

## Direct from CDC

Environmental Health  
Services Branch

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# The Vessel Sanitation Program: Government Partnering with the Cruise Ship Industry to Improve Public Health

*Editor's note: NEHA strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, we will feature a column from the Environmental Health Services Branch (EHSB) of the Centers for Disease Control and Prevention (CDC) in every issue of the Journal.*

*EHSB's objective is to strengthen the role of state, local, and national environmental health programs and professionals to anticipate, identify, and respond to adverse environmental exposures and the consequences of these exposures for human health. The services being developed through EHSB include access to topical, relevant, and scientific information; consultation; and assistance to environmental health specialists, sanitarians, and environmental health professionals and practitioners.*

*EHSB appreciates NEHA's invitation to provide monthly columns for the Journal. EHSB staff will be highlighting a variety of concerns, opportunities, challenges, and successes that we all share in environmental public health.*

**I**n the early 1970s, outbreaks on cruise ships of diarrheal disease associated with foodborne and waterborne transmission led to the creation of the Centers for Disease Control and Prevention's (CDC's) unique environmental health program: the Vessel Sanitation Program (VSP) (Merson, Hughes, Wood, Yashuk, & Wells, 1975). Today, although diarrheal-disease outbreaks on cruise ships are often associated with person-to-person contact, VSP's mission remains to assist the cruise ship industry with the prevention and control of gastrointestinal (GI) illnesses and to promote public health and environmental sanitation programs.

Ships from foreign ports carrying 13 or more passengers that arrive at U.S. ports of call participate in the VSP. The VSP includes sanitation and construction inspections, GI illness surveillance and outbreak support, training for cruise ship personnel, and provision of public information. It operates on a fee-for-service basis; 100 percent of the program costs are recovered from user fees during inspections (Table 1).

### Resources for the Public

VSP publishes a variety of information for travelers, media specialists, environmental health professionals, and the cruise industry. The following resources are available on its Web site, [www.cdc.gov/nceh/vsp](http://www.cdc.gov/nceh/vsp):

- *Inspection and corrective-action reports* describe deficiencies in environmental health standards aboard cruise ships as defined in the *VSP Operations Manual*. The inspection reports include a score determined by the number of critical and noncritical deficiencies

found during inspections. A 100 is a perfect score, and any score below an 86 is considered failing. Cruise ships are asked to respond to the deficiencies and to submit a corrective-action report to VSP. For inspection scores, visit [wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionSearch.aspx](http://wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionSearch.aspx).

- *Peer-reviewed publications* are listed, with links (at [www.cdc.gov/nceh/vsp/pub/biblio/biblio.htm](http://www.cdc.gov/nceh/vsp/pub/biblio/biblio.htm) and [www.cdc.gov/nceh/vsp/pub/mmwr/mmwr.htm](http://www.cdc.gov/nceh/vsp/pub/mmwr/mmwr.htm)).
- *The Green Sheet* is a complete list of ships in the program and their latest inspection scores (at [wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionGreenSheetRpt.aspx](http://wwwn.cdc.gov/vsp/InspectionQueryTool/Forms/InspectionGreenSheetRpt.aspx)).
- *Advisories* include handwashing instructions and tips, norovirus facts, tips for avoiding illness during your cruise, and frequently asked questions (at [www.cdc.gov/nceh/vsp/pub/pub.htm](http://www.cdc.gov/nceh/vsp/pub/pub.htm)).
- *Announcements* are made on the site, including announcements of public meetings.
- *Cruise ship outbreak updates* describe the number of sick passengers and crew, actions taken by the cruise line, VSP response activities, and pathogens associated with outbreaks (at [www.cdc.gov/nceh/vsp/surv/Gllist.htm](http://www.cdc.gov/nceh/vsp/surv/Gllist.htm)).
- *The Outbreak Prevention and Response Protocol* (to be posted soon) will outline how to manage an outbreak and prevent further spread of illness.
- *Guidelines for shipping of specimens* are given ([www.cdc.gov/nceh/vsp/cruiselines/shipping\\_info.htm](http://www.cdc.gov/nceh/vsp/cruiselines/shipping_info.htm)).

