



Lesson 3:

How Do Information and Ethics Impact Decision Making?

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In this economics lesson, students will play the role of a medical professional or a patient to see how information and ethics can alter decision making.

Description of the lesson

Students will play the roles of doctors and patients, demonstrating the motives of self-interest, duty, and character in economic transactions. By experiencing first-hand how the lack of asymmetric information can impact choice, students will then have the opportunity to see how new information would alter their decision making. After the role play, students will see how an ethical framework can impact decision making and have the opportunity to apply this learning across multiple professions.

Economics

One of the powerful insights of the economic way of thinking is that people respond to incentives in predictable ways. Consumers and producers initially act in their own self-interest until they are presented with information that may require them to make a choice. This lesson will explore how information can impact how producers and consumers behave.

Ethics

Ethical standards are a framework created by the founders of an organization or business to communicate its underlying morals and values. These standards often help employees act ethically based on the formation of good character or one's obligation to do the right thing. In this lesson, we will explore how asymmetric information and fiduciary responsibility can impact decision making.

Objectives:

After completing this lesson students will be able to:

- investigate how access to information can impact a person's decision making.
- explain how asymmetric information can affect someone's fiduciary responsibility.

Standards

[Voluntary National Content Standards in Economics](#)¹

- Standard 4: Incentives
 - People usually respond predictably to positive and negative incentives.
- Standard 7: Markets and Prices
 - A market exists when buyers and sellers interact. This interaction determines market prices and thereby allocates scarce goods and services.

Concepts

Decision-Making, Incentives, Asymmetric Information

Time Required

60 Minutes

Materials Needed

- Pencils, one per student who role-plays a doctor (three students per round)
- Slide presentation: How Do Information and Ethics Impact Decision Making?
- Copy of Activity 3.1: Instructions for Doctors: Cut into Doctor A, Doctor B, and Doctor C. Plan to reuse for Round 2 or print a second set.
- Copies of Activity 3.2: Patient Symptoms: Cut along the lines, two copies per student (who are not doctors)
- Calculator (optional)
- [Visual 3.1: Pain and Cost \(Round 1 and 2\)](#), Google Sheet projected for the entire class to see or print out Visual 3.1: Pain and Cost (Round 1) and Visual 3.1: Pain and Cost (Round 2) separately.
- Assessment 3.1: How Do Incentives Impact Ethics?, one per student.

Preparation

After copying and cutting Activity 3.2: Patient Symptoms, randomly select and record a pain level on each cut sheet of paper. The game does not require an equal number of pain levels, but make sure all the levels are represented among the patients at random. Make sure there are enough for each student (who is not a doctor) to have two copies, one per round.

¹ Voluntary National Content Standards in Economics: <https://www.councilforeconed.org/wp-content/uploads/2012/03/voluntary-national-content-standards-2010.pdf>

Procedure

1. Tell the students that they are going to play a game that illustrates how information can impact **decision making**. Decision making is reaching a conclusion after considering alternatives and their results. (slide 2). In health care, for example, consumers do not have the same information as doctors about treatments and cost. This is called **asymmetric information**, when one party has more information than the other. In some cases health insurance pays most of the bills for many people, so these consumers have little incentive to get more information. **Incentives** are something that motivates or encourages one to do something. In this activity, you will see how access to information can impact a person's decision making.
2. Select 3 students to play the roles of Doctor A, Doctor B, and Doctor C in Round 1. All other students will play the part of patients in this round.
Teacher Note: In a class with fewer than 18 students, use only Doctor A and Doctor B
3. Give each doctor Activity 3.1: Instructions for Doctors and have them individually read the instructions. Separately review with each doctor how you expect him or her to behave, as indicated on the instructions. This is best done in the hallway if possible or at least out of earshot of the other students. During these individual discussions with the Doctors, tell
 - o Doctors A and B they must follow the very precise instructions they have been given in all cases.
 - o Doctor C that they have *some* discretion in each case.
 - o all Doctors that they should not share their goal or information on their sheets of paper with their patients.
4. Give all remaining students Activity 3.2: Patient Symptoms (example on slide 3) with the pain level already filled in. Tell the patients they all have health insurance, but the doctor's treatment cost is what they will be financially responsible for.
5. Position the doctors around the room so that there is space for patients to line up and visit their doctor. Randomly assign patients to the doctors in roughly equal numbers. Doctors will examine each patient's chart and fill in treatment and cost based on the instructions given in Activity 3.1: Instructions for Doctors.
6. Once a patient has their chart filled in, they will bring their charts to you, the record keeper, where you will fill in the pain level and cost information on [Visual 3.1: Pain and Cost \(Round 1\)](#), then ask students to return to their seats.

