

Risk Perception

What should individuals and society do when preventable causes of disease are found?

Chance
Confounding
Reversed
Bias

Detectives in the Classroom – Investigation 4-1: Risk Perception

The illustration shows a student with dark skin and curly hair, wearing a yellow shirt with 'CML' on it, sitting at a desk. The student is holding a pen and looking thoughtful. On the desk are several papers, one of which lists the terms 'Chance', 'Confounding', 'Reversed', and 'Bias'. A thought bubble above the student contains the question: 'What should individuals and society do when preventable causes of disease are found?'. The entire scene is framed by a dark blue header with the text 'Risk Perception' and a dark blue footer with the text 'Detectives in the Classroom – Investigation 4-1: Risk Perception'.

In the Module 4 investigations, students will learn that when an association is judged to be causal, the next question is, “What should individuals and society do when preventable causes of disease are found?”

Next Slide

Where are we and where are we going?

1. How is this disease distributed and what hypotheses might explain that distribution?
2. Is there an association between the hypothesized cause and the disease?
3. Is the association causal?
4. What should individuals and society do when preventable causes of disease are found?
5. Did the prevention strategy work?

Detectives in the Classroom – Investigation 4-1: Risk Perception

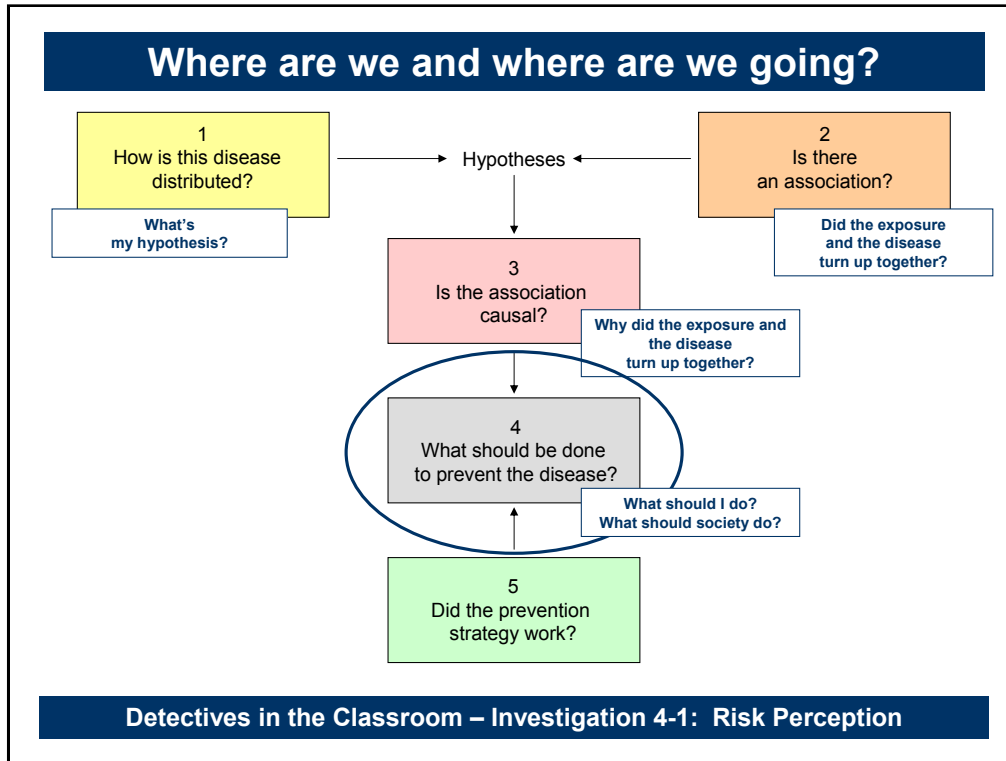
Remind students that they have learned how epidemiologists answer the first, second, and third Essential Questions:

- How is this disease distributed and what hypotheses might explain that distribution?
- Is there an association between the hypothesized cause and the disease?
- Is the association causal?

