Chapter 12: Action to protect health and the environment

12.1. Problem-solving exercise: ethical analysis for decision-making in environmental health

12.2. Action planning exercise

12.3. Promoting activities to identify, control and prevent environmental health problems: identifying obstacles and resources
12.1 Problem-solving exercise: ethical analysis for decision-making in environmental health
Prepared by Dr Colin L. Soskolne, Lee E. Sieswerda

(seconds)

Time: One 3-hour block

✓ Objectives:

At the end of the exercise, students will be able to:

1. Apply ethical principles as aids to effective and defensible decision-making.
2. Recognize that the perspectives of all stakeholders (i.e. participants, investigators, sponsors and others) are necessary to provide a fair assessment of any epidemiological study.
3. Recognize issues of confidentiality and disclosure.
4. Implement procedures that provide for accountability and minimize unethical behaviour, or the perception of unethical behaviour, with regard to confidentiality and disclosure in epidemiological studies.

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 Procedures:

(Note to instructor: This exercise has three parts: a short background section on ethics theory, a case study with associated questions, and a final comment and set of questions. The background material in Part I should be distributed early so that students can read it before the class. The proposed answers should not be considered as the only correct answers. An answer given by a student is correct if it can be justified to any reasonable person.)

1. Introduce the exercise and review its objectives. Divide participants into small groups (4-6 persons). Instruct participants to identify a chairperson and a recorder.
2. Distribute Part II of the exercise and instruct the groups to discuss the issues and formulate answers to the questions by drafting consensus statements along with the underlying rationale behind them.
3. Reconvene the groups and invite a response from one group to the first question. Ask whether other groups have any different responses. Summarize and, if necessary, expand on the participants' responses and proceed to Question 2. Allow a different group to initiate the discussion and continue in this way until all questions have been answered.
4. Distribute Part III and follow the same procedures.

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5. Summarize the results, emphasizing key messages.

Materials:

Problem-solving exercise (Annex 24), flip chart or overhead projector, transparencies, coloured markers.

Part I:

Definitions relevant to ethical issues in public health services

Deontology: This is a class of theories known as duty-based ethics. The scientific ethic is a duty-based ethic that specifies the duties of scientists, including their obligations to the participants of research, to society at large, to colleagues, and to the sponsors of their research. Scientists are expected to subscribe to the values of science which, in essence, include the pursuit of truth. This is most assured when scientists are impartial (i.e. objective) in their research.

Utilitarianism: This theory requires that the greatest good be done for the greatest number of people. The utilitarian approach is consistent with the values to which public health professionals have subscribed for many years.

Principle-based ethics: Moral reasoning in the health sciences can be conceived of as using the principles of beneficence, non-maleficence, autonomy and justice. There can often be tensions between the different principles. When this happens, consideration of which principles are contravened and which are given priority characterizes the nature of the ethical dilemma. An example follows the definitions of the principles below.

Beneficence: This principle requires people to maximize benefits to others. It is closely related to the utilitarian ethic. In public health, the principle of beneficence requires that more good than harm be accomplished through public health action.

Non-maleficence: This principle requires that people do not harm one another. It is related to the principle of beneficence. There is, however, a subtle but material distinction between the non-infliction of harm and the requirement to do good.
Respect for autonomy: This is the principle requiring respect for individual self-determination. Autonomy manifests itself in many ways, but an instructive example is the requirement to obtain prior informed consent from research participants whenever feasible. Honesty in informing potential research participants of potential risk and harm demonstrates respect for their right to self-determination.

Justice: This principle is also known as equity. It requires that potential risks and benefits be evenly distributed among people in the community.

Egalitarianism: Complimentary to the utilitarian ethic is the egalitarian ethic which assumes that community members are equally important. It upholds the principle of solidarity and measures the well-being of the group by the standard of the least well-off in the group. Its success is determined on the basis of equity in the distribution of harm and benefit associated with public health actions.

Libertarianism: In contrast to egalitarianism, this ethic holds that the individual is more important than the community. Under libertarianism, the just society protects the rights of property and liberty, allowing persons to improve their circumstances on their own initiative. According to libertarian theory, social intervention in the market undermines justice by placing unwarranted constraints on individual liberty. Hence, libertarians hold the view that taxation for the redistribution of wealth is coercive and, therefore, inappropriate. Consequently, health care is not a right under this conception and privatization in the health care system is a protected value. Libertarianism has less utility within public health because it makes the greatest good for the greatest number of people less attainable.

