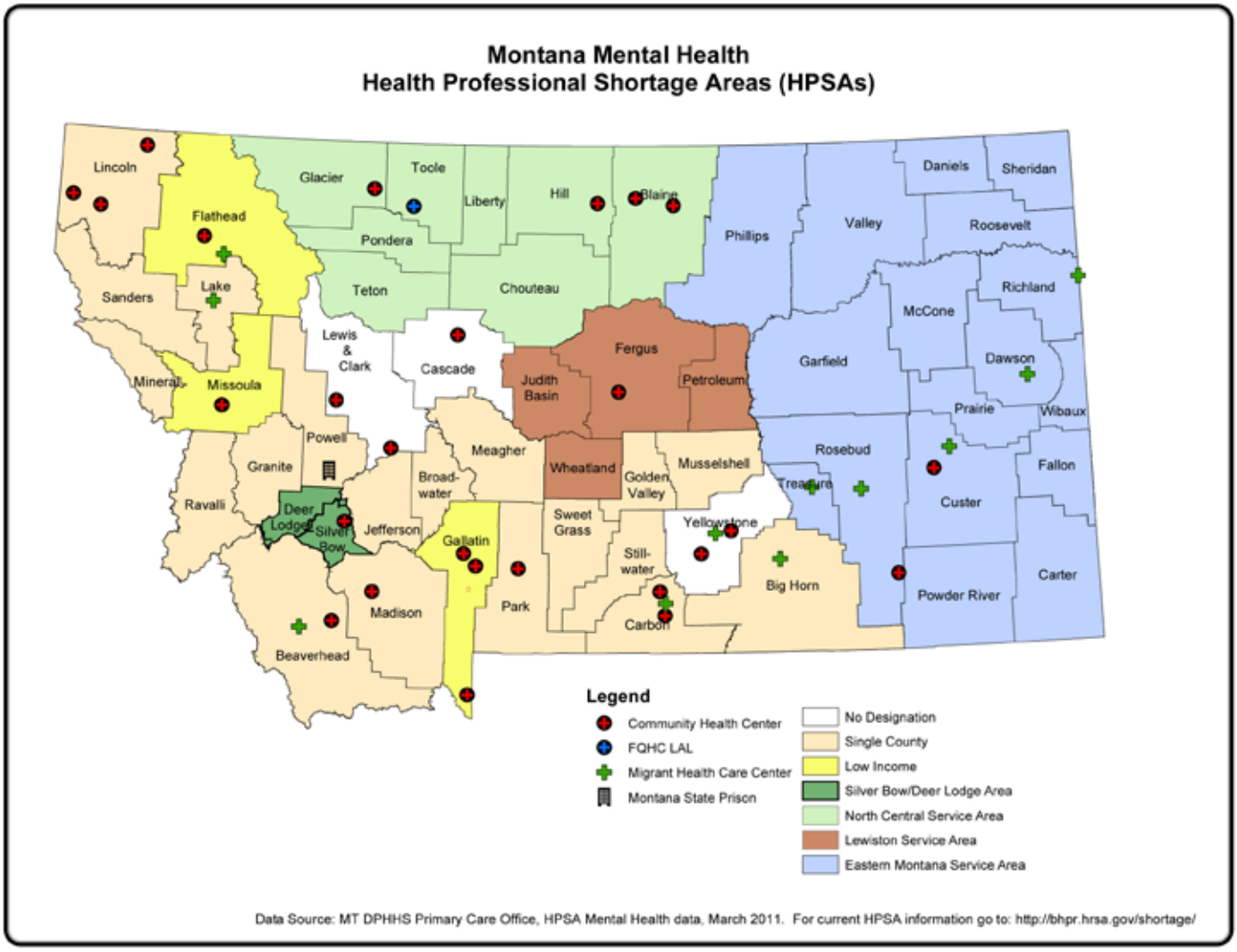
Health Professional Shortage Areas—Primary Care, map



Health Professional Shortage Areas—Dental, map



Health Professional Shortage Areas—Mental Health, map



Montana Healthcare Professionals Mean Wage 2010, table

Rank	Job Title	Number Employed	Mean Wage
1	Surgeons	120	$228,523
2	Anesthesiologists	*	$199,335
3	Pediatricians, General	60	$189,778
4	Internists, General	100	$187,781
5	Physicians and Surgeons, All Other	890	$183,942
6	Psychiatrists	90	$156,079
7	Obstetricians and Gynecologists	130	$148,693
8	Family and General Practitioners	410	$137,578
9	Podiatrists	60	$137,532
10	Dentists, General	300	$123,232
12	Pharmacists	1,060	$93,777
16	Psychologists, All Other	40	$88,469
18	Physician Assistants	340	$85,725
28	Radiation Therapists	70	$78,386
39	Medical and Health Services Managers	710	$71,959
53	Dental Hygienists	660	$66,462
60	Nuclear Medicine Technologists	40	$65,317
65	Physical Therapists	820	$64,396
77	Optometrists	90	$61,379
84	Medical Scientists, Except Epidemiologists	80	$59,082
100	Registered Nurses	8,340	$56,377
111	Health Specialties Teachers, Postsecondary	180	$55,552
112	Cardiovascular Technologists and Technicians	110	$55,523
137	Medical and Clinical Laboratory Technologists	560	$52,600
140	Dental Laboratory Technicians	*	$52,420
158	Radiologic Technologists and Technicians	690	$50,146
171	Health Diagnosing & Treating Practitioners, Other	60	$48,902
179	Respiratory Therapists	320	$47,951
197	Nursing Instructors and Teachers, Postsecondary	190	$46,244
204	Dietitians and Nutritionists	220	$45,276
227	Psychology Teachers, Postsecondary	120	$43,106
243	Medical and Public Health Social Workers	350	$41,944
265	Surgical Technologists	280	$39,918
266	Health Technologists and Technicians, All Other	240	$39,908
272	Social Workers, All Other	800	$39,478
276	Mechanical Drafters	80	$39,298
278	Healthcare Practitioners & Tech. Workers, Other	*	$39,057
287	Physical Therapist Assistants	110	$38,786
290	Emergency Management Specialists	90	$38,674
297	Occupational Therapist Assistants	40	$37,945
324	Mental Health and Substance Abuse Social Workers	410	$35,990
334	Child, Family, and School Social Workers	1,060	$35,386
341	Licensed Practical and Licensed Vocational Nurses	2,800	$34,911

Montana Healthcare Employment 2000-2010 (page 1 of 2)

Job Title	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Cardiovascular Technologists and Technicians	100	100	170		50	70	100	130	120	110	100
Child, Family, and School Social Workers	1090	1270	1270	1220	1240	720	780	820	970	1060	1,050
Chiropractors				110	110	110	150	240	230	220	190
Clinical, Counseling, and School Psychologists	210	280	330	330	340	580	440	390	380	430	440
Dental Assistants	670	870	970	1,010	1,030	800	800	900	990	1,130	1,040
Dental Hygienists	690	600	540	550	480	510	540	640	700	660	700
Dentists, General	250	210	290	300	270	390	320	280	290	300	310
Diagnostic Medical Sonographers	180	140	100	110	70	130	110	120	130	130	150
Dietitians and Nutritionists	110	120	120	140	180	140	130	150	180	220	190
Emergency Medical Technicians and Paramedics	600	660	550	520	580	580	610	630	740	800	820
Family and General Practitioners	390	390	320	290	320	420	480	370	390	410	430
Health Diagnosing and Treating Practitioners, All Other						100	140	140	70	60	70
Health Educators	160	140	120	90	210	190	220	220	270	410	310
Health Specialties Teachers, Postsecondary	220	100	70	70	90	130		210		180	120
Health Technologists and Technicians, All Other						50	70	130	210	240	320
Healthcare Practitioner and Technical Workers, All Other						50	60	60	30		90
Healthcare Support Workers, All Other					190	340	440	400	500	420	580
Home Health Aides	1,230	2,270	2,100	1,770	1,880	2,030	1,950	2,390	2,990	3,790	3,740
Internists, General	40	60	50		40	60	70	60	90	100	90
Licensed Practical and Licensed Vocational Nurses	2,350	2,420	2,350	2,210	2,590	2,790	2,740	2,750	2,780	2,800	2,920
Massage Therapists	140	150	100	50	60					110	130
Medical and Clinical Laboratory Technicians	170		440	280	360	320	270	250	250	310	330
Medical and Clinical Laboratory Technologists	630	630	660	620	550	580	580	550	550	560	570
Medical and Public Health Social Workers	320	250	240	230	220	240	340	280	330	350	
Medical Assistants	560	740	740	690	820	700	710	760	1,030	1,050	990
Medical Equipment Preparers	70	100	110	120	220	170	170	170	130	170	160
Medical Records and Health Information Technicians	580	540	530	530	610	700	780	780	820	780	850
Medical Transcriptionists	400	450	490	480	420	440	420	390	400	450	440
Mental Health and Substance Abuse Social Workers	160	260	460	350	390	310	340	440	450	410	280
Mental Health Counselors	180	150	200	170	250	280	320	330	540	510	530
Nuclear Medicine Technologists	30	30	30	40	40	40	40	50	40	40	40
Nursing Aides, Orderlies, and Attendants	4,800	4,460	4,570	5,780	5,400	5,320	4,680	4,840	5,210	5,850	6,080

