



# Protecting Private Well Users' Health: results from a Minnesota survey of households with elevated arsenic in their private drinking water wells

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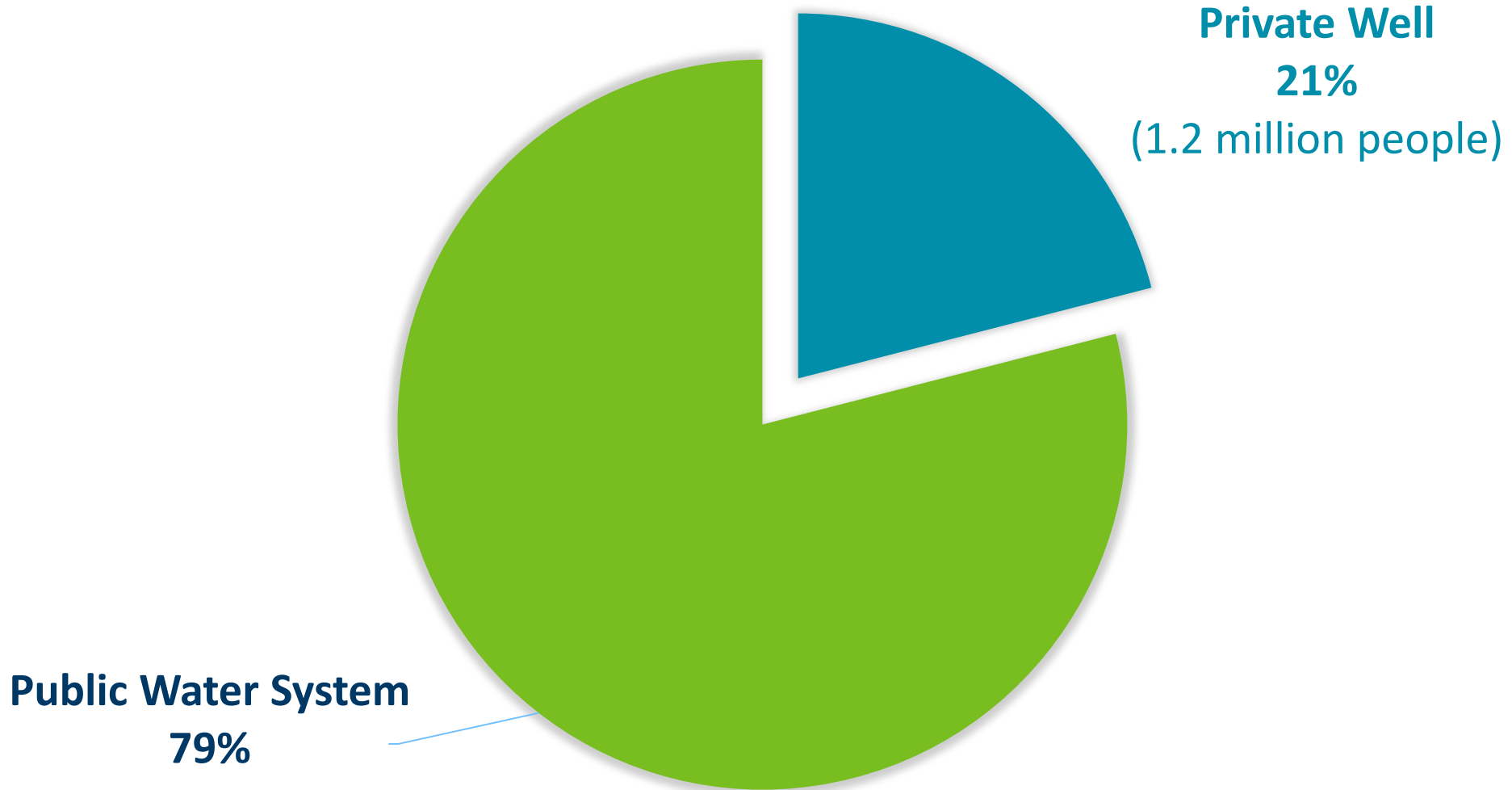


# Talking Points

- Overview of public health issue
- Study methods
- Key findings
- Next steps
- Questions

