Meeting Physician Workforce Needs in Minnesota: The Role of the University of Minnesota Medical School

Minnesota Rural Health Conference
Leading Change For Rural Health

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Jim Boulger, Ph.D.
Professor and Head, Behavioral Sciences
Director, Family Medicine Preceptorship Program – Duluth
Director, Center for Rural Mental Health Studies
A Bit Of History...

Recognizing the crisis in the maldistribution of physicians in Minnesota by both specialty of practice and location of practice, the legislature of the State of Minnesota (following extensive study, blue ribbon panels, etc.) established the University of Minnesota Medical School Duluth with a modest appropriation in 1969 ($239,000 for the biennium).

At the same time, funding was provided to the University of Minnesota Medical School in Minneapolis to establish the Rural Physicians Associate Program on that campus.

These proactive legislative actions have had a remarkable pay off for rural Minnesota and the region’s health care.
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University of Minnesota
Medical School Duluth

Gary Davis, Ph.D. Senior Associate Dean 218-726-7571
gdavis1@d.umn.edu
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The Duluth Campus of the University of Minnesota Medical School: Our Institutional Mission since school’s inception in 1972:

The University of Minnesota Medical School - Duluth Campus *educates students who plan to practice family medicine in rural Minnesota and American Indian communities*; provides high-quality academic and clinical education programs for professional, graduate, and undergraduate students; and advances distinguished research programs in health sciences.

The emphasis was and remains on training practitioners for rural Family Medicine. This mission is respected through the admissions process, the curriculum and other institutional activities.
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Admissions procedures are structured to select students who meet our mission. All applicant files are holistically evaluated. Stated and demonstrated interest in Family Medicine and rural care is expected of all applicants. Prescreening of all applicants (2009 N = 1352, 366 from Minnesota; 60 selected) assesses these qualities as well as traditional academic indices (e.g. MCAT scores, GPA).

Residential history is evaluated as are service activities to others. In Fall 2009, for instance, 85% of first year students entering the Medical School Duluth came from rural communities with populations less than 20,000. The school supplementary application information form includes questions concerning experiences with rural living and family medicine. We expect our students to demonstrate a service mentality prior to medical school, throughout their training and as they serve populations as physicians.
Admissions

Past cohort studies have shown that there are no significant entering GPA differences between the Minneapolis and Duluth campuses. MCAT scores for matriculating students in Duluth are a bit below those for the Twin Cities campus (which includes MD/PhD candidates as well).

There are no significant differences in Step I National Board of Medical Examiner scores or the proportion of class passing Step I on first sitting for the Board exams.

Any “academic differences” between Minneapolis and Duluth matriculants seem to disappear over the first two years of medical school.

There are significant differences between the communities of origin between the two campuses. In Fall 2009, as noted above, 85% of first year students entering the Medical School Duluth came from rural communities with populations less than 20,000.
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*Introduction to Rural Family Medicine Course*

Ruth Westra, D.O., MPH  Chair, Department of Family Medicine and Community Health Duluth  218-726-8552

rwestra@d.umn.edu
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Curriculum: Introduction to Rural Family Medicine

Presentations and small group discussions are included on Agricultural Medicine, Native American Health issues, rural health demographics, legislative issues in health care, urban/rural systems and issues, professionalism, etc.

During this two week course, the students are also being taught the basics of interviewing skills and history-taking, a general introduction of the physical examination, etc. The combination of the physical visits to the communities and the class/discussion sessions provide the students with a very good understanding of any of the benefits of small community care. Dr. Ruth Westra, head of the Department of Family Medicine and Community Health – Duluth, is the course director.
In their first semester of medical school in Duluth, students are given a one-day experience in one of three smaller communities (Moose Lake, Hibbing and Grand Rapids) with their classmates. Preceded by two days of didactic work in the classroom, the community visits involve the groups of students (usually 4 or 5 to a group) with visits to community facilities including farms, police and fire stations, hospitals, nursing homes, pharmacies, small community economic drivers (e.g. spiritual leaders, community health advocates, etc.

Following the day in the community, students prepare and present a community health profile based on the information that they have gathered. These presentations are given to their classmates the following week in order to share their experiences.
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Curriculum: Family Medicine Preceptorship Program

Widely known as the nation’s most rural-oriented medical school, in 1990, Duluth’s Family Medicine Preceptorship Program was selected as the National Outstanding Rural Health Program Award by the National Rural Health Association. In 2003, the program’s Director was named the National Distinguished Educator by the National Rural Health Association.

In Duluth, the Family Medicine Preceptorship Program is required of all students in both years of the curriculum. During the first year, students are paired one-on-one with volunteer family physicians who practice within a twenty-five mile radius of Duluth.