Blank cells imply data was not available for a given job for the respective year
Source: BLS Occupational Employment Survey

CLICK TO RETURN TO TABLE OF CONTENTS

Montana Healthcare Employment 2000-2010 (page 2 of 2)

Job Title	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Nursing Instructors and Teachers, Postsecondary	110	110	80	80	60	100	120	170	210	190	
Obstetricians and Gynecologists		90	70					80	100	130	130
Occupational Health and Safety Specialists	70	100	140	160	110	150	190	210	230	270	270
Occupational Therapist Assistants	30	40	40	40	50	60	70	40	40	40	30
Occupational Therapists	200	220	190	210	220	230	290	300	290	260	230
Opticians, Dispensing	460	390	230	330	270	340	390	450	320	390	330
Optometrists			80		110	70	90	90	100	90	90
Pediatricians, General						80		130	100	60	80
Pharmacists	760	850	780	720	810	920	920	1,020	1,090	1,060	980
Pharmacy Aides	100	110	90	80	100	160	150	120	100	90	90
Pharmacy Technicians	380	450	490	530	650	800	730	850	880	840	810
Physical Therapist Aides	190	220	200	190	240	190	210	180	160	190	210
Physical Therapist Assistants	90	130	100	120	140	120	100	70	80	110	110
Physical Therapists	510	660	630	620	640	640	720	650	680	820	820
Physician Assistants	150	170	180	220	220	240		590	580		330
Physicians and Surgeons, All Other					160	210	290	510	790	890	870
Podiatrists				30	40	50		40		60	40
Psychiatric Aides		120			490	370	490	530	600	620	600
Psychiatric Technicians						120	120	160		100	140
Psychiatrists			30	30		40	50	50	80	90	90
Psychologists						30	40	40	30	40	40
Psychology teachers, postsecondary		50		70	70	60					140
Radiation Therapists	40	40	30		40	50	60	80	70	70	70
Radiologic Technologists and Technicians	680	670	660	690	650	730	720	730	730	690	700
Recreational Therapists	140	130	110	110	50	60	80	110	100	90	70
Registered Nurses	7,490	7,420	7,650	7,760	7,610	7,490	7,290	7,160	7,480	8,340	8,500
Rehabilitation counselors		290	340	240	310	430	440	310	250	460	400
Respiratory Therapists	320	340	290	330	330	320	290	270	290	320	360
Respiratory Therapy Technicians	70	80	120	120	60	60	60	40		40	40
Social Work Teachers, Postsecondary	70	50	40	30	50				40	30	30
Social Workers, All Other					170	160	170	560	670	800	640
Speech-Language Pathologists		270	230	280	340	280	250	250	260	250	280
Substance Abuse and Behavioral Disorder Counselors	440	380	430	370	280	290	350	460	430	490	730
Surgeons	190	200	150	220	170	120	130		110	120	130
Surgical Technologists	280	250	280	270	270	290	270	240	250	280	300

Blank cells imply data was not available for a given job for the respective year
Source: BLS Occupational Employment Survey

Montana Healthcare Employment, Growth and Location Quotients 2010 (page 1 of 2)

Job Title	2010 Employment	Avg. Annual Growth	2000-2010 Total Growth	2010 Location Quotients
Cardiovascular Technologists and Technicians	100	8.72%	0.00%	0.64
Child, Family, and School Social Workers	1,050	1.24%	-3.67%	0.84
Chiropractors	190	10.60%	72.73%	2.26
Clinical, Counseling, and School Psychologists	440	10.22%	109.52%	0.73
Dental Assistants	1,040	5.38%	55.22%	1.10
Dental Hygienists	700	0.65%	1.45%	1.23
Dentists, General	310	3.99%	24.00%	1.10
Diagnostic Medical Sonographers	150	2.60%	-16.67%	0.88
Dietitians and Nutritionists	190	6.89%	72.73%	1.11
Emergency Medical Technicians and Paramedics	820	3.59%	36.67%	1.15
Family and General Practitioners	430	2.11%	10.26%	1.37
Health Diagnosing and Treating Practitioners, All Other	70	-1.52%	-30.00%	0.70
Health Educators	310	13.80%	93.75%	1.60
Health Specialties Teachers, Postsecondary	120	0.24%	-45.45%	3.87
Health Technologists and Technicians, All Other	320	46.97%	540.00%	1.14
Healthcare Practitioner and Technical Workers, All Other	90	34.00%	80.00%	0.50
Healthcare Support Workers, All Other	580	24.39%	205.26%	0.93
Home Health Aides	3,740	14.47%	204.07%	1.19
Internists, General	90	11.68%	125.00%	0.56
Licensed Practical and Licensed Vocational Nurses	2,920	2.37%	24.26%	1.25
Massage Therapists	130	6.62%	-7.14%	0.68
Medical and Clinical Laboratory Technicians	330	14.73%	94.12%	0.66
Medical and Clinical Laboratory Technologists	570	-0.87%	-9.52%	1.08
Medical and Public Health Social Workers	350	-7.74%	9.38%	0.81
Medical Assistants	990	6.98%	76.79%	0.59
Medical Equipment Preparers	160	12.39%	128.57%	1.06
Medical Records and Health Information Technicians	850	4.17%	46.50%	1.44
Medical Transcriptionists	440	1.28%	10.00%	1.74
Mental Health and Substance Abuse Social Workers	280	10.72%	75.00%	1.37
Mental Health Counselors	530	14.01%	194.44%	1.43
Nuclear Medicine Technologists	40	3.83%	33.33%	0.58
Nursing Aides, Orderlies, and Attendants	6,080	2.91%	26.67%	1.31
Nursing Instructors and Teachers, Postsecondary	190*	-0.99%	72.73%	0.91
Obstetricians and Gynecologists	130	5.23%	44.44%	2.03
Occupational Health and Safety Specialists	270	16.64%	285.71%	1.54
Occupational Therapist Assistants	30	2.71%	0.00%	0.72
Occupational Therapists	230	2.05%	15.00%	0.34
Opticians, Dispensing	330	0.27%	-28.26%	1.66
Optometrists	90	3.85%	12.50%	1.30
Pediatricians, General	80	6.55%	0.00%	0.83

* Indicates data for 2010 is not available and 2009 data was used. Source: BLS Occupational Employment Survey
Questions, comments, or discrepencies can be emailed to wconnell@mt.gov

Montana Healthcare Employment, Growth & Location Quotients 2010 (page 2 of 2)

Job Title	2010 Employment	Avg. Annual Growth	2000-2010 Total Growth	2010 Location Quotients
Pharmacists	980	2.94%	28.95%	1.14
Pharmacy Aides	90	1.28%	-10.00%	0.57
Pharmacy Technicians	810	8.43%	113.16%	0.76
Physical Therapist Aides	210	2.16%	10.53%	1.43
Physical Therapist Assistants	110	4.89%	22.22%	0.52
Physical Therapists	820	5.45%	60.78%	1.42
Physician Assistants	330	15.16%	120.00%	1.26
Physicians and Surgeons, All Other	870	35.09%	443.75%	0.92
Podiatrists	40	7.86%	33.33%	1.34
Psychiatric Aides	600	37.53%	400.00%	2.89
Psychiatric Technicians	140	7.92%	16.67%	0.60
Psychiatrists	90	16.35%	200.00%	1.93
Psychologists	40	8.33%	33.33%	1.05
Psychology teachers, postsecondary	140	17.67%	180.00%	1.18
Radiation Therapists	70	7.42%	75.00%	1.69
Radiologic Technologists and Technicians	700	0.41%	2.94%	1.01
Recreational Therapists	70	-2.76%	-50.00%	1.05
Registered Nurses	8,500	1.35%	13.48%	1.00
Rehabilitation counselors	400	8.90%	37.93%	1.07
Respiratory Therapists	360	1.63%	12.50%	1.03
Respiratory Therapy Technicians	40	-1.90%	-42.86%	0.92
Social Work Teachers, Postsecondary	30	-5.19%	-57.14%	1.06
Social Workers, All Other	640	41.47%	276.47%	2.73
Speech-Language Pathologists	280	1.35%	3.70%	0.78
Substance Abuse and Behavioral Disorder Counselors	730	7.33%	65.91%	2.79
Surgeons	130	-1.48%	-31.58%	0.94
Surgical Technologists	300	1.04%	7.14%	1.01

* Indicates data for 2010 is not available and 2009 data was used. Source: BLS Occupational Employment Survey
Questions, comments, or discrepencies can be emailed to wconnell@mt.gov

Location Quotients (page 1 of 2)

Location quotients let us compare the number of people per employed healthcare worker in one area to the quantity in a larger area. This allows us to get a basic idea of what jobs are over or under supplied in a particular job relative the entire country. For example:

MT 2009 population= 974,989
Number of Montana medical assistants= 1,050
US 2009 population= 307,006,550
Number of US medical assistants=495,970
(MT population/MT number of medical assistants)
(US population/US number of medical assistants)
(974,989/1,050) / (307,006,550/495,970)= .67

***Location quotients over (greater than) 1 indicate there are more healthcare workers per population in Montana than in the US. Location quotients below (less than) 1 indicate there are fewer healthcare workers per population in Montana than the US.**