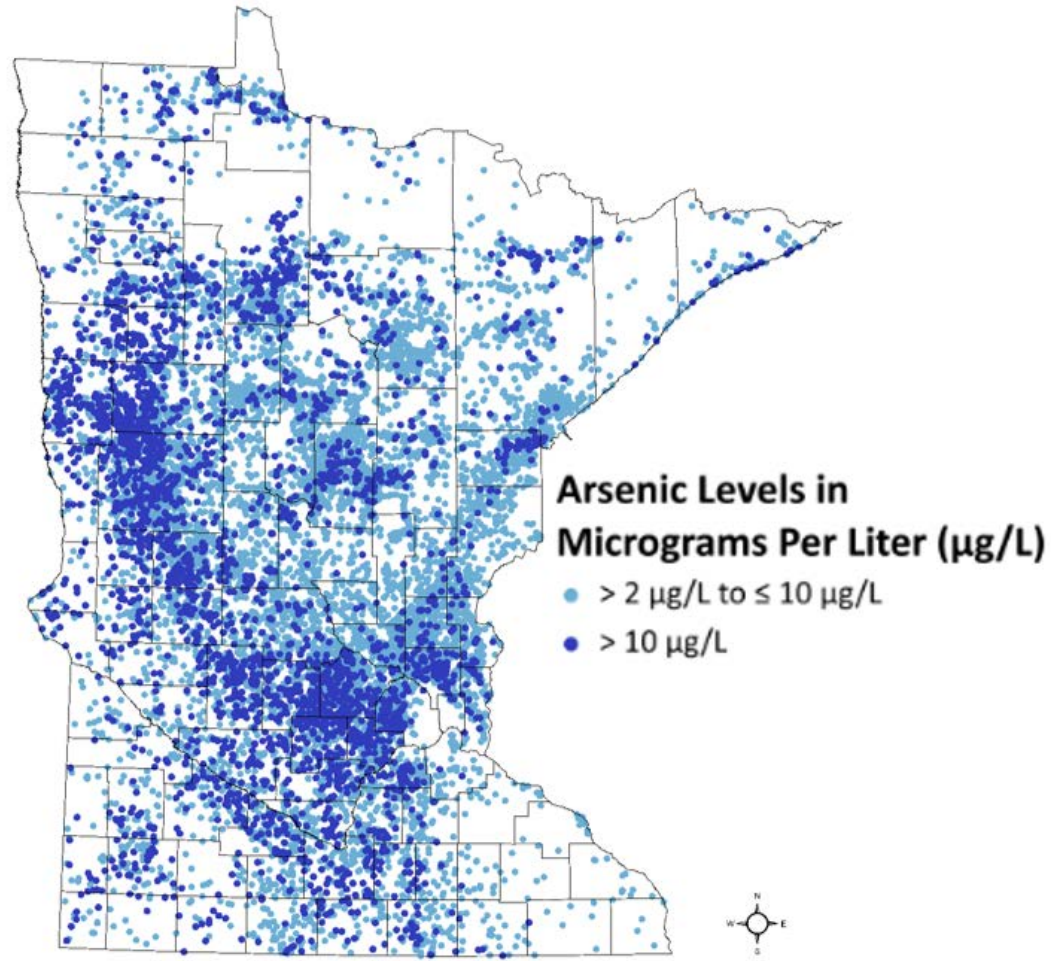


# Minnesotans' drinking water sources

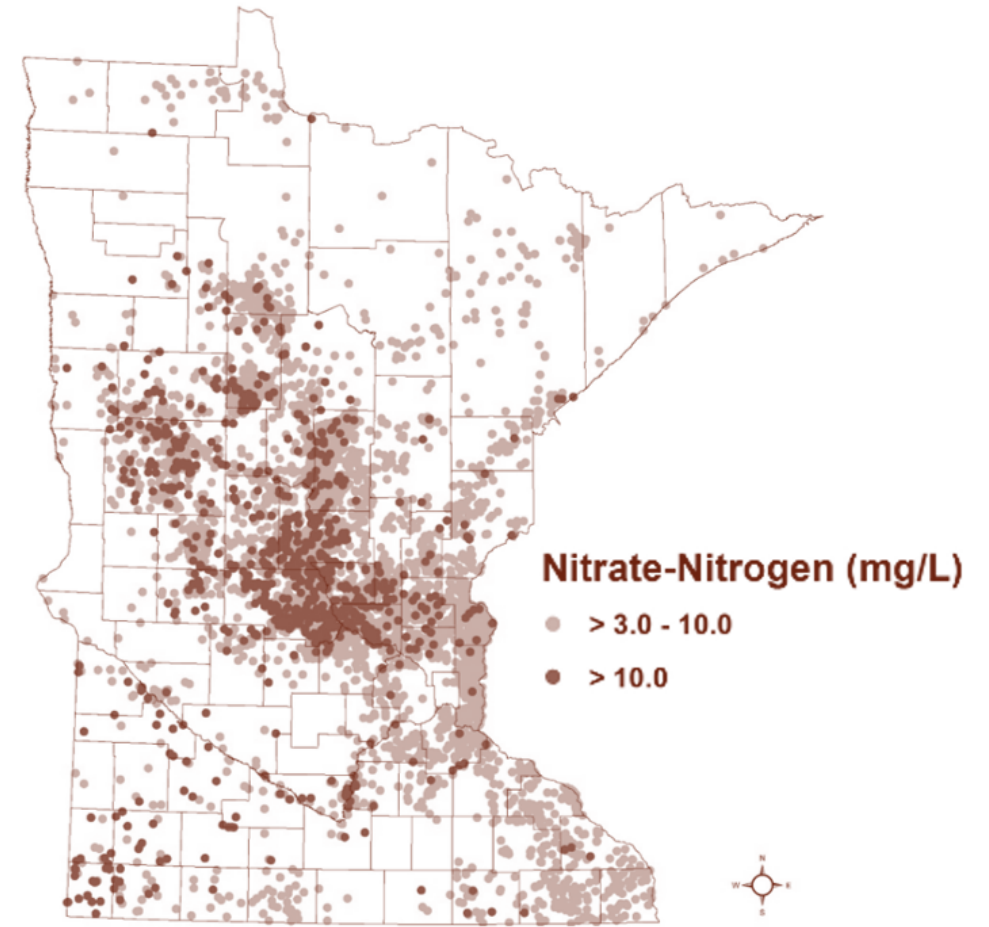




# Public health issue: contaminants



**Arsenic concentrations in  
new wells (2008-2017)**



**Nitrate concentrations in  
new wells (1991-2016)**

# Household survey: methods



## Household survey

Are private well users taking action to ensure safe drinking water?

**Is our current outreach 'system' adequately reaching and serving private well users?**

# Household survey: methods

Survey sent to **3,815** private well users with elevated arsenic (2016)

- Demographic information
