Transforming Medical Education: Integrating Public Health in the Curriculum

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Professor of Medicine
Associate Dean for Medical Education
UW School of Medicine and Public Health
• No Financial Conflict of Interest
• Many Biases
• Point of View:
  – Physician
  – Generalist/Primary Care and Inpatient Hospital Work
  – No MPH
Why did we do it?
What did we do?
Is it working?
What did we learn?
Questions?
UWSMPH: Context

[Image of UWSMPH facilities and a map of Wisconsin highlighting academic campuses, family medicine residencies, generalist partners program, preceptorships, primary care clerkships, rural rotation, and Wisconsin Academy of Rural Medicine (WARM).]
Why did we do it?
“We will not establish an independent, free-standing school of public health, and then attempt to build bridges between it and our school.” —Dean Robert Golden

Develop a 4-year longitudinal curriculum model integrating public health training into the MD program for ALL students

– Emphasize application of public health knowledge
– Increase community-based learning experiences
WHAT DID WE DO?
Public Health in Current MD Curriculum

- Population Health throughout Semester 1
- Years 1 and 2: Public Health Integrative Cases
- Year 3: Community Projects & Core Clerkship Days
- Year 4: Community Health Assessments & Public Health Electives
Public Health Integrative Cases

- 1-3 day case-based explorations integrating basic and clinical sciences with public health
- Connect to community and health leaders
- Experiential learning
INTEGRATIVE CASE TOPICS

• “What Brought You in Today?”: Upstream from the ER
• Poverty and Health
• Driving Under the Influence
• Health Policy Advocacy
• Tuberculosis in Wisconsin
• Costs of Care
WHAT BROUGHT YOU IN TODAY?

• 1st month of medical school
• All student do 2 hour shift in ED
• Scripted patient surveys focusing on determinants of health
  – Employment
  – Health Habits
  – Diet, including food security
  – PCP, insurance status
  – Transportation
ACTIVITIES FOR ED CASE

- Visit to farm: Farm Injury Prevention
- Homelessness: Drives with Madison Police
- Community Gardens with Resident Leaders
- Heroin Treatment Center
- Gang Violence Task Force with Lead Detective
- WI Injury Research Center: Policy Director
- Campus Safe Walk: Assault Prevention
- Suicide Prevention Program
- Literacy Network of Madison
SMALL GROUP DISCUSSIONS

• Debriefing experiences
• Exploring themes
• What can a physician do?
Activities for DUI Case

- Studying injuries on a cadaver
- Physiologic mechanisms of alcohol's effects on behavior
- First responders, life flight and trauma systems
- Research coverage of hospital bills and community alcohol rehab services
- Harm reduction: “Drink but Don’t Drive” (Road Crew)
- Impact of alcohol advertising and marketing
- Police and prosecutor perspectives on law enforcement
- Beer tax legislation efforts in WI (Tavern League)
5 Advocacy Tools

- Legislative Testimony
- Traditional Media
  - Print
  - Radio
  - TV
- Letter to Editor
- Persuasive Conversations
- Social Media (Twitter Conference)
APPLIED PUBLIC HEALTH IN CLERKSHIPS

• Community Health Project in 8 week Primary Care Clerkship

• Community Health Assessment in 6 week community preceptorship in 4th Year
Med 4 Public Health Electives

- Ethical Issues in Population Health
- Injury Prevention with Trauma Surgeon
- Leadership to Improve Quality Health Care
- Maternal Child Health in Milwaukee
- Optimizing Value, Quality and Safety in Health Care: A Case Study in Surgery
- Public Health Advocacy and Service in Psychiatry
- The Economic Approach to Clinical and Health Policy
Specialized Training in Urban and Rural Medicine

• **TRIUMPH:** Training in Urban Medicine and Public Health
  – For students committed to reducing disparities for urban populations.
  – In Milwaukee for much of Years 3 and 4

• **WARM:** Wisconsin Academy of Rural Medicine
  – For students committed to improving health in rural WI communities.
  – In La Crosse, Marshfield/Rice Lake or Green Bay areas in Years 3 and 4
Path of Distinction in Public Health

- 4-year longitudinal path for students who want more experience and expertise in public health
- Required *Leadership in Public Health and Medicine* course plus 8 elective credits over 4 years
- Project mentor and field experience in a variety of areas (i.e. health policy, community and global health)
- Final Project Summary
- Recognized in Dean’s Letter
- ~50-60 students per class
Dual Degree MD/MPH

- One year program
- After year 1, 2, 3 or 4 (individually determined)
- Choice made by up to 12 members of recent classes
Is it Working?
## Student Assessment: Reaction