- **Red indicates that the job is under supplied, thus indicating the greatest recruiting need.**
- **Yellow indicates that the job is adequately supplied, thus indicating a moderate recruiting need.**
- **Green indicates that the job is over supplied, thus indicating a lower recruiting need.**

Job title	2010 LQ
Occupational Therapists	0.34
Healthcare Practitioner and Technical Workers, All Other	0.50
Physical Therapist Assistants	0.52
Internists, General	0.56
Pharmacy Aides	0.57
Nuclear Medicine Technologists	0.58
Medical Assistants	0.59
Psychiatric Technicians	0.60
Cardiovascular Technologists and Technicians	0.64
Medical and Clinical Laboratory Technicians	0.66
Massage Therapists	0.68
Health Diagnosing and Treating Practitioners, All Other	0.70
Occupational Therapist Assistants	0.72
Clinical, Counseling, and School Psychologists	0.73
Pharmacy Technicians	0.76
Speech-Language Pathologists	0.78
Medical and Public Health Social Workers	0.81
Pediatricians, General	0.83
Child, Family, and School Social Workers	0.84
Diagnostic Medical Sonographers	0.88
Nursing Instructors and Teachers, Postsecondary	0.91
Respiratory Therapy Technicians	0.92
Physicians and Surgeons, All Other	0.92
Healthcare Support Workers, All Other	0.93

Location Quotients (page 2 of 2)

Job title	2010 LQ
Surgeons	0.94
Registered Nurses	1.00
Radiologic Technologists and Technicians	1.01
Surgical Technologists	1.01
Respiratory Therapists	1.03
Recreational Therapists	1.05
Psychologists	1.05
Medical Equipment Preparers	1.06
Social Work Teachers, Postsecondary	1.06
Rehabilitation counselors	1.07
Medical and Clinical Laboratory Technologists	1.08
Dentists, General	1.10
Dental Assistants	1.10
Dietitians and Nutritionists	1.11
Health Technologists and Technicians, All Other	1.14
Pharmacists	1.14
Emergency Medical Technicians and Paramedics	1.15
Psychology teachers, postsecondary	1.18
Home Health Aides	1.19
Dental Hygienists	1.23
Licensed Practical and Licensed Vocational Nurses	1.25
Physician Assistants	1.26
Optometrists	1.30
Nursing Aides, Orderlies, and Attendants	1.31
Podiatrists	1.34
Family and General Practitioners	1.37
Mental Health and Substance Abuse Social Workers	1.37
Physical Therapists	1.42
Physical Therapist Aides	1.43
Mental Health Counselors	1.43
Medical Records and Health Information Technicians	1.44
Occupational Health and Safety Specialists	1.54
Health Educators	1.60
Opticians, Dispensing	1.66
Radiation Therapists	1.69
Medical Transcriptionists	1.74
Psychiatrists	1.93
Obstetricians and Gynecologists	2.03
Chiropractors	2.26
Social Workers, All Other	2.73
Substance Abuse and Behavioral Disorder Counselors	2.79
Psychiatric Aides	2.89
Health Specialties Teachers, Postsecondary	3.87

Montana University System Healthcare Graduates 2005-2010

Degree	2005/ 2006	2006/ 2007	2007/ 2008	2008/ 2009	2009/ 2010	Avg. Graduates
Athletic Training	0	6	17	17	11	10.2
Clinical Laboratory Science/Medical Technology/Technologist	0	5	12	9	8	6.8
Clinical/Medical Social Work	4	0	0	0	0	.8
Communication Sciences and Disorders-General	0	0	0	0	8	1.6
Dental Assistant	8	10	11	32	16	15.4
Dental Hygiene	14	13	13	11	15	13.2
Paramedic (EMT)	17	16	8	21	12	14.8
Health Information/Medical Records Administration/Administrator	32	28	35	39	28	32.4
Health Services/Allied Health/Health Sciences General	0	0	0	0	6	1.2
Health/Health Care Administration/Management	13	12	9	10	15	11.8
Licensed Practical/Vocational Nurse Training	142	170	139	135	130	143.2
Medical Administrative/Executive Assistant and Medical Secretary	21	1	7	1	3	6.6
Medical Informatics	9	9	8	6	2	6.8
Medical Insurance Coding Specialist/Coder	0	18	13	11	11	10.6
Medical Insurance Specialist/Medical Biller	4	4	7	2	9	5.2
Medical Office Assistant/Specialist	0	0	0	0	8	1.6
Medical Radiologic Technology/Science-Radiation Therapist	5	5	6	5	5	5.2
Medical Reception/Receptionist	3	8	6	16	2	7
Medical Technology/Technologist	4	0	0	0	0	.8
Medical Transcription/Transcriptionist	13	13	21	17	14	15.6
Medical/Clinical Assistant	19	25	24	25	29	24.4
Mental and Social Health Services and Allied Professions-Other	1	3	3	0	0	1.4
Nursing-Other	0	3	0	0	0	.6
Nursing/Registered Nurse (RN-ASN-BSN-MSN)	354	377	305	363	375	354.8
Occupational Health and Industrial Hygiene	27	32	24	23	9	23
Pharmaceutics and Drug Design (MS-PhD), PharmD	63	67	4	2	70	41.2
Pharmacy Technician/Assistant	13	0	11	10	32	13.2
Physical Therapist Assistant	0	0	0	17	12	5.8
Physical Therapy/Therapist	31	29	30	31	68	37.8
Public Health-General (MPH-DPH)	0	0	0	4	6	2
Radiologic Technology/Science-Radiographer	38	46	50	58	57	49.8
Rehabilitation and Therapeutic Professions-Other	15	14	14	23	37	20.6
Respiratory Care Therapy/Therapist	22	13	25	22	18	20
Substance Abuse/Addiction Counseling	8	3	2	2	8	4.6
Surgical Technology/Technologist	28	32	28	28	39	31
Vocational Rehabilitation Counseling/Counselor	0	3	3	6	0	2.4

Montana University System Healthcare Graduates Average Salary 2010

MUS Graduates (2008/2009) – Degree	Average Salary	# Employed Four Quarters
Pharmacy	$97,919	19
Health Administration	$63,056	6
Medical Technology	$49,807	2
Physical Therapy	$46,265	10
Registered Nurse	$45,810	243
Dental Hygiene	$43,012	10
Respiratory Care	$38,900	16
Health Care Informatics	$37,822	5
Paramedic (EMT)	$37,704	10
Public Health	$35,829	2
Biomedical Sciences	$34,275	2
Industrial Hygiene	$32,241	7
Rehab & Mental Health Counselor	$30,947	12
Surgical Technology	$30,819	23
Physical Therapist Assistant	$30,740	4
Radiologic Technology	$29,787	42
Practical Nurse	$27,396	81
Med Coding & Insurance Billing	$27,217	6
Medical Transcription CAS	$25,946	8
Health Information Technology	$25,913	14
Health Information Coding Spec	$23,284	6
Pharmacy Technology	$21,484	7
Medical Assisting	$21,004	13
Dental Assistant	$19,641	9
Medical Reception	$12,444	4

Primary Care Physicians By County 2010 (page 1 of 2)

County Name	County Population	Physicians Per County	FM	GP	IM	PD	Total PC	P.C. Physician: Patient Population
Beaverhead County	9,246	14	6	0	5	0	11	841
Big Horn County	12,865	16	11	0	2	1	14	919
Blaine County	6,491	4	3	0	0	1	4	1,623
Broadwater County	5,612	4	3	0	0	0	3	1,871
Carbon County	10,078	10	6	1	0	0	7	1,440
Carter County	1,160	0	0	0	0	0	0	N/A
Cascade County	81,327	228	26	2	33	15	76	1,070
Chouteau County	5,813	1	1	0	0	0	1	5,813
Custer County	11,699	24	7	0	6	3	16	731
Daniels County	1,751	1	1	0	0	0	1	1,751
Dawson County	8,966	12	3	0	2	1	6	1,494
Deer Lodge County	9,298	19	8	0	3	0	11	845
Fallon County	2,890	3	2	1	0	0	3	963
Fergus County	11,586	19	10	0	3	1	14	828
Flathead County	90,928	261	45	2	34	10	91	999
Gallatin County	89,513	224	49	0	33	12	94	952
Garfield County	1,206	0	0	0	0	0	0	N/A
Glacier County	13,399	14	12	0	0	0	12	1,117
Golden Valley County	884	0	0	0	0	0	0	N/A
Granite County	3,079	1	1	0	0	0	1	3,079
Hill County	16,096	26	6	1	4	0	11	1,463
Jefferson County	11,406	12	6	0	0	0	6	1,901
Judith Basin County	2,072	0	0	0	0	0	0	N/A
Lake County	28,746	34	20	0	1	1	22	1,307
Lewis and Clark County	63,395	183	37	0	30	8	75	845
Liberty County	2,339	3	3	0	0	0	3	780
Lincoln County	19,687	24	12	1	3	2	18	1,094
McCone County	1,734	0	0	0	0	0	0	N/A
Madison County	7,691	7	3	0	0	0	3	2,564
Meagher County	1,891	0	0	0	0	0	0	N/A
Mineral County	4,223	3	1	0	1	0	2	2,112
Missoula County	109,299	361	63	1	40	14	118	926
Musselshell County	4,538	0	0	0	0	0	0	N/A
Park County	15,636	24	10	1	3	0	14	1,117
Petroleum County	494	0	0	0	0	0	0	N/A
Phillips County	4,253	1	0	1	0	0	1	4,253
Pondera County	6,153	5	5	0	0	0	5	1,231
Powder River County	1,743	0	0	0	0	0	0	N/A
Powell County	7,027	7	6	0	0	0	6	1,171
Prairie County	1,179	1	1	0	0	0	1	1,179
Ravalli County	40,212	59	20	0	7	1	28	1,436
Richland County	9,746	14	3	0	2	1	6	1,624
Roosevelt County	10,425	4	2	0	1	0	3	3,475

