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# INTEGRATING THE PUBLIC IN HEALTH: A Series of Integrative Cases for Pre-Clinical Students

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## BACKGROUND/NEED

National organizations have called for better integration of public health in medical education. We introduced student-centered learning activities called Integrative Cases in which preclinical students examine issues across several domains: basic science, clinical, social/ethical and public health.

## OBJECTIVES

1. Make connections across basic science, medicine and public health
2. Apply, build upon and integrate knowledge across medical school courses and years
3. Provide experiences and introduce themes that offer a more expansive view of medicine and public health
4. Stimulate interest and questions that anticipate future learning
5. Develop skills in lifelong learning, problem solving, independent and team learning
6. Develop skills in communicating research and findings

## METHODS

- Four Integrative Cases were piloted for first-year students in 2008-09
- Students completed research and active learning assignments on campus and in the community on day 1.
- On day 2, students reconvened in small groups led by interdisciplinary faculty to apply knowledge gathered and develop a broad, multi-domain perspective on a selected topic. Plenary sessions were sometimes included.
- Cases were evaluated with an on-line survey that asked students to rate the effectiveness of each session and the achievement of that case's goals.
- Cases were extended to both first- and second-year students in 2009-10

## CASE EXAMPLE

In a two-part Integrative Case on a DUI crash, ~165 students were divided into 5 groups, each researching different aspects of the case. Activities included;

- Studying injuries on a cadaver
- Training with first responders
- Interviewing emergency room staff at a community hospital and a trauma center
- Discussing consent and confidentiality with hospital attorneys and law enforcement officials
- Researching coverage of hospital bills and community alcohol rehab and mental health services

## RESULTS

How 86 second year students rated their agreement with the following goal statements after completing all 7 pilot Integrative Cases on a scale from 1 to 7, where 1 is "strongly agree" and 7 is "strongly disagree". Lower numbers are better.

This integrative case...	Strongly agree			Neutral		Strongly disagree		Mean	S.D.
	1	2	3	4	5	6	7		
Helped me make connections across basic science, medicine and public health.	23.2%	30.2%	27.9%	8.1%	7.0%	0%	0%	2.6	1.4
Helped me apply, build upon and integrate knowledge across courses.	14.0%	24.4%	30.2%	17.4%	11.6%	0%	0%	3.0	1.3
Provided experiences that offer a more expansive view of medicine and public health.	37.2%	31.4%	17.4%	7.0%	5.8%	0%	0%	2.2	1.2
Stimulated interest and questions that anticipate future learning.	33.7%	22.1%	23.3%	9.3%	7.0%	4.7%	0%	2.5	1.5
Developed my skills in lifelong learning, problem solving and teamwork.	17.4%	25.6%	27.9%	11.6%	10.5%	7.0%	0%	2.9	1.4
Developed my skills in communicating research and findings.	18.6%	24.4%	23.3%	15.1%	10.5%	7.0%	0%	3.0	1.5

## DISCUSSION

Integrative Cases encourage students to integrate a public health perspective in their approach to medicine and they expand student exposure to factors affecting health. Longitudinal follow-up will determine if these cases affect attitudes, behaviors and skills in public health.

## TOPICS

Topics are chosen to reflect Wisconsin public health priorities and current controversies.

### 2008-09

- Pre-term birth (focusing on disparities in birth outcomes of African-Americans)
- Screening/treatment guidelines for lipid disorders in children
- DUI crash (two parts)

### Additional topics in 2009-10

- Chronic disease management (Autism, Cystic Fibrosis, Sickle Cell Anemia, Parkinson's Disease, Depression,)
- Health Systems
- Obesity
- Tuberculosis/global health

## SAMPLE STUDENT COMMENTS FROM EVALUATIONS

"I love this part of medical school and I wish we could do it more often. I feel that I'm finally applying all these concepts to real-world issues. These cases remind me why I came to medical school in the first place."

"Got me thinking about the multiple angles from which we can approach a problem"

"It's a unique way to actively learn and apply some of the concepts we have discussed and more importantly, for us to remember that as future physicians, we have a role in public health and educating our communities in healthcare and health policy."

"These cases helped me understand the many different dimensions of health. It was great to meet with public health workers and the people in the community to learn about what roles these people have in health and how we as physicians can collaborate with them one day."