<table>
<thead>
<tr>
<th>Integrative Cases have helped me to...</th>
<th>Med 1s 2010-12</th>
<th>Med 2s 2010-12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 307</td>
<td>N = 282</td>
</tr>
<tr>
<td></td>
<td>% strongly agreeing</td>
<td>% strongly agreeing</td>
</tr>
<tr>
<td>Make connections across basic science, clinical medicine and public health</td>
<td>87%</td>
<td>85%</td>
</tr>
<tr>
<td>Explore strategies that integrate a public health perspective to improve the health of individuals and communities</td>
<td>90%</td>
<td>90%</td>
</tr>
<tr>
<td>Recognize the distinction between population and individual approaches to health</td>
<td>91%</td>
<td>90%</td>
</tr>
<tr>
<td>Participate in experiences and examine themes that expand the view of medicine and public health</td>
<td>92%</td>
<td>90%</td>
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STUDENT ASSESSMENT: SELF-REPORTED IMPACTS AFTER YR 2

- 45% changed own health behavior
- 20% increased use of social media to communicate about public health issues
- 16% joined an interest/advocacy group
- 11% voted differently in a city/state/national election or referendum
- 11% volunteered for a community program
LONGER TERM OUTCOME DATA

• Dean’s Letter (MSPE): Public health activities
• AAMC Graduate Questionnaire
  – Adequacy of public health content in curriculum
  – Intention of practice PH during career
• Graduate Surveys
  – 1 year after graduation
  – 3 and 6 years after graduation
• Briefly describe any extracurricular projects, research, or activities you've done as a medical student that may have contributed to the advancement of public health using population health approaches.
• 67% reported engaging in 174 extra-curricular, population health-focused activities
• 89% focused on Wisconsin (11% were national or international)
  – 70 (40.2%) health-related education & awareness
  – 24 (13.8%) conducted research in pop health/epi
  – 20 (11.5%) created new PH programs
  – 8 (4.6%) engaged in advocacy for a PH issue
  – 6 (3.4%) conducted a community or environmental health assessment
<table>
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<tr>
<th>% reporting “inadequate”</th>
<th>UW ’10</th>
<th>UW ’11</th>
<th>UW ’12</th>
<th>UW ’13</th>
<th>UW ’14</th>
<th>All Schools ‘14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health determinants</td>
<td>14.1</td>
<td>8.1</td>
<td>3.8</td>
<td>2.1</td>
<td>2.1</td>
<td>16.2</td>
</tr>
<tr>
<td>Public health</td>
<td>13.8</td>
<td>7.7</td>
<td>6.5</td>
<td>4.5</td>
<td>1.4</td>
<td>22.1</td>
</tr>
<tr>
<td>Health surveillance strategies</td>
<td>23.0</td>
<td>21.1</td>
<td>12.0</td>
<td></td>
<td></td>
<td>27.7 (‘12)</td>
</tr>
<tr>
<td>Role of comm health &amp; social service agencies</td>
<td>19.2</td>
<td>17.7</td>
<td>13.6</td>
<td>13.2</td>
<td>13.2</td>
<td>24.4</td>
</tr>
<tr>
<td>Health policy</td>
<td>39.1</td>
<td>37.9</td>
<td>20.3</td>
<td></td>
<td></td>
<td>39.5 (‘12)</td>
</tr>
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AAMC Graduation Questionnaire: Intention to Participate

- In which of the following activities do you plan to participate in during your career?

<table>
<thead>
<tr>
<th>Public Health</th>
<th>UW</th>
<th>ALL Schools</th>
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<tbody>
<tr>
<td></td>
<td>35.9%*</td>
<td>25%</td>
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## Baseline Graduate Data ‘06-09

<table>
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<tr>
<th>Public-health related activity</th>
<th>Mean (0-3)*</th>
<th>% “Never”</th>
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<tr>
<td>Drawn on public health agencies or community resources for patient care</td>
<td>1.97</td>
<td>20.3%</td>
</tr>
<tr>
<td>Sought input from public health experts/ resources regarding health issues</td>
<td>1.27</td>
<td>36.9%</td>
</tr>
<tr>
<td>Given health education presentations to groups of patients/community</td>
<td>0.90</td>
<td>51.0%</td>
</tr>
<tr>
<td>Planned/participated in a community-based health assessment</td>
<td>0.54</td>
<td>67.6%</td>
</tr>
<tr>
<td>Collaborated with community stakeholders to improve the health and welfare of a community</td>
<td>0.38</td>
<td>78.1%</td>
</tr>
<tr>
<td>Advocated for health reforms at the local, state, or federal level</td>
<td>0.56</td>
<td>66.7%</td>
</tr>
<tr>
<td>Presented information to the media about a public health issue</td>
<td>0.26</td>
<td>83.3%</td>
</tr>
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*Scale of 0 = Never, 1 = Once, 2 = Sometimes, 3 = Frequently*
What did we Learn?
Lessons Learned

• Remarkable amount of student engagement in Integrative Cases with no assessment or grade
• Uncovered tremendous resources in communities, across campus and within our hospital
• Value of clinical faculty in key roles (rather than public health MDs or practitioners)
• Value of exposure to multiple specialties engaging in PH thinking: PH is not just the domain of primary care
• Importance of going beyond program evaluation to try and capture changes in physician behavior
• Support from the Dean has been crucial to our success
QUESTIONS?