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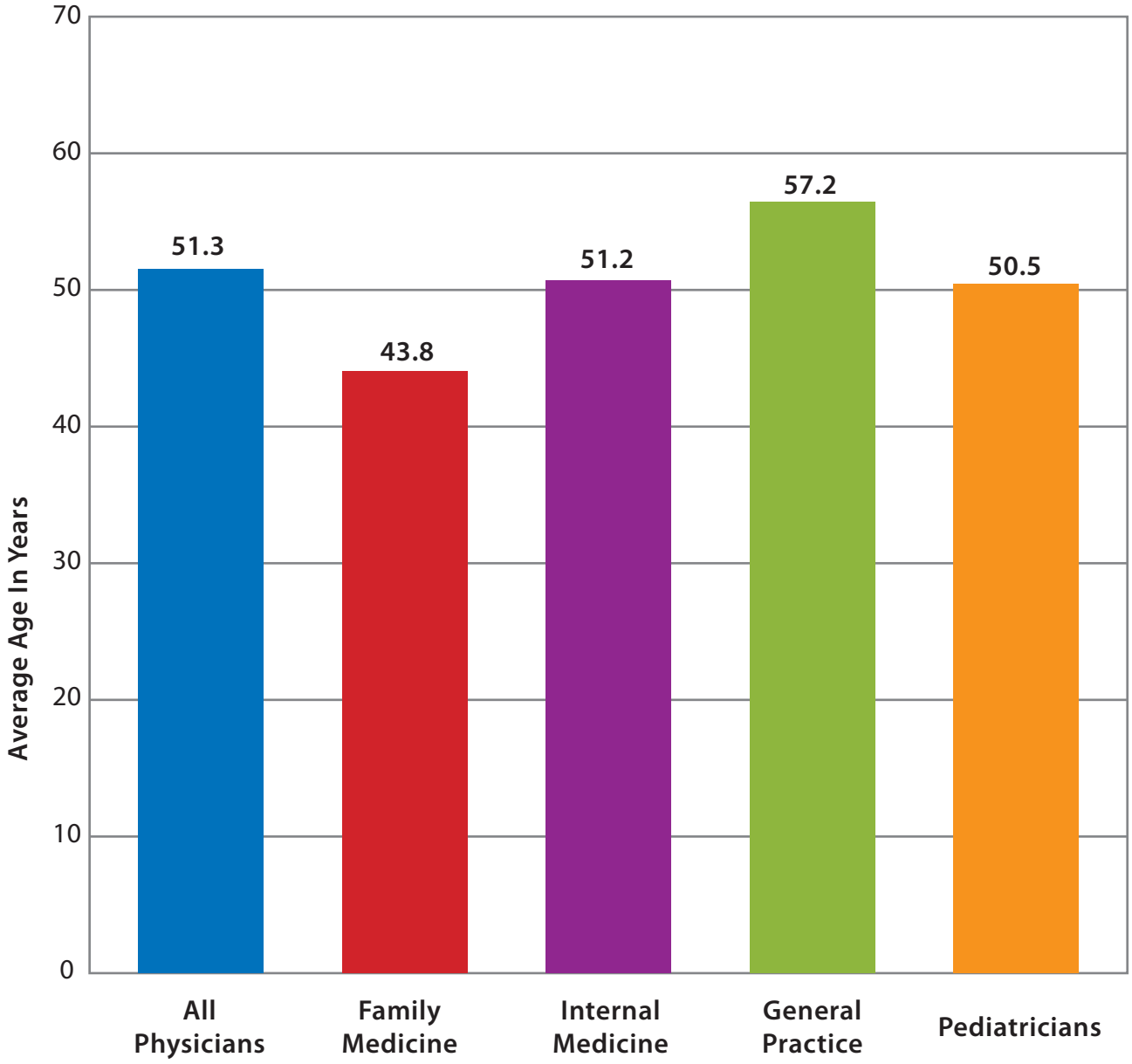
Primary Care Physicians By County 2010 (page 2 of 2)

County Name	County Population	Physicians Per County	FM	GP	IM	PD	Total PC	P.C. Physician: Patient Population
Rosebud County	9,233	5	5	0	0	0	5	1,847
Sanders County	11,413	11	6	0	1	0	7	1,630
Sheridan County	3,384	2	1	0	0	0	1	3,384
Silver Bow County	34,200	63	9	0	12	7	28	1,221
Stillwater County	9,117	3	3	0	0	0	3	3,039
Sweet Grass County	3,651	2	1	1	0	0	2	1,826
Teton County	6,073	3	2	0	0	0	2	3,037
Toole County	5,324	6	5	0	0	0	5	1,065
Treasure County	718	0	0	0	0	0	0	N/A
Valley County	7,369	9	4	0	0	0	4	1,842
Wheatland County	2,168	0	0	0	0	0	0	N/A
Wibaux County	1,017	0	0	0	0	0	0	N/A
Yellowstone County	147,972	537	80	3	67	25	175	846
Total	**989,415**	**2,264**	**508**	**15**	**293**	**103**	**919**	

Average Age of Montana Primary Care Physicians



(from Montana Medical Association, 2010)

All Physicians By Specialty 2010 (page 1 of 3)

Abbreviation	Specialty	Count
A	A * Allergy	2
AI	AI * Allergy & Immunology	6
AN	AN * Anesthesiology	145
APM	APM * Pain Management (Anesthesiology)	1
ATP	ATP * Anatomic Pathology	2
CCM	CCM * Critical Care Medicine (Internal Medicine)	1
CCP	CCP * Pediatric Critical Care Medicine	2
CCS	CCS * Surgical Critical Care (Surgery)	6
CD	CD * Cardiovascular Disease	41
CHN	CHN * Child Neurology	1
CHP	CHP * Child & Adolescent Psychiatry	14
CN	CN * Clinical Neurophysiology	1
CRS	CRS * Colon & Rectal Surgery	2
CS	CS * Cosmetic Surgery	2
D	D * Dermatology	31
DR	DR * Diagnostic Radiology	49
EM	EM * Emergency Medicine	120
END	END * Endocrinology, Diabetes & Metabolism	8
EP	EP * Epidemiology	1
Family Medicine	FM * Family Medicine	508
FOP	FOP * Forensic Pathology	1
FPG	FPG * Geriatric Medicine (Family Practice)	1
FPP	FPP * Psychiatry/Family Medicine	1
FPS	FPS * Facial Plastic Surgery	4
FSM	FSM * Sports Medicine (Family Medicine)	5
GE	GE * Gastroenterology	17
GO	GO * Gynecological Oncology	2
GP	GP * General Practice	15
GPM	GPM * Preventive Medicine	1
GS	GS * General Surgery	79
GYN	GYN * Gynecology	10
HEM	HEM * Hematology (Internal Medicine)	5
HMP	HMP * Hematology (Pathology)	3
HO	HO * Hematology/Oncology	4
HOS	HOS * Hospitalist	11
HS	HS * Hand Surgery	2
IC	IC * Interventional Cardiology	4
ICE	ICE * Clinical Cardiac Electrophysiology	2
ID	ID * Infectious Disease	9
IG	IG * Immunology	2
IM	IM * Internal Medicine	294
IMG	IMG * Geriatric Medicine (Internal Medicine)	2
MDM	MDM * Medical Management	2

All Physicians By Specialty 2010 (page 2 of 3)

Abbreviation	Specialty	Count
MFM	MFM * Maternal & Fetal Medicine	2
MG	MG * Medical Genetics	3
MM	MM * Medical Microbiology	2
N	N * Neurology	36
NEP	NEP * Nephrology	9
NM	NM * Nuclear Medicine	1
NMN	NMN * Neuromuscular Medicine	2
NPM	NPM * Neonatal-Perinatal Medicine	6
NRN	NRN * Neurology/Diag. Rad./Neuroradiology	1
NS	NS * Neurological Surgery	22
OBG	OBG * Obstetrics & Gynecology	94
OM	OM * Occupational Medicine	11
OMF	OMF * Oral & Maxillofacial Surgery	3
ON	ON * Medical Oncology	15
OP	OP * Pediatric Orthopaedics	1
OPH	OPH * Ophthalmology	56
ORS	ORS * Orthopaedic Surgery	107
OS	OS * Other Specialty, i.e., than those listed	4
OSM	OSM * Sports Medicine (Orthopaedic Surgery)	4
OSS	OSS * Orthopaedic Surgery of the Spine	1
OTO	OTO * Otolaryngology	30
OTR	OTR * Orthopaedic Trauma	1
P	P * Psychiatry	86
PAN	PAN * Pediatric Anesthesiology (Anesthesiology)	1
PCC	PCC * Pulmonary Critical Care Medicine	1
PD	PD * Pediatrics	103
PDC	PDC * Pediatric Cardiology	3
PDP	PDP * Pediatric Pulmonology	2
PDS	PDS * Pediatric Surgery (Surgery)	2
PFP	PFP * Forensic Psychiatry	1
PG	PG * Pediatric Gastroenterology	1
PHL	PHL * Phlebology	1
PHO	PHO * Pediatric Hematology/Oncology	1
PHP	PHP * Public Health & General Prev. Medicine	2
PLM	PLM * Palliative Medicine	1
PM	PM * Physical Medicine & Rehabilitation	20
PME	PME * Pain Management	1
PMM	PMM * Pain Medicine	1
PO	PO * Pediatric Ophthalmology	1
PS	PS * Plastic Surgery	12
PTH	PTH * Anatomic/Clinical Pathology	36
PUD	PUD * Pulmonary Diseases	15
PYG	PYG * Geriatric Psychiatry	2

