

Arsenic Water Testing Advice and Testing Behaviors Among NH Women Who Gave Birth in 2013-2017

The New Hampshire Pregnancy Risk Assessment Monitoring System (NH PRAMS) collects data on a variety of topics related to maternal health. This report is based on five years of data which is weighted to represent the experiences of all NH women who had a live birth from 2013-2017.

Arsenic in Drinking Water

Arsenic is a naturally occurring element found in rock and soil throughout the world. Unusually high levels of naturally occurring arsenic are found throughout New England, the Rockies, and the Southwest. Water obtained from wells in these areas may contain high concentrations of arsenic which has leached from the bedrock into the groundwater.

Arsenic Exposure and Pregnancy

Exposure to high concentrations of arsenic during pregnancy may cause a variety of adverse health effects including low birth weight.¹ Arsenic exposure has been associated with increased risk of developing skin, bladder, and lung cancer, neurological disorders, and cardiovascular disease with increased vulnerability in those with early life exposure.²

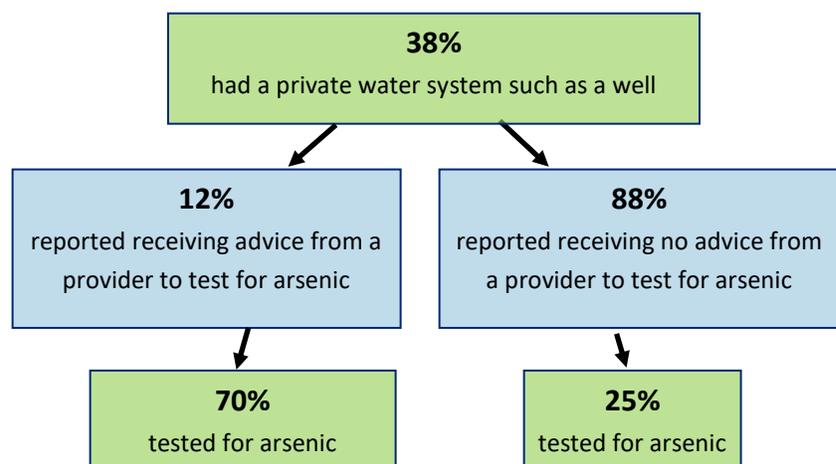
Private Water System Testing During Pregnancy

It is estimated that just under half of the population in New Hampshire obtains their drinking water from private wells and that one in five of those wells contains arsenic.³ Pregnancy is a time when health care providers have frequent contact with women who may be unaware of the importance of having private wells tested.

Advice from Health Care Providers May Positively Influence Private Water Testing Behaviors

Health care providers have an important opportunity to educate pregnant women about the risks of arsenic in drinking water and to encourage the testing of private water systems for the benefit of the mother, her infant, and her entire family. Among NH women who gave birth during 2013-2017, 38% had a private water system and less than 1/3 of those had their water tested for arsenic during the 12 months before delivery.

Among NH Women Who Gave Birth in 2013-2017



A significantly higher percentage of those whose health care provider recommended that they test their private water system for arsenic reported having their water tested (70%) than those who did not receive advice from their provider to test their private water system (25%).

Resources

NH Department of Environmental Services Well Testing Program: https://www.des.nh.gov/organization/divisions/water/dwgb/well_testing/index.htm
Dartmouth Toxic Metals Superfund Research Program: <https://www.dartmouth.edu/~toxmetal/arsenic/index.html>

¹ Gilbert-Diamond, D., Emond, J. A., Baker, E. R., Korrick, S. A., & Karagas, M. R. (2016). Relation between in Utero Arsenic Exposure and Birth Outcomes in a Cohort of Mothers and Their Newborns from New Hampshire. *Environmental Health Perspectives*, 124(8), 1299-1307. doi:10.1289/ehp.1510065 ¹

² Nachman, K. E., Ginsberg, G. L., Miller, M. D., Murray, C. J., Nigra, A. E., & Pendergrast, C. B. (2017). Mitigating dietary arsenic exposure: Current status in the United States and recommendations for an improved path forward. *The Science of the total environment*, 581-582, 221-236.

³ Environmental Topics. (n.d.). Retrieved from <https://www.nh.gov/epht/environmental-topics/drinking-water.htm>

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