An Overview of the UW School of Medicine and Public Health

-or-

“If you’ve seen one academic medical center….you’ve seen one academic medical center”

Robert N. Golden, MD
Dean, School of Medicine and Public Health
Vice Chancellor for Medical Affairs
University of Wisconsin-Madison

History

• Proposed in 1848 and founded in 1907 as a two-year basic science program.
• Became a four-year institution in 1925.
• University teaching hospital moved from central campus to the Clinical Science Center in 1979.
• Wisconsin Partnership Program established in 2002.
• Medical School moved into the Health Sciences Learning Center in 2004.
• Transforming into the first integrated School of Medicine and Public Health.
Organization

School of Medicine & Public Health Employees

- Classified Staff, 961
- Academic Staff, 1,657
- Faculty, 1,411

School of Medicine & Public Health Faculty by Track

- Tenure, 428
- Clinical Teacher, 467
- CHS, 517
- LAV, 517

Employee Information

4,329 employees excluding trainees and student positions
School Expenditures

UW School of Medicine & Public Health
FY 2011 - 2012 Expenditures by Source of Funds
$569,000,000

- Federal and Non-Federal Grants: 43%
- UW Medical Foundation: 23%
- State/University: 13%
- Hospitals & Affiliates: 9%
- Gifts & Endowments: 7%
- Other: 3%
- UW School of Medicine & Public Health: $569,000,000

Basic Science Departments

- Biomolecular Chemistry
- Biostatistics and Medical Informatics
- Cell and Regenerative Biology
- Medical Genetics
- Medical History and Bioethics
- Medical Microbiology and Immunology
- Medical Physics
- Neurosciences
- Oncology (McArdle Laboratory)
- Population Health Sciences
## Clinical Science Departments

- Anesthesiology
- Dermatology
- Family Medicine
- Human Oncology
- Medicine
- Neurological Surgery
- Neurology
- Obstetrics and Gynecology
- Ophthalmology and Visual Sciences
- Orthopedics and Rehabilitation
- Pathology and Laboratory Medicine
- Pediatrics
- Psychiatry
- Radiology
- Surgery
- Urology

## A Network of Complex Relationships

- Middleton VA: close partner in all missions.
- Meriter: site of our educational programs in obstetrics and neonatology, and other medical student clerkships.
- St. Mary’s: site of our Department of Family Medicine and multiple medical student clerkships.
- Marshfield Academic Campus: longstanding partner in medical student education (including WARM), and in research, including ICTR and the Wisconsin Genomics Initiative.
- Milwaukee Academic Campus: headquartered at Aurora Sinai Hospital.
- Western Academic Campus: located at Gundersen Lutheran Healthcare System, longstanding partner in medical student education (including WARM).
Educational Programs

- Doctor of Medicine
  - WARM
  - TRIUMPH
  - RUSCH
- Medical Scientist Training Program - MD/PhD
- Doctor of Physical Therapy - DPT
- Genetic Counseling - MS
- Master of Public Health - MPH
- MPAS - Physician Assistant
- Doctorate & Master Degrees in Clinical, Basic, and Population Health Sciences
- Residency and Fellowship Programs (largely via UWHC)
- Professional Development - Medicine & Public Health

Medical & Health Sciences Education

2012-13 Enrollment Totals

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<th>Program</th>
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<td>Medical Students</td>
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<td>PhD</td>
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<td>MS</td>
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<td>MPH</td>
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<td>Allied Health Programs:</td>
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<td>Physical Therapy</td>
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<tr>
<td>Physician Assistant</td>
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<td>Genetics Counseling</td>
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<tr>
<td>Graduate Medical Education Programs:</td>
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<td>Residents/Fellows (UWHC)</td>
<td>566</td>
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<td>CME Participants:</td>
<td>45,495</td>
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</table>
2012 Entering Class of the SMPH

- 175 new students
  - From an applicant pool of 4403
  - 282 acceptance offers (62% "stick rate")
  - 139 WI residents; 36 nonresidents
  - 25 WARM students
  - Mean GPA 3.74