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All Physicians By Specialty 2010 (page 3 of 3)

Abbreviation	Specialty	Count
R	R * Radiology	39
REN	REN * Reproductive Endocrinology & Infertility	1
RHU	RHU * Rheumatology	14
RNR	RNR * Neuroradiology	2
RO	RO * Radiation Oncology	17
SME	SME * Sleep Medicine	4
SO	SO * Surgical Oncology	2
TS	TS * Thoracic Surgery	13
U	U * Urology	29
UCM	UCM * Urgent Care Medicine	5
US	US * Unspecified	8
VIR	VIR * Vascular & Interventional Radiology	2
VS	VS * Vascular Surgery	3
		2262

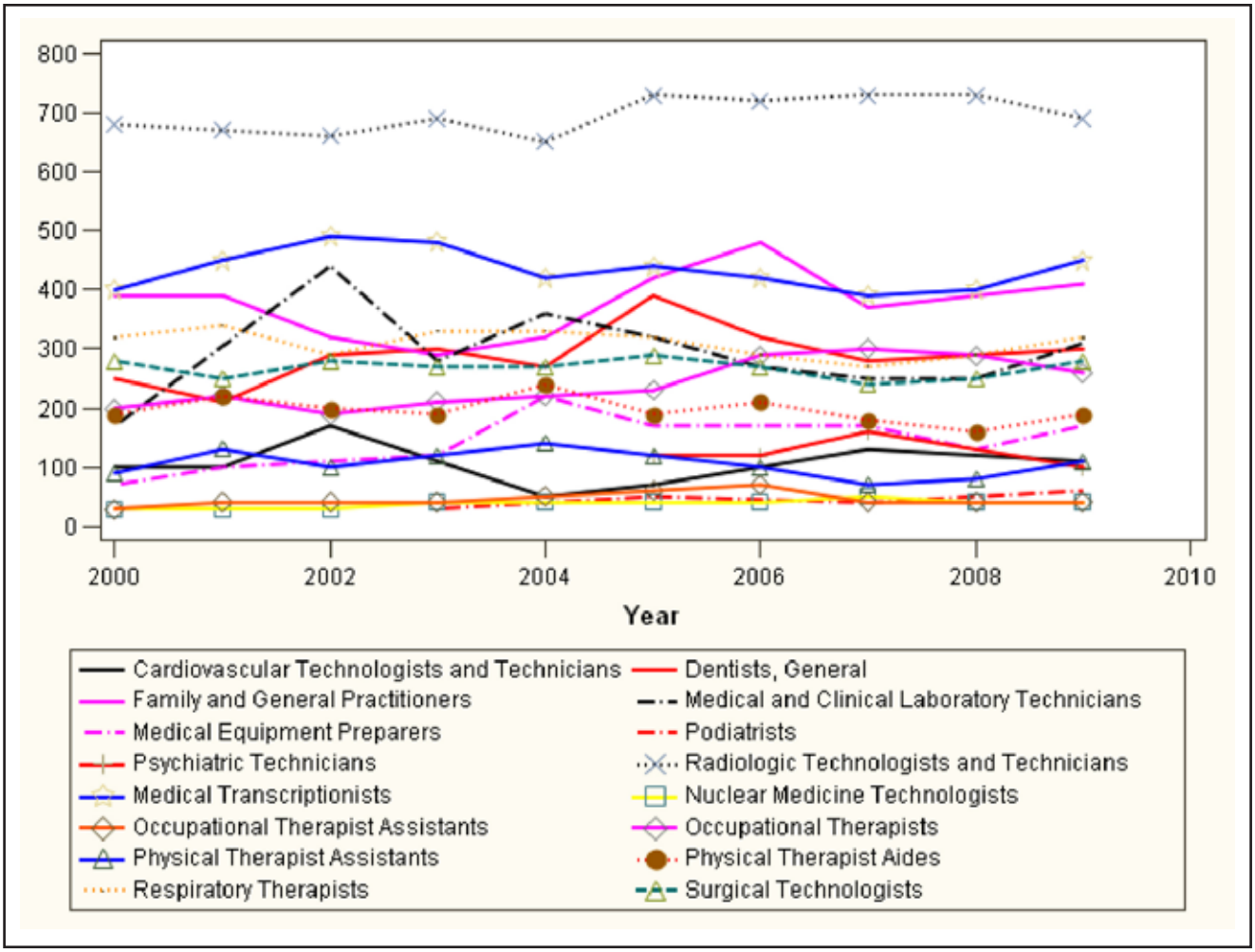
Healthcare Employment Patterns 2000-2009 (page 1 of 4)

The following information reports employment levels for nearly 50 healthcare professions using Bureau of Labor Statistics Occupational Employment survey data from 2000 to 2009. This time period (from 2000 to 2009) may not be the most ideal in recent economic history to analyze employment as we have experienced two recessions. While these conditions may present obstacles in understanding some industries which experienced steep declines in employment over the period, these features offer an opportunity to provide a deeper understanding of the growth and demand for healthcare jobs in Montana.

Stagnant To Limited Growth In Employment

This group of healthcare jobs is characterized by oscillating levels of employment between 2000 and 2009. Employment in each of these healthcare jobs was greater than or equal to 2000 levels by 2009. Medical Transcriptionists exemplify this pattern of employment beginning in 2000 with 400 jobs, peak at 490 ending with 450 jobs in 2009.

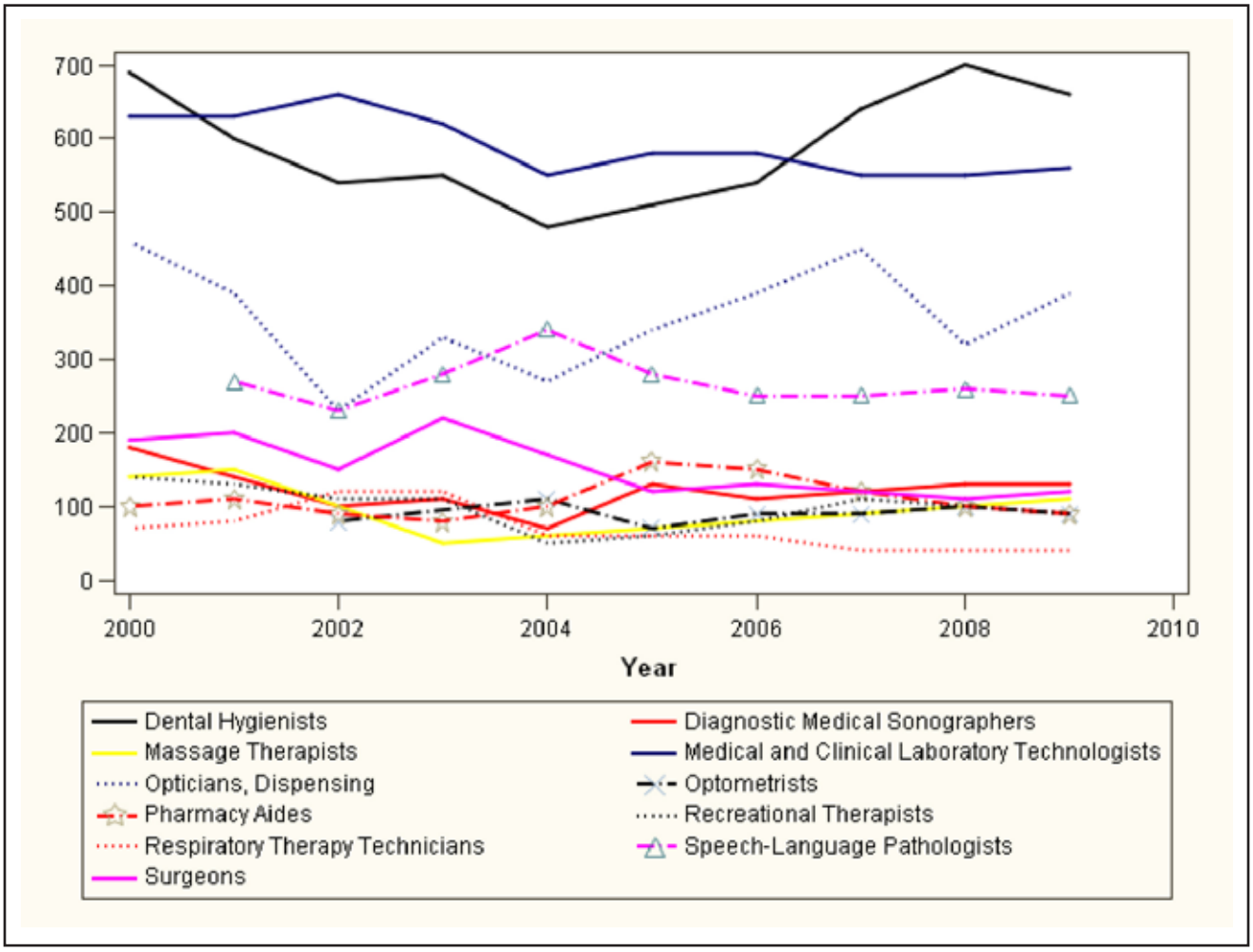
Figure 1. Stagnant to limited growth employment healthcare professions 2000-2009



Stagnant To Negative Growth In Employment

Healthcare jobs in this group may have experienced an increase in employment levels over the time period but by 2009 employment was below its initial level in 2000. Pharmacy Aides exemplifying this employment behavior well. 100 individuals were employed in this profession in 2000 with an increase in 2005 to 160 jobs, followed by a decline to 90 jobs in 2009.

