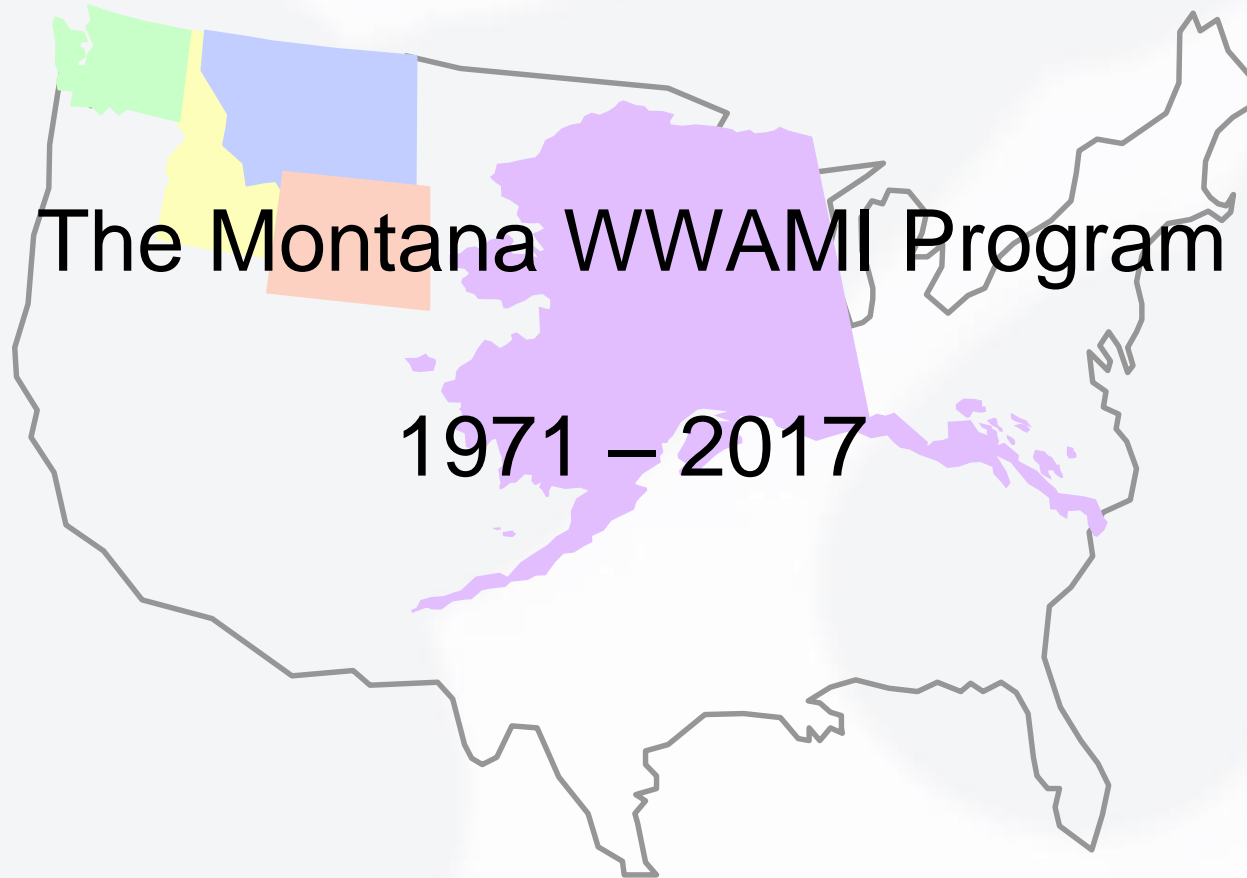


# Medical Education in Montana



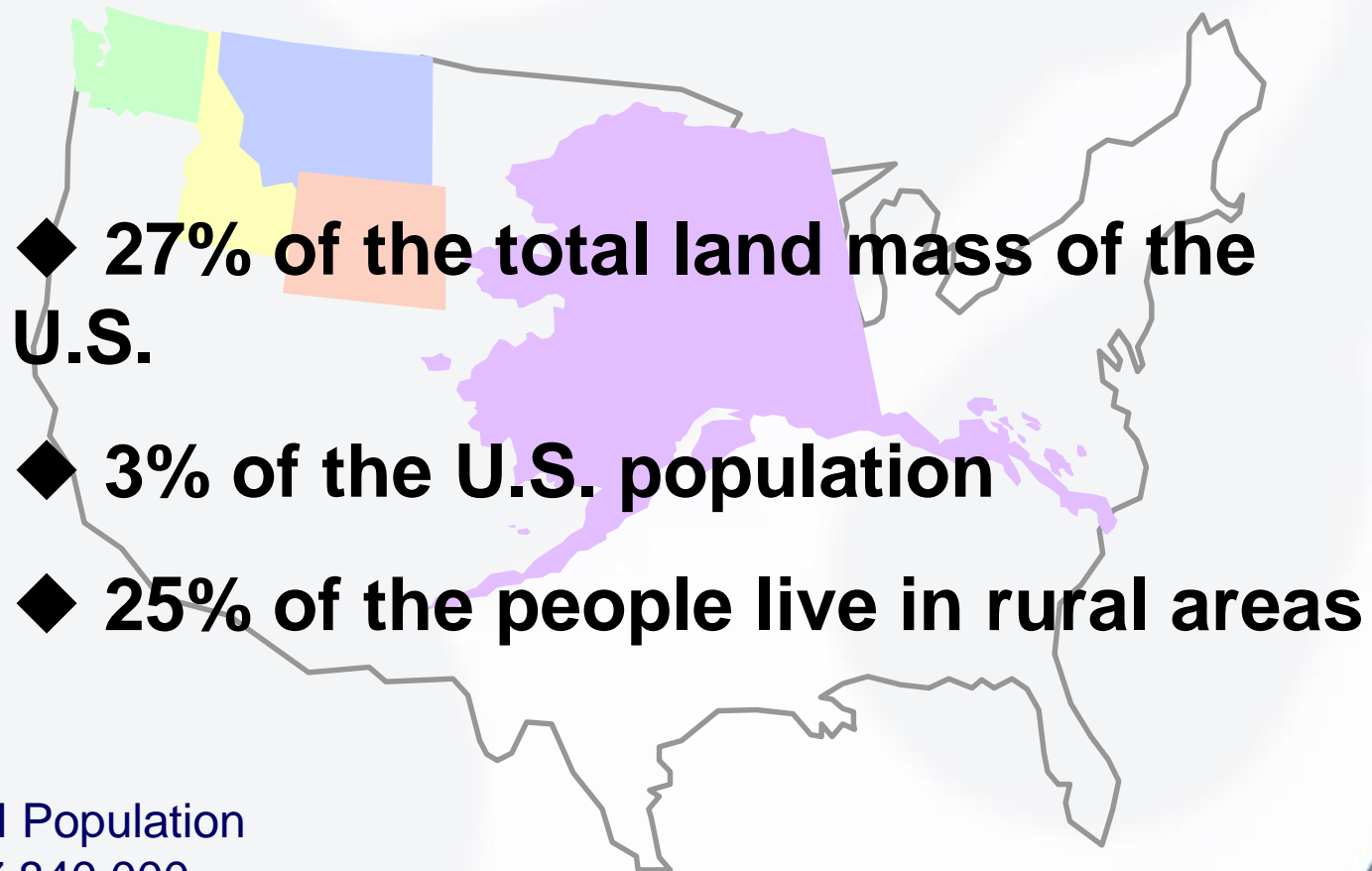
Jay S. Erickson M.D.  
Assistant Clinical Dean, Montana

