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NSTA Web Seminar:

Exploring Bioethics

Developed by NIH and EDC

Presented by Liz Crane, Brookline HS, MA

Thursday, March 26, 2009

6:30 p.m. to 8:00 p.m. Eastern time

Exploring Bioethics

Six-part curriculum
supplement for grades 9 -12
developed by:

The National Institutes of Health
and

Education Development Center, Inc.,
Newton, MA





Today's Webinar

- I. What is *Exploring Bioethics*?
- II. Organ Allocation and Fairness
- III. Why teach bioethics?
- IV. How can bioethics be effectively taught and incorporated into the curriculum?
- V. What challenges arise when teaching bioethics?



I. “Exploring Bioethics”

- **Introductory Materials**
 - Overview regarding bioethics, teaching strategies, alignment to standards, and supplementary readings and resources
- **Six 3-day modules**
 - Teaching sequence for each day
 - Masters for all handouts
 - Teacher support materials (supplementary content background)



Six 3-day Modules



- **Bioethics Concepts and Skills**
- **Balancing Individual and Community Claims:**
Establishing State Vaccination Policies
- **Allocating Scarce Resources: *The Case of Organ Transplantation***
- **Ethical Issues in Genetic Testing**
- **Research Ethics: *The Power and Peril of Human Experimentation***
- **Modifying the Natural World: *Human Responsibilities toward Animals***



Does anyone have a question
about the organization or
contents of the supplement?
Let's pause for a few
questions.

Framework for Each Module

1. What is the ethical question?
2. What are the relevant facts?
3. Who or what could be affected by the decision?
4. What are the relevant ethical considerations?
 - respect for persons
 - minimizing harms while maximizing benefits,
 - fairness
 - authenticity, responsibility/stewardship, integrity*



We will now apply the framework to selected parts of “Allocating Scarce Resources: The Case of Organ Transplantation.”

II. Organ Allocation and Fairness

Case Study

- One liver available
- 4 possible recipients
- Ethical Question: You are a member of a hospital committee with an important decision to make. How can this liver be most fairly distributed?

4 Possible Recipients

	Anita	Mario	Emily	Luke
Age	19 yrs	6 months	36 yrs	54 yrs
Reason	Hepatitis C, b/c of surgery after car accident	Born without bile ducts	Autoimmune disorder	Likely b/c of alcoholism, related to PTSD after serving in war
Personal Info	College student; recently began smoking and drinking		Cannot afford child care, so works from home; no health insurance	Employed, but currently unable to go to work; expected to live for no more than 2 weeks w/o liver
Family Info	Parents Sibling Boyfriend	Very responsible family; extended family nearby	Husband died of cancer two years ago Two young children	Married Two grown children
When Listed for Transplant	Last week	Will be listed next week	Two months ago	Six months ago

Your first reaction: Who should receive the liver?



	A. Anita	B. Mario	C. Emily	D. Luke
Age	19 yrs	6 months	36 yrs	54 yrs
Reason	Hepatitis C, b/c of surgery after car accident	Born without bile ducts	Autoimmune disorder	Likely b/c of alcoholism, related to PTSD after serving in war
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Graph from polling question
on previous slide



Fairness

ensuring that benefits, risks, resources, and costs are distributed equally



What criteria could we use to decide how to most fairly distribute the liver?

Two volunteers to add criterion and relevant fact(s)

Possible Criteria	Relevant Fact(s)
Whoever has waited the longest	Time spent on waiting list

Sample Chart

Possible Criteria	Relevant Fact(s)
Whoever has waited the longest	Time spent on waiting list
Whoever is youngest	Age
Whoever is most sick	
Whoever will live the longest with a transplant	

Sample Chart, showing need for additional relevant facts

Possible Criteria	Relevant Fact(s)
Whoever has waited the longest	Time spent on waiting list
Whoever is youngest	Age
Whoever is most sick	When patient will die without transplant
Whoever will live the longest with a transplant	Age, patient's other medical problems, distance from transplant center

	Anita	Mario	Emily	Luke
How long will the person live post-transplant?	33 years	53 years	10 years	3 years
How long will person live without transplant?	9 months, at most	1 year, at most	3 months, at most	2 weeks, at most
Geographic distance from transplant center	Very close	Very far	Far	Close



Questions about case studies?