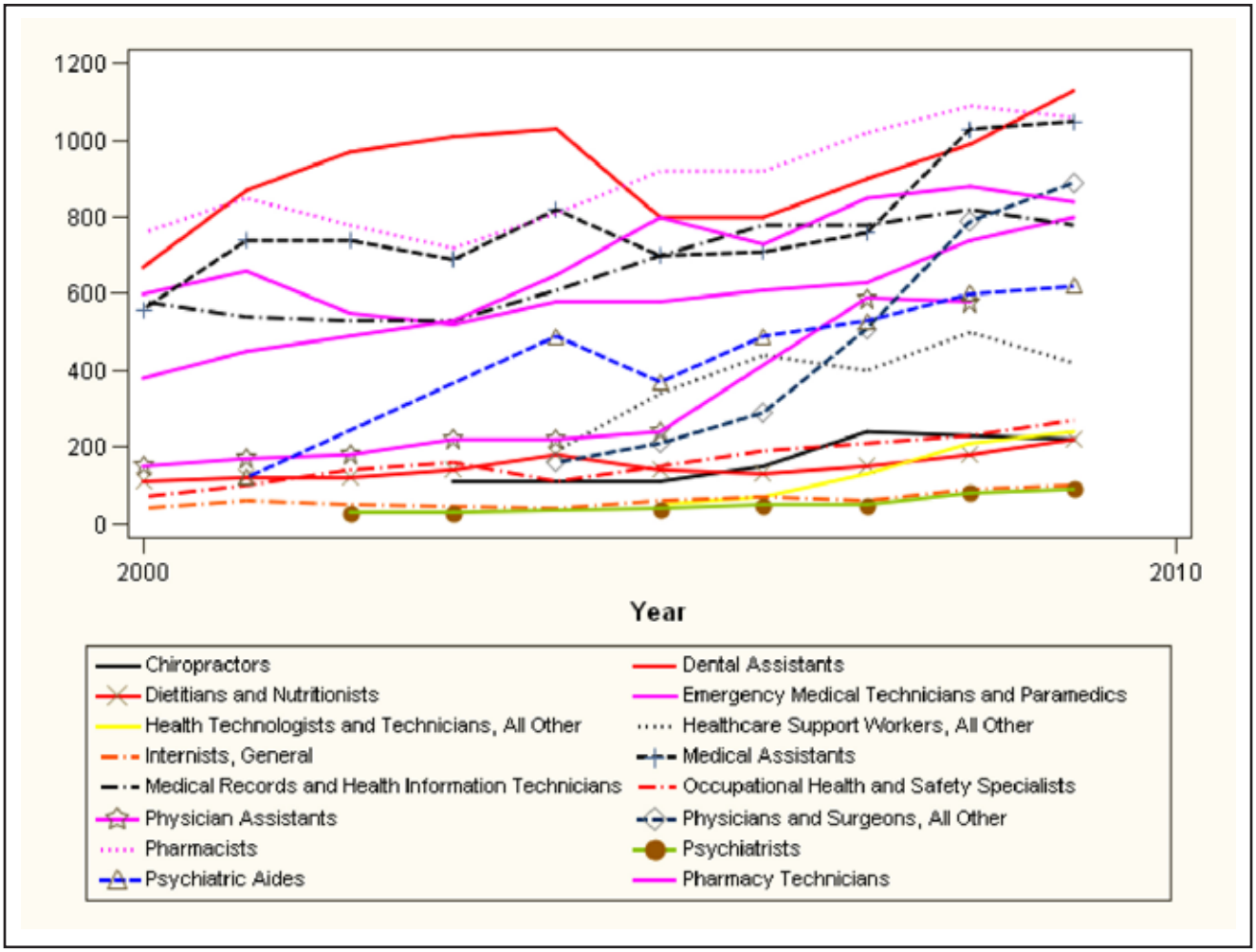
Figure 2. Stagnant and negative employment healthcare professions 2000-2009



General To Significant Growth In Employment

Employment in these healthcare fields between 2000 and 2009 experienced relatively sustained growth. Some jobs experienced small contractions, but these were more than compensated for by the end of 2009. Medical assistants illustrate this type of expansionary behavior to the fullest extent. In 2000, 560 people were employed as Medical assistants growing to 820 in 2004, followed by a dip in employment in 2005 and a strong resurgence employing 1,050 individuals in 2009.

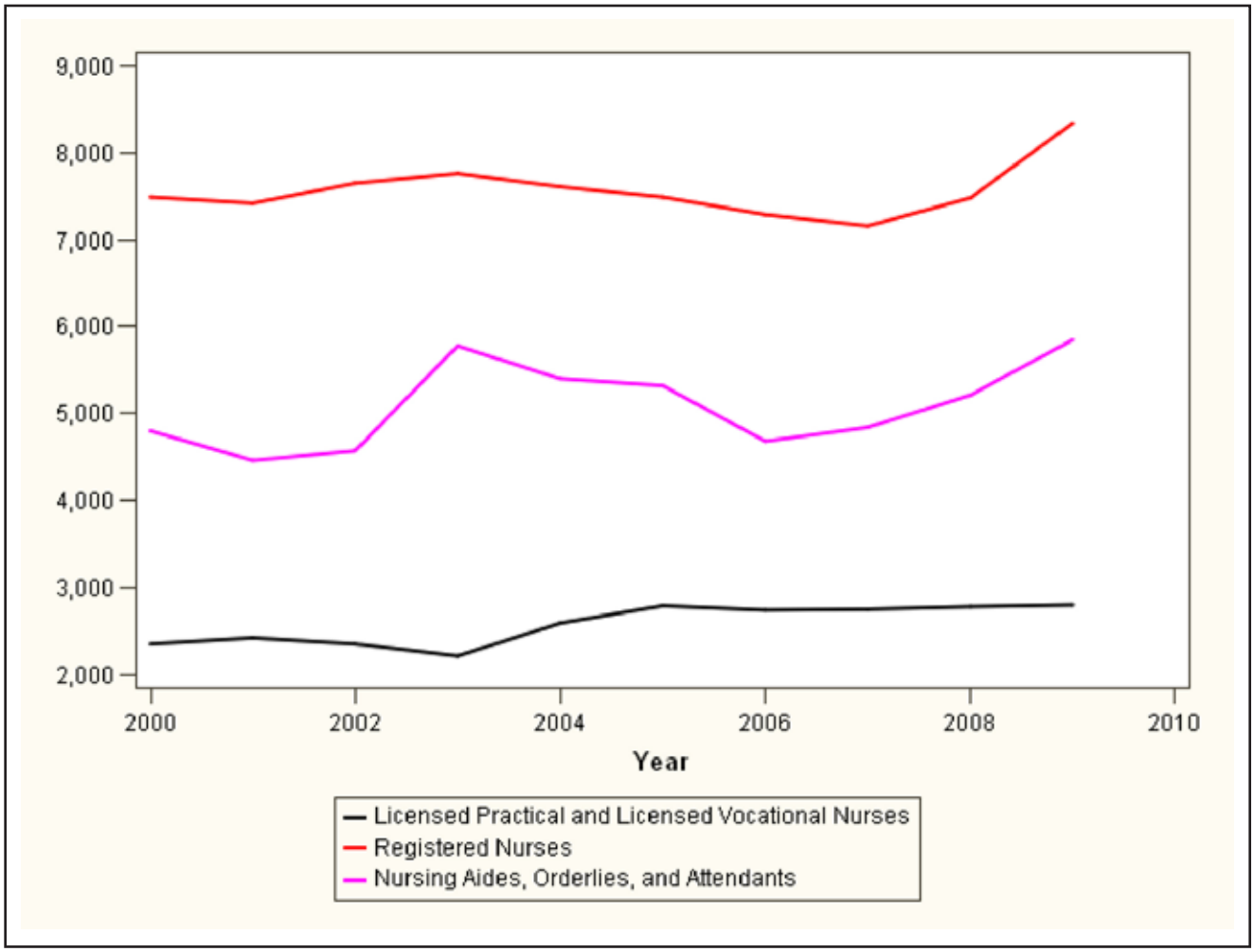
Figure 3. General growth healthcare professions 2000-2009



Too Little Data And Difficult To Quantify

Registered nurses, Licensed practical nurses and Nursing aides orderlies and attendants have not been grouped in this analysis due to their uniqueness in size and profession. However, below figure 4 depicts the change in employment over the time period considered. All three professions ended in 2009 at higher levels of employment that in 2000.

