

LEVEL II MEMORANDUM

DATE: November 29, 2017

TO: Chief Academic Officers, Montana University System

FROM: John Cech, Deputy Commissioner for Academic and Student Affairs

RE: January 2018 Level II Proposals

The campuses of the Montana University System have proposed new academic programs or changes under the Level II approval process authorized by the Montana Board of Regents. The Level II proposals are being sent to you for your review and approval. If you have concerns about a particular proposal, you should share those concerns with your colleagues at that institution and try to come to some understanding. If you cannot resolve your concerns, raise them at the Chief Academic Officer's conference call January 8. Issues not resolved at that meeting should be submitted in writing to OCHE by noon on Wednesday, January 10. If no concerns are received, OCHE will assume that the proposals have your approval.

Level II Items

Flathead Valley Community College:

- Request for authorization to establish an A.A.S. in Firearms Technologies
[Item #178-0301-R0118](#) | [Academic Request Form](#) | [Curriculum Proposal Form](#)
| [Intent to Plan](#)

Montana State University Bozeman:

- Request for authorization to establish Regional Initiative for Dental Education (RIDE) program
[Item #178-2010-R0118](#) | [Academic Request Form](#) | [Curriculum Proposal Form](#) | [Intent to Plan](#)
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January 11-12, 2018

ITEM 178-0301-R0118

Request for authorization to establish an A.A.S. in Firearms Technologies

THAT

Flathead Valley Community College requests authorization from the Montana Board of Regents to establish an associate of applied science in Firearms Technologies.

EXPLANATION

Currently, FVCC offers two CTS programs in Firearms: Firearms Technology and Firearms Finishing. The Firearms Technology CTS provides a solid foundation in theory, design, and function of firearms while the Firearms Finishing CTS is oriented toward metal finishing and work with gunstocks. The proposed Firearms Technologies AAS degree is the combination of these two CTS programs into a stackable program that will prepare students for entry-level positions in the firearms industry or provide a building block toward owning a business as a gunsmith.

ATTACHMENTS

Academic Proposal Request Form
Curriculum Proposal Form
Intent to Plan

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

ITEM 178-0301-R0118 Submission Month or Meeting: January 11-12, 2017

Institution: Flathead Valley Community College CIP Code: 47.0402

Program/Center/Institute Title: A.A.S. in Firearms Technologies

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit <http://mus.edu/che/arsa/preparingacademicproposals.asp>.

 A. Level I:

Campus Approvals

- 1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)
- 1b. Withdrawing a postsecondary educational program from moratorium**
- 2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**
- 3. Establishing a B.A.S./A.A./A.S. area of study**
- 4. Offering an existing postsecondary educational program via distance or online delivery**

OCHE Approvals

- 5. Re-titling an existing postsecondary educational program**
- 6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)
- 7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)
- 8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)
- 9. Revising a postsecondary educational program** (Curriculum Proposal Form)
- 10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

X **B. Level II:**

- X 1. **Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)
- _____ 2. **Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*
- _____ 3. **Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)
- _____ 4. **Re-titling an academic, administrative, or research unit**

Proposal Summary [360 words maximum]

What: The proposed Firearms Technologies AAS degree is the combination of two existing Firearms CTS programs into a stackable program that will prepare students for entry-level positions in the firearms industry or provide a building block toward owning a business as a gunsmith.

Why:

- Students in the existing program requested an AAS option as a way to improve their employability, as there are a large number of firearms manufacturers in the Flathead Valley.
- The Flathead Job Service regularly announces positions for gunsmiths and machinists, but is unable to fill these positions from the Flathead area.
- In 2016, Montana ranked 3rd in the nation for firearms and ammunition manufacturing jobs per capita, according to the National Shooting Sports Federation.
- Bureau of Labor Statistics data reports wage levels in Flathead County in the Small Arms Manufacturing industry are slightly above average for all industries, with 49 times the employment that would be expected in a county its size given national employment patterns.

Resources: No additional resources are needed to accommodate this program.

Relationship to similar MUS programs: There are no similar programs in the MUS.

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CURRICULUM PROPOSAL FORM

- 1. Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

Currently, FVCC offers two CTS programs in Firearms: Firearms Technology and Firearms Finishing. The Firearms Technology CTS provides a solid foundation in theory, design, and function of firearms while the Firearms Finishing CTS is oriented toward metal finishing and work with gunstocks. The proposed Firearms Technologies AAS degree is the combination of these two CTS programs into a stackable program that will prepare students for entry-level positions in the firearms industry or provide a building block toward owning a business as a gunsmith.

- 2. Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution’s mission and core themes. *[200 words]*

One of FVCC’s core themes is workforce preparation. The objectives for this core theme are to offer students specific career and technical pathways and programs aligned for timely completion, workforce training aligned with community needs, and the opportunity to develop the skills necessary to be successful in their chosen occupations or careers. The proposed program is designed to prepare students to enter the workforce as part of an emerging community need in the firearms industry. The proposed program will train students to be employable by gun manufacturers at an entry-level position or provide a building block for owning a business as a gunsmith.

- 3. Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

As the curriculum for this program was researched and vetted during development of the two existing CTS programs, the process for creating this AAS involved adding Related Instruction requirements, conferring with the existing advisory committee to review curriculum alignment, completing the institutional program review analysis, and submitting the program for approval from the campus Curriculum Committee and Board of Trustees.

- 4. Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

- a. List the program requirements using the following table.

	Credits
Credits in required courses offered by the department offering the program	44
Credits in required courses offered by other departments	17
Credits in institutional general education curriculum	10
Credits of free electives	0
Total credits required to complete the program	66

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CURRICULUM PROPOSAL FORM

- b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

Upon completion of this program, students will

- Use precision measuring tools such as micrometers, calipers, indicators, and various specialized gauges;
- Operate manual lathe machines to perform gunsmithing services or custom work;
- Diagnose and correct a variety of firearms malfunctions, thus restoring the firearm to a safe and useable condition;
- Recognize and understand the operation of various firearms systems;
- Understand firearms accuracy and the many variables that affect it;
- Demonstrate proficiency in bluing metal parts by producing finished products;
- Demonstrate how to inlet a barreled action to a semi-inlet stock blank;
- Demonstrate the techniques required to repair damaged checkering;
- Bed a synthetic stock blank to a barreled action; and
- Demonstrate how to make custom sights and scope mounts and correctly install them.

5. **Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

- Students in the existing program requested an AAS option as a way to improve their employability, as there are a large number of firearms manufacturers in the Flathead Valley. The Flathead Job Service regularly announces positions for gunsmiths and machinists, but is unable to fill these positions from the Flathead area.
- In 2016, Montana ranked 3rd in the nation for firearms and ammunition manufacturing jobs per capita, according to the National Shooting Sports Federation.
- Bureau of Labor Statistics data reports wage levels in Flathead County in the Small Arms Manufacturing industry are slightly above average for all industries, with 49 times the employment that would be expected in a county its size given national employment patterns.

6. **Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

Institution Name	Degree	Program Title
N/A		

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- a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. [200 words]

There are no similar programs offered in the Montana University System.

- b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. [200 words]

There are no similar programs offered in the Montana University System.

- 7. Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. [100 words]

The full proposed AAS program will be offered beginning fall semester 2018. The first year curriculum is currently being offered as a Firearms Technologies CTS and the second year curriculum is currently being offered as a Firearms Finishing CTS.

- a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

Fall Headcount Enrollment					Graduates				
AY 18	AY 19	AY 20	AY 21	AY 22	AY 20	AY 21	AY 22	AY 23	AY 24
5	12	15	18	20	5	7	8	10	10

- b. Describe the methodology and sources for determining the enrollment and graduation projections above. [200 words]

Enrollment projections are based on current student enrollment in existing Firearms CTS programs, local industry growth, program capacity, and marketing and recruiting plans.

- c. What is the initial capacity for the program?

The current capacity for the program is 24 students, based on the availability of lathes, mills, tooling, and bluing equipment.

- 8. Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? [150 words]

Program success will be determined by analyzing student completion rates and graduate employment data. Should those indicators determine the program is not successful, the program review process will be initiated. This process will involve convening the program advisory committee, as well as completing a comprehensive program review to analyze marketing, assessment, curriculum, scheduling, enrollment, faculty, facilities, and equipment. Changes will be implemented as a result of this process, to include placing the program in moratorium if necessary.

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- a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

All new programs are reviewed after two years through a formal, comprehensive program review process. Considerations include learning outcomes assessment, course scheduling and content, enrollment, needs, facilities, budget, and advisory committee feedback.

- b. What direct and indirect measures will be used to assess student learning? *[100 words]*

Direct measures of student learning clearly show what students are learning and will include assessments such as quizzes, lab projects, and exams. Given the hands-on nature of this particular program, student ability to utilize tools, perform specific tasks, produce a product, and adhere to safety protocols is emphasized. Indirect assessments provide signs that students are learning, but exactly what they are learning is less clear. Indirect measures will include student participation, attendance rates, surveys, and/or grades.

- c. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

Faculty report course level assessment results each semester. For each learning outcome, the level of overall student achievement is recorded, along with the method of evaluation and changes that the instructor plans to make to improve student learning in the course. Results are shared with Program Directors and the Vice President of Academic and Student Affairs. Course level assessments are discussed through program review, faculty mentoring, and professional development sessions.

Embedded Related Instruction courses are assessed to ensure that students are prepared for a productive life of work by developing skills in the areas of communication, computation, and human relations that align with and support program specific outcomes.

- d. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

FVCC has no plans to seek specialized accreditation for this program, since it is designed to meet a local workforce need.

9. Physical resources.

- a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

To accommodate the existing Firearms CTE programs, the facility has a dedicated bluing, Parkerizing, and coating facility and a spray booth used for coatings in the finishing classes. The program will share lathes, mills, buffers, sanders, and sandblasting equipment with machining program. Careful class scheduling will allow the facility to accommodate both programs, as the second year of the proposed AAS will hold classes in the evenings.

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- b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

Because the program exists in the form of two CTE programs, no additional resources will be needed.

10. Personnel resources.

- a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

Three adjunct instructors teach the existing courses. The program has the support of the Director of Trades and Industrial Arts and a shared administrative assistant. Because the program has limited capacity and already exists in the form of two CTS programs, additional impact is expected to be minimal.

- b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

No additional instructors will be needed.

11. Other resources.

- a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

The FVCC librarian has educated current Firearms Technology staff concerning available resources. She is willing to create additional resources specific to the Firearms program.

- b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

Existing student services have the capacity to accommodate the proposed program and there are no expected implications on services for the rest of the student body.

12. Revenues and expenditures. Describe the implications of the new program on the financial situation of the institution. *[100 words]*

FVCC is funded on an FTE-driven formula, so additional FTE results in additional state funding. The overall implications of this new program on the financial situation are minimal as projected FTE will support the operational and instructional costs.

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CURRICULUM PROPOSAL FORM

- a. Please complete the following table of budget projections using the corresponding information from the budget template for the first three years of operation of the new program.

	Year 1	Year 2	Year 3
Revenues	\$87,417	\$109,542	\$131,126
Expenditures	\$58,836	\$59,081	\$59,635
Net Revenue (revenues-expenditures)	\$28,582	\$50,461	\$71,491

- b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

Related Instruction requirements constitute 10 credits of the 66-credit AAS program, which will cost approximately \$6,090 in instructional costs. This cost will be covered through tuition revenue.

- i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

No state funding will be reallocated to support the proposed program.

- ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

No increase in base funding will be required to support the proposed program.

- iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

No funding will come from one-time sources.

- iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

No grant funding will support this program.

- 13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

All program courses are part of the existing CTS programs, so no new courses are needed.

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14. Complete the budget template below with the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first three fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Amounts should reconcile subsequent pages where budget explanations are provided.

Signature/Date

College or School Dean: Peter Fusaro
Peter Fusaro, Director of Trades and Industrial Arts

Chief Academic Officer: Chris Clouse 9-27-17
Chris Clouse, Vice President of Academic and Student Affairs

Chief Executive Officer: Chris Clouse for Jane Karas
Jane Karas, President 9-27-17

Flagship Provost*: N/A

Flagship President*: N/A

*Not applicable to the Community Colleges.

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CURRICULUM PROPOSAL FORM

I. PROJECTED STUDENT ENROLLMENT

	FY <u>19</u>		FY <u>20</u>		FY <u>21</u>	
	FTE	Headcount	FTE	Headcount	FTE	Headcount
Projected enrollments	12	12	15	15	18	18

II. REVENUE

	FY <u>19</u>		FY <u>20</u>		FY <u>21</u>	
	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request						
2. Institution Funds	\$39,336		\$49,170		\$59,004	
3. Federal						
4. New Tuition Revenues from Increased Enrollments	\$40,536		\$50,940		\$60,804	
5. Student Fees	\$7,545		\$9,432		\$11,318	
6. Other (i.e., Gifts)						
Total Revenue	\$87,417	\$0	\$109,542	\$0	\$131,126	\$0

*Ongoing is defined as ongoing operating budget for the program which will become part of the base.
One-time is defined as one-time funding in a fiscal year and not part of the base.*

III. EXPENDITURES

	FY <u>19</u>		FY <u>20</u>		FY <u>21</u>	
	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs						
1. FTE						
2. Faculty						
3. Adjunct Faculty	\$35,627		\$35,805		\$35,983	
4. Graduate/Undergrad Assistants						
5. Research Personnel						

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6. Directors/Administrators	<u>\$7,931</u>		<u>\$8,089</u>		<u>\$8,251</u>	
7. Administrative Support Personnel	<u>\$3,198</u>		<u>\$3,261</u>		<u>\$3,327</u>	
8. Fringe Benefits	<u>\$10,880</u>		<u>\$11,001</u>		<u>\$11,124</u>	
9. Other: _____						
Total Personnel and Costs	<u>\$57,636</u>	<u>\$0</u>	<u>\$58,156</u>	<u>\$0</u>	<u>\$58,685</u>	<u>\$0</u>

	FY <u>19</u>		FY <u>20</u>		FY <u>21</u>	
	On-going	One-time	On-going	One-time	On-going	One-time
B. Operating Expenditures						
1. Travel						
2. Professional Services						
3. Other Services						
4. Communications	<u>\$500</u>		<u>\$200</u>		<u>\$200</u>	
5. Materials and Supplies	<u>\$200</u>		<u>\$225</u>		<u>\$250</u>	
6. Rentals						
7. Materials & Goods for Manufacture & Resale						
8. Other: _____						
Total Operating Expenditures	<u>\$700</u>	<u>\$0</u>	<u>\$425</u>	<u>\$0</u>	<u>\$450</u>	<u>\$0</u>

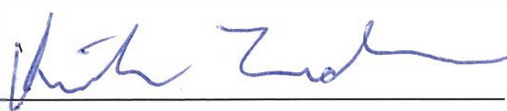
	FY _____		FY _____		FY _____	
	On-going	One-time	On-going	One-time	On-going	One-time
C. Capital Outlay						
1. Library Resources						
2. Equipment						
Total Capital Outlay	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>

FY _____ FY _____ FY _____

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	On-going	One-time	On-going	One-time	On-going	One-time
D. Capital Facilities Construction or Major Renovation	_____	_____	_____	_____	_____	_____
	FY 19		FY 20		FY 21	
	On-going	One-time	On-going	One-time	On-going	One-time
E. Other Costs	_____	_____	_____	_____	_____	_____
1. Utilities	_____	_____	_____	_____	_____	_____
2. Maintenance & Repairs	\$500	_____	\$500	_____	\$500	_____
3. Other: _____	_____	_____	_____	_____	_____	_____
Total Other Costs	\$500	\$0	\$500	\$0	\$500	\$0
TOTAL EXPENDITURES:	\$58,836	\$0	\$59,081	\$0	\$59,635	\$0
Net Income (Deficit)	\$28,582	\$0	\$50,461	\$0	\$71,491	\$0

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.



Campus Chief Financial Officer Signature

Chief Financial Officer comments:

Montana Board of Regents
CURRICULUM PROPOSAL FORM

Appendix A:

Firearms Technologies AAS

Course	Title	Credits
<i>Year One – Fall Semester</i>		
ECP 104	Workplace Safety	1
FT 100	Introduction to Firearms	1
FT 111	Firearms Theory I	3
FT 120	Bench Metal Techniques	3
FT 131	Firearms Repair I	3
MCH 132	Introduction to Engine Lathes	4
		TOTAL CREDITS 15
<i>Year One – Spring Semester</i>		
COMX 114	Introduction to Interpersonal Communication	3
FT 112	Firearms Theory II	3
FT 125	Machine Tools for the Gunsmith	4
FT 132	Firearms Repair II	3
FT 140	Precision Rifle Building	3
		TOTAL CREDITS 16
<i>Year Two – Fall Semester</i>		
FT 200	Introduction to Stock Inletting and Bedding	3
FT 201	Gun Bluing	3
FT 202	Advanced Metal Finishing	3
M 114	Extended Technical Mathematics	3
MCH 134	Introduction to Mills	4
		TOTAL CREDITS 16

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Year Two – Spring Semester

BMGT 205	Professional Business Communication	3
FT 203	Advanced Firearms Modification	3
FT 204	Pistolsmithing	3
FT 205	Checkering	3
FT 206	Synthetic Stocks	3
WLDG 136	GMAW/GTAW Welding and Certification	4
	TOTAL CREDITS	19
	Total Program Credits	66

Montana University System
INTENT TO PLAN FORM

Program/Center/Institute Title: **AAS in Firearms Technology**

Campus, School/Department: **Flathead Valley Community College**

Expected Submission Date: **11/22/17**

Contact Name/Info: **Peter Fusaro, pfusaro@fvcc.edu, (406) 756-3968**

To increase communication, collaboration, and problem solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit <http://mus.edu/che/arsa/preparingacademicproposals.asp>.

1) Provide a description of the program/center/institute.

The proposed 66-credit AAS program in Firearms Technology will provide students a foundation in theory, design, and function of firearms and prepare students for entry-level positions in the firearms industry.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).

According to the National Shooting Sports Federation, in 2016, Montana ranked 3rd in the nation for firearms and ammunition manufacturing jobs per capita. Additionally, the Flathead Valley is the largest firearms manufacturer in Montana. The proposed program will train students to be employable in the "gunsmithing" industry and by gun manufacturers. The program is also designed to be a building block for advanced manufacturing. According to the U.S. Bureau of Labor and Statistics, employment of machinists in the state of Montana is projected to increase by 44% by the year 2020. Students active in the existing firearms certificate programs have expressed interest in the development of this AAS program and the advisory committee is also supportive.

3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.

One of Flathead Valley Community College's mission-based core themes is Workforce Preparation. The objectives for this core theme are to offer students specific career and technical pathways and programs aligned for timely completion, workforce training aligned with community needs, and the opportunity to develop the skills necessary to be successful in their chosen occupations or careers. The proposed program is designed to prepare students to enter the workforce as part of an emerging community need in the firearms industry. In 2014, FVCC started a 27-credit certificate program in Firearms Technologies. In 2017, FVCC started a 29-credit certificate program in Firearms Finishing. The proposed AAS program is the combination of these two certificate programs, allowing students the opportunity to earn a more advanced degree prior to entering the workforce.

4) Describe how the program/center/institute overlaps, compliments, or duplicates existing efforts in the MUS.

There are no other programs in Firearms Technologies in the Montana University System.

Montana University System
INTENT TO PLAN FORM

Signature/Date

College/School Dean:

Pete J. Furrer

Chief Academic Officer:

[Signature]

Chief Executive Officer:

[Signature]

Flagship Provost*:

Flagship President*:

*Not applicable to the Community Colleges.

Date of Final Review:

When submitting the proposal to the BOR, include this signed form with the Level II request.

January 11-12, 2018

ITEM 178-2010-R0118

Request for authorization to establish Regional Initiative for Dental Education (RIDE) program

THAT

Request approval from the Montana Board of Regents grant authorization for Montana State University, in collaboration with the University of Washington School of Dentistry (UWSOD), to establish the Regional Initiative in Dental Education (RIDE) program in Montana.

EXPLANATION

There is a shortage and/or maldistribution of dentists in Montana. Oral healthcare is widely recognized to be an imperative in preventative medicine and chronic disease management. Recent studies have clearly demonstrated the adverse outcomes contributed to by the lack of access to oral healthcare in rural, underserved and Native American communities. Montana does not have a dental education program. In the proposed Montana RIDE program, a program patterned after University of Washington's School of Medicine WWAMI program, Montana dental students would spend their 1st year at the MSU sharing WWAMI's first year medical student curriculum and infrastructure at Bozeman Deaconess Hospital. Dental students would take their 2nd year at the Spokane RIDE campus, their 3rd year doing specialized dental clerkships at the UWSOD Seattle campus, and the 4th and final year would be spent in already established Montana rotation sites in rural, underserved and Native American communities. The proposed regional dental education program aligns well with MSU's mission to educate students, create knowledge and art, and serve communities. The program in an interdisciplinary and collaborative approach to produce well trained dentists for rural and underserved communities in Montana.

ATTACHMENTS

Academic Proposal Request Form
Curriculum Proposal Form
Intent to Plan Form
Attachment 1- First year dental program curriculum
Attachment 2 – Montana Healthcare Workforce Statewide Strategic Plan

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

ITEM 178-2010-R0118 Submission Month or Meeting: January 2018

Institution: Montana State University CIP Code: _____

Program/Center/Institute Title: Regional Initiative for Dental Education (RIDE)

Includes (please specify below): Online Offering _____ Options _____

Please mark the appropriate type of request and submit with an Item Template and any additional materials, including those listed in parentheses following the type of request. For more information pertaining to the types of requests listed below, how to complete an item request, or additional forms please visit <http://mus.edu/che/arsa/preparingacademicproposals.asp>.

 A. Level I:

Campus Approvals

- 1a. Placing a postsecondary educational program into moratorium** (Program Termination and Moratorium Form)
- 1b. Withdrawing a postsecondary educational program from moratorium**
- 2. Establishing, re-titling, terminating or revising a campus certificate of 29 credits or less**
- 3. Establishing a B.A.S./A.A./A.S. area of study**
- 4. Offering an existing postsecondary educational program via distance or online delivery**

OCHE Approvals

- 5. Re-titling an existing postsecondary educational program**
- 6. Terminating an existing postsecondary educational program** (Program Termination and Moratorium Form)
- 7. Consolidating existing postsecondary educational programs** (Curriculum Proposal Form)
- 8. Establishing a new minor where there is a major or an option in a major** (Curriculum Proposal Form)
- 9. Revising a postsecondary educational program** (Curriculum Proposal Form)
- 10. Establishing a temporary C.A.S. or A.A.S. degree program** *Approval limited to 2 years*

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

X **B. Level II:**

- X 1. **Establishing a new postsecondary educational program** (Curriculum Proposal and Completed Intent to Plan Form)
- _____ 2. **Exceeding the 120 credit maximum for baccalaureate degrees** *Exception to policy 301.11*
- _____ 3. **Forming, eliminating or consolidating an academic, administrative, or research unit** (Curriculum or Center/Institute Proposal and Completed Intent to Plan Form, except when eliminating or consolidating)
- _____ 4. **Re-titling an academic, administrative, or research unit**
- _____

Proposal Summary [360 words maximum]

WHAT

Montana regional dental education program (RIDE) program

WHY

Oral health is integral to overall health and well-being. Poor oral health is associated with tooth decay and periodontal disease, and evidence indicates poor oral health has a significant impact on other chronic diseases such as heart disease, stroke, diabetes, respiratory diseases, poor pregnancy outcomes and speech developmental delays in children. Montana faces critical access problems in oral health due to an inadequate supply and maldistribution of dental professionals, very high uninsured populations and poverty levels, and limited access to dental services to the low income, Native American and special needs populations. In 2016, 47 out of the 56 Montana counties were classified as a Dental Health Professional Shortage Area (HPSA) and most Montana dentists practiced dentistry in just 9 out of 56 counties. These problems are compounded by the lack of a professional dental education program in the state.

RESOURCES

The proposed regional dental education program is designed to utilize WWAMI's existing infrastructure and large portions of WWAMI's first year curriculum. RIDE dental students will share space leased by MSU at Bozeman Deaconess Hospital for the WWAMI program which includes classrooms, conference rooms, a study lounge, break room and an anatomy lab. The RIDE program will need a dental simulation lab and equipment and one distance learning classroom for specific dental education. Montana RIDE will be able to utilize MSU shared services including accounting, human resources and informational technology. Personnel needed specifically for the proposed program will be a full-time operations manager and several part-time positions including a dental program director (dental professional), dental faculty, dental lab technician and a shared distance learning IT specialist with WWAMI. Legislative funding will be sought during the 2019 session.

Montana Board of Regents
ACADEMIC PROPOSAL REQUEST FORM

RELATIONSHIP TO SIMILAR MUS PROGRAM

There is no dental education program in the MUS. Montana RIDE dental students will participate in dental hygiene seminars, educational programs and clinical training through collaboration with the MSU-Great Falls Dental Hygiene Program.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

- 1. Overview of the request and resulting changes.** Provide a one-paragraph description of the proposed program. Will this program be related or tied to other programs on campus? Describe any changes to existing program(s) that this program will replace or modify. *[100 words]*

Montana State University in collaboration with the University of Washington School of Dentistry's Regional Initiatives in Dental Education (RIDE) program proposes to establish a Montana regional dental school program patterned after the WWAMI Montana regional medical school's curriculum, similar to the RIDE program successfully established in 2008 in conjunction with Eastern Washington University and Spokane-WWAMI. First year RIDE dental students would utilize the existing Montana WWAMI infrastructure at MSU, then spend their 2nd year at Spokane RIDE site and 3rd year at UWSOD's main campus in Seattle in advanced clinical clerkships. Students would return to Montana during their 4th school year rotating through already established dental clinical rotations (mini-RIDE) in rural communities and Native American tribal centers. Montana RIDE would not replace or modify any existing program.

- 2. Relation to institutional strategic goals.** Describe the nature and purpose of the new program in the context of the institution's mission and core themes. *[200 words]*

The proposed Montana RIDE dental school program aligns well with MSU's overall mission to educate students, create knowledge and art, and serve communities. Learning dentistry and being able to deliver oral healthcare requires an interdisciplinary and collaborative approach between basic science and healthcare educators, oral and primary healthcare providers, and communities. Returning 4th year RIDE students would provide more than 5400 hours/year of dental care under the supervision of an attending dentist in underserved areas of Montana increasing access to oral healthcare.

Montana RIDE strongly supports MSU's strategic learning goal of preparing students to graduate equipped for rewarding careers. By spending the 1st and 4th years of dental school in Montana, Montana RIDE students will be well prepared to be excellent dentists in underserved parts of the state, including rural and Native American communities. Secondly, by collaborating with other programs within MSU, as well as other institutions within and outside of Montana, Montana RIDE fulfills MSU's engagement goal of learning across disciplines. Thirdly, this proposal also facilitates MSU's strategic engagement goal by training Montana students to be dental health practitioners, educators and community leaders in rural and tribal Montana communities.

- 3. Process leading to submission.** Briefly detail the planning, development, and approval process of the program at the institution. *[100 words]*

In the past 3 years, stakeholders have collectively met to discuss possible solutions to Montana's severe deficiencies in the oral healthcare workforce. One of these possible solutions was the institution of a Montana RIDE program. Discussions between MSU and UWSOD began in 2016 and investigation of the feasibility of this regional dental school was initiated. This proposal was submitted as part of MSU's Academic Program Planning in May 2017 and an Intent to Plan is anticipated to be approved in November 2017. The proposal has been presented, discussed and revised through feedback from MSU-Great Falls, and MSU's internal curriculum approval process, including Faculty Senate, Dean's Council and the President's Executive Council.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

4. **Program description.** Please include a complete listing of the proposed new curriculum in Appendix A of this document.

- a. List the program requirements using the following table.

	Credits
Credits in required courses offered by the department offering the program	70
Credits in required courses offered by other departments	228
Credits in institutional general education curriculum	
Credits of free electives	0
Total credits required to complete the program	298

- b. List the program learning outcomes for the proposed program. Use learner-centered statements that indicate what students will know, be able to do, and/or value or appreciate as a result of completing the program.

In the care of the child, adolescent, adult, geriatric and medically compromised patient, Montana RIDE graduates shall possess the following knowledge, skills and values:

- i. Be competent in the application of the basic principles of critical thinking and problem-solving
- ii. Have the ability to self-assess
- iii. Have an in-depth understanding of basic biological principals
- iv. Be competent in the application of the biomedical sciences to the delivery of patient care
- v. Be competent in the application of the fundamental principles of behavioral sciences
- vi. Be competent in managing a diverse patient population
- vii. Be competent in applying legal and regulatory concepts related to the provision of oral health care services
- viii. Be competent in applying the basic principles and philosophies associated with patient-centered practice management
- ix. Be competent in communicating and collaborating with other members of the health care team
- x. Be competent in the application of the principles of ethical decision making
- xi. Be competent to access, critically appraise, apply and communicate scientific and lay literature
- xii. Be competent in providing oral health care to patients in all stages of life
- xiii. Be competent in providing oral health care within the scope of general dentistry
- xiv. Be competent in assessing the treatment needs of patients with special needs

Montana Board of Regents
CURRICULUM PROPOSAL FORM

- 5. Need for the program.** To what specific student, regional, and statewide needs is the institution responding to with the proposed program? How will the proposed program meet those needs? Consider workforce, student, economic, societal, and transfer needs in your response as appropriate. *[250 words]*

Poor oral health is associated with pathologic conditions of the oral cavity itself such as tooth decay and periodontal disease. Further, evidence indicates poor oral health can have a significant impact on other health conditions including heart disease, stroke, diabetes, respiratory diseases, poor pregnancy outcomes, and speech impediments in children underscoring the critical need for adequate oral healthcare.

Data from the Health Resources and Services Administration identified 84 dental health professional shortage sites in Montana as of April 2016. Forty-seven of the 56 counties in Montana are classified as a Dental Health Professional Shortage Area (HPSA) and 11 counties in Montana have no practicing dentists. Montana has experienced a 16.9% drop in the dentist to population ratio in the past 5 years alone. Reasons for this include aging dentists and the lack of a dental school in Montana.

The American Dental Association Health Policy Institute reports student debt incurred by dental students to be up to \$500,000; tuition comprises a major part of this debt with out-of-state tuition 30-50% costlier than in-state resident tuition. High debt upon entering the workforce has an impact on practice location choices. The lack of an in-state dental school is a significant obstacle to Montana students seeking careers in dentistry, which adversely affects the availability of dentists in Montana. Out of state dental school enrollment statistics indicate Montana had a yearly average of 16 dental student enrollees from 2005-2013. Currently, support for Montana dental students is provided by the Western Interstate Commission for Higher Education which is available to only a small number of students.

- 6. Similar programs.** Use the table below to identify and describe the relationship between any similar programs within the Montana University System.

Institution Name	Degree	Program Title
		There is no dental school in the MUS system.

- a. If the proposed program substantially duplicates another program offered in the Montana University System, provide a rationale as to why any resulting duplication is a net benefit to the state and its citizens. *[200 words]*

There is no dental school in the MUS system.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

- b. Describe any efforts that were made to collaborate with similar programs at other institutions. If no efforts were made, please explain why. [200 words]

Discussions have been held between UWSOD, MSU-Bozeman and MSU-Great Falls where the Dental Hygiene training program is located. The RIDE program integrates dental hygiene seminars, educational programs and clinical training throughout the 4-year curriculum and Montana RIDE students will have these opportunities in their 1st and 4th years in Montana through collaboration with the MSU-Great Falls Dental Hygiene program.

7. **Implementation of the program.** When will the program be first offered? If implementation will occur in phases, please describe the phased implementation plans. [100 words]

The RIDE recruitment and admissions team will develop a focused strategy for Montana students during the 2018-2019 cycle. This includes partnerships with pre-dental advisors and other professional organizations at Montana’s colleges and universities, both within and outside of the MUS, and participation in recruitment events such as Montana’s Health Professions Career Fairs. Institutional expertise will be leveraged to recruit Montana students from rural or disadvantaged backgrounds and 1st generation Montana college students to deliver on recruitment strategies.

- a. Complete the following table indicating the projected enrollments in and graduates from the proposed program.

Fall Headcount Enrollment					Graduates				
AY 19	AY 20	AY 21	AY 22	AY 23	AY 24	AY 25	AY 26	AY 27	AY 28
0	8	16	24	32	8	8	8	8	8

- b. Describe the methodology and sources for determining the enrollment and graduation projections above. [200 words]

Mirroring the RIDE program at Eastern Washington University in Spokane, Washington, the proposed Montana RIDE program will enroll and graduate 8 Montana RIDE students per year from this 4-year program when it is fully subscribed. The first class in AY 2020 would enroll 8 students. The number of Montana RIDE students in the overall 4-year program will increase each year by 8 students until the total Montana RIDE student enrollment is 32 students, 8 students in each year of the 4-year dental school program.

UWSOD has a strong record of excellence in dental education, and thus, attracts quality applicants both regionally and nationally. UWSOD, especially the RIDE program with its focus on serving the rural and underserved, is highly regarded by the industry and by students from Montana universities and colleges. Consequently, UWSOD and the RIDE program regularly receive substantial numbers of applicants from Montana schools. Unfortunately, in the past, the UWSOD has been unable to accommodate all qualified Montana students of interest because of class size and out-of-state residency limitations.

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A sampling of historical UWSOD application data from AADSAS from the past 4 academic year cycles was used to develop the enrollment strategy outlined above.

- c. What is the initial capacity for the program?