Weighing Organ Allocation Criteria

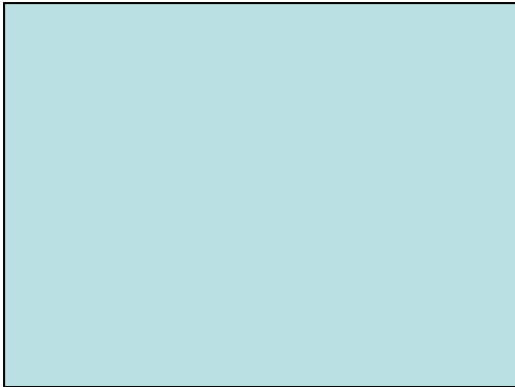
Suppose that the class generated the following possible criteria for organ allocation:

- Will live the longest
- Is most sick
- Is youngest
- Has been waiting the longest time
- Is “most valuable” to society or their families
- Is least responsible for their own disease



On the next slide, place a total of 3 pieces of clip art to show which criteria you think should be considered when creating a fair policy regarding organ allocation.

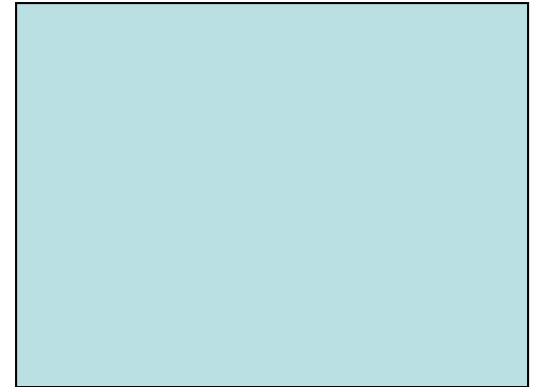
Will live longest



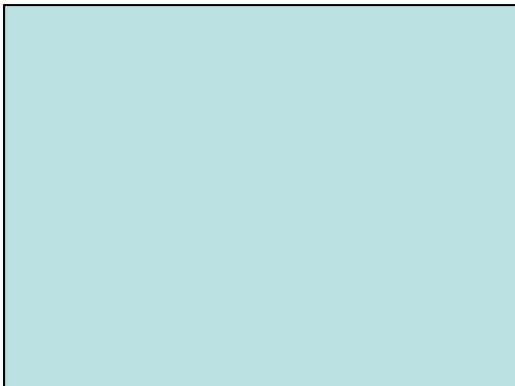
Sickest



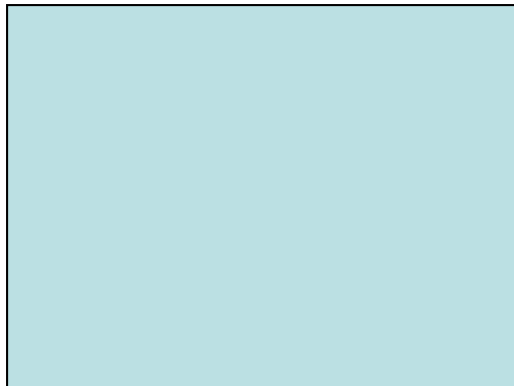
“Most valuable”
to society/family



Youngest



Waiting longest



Least responsible for
own disease

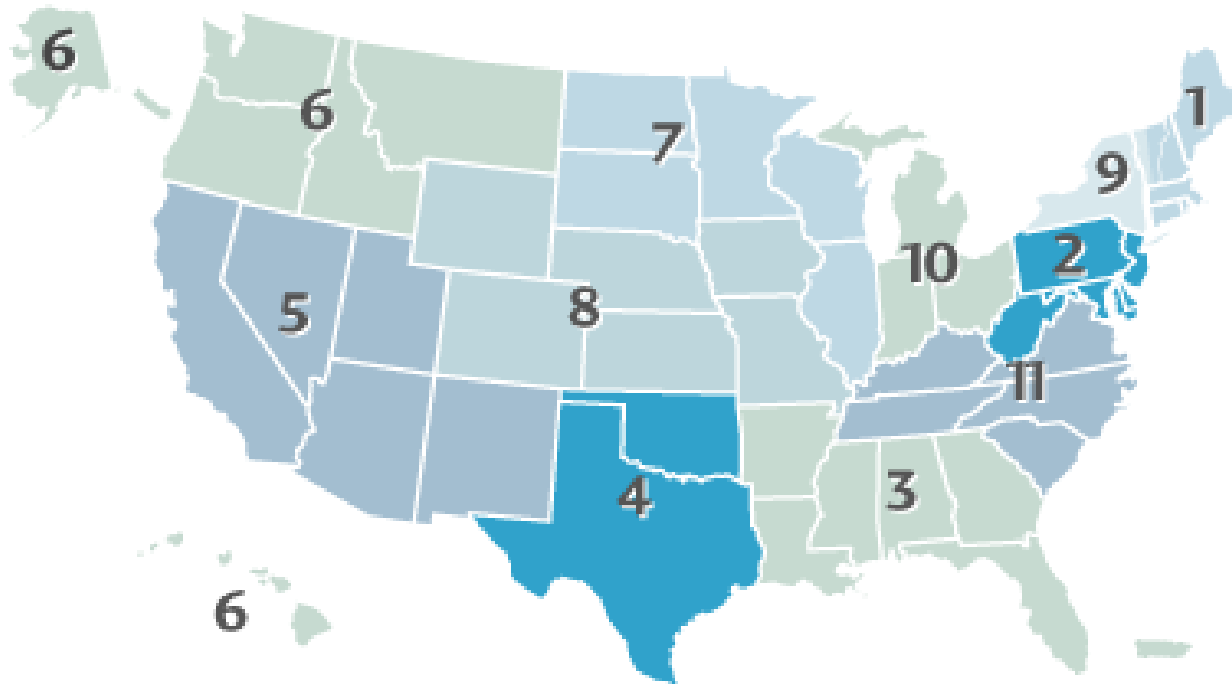




Let's pause two minutes for
questions...



The United Network for Organ Sharing (UNOS)





UNOS Policies pre-1998 and today

- Severity of patients' illness important
- Waiting list used
- No mention of worth to society
- No use of a lottery system
- Youngest patients not prioritized
- Those who will likely live longest not prioritized
- First-come, first-served not used
- Those responsible for disease not penalized



UNOS Policy pre-1998

- Used four medical-urgency-status categories to prioritize patients
- Prioritized patients within local OPO areas
- Prioritized those who were on waiting lists longest
- Patients' doctors' subjective opinions were used
- Healthier patients could get livers before very sick patients



UNOS Policy today

- Prioritizes patients that will die within a week without a new liver
- Prioritizes all others based on blood tests that predicts risk of death over the next 3 months
- Patients with highest risk of dying receive next highest priority