Because public health interventions can impact on vested interests, the public health professional has to remain aware of the pressures that could be brought to bear on his or her recommendations in support of health policy. Ethics guidelines can be helpful in public health decision-making and should be seen as a means to achieving a balanced dialogue on a contentious issue.

Part II:

Case scenario

(Note: Information in this case study was derived from published media reports and court documents. The names of individuals and corporations used in this case study are a matter of public record.)

As countries become more environmentally aware, governments have legislated programmes and directives to limit the amount of environmentally hazardous material to which people are exposed. The main targets for this legislation are the large petroleum refining and chemical manufacturing companies. These companies are very careful to adhere to the strict regulations within their own countries but may not abide by these high standards when company operations are established in other countries where legislation may not be as strict. This type of behaviour constitutes a double standard that may pose an ethical dilemma for the employees of the company in the country with the stricter rules. While the country in which the subsidiary company is operating may not have standards as strict as those of the country where the parent company is located, the danger of exposure to the chemical of concern for any other population is just as great as that of the population in the country of the parent company. Employees who are concerned about the health of the public in the less
developed/regulated country may be fired with impunity if they voice opposition to their company’s application of different standards which would place at risk the health and/or lives of people in the country with less strict regulations. In several states in the USA, these employees are now protected by so-called “whistleblower laws”. In New Jersey, this legislation is called the Conscientious Employee Protection Act, and protects employees who act in the public interest from employers who see such acts as counter to their business interests.

Dr Peter Smith was employed as the director for environmental health and toxicology for the American-owned Petroil Oil Corporation. In addition, Smith ran, in his own time, a scientific publishing company. From time to time, Smith’s roles would overlap. Such overlap was seen by Petroil as adding to the company’s prestige and was well-known to Petroil.

In September, 1989, Smith was sent to Thailand to speak at a symposium on gasoline health risks which was also attended by executives of the Petroil-owned affiliate, Petroil Oil and Gas Thailand (POGT) and Thai government officials. In Smith’s presentation, he reported that the level of benzene in gasoline that Petroil was selling in Thailand was 2.5-3.5 times that permitted in the USA, but noted that this was well below the Thail government’s legislated level. After he had given his presentation, Smith was said to have been approached by one of the POGT executives who informed him that the level of benzene in gasoline sold by POGT was actually in excess of even the Thai standard. Smith’s figures had, in fact, been on the low side.

Benzene is a gasoline additive used as a blending agent to improve engine performance. It is also a very toxic and carcinogenic agent (a leukemogen) and has been targeted in recent years by US environmental law. Currently in the USA, any products containing more than 5% benzene must be labelled “danger” and “poison” with a skull and crossbones symbol. In 1989, maximum allowable benzene levels in US gasoline were in the 1.5-2% range. The US Environmental Protection Agency now limits levels to 1%. In the company’s Thai operation, levels were said to be in excess of 5%.

Smith informed the POGT executive that the levels were extremely high and hence very dangerous. He strongly advised the executive to reduce the benzene levels or to stop selling the gasoline. The executive is on record as having stated that upgrading the refineries (built during World War II) to provide lower benzene levels would cost Petroil hundreds of millions of dollars.

On returning to the US after the symposium, Smith was denied access to the toxicology laboratory and was informed that he had been placed on “special assignment indefinitely”. Petroil executives alleged that he had used Petroil resources and employees for his publishing business. Smith sued Petroil for wrongful dismissal under New Jersey’s whistleblower law (i.e. the Conscientious Employee Protection Act).

In court testimony, Petroil stated that it was unable to produce documents which would have cleared Smith of any wrongdoing because these documents were “eaten” and/or “defecated” upon by mice. In addition, many exculpatory (i.e. exonerating) statements about Smith were excluded from Petroil’s investigative report. Petroil’s security manager admitted that he had omitted several statements from his report that would have been exculpatory for Smith. Petroil executives also acknowledged that the company had gained prestige from Smith’s publishing activities and that many Petroil scientists had published in Smith’s journals. Despite these admissions from Petroil, Smith was fired in November 1989. The company denied that he had been fired for voicing concerns over the benzene levels in the Thai gasoline. They launched a smear campaign to discredit Smith, claiming that he had appropriated Petroil funds and employees’ time for his publishing company.

Question 1.a) Is it the responsibility of companies from more environmentally regulated countries to protect the citizens of other countries by enforcing the strict environmental standards of the more regulated country on their operations in the less regulated country? Use ideas from egalitarianism and libertarianism to help formulate your answers.