Due to space limitations for subsequent years (year 2 at Spokane RIDE campus and year 3 at the UWSOD Seattle campus), the initial Montana RIDE class will consist of 8 students with a total enrollment of 32 Montana RIDE students (8 students in each year of study) by the end of the initial 4 years of the Montana program.

8. **Program assessment.** How will success of the program be determined? What action would result if this definition of success is not met? *[150 words]*

Success will be measured in several ways:

- Student academic success as defined by UWSOD and MSU
- Student's successful transition from Montana to Spokane (year 2) to Seattle (year 3) and back to Montana for rural community rotations (year 4)
- Full and successful integration with MT WWAMI in terms of schedule and student achievement
- Accreditation and successful independent assessment by the Commission on Dental Accreditation (CODA)

The RIDE program has been successfully implemented at the Spokane WWAMI site and has been very successful. The program has structured, continuous program assessment metrics and tools to identify potential adverse trends so that interventions can be implemented early to adjust curriculum, clerkships, student environment and other factors influencing student and institutional success.

- a. Describe the assessment process that will be used to evaluate how well students are achieving the intended learning outcomes of the program. When will assessment activities occur and at what frequency? *[150 words]*

In pre-clinical years (including year 1), assessment takes the form of traditional examinations and quizzes. MSU faculty would coordinate with UWSOD and UWSOM faculty to ensure equivalent assessment measures and testing schedules between Montana and Seattle. The growing use of computerized testing has facilitated this process.

Students must maintain prescribed grade averages and pass all required courses. On a curricular scale, UWSOD uses student and faculty course evaluations, as well as student composite performance. Primary external outcomes assessments include student performance on national standardized exams and via surveys of the school's alumni and patients. UWSOD internally assesses student performance through required competency assessments and student performance in courses.

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Students take national boards, part I (year 2) and part II (early year 4) on nationally prescribed dates. In their 4th year, students also take the Western Regional Examining Board (WREB) exam and must pass global competencies before graduation.

- a. What direct and indirect measures will be used to assess student learning? *[100 words]*

Direct measure assessments include student performance on national standardized exams, student performance on required competency assessments and student performance in courses. Indirect measure assessments include surveys of the school's alumni and patients.

- b. How will you ensure that the assessment findings will be used to ensure the quality of the program? *[100 words]*

At the end of each academic year, faculty and administration from both UWSOD and MSU RIDE will meet to review competency evaluation forms and other measures as previously described. The Curriculum Committee's Evaluation Group establishes and maintains the course evaluation process, evaluating and ensuring course effectiveness and evaluating student global performance.

- c. Where appropriate, describe applicable specialized accreditation and explain why you do or do not plan to seek accreditation. *[100 words]*

All US and Canadian dental education is accredited through the Commission on Dental Accreditation (CODA). As part of the UWSOD, the current RIDE program in Spokane, WA has been successfully accredited three times, including a RIDE-only special accreditation in 2012, and most recently in 2016, where RIDE received special commendation for quality.

9. Physical resources.

- a. Describe the existing facilities, equipment, space, laboratory instruments, computer(s), or other physical equipment available to support the successful implementation of the program. What will be the impact on existing programs of increased use of physical resources by the proposed program? How will the increased use be accommodated? *[200 words]*

MSU leases 12,000 square feet of space on the 2nd floor of the Highland Park 5 building at Bozeman Deaconess Hospital for the WWAMI Montana Regional Medical Program and the School of Nursing. Included in that are 5 classrooms, an anatomy lab, 2 conference rooms, a study lounge with computers, a break room and a shared office space which could accommodate the proposed extra 8 dental students. The RIDE students would take some of their classes with the WWAMI students. For the classes the dental students take separately, RIDE could potentially use one of two rooms currently leased by nursing, which have availability.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

- b. List needed facilities, equipment, space, laboratory instruments, etc., that must be obtained to support the proposed program. (Enter the costs of those physical resources into the budget sheet.) How will the need for these additional resources be met? *[150 words]*

The RIDE program will need a dental simulation lab and equipment, one distance learning classroom for dental curriculum, access for students to the student lounge, lockers and library, and office and conference room space for the RIDE program leadership, faculty and staff. With respect to the lab requirements, the RIDE program will need a lab of approximately 1200 sq. ft. This room would need to be constructed, potentially on the 2nd floor of the Highland Park 5 building. Based on the cost of construction and leasing of the WWAMI space, estimate costs would be \$215/sq.ft. for fit-out and \$16/sq.ft./year lease.

10. Personnel resources.

- a. Describe the existing instructional, support, and administrative resources available to support the successful implementation of the program. What will be the impact on existing programs of increased use of existing personnel resources by the proposed program? How will quality and productivity of existing programs be maintained? *[200 words]*

WWAMI would provide instructional resources for those parts of the curriculum when dental and medical students are together, including classes and some anatomy labs. Adding 8 dental students to the class of 30 medical students would not adversely impact the WWAMI program. WWAMI can provide access to the copier and computers in the student lounge, but RIDE would need to provide its own administrative support. Montana RIDE would be able to participate in MSU shared services including accounting, human resources and informational technology.

- b. Identify new personnel that must be hired to support the proposed program. (Enter the costs of those personnel resources into the budget sheet.) What are the anticipated sources or plans to secure the needed qualified faculty and staff? *[150 words]*

In Montana, the RIDE program will need the following positions:

- Part-time RIDE Director
- Full-time RIDE Operations Manager
- Part-time dental faculty (3-4)
- Part-time dental lab technician
- Part-time distance learning IT specialist

To engage the needed personnel, we would reach out to community dentists, current MSU WWAMI and basic science faculty, current MSU-Great Falls dental hygiene faculty, and others in the Bozeman community and beyond.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

11. Other resources.

- a. Are the available library and information resources adequate for the proposed program? If not, how will adequate resources be obtained? *[100 words]*

The existing library and information resources are adequate.

- b. Do existing student services have the capacity to accommodate the proposed program? What are the implications of the new program on services for the rest of the student body? *[150 words]*

There would only be 8 dental students on campus at any given time, which would have little impact on existing student services.

12. Revenues and expenditures. Describe the implications of the new program on the financial situation of the institution. *[100 words]*

- a. Please complete the following table of budget projections using the corresponding information from the budget template for the first three years of operation of the new program.

	Year 1	Year 2	Year 3
Revenues	\$1,586,627	\$1,745,369	\$2,190,490
Expenditures	\$1,586,627	\$1,745,369	\$2,190,490
Net Revenue (revenues-expenditures)	\$0	\$0	\$0

- b. Describe any expenses anticipated with the implementation of the new program. How will these expenses be met? *[200 words]*

Costs of implantation are essentially that listed above in year1 and includes the building of a simulation lab (\$207,000) with simulation equipment and lab supplies (\$270,000), space lease (\$45,000), setting up and equipping a dental classroom for dental courses (\$350,000) and personnel and administrative costs (\$181,044). State funding will be requested.

- i. If funding is to come from the reallocation of existing state appropriated funds, please indicate the sources of the reallocation. What impact will the reallocation of funds in support of the program have on other programs? *[150 words]*

New state funding will be requested.

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CURRICULUM PROPOSAL FORM

- ii. If an increase in base funding is required to fund the program, indicate the amount of additional base funding and the fiscal year when the institution plans to include the base funding in the department's budget.

Not applicable. This is a new program.

- iii. If the funding is to come from one-time sources such as a donation, indicate the sources of other funding. What are the institution's plans for sustaining the program when that funding ends? *[150 words]*

New state funding will be requested.

- iv. Describe the federal grant, other grant(s), special fee arrangements, or contract(s) that will be valid to fund the program. What does the institution propose to do with the program upon termination of those funds? *[150 words]*

No grant funding is planned for at this point.

- 13. Student fees.** If the proposed program intends to impose new course, class, lab, or program fees, please list the type and amount of the fee.

Standard student fees will be imposed.

- 14.** Complete the budget template below with the following information:

- Indicate all resources needed including the planned FTE enrollment, projected revenues, and estimated expenditures for the first three fiscal years of the program.
- Include reallocation of existing personnel and resources and anticipated or requested new resources.
- Amounts should reconcile subsequent pages where budget explanations are provided.

Signature/Date

Montana Board of Regents
CURRICULUM PROPOSAL FORM

College or School Dean:

Chief Academic Officer: *RLM* 11/21/17

Chief Executive Officer: *RLM* for Waded Cruzado 11/21/17

Flagship Provost*: *RLM* 11/21/17

Flagship President*: *RLM* for Waded Cruzado 11/21/17

*Not applicable to the Community Colleges.

Montana Board of Regents
CURRICULUM PROPOSAL FORM

I. PROJECTED STUDENT ENROLLMENT

	FY 20		FY 21		FY 22	
	FTE	Headcount	FTE	Headcount	FTE	Headcount
Projected enrollments	0	0	18.67	8	37.33	16

II. REVENUE

	FY 20		FY 21		FY 22	
	On-going	One-time	On-going	One-time	On-going	One-time
1. New Appropriated Funding Request	771,627	815,000	1,117,369	245,600	1,425,690	
2. Institution Funds						
3. Federal						
4. New Tuition Revenues from Increased Enrollments	0		382,400		764,800	
5. Student Fees						
6. Other (i.e., Gifts)						
Total Revenue	771,627	815,000	1,499,769	245,600	2,190,490	0

Ongoing is defined as ongoing operating budget for the program which will become part of the base.

One-time is defined as one-time funding in a fiscal year and not part of the base.

III. EXPENDITURES

	FY 20		FY 21		FY 22	
	On-going	One-time	On-going	One-time	On-going	One-time
A. Personnel Costs						
1. FTE	4.53		10.73		12.73	
2. Faculty						
3. Adjunct Faculty	354,396		731,186		846,607	
4. Graduate/Undergrad Assistants						
5. Research Personnel						

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	On-going	One-time	On-going	One-time	On-going	One-time
D. Capital Facilities Construction or Major Renovation		608,000				
	FY 20		FY 21		FY 22	
	On-going	One-time	On-going	One-time	On-going	One-time
E. Other Costs						
1. Utilities						
2. Maintenance & Repairs			7,500		12,500	
3. Other:			82,265		101,464	
Total Other Costs	0	0	89,765	0	113,964	0
TOTAL EXPENDITURES:	771,627	815,000	1,499,769	245,600	2,190,490	\$0
Net Income (Deficit)	0	0	0	0	0	0

The signature of the campus Chief Financial Officer signifies that he/she has reviewed and assessed the fiscal soundness of the proposal and provided his/her recommendations to the Chief Academic Officer as necessary.


 _____ 11/21/17
 Campus Chief Financial Officer Signature

Chief Financial Officer comments:

Appendix A – Proposed New Curriculum

Montana University System
INTENT TO PLAN FORMProgram/Center/Institute Title: **Regional Initiative for Dental Education (RIDE) Dental School**

Campus, School/Department: **Provost**

Expected Submission **Nov 2017**

Contact Name/Info: **Kathy Jutila, MD, Division of Health Sciences, MSU, 406-600-9387,
charlotte.jutila2@montana.edu**

To increase communication, collaboration, and problem solving opportunities throughout the MUS in the program/center/institute development process, please complete this form not more than 18 months in advance of the anticipated date of submission of the proposed program/center/institute to the Board of Regents for approval. The completed form should not be more than 2-3 pages. For more information regarding the Intent to Plan process, please visit .

1) Provide a description of the program/center/institute.

Montana State University in collaboration with the School of Dentistry at the University of Washington (UWSOD) proposes to establish a dental student training program addressing dental care access in Montana through the UWSOD Regional Initiatives in Dental Education (RIDE) program. The RIDE program is designed to share resources and curriculum with the UW School of Medicine WWAMI program and is designed to share resources at existing WWAMI sites. Montana RIDE students would spend their first year at MSU-Bozeman's WWAMI site and their 2nd and 3rd years at the UWSOD Seattle campus. RIDE students then return to Montana to spend their 4th year rotating through already established dental clerkships in rural private dental practices, community health centers and Native American tribal centers.

2) Describe the need for the program/center/institute. Specifically, how the program/center/institute meets current student and workforce demands. (Please cite sources).

Oral health is integral to overall health and well-being. Poor oral health is associated with tooth decay and periodontal disease, and evidence indicates poor oral health has a significant impact on other chronic diseases such as heart disease, stroke, diabetes, respiratory diseases, poor pregnancy outcomes and speech developmental delays in children. The Institute of Medicine recently reported a nationwide lack of access to dental care nationwide (<http://www.nationalacademies.org/hmd/Reports/2011/Improving-Access-to-Oral-Health-Care-for-Vulnerable-and-Underserved-Populations.aspx>) and identified populations with a high risk of dental disease and its complications including rural residents, American Indians, and older adults; all significant components of the Montana population. Montana faces critical access problems in oral health due to an inadequate supply and maldistribution of dental professionals, very high uninsured populations and poverty levels, and limited access to dental services to the low income and special needs populations. In 2016, there were 84 professional shortage sites with 47 out of the 56 counties being classified as a Dental Health Professional Shortage Area (HPSA). Eleven counties in Montana have no practicing dentists. In 2013, 80% of Montana dentists practiced dentistry in just 9 out of 56 counties (<http://healthinfo.montana.edu/Strategic%20Plan%202017.pdf>). These problems are compounded by a lack of a professional dental school in the state.

Montana University System

INTENT TO PLAN FORM

3) Describe how the program/center/institute fits with the institutional mission, strategic plan, and existing institutional program array.

Montana State Mission: The Montana RIDE program's mission aligns well with MSU's mission to educate students, create knowledge and art, and serve communities by integrating learning, discovery and engagement. Oral healthcare delivery requires an interdisciplinary and collaborative approach between basic science and healthcare educators, dental healthcare providers, primary care providers and communities.

Montana RIDE also fits well with several goals of MSU's strategic plan:

Learning Goal: MSU prepares students to graduate equipped for careers and further education. By spending the 1st year of dental school at MSU-Bozeman with the 1st year WWAMI students and rotating through existing rural Montana dental clerkships during the 4th year of dental school, Montana RIDE students will be well prepared to be excellent dentists in underserved parts of the state, including rural and Native American communities.

Engagement Goal: Members of the MSU community will be leaders, scholars and engaged citizens of their campus, local, state, national and global communities, working along-side community partners through the mutually beneficial exchange and application of knowledge and resources to improve the human prospect. In this respect, Montana RIDE students will be trained to be dental health practitioners and educators, as well as community leaders in rural and tribal Montana communities.

Integration Goal: By integrating learning, discovery and engagement, and by working across disciplines, the MSU community will improve the world. The Montana RIDE program will incorporate MSU-Great Falls Dental Hygiene school, oral healthcare education expertise found in MSU's School of Nursing, as well as community involvement and rural clerkships facilitated by AHEC/ORH to provide an interdisciplinary and innovative approach to education and placement of Montana rural dentists.

4) Describe how the program/center/institute overlaps, compliments, or duplicates existing efforts in the MUS.


Montana does not have an education program to train dentists. Currently, support for dental education is provided as part of the Western Interstate Commission for Higher Education (WICHE) program and the University of Minnesota to a limited number of students. In recent years, three new students have been provided support for dental education with subsidies just under \$25,000 yearly based on the availability of funds. The average out-of-state tuition for dental education is \$289,042, according to the American Dental Association (<http://www.ada.org/en/science-research/health-policy-institute/data-center/dental-education>). This high debt upon entering the workforce has an impact on practice locations. Montana RIDE would offer a lower cost, in-state program with numerous incentives to practice in an underserved region. The Montana RIDE program would also be in collaboration with the only dental hygiene education program in the state at MSU-Great Falls College of Technology. There are also two dental assistant programs offered in the state, one at MSU-Great Falls College of Technology and another one at Salish-Kootenai. Montana dental assistants are currently not licensed and can only provide services under the direct supervision of a licensed dentist but still are an important component of a dental healthcare practice. The RIDE model incorporates all interdisciplinary oral health programs into their educational curriculum which serves to complement, but not replace, existing programs.

Montana University System
INTENT TO PLAN FORM

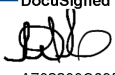
Signature/Date

College/School Dean:

Chief Academic Officer:  9/5/2017
DocuSigned by:
9EDD74A82C3A419...

Chief Executive Officer:  9/5/2017
DocuSigned by:
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Flagship Provost*:  9/5/2017
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Flagship President*:  9/5/2017
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*Not applicable to the Community Colleges.

Date of Final Review:

When submitting the proposal to the BOR, include this signed form with the Level II request.

APPENDIX AUniversity of Washington School of Dentistry Montana RIDE 1st Year Curriculum

Summer	Credits: 6	Course Title
DENTFN 500	6	Early Clinical Immersion
<hr/>		
Autumn	Credits: 21	
DENTFN 510	6	Molecular and Cellular Basis of Disease-Foundation Block 1*
DENTFN 511	5	Invaders and Defenders-Foundation Block 2*
DENTFN 512	2	Foundation of Dental Medicine
DENTFN 513	2	Oral Microbiology
DENTPC 510	3	Dental Anatomy
DENTPC 511	2	Introduction to Periodontics
DENTPC 565	1	Conversations on Dental Practice
<hr/>		
Winter	Credits: 20	
DENTFN 520	8	Cardiac, Pulmonary, and Renal Diseases-Foundation Block 3*
DENTFN 521	2	Introduction to Dental Public Health
DENTFN 522	2	Foundations of Dental Medicine 2
DENTFN 523	3	Oral Histology and Embryology 1
DENTPC 520	3	Dental Occlusion
DENTPC 523	1	Dental Materials Science 1
DENTPC 565	1	Conversations on Dental Practice
<hr/>		
Spring	Credits: 23	
DENTFN 530	3	Blood and Cancer-Foundation Block 4*
DENTFN 531	5	Energetics and Homeostasis-Foundation Block 5*
DENTFN 533	3	Oral Histology and Embryology 2
DENTPC 530	2	Introduction to Operative Dentistry
DENTPC 531	1	Introduction to Evidence-Based Dentistry
DENTPC 532	2	Oral and Maxillofacial Radiology Theory 1
DENTPC 533	1	Dental Materials Science 2
DENTPC 534	3	Introduction to Oral Pathology
DENTPC 535	2	Removable Partial Denture Design
DENTPC 565	1	Conversations on Dental Practice

*WWAMI Foundation Curriculum already in place

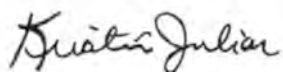
MONTANA HEALTHCARE WORKFORCE STATEWIDE STRATEGIC PLAN

LETTER OF INTRODUCTION

The Montana Healthcare Workforce Strategic Plan was developed with the expertise, input, and data from members of the Montana Healthcare Workforce Advisory Committee with staff support from the Montana Office of Rural Health/ Area Health Education Center (MORH/AHEC) and HealthCARE Montana. This document reflects the work of dozens of organizations and individuals who provided leadership on healthcare workforce issues in our state.

The Montana Healthcare Workforce Advisory Committee is a collaborative, volunteer organization. In the spring of 2006, the Montana Office of the Commissioner of Higher Education approached the MORH/AHEC, 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 is to provide guidance to the state on how to assure there is a well-trained workforce sufficient in number, breadth and quality to meet the need of all regions of the state. The 2011 Montana Healthcare Workforce Strategic Plan was developed under a State Health Care Workforce Development Grant from HRSA (Health Resources and Services Administration in the US Department of Health and Human Services). In 2016 we began to update and revise the plan. Cindra Stahl from MORH/AHEC, Amy Watson from the Montana Department of Labor, and Carol Bischoff, working with both MORH/AHEC and HealthCARE Montana, provided extensive staff support.

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 are held, as well as focus groups and profession/ sector specific workgroups. A listing of participants is 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 Sweet Grass, and Plains to Ekalaka.



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



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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, care coordination, community health workers, dental and oral health, direct care, EMS, HIT, medical laboratory science, nursing, pharmacy, physicians, and physician assistants.

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. Many of the 2011 Strategies were implemented: expanding medical education and residencies; addressing nursing workforce issues; improved workforce planning at the state and regional level; an increased focus on allied health education; expansion of pipeline programs; and engagement of Montanans in supporting healthcare workforce initiatives. The Montana Healthcare Workforce Advisory Committee has leveraged our working relationships to develop an infrastructure with long lasting results for our state.

ENGAGING MONTANANS IN UNDERSTANDING AND ADDRESSING THE STATE'S HEALTHCARE NEEDS

ENGAGE MONTANANS IN UNDERSTANDING AND ADDRESSING THE STATE'S HEALTHCARE WORKFORCE NEEDS

Strategies

A) Increase capacity to analyze the state's healthcare workforce and develop data sets to provide clear, comprehensive and actionable information about Montana's healthcare workforce.

1. Document current healthcare employment, across professions, with regional breakdowns (i.e. by county, urban/rural/frontier, AHEC or DOLI region).
2. Document current and projected shortages of key professionals, to include HPSAs and MUAs.
3. Develop supply and demand projections for healthcare workforce by profession and region.
4. Analyze capacity of postsecondary health professions and training programs.
5. Analyze capacity of rural community teaching sites (for rural clinical practicum and rotation opportunities).
6. Develop tracking methodology of students involved in healthcare professions programs. Track from high school to college to employment. Determine impact of AHEC, OPI, HOSA and other programs to employment.

B) Engage Montanans in understanding and supporting local, regional and statewide healthcare workforce efforts.

1. Prepare local, regional and state reports on the economic impact of healthcare and the healthcare workforce.
2. Annually distribute a summary report that provides clear information and strategies that can strengthen the workforce in communities, regionally, and across the entire state.
3. Through local, regional, and statewide forums, build an understanding of how Montana can support and develop the healthcare workforce.
4. Do no harm—continually improve understanding and develop support for existing programs that are educating Montana's physicians, nurses, allied health, and nonclinical professionals.
5. Create a Montana Healthcare Workforce Data Collaborative, providing a forum for public/private sector analysis of the multi-faceted data around the workforce.

C) Create and cultivate partnerships

1. Utilize the Montana Healthcare Workforce Advisory Committee to link employers, higher education, state agencies, the business community, local government and workforce training programs.
2. Utilize partnerships to target funding and grant-writing opportunities to clearly identified shortages and underserved areas:
 - a) Develop joint grant proposals
 - b) Engage in ongoing strategic planning
 - c) Evaluate the most effective strategies by region and by profession
3. Increase public awareness/outreach of the National Health Service Corps scholar and other loan repayment programs.

EDUCATING AND TRAINING

EDUCATE AND TRAIN MONTANA'S HEALTHCARE WORKFORCE

Strategies

A) Develop and support the healthcare workforce pipeline in order to “Grow Our Own.” Support our own residents to become the healthcare workforce of the future.

1. Prepare the next generation to succeed in health professions education: academics, exposure to health careers, career guidance and bridges to post-secondary education.
2. Expand health occupations programs in Montana high schools through Office of Public Instruction Health Career Pathways.
 - a) Support the state health careers program specialist to coordinate program development and implementation
 - b) Provide assistance to schools in implementing curriculum, utilizing state/ federal funding, and teacher certification
 - c) Assure local programs are approved and eligible to receive funding and resources
 - d) Provide teacher training and support with curriculum resources
 - e) Link curriculum to graduation requirements and entry into health professions programs
3. Provide academic and career exploration enrichment programs to students from rural and underserved populations through AHEC, HOSA, OPI and local health providers.
 - a) REACH camp
 - b) MedStart camp
 - c) Heads Up behavioral health camp
 - d) Pathways in Health brochure
 - e) In-A-Box Curriculum
 - f) Girls-n-Science
4. Provide credentials to high school students from health career programs and HOSA that relate to admission into post-secondary education.
5. Support expansion of dual enrollment in the MUS Allied Health core curriculum and courses that align with nursing and other health professions.
6. Support and expand existing HOSA chapters, and work to create new chapters.
 - a) Support HOSA students to participate in state and national events
 - b) Link local healthcare organizations to HOSA programs in the community
 - c) Increase post-secondary understanding of HOSA
 - d) Support the state HOSA Director to coordinate HOSA throughout the state
7. Target outreach for health career programs and HOSA to Class C and Tribal high schools with the goal of better preparing those students for college level academics and experience.
 - a) Teacher recruitment and training
 - b) Specific curriculum materials ideally suited to small schools
 - c) Distance education delivery for small cohort of students (i.e. the Digital Academy) and dual enrollment classes
 - d) Financial support for travel and other expenses to allow students to participate in regional and national events

EDUCATING AND TRAINING

B) Support post-secondary health profession programs through adequate funding, faculty development, clinical sites, classroom resources, partnerships with healthcare organizations and state agencies, and outreach to rural and underserved areas.

1. Provide the state with comprehensive information.
 - a) Health professions and career training program enrollments, graduates and employment in Montana
 - b) Document the economic impact and value of health professions and training to Montana communities, regions and the entire state
 - c) Document the value of clinical education provided by health organizations in Montana
2. Provide training and education in frontier/rural and underserved communities through clinical rotations, distance education, cohorts and onsite programs.
3. Initiate clinical rotations tracking (in association with HealthCARE MT and Allied Health Network) to inventory existing clinical education and coordinate new clinical training opportunities in rural and underserved settings.
4. Post opportunities for rural/underserved clinical rotations/training; match educational program clinical needs to rural/underserved locations.
5. Provide onsite and distance education programs to provide health professionals with training to serve as faculty.
6. Support rotations of high demand professions (dental, pharmacy, physical therapy, clinical psychology, speech pathology, etc.) in rural and underserved areas.
7. Support opportunities for nursing students in rural settings (e.g. Rural Nurse Residency program, clinical rotations, distance education, cohort programs).
8. Provide onsite training for place bound residents via cohorts or distance ed.:
 - a) Degree programs
 - b) Graduate education
 - c) Incumbent workers
 - d) Certificate programs
 - e) Apprenticeships
9. Link 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.



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January 2018



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RECRUIT HEALTH PROFESSIONALS

RECRUIT HEALTH PROFESSIONALS TO MONTANA'S HEALTH PROFESSIONS SHORTAGE AREAS Strategies

A) Develop a “culture of learning” in rural/frontier healthcare communities.

1. Encourage leadership to embrace and institutionalize a learning/teaching environment in their facilities. Recognize and acknowledge that student opportunities “raise the bar” for all professionals and encourages everyone to maintain a higher level of performance.
2. Support clinical mentors/preceptors with learning opportunities, i.e. WWAMI Faculty Training, on-line preceptor course developed through APIN, tool-kits.
3. Offer incentives for clinical preceptors—faculty appointment at UW, professional association, CEUs, learning opportunities, adjusted time schedules to allow for teaching opportunities.
4. Participate in AHEC-based (and other) hands-on learning opportunities, i.e. REACH camps, MedStart Camps, student shadowing.
5. Develop resources in the community to offset student clinical practicum expenses, i.e. student housing/lodging, travel stipends, etc.

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

C) Provide extensive opportunities for health professions students to experience rural and underserved settings throughout their education. Include non-traditional practicum settings, i.e. Community Health Centers, long-term care/home health, nursing homes, public health offices, etc.:

1. TRUST Model
2. Clinical rotations
3. Mentorships
4. Rural/underserved experiences

D) Provide financial incentives for practice in rural and underserved areas:

1. MRPIP Loan Repayment Program for primary care physicians in rural and underserved communities (administered by OCHE)
2. National Health Service Corps Programs, promoted by the Office of Primary Care and the Montana Hospital Association, are well understood by the communities that can use them
3. 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
4. Develop MRPIP style loan repayment fund for other health professions who serve in rural and underserved communities

E) Provide guidance to communities in structuring effective recruitment programs to attract the needed health professionals. Resources include:

APGAR, 3RNet, Community Health Needs Assessment data, Department of Labor and Industry, SWIB, Montana Hospital Association, NHSC

RETAIN A SKILLED HEALTHCARE WORKFORCE

RETAIN A SKILLED HEALTHCARE WORKFORCE

Strategies

- A) Strengthen leadership and quality in healthcare settings. Support leadership learning opportunities through professional associations and organizations.**
-
- B) Support continuing education and professional development programs for administrators and clinical leaders, through membership and professional organizations, and partnerships with postsecondary programs.**
1. Link healthcare organizations to education and training in quality improvement
 - a) Performance Improvement Network (PIN) of MHREF
 - b) AHRQ (Agency for Healthcare Research and Quality)
 - c) Utilization of health information technology for quality improvement and improved health outcomes
 - d) Lean process improvement
 - e) Community health needs assessments

 2. Link clinical leaders and administrators to mentors and leadership training programs available through professional associations and national resources

 3. Develop succession plans for critical staff positions
- C) Reduce professional isolation by providing opportunities for professional development and continuing education**
1. Publish monthly calendar and newsletter of CE and training opportunities, identify gaps in offerings, work with partners to develop required and/or lacking CE and training via appropriate delivery (distance, onsite, regional, statewide)

 2. Identify opportunities for rural practitioners to engage with peers for skill development and quality improvement
 - a) Performance Improvement Network (PIN) of MHREF
 - b) Support for speakers and offerings at statewide meetings and conferences
 - c) Training for rural practitioners to serve as clinical faculty and preceptors

 3. Provide opportunities for rural practitioners to participate in research efforts
 - a) Performance Improvement Network (PIN) of MHREF
 - b) Clinical trials
 - c) Partnerships with MUS (Montana University System)
 - d) Lean process improvement projects
 - e) INBRE, Institute for Translational Health Science, Practice Transformation Networks, and other research networks

RETAIN A SKILLED HEALTHCARE WORKFORCE
















D) Develop Career Ladder and Skill Development Programs that allow rural healthcare workers to obtain degrees and certificates or to advance in their careers.

1. Establish state and regional partnerships among workforce development programs, employers, and education to identify career training opportunities
2. Deliver training programs that meet identified employment needs with opportunities for increased wages to rural providers via onsite, distance education or cohort programs
3. Identify DOLI and other funding sources that can be targeted to needed incumbent worker programs in healthcare settings
4. Implement Health Information Technology training programs with the educational collaborative and local healthcare facilities
5. Develop career ladder models that can be delivered by educational programs and have employment potential, and provide training on implementation of those models
6. 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)
 - a) Confidentiality and legal requirements of healthcare settings
 - b) Communications and teamwork
 - c) Safety and standard precautions
 - d) Behaviors for success in healthcare settings
 - e) Ethics in healthcare
 - f) Interacting with patients



INDIVIDUAL PROFESSIONS OR SECTORS

Click to visit specified sector

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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, out-patient 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.

The Montana Rural Allied Health Professions Training Program (MRAHPTP) is a three year HRSA funded grant that was awarded to a network managed by Montana AHEC/ORH in 2015. This grant enables rural training opportunities for allied health professions students in Montana. Housing and transportation costs are covered during the students' clinical rotations if they are done at a rural training site. The program's overall goal is to provide allied health professional students rural, community-based clinical training rotations and eventual employment with a rural health care provider. Dental hygienist, medical laboratory technician, radiological technician, pharmacy technician, and physical therapist assistant are the five professions chosen for the program. The program assists rural facilities with recruitment and retention of these allied health professionals. Experience from the first year of the grant established that there is a great need to establish more rural training opportunities for allied health students throughout the state. There are several challenges within the program when setting up rotations in rural sites which the program is addressing. One avenue is a state-wide preceptor training/mentor-ship program, to ensure a consistent, quality training program especially at the rural sites. Another avenue is to work to recruit these potential students within many of the rural/frontier communities for a grow-your-own approach.

The HealthCARE Montana workforce grant includes two allied health curricular objectives designed to increase the opportunities for healthcare students to build on their academic training (laddering) and to decrease the barriers in transferring between healthcare programs (latticing). Key to achieving both objectives is to identify the common set of healthcare competencies shared by all programs and to then incorporate those competencies within the healthcare program curricula. A 35-member Allied Healthcare Core Curriculum Design Team representing academic program directors, faculty, and healthcare employer representatives identified a common set of healthcare competencies for the academic foundations and the core curriculum that span all the allied healthcare fields. The Design Team will develop the Montana Core Curriculum model that will incorporate these competencies. This model will provide clearly defined educational pathways that will be presented to the 15 consortium campuses within their Allied Healthcare programs to ensure consistent program prerequisites and core competencies both across programs and campuses. This will provide clearly defined educational pathways within allied healthcare fields and reduce the costs for student transfer between programs through a common set of courses.

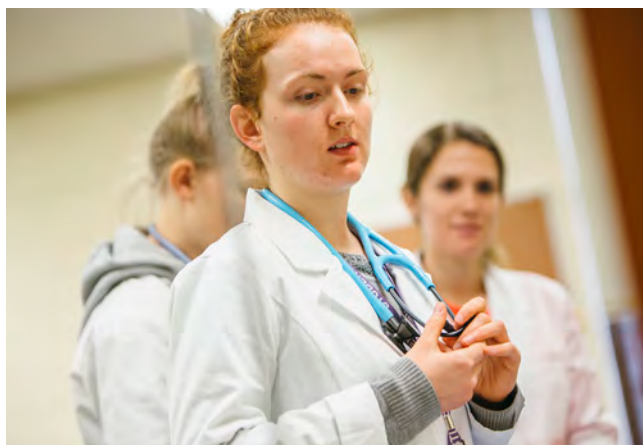
ALLIED HEALTH/THERAPISTS

WORKFORCE DATA

OCCUPATION	*2015 EMPLOYMENT ESTIMATE	**2025 PROJECTED EMPLOYMENT	*2015 AVERAGE WAGE
Pharmacists	1,090	1,211	\$110,760
Occupational Therapists	360	489	\$69,580
Physical Therapists	1,010	1,415	\$75,040
Respiratory Therapists	360	460	\$52,660
Speech-Language Pathologists	350	438	\$66,040
Medical and Clinical Laboratory Technologists	560	680	\$59,120
Medical and Clinical Laboratory Technicians	400	499	\$43,080
Radiologic Technologists	770	905	\$53,030
Pharmacy Technicians	1,170	1,374	\$33,408
Surgical Technologists	420	535	\$44,930
Occupational Therapy Assistants	70	108	\$51,040
Physical Therapist Assistants	170	228	\$44,820
Physical Therapist Aides	90	125	\$30,320
Medical Assistants	1,150	1,416	\$31,240

*Data for 2015 employment and average wage taken from the May 2015 BLS Occupation Employment Survey, Montana.

