



University of California
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Development of a Health Professions Curriculum on Environmental Sustainability and Health

Part 1: Medicine

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Background

- Burden of disease
- Role of health care professionals
- Educate for recognition and responsibility

Defining ESH Education

- Education on environmental sustainability and health (ESH) is:
 - Education about impact of climate and environment on health
 - Education about the impact of the health care industry on the climate and environment

Current State of ESH Education

- Nursing
 - Royal College of Nursing (Barna et al, Nurse Education Today)
 - NurSus Toolkit (Richardson, Plymouth)
- Medicine
 - UK Sustainable Health Care Education Network (Thompson et al, Lancet)
- UCSF Academic Senate Committee on Sustainability
- Pharmacy and dentistry

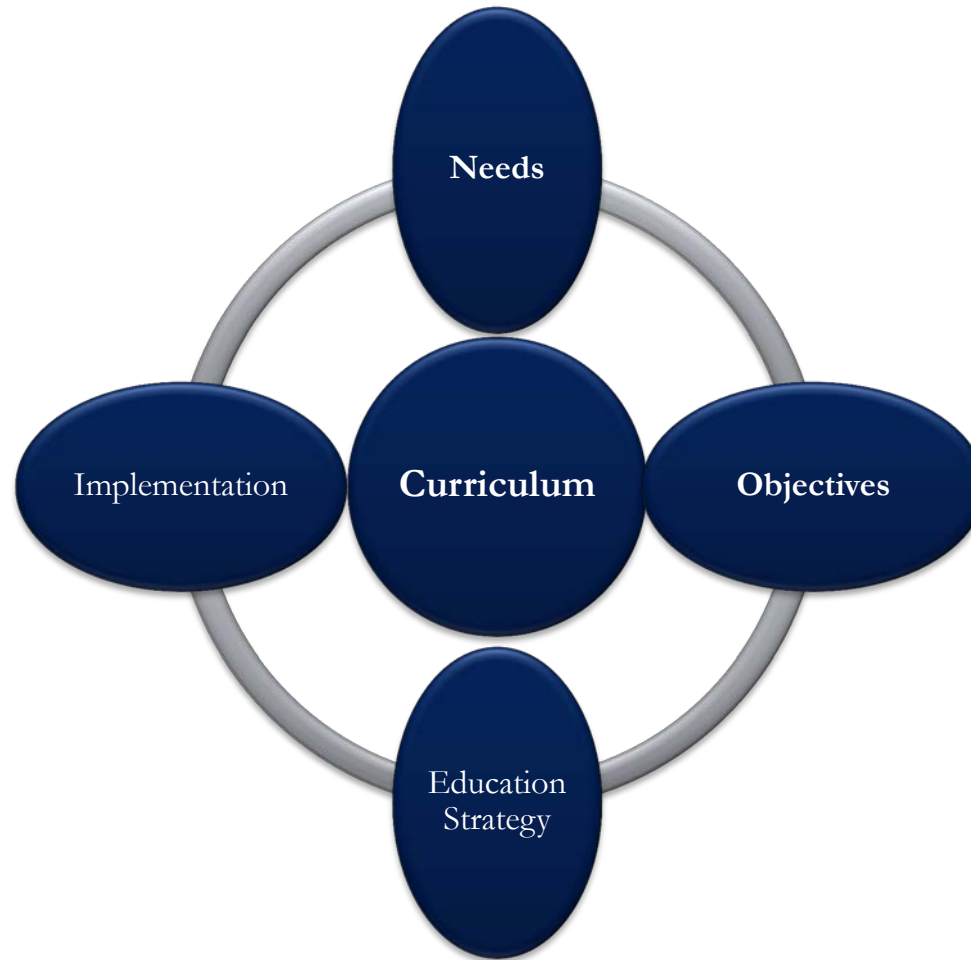
Aim

To develop ESH curricula for the health professions

- Focus on work to date in Medicine

Curriculum Development Model

Kern 2009



Methods

1. Sustainable Health Care and UCSF Academic Senate Committee on Sustainability objectives (Needs)
2. Modified Delphi (Objectives)
 - Rate importance of objectives and timing
 - ESH experts (academic and community) globally

Methods (cont.)

3. Interviews (Educational Strategies)

- How to teach, where to introduce, ESH experts (academic and community) locally and nationally, and students

Results: Delphi

15 items achieved CVI of .78 or greater

**Describe
how the
environment
and human
health
interact at
different
levels**
(*Doctor as
scholar and
scientist*)

Outline the dependence of human health on global and local ecological systems, which supply essentials such as air, water and a stable climate
Discuss the contribution of human activity and population size to global environmental changes such as climate change, biodiversity loss and resource depletion

Describe the mechanisms by which human health is affected by environmental change, for example through changes in disease vectors, exposure to extreme weather, migration and reduced food security.

