

# NGWA A Study of Private Well Owner Outreach Programs: Discovering Factors Critical to Effectively Motivating Well Owners to Act to Protect Drinking Water Quality National Ground Water Association Centers for Disease Control and Prevention 601 Dempsey Rd., Westerville OH, 43081

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## Background

About 38 million people (13.1% of U.S. households) get drinking water from privately owned wells. Unlike regulated public water systems, private well owners are primarily responsible to test their water and mitigate health risks. In 2014–15, the Centers for Disease Control and Prevention collaborated with the National Ground Water Association to (1) conduct a literature search and analysis to identify key components of effective private well owner outreach, and (2) interview private well intervention program managers and water treatment service providers to understand barriers to private well owner action to mitigate water-related health risks.

## Methods

#### I. Program selection criteria

Programs were selected to represent the variety of well owner outreach programs across the United States. Factors considered included:

- b. Differing strategies to reach and motivate well owner action
- c. Program experience
- d. Testing focus
- e. Target population knowledge

#### Scope of Selected Well Owner Outreach Programs

#### II.Interviews with program managers

- a. Gathered qualitative information about:
- Program goals, strategies, and tactics
- Barriers to water testing and risk mitigation
- Innovative solutions to overcome barriers
- b. Selected 28 programs and 30 program managers interviewed from these 28 programs
- c. 8 water treatment service providers interviewed

Findings were used to understand barriers to private well owner action to mitigate water-related health risks

#### III. Literature search and analysis

- a. Conducted a search and analysis of relevant studies of well owner outreach programs
- Findings were used to delineate key components of an effective program and develop practical program guidance

## Results

## Barriers and innovative approaches identified through interviews with program managers and service providers

## **Well Water Testing**

#### **Barriers**

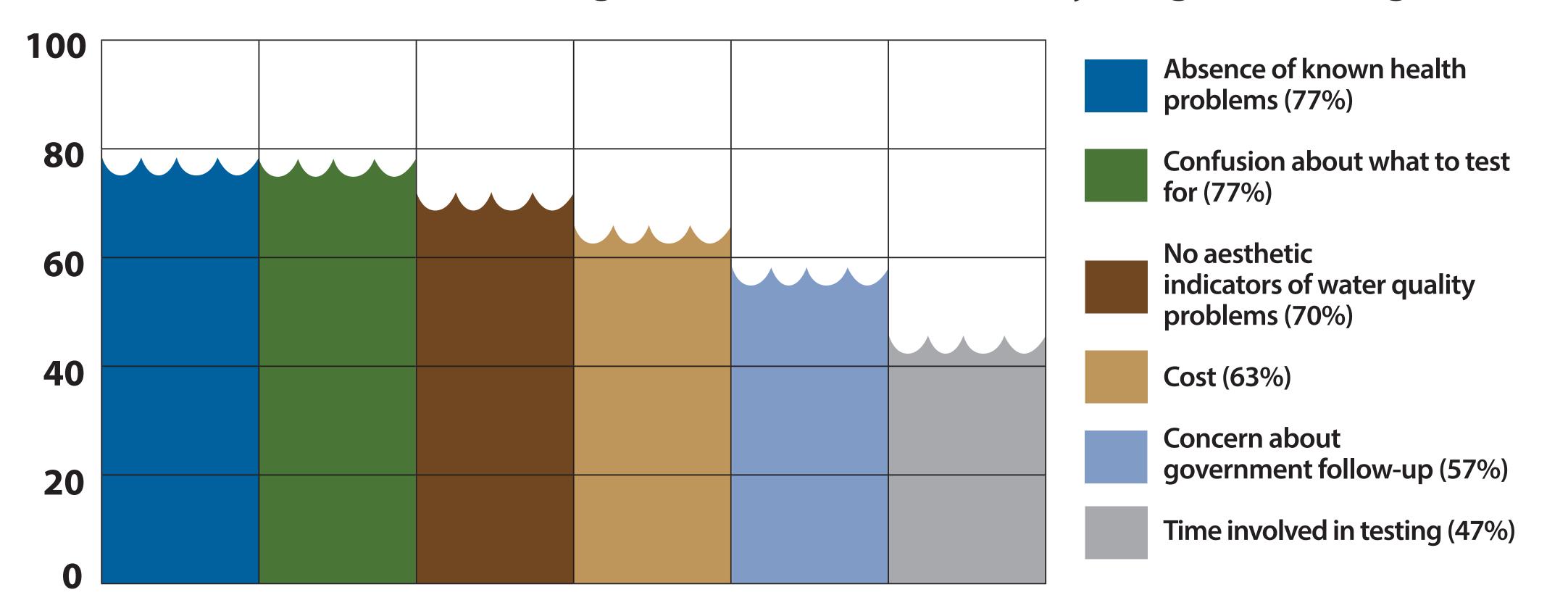
- Inconvenience: Relatively low participation in efforts directing well owners to test their water because well owners find the testing process inconvenient (obtaining testing services and kits, taking samples, dropping off samples).
- Cost: Cost deters well owners who are not experiencing obvious water quality problems from testing
- Lack of Knowledge: Well owners do not understand cost of testing, what's involved in testing, and why and when one should test.