- Actions taken
- Well stewardship



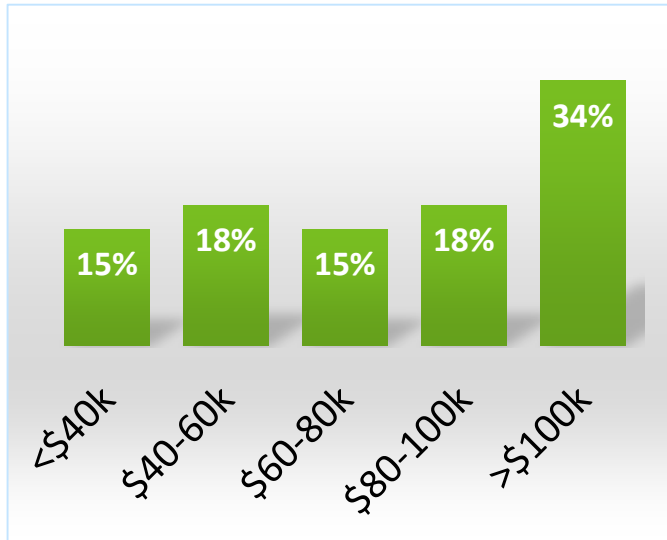
The flyer features a central image of a hand pouring water into a glass. Overlaid on this image is the text: "Take the survey online for a chance to win a \$25 Target gift card". To the right of the image is a QR code. Below the image is the URL [www.health.state.mn.us/wellsurvey](http://www.health.state.mn.us/wellsurvey) and a note: "(use this web address or QR code to take the survey)".

**Do you have what you need to keep your drinking water safe?**

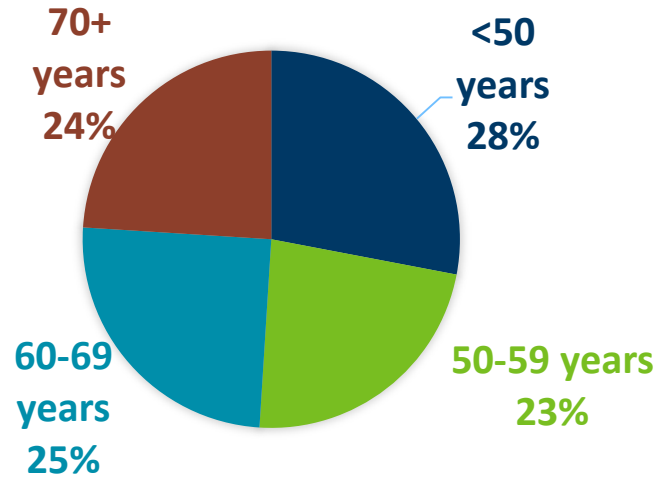
**MDH**  
Minnesota Department of Health

