



# Contexts of Application

## Thinking Critically about Health, Law, and Ethics

### Chapter Objectives

#### Thinking Critically about Health and Health Care

You will be able to

- appreciate the risks posed by various causal confusions in reasoning about health.
- understand the importance of critically evaluating all news reports related to health.
- recognize the importance and limits of expert advice related to health.
- avoid the most common fallacies found in reasoning about health.

#### Thinking Critically about the Law

You will be able to

- appreciate the role of “inference to the best explanation” in legal reasoning.
- understand the way that legal reasoning involves application of categorical logic.
- recognize the significance of key fallacies as they appear in legal reasoning.

#### Thinking Critically about Ethics

You will be able to

- distinguish between ethical claims and descriptive claims.
- appreciate why critical thinking skills are as relevant to ethical claims as they are to other sorts of claims.
- distinguish among ethical premises that draw upon the three historically important traditions of ethics.

### Chapter Summary

Health, law, and ethics constitute three realms of judgment with which all of us must be concerned, and the decisions we make—and the claims we accept—in these realms are significant indeed. In each of these domains, we find that a critical attitude is essential. The ability to evaluate critically our

own beliefs, and those presented to us by others, is crucial in all three domains, as is our ability to avoid the stumbling blocks outlined in previous chapters.

In terms of health, the key skill is the ability to think clearly about causation. In evaluating causal claims about what either causes or cures illness or what will help us stay healthy, we need to avoid the kinds of causal confusions discussed in Chapter 8. It is important to note that the points discussed here apply to all of us as consumers of health information, but they also apply to the health professionals whose job it is to help us interpret and apply claims about health and health care. Key stumbling blocks to avoid include the argumentative fallacies discussed in Chapter 5, along with the temptations of “weird” theories, as discussed in Chapter 10.

With regard to the law, the chapter focuses on the kinds of reasoning applied by the courts. The key skill for legal reasoning is inference to the best explanation, discussed previously in Chapter 9. In a court of law, competing lawyers provide alternative explanations for a particular set of facts. The court—a judge and/or jury—must decide which explanation is best. Legal reasoning is, of course, subject to a whole range of argumentative fallacies. Courts are also faced with special challenges in terms of evaluating premises, including the well-known limitations of eye-witness testimony.

With regard to **ethics**, a key challenge for some students will be accepting the very notion of ethical arguments, and that some ethical arguments can be rejected outright due to, for example, a flawed logical structure. They may need to be convinced, through illustration, that ethical arguments are just as susceptible to critical scrutiny as any other kind of argument. Ethical arguments are often of either categorical or conditional form, and the validity of such arguments can be analyzed using the tools discussed in Chapters 6 and 7. The harder problem with regard to ethical arguments may be the evaluation of ethical premises, which are notoriously contentious and cannot typically be established as true or false by simple demonstration or by pointing to the evidence. But ethical premises can be evaluated by comparing them to our ethical background knowledge. They can also be assessed in terms of whether they have certain structural properties—such as universality and consistency—that ethics experts tend to agree they should have. Finally, ethical premises gain *some* credence by being drawn from one of the three great traditions of philosophical ethics, namely consequentialism, the rights-and-duties tradition (deontology), and virtue ethics.

## Answers to Select Textbook Exercises

Please note: These answers are for some of the questions that were not answered in Appendix B of *The Power of Critical Thinking*, Fifth Canadian Edition.

### Exercise 11.1

2. Yes, causal reasoning is treated part of inductive logic.
5. Doubt is the most reasonable attitude to adopt toward health claims over which experts disagree.
12. A descriptive claim is about how the world is; an ethical claim is about how it should be.

### Exercise 11.2

2. Accept it. This is widely supported by scientific research, the advice of health professionals, and common experience.
4. Accept it, but not on the basis of Dr Fabro’s non-expert opinion. The claim is supported by a huge amount of data and scientific opinion.
7. Proportion belief to evidence. Eyewitnesses are notoriously unreliable; plane ticket evidence probably should make us doubt this claim.