- Ensures that sickest patients receive livers first, regardless of location
- Objective medical data and medical tests—not doctors' opinions—guide decision making



Each student then compares
the new and old UNOS
policies and makes his/her
own decision on which is most
fair.



Let's pause two minutes for
questions...

III. Why teach bioethics?

Which would serve as YOUR primary goal?

- A. To advance science understanding
- B. To prepare students to make informed, thoughtful choices
- C. To enhance respectful dialogue among those with diverse views
- D. To cultivate critical-reasoning skills



Graph, based on polling
question on previous slide



IV. How can bioethics be effectively taught and incorporated into the curriculum?



Placement of Modules

Your goal will help inform where you choose to place the module in your curriculum.



Example: You want to use the
“Balancing Individual and
Community Claims” module.
Your goal is to advance your
students’ science understanding
regarding the immune system
and vaccinations.



The module could be placed in a number of locations...

- At the **beginning** of the immune system unit
- **Integrated** into the unit
- At the **end** of the unit

Using the module to advance your students' science understanding

- At the **beginning** of the immune system unit
 - As a “hook” for upcoming content
 - To assess students' prior content knowledge
- **Integrated** into the unit
 - When questions arise such as “How do vaccines work, anyway?”, take the opportunity to teach content along the way
- At the **end** of the unit
 - To assess students' application of content



Let's pause two minutes for
questions...



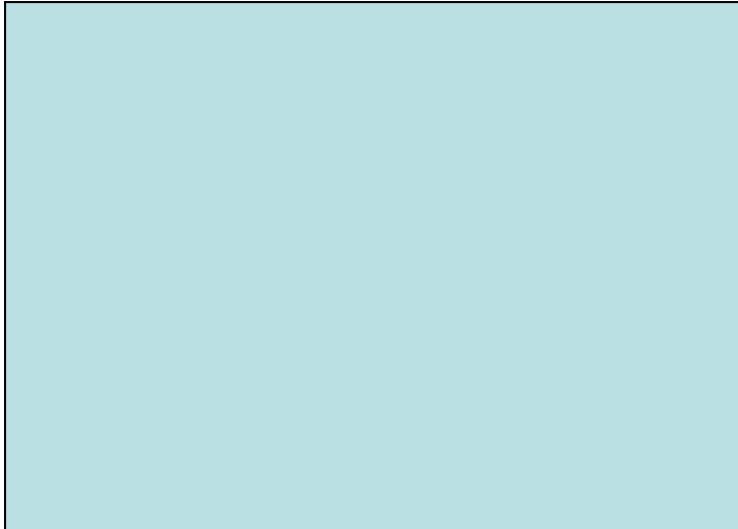
V. What challenges arise when teaching bioethics?