# Montana WWAMI



**Jay S. Erickson M.D.**

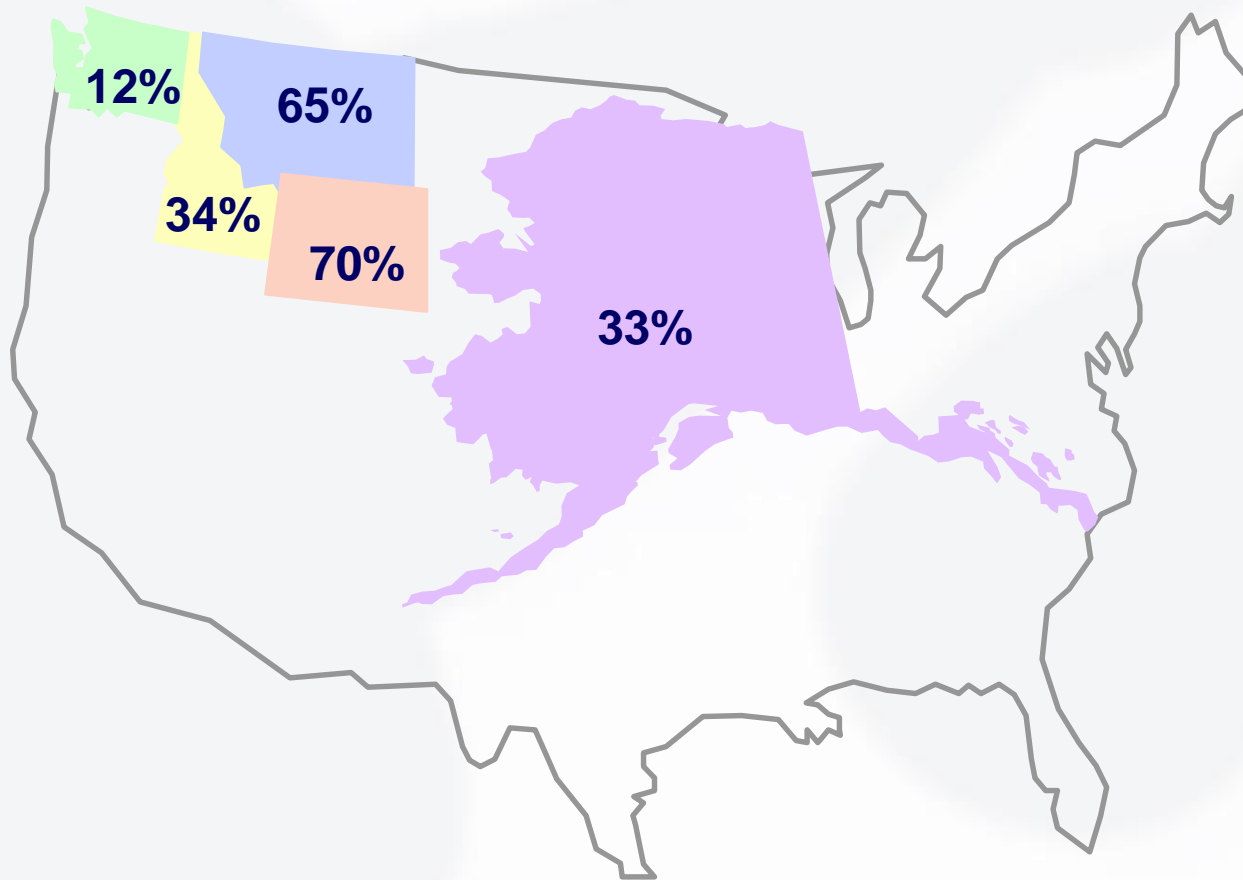
# WWAMI



WWAMI Population  
Urban 7,840,000  
Rural 2,580,000  
Total 10,420,00

# WWAMI

## Non-metro percent of population by state



# UWSOM Mission Statement



The University of Washington School of Medicine has two distinct missions:

1. Meeting the health care **needs of our region**, especially by recognizing the importance of **primary care** and providing service to **underserved populations**
2. Advancing knowledge and assuming leadership in the biomedical sciences and in academic medicine.

# Montana Physician Workforce Data

A blue stethoscope is positioned in the top right corner of the slide, partially overlapping the title area.

## **Per 100K population, Montana ranks:**

- **29<sup>th</sup> in nation for total active patient care physicians**
- **24<sup>th</sup> for active patient care primary care physicians**
- **11<sup>th</sup> for active patient care general surgeons**

## **Montana's physicians are aging:**

- **32.7% of Montana physicians are over age sixty**  
(National average is 29.4%)

# The Pipeline

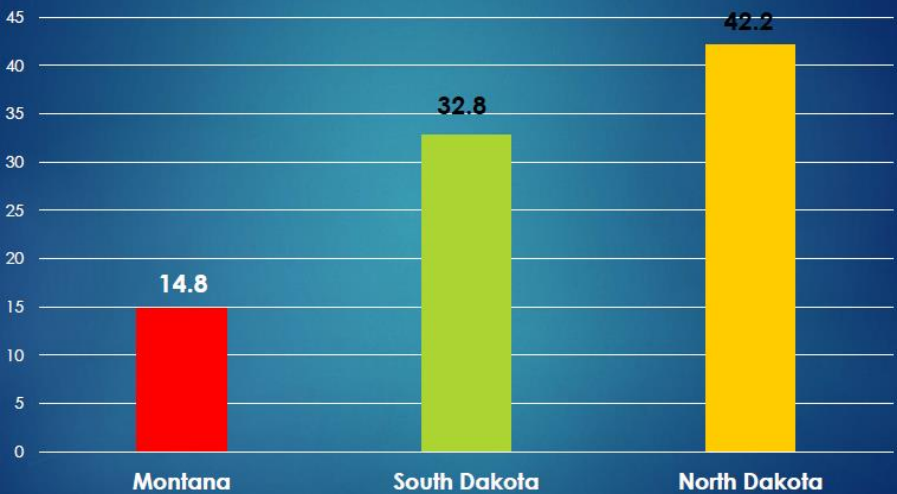


How many Montana students attend medical or osteopathic schools, past 7 years (2010-16)?

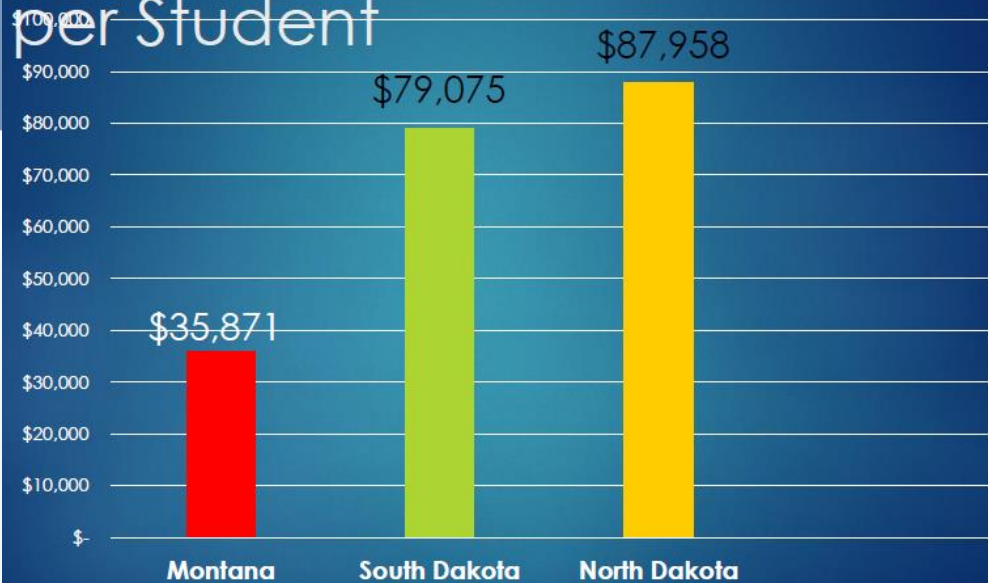
- **54** MT residents per year attend medical school in the US
  - MT WWAMI-30
  - WICHE medical school-6
- **19** MT residents per year attend osteopathic school in the US
  - WICHE osteopathic school-2