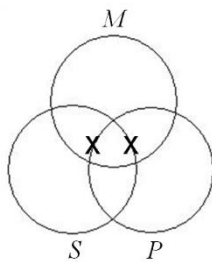
- Proportion belief to evidence. This might be true, but the defendant's own lawyer's word is a very weak reason to believe the claim, since it is a defence lawyer's job to proclaim his or her client's innocence, regardless.

### Exercise 11.3

- Appeal to popularity
- Appeal to emotion
- Appeal to popularity

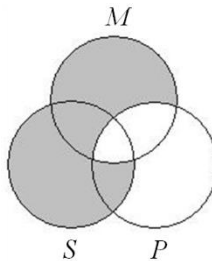
### Exercise 11.4

- $S$  = Falsehoods
  - $P$  = things that do great harm
  - $M$  = lies



**Invalid**

- $S$  = Capital punishment
  - $P$  = Things that are wrong
  - $M$  = Killings



**Valid**

The first premise (“killing is wrong”) is probably an overgeneralization, since most people believe there are exceptions to that rule. The missing premise, namely, “capital punishment is killing” is acceptable, since it is a mere statement of fact regarding what capital punishment involves.

## Study Questions

- How are the conclusions we find in causal reasoning different from a conclusion we find in a deductively valid argument?

2. What are three kinds of causal confusions that are made concerning health information? Provide an example for each.
3. The quality of health information widely available to the public can vary considerably. Discuss two or three guidelines for assessing the quality of that information.
4. When there is no consensus among experts on a health matter, we have to do our best to make an informed assessment. Think of three good questions that can help us make important distinctions in the midst of expert disagreement.
5. Some of the fallacies previously discussed provide prime examples of mistakes concerning health issues. Identify at least two of the fallacies previously covered and then provide an example of each, drawing from a health information source or a health care setting.
6. It is not unusual in a courtroom setting to find inductive arguments that make inferences to the best explanation. Discuss the limitations of such explanations in a legal setting, and use your own example of such an explanation and what its limits might be.
7. Construct a valid categorical syllogism that establishes guilt or innocence in a criminal case.
8. Describe examples of three informal fallacies that might arise in a courtroom setting.
9. Discuss some of the challenges of relying on eyewitness testimony in a criminal court.
10. What is a good working definition of ethics?
11. What are at least three kinds of ethical claims? Provide an example for each.
12. Construct an example of an ethical argument and present it in syllogistic form. Compare and contrast the two premises and their function in an ethical argument.
13. Describe the ethical theory that is based on consequences (consequentialism). Provide an example of an ethical argument that is consequentialist in approach.
14. Describe the ethical theory that is based on rights and duties. Provide an example of an ethical argument that follows this approach.
15. Describe the ethical theory that is based on character. Provide an example of an ethical argument that follows this approach.
16. What is the fallacy known as *appeal to emotion*? How might a defense lawyer use it to defend his client in a criminal trial?
17. What is the fallacy known as *ad hominem*? How might a prosecutor use it in a criminal trial?
18. What is the fallacy known as *appeal to popularity*? How might an arguer use it to misdirect his or her audience into accepting a dubious health claim?

19. What is the fallacy known as *appeal to tradition*? How might an arguer use it to misdirect his or her audience into accepting a dubious health claim?
20. What is the fallacy known as *false dilemma*? How might a lawyer in a criminal trial use it, whether for the prosecution or for the defense?

## Study Exercises

1. Find a recent newspaper or magazine article on any health-related topic. Assess the quality of the information in the article based on the criteria discussed in this chapter.
2. Summarize the key arguments made by the prosecution or the defense in a criminal trial (real or fictional). Try to translate the arguments into either categorical or propositional logic and then assess their validity. See if you can find any examples of either side using inference to the best explanation. If so, indicate what fact the inference tries to explain and how successful the explanation is.
3. Develop an ethical argument drawn from any of the theoretical approaches treated in this chapter. Include a theoretical and descriptive premise and an ethical conclusion. Is the argument valid? If not, explain why and try to revise it so that it is valid, if possible. How acceptable are its premises?