Figure 4. RNs LPNs, and Nursing Aides employment 2000-2009



Licensure

Licensure data comes from a "live" database meaning the number of say, Physician Assistants licenses on one day may not be the same as a few days later because depending on the profession, people can renew their license during either a month long window or any time of year. Therefore the number of licensees changes often.

Licensure counts by county are the number of licenses held by people that live in that county, this does not mean they work in that county. Therefore, county level licensure data can misrepresent the number employed in a particular county when individuals commute across county lines, which is fairly common, especially in the healthcare industry.

Licensure data includes all those who hold a license, not all those who are employed in their respective field. This is why licensure data for say registered nurses suggests there are 13,000-14,000 RNs licenses, when there are more like 8,000 employed in Montana.

Further complicating licensure data –as mentioned previously- is that different profesions have different renewal dates. Moreover, depending on the field, some licenses have annual renewal dates while some have biennial renewals. Similarly, some first time licenses usually can be applied for throughout the year while others must take place during a time window, usually a month or two.

Quarterly Census on Employment and Wages (QCEW)

The QCEW program gathers information on business establishment's quantity of employees, total wages within the business, and type of business monthly. The QCEW program publishes a quarterly count of employment and wages reported by employers covering 98 percent of U.S. jobs, available at the county, MSA, state and national levels by industry.

The primary source for the QCEW is the reports submitted by employers to the Montana Unemployment Insurance program. Employment data represents the number of workers on the payroll during the pay period including the 12th day of the month. Total wages include gross wages and salaries, bonuses, profit sharing, commissions, severance pay, and limited tips. Total wages are reported in quarter paid and not earned.

The biggest limitation is best described using an example. The QCEW program reports data on say a hospital in Sanders County, it shows monthly employment levels at around 200 employees and total wages in that quarter of say around $2 million but it does not depict what each of those 200 employees does specifically, all we know is that they work at the hospital. They could be surgeons, nurses, physician assistants, we do not know. On the other hand, we do know how much money in wages a hospital or any healthcare provider injects into the local economy via payroll wages which circulate the local economy i.e. input output models and multiplier effects.

Occupational Employment Statistics

The Occupational Employment Statistics (OES) program produces employment and wage estimates for over 800 occupations. These are estimates of the number of people employed in certain occupations, and estimates of the wages paid to them. Self-employed persons are not included in the estimates. These estimates are available for the nation as a whole, for individual States, and for metropolitan and nonmetropolitan areas; national occupational estimates for specific industries are also available.

Estimates often take into account national labor trends which may or may not be as appropriately applicable at the individual state level. This is one reason why they can be over or underestimated.

Montana Medical Association Physician Directory

The Montana Medical Association (MMA) physician directory compiles information on active and retired members of the MMA. This data shows a physicians first area of primary practice, business location (town and county), home location (town and county) and their birthdates.

However, anecdotal evidence has suggested that this data is not perfectly accurate either. Simply put, it appears that physicians often report being a type of primary care provider as their centered area of work but in some cases half of them actually do, while the other half often work as hospitalists or subspecialists primarily.

Montana Healthcare Provider Loan Repayment Programs (page 1 of 2)

Program	Funding Source/ match	Providers Eligible	Eligibility	Amount Available	Contact Information	Application Deadlines
National Health Service Corp. (NHSC FLRP)	Federally Funded; Federally Administered	U.S. Citizen/ National Licensed **Primary Care Providers** MD or DO (FP, IM, PED, OB-GYN), **NP, PA, CNM, Mental Health Providers -** LCSW, Psychiatric Nurse Specialist, Marriage and Family Counselor, Health Service Psychologist, Licensed Professional Counselor **Dentist, Dental Hygienist**	· Qualified Educational Loans · Federally Designated HPSA Area · Discounted Fee Schedule · Must accept Medicaid and Medicare	· $60,000 for a 2 year commitment, tax free · Additional funding available after initial 2 years (Yrs 3-4 - $35,000; Yr 5 - $25,000; Yr 6 – 20,000; 7 or more Yrs – 15,000)	**NHSC Helpline –** 1-800-221-9393 **Brenda Neubaum** HRSA Regional Office, Denver 1-303-844-7877 bneubaum@hrsa.gov **John Schroeck** Director, Primary Care Office 1-406-444-3934 jschroeck@mt.gov WEB: http://nhsc.bhpr.hrsa.gov/	Applications will be accepted continuously until funds are expended or May 31, 2012, whichever comes first.
Half-Time Loan Repayment Program	Federally Funded; Federally Administered	All disciplines eligible to apply for the traditional NHSC Loan Repayment Program are also eligible to apply for the Half-Time Loan Repay-ment Pilot Project (See Above)	· Qualified Educational Loans · Federally Designated HPSA Area · Discounted Fee Schedule · Must accept Medicaid and Medicare	$60,000 in exchange for the minimum 4-year service commitment and may be eligible for additional funding for extended service.	**NHSC Helpline –** 1-800-221-9393 **Brenda Neubaum** HRSA Regional Office, Denver 1-303-844-7877 bneubaum@hrsa.gov **John Schroeck** Director, Primary Care Office 1-406-444-3934 jschroeck@mt.gov WEB: http://nhsc.bhpr.hrsa.gov/	Applications will be accepted continuously until funds are expended or May 31, 2012, whichever comes first.
Montana State Loan Repayment	·State and Federally Funded; State Administered ·$1.00 State Match for every $1.00 Federal Fund Received (State Appropriated $75,000)	Same as NHSC FLRP except Physicians (See Above)	· Qualified Educational Loans · Montana HPSA Area · Discounted Fee Schedule · Must accept Medicaid and Medicare	· 9 professionals/yr · Up to $15,000/ yr for 2 years (2 year Service Commitment) · Must apply for NHSC FLRP first	**Lisa Benzel** Director South Central Montana AHEC 1-406-683-2790 lisa@mtha.org WEB: www.scmtahec.org	Applications will be accepted continuously until funds are expended or May 31, 2012, whichever comes first.
Montana Rural Physician Incentive Program (MRPIP)	WWAMI & WICHE Medical Student Fees; State Administered	· Qualified Medical Student Loans. · Have MD or DO Degree anD be eligible for licensure in the State of Montana · Hold full hospital privileges within broad community where practicing	· Physicians who serve rural communities or populations that are medically under served · Encouraged to apply for NHSC first	· $100,000 in total over a 5 year period (disbursed in 6 month increments) · If receiving federal funds, MRPIP will not begin until federal funds have been exhausted	**Laurie Tobol** Office/Commis-sioner of Higher Education 406-444-0322 ltobol@montana.edu WEB: http://mus.edu/Prepare/Pay/Loans/MRPIP.asp	July 1, 2011
Nurse Education Loan Repayment (NELRP)	Federally Funded; Federally Administered	· Has received baccalaureate or associate degree in nursing; · Has current permanent unrestricted license as an RN in the State of which he/she intends to practice	Full time Service (at least 32 hours) at a Critical Shortage Facility (CSF)- disproportionate care hospitals, nursing homes, health dept, FQHC, Public Health, rural health clinics, IHS facility	· 60% of loan balance paid in exchange for 2 years service commitment at a CSF · 3rd year eligibility receive an additional 25% of loan balance	**NHSC Helpline –** 1-800-221-9393 **Brenda Neubaum** HRSA Regional Office, Denver 1-303-844-7877 bneubaum@hrsa.gov **John Schroeck** Director, Primary Care Office 1-406-444-3934 jschroeck@mt.gov WEB: http://bhpr.hrsa.gov/nursing/loanrepay.htm	NELRP expects to accept new applications beginning January 2011 through February 8, 2011.

Montana Healthcare Provider Loan Repayment Programs (page 2 of 2)

Program	Funding Source/ match	Providers Eligible	Eligibility	Amount Available	Contact Information	Application Deadlines
Faculty Loan Repayment Program	· Federally Funded; Federally Administered · Receive matching funds from their employing educational institution	From disadvantaged background; degree or enrollment in approved graduate training program in Allopathic, Osteopathic, Podiatric, Veterinary Medicine; Public, Mental and Allied Health; Pharmacy, Optometry, Dentistry, Nursing (RN ONLY)	2 year employment commitment for a Full time and part time faculty position at an eligible Health Professions School	$40,000/yr (2yr service commitment)	**NHSC Helpline –** 1-800-221-9393 **Brenda Neubaum** HRSA Regional Office, Denver 1-303-844-7877 bneubaum@hrsa.gov **John Schroeck** Director, Primary Care Office 1-406-444-3934 jschroeck@mt.gov WEB: http://bhpr.hrsa.gov/dsa/flrp	Applications due May 6, 2011
IHS Loan Repayment Program And Dental Loan Repayment (IHSLRP)	Federally Funded; Federally Administered	Degree in a Health Profession and have a valid State License; Priority given to American Indians and Alaska Natives; Commissioned Corps, Civil Service and Tribal employees are also eligible	Contract to practice at an Indian Health Program Priority Site	· $24,000/yr (2 yr service commit ment) · After initial 2 years, you may request an extension for additional $24,000 per year you serve until your loans are repaid	**Indian Health Service** Loan Repayment Program 1-301-443-3396 WEB: http://www.loanrepayment.ihs.gov/	The application deadline is the Friday of the second full week of each month, from January through September 30 each award year.
Montana Institutional Nursing Incentive Program	·State and Federally Funded; State Administered	Full-time, Registered Professional Nurses employed by the Montana State Hospital or the Montana State Prison	· Registered Professional Nurse · Full-time employment at either the MT State Hospital or MT State Prison · Proof of nursing education loans	· May receive up to 50% of a nursing education loan balance between $1,000 and $30,000; · $3,750 maximum per year/ maximum of four years · Number and amount of awards dependent on availability of funds.	**Laurie Tobol** Office/ Commissioner of Higher Education 406.444.0322 ltobol@montana.edu	May 31, 2011

Montana Office of Rural Health and Area Health Education Center Healthcare Workforce Community Focus Groups

Summary of Themes and Interesting Strategies

Beginning in January and ending in April of 2011, the Montana Office of Rural Health and Area Health Education Center held 11 community focus groups to gather information from healthcare professionals, educators, and business personnel on challenges in developing and maintaining a strong healthcare workforce in Montana. Additionally, strategies for meeting these challenges were collected. Following is a list of the focus groups that were conducted.