In the Module 4 investigations, they will now learn how to answer the fourth Essential Question: “What should individuals and society do when preventable causes of disease are found?”

In the Module 5 investigations, they will learn how epidemiologists answer the fifth Essential Question: “Did the prevention strategy work?”

Next Slide



Tell students that this **Concept Map** is another way to look at the Essential Questions.

In Module 1 investigations, students learned how epidemiologists answer the question “How is this disease distributed?” or “What’s my hypothesis?”

In Module 2 investigations, students learned how epidemiologists answer the question “Is there an association?” or “Did the exposure and the disease turn up together?”

In Module 3 investigations, students learned how epidemiologists answer the question “Is the association causal?” or “Why did the exposure and the disease turn up together?”

And now, in Module 4 investigations, students will learn, when an association is judged to be causal, how to answer the question “What should be done to prevent the disease?” or “What should I do?, What should society do?”

Next Slide

Risk Perception



Detectives in the Classroom – Investigation 4-1: Risk Perception

By completing **Investigation 4-1: Risk Perception**, students will uncover how people's perceptions of the size of various risks can differ and will see how perception of risk can influence the development of prevention strategies.

Next Slide

Review

Epi Talk

Risk

A measure of how often an event occurs in a defined group of people in a defined period of time.

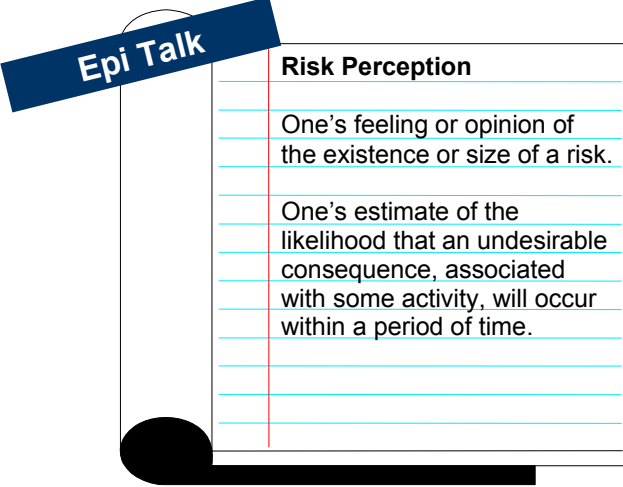
The likelihood of developing a disease.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Ask students to find “Risk” in the **Epi Talk** list.
Review its definition.

Next Slide

Epi Talk



Risk Perception
One's feeling or opinion of the existence or size of a risk.
One's estimate of the likelihood that an undesirable consequence, associated with some activity, will occur within a period of time.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Give students the **Epi Talk** list for Module 4.

Ask students to find “Risk perception” in the **Epi Talk** list.

Review its definition.

Next Slide

Risk Perception



Detectives in the Classroom – Investigation 4-1: Risk Perception

Explore with students how individuals vary in their perception of risks. In fact, some common activities are not widely known to be high risk (driving within 5 miles of home). And some activities with relatively small risks are thought by some to be very risky (flying in airplanes).

Next Slide

ER Visits for Girls and Boys, Aged 10-14



- Bicycles**
- Cuts / Pierces**
- Dog Bites**
- Drownings / Near-Drownings**
- Environmental**
- Falls**
- Firearms / Gunshots**
- Fires / Burns**
- Motorcycles**
- Motor Vehicles**
- Other Bites / Stings**
- Overexertion**
- Pedestrian**
- Poisonings**
- Struck by / Against**

Detectives in the Classroom – Investigation 4-1: Risk Perception

Here is an alphabetical list of the top 15 reasons why girls and boys, aged 10 to 14 years, visit hospital emergency rooms (ERs) in the United States.

These data for the year 2001* come from the National Center for Injury Prevention and Control, WISQARS (Web-Based Injury Statistics Query and Reporting System), an interactive database system that provides customized reports of injury-related data. (For more information about WISQARS, go to <http://www.cdc.gov/ncipc/wisqars/>.)

Students should keep in mind that these data do not tell us about injuries that are not treated in emergency rooms. Therefore, these are not estimates of all injury occurrences.