**Projected employment from the MT DLI 2016 to 2025 Employment Projections.



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ALLIED HEALTH/THERAPISTS

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. Montana healthcare facilities must then compete with other states to recruit the needed professionals.

MONTANA UNIVERSITY ALLIED HEALTH EDUCATIONAL PROGRAMS	DEGREE/CERTIFICATE	NUMBER OF PROGRAMS	LOCATIONS
Pharmacy	Doctor of Pharmacy	1	U of M
Physical Therapy	Graduate	1	U of M
Speech Language Pathology	Graduate	1	U of M
Medical/Clinical Laboratory Science	Baccalaureate	3	U of M, MSU Bozeman, MSU Billings
Medical Laboratory Technician	Associate	1	Miles Community College
Radiologic Technology	Associate	6	City College; Flathead Valley Community College; Great Falls College; Highlands College; Miles Community College; Missoula College
Medical Assisting	Associate or Certificate	6	Flathead Valley Community College, Great Falls College, Highlands College; Missoula College; Gallatin College; Salish Kootenai College
Surgery Technology	Associate	5	City College; Flathead Valley Community College; Great Falls College; Highlands College; Missoula College
Pharmacy Technician	Certificate	7	Bitterroot College; Flathead Valley Community College; Great Falls College; Helena College; Highlands College; Miles Community College; Missoula College
Physical Therapy Assistant	Certificate	2	Flathead Valley Community College; Great Falls College

ALLIED HEALTH/THERAPISTS

ALLIED HEALTH STRATEGIES

Implement the Montana Allied Health Core Curriculum in the Montana University System colleges with pathways into university programs

Coordinate with OPI and high schools to offer dual enrollment and career pathway guidance incorporating the Montana Allied Health Core Curriculum

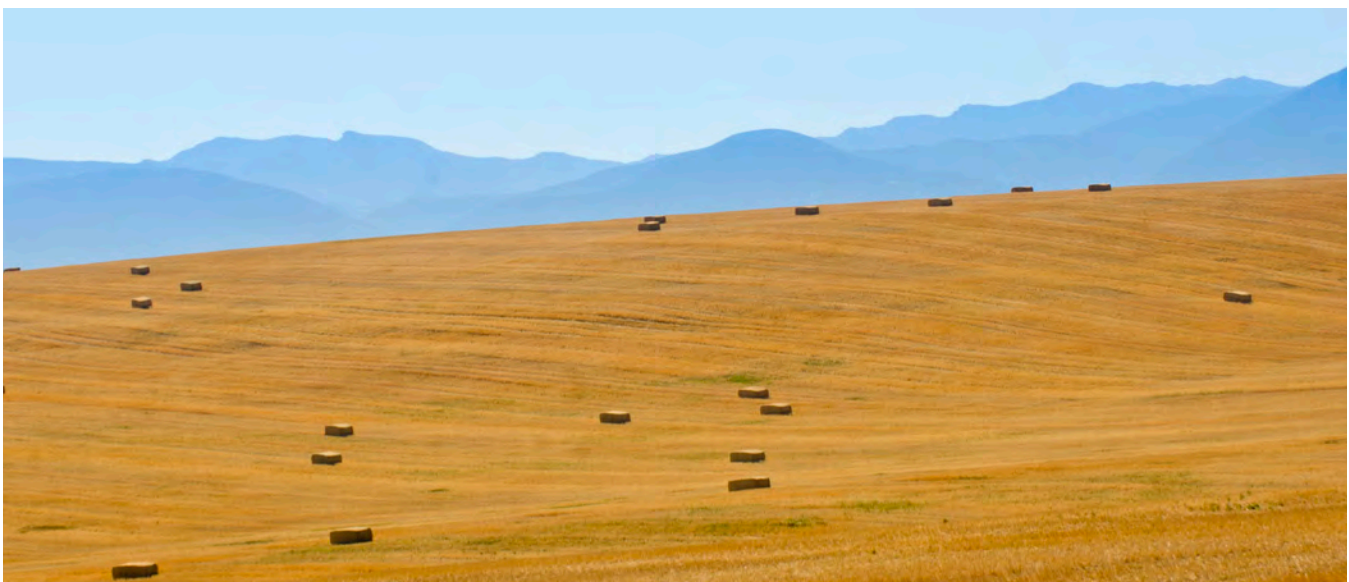
Identify apprenticeships in allied health

Provide information on allied health education programs via the Pathways Brochure, OPI and MUS

Develop and assure the availability of distance education offerings so that place bound students can receive training

Strengthen educational/employer linkages for future growth:

- Monitor employment needs matched to program offerings and identify gaps between education and allied health employment needs.
- Work with employers to recruit allied health distance education students within rural/frontier communities for a grow-your-own approach.
- Explore a state-wide preceptor training/mentorship program, to ensure a consistent, quality training program especially at the rural sites.
- Develop incentives for rural preceptors to encourage participation.



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BEHAVIORAL HEALTH

DESCRIPTION

Behavioral Health is recognized as a critical component of overall health. The concept of integrated behavioral health, meaning behavioral health is incorporated into a care team in a primary care setting or primary care providers are incorporated into the care team in a behavioral healthcare setting, has taken a high priority as healthcare transformation efforts move forward across the nation and in Montana. Integrated Behavioral health systems have several key characteristics:

- Patient centered team based care (both Primary Care and Behavioral Health).
- Systems of care are integrated at every level—appointment scheduling, shared waiting rooms, integrated assessment and diagnostic tools.
- Utilization of case managers, CHWs and even pharmacists as part of the healthcare team.
- Data is used to track patient populations for follow-up and prevention of relapse.
- Evidence based tools are utilized for assessment diagnosis and treatment.
- Consultation for complex behaviors—providers do not operate outside of their scope of care.

OVERVIEW FOR MT

The recent MT Healthcare Foundation report, “Integrated Behavioral Health in Montana: A Baseline Assessment of Benefits, Challenges, and Opportunities,” identifies significant behavioral health concerns for Montana citizens. One in five MT adults reports having a depressive disorder, 20.8% report binge drinking (compared to 16.8% US overall), and 7.7% classified as “heavy drinkers” (compared to 6.2% US overall). MT youth also report depression, alcohol use, binge drinking and illicit drug use.

Suicide rates in MT have consistently been highest in the nation: in 2013, MT had 23.72 suicides per 100,000 compared to 12.6 per 100,000 for the US as a whole. MT also has the second highest rate of alcohol related deaths in the US (National Vital Statistics Report, 2013).

Nearly all of MT is considered a Health Professions Shortage Area for Mental Health Professions—Yellowstone County being the only exception. Access to behavioral health service in rural and frontier settings is impeded by limited availability of resources, stigma, economic issues, caregiver stress and isolation, and overlapping relationships in small communities. Additionally, lack of transportation, and the need to travel long distances to receive care are also issues.

WORKFORCE DATA

TYPE OF PROVIDER	TOTAL NUMBER IN MONTANA	COUNTIES WITH NONE PRACTICING
Licensed Addition Counselors	599	18
Licensed Clinical Professional Counselors	1074	13
Licensed Clinical Social Workers	708	15
Licensed Marriage and Family Therapists	124	33
Dual Licensed (LAC plus Mental Health)	194	31
Licensed Clinical Psychologists	214	31
Psychiatric Nurse Practitioners	58	40
Psychiatrists	88	40

BEHAVIORAL HEALTH

EDUCATION AND TRAINING

Educational opportunities exist at the University of Montana (BA programs: Psychology, Social Work; MA programs: School or Mental Health Counseling, Clinical, Experimental or School Psychology, Social Work; Doctoral Programs: School or Mental Health Counseling, Clinical, Experimental or School Psychology); MSU Bozeman: (BA programs: psychology, addiction counseling certification; MA programs: Health and Human Development with a counseling option; Doctoral programs: Psychological Science); MSU—Billings (MS program: Rehabilitation and Mental Health Counseling); University of Great Falls (AA programs: addictions counseling, counseling and human services; BA programs: Social science; MA options: counseling); University of Walla Walla also has two satellite campuses in Billings and Missoula that offer an MSW program. Chemical Dependency Counseling is offered as an associate degree program at four locations around the state. Various community and tribal colleges offer addictions counseling programs.

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. Chemical Dependency Counseling is offered as an associate degree program at four locations around the state.

The Rural Behavioral Health—Primary Care Collaborative is a program that integrates a prelicensed clinical social worker and a postdoctorate psychology graduate into primary care rural health clinics. The collaborative was funded through a Health Resources and Services Administration (HRSA) Rural Health Care Services grant, and was created in response to the overwhelming need for mental health services in rural Montana. Through a partnership with rural critical access hospitals and UM, these professionals work full time while receiving distance UM faculty supervision as they work toward licensure. After licensure is obtained, these professionals will remain full-time employees of the rural facilities. A total of four rural Critical Access Hospitals have been involved to date. Federal project funding has now ended.

BEHAVIORAL HEALTH STRATEGIES

To increase the rural behavioral health workforce, support and develop rural training opportunities for physicians, nurses and other behavioral health professionals.

1. Develop Psychiatry training track (residency) in collaboration with WWAMI residency network, Billings Clinic, Boise, ID program and others.
2. Expand and energize MSU DNP Program.

Utilize telemedicine practices to the maximum extent. Ensure telemedicine services are reimbursed.

Utilize Project ECHO to maximize physician presence.

To create better access to behavioral health providers, develop integrated behavioral health teams.

Support the post-graduate behavioral health teams' practicum experience in western Montana.

Improve the analysis of the behavioral health workforce to better project needs. Target education programs for areas of highest need, i.e. programs for adolescents.

CARE COORDINATION

DESCRIPTION

Care Coordinators, while not new to the health care delivery system, are becoming increasingly important as healthcare transitions to accountable care organizations (ACO), patient centered medical homes, or other new models of delivery.

The Agency for Health Research and Quality developed the following working definition of care coordination based on a systematic review of the many definitions of care coordination that exist:

“Care coordination is the deliberate organization of patient care activities between two or more participants (including the patient) involved in a patient’s care to facilitate the appropriate delivery of health care services. Organizing care involves the marshalling of personnel and other resources needed to carry out all required patient care activities and is often managed by the exchange of information among participants responsible for different aspects of care.”

Care coordination is a patient- and family-centered, team-based activity designed to bridge the gaps that can occur in care transitions either between care settings or care givers by addressing potential gaps in meeting patients’ interrelated medical, social, developmental, behavioral, educational, informal support system, and financial needs in order to achieve optimal health, wellness, or end-of-life outcomes.

Care coordination is further described in the report [Interprofessional Care Coordination: Looking to the Future](#) (New York Academy of Medicine with support from the Josiah Macy Jr. Foundation):

Care coordination teams and team leadership will vary depending on patient and family needs. The team may include physicians, physician extenders, nurses, social workers, pharmacists, nutritionists, physical and occupational therapists, dentists, community health workers, and patient navigators. Community health workers and peer/patient navigators can play a special role as trusted community members who can serve as a bridge between the patient and the health care system and help the team address cultural competency and literacy issues. Reimbursement and policies for care coordination need to be aligned to promote interprofessional care coordination. This may involve clarifying and/or removing regulatory impediments around scope of practice, professional reimbursement, and/or revenue sharing from savings as envisioned in health homes and ACOs.

OVERVIEW OF WORKFORCE NEEDS

Care coordination is designed around teams, but most of health professions education occurs in the silos of individual professional education. One of the biggest challenges in creating opportunities for interdisciplinary and interprofessional education. This is particularly challenging in a state where many health professions programs are hundreds of miles from programs in other disciplines. A second area of development is the role of the care coordinator – a role that plays a central patient centered role in managing the care received by a patient in the team environment. A patient care coordinator is frequently a registered nurse (RN) but this is not a requirement at all facilities. Some clinics are utilizing medical assistants in the care coordinator role. A patient care coordinator may work in hospitals, physician’s offices, dental offices, clinics, specialty care centers, and nursing care facilities. Duties can vary widely but typically include:

- Developing and coordinating patient care programs
- Managing and preparing public relations information
- Managing human resources
- Handling patient case management
- Managing patient care

CARE COORDINATION

The Montana Medical Association has initiated a project to develop and promote a new function/profession called health behavior coach. Health behavior coaches would guide patients to more optimal health behaviors and choices. They would work as a member of the healthcare team, likely in a clinic setting, and would empower, educate, motivate and guide patients with healthcare needs. While not quite the same as a care coordinator, many of the same skills would apply. It was proposed that the coaches would need an AA or BA to function effectively in this position. Additional educational considerations may be a BS in Community Health, or the ACE Certified Health Coach designation.

A third area of development in Montana is the role of Community Health Worker (CHW). CHWs are a newly evolving role in Montana. A separate section on the strategies for developing a CHW role, curriculum and training system is included in this plan.

WORKFORCE DATA

Little data exists for the Care Coordinator workforce other than the anecdotal evidence gathered in the initial employer assessment conducted by the HealthCARE Montana Workforce Coordinators, in which responding employers identified care coordination as a high priority staffing need in the future. Because care coordination team members are identified by their profession (nurse, social worker, pharmacist, physician, etc.) there is no secondary data source on the care coordination workforce.

EDUCATION AND TRAINING

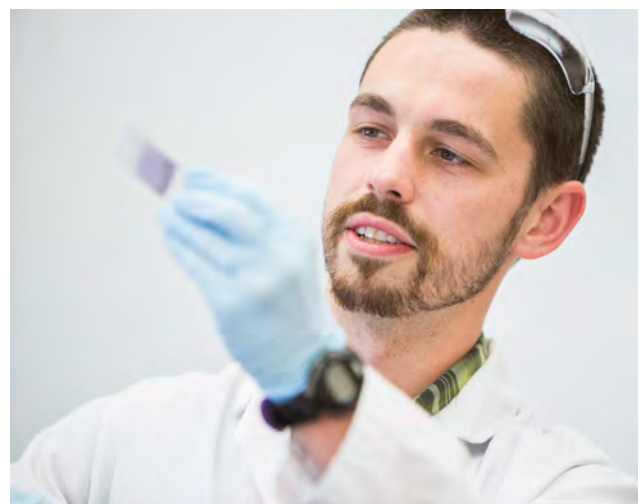
Education requirements for Care Coordinators are quite variable across employment settings. LPNs and RNs have been quite successful in this role. The Chronic Care Professional certification has also prepared staff (both clinical and non-clinical) to function well in specific work settings. The CCP certification is a 40 hour, online course which runs about \$1500 to \$1800. Employers may prefer a patient care coordinator to have at least two years of experience in healthcare and previous experience in a supervisory position. Some employers prefer candidates to have specific experience in managing patient care.

Montana State University College of Nursing offers a Clinical Nurse Leader masters degree which prepares grads for a wide range of leadership skills in the healthcare delivery system, including: client advocacy, team manager, information manager, outcomes manager, systems analyst/risk anticipator, and educator.



MSU photo by Kelly Gorham

January 2018



MSU photo by Adrian Sanchez

Gonzalez

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CARE COORDINATION

CARE COORDINATION STRATEGIES

Through the regional AHEC workforce coordinators (funded through the HealthCARE Montana grant), gather more precise information about workforce needs related to care coordination, Patient Centered Medical Homes, Accountable Care Organizations, Comprehensive Primary Care Plus (CPC+) and other care coordination efforts.

Identify and find methods to share specific education and training programs available in Montana that support the care coordination workforce development.

Consider the recommendations related to interdisciplinary care coordination included in the Macy Report:

- Refine core competencies for interprofessional care coordination and incorporate into general professional education, credentialing, and continuing professional education opportunities of all professional groups central to patient-centered care coordination.
- Develop pre-clinical experiences to prepare students from multiple disciplines for more effective interprofessional clinical training.
- Establish roles for community health workers who are being increasingly identified as important contributors to community-based care coordination.



COMMUNITY HEALTH WORKERS (CHWS): ROLES AND OPPORTUNITIES IN MONTANA

WHAT IS A COMMUNITY HEALTH WORKER?

“The CHW is a frontline public health worker who is a trusted member of and/or has an unusually close understanding of the community served. This trusting relationship enables the CHW to serve as a liaison/link/intermediary between health/social services and the community to facilitate access to services and improve the quality and cultural competence of service delivery. The CHW also builds individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy.”
- American Public Health Association Policy Statement 2009-1, November 2009

A January 2016 Issue Brief by DHHS, Office of the Assistant Secretary of Planning and Evaluation¹ described CHWs as “holding a unique position within an often rigid healthcare system in that they can be flexible and creative in responding to specific individual and community needs. Their focus is often on the social, rather than the medical, determinants of health – addressing the socioeconomic, cultural practices and organizational barriers affecting wellness and access to care.”²

ARE THERE COMMUNITY HEALTH WORKERS IN MONTANA?

In 2015, the Montana Area Health Education Center surveyed 93 organizations that expressed interest in CHW workforce development in Montana, with 69 organizations responding (72.5%). Nineteen organizations reported employing CHWs, although they may be called by other titles including Community Health Representatives (Tribal Health and I.H.S.), Snap-Ed Nutrition Educators, Promotoras, Outreach Workers, Navigators, and Resource Advocates. Additional models may include Peer Support Workers and Community Paramedics. They are employed by non-profits, healthcare organizations including Community Health Centers and Hospitals, Tribal Health Organizations and state agencies. Roles include arranging transportation, prevention, health screenings, insurance counseling, patient education, outreach, coordination with community resources and services, peer counseling and providing healthcare organizations with input from the communities they serve.

Payment models vary greatly and include government funds, foundation grants, reimbursement from payers, and internal funds. Some CHWs serve in a volunteer capacity. Currently, training is primarily on the job, and is closely related to the organization’s needs. An exception is Community Health Representatives, who are trained under a curriculum provided through the Indian Health Service. Many Montana organizations not currently employing CHWs were interested in doing so in the future. Promising efforts that will help guide the development of CHWs in Montana are currently underway: the utilization of CHWs in public health organizations; the Montana Healthcare Foundation has funded projects that are testing models of CHW or CHW-like roles in various settings; the Montana Geriatric Education Center has a CHW project focused on the aging population; and Mountain-Pacific Quality Health Foundation is developing community coalitions for improving care coordination that utilize CHWs.

ROLES IN HEALTHCARE DELIVERY

Nationally, CHWs are used in a variety of community and healthcare settings, with the primary goal of increasing access, delivering screening and preventive services, improving system navigation, care coordination and disease management. They enhance the cultural and community specific appropriateness of services, and help to address social determinants that impact health – including housing, safety, transportation, and poverty. Most profoundly, CHWs can reduce the social isolation and fears that exclude members of our communities from full participation in life and health. This is accomplished both through outreach as well as advocating for the community to the provider organizations.

COMMUNITY HEALTH WORKERS (CHWs): ROLES AND OPPORTUNITIES IN MONTANA

CHWs are most often part of a team, assigned to specific duties, clients, and activities. It is important in new models of care coordination and addressing social determinants of health, that there are clear role expectations, feedback mechanisms, and methods of communicating and documenting the work of CHWs. Their work should be incorporated into larger systems of care and services. Roles can include helping parents manage complex services for their children, chronic disease management, working with migrant or immigrant populations, connecting chronically ill elderly populations to services, providing community based services through Community Paramedic or EMTs, or delivering prevention services in community based settings.

CHW TRAINING AND CREDENTIALING

- There are many excellent models of training for CHWs. Common competencies in many training programs are:
- The Community Health Worker Role: Advocacy and Outreach
- Organizations and Resources: Community and Personal Strategies
- The Community Health Worker's Role in Teaching and Capacity-Building
- The Community Health Worker: Legal and Ethical Responsibilities
- Community Health Worker: Coordination, Documentation and Reporting
- Communication Skills and Cultural Competence
- Health Promotion Competencies

As a CHW's chief qualification is their understanding of the community, training in specific roles often occurs after hiring through on-the-job training. In many states, there are specific model curricula or certification standards (NM, MN, FL, MA, OH, OR, TX, IN, MS, NE, NV, NY SC, WA). Training programs may reside at community colleges, generally as a certificate program, or be offered by qualified instructors within employment settings or from community training programs. Although length of training varies, it is helpful to think of the training time as being similar to certified nursing assistants or home health aides. There is often additional training beyond core competencies in specific areas such as mental health, diabetes, other chronic diseases, maternal and child health, oral health, or specific cultures.

NATIONAL PERSPECTIVES

CHWs are gaining interest at a national level. The focus on population health, care management, improved patient outcomes, and social determinants of health is creating innovative models of care. Patient Centered Medical Homes, Accountable Care Organizations, State Innovation Models, CMS Innovation Center projects, Patient Centered Outcome Research, and the CDC are providing a focus on care teams and approaches that include CHWs. CHWs are part of the care team in Integrated Behavioral Health and Medicaid Home Health models - which are growing in national prominence and under consideration by the Montana State Innovation Model Design.

The Association of State and Territorial Health Officials (ASTHO) tracks CHW training and Certification requirements. The CDC, in a 2014 cooperative agreement with the Arizona Prevention Research Center of the University of Arizona examined demographic information, training and work environment, job related roles and activities and target populations.³ The CDC assessed and summarized the strengths and limitations of the evidence base behind a number of chronic disease policy interventions that included CHWs and determined the potential of these interventions for chronic disease policy. The greatest potential was CHW deployment into inter-professional teams under provider supervision for interventions focused on access, patient self-management, cost reduction and improved social outcomes, especially for groups with significant health disparities. Another CDC report summarized evidence around CHW interventions designed to prevent chronic diseases, and evidence that CHWs could be a cost-effective way to improve outcomes. CHW interventions are currently being evaluated as part of numerous CMMI Innovation and Patient Centered Outcomes Research grants.

COMMUNITY HEALTH WORKERS (CHWS): ROLES AND OPPORTUNITIES IN MONTANA

Six states used State Innovation Model Test Awards, Round 1 (CMS) funds to support a CHW component of the demonstration project (AK, ME, MA, MN, OR, and VT) and eleven states in Round 2 (CO, CT, DE, ID, IA, MI, NY, RI, OH, TN, WA). The models provide extensive documentation on the CHW roles, integration into care teams, integrated care model delivery, payment models, and addressing broad determinants of health outcomes for Medicaid participants.

REIMBURSEMENT

Short term grants and contracts create opportunities for innovation and establishment of CHW services, but potentially create unstable work environments. More predictable payment models include reimbursement through Medicaid (CMS-2334-F) for Essential Health Benefits for preventive services recommended by - rather than provided directly by - a physician or other licensed practitioner. State plan amendments are required to tap into this reimbursement. Per member, per month payments to managed care providers provides an option for CHW salaries, and state-initiated waivers, such as those allowed under 1115 of the Social Security Act provide opportunities to pilot budget-neutral demonstration projects. Private payers may also include CHWs within per member, per month payments or other negotiated payment models. Outcomes of State Innovation Model awards, Center for Medicare & Medicaid Innovation (CMMI) projects and Patient-Centered Outcome Research Institute (PCORI) grants may provide additional models and incentives for adopting CHW models into care teams.

CHW STAKEHOLDER MEETINGS IN MONTANA

Since 2015, the Montana Office of Rural Health/Area Health Education Council has convened a stakeholder group open to anyone with an interest in the development of community health workers in Montana. Over 60 organizations and individuals attended a meeting in Helena in May 2015, followed by a meeting with Billings stakeholders and a second Helena meeting in October. The groups reviewed the results of the CHW workforce survey, and consulted with national CHW expert, Carl Rush. Opportunities and recommendations from the stakeholders included:

1. Developing common curriculum and training for CHWs
2. Exploring reimbursement models and methods of funding CHWs
3. Identifying policy issues related to CHWs, including scope, certification, and integration into newly developing payment and healthcare delivery models

OPPORTUNITIES FOR MONTANA

1. ***Convene stakeholders to address curriculum and training (March 2016, Helena)***
 - Develop consensus on the roles and competencies of Community Health Workers
 - Common competencies and role definition
 - Curriculum and training materials
 - Certification or credentialing options
2. ***Examine the role of CHWs in the models under consideration by the Governor's Council on the Montana State Innovation Model Design***
 - Evaluate the use of CHWs with Medicaid populations and care coordination models including PCMH, CMS funded care coordination projects and ACOs
 - Develop policies and reimbursement models that support the use of CHWs through Medicaid and private payers

COMMUNITY HEALTH WORKERS (CHWs): ROLES AND OPPORTUNITIES IN MONTANA

3. *Continue to engage stakeholders to develop the role and future of CHWs in Montana*

- Provide a structure to engage CHWs, patients/clients, healthcare providers, community organizations, educational organizations, payers, and state agencies and other stakeholders to create policies, training, and standards that support CHWs in Montana
- Create a knowledge base on the effectiveness of CHWs addressing social determinants of health, health outcomes, improving patient engagement, and achieving cost savings by creating a learning community among CHW stakeholders in Montana
 - Inventory and track CHW projects and outcomes
 - Provide a forum for discussing promising models and evidence- based approaches
 - Create a sustainability plan

¹ Snyder, JE; *Community Health Workers: Roles and Opportunities in Healthcare Delivery System Reform*, Office of the Assistant Secretary for Planning and Evaluation, U.S. Dept. of Health and Human Services, January 2016

² Brownstein JN, Hirsch GR, Rosenthal EL, Rush C. Community Health Workers “101” for Primary Care Providers and Other Stakeholders in Health Care Systems. *J Ambulatory Care Management* 2011 Jul-Sep;34(3):210-220.

³ The Arizona Prevention Research Center of the University of Arizona. The 2014 National Community Health Worker Advocacy Survey (NCHWAS). Acquired April 30, 2015 from: <http://azprc.arizona.edu/content/2014-national-community-health-worker-advocacy-survey-reports>



DENTAL/ORAL HEALTH

DESCRIPTION

Oral health is integral to overall health and well-being. Although the traditional delivery model for dental care in America has been separate from the delivery of medical health care, the connection between oral health and overall health is creating interest in integration. Poor oral health is associated with conditions of the oral cavity itself such as tooth decay and periodontal disease. However, evidence indicates poor oral health can have an impact on other conditions such as heart disease, stroke, diabetes, poor pregnancy outcomes and respiratory diseases.¹

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.²

Dental hygienists are licensed oral health care professionals who provide preventive dental care and are defined as “a primary care oral health professional who has graduated from an accredited dental hygiene program in an institution of higher education, licensed in dental hygiene to provide education, assessment, research, administrative, diagnostic, preventive and therapeutic services that support overall health through the promotion of optimal oral health.”³ Dental hygienists provide a wide range of services that vary based on state laws, including: assessment of a patient’s individual oral health condition; preventive care for children, adolescents, adults, older adults, and patients who are medically compromised and; performing thorough head and neck examinations to look for oral cancer and other problems; nutritional counseling; and oral health education. Preventive services include the removal of plaque and calculus, both above and below the gum line, application of fluoride or pit-and-fissure sealants, and in some states, place, polish and contour dental fillings. In Montana, dental hygienists may administer local anesthesia and nitrous oxide. It is important to note, that scope of practice laws and licensing criteria vary greatly from state to state.

Disparities in oral health access have recently come to the forefront of many national health policy groups. The Institute of Medicine recently reported on lack of access to basic oral health care. The report, “Improving Access to Oral Health Care for Vulnerable and Underserved Populations” identifies populations with a high risk of dental disease 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 of the dental workforce⁴

The Centers for Disease Control’s most recent Oral Health Program Strategic Plan (released in May, 2011) supports the following goals:

- 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.⁵

DENTAL/ORAL HEALTH

OVERVIEW

Nationally the demand for dental care will continue to increase. By 2025 the demand for dental services is projected to increase by 10%, while only a 6% increase in the dentist workforce is projected with shortages in every state. Only five states are expected to have shortages of dental hygiene providers, including Montana. The evolving oral health workforce may alleviate some of the dentist shortages by utilizing already licensed providers to the top of their scope of services and development of new models of providers.

In April 2016 there were 5,304 dental health professional shortage sites in the U.S. with 84 of those in Montana.⁶ Montana is projected to have a shortage of at least 50 dentist providers and 38 dental hygiene providers by 2025.⁷ Forty-seven of the 56 counties in Montana are classified as a Dental Health Professional Shortage Area (HPSA). Eleven counties in Montana have no practicing dentists,

Montana DPHHS Oral Health Program is working with multiple partners to address disparities in access to dental care and prevalence of disease. Work to develop a comprehensive oral health strategic plan is in the planning phases and will be supported by oral health surveillance data sets. Current oral health surveillance data can be found at <http://dphhs.mt.gov/publichealth/oralhealth/OHData.aspx>.

The Montana Area Health Education Center/Office of Rural Health, in collaboration with the Department of Public Health and Human Services Oral Health Program received support from HRSA (Health Resources and Services Administration) to build oral health workforce capacity to improve health. Focus areas included expanding dental recruitment and retention programs, and expanding educational programs to promote oral health professions and support for dental student rotations. The support created new partnerships, developed recruitment and educational materials, increased efforts to place dental professionals in underserved/rural areas, and increased efforts in presenting education programs that promote dental careers in schools.

In November 2016, a Dental Action Summit for Health was held in Helena, with the purpose of bringing Montana's dental health stakeholders together to share information, discuss data collection, and develop plans to coordinate services across the state and improve dental health of the population. A report will be issued within the months following the Summit.

WORKFORCE

2015 licensee data from the Montana Department of Labor and Industry (DLI) indicate there are 649 dentists with a Montana address and a total of 793 dentist licensees.⁸ In 2013, 80% of Montana dentists were located in just 9 of 56 counties.⁹ A survey of dental providers will be completed in 2016 to assess age, capacity and distribution of dentist providers. Figure #1 provides distribution based on licensing data, which has limitations related to capacity and Medicaid-enrolled providers in addressing access to care at the county level.

DLI data reports 801 licensed dental hygiene providers, 672 of those with a Montana address. Forty-seven licensed dental hygienists currently hold a special endorsement from the Board of Dentistry to provide care in public health settings based on Montana Code Annotated 37-4-405, <http://leg.mt.gov/bills/mca/37/4/37-4-405.htm>.vii

In 2014, Montana Community Health Centers employed 22 dentists, 12 dental hygienists and 41 dental assistants and provided care to nearly 26,000 Montana residents, of which 43.3% had no insurance coverage.¹⁰ Research indicates that dental insurance coverage rates are often lower than medical coverage, especially among older citizens.

DENTAL/ORAL HEALTH

EDUCATION AND TRAINING

Montana does not have an education program to train dentists. Currently, support for dental education in Montana is provided as part of Western Interstate Commission for Higher Education (WICHE) program and the University of Minnesota to a limited number of students. In recent years, three new students have been provided support for dental education with subsidies of just under \$25,000 yearly based on the availability of funds.¹¹ The American Dental Associations Health Policy Institute reports that the average cost of dental education in the U.S. is \$289,042 for non-resident tuition and \$217,423 for resident tuition.¹² High debt upon entering the workforce has an impact on practice location choices.

The fact of no in-state dental school is also an obstacle to Montana students seeking careers in dentistry and the pipeline of dentists back to the state. Dental school enrollment statistics indicate Montana had a yearly average of 16 dental student enrollees from 2005-2013.¹³

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 was visualized as a collaborative effort with the University of Washington School of Dentistry (UWSOD) 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. A modified model of student rotations in Montana from UWSOD has been supported by federal dollars from 2013-2016. The UWSOD, with assistance from the Montana AHECS and funding from the DPHHS Oral Health Workforce Grant, was able to place dental students in rural and underserved communities throughout Montana.

An Associate of Applied Science Degree in Dental Hygiene is offered through MSU Great Falls College of Technology—the only dental hygiene education program currently in the state (<http://www.gfcmu.edu/webs/dh/index.html>). Sixteen new students are accepted into the program yearly.

Dental assistants in Montana are not currently licensed and provide services under the direct supervision of a licensed dentist. Educational programming for dental assistants is offered at MSU-Great Falls with a Certificate of Applied Science and Salish-Kootenai with a Certificate of Completion in Dental Assisting Technology.

DENTAL/ORAL HEALTH STRATEGIES

Assess the opportunity to expand UWSOM RIDE in Montana and determine feasibility of implementing a collaborative WWAMI dental education program at Montana State University.

