

Three Case Studies to help Teach the Essential Services of Environmental Health

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Introduction: These 3 case studies introduce students to the idea of the Ten Essential Services of Environmental Health (10 ES), show how the 10 ES can be applied to different levels of public health activity (program and system levels), and show how they can be used as a tool (to plan activities and assess success).

Feel free to adapt these cases or the suggested questions or activities to suit your needs.

Case 1:

[5 min] Ask one student to read this paragraph aloud and allow a minute for the class to reread to themselves.

Part1

You are a new environmental public health specialist in a fairly highly populated county. One day you take your car to a neighborhood garage to get the oil changed. As a workman in appropriately-stained overalls is asking you questions about your faithful old car, you glance around the inside of the garage. The part of your brain you use for work kicks in and you notice, somewhat to your chagrin, that the work space has lots of environmental health hazards. You work with occupational safety, but you've never really dealt with automotive repair shops and garages. Regardless, you can see unmarked chemical containers and no sign of safety or first aid equipment. You realize that there must be dozens of similar garages in the county. You decide to talk to your colleagues back at work about this. You're new at the health department's environmental health division, and you realize you want to know more about this.

[15-20 min] Have an instructor-guided discussion among students.

Ask: What types of environmental health issues could be a problem in a car garage?

Example answers:

Problems Commonly Found in Automotive Repair and Body Shops¹	
<i>Mechanical Repair Shop Hazards</i>	<i>Body and Paint Shop Hazards</i>
Required permits not present	Required permits not present
Record keeping (MSDSs, waste manifests, Etc.) not sufficient	Record keeping (MSDSs, waste manifests, Etc.) not sufficient
Work done without use of proper personal protective equipment (dust masks for working with solvents/ paint, etc.)	Work done without use of proper personal protective equipment (dust masks for working with solvents/ paint, etc.)
Improper storage of flammable materials	Improper storage of flammable materials
Workers not adequately trained/informed –no knowledge of MSDS, safety plan, etc.	Workers not adequately trained/informed – no knowledge of MSDS, safety plan, etc.
Parts cleaned in uncovered solvent systems	Cleaning of paint guns releasing large amounts of solvent into the air
Improper and off-label use of spray organic solvents	Spray painting outside of an enclosed spray booth
Improper storage of auto batteries, scrap metal, and spare parts	Heavy-metals and vapors exposures from body work and cutting/welding
Improper labeling, storage, and disposal of hazardous wastes	Sanding and body work being done without dust capture devices or respiratory equipment

Ask 'What should be your initial steps?'

The class should discuss briefly and decide upon an informal action plan that could be written for the class to see.

Possible homework assignment: Research the common hazards found in automotive repair and body shops.

For the second half of class or the next day...

[5 min] Ask a student to read these paragraphs out loud and allow a minute for them to reread to themselves.

Part 2:

¹ from Shoemaker P.A., Skogstrom T., Shea J., Bethune L., The Boston Safe Shops Project – Preliminary Findings of a Case Study in Applying the 10 Essential Services of Public Health to Building Environmental Health Capacity. Journal of Environmental Health, July/Aug 2007

After you do a little digging around for more information, you realize that the health department could have a role in making sure automotive shops and garages are safe places for the workers and patrons. You learn that health departments in other places like Boston have dealt with safety in automotive shops. You start to have conversations with your coworkers about how to approach this issue and all the different aspects of what could be done – like collecting data, getting community input, developing regulations, etc. You realize that it is getting complicated and you think out loud that it would be easier if there were a structure or checklist for you to follow to guide what needs to be done or considered if you are going to turn this into a real program.

Your coworker, Sid, surprises you by answering, “well, we do have things to help guide us and remind us of all the important components in proper environmental health projects. Do you know about the Ten Essential Services of Environmental Health?”

[10-15 min] Have an instructor-guided discussion among students. Ask: What are the different aspects of what should be done to address this public health issue thoroughly (Collecting data, getting community input, and developing regulations were mentioned. What else?)? Create a list.

The next part could be organized in different ways:

[30-40 min]

1) After creating a list of what the health department should do to respond to this issue based on what students already know, introduce the list of the 10 Essential Services of Environmental Health.

-Go over each Essential Service briefly.

-Ask the students to compare what they came up with to see how well it overlaps with the 10 Essential Services.

-Discuss the Essential Services that they had not included and why they are also important.

- Extend the discussion to how the list of 10 Essential Services of Environmental Health could be used in other circumstances (a the program level, at the department level, and at the system level)

or

2) Assign homework

Give them the homework questions:

- a. What have any health departments in other places done regarding automotive or body shop safety?
- b. What are the 10 Essential Services of Environmental Health?
- c. How might you fulfill each of the 10 Essential Services of Environmental Health in a program that helps automotive repair shops be safer?