Questions? Need a paper survey?  
Emily Berquist, MDH Hydrologist  
651-201-4594 | [emily.berquist@state.mn.us](mailto:emily.berquist@state.mn.us)

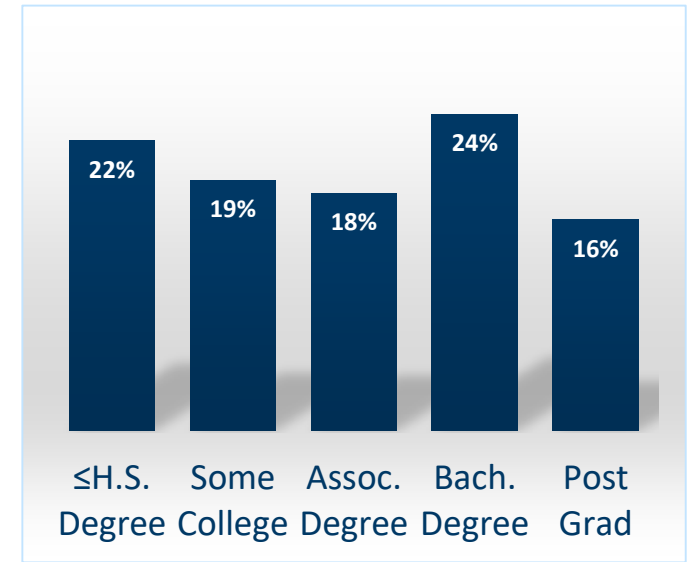
**798 responses**



Varied household income levels



72% over age 50



Varied levels of education



56% child present



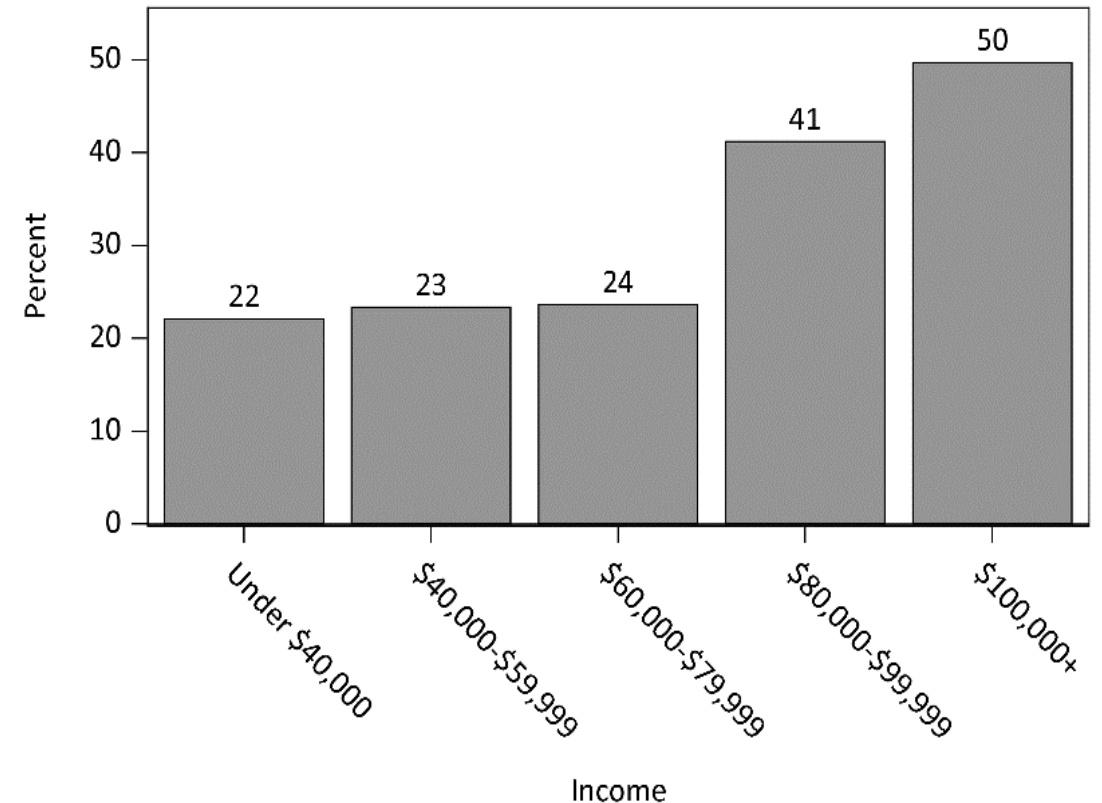
85% primary residences

Variety of Respondents (n=798)