* January 1 through December 31, 2001. From WISQARS Web site on January 26, 2002.

Next Slide

Epi Talk

Epi Talk

Case Definition

A way to describe an illness or injury by identifying who has it, what happened, where it happened, and when it happened.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Ask students to find “Case definition” in the **Epi Talk** list.
Review its definition.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



1. Bicycles

Injury to a pedal cycle rider from a collision, loss of control, crash, or some other event involving a moving vehicle or pedestrian. This category includes riders of unicycles, bicycles, tricycles, and mountain bikes. This category does not include injuries unrelated to transport (moving), such as repairing a bicycle.

Detectives in the Classroom – Investigation 4-1: Risk Perception

The next 15 slides describe each of the top 15 reasons why girls and boys, aged 10 to 14, visit hospital emergency rooms for nonfatal injuries in the United States. One of these top reasons is bicycles.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. Students are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



2. Cuts / Pierces

Injury resulting from an incision, slash, perforation, or puncture by a pointed or sharp instrument, weapon, or object. This category does not include injury from being struck by or against a blunt object (such as the side of a night stand) or bite wounds; these injuries fall in the category "struck by / against."

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is Cuts / Pierces.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



3. Dog Bites

Injury caused by a dog bite. This category does not include injury from other animal bites.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is Dog Bites.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



4. Drownings / Near-Drownings

Suffocation (asphyxia) resulting from submersion in water or another liquid.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is Drownings / Near-Drownings.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



5. Environmental

Injury resulting from exposure to adverse natural and environmental conditions (such as severe heat, severe cold, lightning, sunstroke, large storms, and natural disasters) as well as lack of food or water.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury related to the Environment.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



6. Falls

Injury received when a person descends abruptly due to the force of gravity and strikes a surface at the same or lower level.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury due to Falls.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



7. Firearms / Gunshots

A penetrating force injury resulting from a bullet or other projectile shot from a powder-charged gun. This category includes gunshot wounds from powder-charged handguns, shotguns, and rifles. This category does not include injury caused by a compressed air-powered paint gun or a nail gun, which falls in the "other specified" category.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury from Firearms / Gunshots.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



8. Fires / Burns

Severe exposure to flames, heat, or chemicals that leads to tissue damage in the skin or places deeper in the body; injury from smoke inhalation to the upper airway, lower airway, or lungs.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury from Fires / Burns.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



9. Motorcycles

Injury to a driver or passenger of a motorcycle resulting from a collision, loss of control, crash, or some other event involving a vehicle, object, or pedestrian. This category includes drivers or passengers of motorcycles (classic style), sidecars, mopeds, motorized bicycles, and motor-powered scooters.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury from Motorcycles.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



10. Motor Vehicles

Injury to a driver or passenger of a motor vehicle caused by a collision, rollover, crash or some other event involving another vehicle, an object, or a pedestrian. This category includes occupants of cars, pickup trucks, vans, heavy transport vehicles, buses, and SUVs. Injuries to occupants of other types of vehicles such as ATVs, snowmobiles, and go-carts fall in the category of "other transport."

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury from Motor Vehicles.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



11. Other Bites / Stings

Injury from a poisonous or non-poisonous bite or sting through the skin, other than a dog bite. This category includes human bite, cat bite, snake or lizard bite, insect bite, stings from coral or jellyfish, or bites and stings by other plants and animals.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury from Other Bites / Stings.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



12. Overexertion

Working the body or a body part too hard, causing damage to muscle, tendon, ligament, cartilage, joint, or peripheral nerve (e.g., common cause of strains, sprains, and twisted ankles). This category includes overexertion from lifting, pushing, or pulling or from excessive force.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is injury due to Overexertion.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



13. Pedestrian

Injury to a person involved in a collision, where the person was not at the time of the collision riding in or on a motor vehicle, railway train, motorcycle, bicycle, airplane, streetcar, animal-drawn vehicle, or other vehicle. This category includes persons struck by cars, pickup trucks, vans, heavy transport vehicles, buses, and SUVs.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is Pedestrian injuries.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