- A. Managing controversial discussions
- B. Keeping the conversation “on track”
- C. Keeping the conversation lively
- D. Facilitating contributions from all students

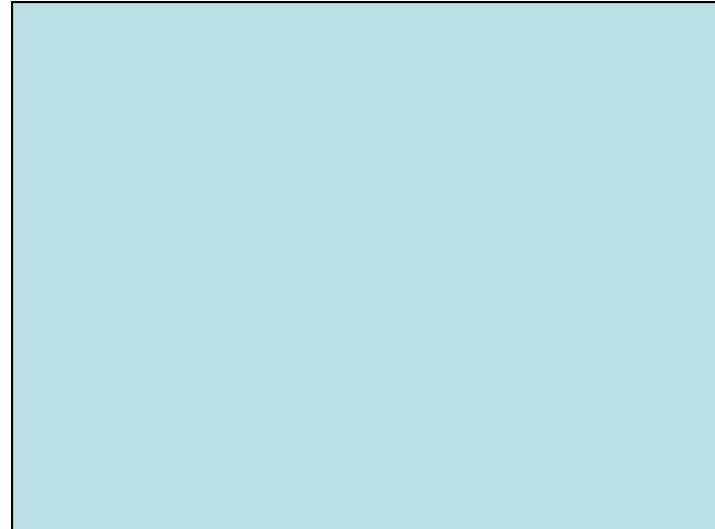


On the next slide, use 2 pieces of clip art to show which you think will be your biggest challenges.

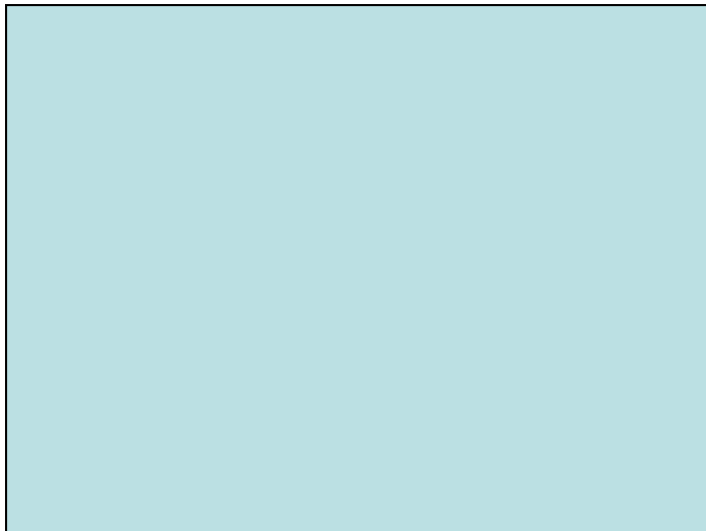
A. Managing controversy



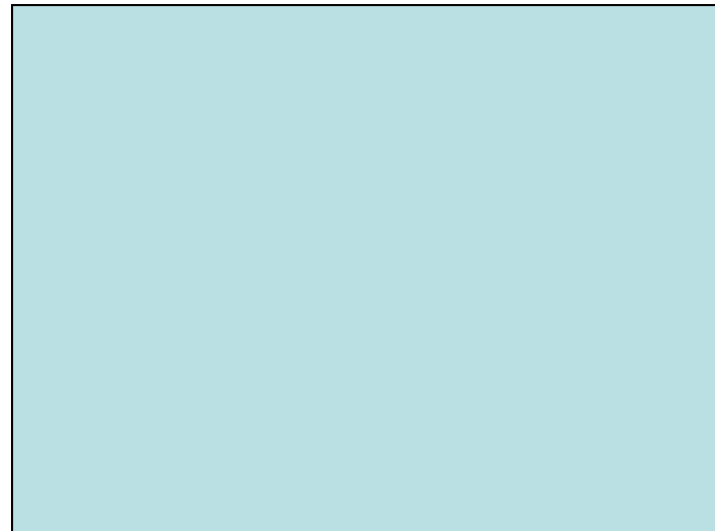
B. Keeping “on track”



C. Keeping it lively



D. Facilitating contributions from all





Managing controversy

- Best to prevent disrespectful behavior in the first place
 - Establish ground rules ahead of time
- Reflect back what you think the student said
- Remind students to debate ideas, not people



Keeping “on track”

- Use the four-question framework, and refer to the poster provided
- Keep a written “parking lot” for interesting, but tangential, points



Keeping it lively

- Ask questions such as:
 - Can you think of any exceptions?
 - What would the opposition say? Why?
 - What is the strongest, opposing argument?
 - What is the weakest part of your argument?
- If dividing class into small groups, ask for a student volunteer in each group to be the “thorn”

Facilitating contributions from all students

- Recognize that contributions can come in many different forms
- Pause and invite “voices that have not yet been heard”
- After partner work, ask students to share an idea *from their partner* (and to give that person credit)



Let's pause two minutes for
questions?



How can you receive a copy of this **free** curriculum supplement?

Review and request from the NIH Office of Science
Education www.science.education.nih.gov

Exploring Bioethics will be released in Summer 2009

It's one of 17 different curriculum supplements

Special Thanks to NIH for
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