# Key findings: did respondents take action?

Action	%
Installed an arsenic treatment system	36
Took no action	34
Drink bottled water (no treatment system)	25
Other	5

Predictors of installing treatment





# Key findings: how they selected treatment

Factors in treatment system selection	%
Recommended by well contractor or water treatment company	49
Cost	24
Convenience	21
Other (write-in)	15
Internet search	14
Recommended by MDH or local government agency	10

Multiple selections allowed

# Key findings: why didn't they take action?

**34%**

**did not take any action**

Arsenic level is...

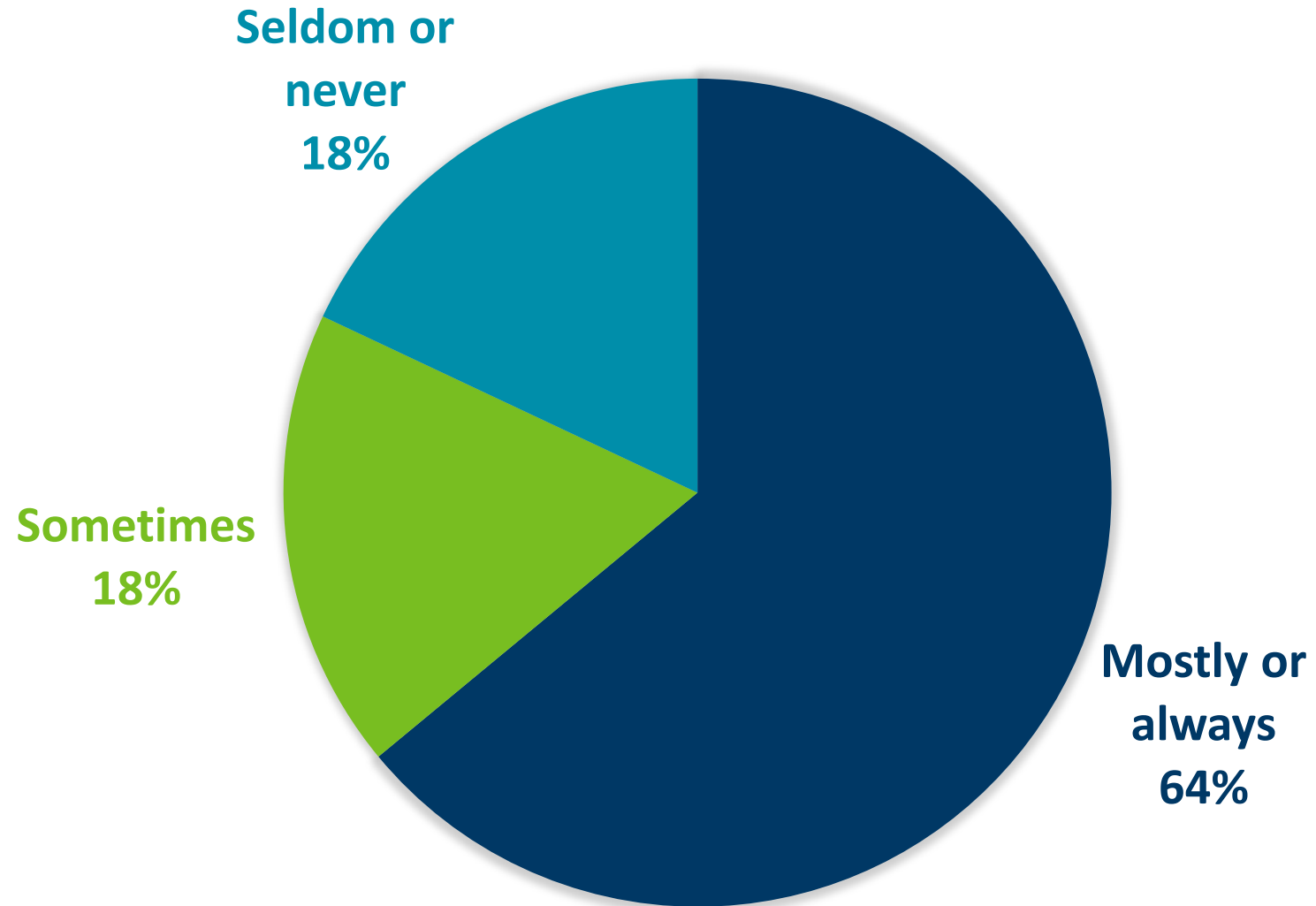
- Typical for the area
- Too low to be dangerous
- Would decrease with time