Aside from ethics, there are conventions and treaties that would directly influence decisions in this regard. From an egalitarian point of view, equity is
very important. The egalitarian believes that people have responsibility for one
another and hence would not believe that companies should endanger lives, 
whatever the nationality of those endangered.

A libertarian, on the other hand, believes that the marketplace should dictate 
environmental regulations, not a sense of global responsibility.

b) If so, should these standards be enforced even if the facilities in the 
less regulated country are unable to meet these higher standards? 
Should the company insist that inadequate facilities be upgraded, 
possibly at the company’s expense?

This depends on the level of development of the less regulated country. There 
must be a balance of benefit and harm. Certainly from an egalitarian 
perspective, the decision on permissible levels of pollution should be made by 
a group of people representing various interests.

c) If not, what number of expected deaths could be considered an 
unacceptable risk to the population of the less regulated country? Who 
decides what that level is?

This is question of risk assessment and deciding upon acceptable levels of risk. 
The decision must be made considering questions of equity and whether or not 
the risk is voluntary (e.g. wearing seatbelts, participating in a dangerous sport) 
or involuntary (e.g. job depends upon accepting the exposure, invisible 
ambient air contaminants such as benzene), among other things. The question 
of who decides is once again difficult. Egalitarians would suggest that everyone 
should have a voice in the decision and that the risks and benefits should be 
distributed evenly throughout the population. The libertarian believes that the 
market should dictate.

Question 2. Would Petroil’s decision not to upgrade its Thai plant result 
in more good than harm? Identify the stakeholders involved in this 
decision and what they have to gain or lose.

- Dr. Smith: professional integrity, research funding, compensation for job 
  loss and potential loss of profits to his publishing company.
- Thai public: Protection from unsafe levels of benzene, potential increased 
  risk of cancer.
- Thai leukemia patients (if any attributable to benzene exposure): potential 
  compensation for their illness.
- Company owner/ shareholders: profits, reputation.
- Company workers: potential employment losses if Petroil were to suffer 
  financial losses.
- Media: sell more copies through sensationalist stories.
- Government: seen by the public as protecting the public interest versus 
  the industry’s interest.
Question 3. Discuss how the introduction of whistleblower laws may help to prevent negligent and unethical behaviour on the part of corporate executives/employers. Do you believe that such legislation is appropriate in view of the lengths to which Petroil demonstrated that it would go to protect its interests? What distinctions are there between law and professional codes of conduct and would codes be sufficient to prevent unethical behaviour?

By protecting employees, a whistleblower law allows employees who wish to protect the public interest to avoid harsh consequences. The students may wish to think of examples where a whistleblower law would and would not be appropriate. Professional codes of conduct are far less enforceable than laws, and are regulated by peers, not by outside parties. In general, such codes have been seen as sufficient to keep professionals on the right track. However, when undue pressure is brought to bear, such as the loss of one’s livelihood, many people are unable to resist violating their profession’s codes. It is generally believed that such violations of professional ethics occur more often in profit-making corporations than in academic settings. Corporations should respect the obligations of employees who belong to a professional group. Any professional group granted the relative autonomy to self-regulate has a “social contract” that requires it to protect the public interest.

Question 4. How tenacious should Dr Smith have been in making his point that people should not be subjected to poisonous levels of a substance regardless of whether they are American or Thai citizens? Were his actions justifiable? Use the principles of beneficence, non-maleficence, autonomy and justice to help formulate your answers. How typical is the fortitude demonstrated by Dr Smith?

While in theory any employee should be able to voice concerns when the public interest is at risk, it is often not possible for people who cannot afford to lose their jobs. It is often even less possible to litigate against a major corporation. Dr Smith was well-established, well-respected, and the owner of a publishing company. His relatively secure position enabled him to proceed with his litigation. In thinking about the defensibility of his actions, students might consider the following:

Beneficence/non-maleficence: Smith acted in the interests of minimizing harm to the Thai population. He did not, however, maximize benefits to his employer.

Respect for autonomy: By “going public”, Smith respected the right of the public to know about harm to which they may be exposed. Petroil, in all likelihood, felt that Smith had not respected its right to determine its own actions.