When you return to the next class, discuss how they might build a program to address this community problem around the 10 Essential Services of Environmental Health.

Extend the discussion to how the 10 Essential Services of Environmental Health could be used in other circumstances (a the program level, at the department level, and at the system level)

Extra question for discussion or homework: If you had not visited the garage, how would you have ever known that this was a need? What other things could your department do to identify needs in the community?

The students should come out of the session with an understanding of the 10 Essential Services of Environmental Health and how they can be applied to planning a specific program or activity.

*A resource: Shoemaker P.A., Skogstrom T., Shea J., Bethune L., The Boston Safe Shops Project – Preliminary Findings of a Case Study in Applying the 10 Essential Services of Public Health to Building Environmental Health Capacity. Journal of Environmental Health, July/Aug 2007
or view http://www.bphc.org/bphc/oeh_safeshop.asp*

Case 2

[5 min] Ask a student to read these paragraphs out loud and allow a minute for them to reread to themselves.

Part 1:

Now that you know about using the 10 Essential Services of Environmental Health as a tool when you plan programs, you feel ready to run with it. Just as you are talking excitedly to a skeptical coworker about how we should use the 10 Essential Services of Environmental Health to guide all programs in the Environmental Health Division, your supervisor, Renee, asks you to join her in her office.

As you enter, Renee says, "It's great that you are interested in using the 10 Essential Services to guide our activities. For a while, we have been looking at how we might use them more. Because you are interested, I wanted to let you know that we are planning to do a thorough evaluation of our West Nile Virus Surveillance program soon. Among other reasons, we want to be able to ask the Board of Health for increased support. I know it is not your area of focus, but I wanted to ask for your input. Please, help us by thinking about how we could use the 10 Essential Services of Environmental Health for this evaluation. I would appreciate it if you could get back to me with your ideas in a couple days.

Possible discussion or homework questions:

- What reasons might the department have for wanting to evaluate the West Nile Virus Surveillance program?
- What would an evaluation of an internal program entail, in general?
- How could the 10 Essential Services of Environmental Health be applied to program evaluation?

Possible answer: The Essential Services could guide their choice of indicators (what they will measure). They could choose indicators that tell them whether they are accomplishing a variety of or all of the 10 Essential Services of Environmental Health through the program.

- What sorts of aspects of the program should they examine (what are some indicators they might choose) if they are going to evaluate their own West Nile Virus Surveillance program and they want to make sure it is achieving the 10 Essential Services of Environmental Health? List indicators – at least one or two for each of at least 7 of the 10 Essential Services.

Ex. – ES#4 Indicator: # of partner organizations that are involved in the agency's West Nile virus prevention program.
ES#3 Indicator: # of people in the community who have heard or read public information messages related to West Nile virus.

The students should come out of the session with a better understanding of the 10 Essential Services of Environmental Health and that they can be used to evaluate or assess the quality of programs as well as in program planning.

Case 3

[5 min] Ask a student to read this paragraph out loud and allow a minute for them to reread to themselves.

Part 1:

The county health department you work for is planning to broadly examine its environmental health division's services, including the food safety, water quality, air quality, hazardous waste, vector control, and other programs. They want to make sure they are doing everything they should for the county. Specifically, the head of the environmental health division wants to be able to assess their overall services and *measure the division's capacity* to accomplish their core environmental health functions.

[15 min]

In class or as homework ask either:

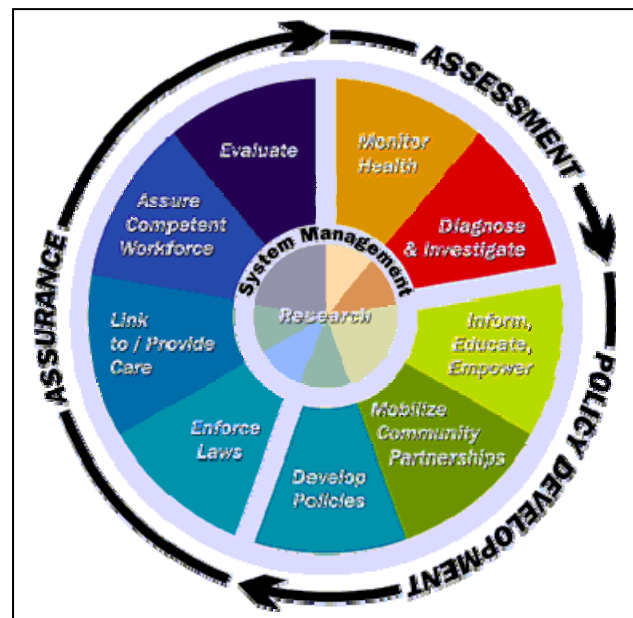
-What are the core functions of environmental health? *If discussed in class and it is a new concept for the students, the instructor will probably want to present this information rather than ask it.*

Answer: Assessment, Policy Development, and Assurance

-What sort of list or framework will tell them what it is they should be doing to accomplish the core functions? *Assuming the students have already been introduced to the 10 Essential Services of Environmental Health.*

Possible answer: The 10 Essential Services of Environmental Health can be used as a guide to help a health agency make sure it fully accomplishes its core functions.