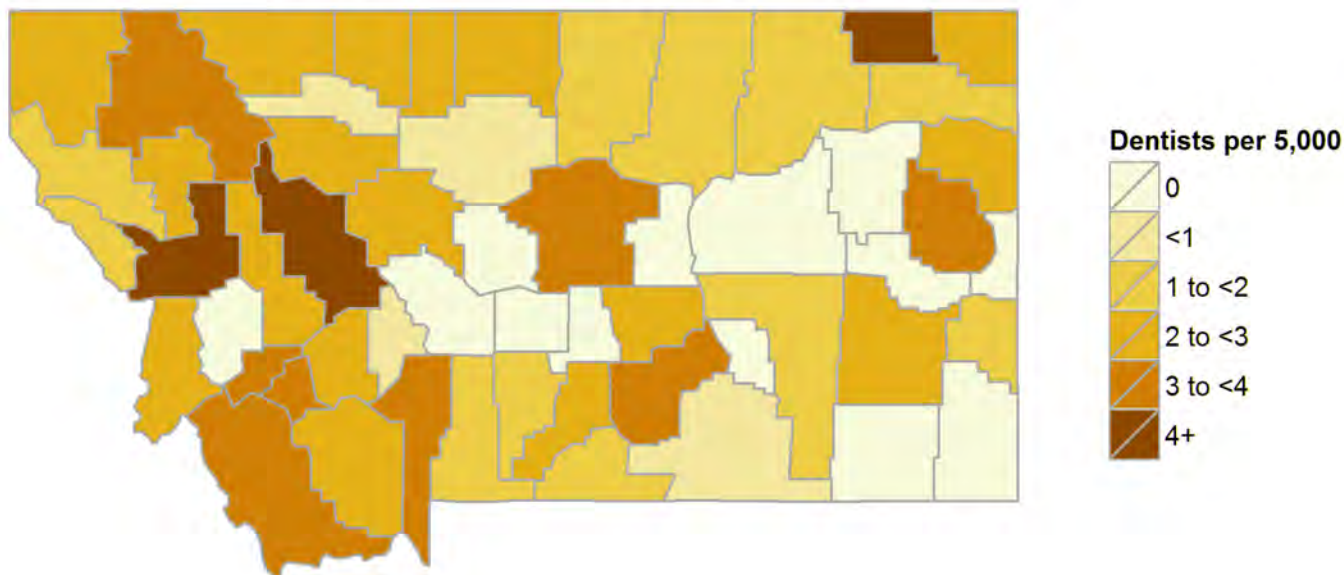
Identify practice models that will allow for increased access to oral health services: Integration of medical and dental care, community-based dental care, diversification of the dental workforce.

Encourage dental student participation in rural residency and rotation programs.

Support National Health Service and loan repayment programs that encourage dentists to practice in Montana.

DENTAL/ORAL HEALTH

Ratio Dentists to Estimated County Population, 2015



Data Source: Montana Department of Labor and Industry, Board of Dentistry.

Disclaimer: Data are based on address of licensed dentists which does not always correspond with practice location or capacity of providers.

¹Qualis Health. (2015). Oral health: An essential component of primary care. <http://practicetransformation.qualishealth.org/resources>

²American Dental Association. (2016). [Webpage] General dentistry. <http://www.ada.org/en/education-careers/careers-in-dentistry/general-dentistry>

³American Dental Hygienists' Association. (2015). Policy manual. http://www.adha.org/resources-docs/7614_Policy_Manual.pdf

⁴Institute of Medicine. (2011). Improving access to oral health care for vulnerable and underserved populations. <http://www.nationalacademies.org/hmd/Reports/2011/Improving-Access-to-Oral-Health-Care-for-Vulnerable-and-Underserved-Populations.aspx>

⁵Center for Disease Control and Prevention. (2011). [Webpage] Oral health strategic plan for 2011-2014. http://www.cdc.gov/oralhealth/strategic_planning/plan4.htm

⁶Health Resources and Services Administration. (2016). [Webpage] HRSA data warehouse. <http://datawarehouse.hrsa.gov/topics/shortageAreas.aspx>

⁷U.S. Department of Health and Human Services. (2015). National and state-level projections of dentists and dental hygienists in the U.S., 2012-2025.

⁸Montana Department of Labor and Industry, Board of Dentistry. (2015) Personal correspondence dated January 25th, 2015.

⁹Montana Department of Labor and Industry. (2014).

¹⁰U.S. Department of Health and Human Services, Health Resources and Services Administration. (2015) [Webpage] HRSA Health Center Program Uniform Data System, 2014 data. <http://bphc.hrsa.gov/uds/datacenter.aspx?q=t5&year=2014&state=MT>

¹¹Office of the Commissioner of Higher Education. (2016). Personal correspondence dated 5-8-14 and 4-27-16

¹²American Dental Association Health Policy Institute. (2015). [Webpage] <http://www.ada.org/en/science-research/health-policy-institute/data-center/dental-education>

¹³American Dental Education Association. (2014). Personal correspondence 2014

DIRECT CARE WORKERS

DESCRIPTION

Direct care workers, with job titles of Certified Nurse Assistants, Home Health Aides and Personal Care Aides, when taken together, employed over 3.4 million workers in the United States in 2014. 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 that includes 45-50 hours of classroom training in addition to 25-30 clinical hours. Candidates must also pass a written and clinical examination. Those holding an HHA certificate must take 12 hours of Continuing Education per year.

The Center for Medicare and Medicaid Services (CMS) projects the demand for direct care workers will increase by 49% with five million workers needed nationally by 2020. The Montana Department of Labor and Industry Research and Analysis Bureau reports that the direct care workforce is expected to show dramatic growth over the 2015-2026 time period. HHA employment is projected to grow by 22.8% (55 workers or 2.1% annually), while Personal Care Aides are projected to grow by 24.3% (168 workers or 2.2% annually) and CNA employment is projected to grow by 17.3% (256 workers or 1.6% 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. The Department of Labor reports actual employment of 6,415 nursing aides; 5,208 personal care aides; and 1,212 home health aides for 2015 in Montana (from Montana Job Projections 2015-2025, Occupational Employment Projections, published September 2016). The direct care workforce experienced a 34.1% turnover rate in 2014 with an 8.3% vacancy rate. Reporting facilities anticipate filling 323 positions by 2017. 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 ten Community Colleges throughout Montana. Additionally, basic CNA training is offered in many other locations throughout the state, including some high schools, hospitals, long-term care facilities and private organizations. CNAs and HHAs often utilize their experience as the first step in a career pathway that leads to an LPN or RN certification.

The HealthCARE Montana grant has initiated basic CNA apprenticeships within long-term care facilities in Montana. CNA specialty apprenticeships are also available in geriatrics, dementia, restorative, mentorship, and advanced CNA.

DIRECT CARE WORKERS

DIRECT CARE WORKER STRATEGIES

Sustain and enhance the CNA apprenticeship program.

Identify and provide training opportunities to increase retention oriented to direct care workers.

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.)

Work to ensure a living wage for all direct care workers. Offer competitive wages and benefits that will reward tenure and enhancement of skills.



HEALTHCARE WORKFORCE DIVERSITY

OVERVIEW

The case for creating a healthcare workforce that is comprised of the people it serves is well established. A 2006 review by the US Department of Health and Human Services (DHHS) stated: “We found that current evidence supports the notion that greater workforce diversity may lead to improved public health, primarily through greater access to care for underserved populations and better interactions between patients and health professionals. (The Rationale for Diversity in the Health Professions: A Review of the Evidence, US DHHS, HRSA, Somnath Saha, MD, MPH and of the Portland VA Medical Center and Oregon Health & Science University, and Scott A. Shipman, MD, MPH, of Dartmouth Medical School.) In Montana the focus is on increasing the number of Native Americans in health professions programs and practicing in healthcare organizations.

EDUCATIONAL OPPORTUNITIES

Pipeline programs focus on the K-12 student population to create interest in health careers and support academics that lead to success in health professions programs. Examples include the Montana AHEC system working with the HOSA Program offers summer MedStart Camps, REACH Camps during the schools year, Heads Up behavioral health career camps, oral health career camps, participation in career days and health fairs, HOSA clubs and events. These programs target underserved populations including Native American students and students who have not had a family member attend higher education (1st generation students). The Montana Apprenticeship Program (MAP) is a six-week, science and engineering summer camp for Montana Native American and other underrepresented minority high school students from Montana. MAP provides rising sophomores, juniors, seniors, and graduating seniors their first taste of college life and hands-on science research experience with MSU faculty mentors. The Native American High School Summer Program is a three-week summer program for high school students from participating Native communities. Students, teachers, and community representatives come to Harvard Medical School to learn about the science of substance abuse and addiction, involving students from Fort Peck.

Post-secondary opportunities include health professions education at the Tribal Colleges, including three nursing programs (Salish Kootenai College (ASN and BSN Completion), Blackfeet College (LPN and ASN), and a newly approved ASN Program at Aaniiih Nakoda). Programs are also available in allied health, chemical dependency, and pre-health professions education. Curriculum redesign in the Montana HealthCARE project is expected to lead to smoother transition from Tribal College programs to nursing and allied health programs offered in the Montana University System. The MSU Nursing Program also offers Caring for Our Own Program (CO-OP) was founded in 1999 to help improve the quality of health care in Native American/Alaska Native communities by increasing the number of qualified Native American /Alaska Native nurses entering the health profession.

The Caring for Our Own Program (CO-OP) is a support program for Native American and Alaska Native students pursuing their nursing degree at Montana State University. CO-OP’s goals are to increase the enrollment of American Indian nursing students in the College of Nursing at Montana State University and build a strong pool of American Indian and Alaska Native nurses who are prepared for practice, management, and leadership to serve Indian Country.

The number of Native Americans in health professions programs does not reflect the percentage of the population in Montana. Continued development of partnerships of with tribal high schools, tribal colleges, the MUS system, Office of Public Instruction, Department of Labor and healthcare employers, Indian Health Service and tribal health are key to increasing the number of Native American health professionals in Montana.

HEALTHCARE WORKFORCE DIVERSITY

DATA FOR NURSING WORKFORCE

Number of people in MT = 1,024,000

Number of Native Americans in MT = 67,584 or 6.6%

NATIVE AMERICAN NURSING STUDENTS ENROLLED AND GRADUATED BY YEAR (RN AND LPN)

YEAR	ENROLLED	GRADUATED
2010 – 2011	94 (8.7%)	17 (3.1%)
2011 - 2012	60 (6.0%)	23 (4.8%)
2012 - 2013	51 (4.5%)	19 (3.5%)
2013 - 2014	58 (5.1%)	13 (2.2%)
2014 - 2015	56 (4.9%)	25 (4.1%)

Data from Data on Native American Nursing Students from 2010 – 2015, Report Prepared by Rita Cheek, Kailyn Dorhauer, Cynthia Gustafson using MT Board of Nursing data from Annual Nursing Reports to the Board, 2010-2015, 12-29-15

DIVERSITY STRATEGIES

1. Provide targeted pipeline programs to students in high schools on the reservations, and high schools with significant American Indian student populations, designed to introduce health professions opportunities and support academic preparation for health professions education
 - a. REACH, MedStart, Heads Up, Oral Health and similar health career camps
 - b. Increase involvement in HOSA and Health Science Education
2. Partner with work-based learning programs and career and technical education to increase opportunities for Native American students to learn in healthcare settings
3. Support programs through nursing, WWAMI, and MUS campuses that provide support for Native American students in health professions programs (e.g. COOP)
4. Identify scholarships and other students supports
5. Continued opportunities to expand health professions education programs in Tribal Colleges and in collaboration with high schools and other postsecondary programs

EMERGENCY MEDICAL SERVICES

OVERVIEW

Emergency medical services (EMS) are a key part of the emergency care system that is comprised of response agencies, communication and transportation networks and trauma systems. The system relies on seamless communication and collaboration between physicians, nurses, government officials and “prehospital” personnel such as EMTs and paramedics (volunteer and career) who usually serve as a person’s initial contact with the healthcare system in an emergency situation.

Most of the communities in Montana utilize systems that rely heavily on volunteers, but which also may include hospital or commercial ambulance services, fire departments, and hospital emergency staff members. As Montana is overwhelmingly rural, EMS departments face significant and unique challenges such as lack of equipment to handle multiple calls, long response times due to lengthy distances to isolated patients, inadequate financing, reliance on volunteers who may be unavailable to take calls, and recruiting/retaining experienced personnel.

In the 2011 Montana Healthcare Workforce Statewide Strategic Plan, the following strategies were proposed:

- Create an EMS Workforce Data system to provide current and ongoing information about the status of Montana’s EMS workforce.
- Create/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.
- 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.
- Develop and implement strategies for EMS provision of community health programs.
- Conduct statewide forums and education about opportunities for EMS involvement in community health.
- Support leadership, professional development and technical assistance programs for EMS service managers and medical directors.
- Develop public information and education programs which help citizens to understand and support system development.
- Develop partnerships with the larger healthcare system.

Since the publication of the 2011 Plan, the following has been accomplished:

- The EMS and Trauma Section / DPHHS purchased a new service licensing and ePCR database in 2016. Due to be deployed statewide by January 2017, this data solution will enable reporting on Montana’s EMS workforce (who is working, volunteer vs. career, how much are volunteers working, etc.).
- The emergency care council adopted a broad EMS Systems strategic plan and has been working on several strategies for improving education and workforce opportunities. The new ECC group is focusing their work in 2016-17 on just three strategies: 1) creating new opportunities for regionalized and distance education, 2) develop strategies to support local service medical directors, and 3) develop public information strategies to support stronger EMS services and workforce recruitment and retention.
- EMS services were provided scholarships and reduce membership to an online education service produced by Seattle-King County EMS / Public Health. This included regional workshops for EMS instructors on how to teach didactic sessions to support the online materials.
- EMSTS staff facilitated an EMS manager’s workshop in late 2016. The intent is to continue such education in an ongoing fashion.
- EMSTS received a large grant to implement mobile simulation program utilized trucks configured as emergency rooms and ambulances with high definition manikins.
- EMSTS continues to engage EMS, nursing, physicians, hospitals and others about implementation of a Montana Community Paramedicine (CP) program. An interpretation of the legal status of CP is being resolved and continued work with a subcommittee of the Emergency Care Council will resolve issues and questions about education, medical oversight, protocols and evaluation.

EMERGENCY MEDICAL SERVICES

New models of care are initiating the development of new professions and evolving existing roles in health care – EMS is no exception. Based on EMS professions’ existing responsibilities regarding care and transport, the concept of community paramedicine (CP) is one that may be very applicable to rural and underserved communities in the state. In CP, EMTs and paramedics are trained to provide non-urgent, home-based services to “fill the gaps” in an attempt to prevent unnecessary utilization of emergency services, or to address frequent users of the emergency department. Currently, the Glacier County EMS service is implementing a grant to educate Community Paramedics and to provide CP services in their service area.

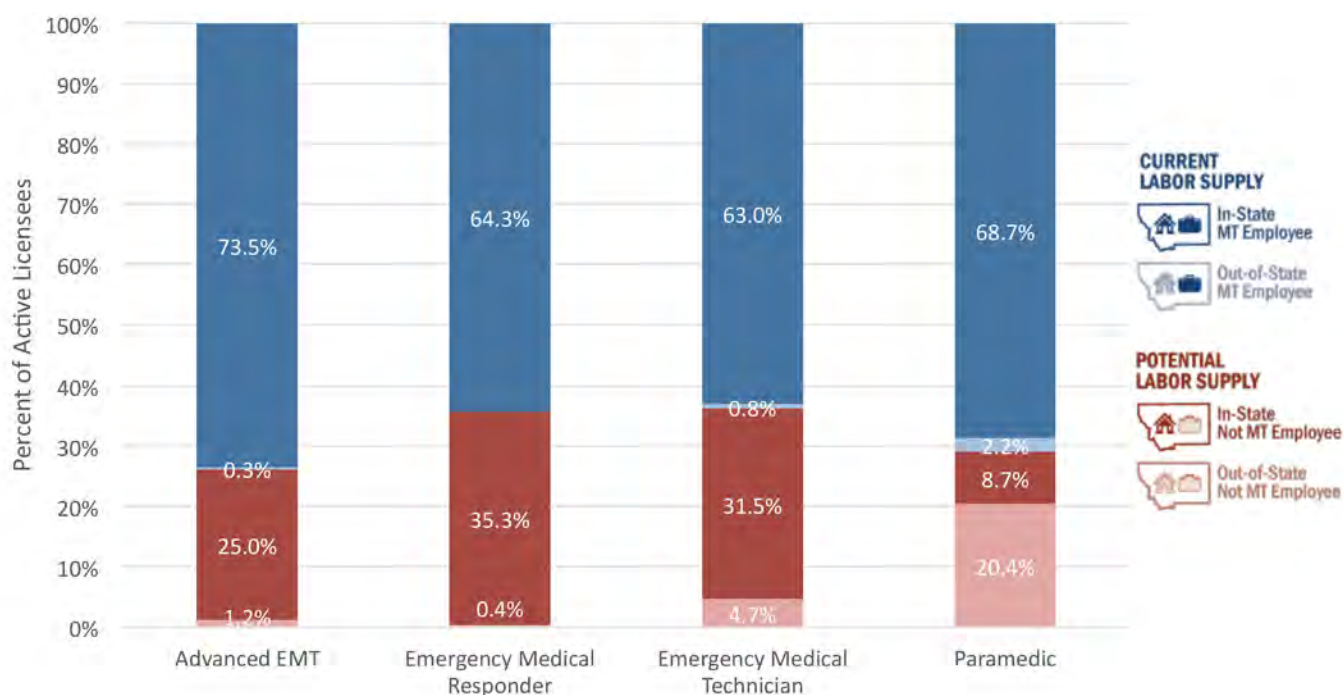
WORKFORCE

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

LICENSE TYPE		2015	2016
First Responder	Emergency Medical Responder	252	252
Basic EMT	Emergency Medical Technician	2,586	2,622
Intermediate EMT	Advanced EMT	1,304	1,302
Paramedics	Paramedics	729	734

The data above considers all active licensees (including paid, as well as volunteer providers), regardless of whether they are working. Workforce data from the Montana Department of Labor and Industry indicates that estimated employment of EMTs and Paramedics was 600 in 2015, with a projected employment of 764 in 2025. This indicates an estimated 22.4% growth rate. These numbers may still be underestimates as the data does not necessarily reflect volunteer providers, which represents a majority of the EMS workforce in Montana.

FIGURE 1. ACTIVE LICENSEES BY RESIDENCE AND EMPLOYMENT STATUS



Source: Montana Department of Labor and Industry licensure data as of 03/11/16. Employment data measured by MT DLI administrative wage records as of Q3 2015. Wage records exist for employees of businesses that participate in the unemployment insurance program.

EMERGENCY MEDICAL SERVICES

Figure 1 shows the percentage of active EMS licensees who live in Montana and were employed in Montana between Q4 2014 and Q3 2015. Employment is measured using MT DLI administrative wage records, which capture individual-level earnings for employees of businesses who participate in the Montana unemployment insurance programs. This employment data excludes self-employed and volunteer workers.

The majority of the active EMS licensees live and work in Montana. The next largest grouping are licensees who live in Montana but are not employed. This large percentage could be explained by the large population of volunteers. A large percentage (20%) of actively licensed paramedics do not live or work in the state, making the license type unique. Figures 2 through 5 (following pages) show the county distribution of all active licensees in Montana by license type.

EDUCATION AND TRAINING

The state of Montana requires all EMT and Paramedic applicants to pass an approved EMT course as well as a state approved written and practical examination.

Six (6) two-year colleges provide EMS/Paramedic training and corresponding certificate or associate degree: 1) Flathead Valley, 2) Great Falls College, 3) MSU Northern, 4) City College at MSU-B, 5) Blackfeet Community College, and 6) Salish Kootenai College. Many EMS departments throughout Montana also offer EMT instructional courses and certification.

EMERGENCY MEDICAL SERVICES STRATEGIES

With the assistance of input from the Emergency Care Council develop and implement public information strategies that support EMS services as well as seek to improve recruitment and retention of volunteers.

Continue to develop distance education, mobile simulation and other contemporary methods of educating a new EMS workforce. Pilot additional strategies such as regionalized courses.

Develop and implement activities related to Community Health EMS (CHEMS) in rural and urban communities. Emphasize educational, medical oversight and protocol development as well as seeking additional strategies to fund and reimburse CHEMS in Montana communities.

With implementation of new data systems, track workforce benchmarks such as volunteer/career profiles and EMT/paramedic recruitment and retention.

Conduct a workforce assessment of Community Paramedics at Community Health EMS. Convene stakeholders to discuss strategic directions.

HEALTH CARE ADMINISTRATION

DESCRIPTION

Health care administrators, or health services administrators, have varying roles and functions depending on the size of the facility they oversee. Generally, health care administrators plan, coordinate, and supervise the functions of health care facilities and the staff that work there. The specific duties of a healthcare administrator depend largely on the type of facility by which they are employed; a wide range of institutions employ these professionals, including, hospitals, nursing homes, correctional facilities, primary-care medical practices, and others. However, this is almost always an upper-management position, responsible for leading a relatively large staff.

OVERVIEW

Health care administrators are often called on to maintain and develop professional standards, procedures, and policies for various institutional activities. They are also responsible for developing and expanding programs for scientific research, preventive medicine, medical and vocational rehabilitation, and community health and welfare. To be successful as a health care administrator, an individual needs to have good leadership and managerial skills. They should also be well organized, have good written and oral communication skills, and be attentive to detail.

Healthcare Administrator Tasks may include:

- Market and conduct market analysis to understand growth and revenue drivers and motivations.
- Manage all financial operations, such as daily and annual reporting.
- Lead clinical and business professionals, and serve as liaisons to explain needs; improve clinical quality, and increase growth.
- Oversee staffing including hiring, training, evaluation, and reviews.

WORKFORCE DATA

Employment of medical and health services managers is projected to grow 17% from 2015 to 2026, much faster than the average for all occupations (MT DOLI projections report). As the baby-boom population ages and people remain active later in life, the healthcare industry as a whole will see an increase in the demand for medical services.

Recruitment and retention of Health Care Administrators has been a challenge in Montana. The Montana Hospital Association anecdotally reports that anywhere from 30-40% of all hospital administrators leave their positions each year (in 2015 there was 38% turnover). It's also reported that other top level administrators (i.e. COO, CFO, CNO) will leave their positions after the CEO leaves.

EDUCATION AND TRAINING

Students interested in becoming a healthcare administrator must have a bachelor's degree from an accredited institution. Most organizations, however, require at least a master's degree in health services administration, nursing administration, or business administration. Most baccalaureate and masters programs include an administrative internship component.

The Master of Health Administration program at MSU-Billings is the only health specific administration education program in the state. The program offers a focus on rural-frontier healthcare delivery, and is appropriate for working professionals, clinicians, mid-level managers, and others who desire to enter and advance in this field. The program consists of concentrated online courses, a two-day on-campus Professional Seminar each semester, a Capstone Project, and Internship.

MBA programs, while not specifically focused on healthcare, are offered through major universities and online programs across the country.

HEALTH CARE ADMINISTRATION

Healthcare executives may join the American College of Healthcare Executives for credentialing, continuing education, resources and mentoring support. The Medical Group Management Association is another professional organization for healthcare administrators. Both organizations have MT Chapters.

HEALTHCARE ADMINISTRATOR STRATEGIES

Develop a mentorship program for CEOs, with an emphasis on Critical Access Hospitals and rural health clinics.

Continue to promote and offer leadership training courses for healthcare administrators.

Develop and expand internship opportunities for Master of Hospital Administration students at MSU-B.

Develop a Leadership Conference for hospital administrators.

Consider utilizing the APGAR for CEOs (currently in development through Boise State University).



MSU photo by Kelly Gorham

HEALTH INFORMATION TECHNOLOGY

DESCRIPTION

Healthcare transformation, and the move from volume to value, is heavily reliant on health information technology. Healthcare facilities have been required to initiate electronic health records, required to achieve meaningful use, required to participate in quality reporting mandates and initiate patient satisfaction initiatives. Each of these areas requires health informatics, health information technology, and well-trained staff to support these efforts.

Health Informatics has been defined by the US National Library of Medicine as: the interdisciplinary study of the design, development, adoption and application of IT-based innovations in healthcare services delivery, management and planning. More generally, the area of Health IT would include telehealth applications, health information exchange, electronic health records, mobile health applications and monitoring, and quality reporting.

The Office of the National Coordinator (ONC) for Health Information Technology has been committed to growing the HIT workforce. In July 2015, the ONC awarded seven grantees nearly \$1M each to build on efforts from the HITECH Act of 2009. The goal of the current program is to train incumbent health care workers to use new health information technologies in a variety of settings, including: team-based care environments, long-term care facilities, patient-centered medical homes, accountable care organizations, hospitals, and clinics. This workforce program will focus on the four key topic areas of: population health, care coordination, new care delivery and payments models, and value based and patient centered care. New efforts will also focus on updating training materials originally developed through the HITECH Act.

OVERVIEW

Health IT is a broad based function—ultimately, nearly every employee in a hospital or clinic will touch IT in some fashion, from the front desk clerk who enters basic patient demographic information into the EHR, to the physician who is entering diagnosis codes into the record, to the quality improvement staff who will utilize hard data to determine which areas are in need of improvement processes.

Healthcare employer assessments were conducted throughout the state in summer 2015 in association with HealthCARE Montana. Information Technology was named as a common challenge across employers, specifically related to lack of adequate basic IT skills in employees and utilization of telemedicine which will require experienced staff. It was also noted that Health Informatics and advanced technology skills are critical for today's healthcare employees.

HIMSS (Healthcare Information Management and Systems Society) published a workforce survey in August 2014. The survey indicated that "...IT workforce voids have forced many healthcare providers to delay or scale back IT initiatives resulting in negative impacts for patients and staff." It was also noted that the long term solution is to increase the supply of IT professionals. Survey results indicated that employers were willing to support training their current staff, as well as hire new IT grads.

WORKFORCE DATA:

Determination of the numbers of HIT workforce is a challenging task. Bureau of Labor Statistics do not have a specific code strictly for HIT workers. The nearest occupational category has been Medical Records and Health Information Technicians. This is quite a broad categorization-- general Medical Records staff would not necessarily be considered Health IT staff. DOLI numbers may overestimate the number of purely HIT workforce. Another consideration in workforce numbers is that HIT staff in small and rural facilities tend to "wear many hats" and perform many jobs. Oftentimes, the HIT staff member is not full-time and has been designated to work in HIT by default, merely because he/she liked to work with computers and has some degree of finesse.

HEALTH INFORMATION TECHNOLOGY

Montana DOLI estimates 970 staff employed in Medical Records and Health Information Technology in 2015, and project 1179 workers will be needed by 2025. They estimate that 18 positions will need to be filled per year due to growth, and 22 positions filled per year due to replacement. This occupation is projected to have an 18.0% growth rate.

EDUCATION AND TRAINING

Montana Tech offers the only Bachelor of Science degree in Healthcare Informatics in the state. Additionally, they offer an AAS degree, as well as two certificates (entry level and graduate level). Missoula College offers an AA and certificate, Great Falls College offers an AAS and Flathead Valley Community College offer an AA/AS. Very recently, Miles Community College has begun to offer an AS with emphasis in healthcare informatics (in partnership with MT Tech). Most of the course offerings at each college are offered via distance delivery (online), an important consideration in our rural state.

The Montana Rural Health IT Network was formed in September 2013 as a result of a Network Workforce Grant through the Office of Rural Health Policy (HRSA). The mission of the Network is “to accelerate and sustain optimal use of health information technology to improve care in Montana.” Grant funding is used to support student participants to obtain certificates in Health IT through the institutions listed above. The students are reimbursed for tuition/fees and books. Student participants have largely been incumbent workers, already working in small, rural facilities. We’ve been pleased to have participation from some of the most frontier and small Critical Access Hospitals in the state. Sustainability plans have been developed to continue training efforts into the future.

HEALTH INFORMATION TECHNOLOGY STRATEGIES

Utilize regional AHECs to start educating and recruiting for HIT careers. Add HIT component to REACH camps and MedStart camps.

In collaboration with HealthCARE MT and DOLI, develop formal HIT apprenticeships between employer and employee (who will be the student).

Sustain the efforts of the MT Rural Health IT Network beyond the grant time frame.

Support current Health IT workforce through one-day learning opportunities, sponsored by MT Rural Health IT Network and partner organizations.

Build relationships with IT vendors, develop future support for learning opportunities.

Encourage training opportunities through vendors and large hospital systems, i.e. Cerner and Billings Clinic associated facilities.

MEDICAL LABORATORY SCIENTISTS 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 layers 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, are associate level trained and 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. 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 three 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 560 Medical Technologists were employed in 2015, while projections indicate that Montana will employ 680 Medical Technologists by 2025. The annual mean wage for Medical laboratory Technologists is \$59,120. There were 400 Medical Technicians employed in Montana in 2015, with a stable projected growth of 19% by 2025. The annual mean wage for Medical Laboratory Technicians is \$43,080.

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 boasts a 100% rate for students passing the certification examination, as well as 100% employment rate.

Since 2011, Medical Laboratory Technician training is offered through Miles Community College in association with Bismarck State College in North Dakota. All courses are offered through MCC, but final degree (AS) is awarded from Bismarck. Historically, graduates have achieved a 97% first-time pass rate on the national board certification examination.

MEDICAL LABORATORY SCIENTISTS AND TECHNICIANS

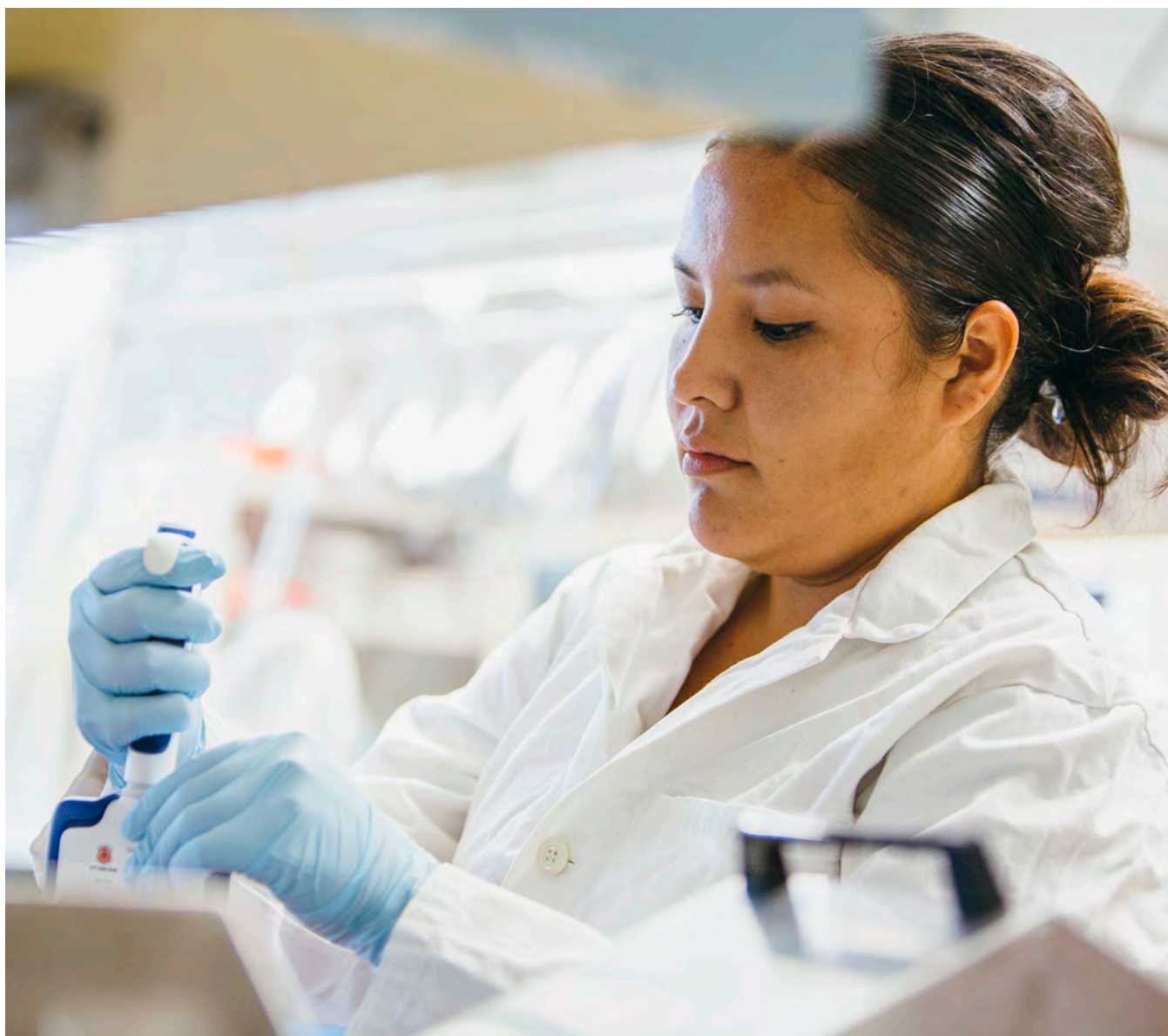
MEDICAL LABORATORY SCIENCE/TECHNICIAN STRATEGIES

Develop awareness of laboratory careers through regional AHEC activities for K-12 students.

Support and promote the MLT Program at Miles Community College.

Develop rural practicum opportunities for students. Also develop rotation sites within state laboratories.

Develop career ladders that will encourage technicians to move into technologist positions.



MSU photo by Adrian Sanchez Gonzalez

January 2018

Level II Memorandum

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NURSING

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, 2002: <http://www.icn.ch/who-we-are/icn-definition-of-nursing/>

CERTIFIED NURSING ASSISTANTS (CNAS)

A certified nursing assistant, or certified nurse’s aide (CNA), helps patients or clients with healthcare needs under the supervision of a Registered Nurse (RN) or a Licensed Practical Nurse (LPN). CNAs often work in a wide variety of settings such as nursing homes, hospitals, adult day care centers, and assisted living facilities. CNAs must be trained through a DPHHS-approved Nurse Aide Training Program and certified by the Quality Assurance Division Bureau’s Nurse Aide Registry.