**Some did not take action because of misinformation**

Reason for not taking action	%
Not concerned about arsenic level	50
Wasn't sure what to do or who to contact	21
Treatment options too expensive	15
Treatment systems too difficult to use and maintain	15
Haven't gotten around to it, but plan to	11
Other	16

Multiple selections allowed

# Key findings: how often they use the water





# Key findings: Have respondents tested their water?



## MDH recommends

- Coliform Bacteria (every year)
- Nitrate (every other year)
- Arsenic (at least once)
- Lead (at least once)

<20%

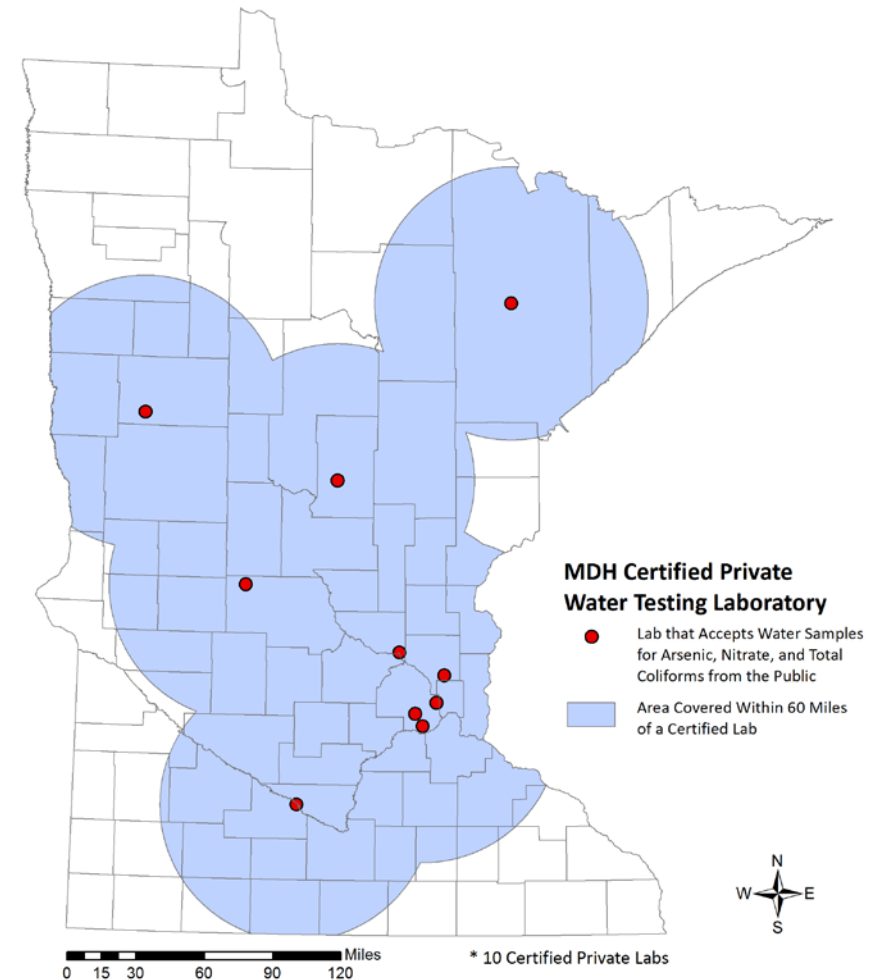
tested at recommended frequency

Selected as “very important” to prompt testing	%
Doctor’s recommendation	59
Infant/young child in home	50
Well testing event in my community	50
Town official’s suggestion	31
News article about testing	21



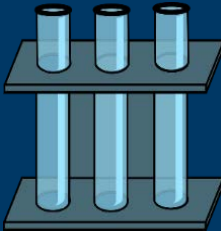

# Key findings: well testing preferences

Preference	%
Local Location	43
Website & mail	31
Phone & mail	21
Other	6

MDH Certified Private Water Testing Laboratories Accepting Public Samples for Safe Drinking Water Analytes, August 2017