## Norovirus Facts

- Recent research has uncovered a new strain of norovirus that is likely causing the increase of norovirus outbreaks on land and ships (unpublished data).
- Most recent outbreaks on cruise ships have been caused by norovirus.
- Although norovirus is frequently thought of as the cruise ship virus, it is found on campuses, in nursing homes, and other areas with high volumes of people.

## Partnership with the Cruise Ship Industry

VSP is unique because it's a partnership with the cruise ship industry. Public meetings of VSP staff and industry officials are held annually to review the accomplishments and future direction of the program. This arrangement allows the industry to comment on items such as revisions to the *VSP Operations Manual* ([www.cdc.gov/nceh/vsp/operationsmanual/OPSMannual2005.pdf](http://www.cdc.gov/nceh/vsp/operationsmanual/OPSMannual2005.pdf)) and the *VSP Construction Guidelines* ([www.cdc.gov/nceh/vsp/ConstructionGuidelines/ConstructionGuidelines2005.pdf](http://www.cdc.gov/nceh/vsp/ConstructionGuidelines/ConstructionGuidelines2005.pdf)). Since 1980, at the request of cruise lines, VSP has been visiting shipyards and reviewing blueprint plans to analyze cruise ship designs with the intent of eliminating or controlling as many environmental health risks as possible before the ship ever goes into service. Such inspections are based on the *VSP Construction Guidelines*.

## Achieving Standards

Some cruise lines are implementing standards that vary from those in the *VSP Operations Manual*. Industry officials can request variances by submitting a set of protocols to follow to maintain safe standards aboard their ships. If these are approved by VSP, they can be implemented. Because of such variances, some cruise ships allow children to enter pools with diapers, passengers eat recreationally caught fish, and some ships have potable water tanks that share a wall with the hull of the vessel.

Many cruise ships switched from maintaining buffet operations under time rather than temperature control for potentially hazardous foods (PHF). Management is responsible for developing and monitoring each ship's time control plan. Because continuous temperature

## TABLE 1

### 2007 Vessel Sanitation Program Inspection Fees

Vessel Size	Gross Registered Tonnage	Fee (U.S. dollars) per Inspection
Extra small	<3,000	\$1,300
Small	3,001–15,000	\$2,600
Medium	15,001–30,000	\$5,200
Large	30,001–60,000	\$7,800
Extra large	60,001–120,000	\$10,400
Mega	>120,000	\$15,600