LICENSED PRACTICAL NURSES (LPNS)

A Licensed Practice Nurse (LPN) is an individual who is licensed to function as a practical nurse in Montana. LPNs must work under the direction of a registered nurse, licensed medical provider, dentist, osteopath, podiatrist, or advanced practice registered nurse. LPNs must pass an NCLEX exam to be licensed through the Board of Nursing in order to practice.

There are currently five programs in Montana that prepare students for the LPN licensure:

SCHOOL	LOCATION
Blackfeet Community College	Browning, MT
City College at Montana State University	Billings, MT
Flathead Valley Community College	Kalispell, MT
Great Falls College- Montana State University	Great Falls, MT
Helena College- University of Montana	Helena, MT

REGISTERED NURSES (RNS)

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. The practice of a RN is focused on the care of individuals, families, and populations to attain, maintain or recover optimal health and quality of life from conception to death. An RN holds the responsibility for the care of individuals and groups through a colleague relationship with a licensed medical provider to function in making self-directed judgments in the practice of the profession. It takes five semesters in most programs to earn an Associate of Science in Nursing (ASN) and to become eligible to take the licensing exam as an RN in Montana. RNs must practice under the supervision of physicians, naturopathic physicians, physician assistants, optometrists, advanced practice registered nurses, dentists, osteopaths, or podiatrists. RNs must also pass the NCLEX-RN exam to be licensed through the Board of Nursing in order to practice in Montana.

NURSING

There are ten Montana programs currently offering ASN degrees to prepare student for licensure as an RN:

SCHOOL	LOCATION
Blackfeet Community College	Browning, MT
City College at Montana State University	Billings, MT
Flathead Valley Community College	Kalispell, MT
Helena College- University of Montana	Helena, MT
Miles Community College	Miles City, MT
Missoula College- University of Montana	Missoula, MT
Montana State University Northern	Havre, MT
Aaniiih Nakoda College	Harlem, MT
Salish Kootenai College	Pablo, MT
Great Falls College-Montana State University	Great Fall, MT

Many professional practice settings including Magnet hospitals and academic health centers now require or prefer the baccalaureate degree (BSN) for specific nursing roles. A traditional BSN degree takes four years to acquire (from time of entry as freshman to graduation) at most universities. The BSN prepares nurses in leadership, research, public health, and critical thinking. Registered nurses with a BSN possess substantial opportunities for advancing their careers; for example, a bachelor's in nursing is needed for acceptance into most master's nursing programs which can lead to more specialized nursing roles.

Students that already have their ASN and are interested in earning their BSN can enroll in an RN to BSN Completion program. RN to BSN programs build on initial nursing preparation with course work to enhance professional development, prepare for a broader scope of practice, and provide a better understanding of the cultural, political, economic, and social issues that affect patients and influence care delivery. Students must already have their RN license in order to apply for a RN to BSN completion program.

There are currently five RN to BSN completion programs in offered in Montana:

SCHOOL	LOCATION
Montana State University Northern	Havre, MT
Montana Tech of the University of Montana	Butte, MT
Salish Kootenai College	Pablo, MT
University of Great Falls	Great Falls, MT
Montana State University Billings	Billings, MT

NURSING

There are currently three traditional BSN programs offered in Montana:

School	Location
Carroll College	Helena, MT
Montana State University	Bozeman, MT
Montana Tech of the University of Montana	Butte, MT

All BSN RNs must pass the NCLEX-RN exam to be licensed through the Board of Nursing in order to practice in Montana.

ADVANCED PRACTICE REGISTERED NURSE (APRN)

An Advanced Practice Registered Nurse (APRN) is an RN who has completed an accredited graduate-level education program in one of the four recognized APRN roles: certified registered nurse anesthetist (CRNA), certified nurse-midwife (CNM), clinical nurse specialist (CNS), or certified nurse practitioner (CNP). APRNs must pass a national certification examination that measures APRN role and population-focused competences; and must maintain continued competence as evidenced by recertification in the role and population through the national certification program. APRNs present advanced clinical knowledge and skills to provide direct primary care to patients, as well as a component of indirect care. APRNs' practice builds on the competencies of 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. Additionally, APRNs are educationally prepared to assume responsibility and accountability for health promotion and/or maintenance as well as the assessment, diagnosis and management of patient conditions which includes the use and prescription of pharmacological and non-pharmacological interventions.

Montana is one of 22 states (including Washington DC) in which APRNs are able to practice independently and to the full extent of their education and training.

OVERVIEW

While the United States has faced a nursing shortage for several years, Montana not only continues to see a nursing shortage, but also a maldistribution of nurses throughout the state. The Montana Department of Labor predicts approximately 445 annual registered nurse (RN) and 107 licensed practice nurse (LPN) position openings every year through 2025. With Montana's aging population, an increasing number of people with co-morbid disease, an expanding population, physician shortages, the implementation of health reforms, and changing delivery systems, the demand for nurses remains high, especially in rural areas. The majority of Montana's nurses work in urban centers, leaving many job openings vacant in rural health care facilities. Moreover, Montana faces an aging nursing workforce, creating a greater shortage in the near future. The average age of the nursing workforce in the state is as following: 49.8 (LPN), 48.4 (RN) and 50.2 (APRN).

NURSING

AGE OF ACTIVELY LICENSED NURSES IN MONTANA BY LICENSE TYPE

	Mean Age	Median Age	Mode Age	25th Percentile	75th Percentile
Advanced Practice RN	50.2	52	62	41	61
Licensed Practical Nurse	49.8	52	61	39	60
Registered Nurse	48.4	49	62	37	60

Source: Montana Department of Labor and Industry as of 03/11/16

Notes: 97.7% of APRNs reported their birthdate, and 99.98% of LPNs and RNs reported their birthdate.

The Montana Department of Labor and Industry reports that the most common age for nurses is 62 years old. It is important that any estimate of future nursing demand accounts for the retirement of this population of nurses. The MT DLI employment projections assume that 23.6% of RNs and APRNs, and 28.5% of LPNs will need to be replaced due to career changes and retirement in the next ten years.

Montana nursing programs continue to try to address state's nursing workforce shortage. However, the nursing faculty shortage in Montana impacts the majority of nursing programs. Several of Montana's nursing programs have experienced accreditation challenges due to the shortage of qualified faculty. The need for more nurses to continue their education and progress toward graduate degrees is necessary in order to fill the faculty void.

There are 13 colleges in Montana that offer various levels of degrees in nursing. In the past several years, there has been an increase in nurses seeking to further their education. In 2010, the Institute of Medicine released the recommendation that 80% of the nursing workforce have a Bachelor of Science in Nursing (BSN) degree or higher by the year 2020. Associate degree programs in Montana have had a statewide model for the education of LPNs and RNs since 2006; however, it has been a challenge for ASN students to earn their bachelor's degree in nursing in a timely manner due to lacking the general education requirements needed for a BSN. Because ASN graduates need to take an extra semester of course work, they must enroll in higher education courses for at least 4.5 years in order to complete a BSN. As a part of HealthCARE Montana (Montana Department of Labor and Industry Grant, 2014), a curriculum change in ASN and PN nursing programs took place in order to address this issue and increase the nursing education efficiency and overall nursing graduate production. Now there is a pathway of academic progression from PN to ASN, and a student who graduates with an ASN is academically prepared with the necessary competencies for the bachelor's level nursing program. These curriculum changes allow for more academic progression in Montana, better preparing our nurses to meet the rapidly changing healthcare needs in the state. Additional advancements in educational programs have been made at the BSN level and beyond in the past year. Montana Tech of the University of Montana received approval to start their four year BSN program in the Spring of 2016. This is the first four year nursing program approved by Montana in the last seventy eight years and is giant leap in increasing the number of BSN nurses in Montana. Additionally, the ADRN to MN program developed by Montana State University's College of Nursing was approved and began its first cohort in 2016.

NURSING

TABLE 1. NURSING PROGRAMS IN THE MONTANA UNIVERSITY SYSTEM (MUS)

MT UNIVERSITY SYSTEM AFFILIATION	COLLEGE	DEGREE	LICENSURE	LOCATION
Montana State University (MSU)	College of Nursing	BSN DNP	RN APRN	Bozeman
	City College at Montana State University	AAS ASN	LPN RN	Billings
	Great Falls College MSU	AAS ASN	LPN	Great Falls
	MSU Northern	ASN BSN	RN	Havre
University of Montana (UM)	Montana Tech of the University of Montana	ASN BSN	RN	Butte
	Helena College University of Montana	AAS ASN	LPN RN	Helena
	Missoula College University of Montana	AAS ASN	LPN RN	Missoula
No University Affiliation	Blackfeet Community College	AAS ASN	LPN RN	Browning
	Flathead Valley Community College	AAS ASN	LPN RN	Kalispell
	Miles Community College	ASN	RN	Miles City

AAS = Associate of Applied Science
 ASN = Associate of Science in Nursing
 LPN = Licensed Practical Nurse
 RN = Registered Nurse
 BSN = Bachelor of Science in Nursing
 APRN = Advanced Practice Registered Nurse
 DNP = Doctorate of Nursing Practice

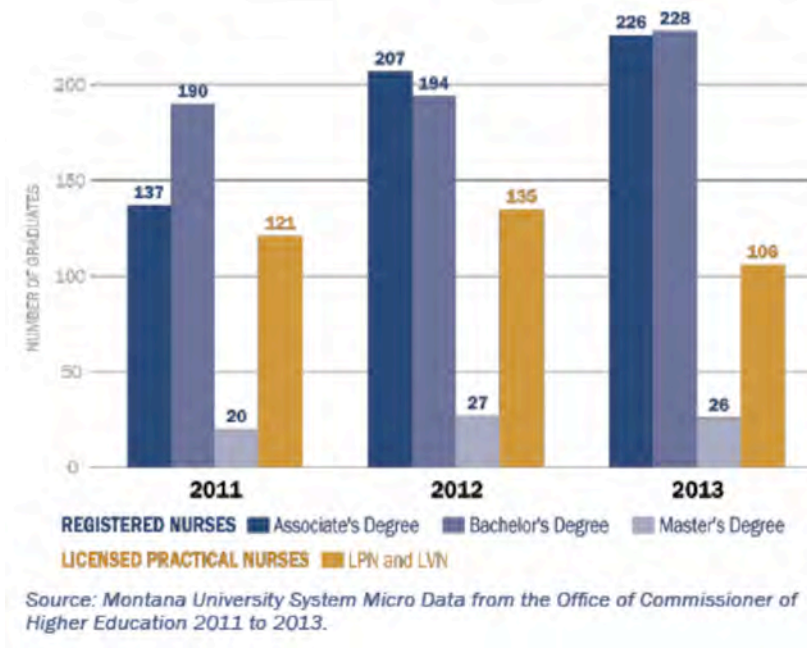
MUS NURSING DEGREES & CERTIFICATES AWARDED

MAJOR	DEGREE	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Registered Nurses (RN)	Associates	71	76	131	96	93	121	83	112	112	143	218	236	232	208
	Bachelors	120	127	170	186	214	187	195	205	205	191	195	229	260	264
	Masters	8	8	6	11	15	7	11	13	15	20	27	26	31	9
RN Total		199	211	307	293	322	322	298	330	332	354	440	491	523	481
Licensed Practical Nurse	Certificate	20	4	1	6	27	88	63	23	22	9				
	Associates	109	119	115	131	115	75	75	84	108	130	163	127	157	147
LPN Total		129	123	116	137	142	163	138	107	130	139	163	127	157	147
Grand Total		328	334	423	430	464	485	436	437	462	493	603	618	680	628

source: MUS Data Warehouse (includes CC's 2011-12 forward)

NURSING

FIGURE 4 REGISTERED NURSING AND LICENSED PRACTICAL NURSING GRADUATES BY DEGREE TYPE

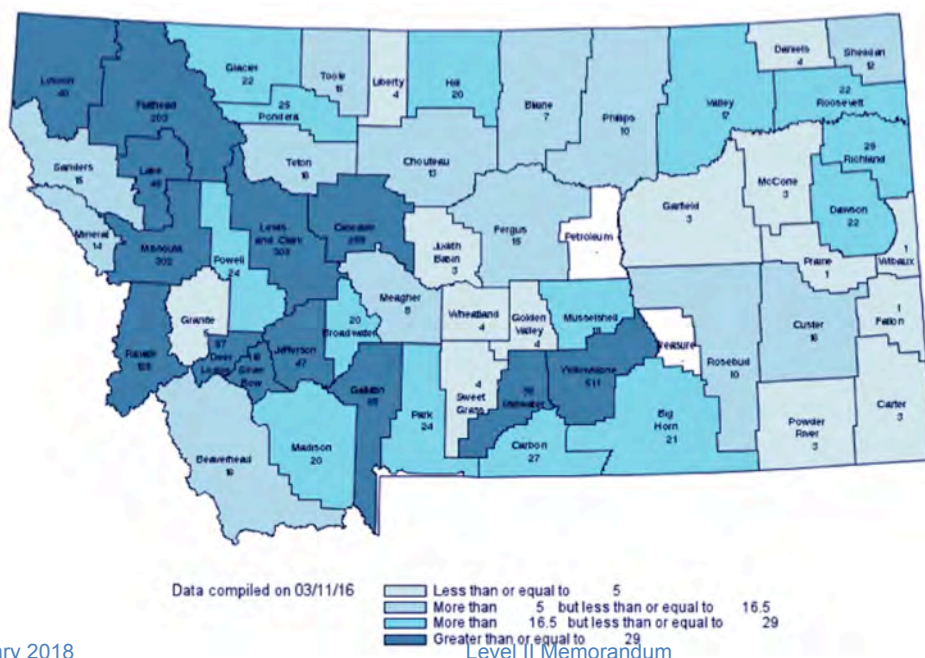


WORKFORCE DATA

Number of Active Licensees by County

The figures below (Montana Department of Labor and Industry) illustrate the number of active nursing licensees across the state. The number of active licensees varies significantly by county. Figures 1 through 3 show the number of active licensees who are living in each county by license type. The darker the county's color, the more active licensees there are in the county. Counties colored in white do not have any active licensees living there. As expected, there tends to be more nurses in counties with larger populations.

FIGURE 1. NUMBER OF ACTIVELY LICENSED PRACTICAL NURSES (LPN) BY COUNTY



NURSING

FIGURE 2. NUMBER OF ACTIVELY LICENSED REGISTERED NURSES (RN) BY COUNTY

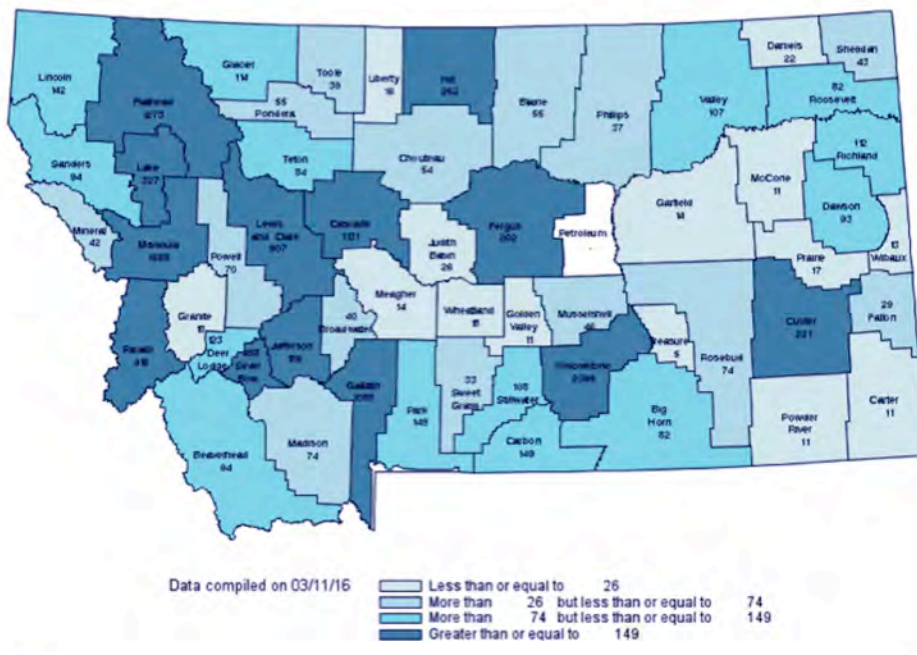
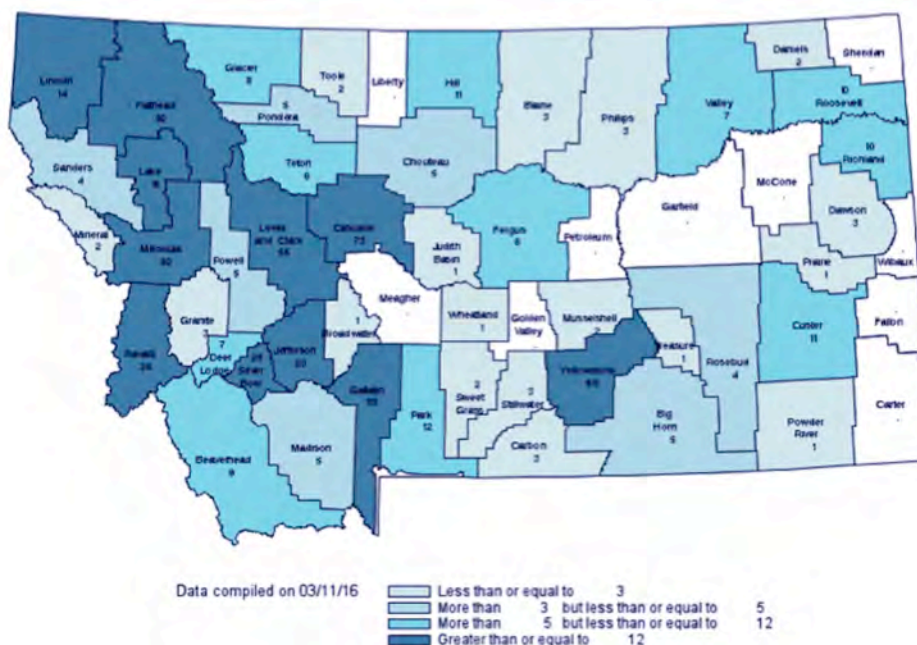


FIGURE 3. NUMBER OF ACTIVELY LICENSED ADVANCED PRACTICE REGISTERED NURSES (APRN) BY COUNTY



NURSING

NURSING RESOURCES

The Montana Center to Advance Health through Nursing (MT CAHN) serves as the state's Action Coalition, a movement created by the Future of Nursing: Campaign for Action. The MT CAHN was formed in response to the October 2010 Institute of Medicine report, *The Future of Nursing: Leading Change, Advancing Health*. The IOM report's recommendations are being brought to life through the work of the Robert Wood Johnson Foundation (RWJF) and AARP Center to Champion Nursing's Initiative on the Future of Nursing, which formed the current Future of Nursing: Campaign for Action. The MT CAHN's mission is "Leading nursing education and practice through collaboration to advance the health of Montanans." MT CAHN serves as a virtual hub connecting nurses across the Big Sky state through resource distribution, leadership training, and hosting the annual Nursing Education and Practice Summit. With the help of funding through the Academic Progression in Nursing (APIN) grant, provided by RWJF, MT CAHN has developed an ongoing Preceptor Training course for nurses across the state, as well as a formalized mentor training/partnership program. The work of APIN has been conducted to reach the IOM's recommendation that eighty percent of working nurses in Montana hold a BSN or higher degree by 2020.

NURSING STRATEGIES

Increase employer support of and engagement in academic progression in nursing initiatives in Montana through changes in practice and policy

Expand nurse involvement in preceptor and mentor opportunities

Increase nursing collaboration between partners in education and practice

Promote 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

Expand rural clinical education opportunities

Support programs of study that increase workforce diversity in Montana

- CO-OP program through MSU College of Nursing
- Tribal College Pre-Nursing Programs

Promote innovation in nursing education through simulation

PHARMACY

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. mental health units, 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.

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 (March 2016) ADI for Montana is 3.25, indicating a relatively balanced supply and demand. The regional ADI for the Mountain states (AZ, CO, ID, MT, NV, NM, UT, WY) was at 3.12. There are no states that are experiencing extremely high demand or extremely high supply: 13 states are experiencing moderate demand, 3 states are experiencing moderate surplus, while the remaining states are experiencing balanced demand.

The ADI points to an overall balanced supply of pharmacists for the state and region. However, the pharmacists supply appears to be distributed in urban centers, not in rural and frontier areas. In fact, eight MT counties have no pharmacist while another six counties have 86 or more—indicating a maldistribution of the pharmacy workforce (see DLI map).

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 geriatric health screening 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

PHARMACY

disadvantaged areas across the state. IPHARM provides the following screenings and counseling: bone density, cholesterol, hemoglobin A1c (a measure of average blood glucose), Hepatitis C, blood pressure, balance testing (through Physical Therapy), and memory, depression screening, and caregiver stress (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 seven MT institutions: Bitterroot College, Flathead Valley CC, Great Falls College, Helena College, Highlands College, Miles CC, and Missoula College.

WORKFORCE DATA

The Montana Board of Pharmacy currently reports 1,900 actively licensed pharmacists in Montana (March 2016). About 1,200 (63%) of these licensees are living in Montana. The Bureau of Labor Statistics--Occupational Employment Statistics (BLS-OES) estimates there are 1,090 pharmacists working in Montana as of 2015. The Montana Department of Labor and Industry (MT DLI) estimates pharmacist employment will grow 9% by 2025.¹ Additionally, 269 full service pharmacies and 15 telepharmacies are licensed. (1)

Pharmacy technicians actively licensed totaled 1220 in March 2016 (MT Board of Pharmacy). Additionally, 296 Techs-in-Training are currently licensed. The MT DLI estimates Pharmacy Technician employment will grow by 16.2% through 2025. 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 AND PHARMACY TECHNICIAN STRATEGIES

Develop practicum sites in rural and underserved areas

Support student participation in rural/frontier practicum sites (i.e. funding for travel, housing)

Offer financial incentives for practice in rural and underserved areas

Expand telepharmacy options throughout the state

Develop and support inter-disciplinary training programs, continued support of U of M Pharm.D. program

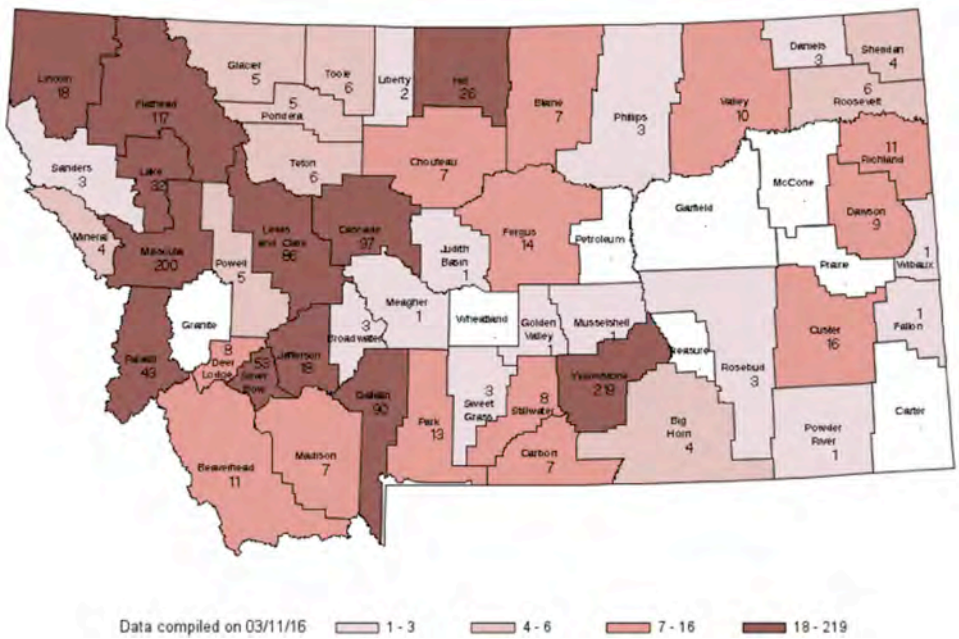
Support recruitment in rural areas

Support development of apprenticeship opportunities for Pharmacy Techs (HealthCARE MT)

¹Montana Department of Labor and Industry 2015-2025 employment projections.

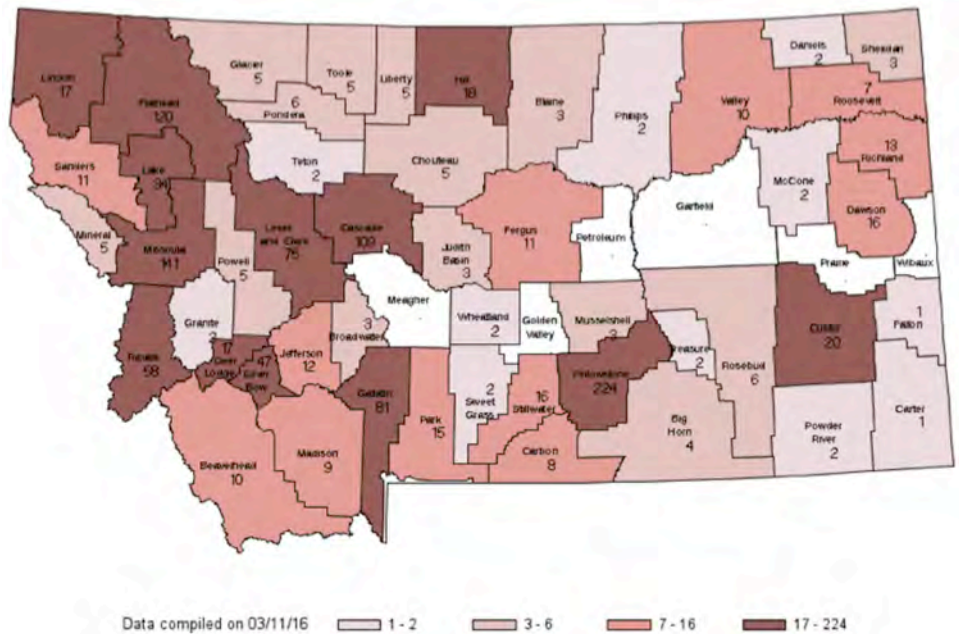
PHARMACY

NUMBER OF ACTIVELY LICENSED PHARMACISTS BY COUNTY



Source: Montana Department of Labor and Industry licensure data.

ACTIVELY LICENSED PHARMACIST TECHNICIANS BY COUNTY



Source: Montana Department of Labor and Industry licensure data.

PHYSICIAN

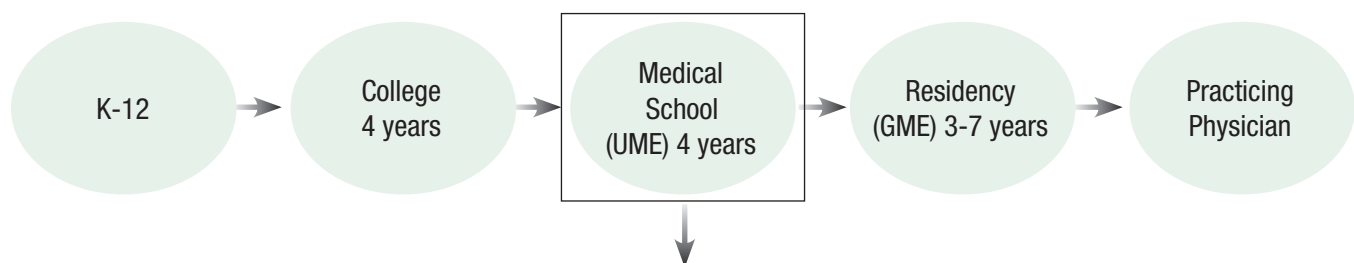
EDUCATION AND TRAINING

Undergraduate Medical Education (UME)

Although Montana does not have a free-standing medical school, it has a long history of providing undergraduate medical education through its affiliation with the University of Washington School of Medicine's WWAMI program as well as more recently with the Pacific Northwest University medical school in Yakima, Washington. As a result, access to medical schools for residents of Montana is available through the Washington, Wyoming, Alaska, Montana, Idaho (WWAMI) regional medical education program of the University of Washington School of Medicine and the Western Interstate Commission for Higher Education (WICHE) of the 13 western states as well as other medical schools such as Pacific Northwest University.

During the 40+ year history of the WWAMI program, the population of Montana has increased to around one million (1,000,000). According to "Montana's Medical School: The Economic and Social Impact of the Montana WWAMI Program" published in 2011, Montana ranked 43rd in the nation in terms of access to medical education. To begin to address this issue, the 2013 Montana legislature appropriated funding through the Office of the Commissioner of Higher Education to expand Montana WWAMI by 50%, totaling 30 medical students per year. Additionally, 10 of these students are participants in the TRUST (Targeting Rural and Underserved Track) program which aims to increase the number of Montana WWAMI students choosing specialties which orient to rural and underserved care and returning to practice in rural and the underserved areas of the state. Montana WWAMI students currently attend Montana State University for their first eighteen months of medical education.

While Montana's affiliation with UW's WWAMI and PNWU is focused on Montana students attending medical school, it also provides a means for non-Montana medical students to train in Montana which is of value in recruiting potential physicians to Montana either as a Graduate Medical Education Resident or as a practicing physician.



How many Montana students attend medical school in the US (past 7 years)? 54 MT residents per year attend medical school in the US

- MT WWAMI - 30
- WICHE Medical School - 6
- Other - 18

19 MT residents per year attend osteopathic medical schools in the US

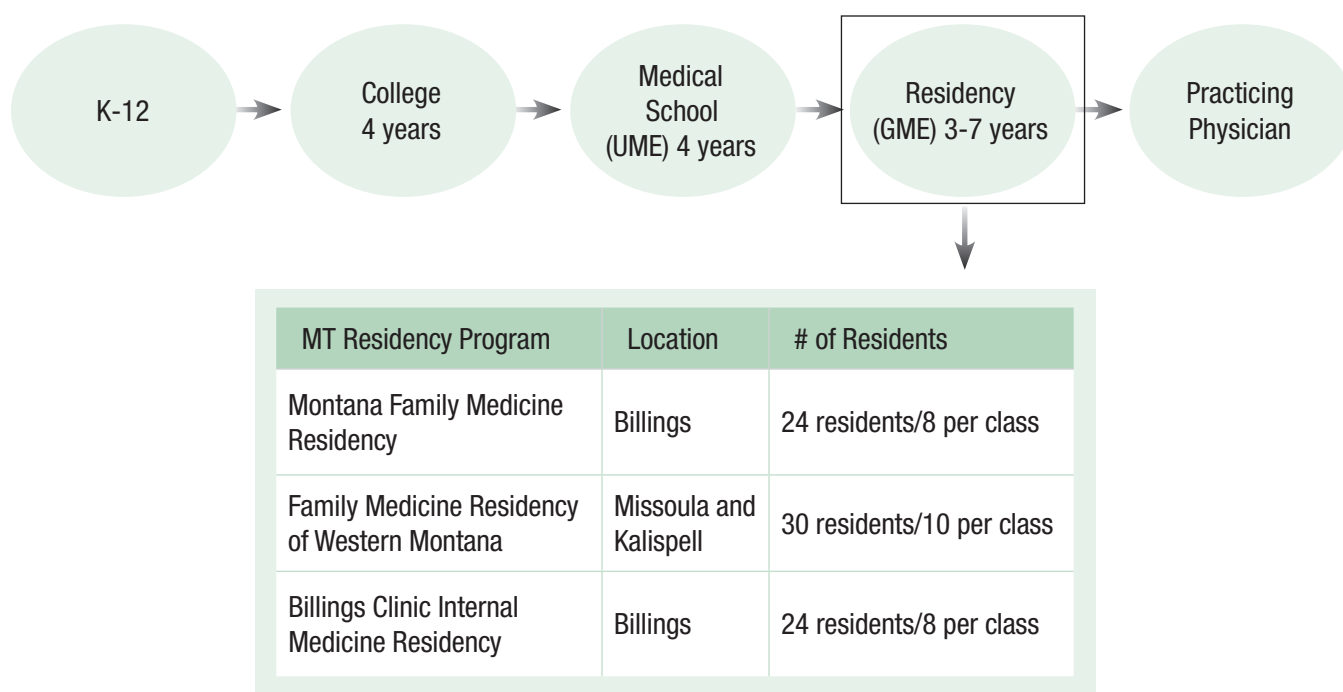
- WICHE osteopathic medical school - 2
- Other - 17

PHYSICIAN

Graduate Medical Education (GME): Physician Residency Programs in Montana

Access to residency education in Montana did not occur until 1995, when the first family medicine residency was developed and based in Billings. Until 2010, this program accepted six new residents per year for a total of 18 residents. In 2011, two new slots were opened for a total of eight residents in Billings per year. Additionally, the University of Montana and the Western Montana Area Health Education Center, in affiliation with the two hospitals in Missoula and one in Kalispell, and the University of Washington School of Medicine have developed a residency program in Missoula and Kalispell: The Family Medicine Residency of Western Montana. The program accepted its first class of 10 residents in 2013. Furthermore, a second residency program in Billings (the Billings Clinic Internal Medicine Residency) also successfully completed the accreditation process and accepted six residents beginning in July 2014. These expansions increased the number of medical residents to 50 in 2014 (and to 78 by 2017). Thus, Montana is seeing the number of graduate medical education positions in primary care quadruple in the state over a four-year time period.