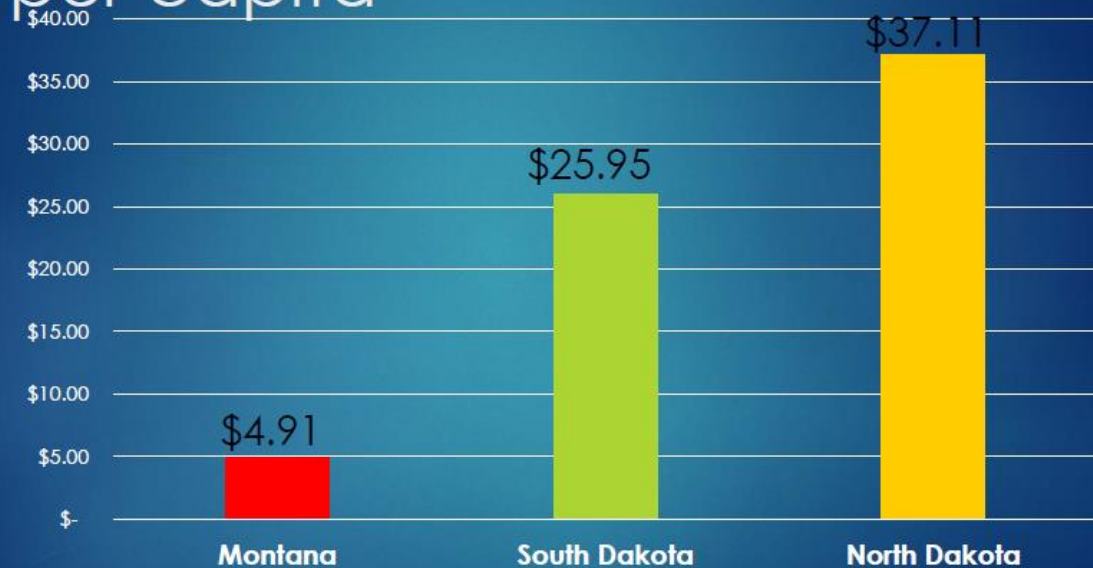
# State supported medical students per 100,000



# Medical Education-Cost per Student



# Medical Education-cost per capita



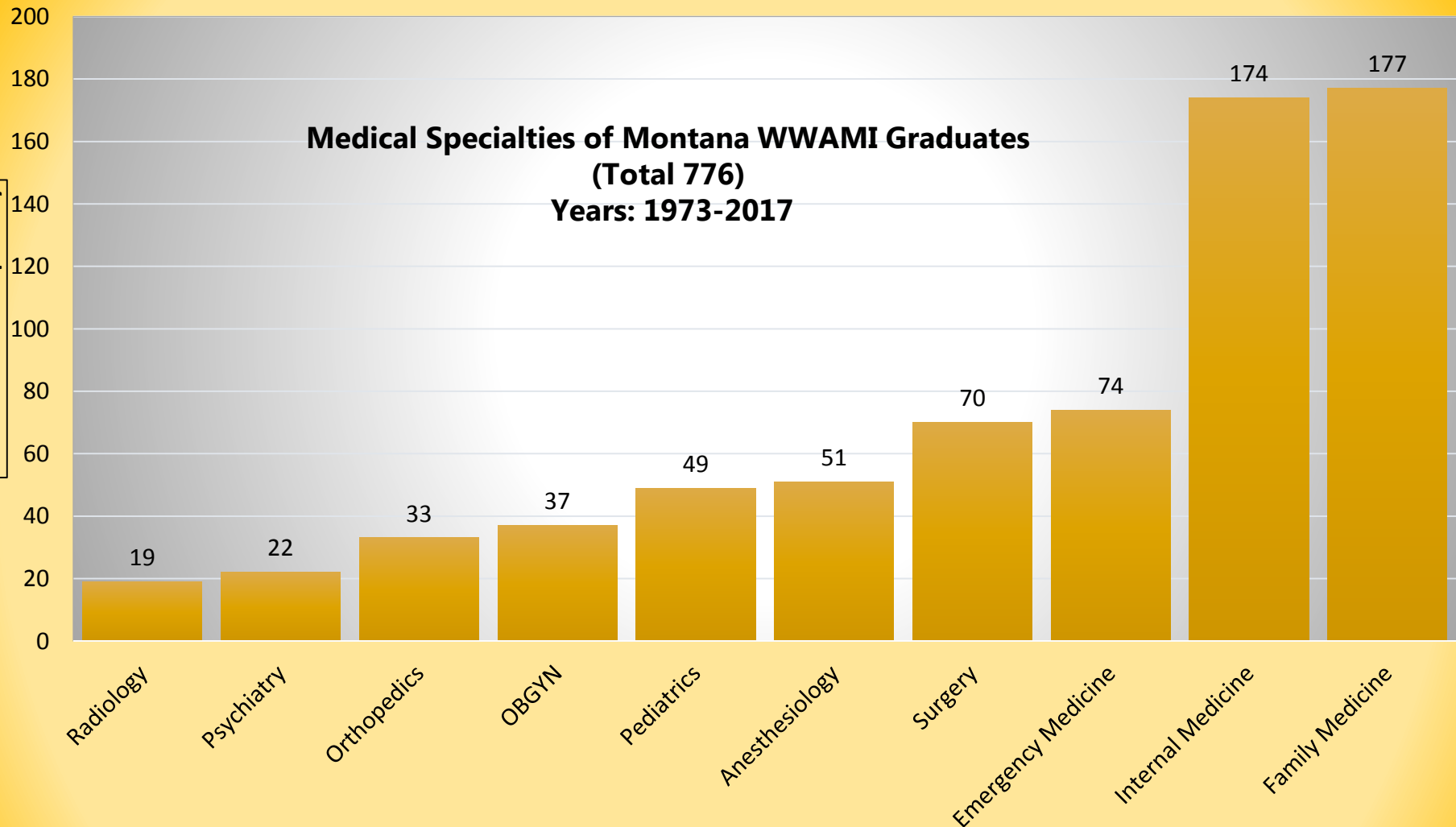
2016 data



# Specialty Choice of WWAMI Graduates 1973-2017 (top ten)



**Medical Specialties of Montana WWAMI Graduates  
(Total 776)  
Years: 1973-2017**



**52% matched into a primary care specialty**

Medical Specialty

# 2017 MT WWAMI Match-25 graduates



- **Primary Care-68%**
- Family Medicine-9
- Internal Medicine-5
- Pediatrics-3
- General Surgery-5
- EM-1
- Interventional Radiology-1
- Prelim-1