At the end of the first year, and three times during the second year, students spend three days (and nights) with family physicians in rural and smaller communities. They are housed by the volunteer physicians and their families during these visits.
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Family Medicine Preceptorship Program

James G. Boulger, Ph.D.  Director, Family Medicine Preceptorship Program
Professor and Head, Department of Behavioral Sciences  218-726-7144
Jboulger@d.umn.edu
Curriculum

Patients are seen with family medicine preceptors within three months of the start of the school year. Additional patient care activities are built into the Medical History, Physical Diagnosis and Systems courses throughout the two years. More than 700 family physicians throughout Minnesota have served as unpaid, voluntary preceptors since 1972.

There is an active Family Medicine Interest Group on the Duluth Campus which sponsors a number of activities and speakers over the course of the year.

In short, we admit students who we believe will be rural physicians, we reinforce their interests in rural health practices and we encourage participation in the Summer Internship in Medicine and the Rural Physicians Associate Program.
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Community Sites Used in the Duluth Rural Family Medicine Preceptorship Program
Outcomes:

Since the first class graduated in 1976, 748 of 1526 (49%) students have matched into Family Medicine residencies. Upon completion of their training (N = 1071), 44% have selected practice locations with populations smaller than 20,000.
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Ratio Of UMD Matriculants Selecting Family Medicine Residencies Contrasted With National Group Of Graduating Seniors

Year


Ratio To National Average

0 1 2 3 4 5 6 7
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The Rural Physicians Associate Program

Director: Kathleen Brooks, MD
kdbrooks@umn.edu
612-626-8788

www.rpap.umn.edu
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RPAP – a program to nurture and sustain interest in rural practice
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The Rural Physicians Associate Program . . .

is a community-based, 9 month program (October – June) in the third year of medical school. It consists of 18 to 24 required weeks in:

- Primary Care, Surgery, Pediatrics, Women’s Health, Orthopedics, Urology, Emergency Medicine.
- The first and last 6 weeks spent with primary preceptor as RPAP course
- Duluth students are eligible to apply for the Rural Physicians Associate Program occurring in the third year of medical school.
- Accreditation requirements (Liaison Committee on Medical Education) demand equivalency of clinical experiences and clinical teaching quality in all medical teaching sites.
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The Rural Physicians Associate Program is a clinical longitudinal continuity clerkship where students complete core third year clerkships. Additional educational components include:

- Experiential orientation on campus
- Online curriculum
- Communication Visits
- Specialty Faculty Visits
- Community Health Assessment
- Mid-year skills retreat
- End of year presentations of CHA

This coming year, 29 Duluth students and 7 Minneapolis students have been selected for the RPAP positions. Due to severe budget cuts at the University, there are fewer positions for Rural Physicians Associate Program than a few years ago.
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Criteria for placement in Rural Physicians Associate Program

The student must be a self-learner, independent

The student must have an interest in Primary Care/Community Health/Rural Practice

The student must have demonstrated good academic performance

There must be a good educational match between student’s interests and availability of clinical opportunities and preceptors at a site

There are personal and family requirements regarding geographic location and a willingness/ability to live in the community
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RPAP Online Curriculum Modules

Preventive Care
Rural health and health care systems
Evidence-based medicine
Quality Improvement
Managing health care
Community health assessment
End of life care
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RPAP Community Health Projects

Teen Pregnancy Sexual Assault
Methamphetamine, Substance Abuse
Obesity, Breastfeeding
Medication Adherence, Emergency Transport
Geriatric Falls Prevention, Vitamin D. Supplementation
Chronic Asthma Management in School Children
Eating Disorders
Concussion in Youth Sports
Water Recreation Safety
Weight Loss Challenge at Work – 1500 lbs !!!

1500 lbs !!!
MARCH IS DVT AWARENESS MONTH

Did you know that pulmonary embolism is the most common preventable cause of hospital deaths in the U.S.?

Did you know that 300,000 people in the U.S. die of DVT each year?

Let’s work together to PREVENT DVT in DL!