It is well documented that the majority of generalist physicians practice in the state where they obtained their residency training; i.e. 72% of the residents who graduated from the Montana Family Medicine Residency Program in Billings are currently practicing in Montana. Nearly half of those practicing family medicine are located in rural locations. This high rate of retention contributed to the 12% of all 2014 physicians in family medicine/general practice specialties who completed a residency in Montana. As such, increasing the number of residency slots in Montana can aid in increasing the number of physicians practicing in Montana, especially in rural and frontier locations. While not an easy task, creating more residencies in locations and for specialties that serve the populations where shortages are greatest could be an effective tool to reduce disparities in the distribution of Montana's physicians.



PHYSICIAN

UME AND GME CLINICAL TEACHING CAPACITY IN MONTANA

The teaching models for Medical Students (UME) and Residents (GME) require substantial time commitments by “practicing physicians”. These “clerkships”, “elective rotations” and other “clinical rotations” are dictated by specific accreditation curriculum requirements; hence they require substantial commitments from practicing physicians in specific medical specialties. These commitments are important both in terms of the number of willing practicing physicians as well as the number of medical students and residents each practicing physician is willing to teach or precept. As a result, any efforts to increase the number of medical students (UME) or residents (GME) must take into account the “teaching capacity” of the “practicing physicians” in Montana.

WORKFORCE DATA

A 2014 assessment conducted by the University of Washington School of Medicine, indicated that Montana’s total per capita physician supply is smaller than the national supply, although the generalist physician supply was similar to the national per capita number. In 2014, there were 2,261 physicians (223 per 100,000 population) with Montana licenses and 2,045 (201 per 100,000 population) providing direct patient care in the state. Nationally, in 2012 there were 261 overall physicians per 100,000 population and 226 per 100,000 providing direct patient care.

Table 1. Number, gender and age of Montana physicians in 2014

Physicians providing direct patient care*	#	#/100,000 population	% Female	Mean Age (Years)	% Age 55 or Older
Total	2045	201.4	28.5%	52.8	46.5%
Generalists	730	71.9	38.2%	51.2	39.5%
Family medicine/general practice	461	45.4	36.2%	50.6	37.7%
General internal medicine	175	17.2	34.3%	52.2	43.4%
General pediatrics	94	9.3	55.3%	52.0	40.4%
Surgeons	245	24.1	31.8%	53.6	46.9%
General surgery	62	6.1	22.6%	52.1	37.1%
Obstetrics-gynecology	103	10.1	56.3%	52.5	43.7%
Other surgery	80	7.9	7.5%	56.0	58.8%
Psychiatrists	86	8.5	43.0%	55.7	60.5%
Other Specialists	984	96.9	19.1%	53.5	50.3%

*not federally employed, age <75 years, in Montana

Source: WWAMI Center for Health Workforce Studies, 2014

Table 1 shows the number of physicians in Montana in 2014, total and by specialty group, as well as the number per capita.

Nearly one third (32.7%) of Montana’s physicians are over age sixty (AAMC State Physician Workforce Data Book 2015). Many of Montana’s most rural counties have the highest percentages of physicians age 55 and older. More than 50% of all physicians providing direct patient care in 17 Montana counties were age 55 or older in 2014. In five counties—Daniels, Fallon, Mineral, Phillips, and Sweet Grass— all physicians were over age 55. While 100% of generalist physicians in six counties were over 55, the percentages of generalist physicians age 55 or older were generally lower than for overall physicians, but still were high among the more rural counties. The future of

PHYSICIAN

physicians retiring in such communities elevates the need of recruiting more providers in these areas. Equally as important as the overall shortage of physicians is the maldistribution of the physician workforce. Fewer physicians provided direct patient care per 100,000 population in rural compared with urban areas of Montana, although there was more rural-urban parity among practicing generalist physicians.

Table 2. Montana physicians in urban, rural and sub-rural areas in 2014**

Physicians providing direct patient care*	Urban		Overall Rural		Large Rural		Small Rural		Isolated Small Rural	
	#	#/100,000 population	#	#/100,000 population	#	#/100,000 population	#	#/100,000 population	#	#/100,000 population
Total	1,031	279.9	1,014	156.7	628	238.0	297	168.0	89	43.1
Generalists	293	79.5	437	67.5	221	83.8	150	84.9	66	32.0
Family medicine/ general practice	161	43.7	300	46.4	131	49.6	112	63.4	57	27.6
General internal medicine	86	23.3	89	13.8	53	20.1	29	16.4	7	3.4
General pediatrics	46	12.5	48	7.4	37	14.0	9	5.1	2	1.0
Surgeons	121	32.8	124	19.2	71	26.9	48	27.2	5	2.4
General surgery	20	5.4	42	6.5	20	7.6	20	11.3	2	1.0
Obstetrics- gynecology	43	11.7	60	9.3	34	12.9	23	13.0	3	1.5
Other surgery	58	15.7	22	3.4	17	6.4	5	2.8	0	0.0
Psychiatrists	44	11.9	42	6.5	34	12.9	7	4.0	1	0.5
Other Specialists	573	155.5	411	63.5	302	114.4	92	52.0	17	8.2

*not federally employed, age <75 years, in Montana

** Rural-urban determined using ZIP code RUCA taxonomy. Overall rural is a combination of the three rural subcategories.

Source: WWAMI Center for Health Workforce Studies, 2014

Table 2 details the rural-urban distribution of the state's physicians, overall and by specialty, and in addition shows their distribution among three sub-rural area types: large rural, small rural and isolated small rural. Specialists congregated in urban areas where more specialty care services and larger hospitals are provided. Much of Montana's population lives in the many rural areas of the state, however, so overall there are nearly as many physicians in rural Montana as in urban areas, and the number of generalist physicians was greater in rural compared with urban areas. On a per capita basis, the urban areas of the state had relatively more practicing physicians than across rural areas. Major differences in physician supply were seen between the large and small rural areas, where the number of physicians per capita exceeded urban areas for some specialties, compared with the small physician supply rates seen in isolated small rural areas.

In 2016, The Montana Medical Association reported 12 counties had no practicing primary care physicians (includes Family Medicine, General Practice, Internal Medicine and OB/GYN). Counties in western Montana tended to have higher physician density than counties in eastern Montana, which generally follows the distribution of the state's population.

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GRADUATE MEDICAL EDUCATION COUNCIL

There is value in coordinating efforts to increase the number of physicians in Montana. To begin to address this need, in January of 2011, a concept paper proposing the creation of a Montana Graduate Medical Education Council (MGMEC) was developed and presented to the Montana Office of Rural Health/Area Health Education Center (MORH/AHEC). At the same time, MORH/AHEC received funds to develop a healthcare workforce network. The workforce project required a governing Board. Thus, the creation of a MGMEC became a priority. The Council is very active and continues to be staffed by MORH/AHEC. The purpose of the Montana GME Council is to improve the healthcare of Montanans by building the state's physician workforce, through the identification of approaches to support Under Graduate Medical Education (UME) and Graduate Medical Education (GME) within Montana that are effective, sustainable and directed at Montanans' areas of need, and serving as a resource on medical education.

MEDICAL SCHOOL STRATEGIES

Prepare Montana K-12 and postsecondary students for 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

Sponsor Pre-Med Conference (biennially) for Montana undergraduates to assist in preparing medical school applications. Sponsor MCAT preparation.

Provide extensive opportunities for medical students to experience rural and underserved settings throughout their education through:

- Rural Underserved Opportunities Program (RUOP) summer experiences
- 3rd and 4th year clinical education
- Targeted Rural Underserved Track (MT WWAMI TRUST) experiences and education throughout medical school
- Mentorships

Work to develop and include non-traditional practicum settings, i.e. Community Health Centers, IHS/Tribal Health, long-term care/home health, nursing homes, public health offices, etc.

PHYSICIAN

MEDICAL RESIDENCY STRATEGIES—GRADUATE MEDICAL EDUCATION

Through the Montana GME Council, support coordination of GME development and GME advocacy within the state.

Develop communication materials for the general public and state legislators to demonstrate the pathway to becoming a physician and the importance of rural practicum.

Seek to obtain various forms of financial support for sustaining and expanding current GME programs within the state:

- Montana Family Medicine Residency; Billings
- Family Medicine Residency of Western Montana; Missoula and Kalispell
- Billings Clinic Internal Medicine Residency; Billings
- Others Residencies as indicated by the Plan

Obtain new sources of funding for new GME programs within the state.

Establish and maintain a coordinated approach to quality GME experiences that produce educational efficiencies in the Montana GME system.

Develop a collaborative approach for ongoing physician workforce analysis and recommendations.

Expand rural residency placement opportunities by building a “culture of learning” in Montana’s rural communities to support the development and education of rural primary care providers. Offer “Meet the Residents” networking opportunities around the state.

Build new, innovative methods for rural/frontier Critical Access Hospitals to participate in rural residency rotations, including development of funding mechanisms.

Develop common preceptor and faculty training to be delivered via shared training opportunities to propagate rural rotations.

Identify the “clinical teaching” capacity for UME and GME in Montana.



MSU photo by Adrian Sanchez Gonzalez

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 (NCCPA) and are also state-licensed. Nationally, about 32% of the PA workforce practices in a primary care capacity (from the 2013 American Academy of Physician Assistants Annual (AAPA) Survey Report). Employment of PAs is expected to grow by 30% from 2014 to 2024, with much faster growth than the average for all occupations (BLS Job Outlook projections). Growth projections reflect the expansion of healthcare coverage through healthcare reform and an increasing aging population.

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 in rural/frontier communities that have difficulty recruiting physicians.

Workforce

The Montana Physician Assistant workforce has shown significant growth in recent years with 20 annual opening per year (per DOLI). The Bureau of Labor Statistics projects that 561 PAs will be needed in Montana by 2022. However, recent licensure information, the American Academy of Physician Assistants (AAPA) 2015 National Survey, and a National Commission on Certification of Physician Assistants (NCCPA) study (2016) show the number of PAs practicing in Montana is already over 500. The AAPA reports that about 38% of the practicing PAs in Montana were employed in a primary care capacity (family/general medicine, general internal medicine and general pediatrics) in 2013.

The NCCAP reports 49.7 PAs per 100,000 population in MT while the national figure is 34/100,000. Montana has the 8th highest concentration of PAs per 100,000 population in the country (from the NCCPA survey, 2016).

We also know that eleven counties in MT have no practicing PAs at all, while four counties have 59 or more, suggesting maldistribution of the PA workforce.

EDUCATION AND TRAINING

There are 210 accredited PA training programs nationally, a significant increase in programs from 156 in 2011. The only PA training program available in Montana (and the northern Rockies) is Rocky Mountain College in Billings. The program's mission is to "educate primary care providers who embody a combination of academic talents of evidence-based medicine, clinical skills, and professionalism while providing compassionate health care services, particularly to those in rural and underserved areas of this region. Our graduates distinguish themselves through an emphasis on patient safety and quality improvement."

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 80% of the incoming class are students from the greater WWAMI region—about 68% from Washington and Alaska, and 12% from Montana, Wyoming and Idaho combined.

PHYSICIAN ASSISTANT

County	Number of PAs	County	Number of PAs
Beaverhead	3	Meagher	1
Big Horn	4	Mineral	4
Broadwater	2	Missoula	72
Carbon	5	Musselshell	3
Carter	1	Park	5
Cascade	34	Pondera	3
Choteau	3	Powell	3
Custer	9	Prairie	2
Dawson	8	Ravalli	12
Deer Lodge	2	Richland	4
Fallon	2	Roosevelt	4
Flathead	59	Rosebud	4
Gallatin	59	Sanders	6
Garfield	1	Sheridan	4
Glacier	1	Silver Bow	17
Granite	1	Stillwater	4
Hill	7	Sweet Grass	2
Jefferson	2	Teton	2
Lake	10	Toole	1
Lewis and Clark	38	Valley	5
Liberty	1	Wheatland	1
Lincoln	12	Yellowstone	108
McCone	1	TOTAL	532

(Data from the Montana Medical Association, April 2016)

Counties with no practicing PAs: Blaine, Phillips, Daniels, Judith Basin, Fergus, Petroleum, Wibaux, Golden Valley, Treasure, Powder River, Madison

PHYSICIAN ASSISTANT STRATEGIES

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.

Encourage supportive community involvement/ partnerships in recruiting and retention efforts.

Maintain or increase financial incentive programs for practice in rural and underserved settings—NHSC, MT State Loan Repayment, private grants/ scholarships.

APPENDIX

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HEALTHCARE MONTANA: OVERVIEW

DESCRIPTION

HealthCARE Montana is a collaborative project that helps train, recruit, and retain healthcare professionals in rural and frontier Montana by:

- Helping prospective students identify and access pathways toward a healthcare certificate or 2-year degree, as well as supporting them throughout their healthcare education to ensure academic success;
- Developing an accelerated nursing curriculum to guide healthcare providers toward higher levels of practice and to ease the nursing shortage in Montana;
- Increasing opportunities for on-the-job training by developing healthcare apprenticeships; and,
- Building and sustaining a rural, “home-grown” healthcare workforce that serves the smallest communities in the farthest regions of Montana.

OVERVIEW

The overarching vision of the HealthCARE initiative is the transformation from fragmented, localized workforce development in healthcare to a statewide system of healthcare workforce planning among the consortium; the state workforce system; the Montana Registered Apprenticeship Program; the AHECs; healthcare associations; and employers resulting in successful employment outcomes for all students, with attention to adult learners and veterans. This vision will be achieved through evidence-based strategies.

FOUR HEALTHCARE OBJECTIVES

Objective 1	Create statewide healthcare pathways characterized by stacked and latticed credentials and contextualized curricula.
Objective 2	Systemically address Montana’s nursing shortages and provide accelerated pathways to completion of nursing programs and bridges to BSN for adult learners.
Objective 3	Increase success for students by providing services that better prepare adult learners for success in the curriculum; accelerate credential completion; coach students in pathway navigation; and provide access to distance education.
Objective 4	Engage the healthcare industry, education, workforce programs and other stakeholders in statewide healthcare workforce transformation and strategic planning; curriculum development; on-the-job training and apprenticeship opportunities; rapid response cycle regional planning; and data driven approaches for demand-driven workforce development and education strategies.

DATA

- Faculty from 15 campuses representing 168 healthcare programs and 226 industry representatives are working together to address healthcare workforce shortages.
- Healthcare curriculum has been reformed to meet rapidly changing healthcare needs.
- 20-25% reduction in time and up to \$16,599 reduction in cost for Practical Nursing and Associate of Science Registered Nursing education.
- Entry into workforce six months earlier resulting in potential to increase salary ~\$15,500 for LPN and \$22,500 for RN.
- 20% increase in number of Associate of Science Registered Nurse graduates over time.
- 20% reduction in time and cost to transition from an ASN to a Bachelor of Science Registered Nurse (BSN).
- Six new online CNA Specialty Certificates will provide opportunity for educational advancement and increased wages.

HEALTHCARE MONTANA: OVERVIEW

EDUCATION AND TRAINING

Fifteen Montana community colleges are engaged to provide health education to HealthCARE Montana participants; Bitterroot College UM; Blackfeet Community College; Chief Dull Knife College; City College MSUB; Flathead Valley Community College; Gallatin Community College MSU; Great Falls College MSU; Helena College UM; Highlands College MT Tech UM; Miles Community College; Missoula College UM; MSU North-ern; Salish Kootenai College; Stone Child College, UM Western.

HealthCARE Montana committees have addressed accelerating and abbreviating nursing curricula for BSN, ASN and PN and establishment of a core curriculum for allied health to allow for laddering and latticing coursework.

KEY HEALTHCARE MONTANA STRATEGIES

1. Develop career ladders and educational pathways for clinical and administrative certificates, degrees and jobs, adopting pathways from previously TAACCCT-funded programs.

Current status: A 35-member Allied Healthcare Core Curriculum Design Team representing academic program directors, faculty, and healthcare employer representatives identified a common set of healthcare competencies for the academic foundations and the core curriculum that span all the allied healthcare fields. The Design Team is developing a Montana Core Curriculum model that will incorporate these competencies. This model will provide clearly defined educational pathways that will be presented to the 15 consortium campuses within their Allied Healthcare programs to ensure consistent program prerequisites and core competencies both across programs and campuses. In addition, this will provide clearly defined educational pathways within allied healthcare fields and reduce the costs for student transfer between programs through a common set of courses.

2. Provide services to support adult learners.

Current status: Participants have access to Career Coaches and Transformation Specialists who current assist students in helping them reach their educational goals by providing student support services and linking students to needed services and resources.

As part of supporting adult learners who have unique challenges that require different types of assistance, HealthCARE Montana Diversity Committee attempted to define, understand and address those challenges. The goal of the Diversity Committee is to evaluate how to include and assist diversity population of students in successful acceptance, retention, graduation and academic progression that can be extended to all health care professions. Three subcommittees were created to address specific diversity issues-Veteran's, Native American and the Non-traditional student. (See the Diversity Section)

3. Engage the healthcare industry in education and workforce planning.

Current status: Health care employers have the opportunity to vocalize their employment needs to the involved educators via the HealthCARE Montana Workforce Coordinators located in each Montana AHEC region across the state.

In addition to an initial assessment completed with over 100 Montana health care employers, each Workforce Coordinator develops, maintains and sustains relationships with healthcare employers in their respective regions by engaging them to participate in regional employer advisory councils and/or a rapid response teams. Employers participating in rapid response teams provide frontline views to grant-related work as well as other workforce related issues. The Rapid Response process is also used for industry stakeholder communication with employers.

HEALTHCARE MONTANA: OVERVIEW

INITIAL ASSESSMENTS

The initial assessment yielded some overarching themes that help describe the current health care workforce situation in Montana. Responses gravitated into four categories: trends, challenges, soft skills, and technical skills (both seeking and lacking).

Trends

The Affordable Care Act (ACA) is considered a paradigm shift in health care delivery. The change from volume to value-based payment for care (placing an emphasis on ‘well’ care rather than acute care is expected to create changes in utilization and centers of care, as well as reimbursement concerns in the rural setting. Medicaid expansion is expected to change the patient load as more Montanans will have access to insurance coverage. The need for partnerships is seen as a necessity. The regulatory burden is a continuing challenge, as is the shortage of staff. Lack of sufficient resources results in providers being asked to do more with less.

Challenges: Three Main Categories

1. The rural setting of many healthcare providers in Montana creates both human and capital challenges as well as accessibility limitations and staffing shortages. Healthcare in a rural setting requires ALL skills and staff has to take on many different roles. Students need training specific to rural settings. It is difficult to recruit candidates to rural areas. Frontier areas have even more challenges with an even more sparse population and fewer resources.
2. The aging workforce and aging population. Baby boomers were viewed as a challenge. They are producing a position gap due to retirement, as well as living longer and requiring more care, especially in the areas of Home Health, Hospice, and Assisted Living. There will be an increased need for more providers to serve this aging demographic. Employers reported a generational disconnect leading to workforce compatibility issues which can foster internal discord. Aging seniors are living longer and will need more acute care, creating a need for health care students to be trained in the complexities of geriatric care.
3. Information technology. Financial consequences weigh heavily on healthcare providers from both the implementation side and subsequent penalties for failure to comply. EHR documentation skills are especially challenging. Providers are exploring telemedicine as a health care delivery option of the future, but this requires staff to develop increased experience in this area. Lack of adequate IT skills also presents a challenge to employers. One employer stated that prospective employees can't complete an online job application.

Soft skills

The importance of soft skills and the role they play received significant response. Customer service and satisfaction are paramount considerations for all provider types, especially as they will play an increasingly important role in reimbursement. Many adjectives were used to describe soft skills, but the most common were compassion and respect. Employers feel that employees tend to forget that healthcare is 24/7/365. Team work and work ethic were also cited as important soft skills. Work ethic was described as being accountable, punctual, reliable, loyal, and having good communication skills (face-to-face). Many employers indicated that employees seem to exhibit a sense of ‘entitlement’.

Technical skills (Lacking/Seeking)

A few common technical skills were identified which affect the healthcare industry overall. Leadership, defined as taking the initiative to manage others, mentoring, being knowledgeable, working with limited supervision, and being professional, was identified as an important skill needed to be a proficient health care worker. Other skills include critical thinking, confidentiality (especially in rural areas), and interview/assessment techniques in clinical setting. It is advantageous for staff to have a broad skill set so they can perform multiple functions within the facility.

HEALTHCARE MONTANA: OVERVIEW

Rapid response

A unique, innovative feature of the HealthCARE Montana grant is the opportunity for healthcare employers to vocalize their employment needs to the involved educators and other interested organizations like the Montana Medical Association and the Montana Hospital Association. Workforce Coordinators located in each Montana AHEC regions maintain a strong connection to employers in their respective regions obtaining important employer responses to timely workforce-related topics. The employer responses provide feedback to grant related projects and other health care related organizations for relevant health care related projects.

As the HealthCARE Montana grant work proceeds, it is imperative to get the employer perspective on various activities like interest in an abbreviated Practical Nurse program, the interest and ability in providing clinical sites for nursing students or CNA apprenticeship interest.

Representative list of Rapid Response topics:

- Practical Nurse and Associate degree Nursing Needs and Comments
- A multi-faceted look at computer skills, critical thinking, nursing workforce background and experience, regional hybrid PN program/Clinical rotations
- New healthcare professions
- What it means to work in a rural setting
- Employing CNAs From a Pre-release Center
- Provider Recruitment Fatigue
- Health Care Employee Leadership Assessment
- LPN Leadership Assessment
- Mentoring Newly Licensed Nurses
- Abbreviated Practical Nursing Program Interest
- CNA Apprenticeship Program Interest
- Clinical site interest and capabilities
- Practical Nurse curriculum comment and interest

4. Establish nationally recognized registered apprenticeship programs.

Apprenticeship programs are most commonly utilized in the trades but the HealthCARE Montana workforce grant created a platform for the development of registered health care apprenticeships; the first of its kind in Montana. HealthCARE Montana established the first two CNA apprenticeship programs in December 2015 at long-term care facilities in Bozeman and Malta and has grown to 10 apprenticeships in various health care facilities across Montana. The program currently offers registered health care apprenticeships for CNA and CNA Specialties, Computed Tomography and EMT. Pharmaceutical Technician, Medical Coding, Health Information Technology and Hospital Administration will be implemented spring 2016 with CNA-LPN, EMT-Paramedic and CNA-Med Lab Tech Bridge available in fall 2016.

(See the Apprenticeship section for more information.)

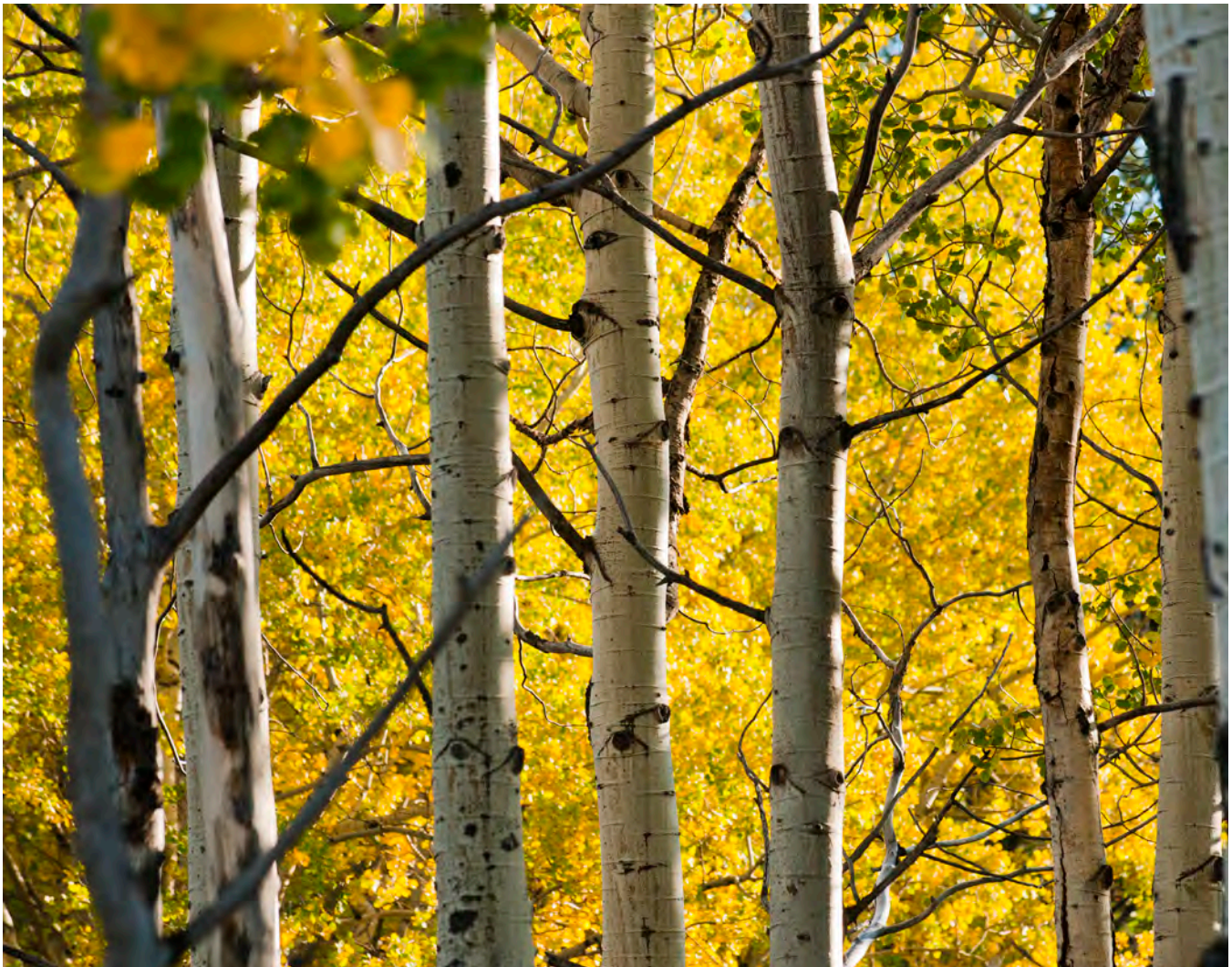
5. Sustainability

HealthCARE Montana has accomplished much during the first eighteen months towards initiating new and innovative programs to advance healthcare education. The apprenticeship program, the Workforce Coordinator role and sustainability of outcomes realized by HealthCARE Montana are concerns once the funding and much of the grant infrastructure ceases to exist.

HEALTHCARE MONTANA: OVERVIEW

The apprenticeship program has been well received by Montana health care employers. Initiating apprenticeships is a complex process and the Workforce Coordinators are instrumental in the implementation of this program as well as building and maintaining a strong connection with Montana's health care employers. This position has the time and availability to make frequent visits to healthcare facilities to learn about their workforce needs. Prior to this, there was no formal system of communication with facilities on workforce challenges and hiring needs. WFCs also maintain a close relationship with colleges and can relay workforce needs expressed by the employer with appropriate education programs. This bridge is difficult for colleges and facilities to maintain on their own.

HealthCARE Montana's Steering Committee along with project staff will continue to look beyond the life of the grant and plan for sustainability of other key activities. This involves evaluation of the infrastructure in terms of importance to project outcomes, and what it will take to continue practices deemed crucial, along with exploring ways to reallocate resources to support these priorities.



MSU photo by Kelly Gorham

January 2018

Level II Memorandum

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HEALTHCARE MONTANA: APPRENTICESHIPS

REGISTERED APPRENTICESHIP PROGRAM, MONTANA DEPARTMENT OF LABOR AND INDUSTRY INITIATIVE

SUPPORTED BY HEALTHCARE MONTANA

I. Overview of Healthcare Apprenticeship

Apprenticeship is a time-tested, “earn while you learn” strategy with the combination of on-the-job training, related instruction online or in a classroom, mentorship, and incremental wage increases. Employers work with the Registered Apprenticeship Program to identify competencies, timelines, and related coursework.

This initiative is a collaboration between the Montana Department of Labor & Industry and the partners of the HealthCARE Montana grant, including the Area Health Education Centers and 15 2-year colleges throughout the state.

A. Case Studies:

Healthcare apprenticeships are being piloted throughout Montana. Many programs were modeled off of the successful reports of healthcare apprenticeships in other states and industries, piloted by Evangelical Lutheran Good Samaritan Society, BlueCross BlueShield of South Carolina, CVS Pharmacies, Multicare Inc. and the Center for Adult and Experiential Learning.

Example: Livingston Health and Rehabilitation Center (an Empress Affiliate) partnered with the local Livingston, MT hospital and the Montana Registered Apprenticeship Program to train 5 CNA apprentices through advanced CNA modules over the course of 4 months.

B. Snapshot Data:

1. Employers receive ROI of \$1.47 for every dollar spent in apprenticeship. Facilities generally recoup their costs within the training period.
2. In terms of government spending, ROI for state apprenticeship agencies is \$27 for every dollar spent in apprenticeship. This is realized through better trained workers receiving higher salaries and therefore higher income tax rates.
3. Healthcare staff turnover rates are associated with precipitous declines in the quality of patient care. Report consensus indicates the decline can begin with turnover rates of 30% for nursing staff and 40% for support staff.

C. Work Based Learning:

On the job training, like in an apprenticeship, is already a major part of many degree and technical programs. It takes many different forms. However, the type of on the job training often occurs on a spectrum with different roles and responsibilities for students, employers, and faculty members. The following side-by-side comparison aims to differentiate by types of on-the-job training programs.

HEALTHCARE MONTANA: APPRENTICESHIPS

Apprenticeships	Clinical Rotations	Internships
Paid	Unpaid	Typically unpaid
Related to coursework	Related to coursework	Varies
Employer-specific competencies	No employer-specific competencies	Varies
Employer evaluates competencies	Faculty evaluate competencies	Employer evaluates competencies
Employer investment in the individual	Less employer investment in the individual	Varies
Trains permanent employees	Provides familiarity with work environment	Provides work experience
Employment anticipated with training facility upon graduation	Employment not anticipated for all students with facility upon graduation	Varies

D. Apprenticeship Outcomes for Employers:

1. Minimize turnover and increase employee retention. Consistent national data shows that apprenticeship as an employer's investment in their workforce decreases employee turnover and increases employee retention.
2. Train employees in their home communities. Flexible curriculum plans through online and hybrid instruction allow apprentices to receive on the job training in their home communities. Quality instruction in the apprentice's home community reduces barriers to fully trained employees. A goal of many apprenticeship sponsors is to create a workforce that approximates the composition of the population they serve.
3. Gain workers with customized skills. Through apprenticeship, facilities have the opportunity to train workers to meet their specific standards. Employers can add and customize apprenticeship competencies as they see fit; beyond licensing and certification standards. This is particularly useful in rural facilities, where employees are frequently cross-trained to cover more roles than in larger facilities.
4. Facilitate entry into the workforce. Apprenticeships often begin with entry level positions to higher paying career paths. Apprenticeships remove many of the financial and support barriers that prevent individuals from starting down these pathways. In pilot studies, over 60% of those who have completed certified nurse aide apprenticeships indicate they plan to continue advancing their nursing careers.
5. Connection to incentive funds. Apprenticeships are state and federally recognized training programs that qualify for various workforce development incentive funds, supportive services, and other resources. In one pilot program, over 70% of the participants have used public funds to cover a portion of training-related costs.
6. Invest in future workforce: Investing in improving worker skill sets can be less costly than recruiting. This benefit can occur both in the entry level positions and reskilling or retraining incumbent workers.
7. Employee morale. Employee satisfaction surveys following healthcare apprenticeship pilot studies report higher rates of employee satisfaction. This is realized through employee training, which better prepares employees for the occupation, and through employee empowerment, through financial and career support.

E. Apprenticeship Outcomes for Education Partners:

1. Retention: In high demand occupations, such as medical coding and health informatics, students are often hired part way through their programs. With the apprenticeship model, they can start working with their employer and finish their degree programs.
2. Boost Enrollment: Flexible training models that accommodate apprenticeships expand the potential student base to all working students, particularly adult learners.

HEALTHCARE MONTANA: APPRENTICESHIPS

3. Distance Education: Creative solutions for distance education allow students to train for their careers while remaining in their home communities. Employer sponsors are able to provide the on-the-job experience that complements the educational programs. Students who are unable to relocate can now pursue education with the support structure to facilitate program completion.
4. Recognition: By providing the related technical instruction for apprenticeship programs, campus programs are automatically promoted to potential students and employers by DLI representatives. Programs receive recognition on the state level for their dedication to meeting workforce needs.
5. Collaboration: Campuses whose certificate and degree programs are not currently structured to accommodate the apprenticeship model can still participate in the process by participating in course sharing, and hosting temporary or short term programs.
6. Steps to Success: Apprenticeships encourage students to continue with their education through additional programs. In a case study sponsored by the US Department of Labor and administered by the Council for Adult and Experiential Learning, 60% of CNA apprentices expressed interest in pursuing the LPN credential and 30% to RN.

II. Healthcare Apprenticeship Current Initiatives

A. HealthCARE Montana Grant Outcomes: The primary deliverables delineated in the HealthCARE Montana grant with progress as of May 2016 are listed below.