# Key findings: habits and preferences

	Where people look for water quality information	How people would like to pick up and return a test kit
<b>&lt;50 years old</b> <b>College degree +</b> <b>Higher income</b>	 Internet	 Order online & return by mail
<b>&gt;50 years old</b> <b>Less than two year degree</b> <b>Lower income</b>	 Water testing laboratory	 Pick up & drop off at local spot



# Next steps: our assessment

## Are private well users taking action to ensure safe drinking water?

- 34% took no action when action was recommended
- Less than 20% report testing on the schedule MDH recommends

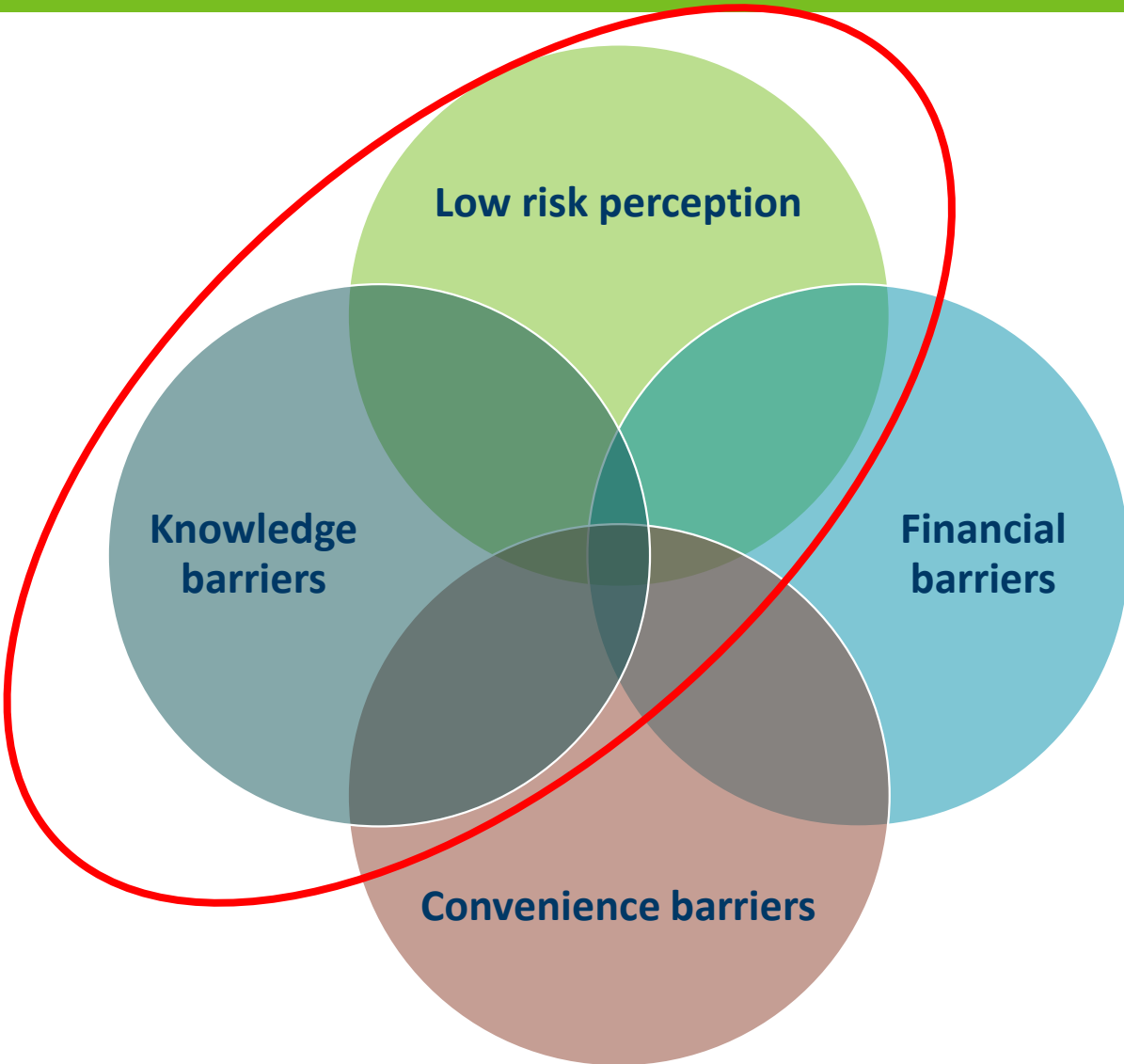
## Is our current outreach 'system' adequately reaching and serving private well users?