# Total Student Debt at Graduation 2016



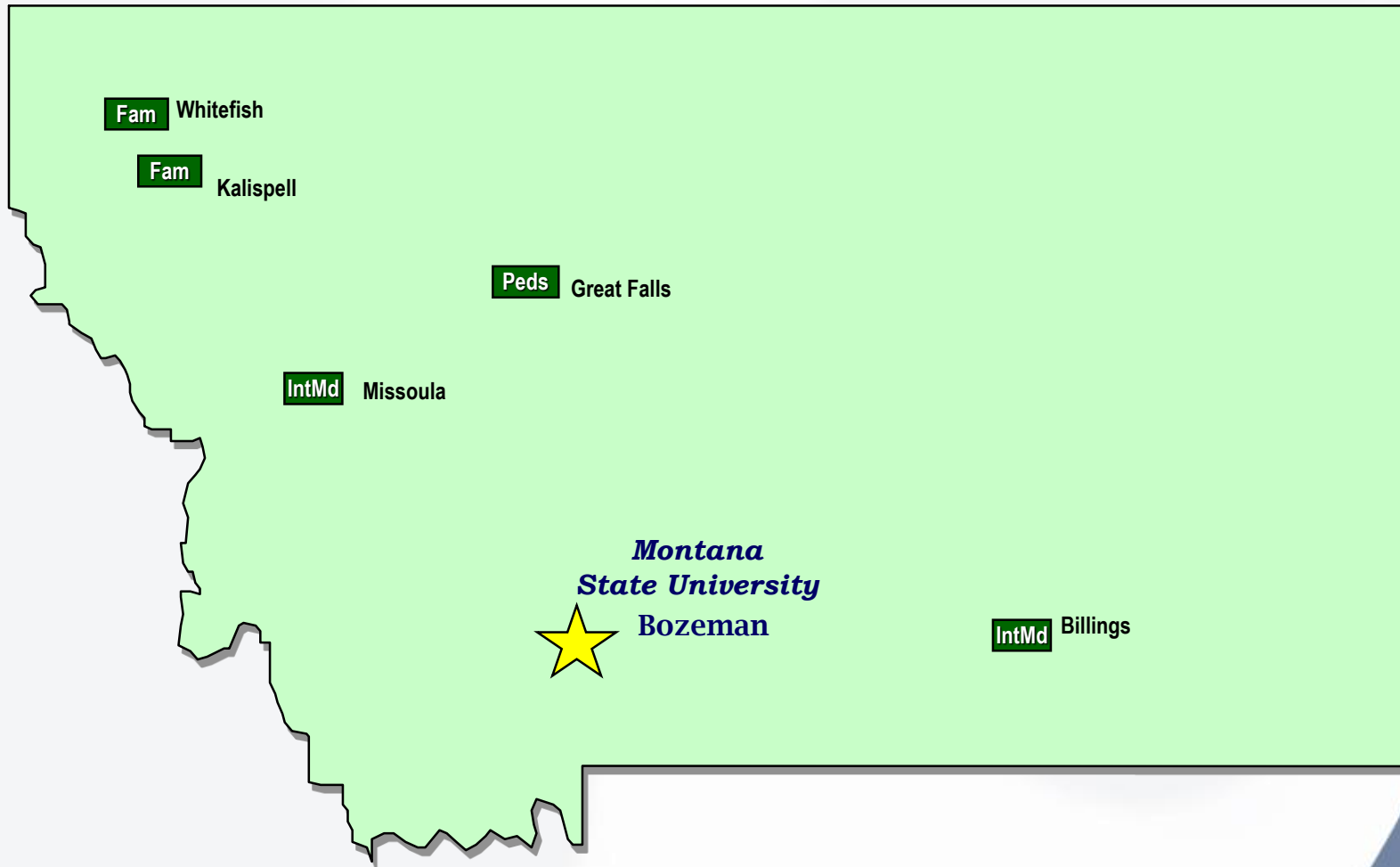
Total Student Debt	MT WWAMI	Public	Private
(mean)	\$173,595	\$180,610	\$203,201



## MRPIP

- Montana Rural Physician's Incentive Program (MRPIP)
- Tuition Surcharge approx. \$5,000/yr
- Loan Repayment of up to \$100,000 for practicing for 5 years in qualifying rural or underserved practice in Montana. (2017 legislature increased to \$150,000)

# WWAMI Program Montana 1975



# MONTANA

## WWAMI Program Site Map

### 2016-2017



**UW Medicine**  
UW SCHOOL OF MEDICINE



#### LEGEND

- ★ Foundation Site
  - ★ WWAMI Regional Affairs Office
  - ◆ WWAMI TRACK
  - ▲ Area Health Education Center (AHEC)
  - W WWAMI Rural Integrated Training Experience (WRITE)
  - T Targeted Rural Underserved Track (TRUST)
  - Rural Underserved Opportunities Program (RUOP)
  - Required Clerkship Site
  - Residency Rotation
  - Residency Program
- | Required Clerkship Sites  | Residency Programs        |
|---------------------------|---------------------------|
| CC - Chronic Care         | Fam - Family Medicine     |
| Emd - Emerg Medicine      | IntMd - Internal Medicine |
| Fam - Family Medicine     |                           |
| IntMd - Internal Medicine |                           |
| Neur - Neurology          |                           |
| Ob/G - Ob/Gyn             |                           |
| Peds - Pediatrics         |                           |
| Psych - Psychiatry        |                           |
| Surg - Surgery            |                           |

# UWSOM Curriculum



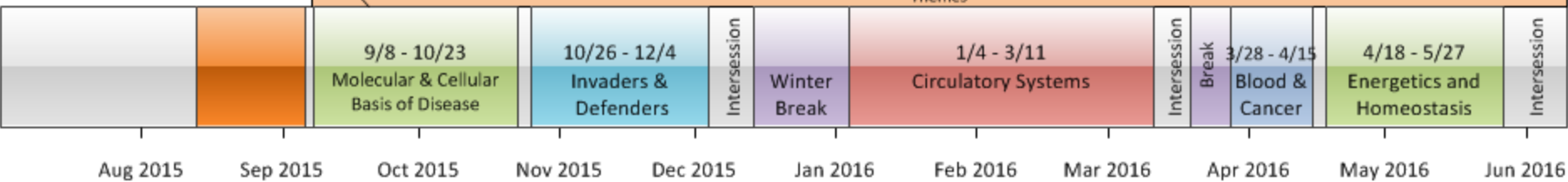
<b>Scientific Foundations Phase</b>	<b>Patient Care Phase</b>	<b>Career Explore &amp; Focus Phase</b>
Integrated blocks medical science in clinical context	Required clerkships Integrated basic science	Career exploration
Clinical experience longitudinal clerkship	Specific rotations in Seattle	Specialty-specific preparation
Bozeman	Montana, Seattle or the region	Research/scholarship  Montana, Seattle or the region



# Of Medicine Curricular Map 2015 - 2019

**Foundations Phase Begins Sept 8**

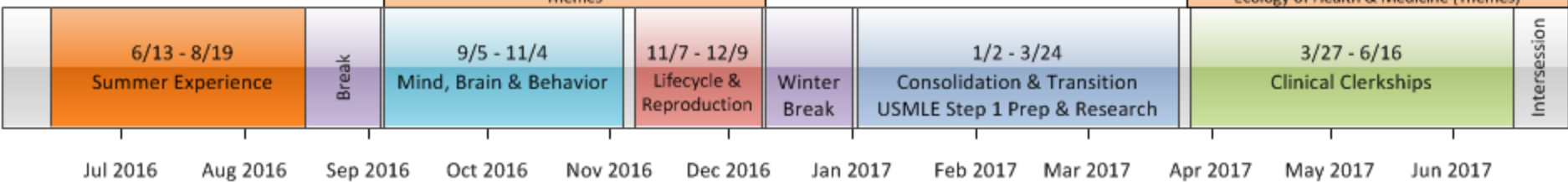
- Foundations of Clinical Medicine
- Primary Care Practicum
- Non-Clinical Electives (Courses on UW Calendar)
- Threads: Human Form and Function, Pathology/Histology, Pharmacology
- Themes



**Foundations of Clinical Medicine**

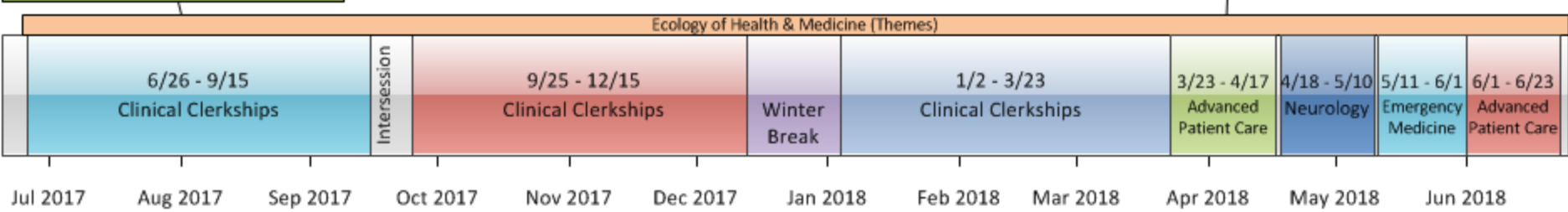
- Primary Care Practicum
- Non-Clinical Electives (Courses on UW Calendar)
- Threads: Human Form and Function, Pathology/Histology, Pharmacology
- Themes