1. Contract with Department of Labor & Industry: HealthCARE Montana has contracted the Department of Labor & Industry to coordinate the healthcare apprenticeship portion of the initiative.
2. Hire of 3.0 FTE Apprenticeship Staff: Montana Department of Labor & Industry is based out of Helena, Montana. Apprenticeship staff are regionally located in order to coordinate travel and geographic delivery. Specialists are located in Livingston (serving the North Eastern and Eastern AHEC Regions), Helena (serving North Central and South Central AHEC Regions), and Missoula (serving Western AHEC Region). Staff member located in Missoula serves as Apprenticeship Supervisor.
3. 130 Apprenticeship Spots Created Year 1 with 10% increases in Year 2 and Year 3: Apprenticeship spot creation in progress. Delayed contracting with Department of Labor & Industry has shifted timeline of apprenticeship spot creation. 18 apprenticeship spots created mid-way through Year 2. Slower apprenticeship spot creation lends itself to a different growth curve than anticipated in grant preparation, as well as regulatory bodies which determine eligibility for apprenticeship program.
4. Creation of a Registered Apprenticeship College Consortium. Plans to create a Montana Registered Apprenticeship College Consortium are in place for Year 3 of the grant. Educational partners that provide related instruction to apprenticeship programs, both in healthcare and traditional occupation industries, will be invited to participate.

B. Sustainability Plan:

Currently being discussed to continue healthcare apprenticeships beyond term of grant. Support roles in development by Montana Department of Labor & Industry and HealthCARE Montana leadership to create staffing slots for Healthcare Apprenticeship Specialists through the MTDLI and absorb current work load. Possibility for College Consortium to lend curriculum and development support as well as discussion of Employer Committee involvement.

C. Healthcare Apprenticeship Strategies:

1. Coordinate with education partners.
2. Connection to other workforce development partners: One-Stop-Centers, WIOA, TANF, Vocational Rehabilitation and Blind Services, Incumbent Worker Training, REO.

HEALTHCARE MONTANA: APPRENTICESHIPS

3. Communicate and align with licensing boards.
4. Engage professional organizations.
5. Recruitment and candidate identification determined by employer.
6. Build upon best practices from US Department of Labor and other state apprenticeship agencies.
7. Update current training models with industry and licensing changes.

D. Target Occupations:

1. Certified Nurse Aide (CNA)
2. Specialty training for CNAs:
 - a. Dementia Care
 - b. Geriatrics
 - c. Mentorship
 - d. Rehabilitation
 - e. Advanced CNA
3. Pharmacy Technician
4. Medication Aide II
5. Computed Tomography Technologist
6. Licensed Practical Nurse
7. Medical Assistant
8. Medical Coding and Billing
9. Health Informatics
10. Phlebotomist
11. Medical Laboratory Technician

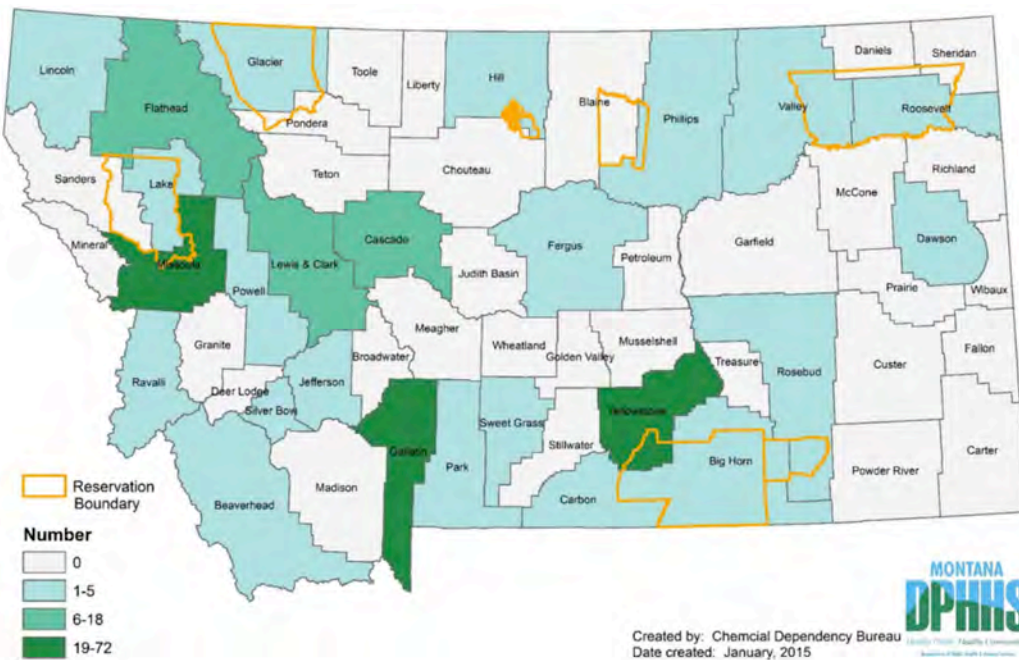
E. Highlighted Educational Partnerships:

1. Missoula College – Computed Tomography
2. Miles City Community College – CNA
3. USAFunds Tribal Apprenticeship Project – Montana Governor’s Office, Stone Child College and Rocky Boy Tribal Health, Salish Kootenai College and Polson EMT, Aaniiih Nakoda College and Fort Belknap Tribal Health

WORKFORCE MAPS: BEHAVIORAL HEALTH

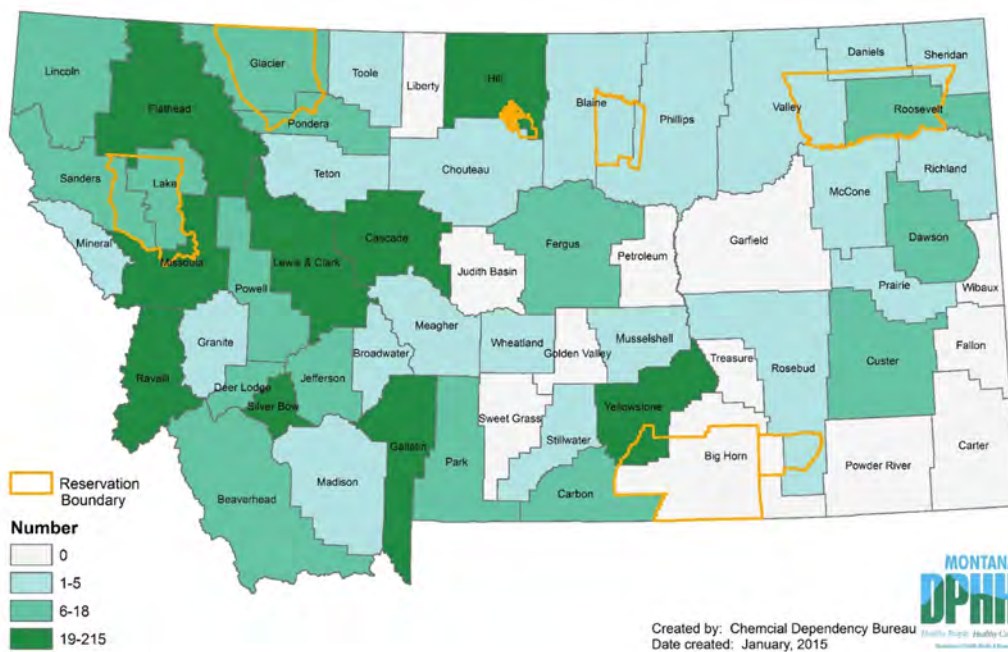
NUMBER OF LICENSED PSYCHOLOGISTS, MONTANA

There are 214 Licensed Clinical Psychologists in the state. Most counties have zero. Most Licensed Clinical Psychologists are located in Missoula, Gallatin (Bozeman), and Yellowstone counties (Billings).



NUMBER OF LICENSED CLINICAL PROFESSIONAL COUNSELORS, MONTANA

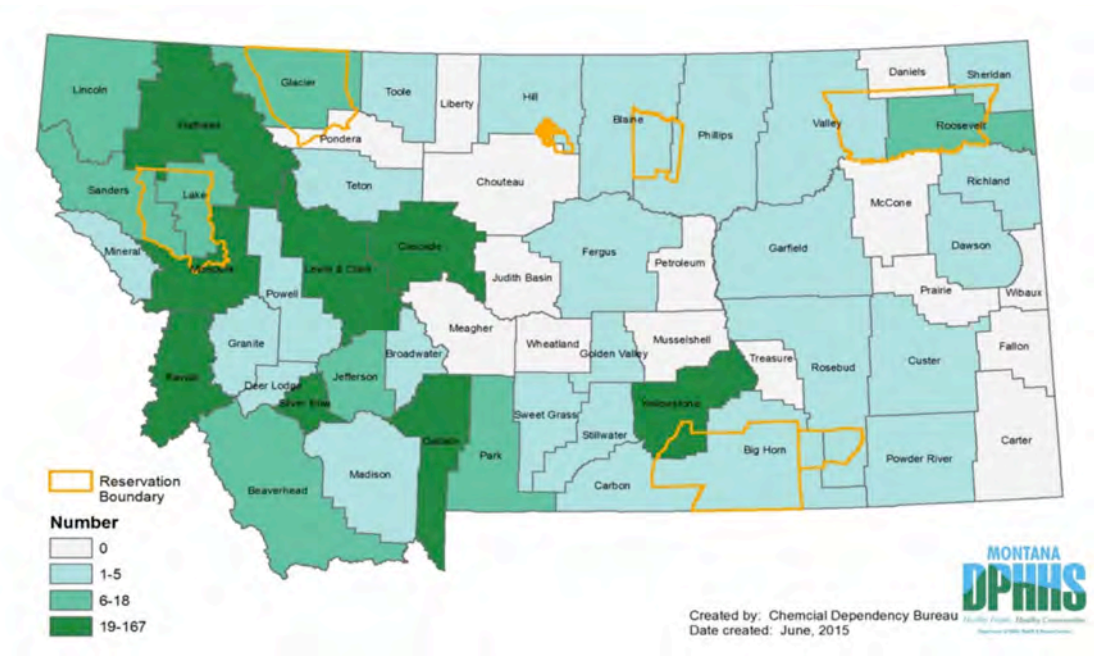
There are approximately 629 Licensed Clinical Professional Counselors (LCPCs) in the state. Thirteen counties have zero LCPCs.



WORKFORCE MAPS: BEHAVIORAL HEALTH

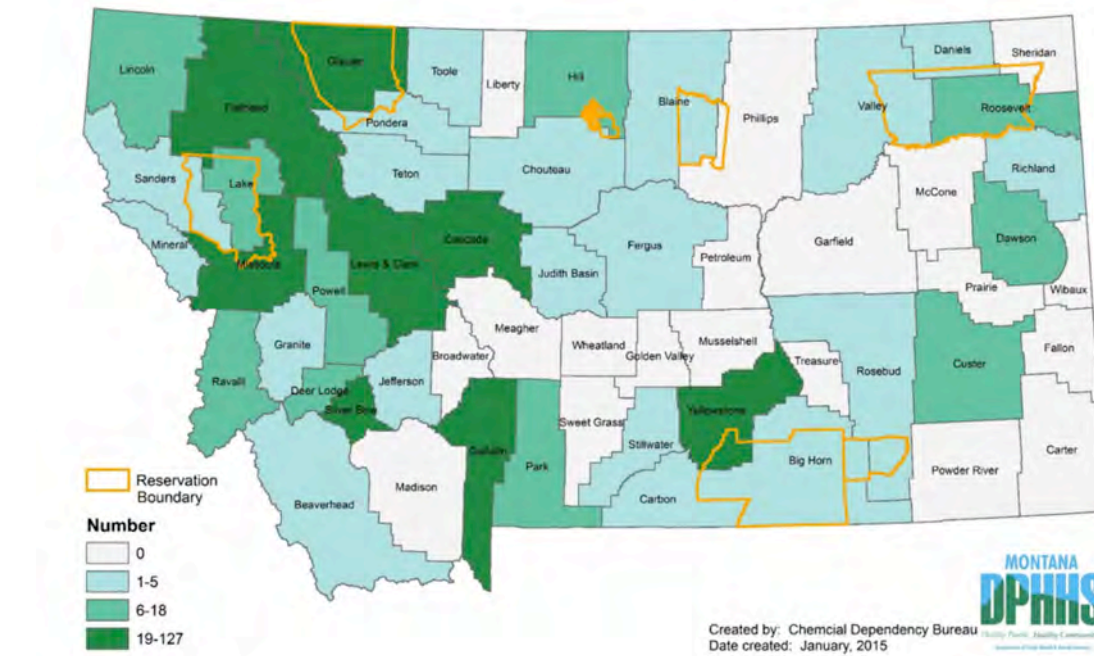
NUMBER OF LICENSED CLINICAL SOCIAL WORKERS, MONTANA

There are 708 Licensed Clinical Social Workers (LCSWs) in the state, but 15 counties have zero LCSWs.



NUMBER OF LICENSED ADDICTION COUNSELORS, MONTANA

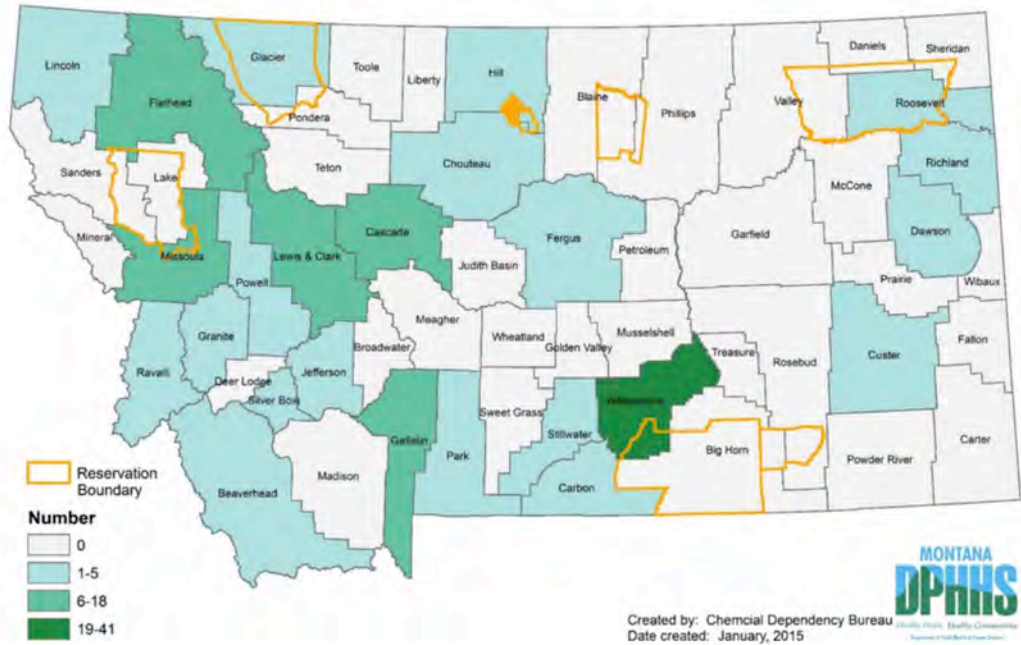
There are 599 Licensed Addiction Counselors (LACs) in the state. Eighteen counties have no LACs.



WORKFORCE MAPS: BEHAVIORAL HEALTH

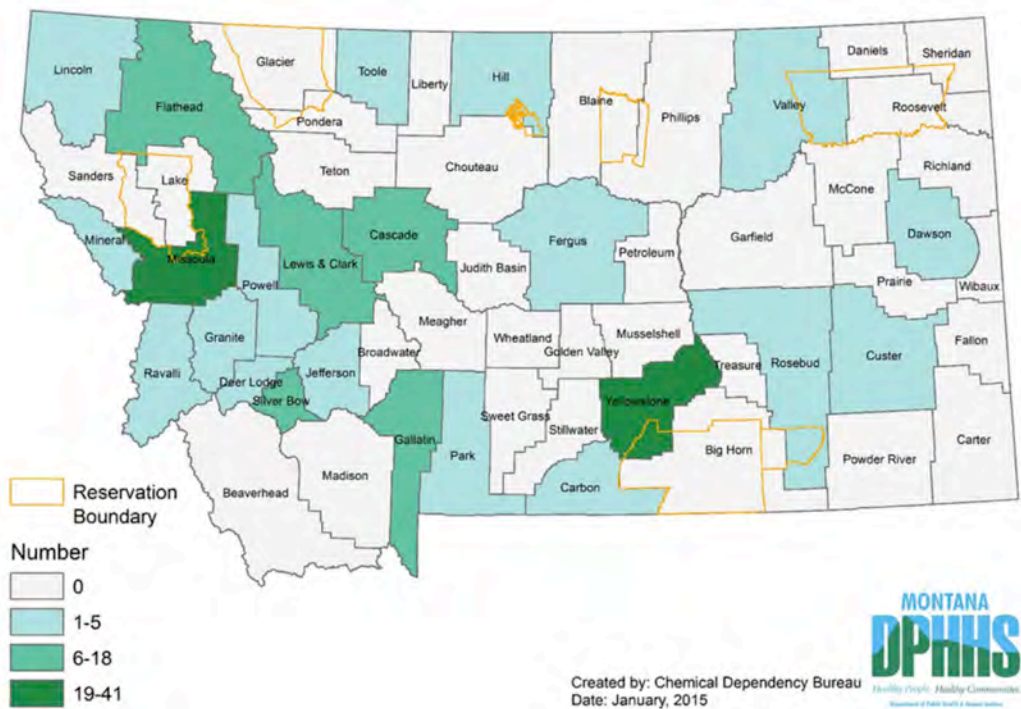
NUMBER OF LICENSED MARRIAGE AND FAMILY THERAPISTS, MONTANA

There are only 124 Licensed Marriage and Family Therapists (LMFTs) in the state. Most counties have no LMFTs, and several counties only have 1-5. Most reservations lie in an area with very few, to no LMFTs.



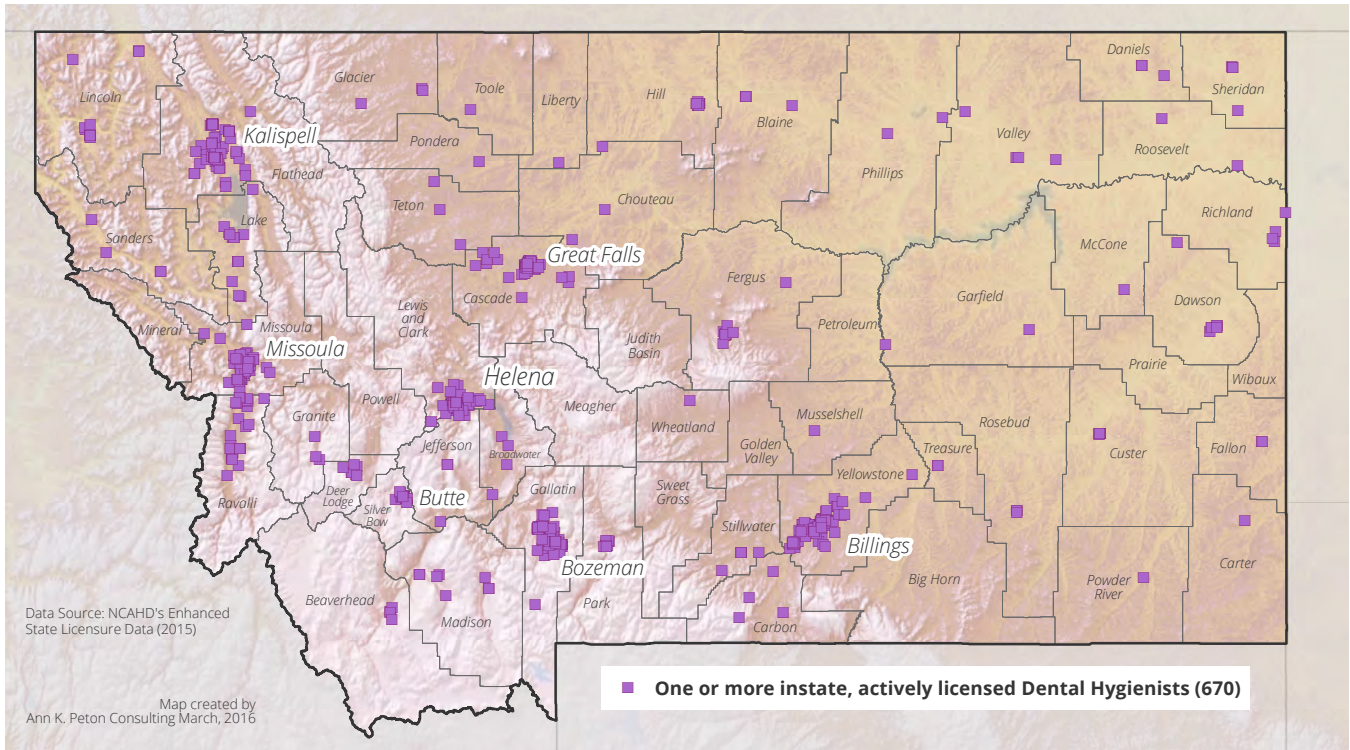
NUMBER OF DUAL LICENSED INDIVIDUALS, MONTANA

It is clear that dually licensed individuals are scarce, with only a total of 194 in the entire state. Most of the counties do not have a single dually licensed professional. Reservation lands lie mostly in areas with zero dually licensed professionals.

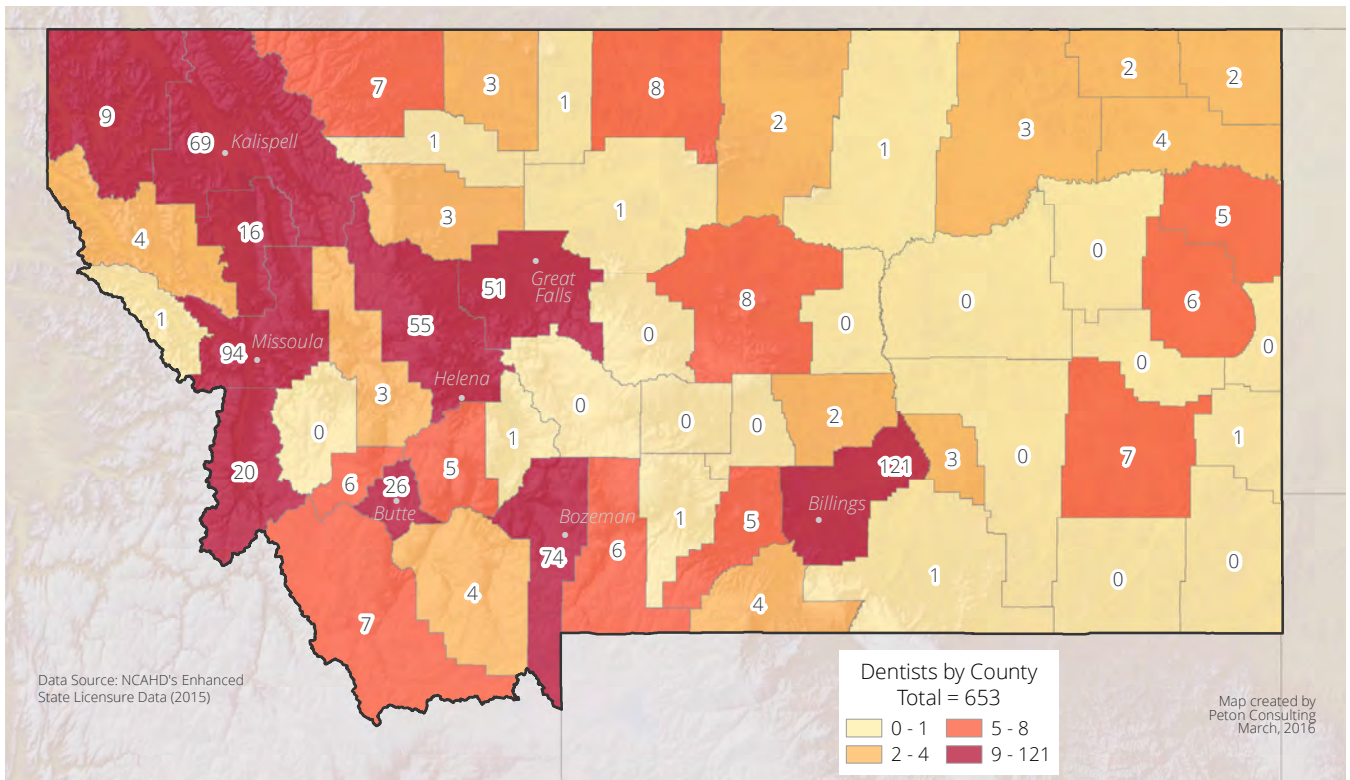


WORKFORCE MAPS: DENTAL HYGIENISTS AND DENTISTS

DENTAL HYGIENISTS IN MONTANA (2015)

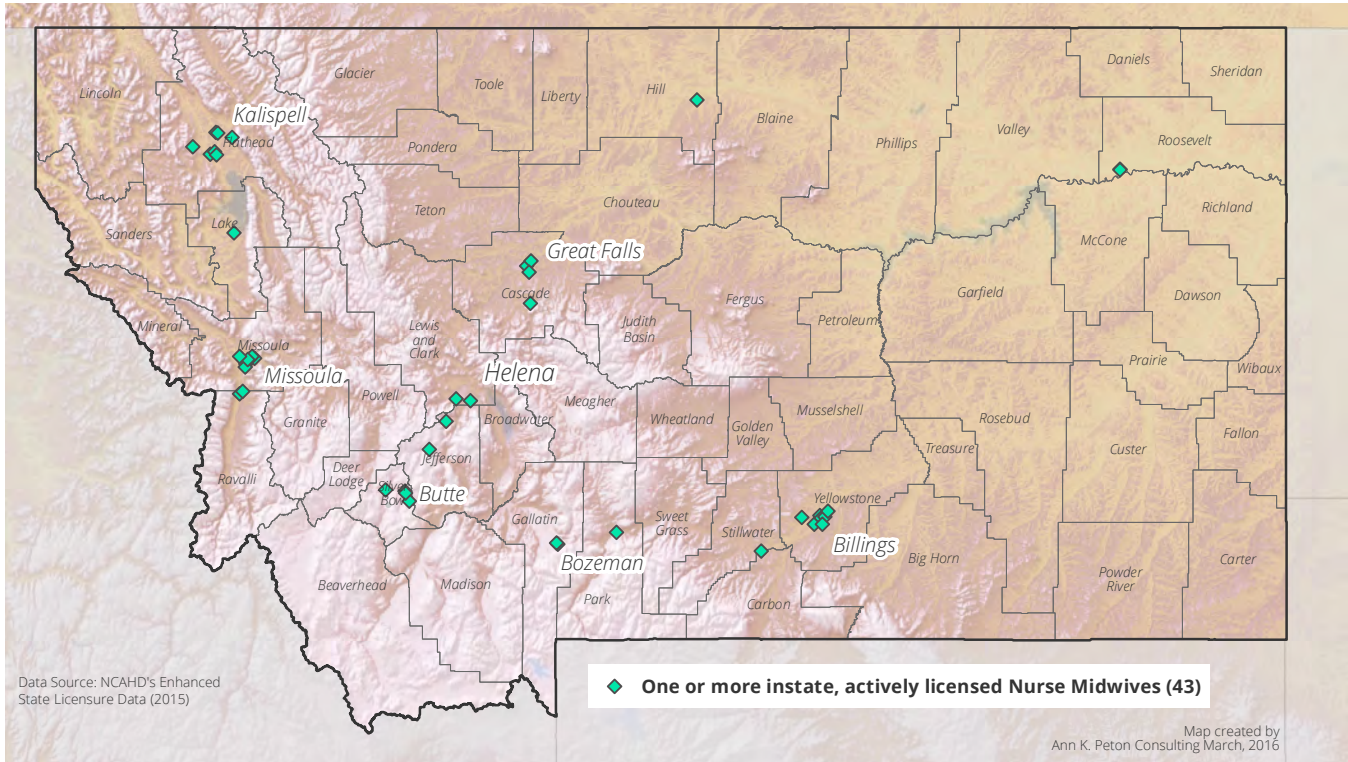


DENTISTS BY COUNTY IN MONTANA (2015)

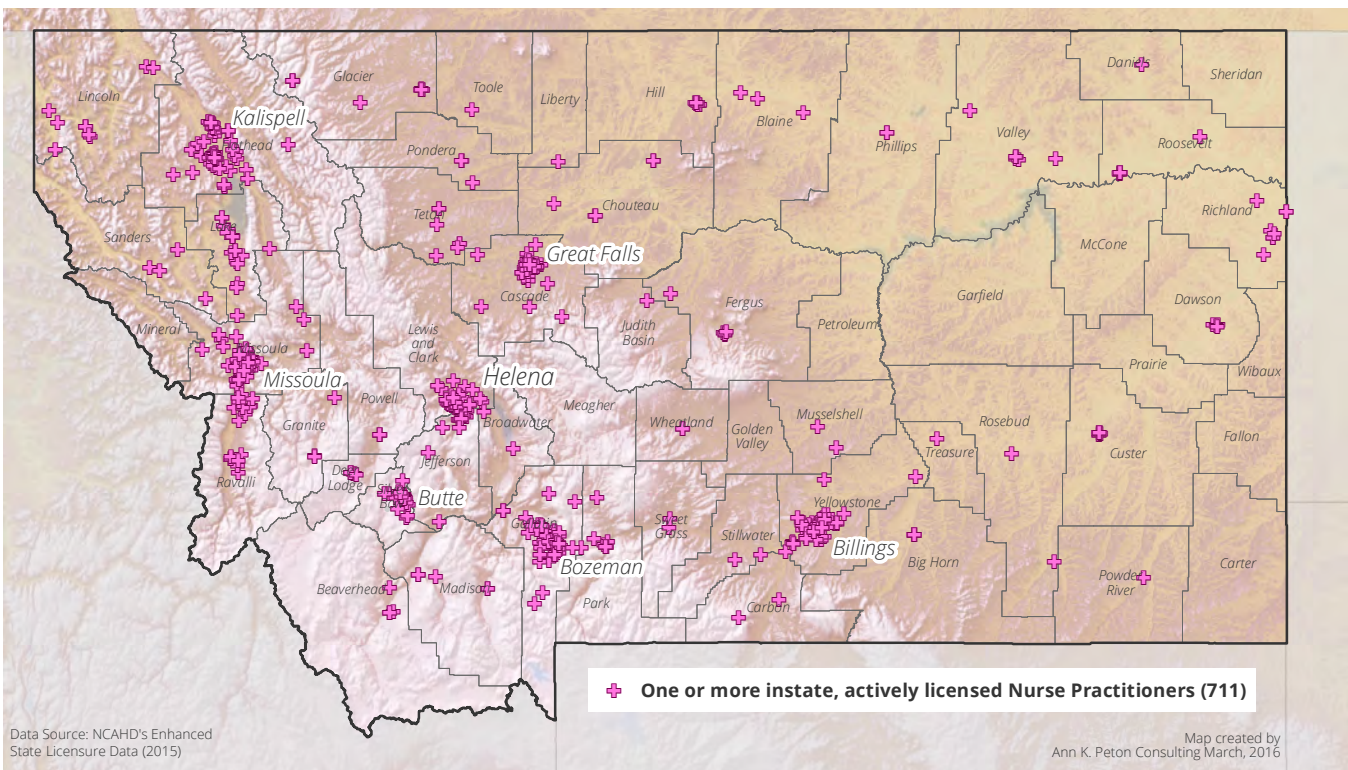


WORKFORCE MAPS: NURSE MIDWIVES AND NURSE PRACTITIONERS

NURSE MIDWIVES IN MONTANA (2015)

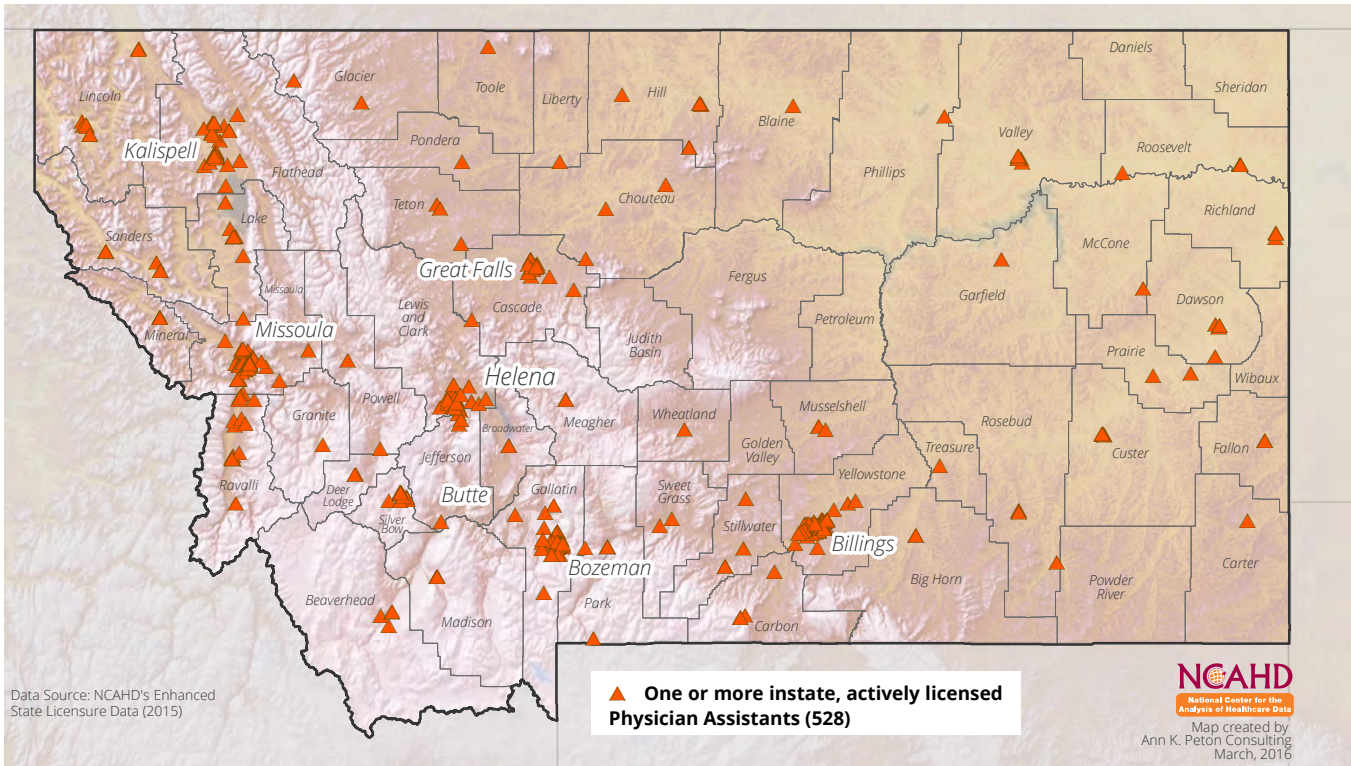


NURSE PRACTITIONERS IN MONTANA (2015)