Justice: Justice requires that risks and benefits be evenly distributed within the community. Smith clearly believed that far more benefits were accruing to Petroil and far more risk was being assumed by the Thai public.
Question 5. How common do you think instances analogous to the firing of Dr Smith are in industry, government and academia? On what basis? How might one obtain a more precise estimate of the prevalence of such disciplinary action? What might some of the difficulties be in conducting a study to obtain such estimates?

It is difficult to obtain estimates for the prevalence of professionals fired for attempting to protect the public interest at the expense of their employers. The major hurdle is to identify the victims and to verify that they were indeed fired on those grounds. Individuals who are fired for favouring public over private interests may not even know why they were fired. Also, an individual who is fired may have a somewhat biased perspective of the event.

Question 6. Should employees be permitted, or even encouraged, to hold more than a single job? At what stage would the holding of more than one job constitute a conflict of interests for the employee?

The holding of several jobs or roles is very common, especially among highly qualified individuals. Problems can be minimized when both the employer and the employee approach one another with openness and the employee receives the employer's sanction to hold more than one job. Both the employer and the employee should consider potential for conflicting interests and take steps at the contracting phase to avoid them. In addition, some kind of suitable oversight may help to arbitrate when conflicts do arise.

Part III:

Resolving the issues

The jury awarded Smith US$3.4 million in compensatory damages and US$3.5 million for punitive damages in March 1994. The trial judge allowed only half of the jury’s award, saying that the compensatory damages were inapplicable because the whistleblower law was not valid outside the USA.

Both sides appealed the ruling - Petroil against the heavy punitive damages, and Smith for reinstatement of the full award.

In June 1996, a three-judge appellate court ruled in Smith’s favour, stating that he had identified a “clear mandate for public policy” under the whistleblower law. In its decision, the panel wrote that Smith’s concerns with “professional negligence” and “professional ethics” were justified as Petroil had defied its own policy to apply “health standards of developed countries in the absence of local regulations”. Smith’s lawyer said that the decision will serve as a warning to American oil companies not to ignore the health of customers abroad. He further predicted that US companies would no longer be able to apply the double standard of abiding by strict regulations set by federal and state environmental laws within the USA while allowing hazardous levels to exist elsewhere. A further award of approximately US$3 million was granted by the court in interest payments and additional legal fees. The decision was being appealed by Petroil to the State Supreme Court at the time this case study went to press.

Question 1. Is there a point at which ethics and law interact in the above case study? What arguments might Petroil invoke in its further appeal against the decision to the State Supreme Court? How do you think the court will decide? Discuss.
Under the libertarian view, Petroil should have the right to hire and fire as it pleases without the interference of governments. There may be treaties and conventions to which Petroil may appeal. However, unless there was compelling new evidence, a constitutional challenge, or some reason for mistrial, the State Supreme Court would be likely to find in favour of Smith.

Question 2. Leaving the legal aspects aside and concentrating on ethics, do you think that the court made the correct decision? How does your ideological perspective (i.e. libertarian, egalitarian, etc.) affect your judgement of the court decision?

One's judgement is driven by one's ideological perspective which is rooted in a set of values. For example, the values of the egalitarian would require that equity prevail and be operationalized through respect for persons at every level of deliberation. On the other hand, the values of the libertarian would require that the interests of individuals (e.g. the investigators and/or the employer) take precedence over those of amorphous groups such as society or the public.

Question 3. Do you think that this case will substantially affect the operation of multinational corporations? Why?

Precedence is an important part of law, and with this precedent, corporations may be more conscientious in not polluting because of the risk that an employee might “blow the whistle”. This case has received a lot of media attention in North America and Thailand and may lead to the strengthening of professional organizations, and hence to even more protection for professionals. One potentially negative consequence of this decision is the possibility that corporations may move their head offices to less regulated countries in order to avoid litigation in more regulated countries.

Question 4. List examples of standards of practice to which scientists must always adhere regardless of their affiliation with any government, corporation or academic institution.

Examples include telling the truth, avoiding conflicting interests, being objective, avoiding partiality, conducting scientifically appropriate analyses, and attempting to publish methods and results.
12.2. Action planning exercise

**Time:** 1-1½ hours

**Objectives:**
At the end of the exercise students will be able to:

1. Develop short-term and long-term action plans aimed at reducing the negative impact of environmental factors on health and well-being. Actions may include awareness-raising, investigation/research, and specific projects in areas related to health, environment and development.

**Procedures:**

1. Brainstorm a list of potential activities to reduce environmental health problems and promote health and well-being. These may include literature searches for supporting data/information (particularly local initiatives or prevention efforts in countries with similar problems), interviews with health professionals and policy-makers, involvement in ongoing activities of local groups and organizations, development of further studies and development of educational programmes.