As a provider:
- Assess early risk factors
- Know the risk factors and be careful
- Use compression devices as much as possible
- If you are prescribed anticoagulants or aspirin, take your medications
- As a patient in the hospital:
- Tell your physician if you have risk factors
- Check whether your leg pain is due to DVT
- Use your leg exercises when you are able
- If you are prescribed anticoagulants or aspirin, take your medications

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RPAP Students Learn To Value:
Continuity of care
  • Over time
  • Locations of care
  • Patients in the context of family and community
Working directly with physicians and living the lifestyle of a physician
Being a valued member of the care team and the community
Gaining Clinical confidence
High volume of patient exposures
Flexibility of learning – self-directed
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There is an obvious program synergy with Duluth and RPAP.
Looking at the remarkably high rate of entry to the specialty of Family Medicine and to rural and small community practices for those students matriculating at Duluth, with and without the Rural Physicians Associate Program third year experience, it is clear that a comprehensive and coordinated approach involving admissions procedures, curriculum elements in all years for students and institutional determination contribute to demonstrated positive outcomes. This is how to train medical students who will practice in rural Minnesota.
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Rural Physician Associate Program Outcomes

1256 graduates since 1971

989 in practice
  • 76% primary care, 66% in family medicine
  • 63% remain in Minnesota
    • Of the Minnesotans, 60% are in rural practice
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Family Medicine - Residency Matching Trends
1996 thru 2006: RPAP, University of MN, and National
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Primary Care - Residency Matching Trends 1996 thru 2006: RPAP, All University of MN, and National
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Summer Internship in Medicine and Rural Scholars Program

Director: Raymond G. Christensen, MD

rchriste@d.umn.edu
218-726-7318
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Summer Internship in Medicine (SIM) Goals

Rural immersion and experiential opportunity during summer break between year one and two of medical school

Provide students, on both the Minneapolis and Duluth campuses, the opportunity to observe and participate in rural health care delivery

All rural communities able to participate

Allows area students an opportunity to familiarize themselves with their health system
Minnesota Hospital Association, Dr. Ray Christensen and Dr. Jim Boulger instrumental in initial design and implementation of program.

Designed for small rural communities (hospitals).

Emphasis on understanding components of local health system.

Experiential and interprofessional by design.
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Medical Students Hopes, Dreams and Fears about Rural Practice
The SIM program emphasizes the system and not physicians and varies a great deal from site to site.

Initially was available for one to eight weeks; now limited to two to four weeks.

Local resource person determined by hospital CEO planning in conjunction with Dr. Ray Christensen.
A student stipend is expected for all Minnesota sites (not always possible).

$500/week - Students need to bridge loans from year one to two and many need to seek employment.

Housing is generally the student’s responsibility - it is really appreciated when communities have professional student housing available.
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**SIM Requirements**

- Provide program faculty with schedule
- Evaluate program
- Provide reflective paper at completion
- This is an elective program - not required
Student Experience

Students come with a strong basic science background. All are able to perform basic H & Ps. They are most eager for clinical experience. They want to be able to participate in OB, OR, ER, etc. to help them in career path development.
The SIM Experience

Important to meet early with Hospital CEO for overview of the local health system and its response to the health care priorities of the community.

Students will meet, shadow and participate with hospital and community health care service providers.

Time with physicians is approximately two days/week and is dependent on availability.

Students will participate in community activities

Students will gain some experience being a health professional.
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Student Participation in SIM

2003 - 20 Students DU
2004 - 16 Duluth Students (one TC student)
2005 - 34 Students (opened to TC)
2006 - 41 Students DU & TC
2007 - 64 Students DU & TC
2008 - 91 Students DU & TC
2009 - 80 Students DU & TC
2010 - 117 Students DU & TC
SIM Outcomes

Overwhelmingly positive experiences reported by students and by sites. Students are reminded that this is a job interview of sorts.

We have had occasional instances allowing work on professionalism.

The experience has been helpful in career decision making.

It has provided recruiting opportunities for communities.
SIM Outcomes

We do not have practice site choices yet, but should begin to see these in the next year.

We know that the SIM experiences have been helpful in specialty decision making.
### Residency Choices
#### 2003-2006 SIM Participants (100)

<table>
<thead>
<tr>
<th>Field</th>
<th>Count</th>
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<tbody>
<tr>
<td>Family Medicine</td>
<td>37</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>11</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>8</td>
</tr>
<tr>
<td>Emergency Medicine</td>
<td>7</td>
</tr>
<tr>
<td>OB-GYN</td>
<td>7</td>
</tr>
<tr>
<td>General Surgery</td>
<td>6</td>
</tr>
<tr>
<td>Other choices: Rad, Ortho, Uro, Path, Ent, etc.</td>
<td></td>
</tr>
</tbody>
</table>
High demand program - 117 this year.

Appreciation for the experiences - each student required to write a reflective paper which is shared with the faculty and with the site.

Students are evaluated by the site and vice versa.
Rural Scholars Program

New to Curriculum 2010-2011, In development - Duluth only

Three Components - Traditional Duluth preceptorships, systems, community

Will require housing when not with preceptor.

Class size 60+ students, ~6 weeks of rural placement and education
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Thank you from all of us at your University of Minnesota!