**Patient Care Phase Begins**

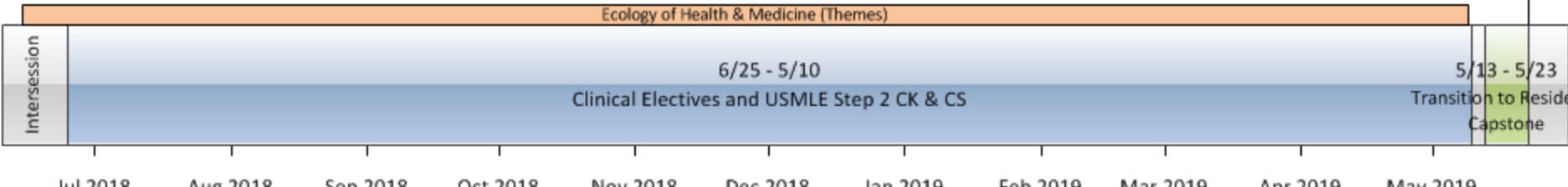


**Patient Care OSCEs (Through Feb 2018)**

**Exploration and Focus Phase Begins**



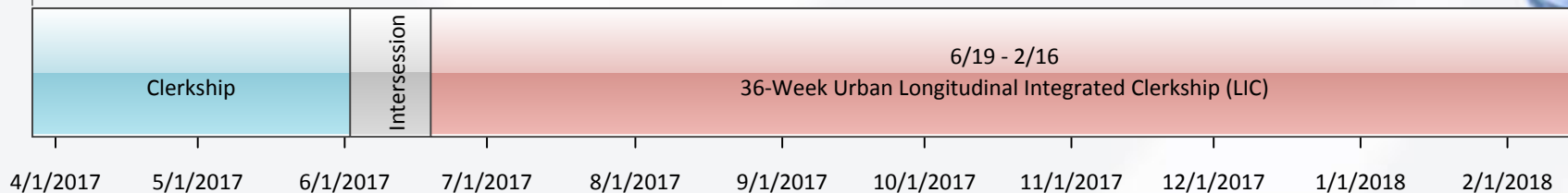
**Hoarding Week of May 20**



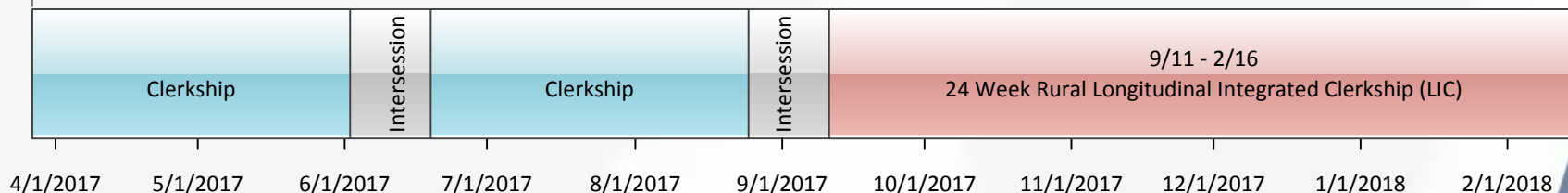
# University of Washington School Of Medicine Curricular Map: Patient Care Longitudinal Integrated Clerkships



Patient Care Phase Begins



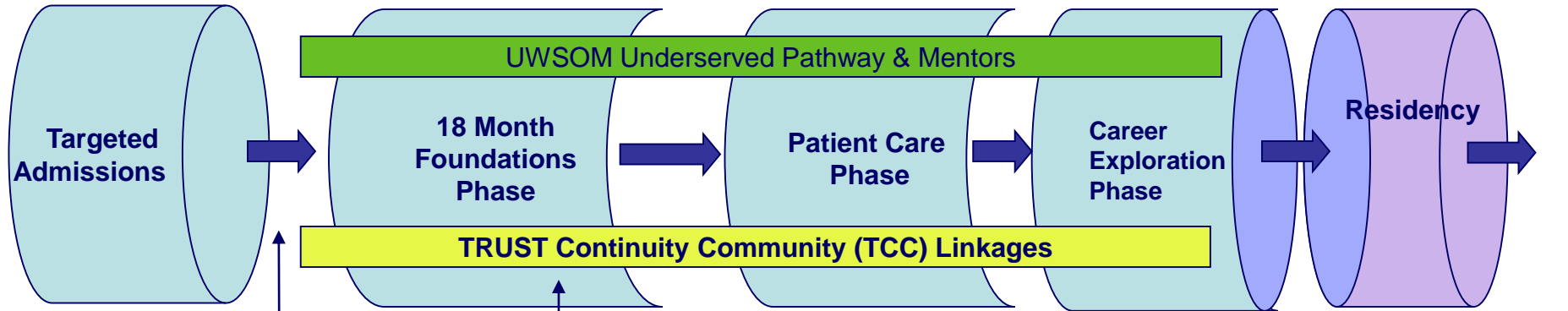
Patient Care Phase Begins



LICs will include all regular interessions, as well as USMLE Step 2 Preparation



# MT WWAMI TRUST



## Separate Admissions Process

- Rural background
- Prior career experience, especially health-related
- Significant volunteer experience in rural or underserved medical settings
- Strong commitment to service

## Foundations Phase

- Underserved Pathway
- TCC visits
- Rural Health Course
- TRUST mentors

### FSE: First Summer Experience

- Assignment: TCC and physician mentor
- 7 to 14 day immersion at TCC prior to start of Foundations Phase

## Foundations Phase (continued)

- 3 four-day TRUST focused intercessions at TCC
- WWAMI TRUST four-day leadership retreat
- Attend National or Regional meeting
- On-line journal club

### Rural Underserved Opportunities Program (RUOP)

4 weeks at TCC completing community-oriented scholarly project

## Patient Care Phase

- **WRITE** (WWAMI Rural / Underserved Integrated Training Experience) LIC for 18 or 22 weeks
- Attend National or Regional meeting
- On-line journal club

## Career Exploration Phase

- Electives at TCC
- Residency Linkage
- Attend National or Regional meeting
- On-line journal club

## Residency (including Rural Training Tracks)

- TRUST graduates choose Primary Care Residency program or residency in needed regional specialty oriented to rural or underserved settings.
- TRUST develops connections with regional residency programs
- Continue TCC linkages during residency