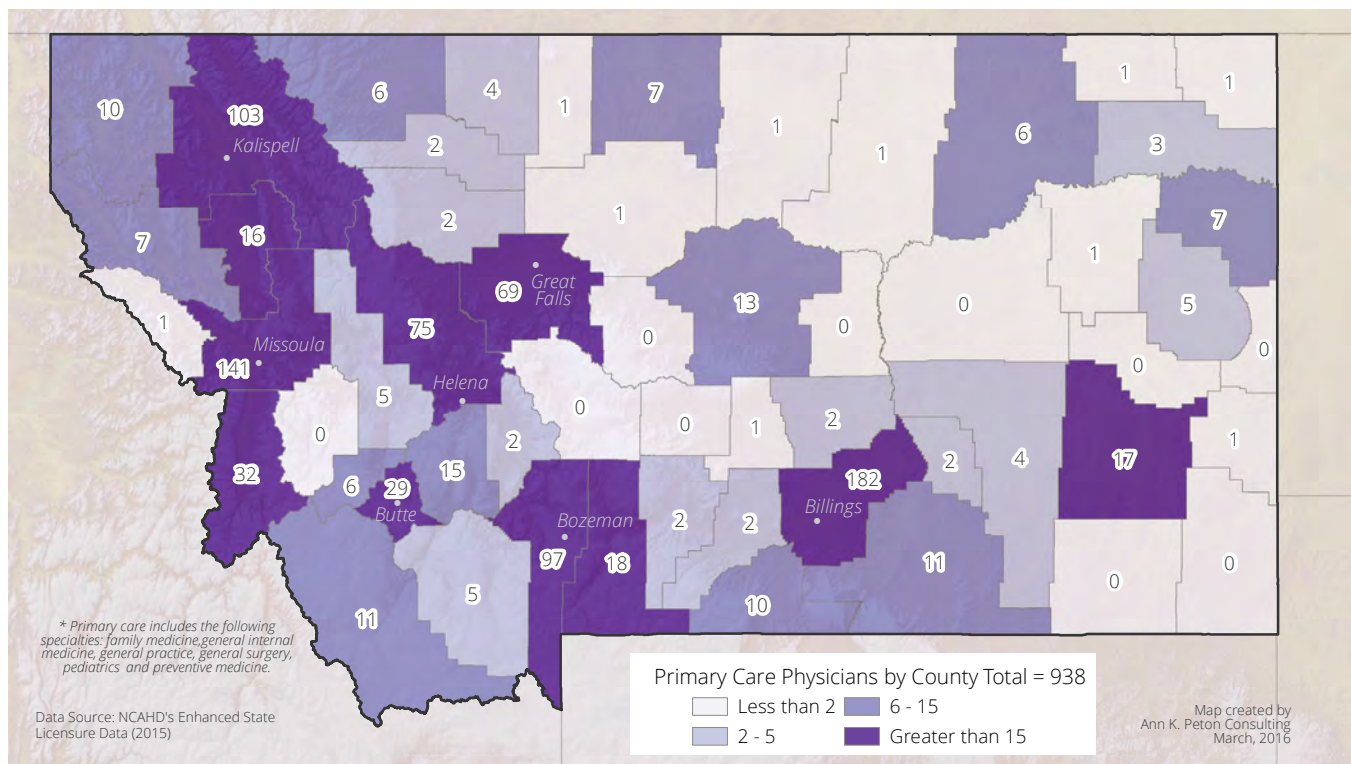


WORKFORCE MAPS: PHYSICIAN ASSISTANTS AND PRIMARY CARE PHYSICIANS

PHYSICIAN ASSISTANTS IN MONTANA (2015)

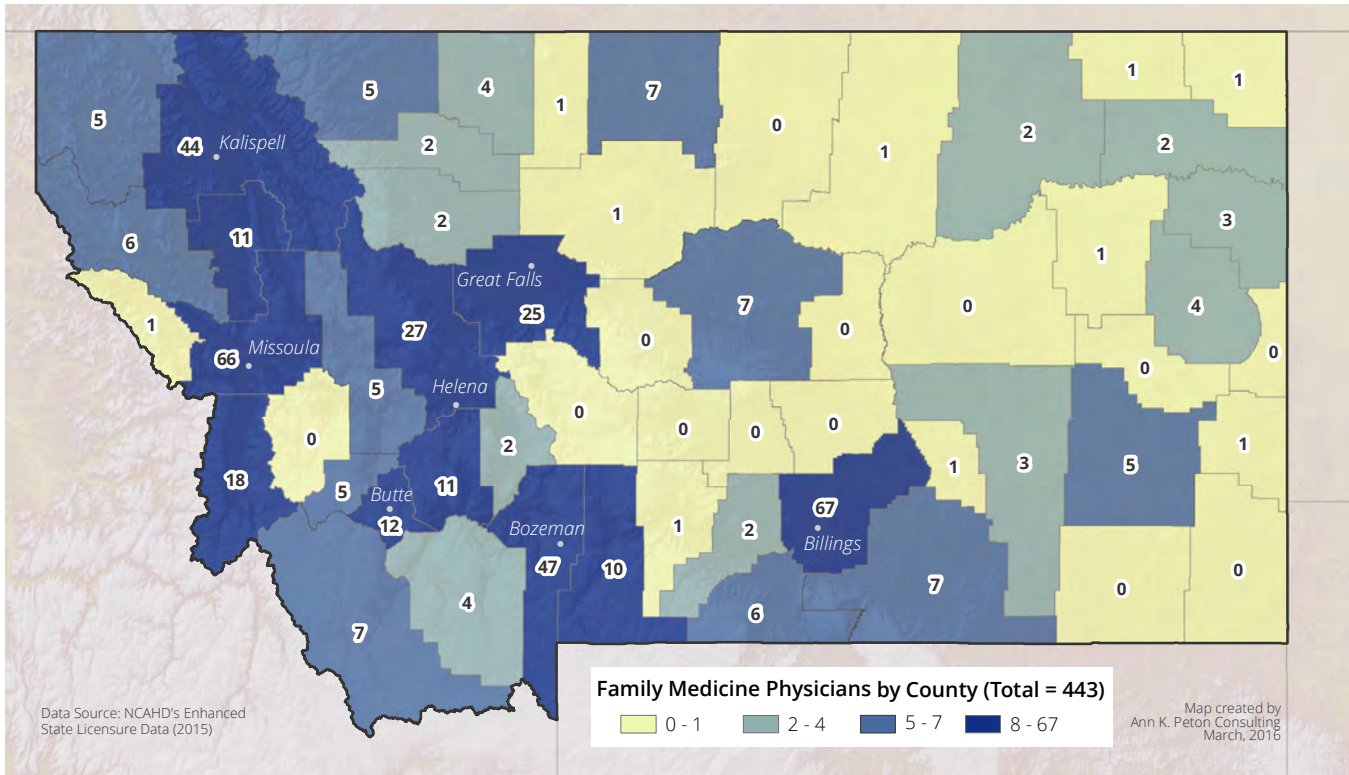


PRIMARY CARE PHYSICIANS (MD,DO) BY COUNTY IN MONTANA (2015)

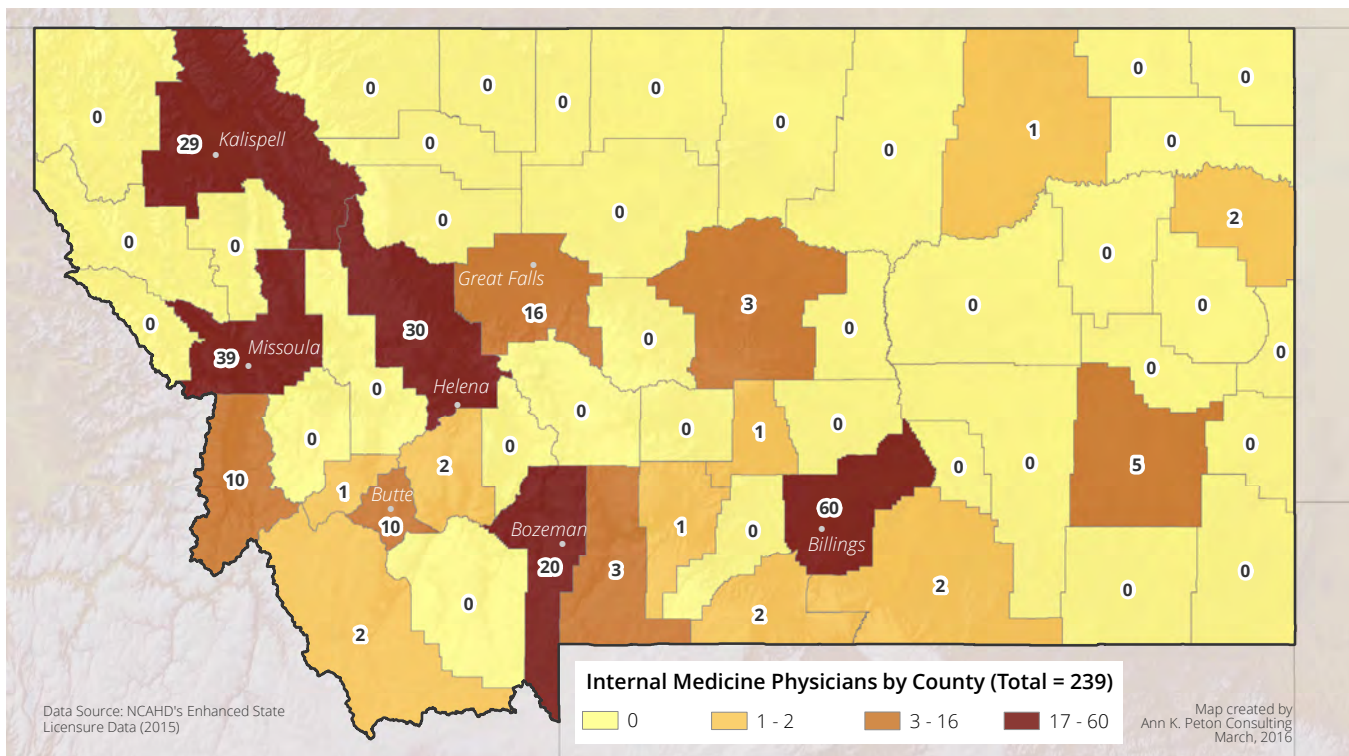


WORKFORCE MAPS: FAMILY MEDICINE AND INTERNAL MEDICINE PHYSICIANS

FAMILY MEDICINE PHYSICIANS BY COUNTY IN MONTANA (2015)

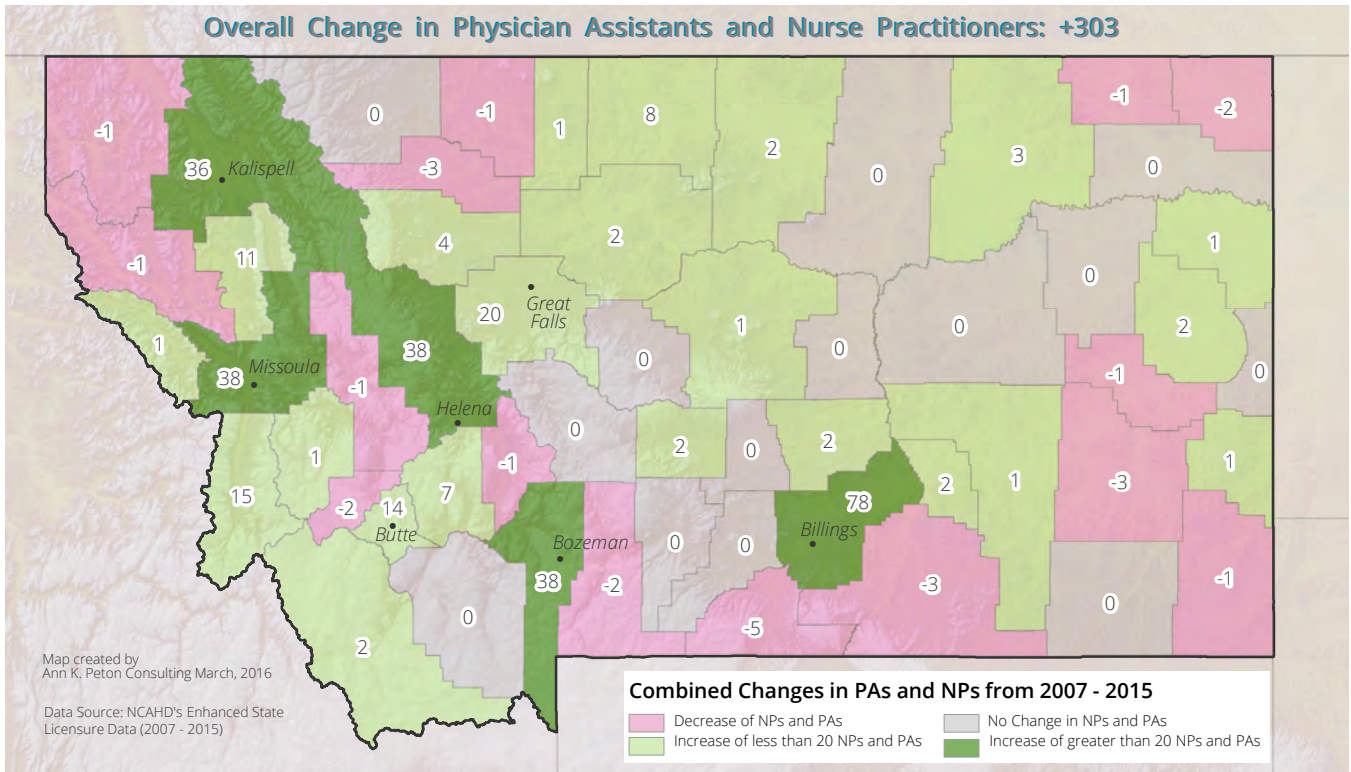


INTERNAL MEDICINE PHYSICIANS BY COUNTY IN MONTANA (2015)

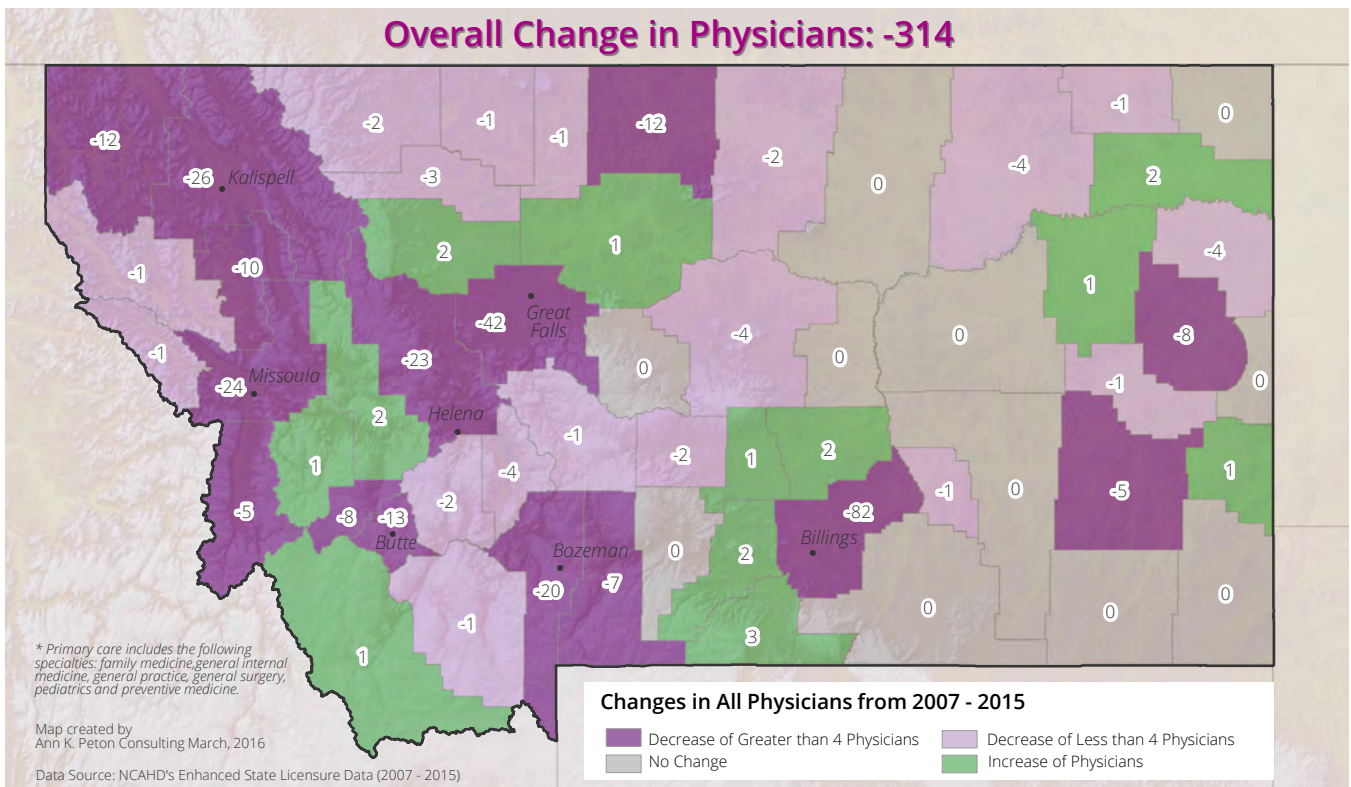


WORKFORCE MAPS: TREND ANALYSES – PYSICIANS AND NURSE PARCTITIONERS

PHYSICIAN ASSISTANTS AND NURSE PRACTITIONERS IN MONTANA TREND ANALYSIS (2007-2015)

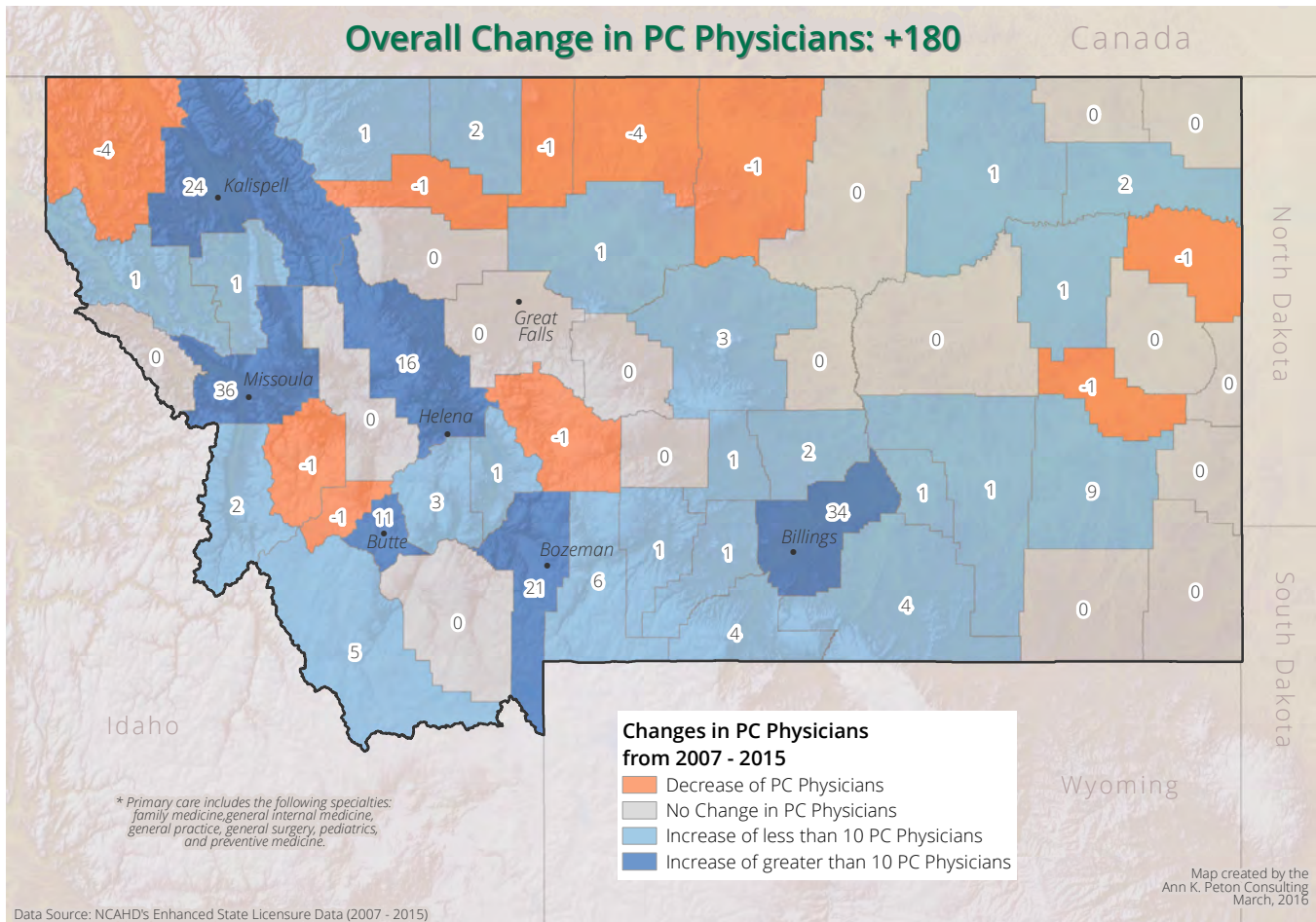


ALL PHYSICIANS (MD, DO) IN MONTANA TREND ANALYSIS (2007-2015)



WORKFORCE MAPS: PRIMARY CARE PHYSICIANS TREND ANALYSIS

PRIMARY CARE PHYSICIANS IN MONTANA TREND ANALYSIS (2007-2015)



DATA COLLECTION AND STANDARDIZATION PROCESS DESCRIPTION

NATIONAL CENTER FOR THE ANALYSIS OF HEALTHCARE DATA



1861 Kraft Drive • Blacksburg, Virginia 24060 • Phone: 573-301-9654 (Direct) - 540-231-8846 (Fax)

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Appendix B

National Center for the Analysis of Healthcare Data (NCAHD) Enhanced State Licensure (ESL) Data Collection and Standardization Process Established in 2007

Many of the national healthcare provider organizations have created and maintain their own membership-based data inventories for their profession. Public information about their specific methodology (s) for updating is non-existent casting doubt upon their data quality has been well publicized¹⁻². Considering the disparities of membership association data, and other private sector data sources, we determined that because the quality and consistency of provider data is controlled through state mandated licensure processes, it would become the basis for our national healthcare workforce data. Therefore, in 2007, the National Center for the Analysis of Healthcare Data (NCAHD) took on the daunting task of researching and identifying sources for healthcare workforce data to establish a process that could assure a consistent data quality that would meet the needs of the research, healthcare education planning and more effective policy and decision-making. We create national ESL datasets for the following providers: **Physicians (Allopathic and Osteopathic), Physician Assistants, Advanced Practice Nurses, Certified Registered Nurse Anesthetists, Certified Nurse Midwives, Psychologists, Podiatrists, Optometrists, Certified Nurse Specialists, Physical Therapists, Dentists, Dental Hygienists, Pharmacists, Audiologists, Speech Language Pathologists, and Chiropractors.**

Since the type of data collected on each provider in each state is mandated differently (with all collecting a basic core set of elements: licensure #, address, status), we created a standardized process for data collection and management that helps to improve the quality of the licensure data.

For each data collection cycle, we utilized our unique national data collection and management system coupled with spatial analysis performed in six separate processes: Procurement, Data Normalization, Handling of Multiple States Licensees and Spatial Analysis/Aggregation:

1. **Procurement:** We contact each of these entities each year to determine any regulatory changes that may have transpired regarding either the collection or publication of the state licensure data and record any of those changes.
2. **Data Normalization:** Upon receipt of each provider file, the attributes are inventoried and the data is converted from its original format and scrubbed to remove duplicates, retired, deceased, overseas military and inactive licensees.
3. **Other Data Sources Integration:** The precise practice address data retrieved through our alumni tracking process will be integrated. If needed, we will integrate practice specialty information from the

¹ Bindman, A.B., (2013). Using the National Provider Identifier for Health Care Workforce Evaluation, *MMRR*, vol., 3(3). Retrieved from: http://cms.hhs.gov/mmrr/Downloads/MMRR2013_003_03_b03.pdf

² Clark, J. & DiGaetano, R., (2014). Using the National Provider Identifier File as the Sampling Frame for a Physician Survey. Joint Statistical Meeting – Survey Research Methods Section. Retrieved from: http://www.amstat.org/sections/srms/Proceedings/y2014/Files/311621_87847.pdf

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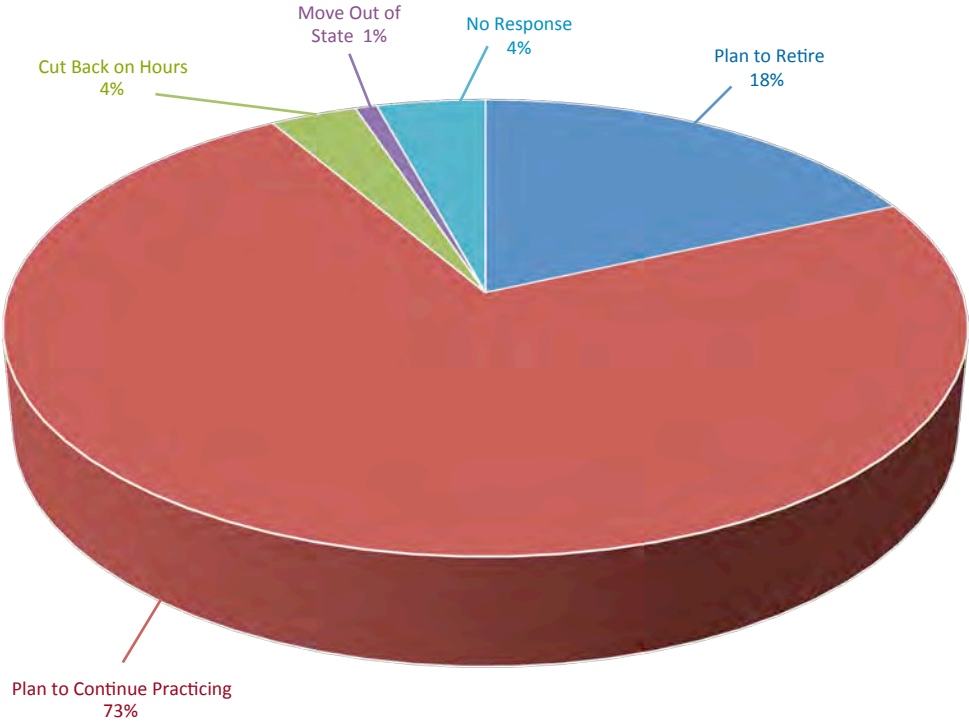
National Provider Identifier (NPI) for physicians. We limit our use of internet sources (e.g. Healthgrades, DocFinder, etc.) since they rely upon the provider Masterfile data first and do not delineate the age or data source for their data, so they are not a reliable data source in comparison to state licensure. State agency “Physician profile” sites are based upon data that is voluntarily provided by the provider meaning it is less accurate/updated than the required licensure data that we acquire for our dataset.

4. **Handling of Multiple State Licenses:** Those licensees with multiple state licenses are assigned to the state in which their license is sent assuming that this is their main practice address. If the licensee has the license sent to a practice address within each of the states they are licensed in, it is assumed that they practice in each of those states to some degree throughout the year.
5. **Spatial Analysis/Aggregation:** Using current georeferencing data with GIS software, we aggregate the national datasets into zipcode, county and state aggregates.
6. **Quality Assurance/Quality Control:** We compare the county totals to the previous year’s state licensure county totals. For those numbers that are off by more than 5%, we go back through the entire process again including checking with the data source to inquire as to the large difference from the previous year. If there was a data processing error, it is caught upon re-processing the file. If the large change was due to migration of providers or other potential suggestion by the board, we indicate it within the comments section of the file.

PHYSICIAN FUTURE PLANS

Physician Future Plans in response to the question:
“During the next 10 years I plan to...”

(Montana Medical Association Survey, 2015)



During the next 10 years I plan to...
Physician Survey Responses, 2015, MMA

ADDITIONAL RESOURCES

ADDITIONAL RESOURCES FOR MONTANA'S HEALTHCARE WORKFORCE

Reports and Publications, Montana Department of Labor and Industry, Research and Analysis Bureau

The Status of the Nursing Workforce in Montana, November 2016
 A Summary of the Results from the National Council State Board of Nursing 2015 Survey
<http://lmi.mt.gov/>

Employment Projections, State of Montana, 2015-2024
<http://lmi.mt.gov/>

Informational Wage Rates by Occupation 2015, Healthcare Occupations, pages 71-87
<http://lmi.mt.gov/>

Montana Job Projections by Career Cluster 2014-2024
<http://lmi.mt.gov/>

Economy at a Glance, Montana Department of Labor and Industry, Research and Analysis Bureau

- Apprenticeships in Montana, by Emily Klungvedt (September, 2016)
<https://lmi.mt.gov/>
- Estimating Future Workforce Needs, by Amy Watson (July, 2016)
<https://lmi.mt.gov/>
- The Economics of Rural Health Care, by Amy Watson (March, 2016)
<http://lmi.mt.gov/>
- The Health Care Labor Market, by Amy Watson (July, 2015)
<https://lmi.mt.gov/>

Additional Healthcare Workforce Resources

Montana Health Workforce Data Services, WIM Tracking, <http://wimtracking.org/>
 WIM Tracking offers data related services to the leaders of Montana who are making the big decisions needed to drive change in Montana's health care landscape. WIM's comprehensive database currently houses dentists, physicians, physician assistants, APRNs, optometrists, chiropractors, podiatrists, pharmacies and health care facilities in Montana. Several current workforce reports can be easily generated at no charge.

Montana Public Health and Safety Division
Workforce Development Plan, Final Report, 2014

Community Health EMS for Montana
 Concept Paper discussing Community Health EMS/Community Paramedicine
 March, 2016
<http://dphhs.mt.gov/>

Center for Health Workforce Studies
 University of Washington
 Regional Physician Workforce
<http://www.uwmedicine.org/>

MONTANA HEALTHCARE WORKFORCE ADVISORY COMMITTEE (MHWAC)

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Amanda Roccabruna Eby	MT, Office of the Commissioner of Securities and Insurance
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Cheryl Richard	Flathead Valley Community College
Casey Schreiner	MT, State Representative, House District 25
Christine Williams	Northeastern MT AHEC
Dan Bingham	Helena College
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Deb Thompson	BCBS MT
Denise Higgins	MT, DPHHS
Diane Larson	Benefis
Dick Brown	Montana Hospital Association
Dianna Linder	Billings Clinic
Dustin Monroe	
Edith Clark	MT Office of Rural Health and AHEC Advisory Board
Emily Coyle	American Cancer Society
Gayle Hudgins	University of Montana
Greg Cano	MT, State Workforce Investment Board
Gina Bruner	Montana Hospital Association
Heidi Blossom	MT Office of Rural Health, AHEC
Jim Aspevig	Montana Tech
John Cech	MT, Office of the Commissioner of Higher Education
Jim DeTienne	MT, EMS and Trauma

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Kaye Norris	HealthCARE MT
Kelly Casey	Montana Hospital Association
Kerry Haney	University of Montana
Kristin Juliar	MT Office of Rural Health, AHEC
Kathy Lubke	MT, DPHHS
Karla Stauffer	Billings Clinic
Karen VanDaveer	MT Tech
Linda Grief	MT, DOLI
Linda Edquest	American Academy of Family Physicians, Montana
Lisa Benzel	MT TRUST
Lara Salazar	Montana Primary Care Association
Lynn Brooks	MT HOSA
Karen Conger-Nowakowski	HealthCARE MT
Kim Mansch	Partnership Health Center
Margaret Wallace	Montana Medical Association
Mary Helgeson	Eastern MT AHEC
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Martin Teintze	MT WWAMI, Montana State University
Natalie Claiborne	MT Office of Rural Health, AHEC
Natascha Robinson	South Central MT AHEC
Nick Zucconi	HRSA, Denver
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Pat Murdo	MT, Legislative Services
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Paul Teagle	The Goodman Group
Pam Watson	MT, DOLI
Renee Erlandsen	MT, OPI
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Shani Rich	North Central MT AHEC
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