Teacher Note: Do not display Visual 3.1: Pain and Cost (Round 1) until you have filled in all the data.

7. Ask students to turn to their neighbors and talk about what their assigned pain level was and the treatment plan they were prescribed by the doctor they went to *after* their information has been recorded.
8. Ask the students the following questions which are on slide 4:
 - How was your interaction with your doctor? Raise your hand if you're happy with your result. Raise your hand if you are not happy with your result. **Answers may vary but include: They were happy with their interaction, they were not happy with their interaction, etc.**
 - Do you think the doctor prescribed the appropriate treatment plan for you given your pain? **Answers may vary but include: they thought the treatment was appropriate or they thought they were over or under treated, etc.**
 - Do you think you were all treated the same? Why or why not? **Answers may vary but include: They felt treated equally because everyone who went to their doctor with the same pain level were given the same treatment or they felt they were treated differently because someone who went to another doctor was treated with a more/less expensive treatment.**
9. Display the completed Visual 3.1: Pain and Cost (Round 1) for all students to see. Tell the students that all patients suffered from a backache of varying pain intensity. Review the correct treatments and cost for each pain level as shown on Visual 3.1: Pain and Cost (Round 1).
10. Based on this information, we can conclude that doctors may respond differently to their patients, even if they are given the same information. For example, Doctor A prescribed medication for pain level 1 and Doctor B prescribed an X-ray for the same pain level. Ask the students why some doctors may respond differently? **Answers may vary but include: doctors might be more risk averse and wanting to make sure they are ruling out any bigger issues, some might be seeking financial gain although that is more difficult with insurance regulations, peer-pressure, confidence in their medical knowledge, concern for medical malpractice (legal action that occurs when a medical professional, through negligent act or omission, deviates from standards in the profession, causing injury to the patient), distrust or harm although less likely, etc.**
Encourage students to think out loud, but resist the urge to go too far into the ethical discussion - that is coming later in the lesson.
11. Tell the students that all the doctors had the same training and experience. Ask the students playing doctors to state the goal they were instructed to achieve in treating their patients:
 - Doctor A was instructed to provide and charge only for the specific treatment noted.
 - Doctor B is more medically cautious wanting to rule out bigger issues and was instructed to provide and charge ALL patients for treatment at the next higher level of pain.
 - Doctor C could choose any treatment for each patient.

12. Ask the following questions which are on slide 5 to lead a class discussion about how access to information impact a person's decision making:
- Did you notice that there was asymmetric information, or a difference in information, during the activity? **Answers may vary but include: doctors have more information than patients because of their knowledge and training. Patients might also have other information than their doctor based on what they choose to tell their doctor.** Define for students that **asymmetric information** is a term that refers to when one party in a transaction has more information than the other party. Round one was an example of this because the doctors had more information than the patients.
 - Compared to doctors, how much do patients know about the correct treatments for backaches? **Answers may vary but include: Often very little. Studying medicine requires eight or more years of education and training beyond the high school level. Thus, doctors (producers) will often know more than their patients (consumers).**
 - How can patients get better information? **Answers may vary but include: Patients can read books, search the Internet, and talk to other patients. They can seek a second opinion from another doctor.**
 - What search costs (the time, energy, and money it takes to engage in a transaction) do patients have when they are in pain and seeking medical advice? **Answers may vary but include: If patients are in great pain or have a life-threatening injury, they will likely want immediate treatment from the first provider they see, and searching is very costly in terms of time and money. Sometimes a major cost to patients is taking time off work to visit alternative doctors. Some medical insurance plans make it difficult to get a second opinion because the patients must go through a primary-care provider. In a small town there may not be competing doctors. Some patients may also feel embarrassed about getting a second option, as this may suggest a lack of confidence in their primary doctor.**
 - If insurance is paying 95 percent of your cost, are there any incentives to get pricing information? **Answers may vary but include: The economic incentives will be weak as long as insurance companies pay most of the expenses. To some extent, patients understand that insurance premiums will rise as the expenses increase. But this understanding probably won't have much effect on patients unless they feel some sense of ethical responsibility about not overusing medical resources.**
 - How transparent (consumers can see what other patients are paying for similar services) are the transactions in a doctor's office, in terms of treatments ordered and prices charged? **Answers may vary but include: Medical treatments are usually not publicly known because of patient confidentiality. Since third parties (insurance companies) usually pay a large percentage of health-care bills, patients are often unaware of the total cost of their own treatments. The Internet, however, provided an excellent way for patients to more easily find and communicate with each other about medical providers.**