14. Poisonings

Ingestion, inhalation, absorption through the skin, or injection of so much of a drug, toxin (biologic or non-biologic), or other chemical that a harmful effect results, such as drug overdoses. This category does not include harmful effects from normal therapeutic drugs (i.e., unexpected adverse effects to a drug administered correctly to treat a condition) or bacterial illnesses.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is Poisonings.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

ER Visits for Girls and Boys, Aged 10-14



15. Struck by / Against

Injury resulting from being struck by (hit) or crushed by a human, animal, or inanimate object or force other than a vehicle or machinery; injury caused by striking (hitting) against a human, animal, or inanimate object or force other than a vehicle or machinery.

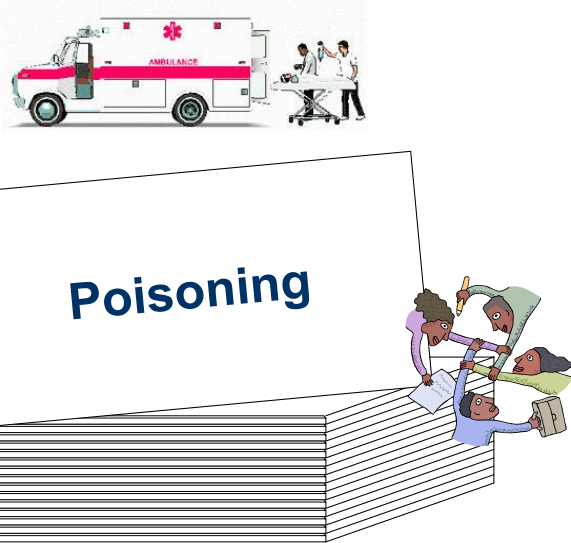
Detectives in the Classroom – Investigation 4-1: Risk Perception

Another one of the top 15 reasons is being Struck by / Against something.

Students should focus on the data collectors' attempt to establish precise case definitions for each reason so that an ER visit can be placed in only one category. They are not to focus on the case definition itself.

Next Slide

Epi Teams



Poisoning

Detectives in the Classroom – Investigation 4-1: Risk Perception

Divide the class into Epi Teams of four or five students per team.

Give each Epi Team a deck of 15 cards. Each card has one of the top 15 reasons why girls and boys aged 10 to 14 visit the ER.

Have the members of each team place the cards in rank order according to their estimate of the number of ER visits that each reason causes. The card with the 1st reason (causing the most ER visits) should be at the top, and the card with the 15th reason (causing the fewest ER visits) should be at the bottom.

Next Slide

Estimated Ranking

1

Detectives in the Classroom Name: _____
Investigation 4-1: Epi Log Worksheet Date: ____/____/____

Reason for ER Visit	Risk Perceptions		
	1 Epi Team Ranking	2 Actual Ranking	3 Actual Risk per 100,000
Bicycles			
Cuts / Pierces			
Dog Bites			
Drownings / Near Drownings			
Environmental			
Falls			
Fires / Burns			
Firearms / Gunshots			
Motorcycles			
Motor Vehicles			
Other Bites / Stings			
Overexertion			
Pedestrian			
Poisonings			
Struck by / Against			

4.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Give each student an **Investigation 4-1: Epi Log Worksheet**.

Students should complete Part 1 on their **Investigation 4-1: Epi Log Worksheets** by filling in Column 1 with their Epi Team's ranking of the 15 reasons why girls and boys aged 10 to 14 visit the ER.

☀ **Teacher Alert:** Be sure students are writing *numbers* into Column 1, not words.

Ask each Epi Team:

- What was the *number one* reason for girls and boys, aged 10 to 14, to visit ERs? Compare and contrast the estimates of all the Epi Teams. The teams should justify their estimates.
- What was the 15th reason (bottom card) for girls and boys, aged 10 to 14, to visit ERs? Compare and contrast the estimates of all the Epi Teams. The teams should justify their estimates.
- What was the rank of specific reasons for ER visits, such as Dog Bites, Falls, or Overexertion? Compare and contrast the estimates of all the Epi Teams. The teams should justify their estimates.