## Self-Assessment Quiz

*Scroll down for answers.*

### Explanation Identification

On the basis of claims you already have good reason to believe, your background information, and your assessment of the credibility of any cited experts, indicate for each of the following statements whether you would accept it, reject it, or proportion your belief to the evidence. Give reasons for your answers. If you decide to proportion your belief to the evidence, state (in general terms) what degree of plausibility you would assign to the claim.

1. I saw Jenny McCarthy, the former Playboy bunny, on TV, and she says that vaccines are dangerous for kids.
2. According to the Health Canada website (accessed 6 March 2016), “marijuana is not an approved drug or medicine in Canada and has not gone through the necessary rigorous scientific trials for efficacy or safety.”
3. Homosexuality is morally wrong, according to three of the pastors in my hometown.
4. Prostitution is a victimless crime. I saw Alan Young say so on Steven Paikin’s show, *The Agenda*. Young is a respected constitutional lawyer, so he must be right!

5. Peter Popoff claims that his miracle spring water can cure arthritis. And if you call his toll-free number now, he'll send you a free sample!
6. Charles Manson is innocent! He never laid a finger on anyone at either the Tate, or the Labianca murder scenes!

### Fallacy Identification

For each of the following claims, name the fallacy or fallacies involved, if any.

1. Vitamin C will protect you against colds. Everyone knows that!
2. If you are a criminal, you go to jail. Mandy Winegard is in jail. So, she must be a criminal.
3. Marriage should be between a man and a woman! That is the way it always has been, and the way it always should be.
4. Look, we can't allow the government to prohibit rifles. Once they get hold of our rifles, they will want our swords and crossbows. Then, they will come for our baseball bats, and soon we will need licenses to own bread knives!
5. Ladies and gentleman, either you vote to put the defendant behind bars, or yet let a cold, calculating sexual predator roam the streets!
6. What kind of weirdo engages in bondage and discipline for fun? Ghomeshi must be guilty!
7. I can't believe the jury voted to acquit O.J. Simpson. Everyone knows he did it!
8. You should support the legalization of medical aid in dying. Have you no compassion whatsoever for the terminally ill and their families?
9. If we allow the Liberals to legalize physician-assisted suicide, what's next? Pretty soon, teenagers will be able to walk into a clinic, and off themselves when they get blocked on Twitter. Oh, and hide your grandparents when Justin Trudeau comes to town!
10. If the glove doesn't fit, you must acquit!

### Categorical Arguments

For each of the following arguments, construct a Venn diagram to assess for validity. If the argument is valid, give a brief outline of whether the argument's premises are acceptable. (Hint: you may need to supply a missing premise or conclusion.)

1. It is morally wrong to kill animals for amusement. But trophy hunting clearly involves killing animals for amusement. So, it is wrong.

2. Anything that lowers stress levels is good for one's health. It is good for one's health to play badminton with friends. Therefore, badminton must lower one's stress level!
3. Making false claims in order to motivate others to invest in one's company is fraud. Therefore, Frankie has made false claims in order to motivate investment because he has committed fraud.
4. A person commits a homicide when, directly or indirectly, by any means, he causes the death of a human being. A physician caused the death of a human being. So, a physician committed a homicide.

## Answers to Self-Assessment Quiz

### Claim Assessment

1. *Reject.* The source of the claim is not a genuine expert on this topic (although reference to her as a “former Playboy bunny” suggests a genetic fallacy). Moreover, genuine experts usually hold that vaccines are very safe and that their benefits far outweigh their risks.
2. *Accept.* The claim is not really about the value of marijuana as a treatment, but rather about the current status of marijuana as an accepted treatment and what experts currently know about the drug. Health Canada is a government agency concerned with such matters. It is possible, but very unlikely, that it would get such claims wrong.
3. *Reject.* Homosexuality does not violate any genuine moral principles. Further, local pastors may be experts on their particular church doctrines, but there is no reason to believe that they will be experts on ethical matters.
4. *Proportion your belief to the evidence.* Prostitution is a controversial legal and ethical issue on which expert opinion is divided.
5. *Reject.* Peter Popoff is a proven charlatan and, in any case, is no expert on the causes or treatment of arthritis, or any other significant health condition.
6. *Reject.* Manson was an accessory before the fact to the Tate-Labianca murders and thus is guilty. He assisted in the planning, and counselled those who were directly involved, to commit the murders.