13. Slide 6: Define **duty-based ethics** as a moral philosophy that discerns right or wrong based on the analysis of one's obligations. Explain to students that doctors (and many other professions) must follow a code of ethics. Following ethical guidelines is key to a doctor's job and to the health and well-being of their patients. Doctors practice duty-based ethics by being cautious about their actions, what procedures they suggest and perform, and the end result of the patient. Additionally, doctors are highly concerned with making decisions that are right or wrong and work hard to make sure they operate in a way to not harm patients. As a culminating event in their licensing, doctors must take the Hippocratic Oath.
14. Have students read the [Hippocratic Oath](#)² or summarize it for them (see slide 7 for summary but it is beneficial for students to read the entire oath). We mostly know the Hippocratic Oath as an oath to do no harm to a patient which is true but it focuses on acknowledging the patient as a whole person and understanding that the decisions they make for the patient can have long-term impacts. Ask your students the following questions which are on slide 8:
- How does the Hippocratic Oath, an oath of ethics historically taken by physicians to treat the ill to the best of their ability, preserve patient's privacy, and to teach the next generation, incentivize doctors? **Answers may vary but include: Many doctors adhere to the Hippocratic Oath because they believe it is part of their moral and ethical duty to put the patients' interest first.**
 - Did Dr. A or Dr. B fail to follow the Hippocratic oath? **Answers may vary but students may think Dr. B failed to follow the oath because they prescribed more than the necessary treatment for pain. Follow this up with talking to the students about doctors trying to rule out dangerous situations or bigger health concerns. Doctors may have to run more tests or get more information to rule out more serious problems and they may even face an incentive to protect themselves against medical malpractice. Additionally explain that there are instances where a person might need a second opinion so tests might be repeated or a patient is more risk averse might be amenable and want to have more information or procedures for their own peace of mind.**
 - If there was no Hippocratic Oath, how might doctors act differently? **Answers may vary but include: Without a Hippocratic Oath, doctors might be motivated by greed, focusing on personal, short-run profit and ignoring their moral obligations to others. Other doctors behave the same as they would with the Hippocratic Oath because they genuinely desire to have this virtual character trait.**
15. Explain to students that the **fiduciary responsibility** of a doctor is to act in the best interest of the patients and treat them with the best care they can provide. Fiduciary responsibility means a person or organization acts on behalf of another person or persons, putting their interest ahead of their own. The Hippocratic Oath holds doctors to this level of responsibility.

² PBS Nova Modern Hippocratic Oath https://www.pbs.org/wgbh/nova/doctors/oath_modern.html

16. Play the second round of the game. Allow the doctors from round 1 to be patients this round and select two or three new doctors for round 2, based on the size of the class. Select the second tab on [Visual 3.1: Pain and Cost](#), labeled Visual 3.1: Round 2 label each new doctor by the student's name, for example, "Doctor Mary" and "Doctor Jorge." Give each new doctor a set of instructions from Activity 3.1: Instructions for Doctors. Have each new doctor read their role silently so they understand their goals. Tell the doctors not to reveal whether they are Doctor A, B, or C to the students in any way. Position the doctors in different areas of the room.
17. Give all other students a new Activity 3.2: Patient Symptoms with the pain level already filled in. Tell them that after their treatment, they will give their chart to the record keeper, who will *immediately* post the cost information on Visual 3.1: Pain and Cost (Round 2).
18. Start by having only one patient visit each doctor. (If there are three doctors, there should be only three patients seeking care.) The other students will remain seated. Immediately record the pain level and the cost each doctor charges his or her patient on Visual 3.1: Pain, and Cost (Round 2) which should be projected for all students to see.
19. Allow the remaining students to select on their own the doctor they want to visit. The goal is for patients to use the information on Visual 3.1: Pain and Cost (Round 2) to help them pick a doctor.
Teacher Note: *If the class is small, you can give each patient two Activity 3.2: Patient Symptoms in the second round to get more information but still have the student go up one at a time and only present one Patient Symptom card at a time.*
20. After all the patients have turned in their charts, ask the following questions to lead a class discussion about how this activity relates to understanding how incentives impact a person's decision-making and how duty-based ethics can help explain and evaluate the behavior which are on slide 9:
 - What was different about the doctors' behavior in round 1 and round 2? **Answers may vary but include: Transparency of what treatments were being prescribed at the different price points caused the doctors to have more of an incentive to prescribe the "correct" treatment. Doctor B did not receive many patients because by being medically cautious and wanting to rule out bigger issues they charged all patients for treatment at the next higher level of pain, which was more costly to the patient.**
 - What was different about the patient's behavior in round 1 and round 2? **Answers may vary but include: Transparency of information from the doctors allowed the patient/consumer to make the best choice of doctor based on their individual priorities.**
 - Even though Doctor B might increase the amount of tests or treatment by prescribing the next pain level up, can you explain or think of reasons why people might choose someone like Doctor B even if there is more cost and they know another doctor will not do the same thing? **Answers may vary but include: people are also risk averse and they might**

want to make sure that what they are feeling is not something more serious. People might want peace of mind about their pain and are willing to have additional tests or treatments.