Next Slide

Actual Ranking

2

Detectives in the Classroom Name: _____
Investigation 4-1: Epi Log Worksheet Date: ____/____/____

Reason for ER Visit	Risk Perceptions		
	1. Epi Team Ranking	2. Actual Ranking	3. Actual Risk per 100,000
Bicycles			
Cuts / Pierces			
Dog Bites			
Drownings / Near Drownings			
Environmental			
Falls			
Fires / Burns			
Firearms / Gunshots			
Motorcycles			
Motor Vehicles			
Other Bites / Stings			
Overexertion			
Pedestrian			
Poisonings			
Struck by / Against			

4.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Students should complete Part 2 on their **Investigation 4-1: Epi Log Worksheets** by filling in Column 2 with the actual ranking of the 15 reasons why girls and boys aged 10 to 14 visited the ER. The actual ranking is presented on the next slide.

Next Slide

Actual Ranking

ER Visits for Girls and Boys, Aged 10-14

- 1 Struck by / Against
- 2 Falls
- 3 Overexertion
- 4 Cuts / Pierces
- 5 Bicycles
- 6 Motor Vehicles
- 7 Other Bites / Stings
- 8 Dog Bites
- 9 Fires / Burns
- 10 Poisoning
- 11 Pedestrian
- 12 Motorcycles
- 13 Firearms / Gunshots
- 14 Environmental
- 15 Drownings / Near Drownings

Detectives in the Classroom – Investigation 4-1: Risk Perception

Give students enough time to find each item and write the actual rank as you show them one by one:

Ask each Epi Team:

- Where were your estimates of the ranking of a reason identical to the actual ranking? Where did your estimates of the ranking of a reason differ most from the actual ranking?
- What was the rank of specific reasons for ER visits—for example, Dog Bites, Falls, or Overexertion? Compare the estimated ranking with the actual ranking.
- Why do you think there are differences between your estimated ranking and the actual ranking?

Next Slide

Actual Ranking

ER Visits for Girls and Boys, Aged 10-14

- 1 Struck by / Against
- 2 Falls
- 3 Overexertion
- 4 Cuts / Pierces
- 5 Bicycles
- 6 Motor Vehicles
- 7 Other Bites / Stings
- 8 Dog Bites 242 (per 100,000)
- 9 Fires / Burns
- 10 Poisoning
- 11 Pedestrian
- 12 Motorcycles
- 13 Firearms / Gunshots
- 14 Environmental
- 15 Drownings / Near Drownings

Detectives in the Classroom – Investigation 4-1: Risk Perception

There were 242 visits to the ER for Dog Bites per 100,000 girls and boys, aged 10 to 14.

Ask a few students to estimate the risk of visits to the ER that resulted from each of the other 14 reasons and write their estimates on the board. Each estimate is written as a risk, which is the number of visits per 100,000 girls and boys, aged 10 to 14, in a year.

☀ Teacher Alert: Be sure students fully understand that they are working with risks. The risks are expressed as “per 100,000.” That means, for example, that for every 100,000 girls and boys in the United States who are 10 to 14 years old, 242 Dog Bites a year resulted in an ER visit.

Next Slide

Actual Risk per 100,000

3

Detectives in the Classroom Name: _____
 Investigation 4-1: Epi Log Worksheet Date: ____/____/____

Risk Perceptions

Reason for ER Visit	1. Epi Team Ranking	2. Actual Ranking	3. Actual Risk per 100,000
Bicycles			
Cuts / Pierces			
Dog Bites			
Drownings / Near Drownings			
Environmental			
Falls			
Fires / Burns			
Firearms / Gunshots			
Motorcycles			
Motor Vehicles			
Other Bites / Stings			
Overexertion			
Pedestrian			
Poisonings			
Struck by / Against			

4.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Students should complete Part 3 on their **Investigation 4-1: Epi Log Worksheets** by filling in Column 3 with the actual risk. (This is a *risk* per 100,000—in other words, the number of ER visits per 100,000 girls and boys.) The risks for each reason are listed on the next slide.

