

Promoting Septic System Maintenance with a Tank Pumping Tracking and Reminder Registry

Organization

Mahoning County (OH) District Board of Health

Overview

In Mahoning County, a rapidly suburbanizing community where the extension of sanitary sewerage has not kept pace with growth, over 400 new septic systems are installed each year, prompting concerns from homeowners and local officials about the impact this increasing density of systems will have on water quality. The tracking and reminder registry is part of the Mahoning County District Board of Health's response to these concerns.

Preventing water pollution from septic systems requires that homeowners service their systems periodically to prevent failure of soil absorption fields where on-site wastewater treatment takes place. Septic tanks allow solids to settle out of household sewage and hold these solids in the tank, where they are partially decomposed. These solids accumulate over time, begin to escape from the tank with the wastewater flow, and threaten to clog the soil in the absorption field. Properly sized tanks can accumulate



solids for at least three years before pumping is required to protect soil absorption areas from damage. The necessary frequency of pumping depends on tank capacity, amount of wastewater flowing into the tank related to the size of the household, amount of solids in the wastewater (for example, there will be more solids if garbage disposals are used), and performance of the final treatment system. The pumping frequency typically recommended to homeowners is three years in most localities.

Local health departments are alert to potential "teachable moments" for educating homeowners about the benefits of regularly pumping their tanks. In health jurisdictions where tank pumping is a voluntary practice, these opportunities have typically been limited to the time of household sewage treatment system (HSTS) installation, whenever the health department responds to a complaint about a malfunctioning HSTS, or when a home is evaluated for sale. In the late 1990s, a team of sanitarians, health educators, and support staff at the Mahoning County District Board of Health believed that some of the marketing and promotion strategies developed for childhood immunizations could be successfully applied to the challenge of promoting HSTS maintenance. Over the last decade, state and local health departments have been able to increase compliance with recommended childhood immunization schedules by creating immunization registries that track children who require immunizations and generate reminder letters or telephone messages to parents when immunizations are due. These so-called "tracking and reminder" registries are credited with the steady increase in on-time immunization of young children. The District Board of Health has applied the tracking and reminder strategy to promoting compliance with septic system maintenance practices by generating and mailing pumping reminders to owners of the approximately 17,000 HSTSs in the Mahoning County General Health District.

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Implementation

A 1997 grant from the Ohio Environmental Education Fund provided start-up funds for an educational program for HSTS maintenance that resulted in the creation of a database registry populated with all available information about household sewage treatment systems in the health district. This registry generates pumping reminder letters to homeowners through a custom application written by CHC Software, Inc., Cleveland, Ohio, for its Health District Information System™ (HDIS) software suite. This software and custom application was acquired in 1999 to create a management information system for all environmental health activities performed at the District Board of Health, including all aspects of the sewage program. Prior to the development of this custom application, the District Board of Health generated postcard reminders using the Dunamis™ system developed by a sanitarian at the Wood County Board of Health in Bowling Green, Ohio.

The reminder letters are mailed to eligible homes once each year. Local regulation requires registered tank cleaners to submit reports of each HSTS pumped to the board of health. HDIS filters out the HSTSs in the targeted townships for which a pumping report has been received from a cleaner in the last 36 months or that have been newly installed during this time period. Homes that have been connected to sanitary sewers are permanently eliminated from the registry. Advance notices of these mailings are provided to township officials. The local print news media have also publicized the reminder mailings through publication of feature articles and public service announcements.

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HSTS owners' names and addresses are merged with a formatted pumping reminder letter that advises the homeowner of the benefits of regular pumping. The letter also contains a list of all tank cleaners registered by the board of health and instructions on how to report any relevant changes using the board of health's telephone reporting "warm-line" available to callers 24-hours-a-day. The letter is accompanied by an Ohio State University fact sheet that provides the homeowner with information about septic system maintenance, water conservation practices, and soil absorption field protection and includes a table of recommended pumping frequency based on the size of the septic tank(s) and the number of people in the home.

Mailing addresses of undeliverable notices are cross-referenced with the Mahoning County Auditor's property ownership information database and other published directories to verify the accuracy of these addresses. Erroneous addresses are then corrected and notices reissued to the proper mailing address or completely removed from the database following on-site verification by a board of health sanitarian.

Outcomes

The board of health mailed 41,308 reminder notices and received 15,559 pumping reports from registered tank cleaners between Jan. 1, 1998 and Dec. 31, 2005 for an overall response ratio of 46 percent. The response to the pumping reminders was most evident in the first two years of the program. Although the pumping report-to-reminder response ratio declined after 1999, it has remained relatively stable since then. The response from homeowners is proportionate to the level of reminder registry activity each year. The number of reminders mailed has declined since 2002; homeowners who have their HSTS pumped every three years do not receive a reminder, resulting in fewer reminder mailings being generated by the tracking and reminder registry each year.

Up to 2,750 household sewage treatment systems in Mahoning County (16% of all systems) are pumped each year, a significant increase since the tracking and reminder registry was created.

How the Program Has Been Sustained

The Mahoning County District Board of Health has decided to make the tracking and reminder registry a permanent feature of its wastewater control program. Registry maintenance costs of \$7,000 per year have proven to be manageable and sustainable through property tax and fee revenue. The board of health will continue to rely on its tracking and reminder registry to promote HSTS pumping and, in doing so, help homeowners avoid the unnecessary environmental health and economic consequences of premature soil absorption field failure. 📧

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