Research Funding (FY11)

- SMPH extramural research support:
  Federal awards …………………… $167 million
  Total extramural research awards… $281 million

- SMPH faculty, representing 19% of UW-Madison faculty, brought in 28% of the university’s federal research awards and 33% of the university’s total extramural awards in 2010–2011.
Transforming the University of Wisconsin School of Medicine and Public Health
January 2008 (see http://www.med.wisc.edu/about/transformation.php)

A Compelling Case for Transformation

Throughout most of the modern era of medicine there has been a lack of integration and, at times, a schism between public health and medicine. Public health focuses on health promotion and disease prevention at the level of populations, while medicine focuses on individual care, with an emphasis on the diagnosis and treatment of disease. Ideally these approaches should be seamlessly integrated in practice, education, and research. The Institute of Medicine has emphasized that “The healthcare system of the 21st century should maximize the health and functioning of both individual patients and communities. To accomplish this goal, the system should balance and integrate needs for personal healthcare with broader community-wide initiatives that target the entire population.”

In 2005, the University of Wisconsin Medical School sought and received approval from the UW Board of Regents to change its name to the University of Wisconsin School of Medicine and Public Health. The goal of the name change and the transformation that is being launched is clear: to bridge the disciplines of biomedical and population health sciences and to integrate public health into the School’s core missions. By doing this, we will develop a revolutionary new model which unites traditional medicine and public health. The overarching vision is extremely important, and admittedly ambitious: We will build a new and better infrastructure for the promotion of health and the prevention, diagnosis, and treatment of disease for the people of Wisconsin, which will then serve the nation as the leading model for improving the health of the public.

The engine of transformation will be fueled by the School’s available resources, including the Wisconsin Partnership Foundation, the endowment that was created following the conversion of the Blue Cross/Blue Shield United for Wisconsin to a publicly held corporation. The initial five-year plan that has guided the application of the endowment funds identifies the transformation of the school as one of the major goals. We are most fortunate to be embedded in an outstanding public university with comprehensive programs, innovative and productive faculty and staff, and relationships which extend throughout the state. We have defined in general terms where we want to go and we have a vehicle that should provide considerable support for the journey. What we now need is a specific description of our destination, a clear roadmap identifying the routes that we will take to expedite our arrival, and several distinct mileposts that will mark our progress.

This document summarizes the vision embodied in the transformation and guiding principles that will shape our approach to the transformational process. Next, the document summarizes the goals and strategies in each of our three missions. Finally, it describes the next steps in the transformational process.

The Wisconsin Partnership Program

- Overall total: 298 grants totaling $122.3 million.
- Since 2004, 182 grants, totaling $39.8 million, have supported community-academic partnerships in all of the 5 public health regions in Wisconsin. These awards covered most of the priority areas of the state health plan.
- Education and Research programs have received 116 grants, totaling $82.5 million, to address major health challenges.
“OK, so now we know a bit more about the UW School of Medicine and Public Health….what are you doing to address the clinical workforce issues confronting rural Wisconsin?”

<table>
<thead>
<tr>
<th>AHEC</th>
<th>WARM: WI Academy for Rural Medicine</th>
<th>WORH/GME</th>
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<tbody>
<tr>
<td>Prepare elementary/high school students in basic science and expose to role models</td>
<td>Recruit students with rural background and career goals</td>
<td>Use rural appropriate curriculum</td>
</tr>
<tr>
<td>Locate education and training programs in rural areas of WI</td>
<td>Facilitate graduates seeking training and employment in rural WI</td>
<td>Grow rural WI health care workforce</td>
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</tbody>
</table>

*Wisconsin Rural Pipeline* (adapted from recent IOM report)
Wisconsin AHEC

- Recruits students to health careers.
- Supports community based training and internships for health professions students.
- Provides resources to health professionals. *Special emphasis is on rural and underserved populations.*