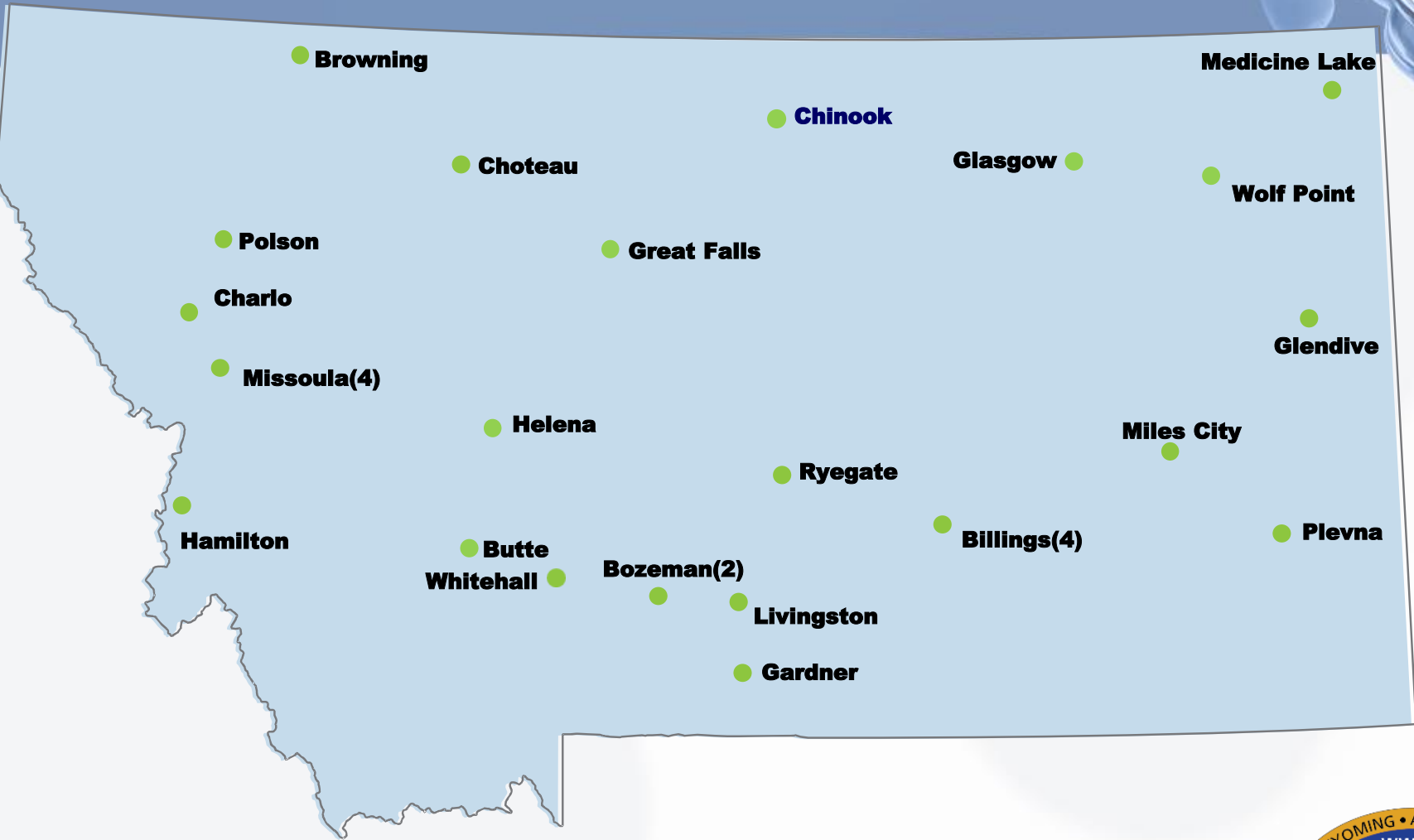


# Entering 2015 TRUST/WRITE students Hometowns & Community Placements



**MONTANA  
WWAMI**

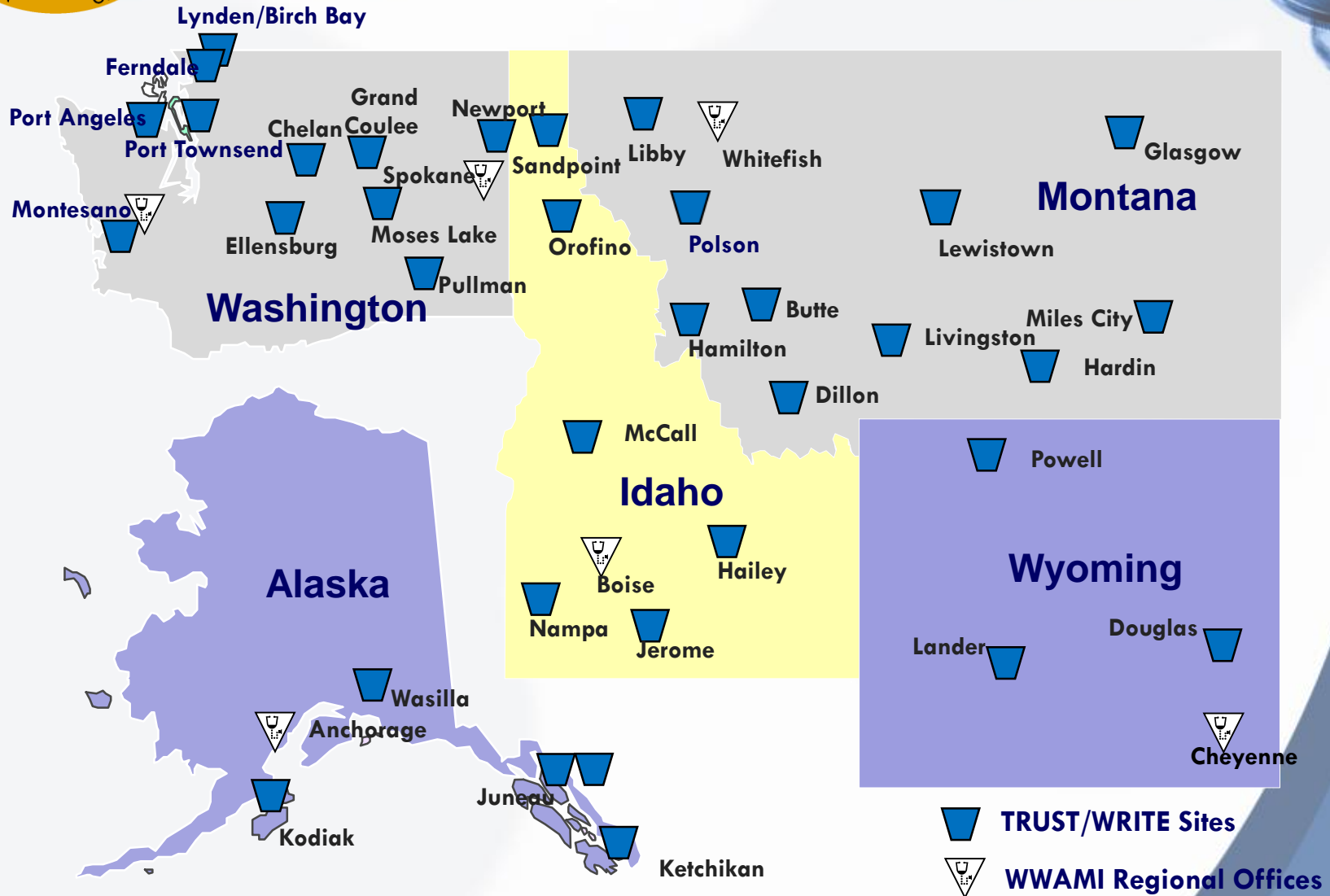
# 2017 MT WWAMI Acceptances-Home Towns



Source: WWAMI  
Data as of 1/1/2017



# UWSOM TRUST/WRITE 2016-2017 ~ 35 sites

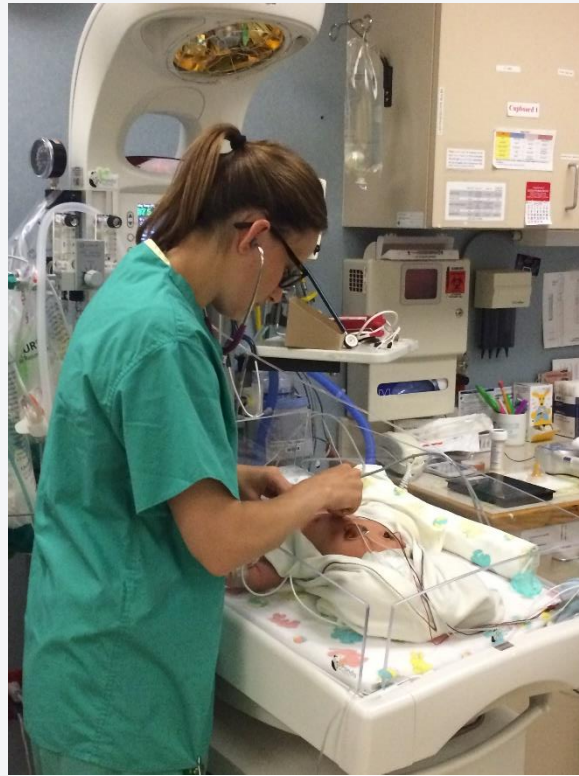




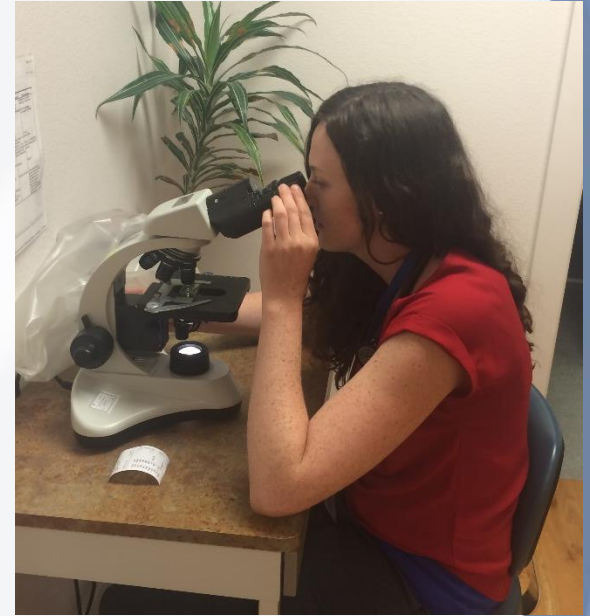
# Rural/Underserved Opportunities Program (R/UOP)



E2015 TRUST Scholar,  
Aaron Maus (Miles City)



E2015 TRUST Scholar,  
Justinn LaHaye (Glasgow)



E2015 TRUST Scholar,  
Kellee Glaus (Hamilton)

# Affordable Greenhouse Construction: A Response to the Climatic and Geographic Impediments to a Diabetic Diet in Heart Butte, MT

## Purpose

This project seeks to offset the geographical and climatic features that challenge attempts to attain a healthy diet by integrating the concept of an inexpensive family greenhouse into home gardening programs implemented by local diabetes organizations and active gardeners already operating within Heart Butte. A greenhouse, correctly utilized will extend the growing season for plants that require more than ninety days to reach maturity and protect seedlings that would easily be damaged by late spring frosts thereby allowing citizens to supplement their diets with affordable vegetables.

## Background

In the town of Heart Butte, MT the high cost and distance to affordable food has a major impact on the diet of the local population. The nearest grocery store with vegetables is twenty miles away, but citizens often commute up to two hundred miles to purchase affordable groceries. Heart disease and diabetes, both chronic illnesses that require adherence to a specific diet high in vegetable content, are epidemic among the Native American Indian population. Diabetes mellitus in particular has an incidence among Native Americans three times that of the general U.S. population.



Heart Butte is located at a latitude known for high winds, a short growing season and killing frosts. This challenges many attempts by the community to cultivate crops that would supplement their diet. Positive dietary decision making in Heart Butte is undermined by the geographic, financial, and environmental choices available to the community.

University of Washington School of Medicine, III Intervention, 2007

## Methods

Research was done to design the appropriate structure necessary for the extreme weather that Heart Butte experiences. The North Carolina Cooperative Extension Service a division of the North Carolina State University College of Agriculture and Life Sciences has engineered an inexpensive, stable greenhouse that can withstand high winds and up to four inches of snow. Contributions from local gardeners allowed for its construction in Heart Butte during which time four individuals were trained in its assembly. Materials were attained from local businesses with costs totaling \$150.

Community training and awareness of the greenhouse design was organized through the Blackfeet Special Diabetes Program titled the "Healthy Heart Project." Already involved in community outreach and patient contact through a family gardening program and the diabetic clinic at the hospital this community-based organization was the ideal group with which to network.

During a Diabetic Clinic held at the hospital staff of Healthy Heart and associated patients were trained on the greenhouse construction process.

Megan Chandler, WWAMI, MS-II