### Fallacy Identification

1. Appeal to popularity
2. Affirming the consequent
3. Appeal to tradition
4. Slippery slope: It would indeed be bad if we needed licenses to own bread knives, but it is possible to stop the slide to this absurd situation!
5. False Dilemma.
6. Ad hominem
7. Appeal to popularity
8. Appeal to emotion
9. Slippery slope
10. False dilemma. There is a third alternative: the defendant is guilty despite the fact that the glove found at the scene does not fit the defendant. There may be some, as yet unknown reason why the glove does not fit.

### Categorical Arguments

1. It is morally wrong to kill animals for amusement. But trophy hunting clearly involves killing animals for amusement. So, it is wrong.

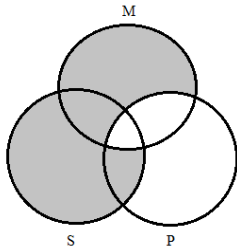
$S$  = Acts of trophy hunting

$P$  = Wrong actions

$M$  = Acts of killing animals for amusement



All  $M$  are  $P$ .  
 All  $S$  are  $M$ .  
 So, all  $S$  are  $P$ .

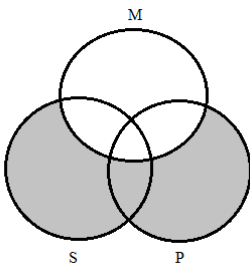


**Valid**

2. Anything that lowers stress levels is good for one's health. It is good for one's health to play badminton with friends. Therefore, badminton must lower one's stress level!

$S$  = Acts of playing badminton  
 $P$  = Things that lower one's stress level  
 $M$  = Things that are good for one's health

All  $P$  are  $M$ .  
 All  $S$  are  $M$ .  
 So, all  $S$  are  $P$ .

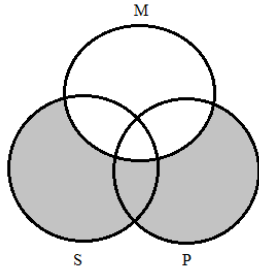


**Invalid**

3. Making false claims in order to motivate others to invest in one's company is fraud. Therefore, Frankie has made false claims in order to motivate investment because he has committed fraud.

$S$  = People identical to Frankie  
 $P$  = People who make false claims to motivate investment  
 $M$  = People who commit fraud

All  $P$  are  $M$ .  
 All  $S$  are  $M$ .  
 So, all  $S$  are  $P$ .



**Invalid**

4. A person commits a homicide when, directly or indirectly, by any means, he causes the death of a human being. A physician caused the death of a human being by means of physician-assisted suicide. So, a physician committed a homicide.

$S$  = Physicians

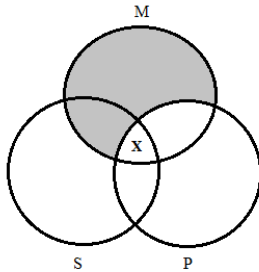
$P$  = People who have committed a homicide

$M$  = People who cause the death of a human being by any means, directly or indirectly

All  $M$  are  $P$ .

Some  $S$  are  $M$ .

So, some  $S$  are  $P$ .



**Valid.** Whether premise 1 is acceptable is debatable. This may be the definition of a homicide according to the Canadian Criminal Code, but the Criminal Code has recently been revised to allow for exceptions in the case of physician-assisted suicide. Whether these revisions were correct is a matter of legal and ethical controversy.