- Low reported risk perception
- Requests for more local options



Room for  
improvement

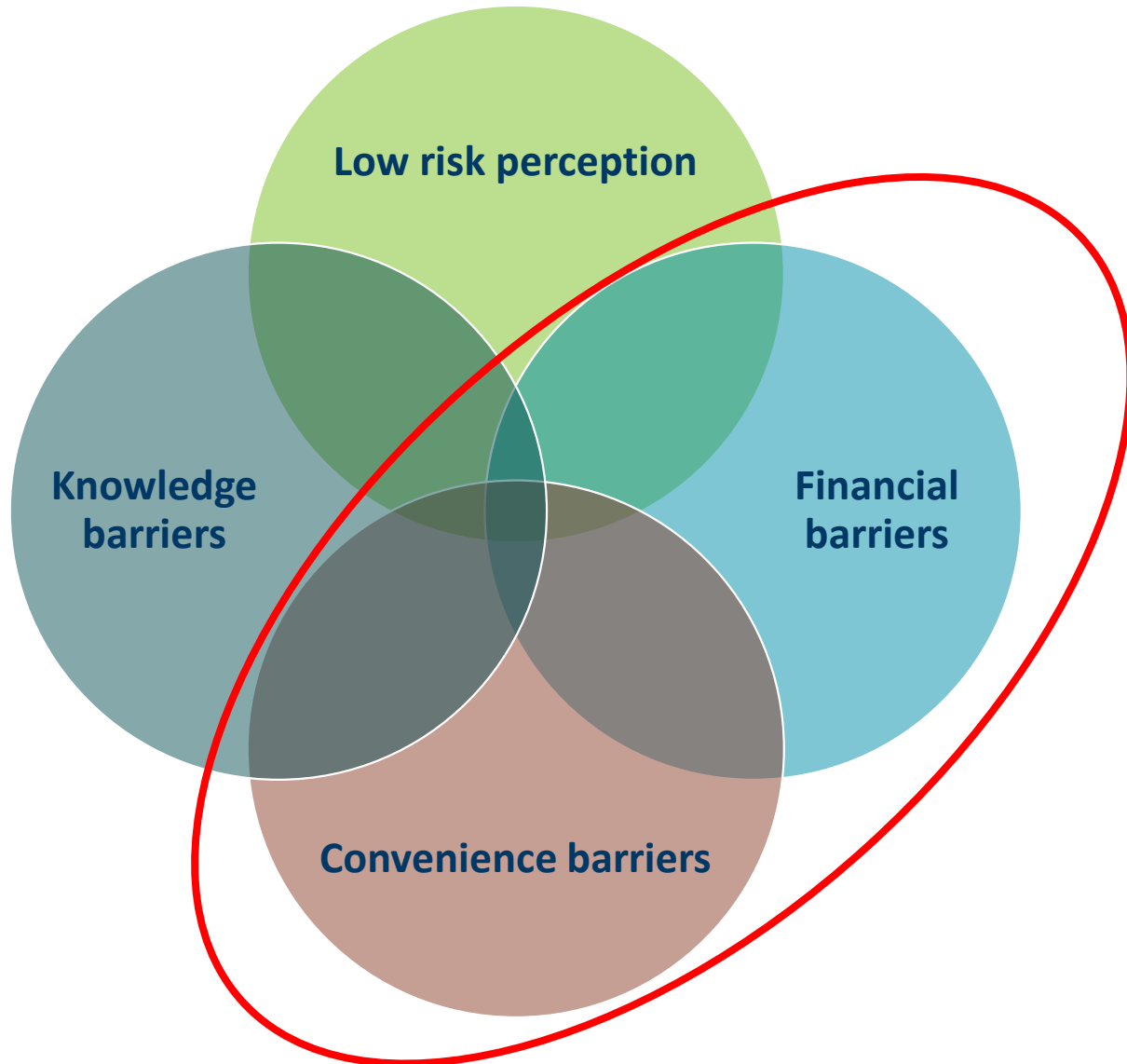
# Next steps: barriers & current efforts



## Current Efforts

- Raise awareness
- Increase accurate risk perception
- Make information more accessible

# Next steps: barriers & future efforts



## Future Efforts Include

- Make testing and treatment more affordable
- Make testing more accessible



# Questions?

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