## "Generally, well owners are confused by all of the above," said one program manager.

Mistrust: Well owners' perception of government regulation prevents them from testing their water.

"We know that is why some people aren't testing. 'They (government) would require me to update my well," said a Midwest program manager paraphrasing a sentiment of many well owners.

#### Barriers to Well Owners Testing Their Water Identified by Program Managers



### Innovative approaches

- Subsidizing or discounting testing.
- Providing testing kits at a central convenient location, or multiple locations (i.e., county extension offices or library branches).
- Training high school students on how to collect samples and process them.
- Sensitizing well owners to groundwater contamination risks in their area to prompt testing.
- Providing and interpreting results for the well owner, especially when results indicate a health risk.
- "We have found that facilitating testing can be very successful...anything that can be done to make it more convenient," said one state-level program manager.

#### **Well Water Treatment**

#### **Barriers**

- Cost: Well owners are deterred by water treatment costs.
- Lack of knowledge: Most well owners do not know how to go about getting water treatment.
- **Mistrust:**
- Well owners want an unbiased source of information when making decisions about water treatment.
- Some well owners do not trust water treatment system companies.

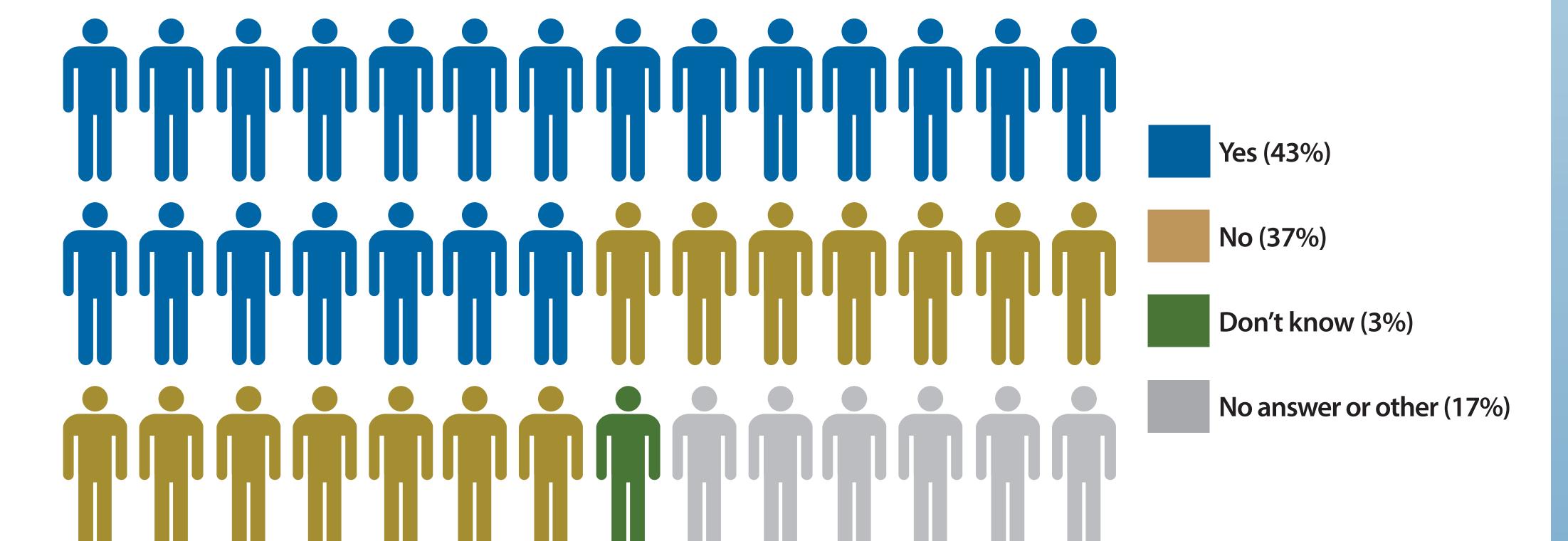
#### Innovative approaches

- Providing objective information about water treatment systems and technologies.
- Distributing lists of qualified water treatment service providers.
- Personal follow-up if test results show a health risk exceedance.
- Developing partnerships that include private well owners, the water treatment industry, and public health.

# Well Owner Program Design, Implementation, Evaluation

- **Funding:** Funding is inadequate.
- "We structure our goals around (available) funding. The need is greater than our capacity," said the manager of a long-established program.
- Sustainability: Even programs that are working may not reach many well owners if not sustained over the long term.
- Communication: Finding communication channels that are effective in reaching well owners.
- Data: Most programs do not evaluate their success in targeting well owners or mitigating health risks.
- "Success is not that well defined. The program reaches as many people as it can with the resources available," said the manager of one statewide program.

## % of Program Managers Who Described Their Program as a Success



#### Innovative approaches

- One small program reduced costs via a word-of-mouth campaign.
- One motivated well owner spurred a five-fold turnout increase at a water testing.
- A focus group affirmed one program's message effectiveness.
- Feedback made one program's materials more readable and understandable.