- Are there any written or unwritten rules that would likely affect a doctor's ethical behavior? *Answers may vary but include: Doctors are supposed to take care of people and help them no matter what. Most doctor's act in accordance with the Hippocratic Oath because they believe it is part of their duty to put the patients' interest first.*
- How does someone's duty, or fiduciary responsibility, impact their behavior? *Answers may vary but include: In a situation where someone feels obligated to make a certain choice or act in a certain way make a decision that is in line with their duty or obligation.*

Closure

21. Inform students that ethical standards can help create a framework within any business operation to help its employees act ethically based on the formation of good character or on one's obligation to do the right thing.
22. Ask students why ethical standards, or the obligation to do the right thing, is important in the medical field and other similar businesses? *Answers may vary but include: Ethical standards incentivize people to make decisions that create a positive impact and steer them away from unjust outcomes.*
23. Slide 10: Review the key concepts in the lesson by discussing the following:
 - What are incentives? *Answers may vary but include: Incentives are something that motivates or encourages one to do something.*
 - What are some ways access to information can impact an individual's decision making? *Answers may vary but include: Access to information allows individuals to set a certain criteria, act in a certain manner, and make decisions that reflect their best interest.*
 - How do ethical standards set by a business or producer, such as the Hippocratic Oath, incentivize employees to act ethically in situations where they have more information than their consumers? *Answers may vary but include: Employees believe it is part of their duty or obligation to uphold the ethical standards set forth by the business and act in the best interest of the consumer.*
 - Other than the medical field, what are other jobs that require you to act in a way that will benefit someone else? *Answers may vary but include: Accountants, lawyers, teachers, engineers, journalists, religious leaders, financial advisors, and other professionals all have an allegiance to their professions. Chief executive officers also demonstrate fiduciary conduct by putting the interest of shareholders ahead of their own interest.*

Assessment

24. Distribute copies of Assessment 3: Professional Codes of Ethics Research and show slide 11 which has students examine other professions and the ethical code they must follow. Have students select a career they are interested in or assign a career for them to research their ethical considerations. Students will then create a 5-slide presentation that can be turned in for homework or presented to the class another day.

Some sample assessment items:

1. Which of the following requires someone to reach a conclusion after considering alternatives and their results?
 - a. Ethical standards
 - b. Incentives
 - c. **Decision Making**
 - d. Hippocratic Oath
2. When one party has more information than the other, this is referred to as
 - a. **asymmetric information**
 - b. fiduciary responsibility
 - c. transparency
 - d. duty-based ethics
3. A doctor's office decided to issue a list of prices on its website for common services. This is an example of
 - a. **transparency.**
 - b. incentive.
 - c. ethical standards.
 - d. profit motive.
4. Explain how transparency affects decision making. If there is no transparency, what roles does ethical conduct play? What are the incentives to be transparent? ***Answers may vary but include; transparency is a key tool for consumers to make effective and efficient decisions. If prices are not disclosed openly (as in health care), then it is harder for consumers to protect themselves. In such cases, ethical codes of conduct or ethical standards are required. These ethical codes of conduct or ethical standards incentivize employees to do the right thing based on their obligation to uphold the code of conduct or standards.***

Activity 3.1: Instructions for Doctors

INSTRUCTIONS FOR DOCTOR A

1. There are three possible treatments for a BACKACHE. The chart below shows the "correct" treatment for each pain level.

Pain Level	Correct Treatment	Patient Cost
1	Medicine	\$100
2	X-Ray	\$500
3	Surgery	\$2,000

2. **Doctor A** will charge only for the correlating treatment based on each patient's pain level.

Example: Give a patient with Level 2 pain an X-ray and charge \$500.

3. Record your treatment and cost on each patient's chart, circle your name and give the chart back to the patient.

INSTRUCTIONS FOR DOCTOR B

1. There are three possible treatments for a BACKACHE. The chart below shows the "correct" treatment for each pain level.