## Discussion

In a community where diabetes has become epidemic in its incidence and severity, community oriented medicine requires more than regular patient education and sensitization during visits to the clinic. Organizations targeting the disease have taken it upon themselves to go out into the community and support behaviors and encourage activities such as gardening. Health care providers outside of the clinic setting should support such proactive measures. Contributing new ideas that support the ongoing efforts of an organization increase its capacity. Physician involvement in that capacity building improves the legitimacy of the organization in the eyes of patients and attitudes of those outreach persons who are working outside the clinic.

The Blackfeet people often come together as a community to build traditional structures such as teepees, medicine lodges at the Sun Dance festivals and sweat lodges. Studies have recommended that interventions in community health be culturally sensitive and incorporate traditional values. Greenhouse construction is an example of how tribal traditions of building small shelters that enhance spiritual, social and family life can be extended into the area of food security.

## Results

- Number of people trained in greenhouse construction (directly): 4
- Number of people trained in greenhouse construction (indirectly): 15
- Number of community organization outreach workers trained: 5
- Number of community organization with increased capacity: 1
- Number of greenhouses constructed: 1

Members were very excited about the concept of a low cost greenhouse. Currently all the seedlings used in the outreach projects are from the Blackfeet Community College which is far from many of the communities around Browning in which Healthy Heart is trying to operate creating additional transport needs for all the plants. It was suggested that at least one greenhouse be built in town where they were operating that could be maintained by a single family or a group of families.



## References

Actin, K., Rogers, B., Campbell, G., Johnson, C., Gribbles, D. (1993) "Prevalence of diagnosed diabetes and selected related conditions of six reservation in Montana and Wyoming" *Diabetes Care* 16(1): 263-265.

Lombard, KA., Foster-Cox, S., Smeal, D., O'Neill, MK. (2006) "Diabetes on the Navajo nation: what role can gardening and agriculture extension play to reduce it?" *Rural Remote Health* 6(4): 640.

Armstrong, DL. (2005) "A community diabetes education and gardening project to improve diabetes care in a Northwest American Indian tribe." *Diabetes Education* 29(1): 11-120.

DeChia, H., Roberts, M., Okaya, A., Xiong YM. (2006) "Old lives were healthier before: focus groups with African American, American Indian, Hispanic/Latino and Hmong people with diabetes." *Health Promotion Practice* 7(1): 47-55.

Boyette, M.D., Bildebeck, T.E. (1996). *A Small Backyard Greenhouse for the Home Gardener*. Retrieved June 1, 2007 from [http://www.blackfeetgardens.com/how\\_to\\_build\\_a\\_greenhouse\\_article001.htm](http://www.blackfeetgardens.com/how_to_build_a_greenhouse_article001.htm).

Furell, G., Hewitt, B., Patterson, C., Oldenburg, B., Gould, T. (2002) "Socioeconomic differences in food purchasing behavior and suggested implications for diet-related health promotion." *Journal of Human Nutrition and Dietetics* 15(5): 355-64.

U.S. Department of Health and Human Services, HHS (2000-2001) *TRENDS in Indian Health*. Retrieved on June 1, 2007 from [http://www.hhs.gov/NonMedicalPrograms/HIS\\_Status/Trends00-01\\_Part4.pdf](http://www.hhs.gov/NonMedicalPrograms/HIS_Status/Trends00-01_Part4.pdf).

Montana Climate Summary. (n.d.) Retrieved June 5, 2007 from [http://gardenguide.montana.edu/additama%20info%20pages/Montana\\_climate\\_summary.html](http://gardenguide.montana.edu/additama%20info%20pages/Montana_climate_summary.html).