- **Critical Access Hospitals—Administrator Meeting January 27, 2011**
- **South Central Montana AHEC – Advisory Council February 1, 2011**
- **Western Montana AHEC – Advisory Council February 9, 2011**
- **North Central Montana AHEC – Advisory Council March 8, 2011**
- **Clark Fork Valley Hospital March 17, 2011**
- **Flathead Valley Community Focus Group March 24, 2011**
- **Montana Future of Nursing Meeting March 30, 2011**
- **Montana Health Network - Board Meeting April 1, 2011**
- **Eastern Montana AHEC – Advisory Council April 5, 2011**
- **Missoula and Ravalli Counties Focus Group April 7, 2011**
- **North Central Montana AHEC Hospital CEOs April 14, 2011**

The groups were asked the following questions:

- *What do you see as the biggest healthcare workforce challenges in your part of the state?*
- *What are the health professions or jobs that are hardest to recruit or positions hardest to keep staffed in your community?*
- *What ideas or suggestions do you have for strategies to address these challenges?*

When looking across the groups, the themes and strategies that emerged fall into four categories: **1)** Strategic and Innovative Training Programs; **2)** Financial Compensation; **3)** Accurate Data on Workforce Vacancies & Capacity and Education &Training Opportunities; and, **4)** Partnerships. As is common with focus group information, there is overlap between the categories.

Strategic and Innovative Training Programs

Every focus group reported that recruiting and maintaining a strong healthcare workforce begins with a carefully planned process that makes it possible to "grow your own." Graduates are more likely to stay in their community or return if training is available in place and throughout the entire career pathway. Growing your own begins with exposing K-12 youth to health careers. This exposure must include all of the various health professions, not just physician and nursing opportunities.

Beyond K-12, career ladders that move healthcare providers from entry-level positions, such as certified nurse assistants, up through doctoral level nurses are important to have in place. This would allow for people to advance in their career progressively, which would enhance our ability to direct training and recruitment. Additionally, clinical slots need to be available at all levels of nursing, as should physician internships and residencies. Rural areas must be included in training rotations in order to attract providers to locate in these sparsely populated places. Rural sites may have fewer patients, but can provide a more well-rounded medical experience. Because there are less specialty providers in rural areas, students will learn all aspects of patient care.

Healthcare has become very complex and like a puzzle, the pieces need to fit together and work in concert. Technology, business, administration, customer service, and patient care are all vital components of our healthcare system. Problems arise if even one position goes unfilled. This complexity leads to a need for higher levels of training, and fewer entry-level jobs. Thus, strategic and innovative training programs are crucial.

The following approaches were suggested by the focus group members.

K-12:

- Distance learning is vital. Science classes that are not available in high schools can be taught at a distance (Virtual High School).
- Establish a Mentorship program in high school with someone in healthcare who follows them through their education. This would create a relationship that would encourage graduates to return to their community.
- Implement healthcare career fairs, allow students to tour healthcare facilities, create shadowing programs, and develop summer internships and employment opportunities.
- Teen Boards, a model used in the finance sector, would provide an opportunity for high school students to learn about clinical settings and become peer educators.
- Establish health science education in high school. This would be an effective way for students to have exposure to the various professions and an opportunity to determine if this career path is right for them.

Summary of Themes and Interesting Strategies

Strategic and Innovative Training Programs cont…

Postsecondary:

• Simulated patient care is very important because the patient load in rural areas limits exposure, which is required for graduation.
• Distance oversight would reduce the need for on-site preceptors. Currently clinically trained faculty must be on site with a 10 to 1 student to teacher ratio.
• Establish a 2 + 2 degree program with tribal colleges where the first two years are completed at the tribal college and the second two at the university.

Financial Compensation/Incentives

Across the groups, Montana's wages were mentioned as challenges to recruiting and retaining a strong healthcare workforce. The continual turnover in long term care facilities was cited as a big problem. Certified Nursing Assistants in particular receive little compensation for hard work, which leads to constant turnover. Additionally, replacing high-end, experienced, specialty nurses is challenging. As the demand for nurses increases, the need for higher salaries and incentive also increases. In rural areas, where there are few healthcare professionals to share on-call, or to allow for time off, the workload combined with low compensation is a deterrent. Thus, implementing incentive programs and mechanisms for adequate compensation is imperative.
The following approaches were suggested by the focus group members.

K-12:

• Identify highly motivated high school students and fund them (post-secondary) from day one in return for service after graduation. This may be a more effective strategy than offering numerous small scholarships to several students.
• Set up 529 college savings programs for high school students.

Postsecondary:

• Extended student loan repayment to nurses and allied health professionals. Student loan repayment is a great recruiting tool and it is known that trainees tend to stay located where they train.
• Increase salaries and benefits.
• Establish "cash for recruitment" programs. Pay existing staff members a bonus if they refer new hires.
• Implement "proactive FTEs" for nurses by paying those who will be retiring/or are retired to mentor students. This would allow experienced nurses to be compensated to pass along their expertise, engage in roles beyond patient care, and would likely increase cost-savings and patient satisfaction.
• Compensate preceptors with increased wages, benefits, or college credit for their additional responsibilities. This model is used in the K-12 education system.

Accurate Data (Workforce vacancies & capacity & Education &Training Opportunities)

The need for accurate workforce data was consistently cited among focus group participants. Recruiting and retention fluctuates rapidly because of economic ups and downs, which makes it difficult to plan. Accurate data on vacancies and clinical sites is essential to forecast healthcare workforce needs. Obtaining information on the number of positions available, as well as the maximum number that can be supported, is necessary to streamline training and recruitment and maximize retention. This information is needed every year or two at a minimum. To engage in successful recruiting, it is necessary to identify shortages of all healthcare positions. The focus has been on doctors and nurses, but all allied health professionals are needed. Obtaining data on employment status of Montana graduates would be beneficial for recruiting students.

Partnerships

We cannot do this in silos was a common theme across focus groups. Collaboration between healthcare facilities, education institutions, the business community, and the various professional disciplines involved is vital for sharing ideas and resources, and developing programs. Additionally, community involvement and support is crucial to recruitment. Healthcare professionals move to a community, not just to a job.

The following approaches were suggested by the focus group members.

• Focus group participants continue to meet quarterly to share information about current and planned programs, and to generate collaboration.
• Create collaborative interdisciplinary practices focused on team based care.
• Develop collaborative training programs between hospitals and local educational facilities, where hospitals offer space, some funding and practicum experience.

MHWAC Membership Organization

Name	Organization
Aaron McNay	Research and Analysis Bureau, Department of Labor and Industry, State of Montana
Amber Rogers	Monida Health
Anne Linn	Western Montana AHEC
Barry Fowler	Clark Fork Valley Hospital
Beth Ann Martin	South Central Montana AHEC
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Casey Blumenthal	MHA (an Association of Montana Health Care Providers)
Chelsea Culpon	Montana Chamber of Commerce
Cherie Taylor	Northern Rockies Medical Center
Cheryl Richard	Flathead Valley Community College
Chris Beebe	Shodair Children's Hospital
Chris Hopkins	Montana Health Network
Suzanne Christopher	Center for Native Health Partnerships, Montana State University
Natalie Claiborne	Montana Office of Rural Health/AHEC
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David Forbes	University of Montana
David Garloff	Montana State University--Billings
David Hall	College Now, Office of the Commissioner of Higher Education, Montana
Dave Morey	21st Century Workforce, Department of Labor and Industry, State of Montana
Joe Schaffer	Montana State University--Great Falls
Deb Thompson	Blue Cross Blue Shield Montana
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Dustin Monroe	Montana United Indian Association
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MHWAC Membership Organization cont...

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Focus Groups Summary- Individual Group Summaries

http://healthinfo.montana.edu/MTHWAC/Focus%20Group%20Narrative%20summaries.pdf

Montana Area Health Education Center—Environmental Scan

http://healthinfo.montana.edu/MTHWAC/EnvironmentalScan.pdf