Rural and Urban Scholars in Community Health

- Partnership with UW-Milwaukee & UW-Platteville and Spelman College.
- Aim:
  - Attract pre-med students who plan to practice in rural or urban WI
  - Recruit students from diverse and disadvantaged backgrounds
  - Provide 2 years of programming to prepare them for medical school and future practice
- Initial funding from WPP, with additional support from the state.
• 2 summer internships — community health project and clinical research
• Academic year seminars
• MCAT Preparation support
• Service Learning
• Shadowing

RUSCH Student Selection

• Qualifications
  – Predictors of working with the medically underserved
  – Rural or urban background/experience
  – Community service and leadership
  – GPA 3.0 or higher
  – Prerequisite courses

• Application Process
  – Letters of Recommendation
  – Interview
RUSCH
Progress/Outcomes

• Students
  – UWM RUSCH—19 students (6 rural/13 urban)
  – UWP RUSCH—10 students (8 rural/2 urban)
  – Applied to medical school - 9
    • Attending SMPH 3
    • Attending MCW 1
    • Attending DO 2
    • Attending Caribbean 3

• Curricula under yearly revision
• Annual student and partner feedback

WARM

The Wisconsin Academy for Rural Medicine (WARM) is a program at the University of Wisconsin Medical School dedicated to improving the supply of physicians in rural Wisconsin and improving the health of rural Wisconsin communities.

This is accomplished through a comprehensive rural medical education program combining a focused admissions process with an educational program designed to prepare students for rural practice and providing extensive clinical training in rural Wisconsin settings.
WARM Timeline

- Collaboration Planning Grant is awarded
- Strategic Initiatives Grant is awarded
- 7/07: WARM receives funding from the Wisconsin Partnership Fund
- 8/08: Second cohort of WARM students enter medical school
- 7/2010: Second cohort of WARM students relocates to La Crosse and Marshfield
- 7/07: WARM receives funding from the Wisconsin Partnership Fund
- 8/07: First cohort of WARM students enter medical school
- 7/09: First cohort of WARM students relocate to Marshfield/Rice Lake
- 5/2011: First cohort of WARM students graduates from UW SMPH

WARM Admissions Process

- Targeted admissions process to identify applicants who are likely to practice rural medicine
  - Rural background/connectedness
  - Community engagement
  - Specialty orientation
  - Academic success
- “Roll out” began with a class size of 5 in August 2007
- First full class of 25 began in August 2011
Evidence Base for WARM Admissions Policies

Features of medical schools that produce rural physicians (Rabinowitz)

- Strong institutional mission
- Targeted selection of students
  - Rural background
  - Stated commitment to rural practice
  - Stated interest in Family Medicine

Retention of rural physicians associated with community engagement (Pathman)

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WARM Admissions Data

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<th></th>
<th>Fall 2007</th>
<th>Fall 2008</th>
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<td>Number of students admitted</td>
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<td>13</td>
<td>18</td>
<td>21</td>
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<td>Avg GPA admitted</td>
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<td>3.62</td>
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<td>26</td>
<td>30</td>
<td>28</td>
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WARM Curriculum
Years 1 and 2

• GPP assignments in rural clinics
  – Mineral Point, Belleville, Spring Green, etc.

• Rural Health Interest Group

• Overview of Rural Health Elective

• Summer Externships

WARM Curriculum
Years 1 and 2

• Overview of Rural Health Elective
  – Nature of rural health, interdisciplinary teams, role of public health, telemedicine, rural/farm zoonoses, rural healthcare policy and economics, agrochemical hazards, physical injury hazards, agricultural environment

• Interdisciplinary Course
  – Students in health professions programs including medicine, PA, nursing, PT, pharmacy
WARM Curriculum
Years 3 and 4

• Students live in assigned regional/rural learning communities, receiving training in core clerkships, and complete clinical electives.