Climate of Montana (n.d.) Retrieved June 5, 2007 from <http://www.wccit.edu/narratives/MONTANA.htm>.

## Acknowledgements

Special thanks to Dr. Mary DesRosier and her family, John Padgett, the Staff of the Heart Butte Clinic, The Healthy Heart Project, The Southern Piegan Diabetes Program and Blackfeet Community Hospital.





# Primary Care Preceptorships

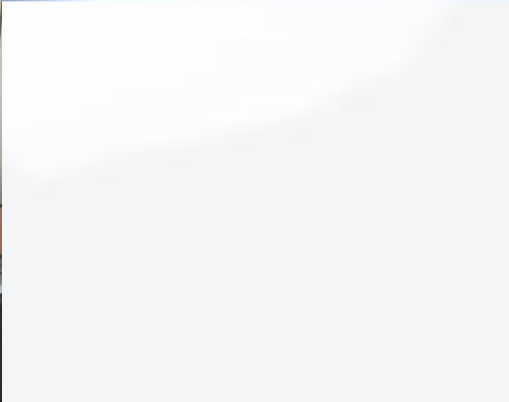


Montana  
WWAMI faculty  
preceptors  
provide  
valuable  
training  
and hands-on  
experiences



E2015 TRUST Scholar, Carlee Fontaine (Butte) and Dr. Serena Brewer, preceptor, examining a pediatric patient

# Montana WWAMI in Action





# WWAMI Rural Integrated Training Experience (WRITE)



WRITE provides a 22 week, longitudinal integrated clerkship in the third-year in one rural/underserved site located in the WWAMI Region

- *Mix of ambulatory and hospital experiences*
- *Rural/underserved primary care*
- *Provides outstanding opportunity for continuity*
- *Student becomes part of the community*



# E2016 TRUST Scholars



***UWSOM  
Underserved  
Pathway***

***Indian Health  
Blanket  
Ceremony  
2017***

Hardin TRUST Scholar Orin  
Hansen with Preceptor/Mentor,  
Dr. David Mark



# Montana's GME history

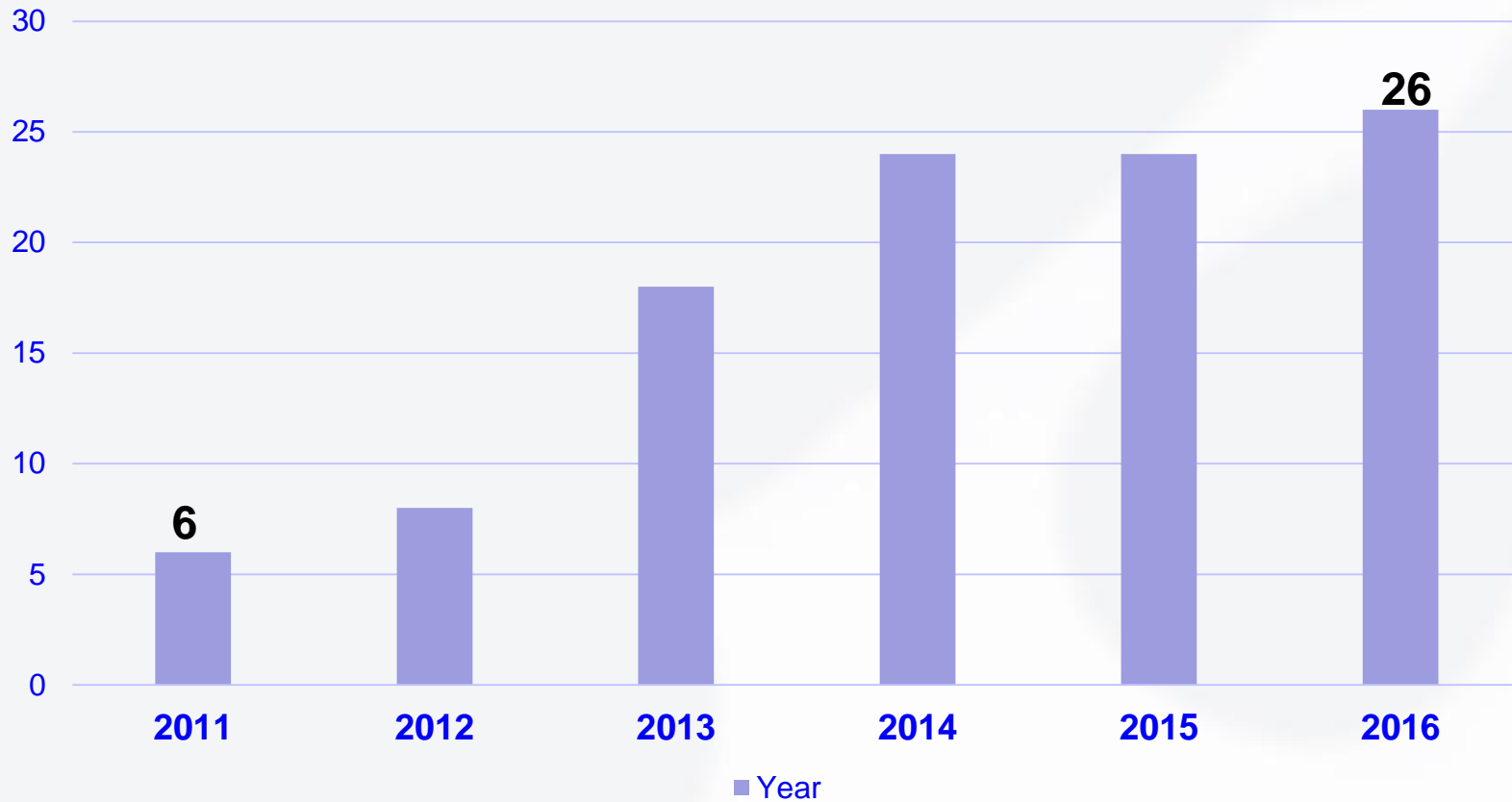


- **Montana Family Medicine Residency**
  - Billings
  - First class matriculated **1995**
  - 24 residents / 8 per class
- **Family Medicine Residency of Western Montana**
  - Missoula and Kalispell
  - First class matriculated **2013**
  - 30 residents / 10 per class
- **Billings Clinic Internal Medicine Residency**
  - Billings
  - First class matriculated **2014**
  - 18 residents / 6 per class (expanding to 8 with private funding)

# 333% increase in GME since 2011



## PGY-1 (1<sup>st</sup> year residents)



# State comparisons in GME residents per 100,000-2016



- **High**
  - ❖ 1<sup>st</sup> Massachusetts: 81.7
  - ❖ 2<sup>nd</sup> New York: 81.5
- **Mean 36.9 (Median 27.4)**
- **Low**
  - ❖ 44<sup>th</sup> North Dakota 18
  - ❖ 45<sup>th</sup> South Dakota 15.5
  - ❖ **47<sup>th</sup> Montana 8.2**
  - ❖ 48<sup>th</sup> Wyoming: 7.2
  - ❖ 49<sup>th</sup> Idaho: 6.4
  - ❖ 50<sup>th</sup> Alaska 4.9

# Why is this important?



- *Family Medicine* February 2015
  - “55% of FM graduates in U.S practice within 100 miles of their residency”
  - “Reached 70% in a handful of states” (including MT!)
  - “Thus, addressing the primary care shortage, particularly in underserved areas, will require an increase in the number of residency positions in those locations.”

# What increases the likelihood of a resident practicing in the rural and underserved parts of Montana?



- *More exposure* to rural medical communities
- Clear understanding of the *unique cultures* of rural communities
- Good quality and *comprehensive* training
- Opportunities for loan repayment / forgiveness
- *Simply placing a larger number of physicians in MT will not solve the rural / underserved workforce issues.*



Questions?