Pain Level	Correct Treatment	Patient Cost
1	Medicine	\$100
2	X-Ray	\$500
3	Surgery	\$2,000

2. **Doctor B** is more medically cautious and wants to rule out any bigger issues, so they will charge ALL patients for treatment at the next higher level of pain.

Examples: Give a patient with Level 1 pain the Level 2 treatment: an X-ray costing \$500. Give a patient with Level 2 pain Level 3 treatment: surgery costing \$2,000. Level 3 pain will continue to receive Level 3 treatment: surgery costing \$2,000.

3. Record your treatment and cost on each patient's chart, circle your name and give the chart back to the patient.

INSTRUCTIONS FOR DOCTOR C

1. There are three possible treatments for a BACKACHE. The chart below shows the "correct" treatment for each pain level.

Pain Level	Correct Treatment	Patient Cost
1	Medicine	\$100
2	X-Ray	\$500
3	Surgery	\$2,000

2. **Doctor C** can choose any treatment for each patient at any price point.

Example: You could give a patient with Level 1 pain a medicine but charge \$200; or you could give this patient Level 2 treatment, an X-ray, and charge \$500. Balance your treatment choices to keep patients coming back to you in the future.

3. Record your treatment and cost on each patient's chart, circle your name and give the chart back to the patient.

Activity 3.2: Patient Symptoms

PATIENT CHART

1. Patients: You are suffering from a BACKACHE with the pain level shown below.
Present this chart to a doctor for treatment.

Pain level: (Low) 1 2 3 (High)

2. Doctor: A. Circle ONE Treatment: Medicine X-ray Surgery

B. Patient Financial Responsibility: \$_____

C. Circle your name: Dr. A Dr. B Dr. C

3. Patients: After visiting the doctor, please turn this sheet in to the record keeper.

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Present this chart to a doctor for treatment.

Pain level: (Low) 1 2 3 (High)

2. Doctor: A. Circle ONE Treatment: Medicine X-ray Surgery

B. Patient Financial Responsibility: \$_____

C. Circle your name: Dr. A Dr. B Dr. C

3. Patients: After visiting the doctor, please turn this sheet in to the record keeper.

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Present this chart to a doctor for treatment.

Pain level: (Low) 1 2 3 (High)

2. Doctor: A. Circle ONE Treatment: Medicine X-ray Surgery

B. Patient Financial Responsibility: \$_____

C. Circle your name: Dr. A Dr. B Dr. C

3. Patients: After visiting the doctor, please turn this sheet in to the record keeper.

Visual 3.1: Pain and Cost (Round 1)

Pain Level	Correct Treatment	Patient Cost
1	Medicine	\$100
2	X-Ray	\$500
3	Surgery	\$2,000

	Doctor A		Doctor B		Doctor C	
Patient	Pain Level	Cost	Pain Level	Cost	Pain Level	Cost
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Visual 3.1: Pain and Cost (Round 2)

Pain Level	Correct Treatment	Patient Cost
1	Medicine	\$100
2	X-Ray	\$500
3	Surgery	\$2,000

	Doctor _____		Doctor _____		Doctor _____	
Patient	Pain Level	Cost	Pain Level	Cost	Pain Level	Cost
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Assessment 3: Professional Codes of Ethics Research

Many professions have ethical codes of conduct. These are usually a set of general guidelines or values, to give guidance on how to respond in certain situations.

Your assignment is to select a career that has an ethical code of conduct, such as an accountant, lawyer, teacher, doctor, engineer, police officer, journalist, financial advisor or religious leader.

Once you have selected the career, you will research the ethical code of conduct for that career and create a 5 slide presentation that explains the following:

- **Slide 1:** Identify basic Information about the career.
- **Slide 2:** Interpret the code of conduct in your own words.
- **Slide 3:** Analyzes how the code of conduct incentivizes people in that career to act ethically.
- **Slide 4:** Apply real-world examples where the code of conduct could come into play within that career.
- **Slide 5:** Develop suggestions for improving or modifying the code of conduct to reflect the current demands of the career.

Assessment 3

Some sample assessment items:

1. Which of the following requires someone to reach a conclusion after considering alternatives and their results?
 - a. Ethical standards
 - b. Incentives
 - c. Decision Making
 - d. Hippocratic Oath

2. When one party has more information than the other, this is referred to as
 - a. asymmetric information
 - b. fiduciary responsibility
 - c. transparency
 - d. duty-based ethics

3. A doctor's office decided to issue a list of prices on its website for common services. This is an example of
 - a. transparency.
 - b. incentive.
 - c. ethical standards.
 - d. profit motive.

4. Explain how transparency affects decision making. If there is no transparency, what roles does ethical conduct play? What are the incentives to be transparent?