• Monthly ‘core days’:
  – Urgent/emergent patient care
  – Sports medicine, orthopedics, and applied radiology
  – Medical nutrition
  – Cardiopulmonary assessment
  – ENT/Ophthalmology
  – IV therapy

Longitudinal Curriculum
in Years 3 and 4

Community health project and community mentors
**Student Comments**

- “Compared to students in Madison, my experience was very divergent…I really had a great experience with [Dr. Purcell]. I delivered 17 babies with him, and it was all hands-on, whereas the people in Madison were lucky to get one or two. That was a great experience, and we did lots of C-sections. They have maternal fetal medicine here, and I got to follow one of the maternal fetal medicine physicians here…who is also certified in radiology, and so I got a ton of ultrasounds which was a really good experience. Plus the outpatient clinic, the gynecology stuff was great too.”

- “My anesthesiology rotation at Rice Lake, I put in the breathing tube for a patient myself, and the anesthesiologist was there the whole time…and I know a lot of the people that I talked to didn’t get to do that on their anesthesiology rotation…Also, when I was there that it felt more like the real world, like we’re really practicing. I feel like I was one-on-one with all of my attendings and they were all really open to me being there and to teach. They would also let me go in [to see patients] on my own…Then I would present the patient to the attending and then we would go over it…There wasn’t an attending there that I didn’t like and that didn’t make me feel like I wasn’t a part of the team.”
Student Comments

“I saw that medicine is a team approach, and you get advice from other people and...you're working with medical assistants, PA's, and everyone is involved in the patient care as an active team member. I think that is the biggest thing that I've taken away...[In rural practices] there's only a few of us, and so we have to be a strong team in order to get a good level of care.”

WARM Evaluation

• Not surprisingly given the focus of the program, WARM students enter the program with a very high level of interest in being physicians in rural underserved areas, and at the end of the 1st and 2nd year, that interest level remains very high for most students.

• Shadowing or working alongside a rural physician—as most WARM students have done in the GPP or summer externships and all will be doing in 3rd and 4th year clerkships and preceptorships—was the most influential rural health experience these students experienced.
Student Comments - Challenges

• Travel burden
• Lack of interaction with traditional students
• Rural faculty not accustomed to teaching or to SMPH policies and grading
• Some course specific challenges

From WARM Evaluation:
“There were also some drawbacks to being the only student on a rotation, although WARM students felt the benefits outweighed the drawbacks. “

Student Progression Issues

• 4 WARM students did not pass USMLE Part 1 on the first attempt
• 2 WARM students have been excused from the programs regional/rural requirements during the 3rd and 4th years
• 3 WARM students have been reconsidering their commitment to rural practice
• 2 WARM students have withdrawn from medical school
• 2 traditional students have transferred into WARM

Based on 57 students
WARM Graduates

13 Graduates to date
- 9 graduates in WI residencies
- 4 graduates in MN, IA, and IL
- 62% in primary care
  - 6 in family medicine, 1 medicine, 1 pediatrics
    - also, emergency medicine, dermatology, radiology, general surgery and orthopedics

Specialty Interests

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WARM Student Financial Support

- Heavy debt burden can dissuade graduates from pursuing careers in primary care and/or rural practice.
- The SMPH has identified medical student scholarship support as its current top priority for alumni giving.
- Many individuals, families, family foundations, and health care systems have “stepped up to the plate,” creating endowed scholarships for medical students and our WARM students.
- A few examples:
  - Ted Lefco Rural Medicine Scholarship
  - Dr. H. James Sallach Scholarship
  - Dr. Paul and Alice Bishop Memorial Award
  - Dr. Anthony J. Kisley Scholarship
  - Lora L. Marshall Scholarship
  - Wisconsin Rural Opportunities Foundation

Next Steps

- Implementing WARM Strategic Plan process – fall 2011
- Formalize tracking of WARM graduates
- Address course specific issues and continue faculty development
- Enhance rural community engagement
- Help lead the clinical public health curricular transformation
- Team care, PCMH, Rural research
From: Residency Training and International Medical Graduates: Coming to America No More


Postgraduate year 1 (PGY-1) positions increased from 20,192 in 1991 to 23,421 in 2011. The solid line indicates number of PGY-1 positions. By 2015, the number of graduates from US medical schools will surpass the number of PGY-1 positions. (Data source: http://www.nrmp.org/data/)

Figure Legend:

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