Show the diagram to demonstrate how the core functions and the essential services overlap.



Or...

-Ask: Could you use the 10 Essential Services of Environmental Health as a guide to help a health agency make sure they fully accomplish their core functions? Why? How?

The students should come out of Part 1 of the session understanding that the 10 Essential Services align with the Core Functions of environmental health such that 'These are the [ten] things you should do to make sure you fully accomplish these overall functions.'

[5 min] Ask a student (or a few) to read these paragraphs aloud and allow a minute for the class to reread to themselves.

Part 2:

In a meeting of the environmental public health program managers, they discussed how best to approach the program-wide assessment. Renee, a manager, begins, "We have this list of 10 Essential Services for Environmental Health that tells us what we should be doing to accomplish our core functions – assessment, policy development, and assurance. We could use the Essential Services as a measuring stick and see how well we are covering all our bases."

Ronald, a colleague, asks, "How would that work? These lists are sort of confusing to me. I get it that the Core Functions are what we are responsible for and the Essential Services are the things we DO to make sure we fulfill those functions. How does it become a measuring stick for our whole program?"

"Well," says Alan, sounding as though he's thinking out loud, "if we make each of the 10 Essential Services of Environmental Health a category heading, and list all our environmental health activities under the Essential Services that they contribute towards, we can see how well we cover all ten of them. We can see if there are gaps. We keep saying that we should do more community outreach, right? This can help us see how many of our activities contribute towards community outreach versus monitoring or enforcing regulations."

"Okay, but what do we measure? Do we just make lists?" responds Renee.

Alan, remembering something he had read recently on the CDC website, says, "That would be a start, but if we are doing an assessment, like an evaluation, we need indicators, I think. For

indicators that measure our overall capacity, it's probably best if we use the National Public Health Performance Standards."

Ronald, not afraid to admit when he doesn't understand, responds, "Um... what?"

The National Public Health Performance Standards are a list of model standards and indicators for measuring program capacity. They can help us see not only if we are doing all the things we should be doing, but if our activities are "successful."

"I'm getting this." Ronald says. "We use the Performance Standards as indicators to measure our overall capacity and ability to carry out the 10 Essential Services. Then we can take a closer look at Essential Services where we're lacking and figure out how to improve to make sure fully carry out our core functions."

Renee, surprised, says, "Wow. Okay. Where do we begin? I guess we need to get more familiar with the Performance Standards. I'm sure the CDC website has resources to help with this. Then we can make a plan."

At this point, either give a home work assignment to have the students research the National Public Health Performance Standards and how they relate to the 10 Essential Services of Environmental Health or go on with a class discussion. If computers are available in the classroom, you may wish to show the students these websites

<http://www.cdc.gov/od/ocphp/nphpsp/> and <http://www.cdc.gov/od/ocphp/nphpsp/TheInstruments.htm> .

[30-40 min]

Facilitate an in-class discussion based on the last statement. How might the management team use the Performance Standards and the Essential Services to assess their department's capacity?

This discussion will go more smoothly after the students know more about the Performance Standards. You may want to show the students this

<http://www.cdc.gov/od/ocphp/nphpsp/Documents/LocalModelStandardsOnly.pdf> and explain further how the Standards align directly with the 10 Essential Services.

After discussing it in class, if the students have not yet read about the Performance Standards and the Essential Services on their own, send the students to research this topic further and try to find information and guidelines that would help them (such as

<http://www.cdc.gov/od/ocphp/nphpsp/TheInstruments.htm> or
<http://www.cdc.gov/od/ocphp/nphpsp/Documents/LocalModelStandardsOnly.pdf>

Consider finishing this topic by asking the students to develop an action plan to assess the department's capacity based on the 10 Essential Services of Environmental Health.

The students should come out of Part 2 of this session understanding how the 10 Essential Services of Environmental Health can be a tool (or measuring stick) they apply not only to individual programs, but also to whole systems (such as a department's overall activities) to make sure the system is achieving its overall core functions.

A resource: Barron, G., Glad, J, Vukotich, C. The Use of the National Public Health Performance Standards to Evaluate Change in Capacity to Carry Out the 10 Essential Services. *Journal of Environmental Health*, July/Aug 2007