Next Slide

Actual Risk per 100,000		
ER Visits for Girls and Boys, Aged 10-14		
1	Struck by / Against	3,715 (per 100,000)
2	Falls	3,543
3	Overexertion	1,497
4	Cuts / Pierces	946
5	Bicycles	711
6	Motor Vehicles	567
7	Other Bites / Stings	322
8	Dog Bites	242
9	Fires / Burns	126
10	Poisoning	121
11	Pedestrian	107
12	Motorcycles	90
13	Firearms / Gunshots	9
14	Environmental	8
15	Drownings / Near Drownings	2

Detectives in the Classroom – Investigation 4-1: Risk Perception

Give students enough time to find the item and write in the actual risk as you show them one by one.

Ask students:

- Where were your estimates of ER visit risks closest to the actual risks?
- Where were your estimates of ER visit risks most different from the actual risk?

Focus students' attention on the estimated ER visit risks for specific reasons—for example, dog bites, falls, or overexertion. Compare the estimated risks with the actual numbers.

Ask each Epi Team:

- Why do you think there are differences between your estimated risks and the actual risks?

Probe to get students to appreciate how much larger some risks are than others.

Have students express how much larger one risk is than another. (For example, an ER visit due to a Motor Vehicle Accident is about six times more frequent than a visit due to a Pedestrian-related injury.)

Next Slide

Purpose of Epidemiology

Epidemiology

The study of the distribution and determinants of health-related states and events in specific populations and the application of this study to the **control of health problems**.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Remind students that the ultimate purpose of epidemiology is the *control of health problems*.

Next Slide

Control of Health Problems

ER Visits for Girls and Boys, Aged 10-14



1	Struck by / Against	3,715 (per 100,000)
2	Falls	3,543
3	Overexertion	1,497
4	Cuts / Pierces	946
5	Bicycles	711
6	Motor Vehicles	567
7	Other Bites / Stings	322
8	Dog Bites	242
9	Fires / Burns	126
10	Poisoning	121
11	Pedestrian	107
12	Motorcycles	90
13	Firearms / Gunshots	9
14	Environmental	8
15	Drownings / Near Drownings	2

Detectives in the Classroom – Investigation 4-1: Risk Perception

Ask students to imagine that each Epi Team has been given the same amount of money. These resources are theoretically enough to *prevent all the ER visits* from *one*, and only one, of the 15 reasons for ER visits.

In other words, if they invested their resources in eliminating all ER visits from Struck by / Against, they would prevent 3,715 ER visits per 100,000 girls and boys, aged 10 to 14; if they did the same for Motorcycles, they would prevent 90 ER visits per 100,000 girls and boys, aged 10 to 14.

Tell students they decided to invest their resources in eliminating all ER visits from *the reason that their Epi Team ranked first*.

Ask each Epi Team:

- How many ER visits would you have prevented?

Next Slide

Review

When you can **measure what you are speaking about**, and **express it in numbers**, you know something about it. But when you cannot measure it, when you cannot express it in numbers, your knowledge is of a meager and unsatisfactory kind.

Lord Kelvin

Detectives in the Classroom – Investigation 4-1: Risk Perception

Review what Lord Kelvin said about being able to *measure what you are speaking about* and *express it in numbers*.

When it comes to risk perception, numbers help clarify the perception versus the actual risk.

Next Slide

Actual Risk per 100,000		
ER Visits for Girls and Boys, Aged 10-14		
1	Struck by / Against	3,715 (per 100,000)
2	Falls	3,543
3	Overexertion	1,497
4	Cuts / Pierces	946
5	Bicycles	711
6	Motor Vehicles	567
7	Other Bites / Stings	322
8	Dog Bites	242
9	Fires / Burns	126
10	Poisoning	121
11	Pedestrian	107
12	Motorcycles	90
13	Firearms / Gunshots	9
14	Environmental	8
15	Drownings / Near Drownings	2

3,715
 - 1,497

 2,218 ER Visits

Detectives in the Classroom – Investigation 4-1: Risk Perception

Ask students to assume that their Epi Team’s first-ranked reason was Overexertion.