- One program found well owners by comparing tax records to water utility records.

# Key components of an effective well owner outreach program identified from literature search

- 1. Overall Implementation Strategy—Deliver motivational messages to the largest possible well owner population in the program area using:
- Audience targeting: (1) Decide the geographical area to target, and (2) decide how to identify/quantify well owners within the targeted area.
- Communication channels: Correlate target list of well owners to an appropriate mix of available communication channels.
- Sustainability: Consider how the program can be made sustainable over time to more fully penetrate the target audience.
- 2. Message Design—Use messaging found effective for public health communications, such as protecting family health or emulating others.
- Potential motivators: Consider messaging approaches found effective in other public health communication contexts including (1) protection of family health, (2) emulating what others are doing ("social norms"), (3) seeking peace of mind, and (4) protection of property values.
- Testing messages: Refine messages using focus groups and text from successful programs.
- Other message enhancements: Messages have more impact when they are relevant and consistent.
- 3. Clear Communication—Give attention to literacy levels and graphic design for clearer communication using means such as (1) readability analyses, (2) professional or student intern graphic design help, and (3) feedback from an informal gathering or focus group of well owners or a focus group.
- 4. Directive Initiatives—Develop program initiatives that drive results, for example:
- Provide action steps that answer the questions (1) "What do I need to do?" (2) "How do I do it?"
- Address inconvenience issues: Make it convenient for the well owner to (1) know what to test for, (2) get a water sample to the lab, (3) get and understand lab results, (4) move toward mitigating health risks.
- 5. Evaluation—Use evaluation to achieve program success in motivating well owners to protect water
- Involve evaluators from start of program design through implementation.
- Establish audience reach by using best available data to quantify and locate well owners in order to measure program penetration into the target audience.
- Build in measurements of outputs (activities) and outcomes (results): Measure outputs and outcomes to determine program effectiveness.

# Application of findings

Findings will be used to develop tools and practical guidelines to help programs:

- Improve effectiveness in motivating well owners to protect their water.
- Maximize effectiveness within available resources.
- Inform decision-making about program funding by highlighting key components of an effective program and associated costs.

These tools and guidance will be made available later in 2016.