## TABLE 2

### Resources

Government Agency, Program, or Document	Where to Look
CDC	Home: <a href="http://www.cdc.gov">www.cdc.gov</a> VSP: <a href="http://www.cdc.gov/nceh/vsp">www.cdc.gov/nceh/vsp</a>
Food and Drug Administration (FDA)	Home: <a href="http://www.fda.gov/">www.fda.gov/</a>
U.S. Department of Agriculture (USDA)	Home: <a href="http://www.usda.gov/wps/portal/usdahome">www.usda.gov/wps/portal/usdahome</a> Food Safety and Inspection Service: <a href="http://www.fsis.usda.gov">www.fsis.usda.gov</a>
<b>Ship Operational Guidelines</b>	
CDC, <i>VSP Operations Manual</i>	<a href="http://www.cdc.gov/nceh/vsp/operationsmanual/OPSMannual2005.pdf">www.cdc.gov/nceh/vsp/operationsmanual/OPSMannual2005.pdf</a>
CDC, <i>VSP Construction Guidelines</i>	<a href="http://www.cdc.gov/nceh/vsp/ConstructionGuidelines/ConstructionGuidelines2005.pdf">www.cdc.gov/nceh/vsp/ConstructionGuidelines/ConstructionGuidelines2005.pdf</a>
FDA, Interstate Travel Program, <i>Compliance Program Guidance Manual</i>	<a href="http://www.cfsan.fda.gov/~acrobot/cp18029.pdf">www.cfsan.fda.gov/~acrobot/cp18029.pdf</a>
U.S. Navy, prevention medicine manuals	<a href="http://www.nepmu5.med.navy.mil/html/preventive_medicine_manuals.html">www.nepmu5.med.navy.mil/html/preventive_medicine_manuals.html</a>
<b>Scientific Publications at CDC</b>	
CDC, VSP cruise ship publications	<a href="http://www.cdc.gov/nceh/vsp/pub/biblio/biblio.htm">www.cdc.gov/nceh/vsp/pub/biblio/biblio.htm</a>
CDC, <i>Morbidity and Mortality Weekly Report</i>	<a href="http://www.cdc.gov/mmwr">www.cdc.gov/mmwr</a>
<b>Handwashing Tips and Techniques</b>	
CDC, <i>Keeping Your Hands Clean on a Cruise</i>	<a href="http://www.cdc.gov/nceh/vsp/pub/Handwashing/HandwashingTips.htm">www.cdc.gov/nceh/vsp/pub/Handwashing/HandwashingTips.htm</a>
Clean Hands Coalition	<a href="http://www.cleanhandscoalition.org">www.cleanhandscoalition.org</a>
<b>Noroviruses</b>	
CDC, <i>Facts About Noroviruses on Cruise Ships</i>	<a href="http://www.cdc.gov/nceh/vsp/pub/Norovirus/Norovirus.htm">www.cdc.gov/nceh/vsp/pub/Norovirus/Norovirus.htm</a>
CDC, general norovirus information	<a href="http://www.cdc.gov/ncidod/diseases/submenus/sub_norwalk.htm">www.cdc.gov/ncidod/diseases/submenus/sub_norwalk.htm</a>
<b>Food Safety</b>	
FDA, <i>Food Code</i>	<a href="http://www.cfsan.fda.gov/~dms/foodcode.html">www.cfsan.fda.gov/~dms/foodcode.html</a>
FDA, time as a public health control	<a href="http://www.cfsan.fda.gov/~acrobot/fc05-3.pdf">www.cfsan.fda.gov/~acrobot/fc05-3.pdf</a>
FDA, <i>Bad Bug Book</i>	<a href="http://www.cfsan.fda.gov/~mow/intro.html">www.cfsan.fda.gov/~mow/intro.html</a>
<b>For more references and resources, please visit</b> <a href="http://www.cdc.gov/nceh/vsp/manual/ops_manual_resources.htm">www.cdc.gov/nceh/vsp/manual/ops_manual_resources.htm</a> .	

monitoring and recording is not needed, use of time as a public health control requires less labor from food workers and has been widely embraced by the industry. (For general time control plans, see the following: cold: [www.cdc.gov/nceh/vsp/manual/cold%20phf%20flowchart.pdf](http://www.cdc.gov/nceh/vsp/manual/cold%20phf%20flowchart.pdf); hot: [www.cdc.gov/nceh/vsp/manual/hot%20phf%20flowchart.pdf](http://www.cdc.gov/nceh/vsp/manual/hot%20phf%20flowchart.pdf).)

VSP looks to a future of changing technologies and trends while continuing its unique service to the public, media, and the cruise ship industry. For resources, see Table 2. An upcoming issue of the *Journal of Environmental Health* will feature more information about inspections and their recent trends in an article titled “Ship Shape: Sanitation Inspections on Cruise Ships, 1990–2005, Vessel Sanitation Program, Centers for Disease Control and Prevention.” 🐼

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## Reference

Merson, M.H., Hughes, J.M., Wood, B.T., Yashuk, J.C., & Wells, J.G. (1975). Gastrointestinal illnesses on passenger cruise ships. *Journal of the American Medical Association*, 231(7), 723-727.

**did you know**

Approximately  
600,000 deaths  
occurred worldwide  
as a result of  
weather-related natural  
disasters in the 1990s;  
some 95% of these  
were in poor countries.

Source:  
World Health Organization,  
[www.who.int/en](http://www.who.int/en).

The graphic features a large, light-colored question mark on a dark background. The text is arranged around the question mark, with the main message in the center and the source information at the bottom.