Have them compare the number of ER visits they would have prevented by investing their resources in eliminating all 1,497 per 100,000 ER visits from Overexertion with the *actual first-ranked reason* (3,715 per 100,000 from Struck by / Against).

Ask students:

- Can you express the difference in numbers? ($3,715 - 1,497 = 2,218$)

Point out that in this instance, 2,218 ER visits per 100,000 could have been prevented if the limited resources had been allocated to the reason for ER visits that was *actually* number 1, as opposed to the reason that was *perceived* to be number 1.

Students should compare the number of ER visits they would have prevented by investing their resources in eliminating all ER visits from *the reason that their Epi Team ranked first* with the number of ER visits they would have prevented by doing the same for the *actual first-ranked reason* (3,715 per 100,000 from Struck by / Against).

Ask students:

- Can you express the difference in numbers?

Next Slide

Allocating Resources

4

Detectives in the Classroom Name: _____
 Investigation 4-1: Epi Log Worksheet Date: ____/____/____

Risk Perceptions

Reason for ER Visit	1 Epi Team Ranking	2 Actual Ranking	3 Actual Risk per 100,000
Bicycles			
Cuts / Pierces			
Dog Bites			
Drownings / Near Drownings			
Environmental			
Falls			
Fires / Burns			
Firearms / Gunshots			
Motorcycles			
Motor Vehicles			
Other Bites / Stings			
Overexertion			
Pedestrian			
Poisonings			
Struck by / Against			

4.

Detectives in the Classroom – Investigation 4-1: Risk Perception

Students should complete Part 4 on their **Investigation 4-1: Epi Log Worksheets** by calculating the number of ER visits per 100,000 that would have been prevented, but were not, if they had decided to invest their resources in eliminating the reason their Epi Team *perceived* to be number 1, instead of the reason that was *actually* number 1.

Next Slide

Review

Epi Talk

Risk Perception

One's feeling or opinion of the existence or size of a risk.

One's estimate of the likelihood that an undesirable consequence, associated with some activity, will occur within a period of time.

Detectives in the Classroom – Investigation 4-1: Risk Perception

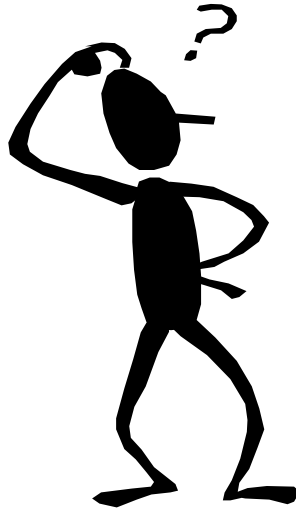
Ask students:

- Is having accurate perceptions of risk important when deciding what should be done to prevent a disease?
- How might people's risk perceptions influence the development of disease prevention strategies?

Discuss until students uncover that inaccurate risk perceptions can result in an inefficient use of limited resources, time, energy, and money. Resources that are invested to control one health problem cannot be invested to control another.

Next Slide

Who decides?



Detectives in the Classroom – Investigation 4-1: Risk Perception

Ask students:

- Who decides how to invest limited resources to prevent health problems?

Probe until students realize that, either directly or indirectly, they decide how to invest their resources to prevent health problems. (They do it directly when they decide whether or not to work out or when they buy a helmet to protect themselves in skateboarding.)

Next Slide

Who decides?



Detectives in the Classroom – Investigation 4-1: Risk Perception

Ask students:

- How do you decide indirectly?

Discuss until students conclude that democratically elected decision makers and their appointees decide how to invest limited resources to prevent health problems.

Ask students:

- Is it important in a democracy for everyone to have accurate perceptions of risk? (Yes)

Next Slide

Risk Perception



Detectives in the Classroom – Investigation 4-1: Risk Perception

This concludes **Investigation 4-1: Risk Perception** and students can now put away their **Epi Logs**.