2. (Optional) Incorporate discussion of obstacles and resources for action planning, as shown in Exercise 12.3.

3. Ask participants to work independently or in groups to prioritize target groups for activities (based on risk, need, interest, etc.), and contents of activities. Indicate whether any preliminary investigations or studies must be conducted.

4. Once priority areas have been established, instruct participants to use worksheets to independently plan follow-up activities that they will undertake at the end of the course or after the workshop. Establish a target date by which all follow-up activities should be completed. Participants should designate their target population, rationale for their selection, objectives and estimated timeline for implementation.

5. (Optional) Make a copy of the plans that participants hope to undertake. These can serve as a useful evaluation tool to assess participants’ increase in knowledge and analysis, and to measure the overall effectiveness of the course or workshop. Inform participants if you intend to retain copies of their plans for evaluation and follow-up.

6. When plans are complete, ask each participant to briefly present his or her future programme. Post these on flip chart paper with the following suggested headings: name, region, target audience, topic, specific plans. Record each participant’s proposal. Highlight opportunities for collaboration and sharing of materials.
Materials:
Worksheets for distribution in class, flip chart.

Individual action planning worksheet
(Note to instructor: This worksheet can be adapted in various ways according to the type of activity and the time available. For example, if time is limited, participants can be asked simply to identify their area of focus, target group, objectives and the first step in their implementation plan.)

Instructions:
Develop a plan of action which you will undertake to identify, control and prevent environmental health problems.

Topic or area of focus
Prioritize one area for action planning, such as:
— education and training (e.g. planning a workshop, course, seminar, or study group);
— research (e.g. carrying out a literature search, interviews);
— investigating existing or missing legislation, policies, procedures;
— organizational development (e.g. establishing departments, committees, interdisciplinary working groups);
— participation in ongoing activities of local groups and organizations.

Goals
1. What are your short-term goals in the area you selected? For example, what can be done now to raise awareness and strengthen education, training and research on environmental health with the current levels of expertise and resources?

2. What are your longer-term goals? (These may require additional planning or research.) For example, what can be done to better utilize environmental risk data in advocacy for improved health policies and legislation; and how can you educate health professionals, policy-makers and the general public on their role in identifying, preventing and controlling environmental health problems?
**Action steps**

What action steps would you recommend in support of the activities selected?

1. What is your target population and why have you selected it? (For example, is selection based on exposure to risk, lack of prior attention to this kind of problem, interest in the issue, ability to finance or some other reason?)

2. What are your specific plans?

3. Outline the steps needed to implement your plan of action.

4. What human and financial resources are needed and how do you propose to obtain them?

5. With whom do you plan to collaborate?

6. What is your timeline? For example, what do you hope to accomplish in the next month, 6 months, 1 year, 5 years?

7. What obstacles are you likely to encounter in trying to implement this activity and how do you propose to overcome them?

8. Which of the above steps can realistically be achieved in the next 3-6 months?
12.3. Promoting activities to identify, control and prevent environmental health problems: identifying obstacles and resources
(Prioritising/planning exercise)

فد Time: ½-1 hour

✔ Objectives:
At the end of the exercise, students will be able to:

1. Analyse potential problems in implementing action strategies on environmental health issues, and identify their causes and potential solutions.
2. Identify resources to support initiatives in environmental health.

✍ Procedures:

1. Ask all participants to identify one or, if the group is small, two obstacles that they may face in applying what they have learned about environmental health problems and promotion outside the course or workshop. Participants should write each obstacle in large print on a piece of paper, using a coloured marker. (The writing should be large enough for everyone to read when the paper is posted at the front of the class. The key is to use few words and big letters.)

2. Ask for a volunteer to read out his or her obstacle and pass the piece of paper to the front of the room for posting. Then call for obstacles with a similar theme, posting each piece of paper under the previous one to create a vertical column. A new column is created for each new theme. By proceeding in this manner, a visual representation of the most pressing problems is created. The longest list usually reflects the problem of greatest concern.

3. Summarize the prioritized obstacles. Discuss causes and potential solutions. Focus on obstacles of which the solution would have the greatest positive impact.

4. Brainstorm a list of institutional, national and international resources for activities related to health and environment.

📖 Materials needed:
Coloured markers, tape, pieces of paper or stiff cards (preferably coloured), board for posting the cards.