Explain the concept of environmental justice and the core principles for addressing it

Describe features of a health-promoting local environment, in community and healthcare settings, to include access to green spaces, clean air and an active travel infrastructure

Discuss medical, ethical, legal, and economic factors in caring for patients with environmental disease

Results: Delphi

Demonstrate the knowledge and skills needed to improve the environmental sustainability of health systems
(Doctor as practitioner)

Define environmental sustainability

Take a focused occupational and environmental history.

Explain how trends in demographics, technology, climate, and resource availability may affect our ability to provide healthcare into the future

Identify potential synergies between policies and practices that promote environmental sustainability and those that promote health

Identify ways to improve the environmental sustainability of health systems - in individual practice, in health service management, and in the design of care systems

Describe, with examples, the different types of environmental impact resulting from healthcare provision, and how these may be measured

Results: Delphi

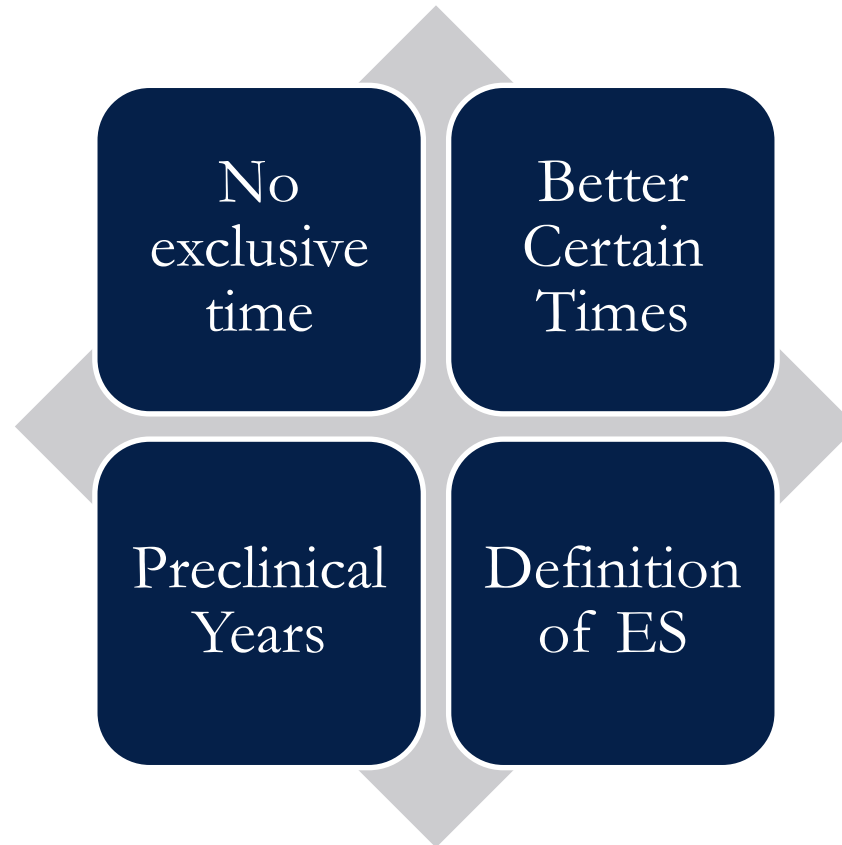
Discuss how the duty of a doctor to protect and promote health is shaped by the dependence of human health on the local and global environment.
(Doctor as professional)

Explain how the health impacts of environmental change are distributed unequally within and between populations and the disparity between those most responsible and those most affected by change

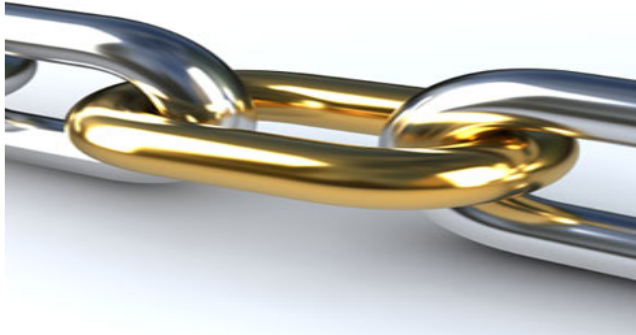
Discuss ethical tensions between allocating resources to individual patients and protecting the environment upon which the health of the wider community depends

Evaluate their work environment for level of sustainability

Timing in Medical Education



Interviews: Educational Strategies



Linkages

Local Context
& Partnerships

Community



Interview: Instructional Strategies

Preclinical
Years

Single
Lecture

Small Group
and Clinical
Work

Stories

Actionable

Implementation: UCSF SOM

- Work in progress
 - New curriculum type (Inquiry) – specific small group and a lecture to
 - bring awareness
 - tie thread together integrated content
 - Inquiry mini-course
- Next steps
 - Mapping the new curriculum
 - Connecting with content leaders

Make available this critical content beyond UCSF
Guide for other institutions

Thank you

References

Gail Lee (sustainability.ucsf.edu)

UCSF Academic Senate Committee on
Sustainability

Watts et. al, Lancet, 2015

Walpole & Pearson, Medical Teacher, 2015

Pearson, Medical Teacher, 2015

Sustainable Health Care Education, UK

Thank You!