A Better Way to Ensure Safe, Potable Water

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Guidance on Clarifying Potable Water Definition

Guidance to be developed with NH Building Code Officials, NH Health Officers, and NH Planners Association.

Will focus on a more specific local standard and associated permits/polices changes.

Timeline - Done by December 2013; published & distributed through associations.


States
- require testing at sale of home

Local governments
- Provide info about local GW conditions, recommendations for testing
- Tests should be convenient, free or inexpensive

Pediatricians
- Ask patients about private well use
- Recommend testing according to algorithm


When people who hadn’t tested their water were asked, “Why haven’t you tested water from your well?” the top ten reasons they gave were...

1. We’ve been drinking it for years – 53%
2. Didn’t know what to test for – 41%
3. Don’t know how to test – 35%
4. It’s probably fine – 25%
5. Didn’t know I should test it – 17%
6. Testing costs too much – 17%
7. I’ll wait for others to find problems – 12%
8. Dealing with problem would be too costly – 12%
9. Missed the testing program – 8%
10. I don’t want to know – 8%

Source: (Barbara Liukkonen, U of MN Extension; Lori Severtson, School of Nursing, UW-Madison; Ruth Kline Robach, Institute of Water Resources, MSU-East Lansing, 2008)

We care about our health

Probability of Risk Ranking at 5 PPB or >

1. Barrington
2. Bow
3. Brentwood
4. Chichester
5. Concord
6. East Kingston
7. Epsom
8. Goffstown
9. Hampton Falls
10. Hills
11. Kensington
12. Londonderry
13. Loudon
14. New Boston
15. Pelham
16. Pembroke
17. Rochester
18. Rollinsford
19. Stratham
20. Weare

“USGS scientists find that widespread occurrence of low-level arsenic is likely in New Hampshire” (2013)

Risk Perception & Well Water

IPC Definition of Potable Water: “Water free from impurities in quantities sufficient to cause disease…”
* NH doesn’t have a clear definition of potable water
* Exposure to contaminants in groundwater have harmful effects.
* Statewide action to test and treat well water is not likely in the near-term
* Defining potable water is a first step to reducing exposure (through testing and treatment)

* Mitigating Health Risk & Defining Potable Water

* 520,000 (est.) residents use private wells.
* No evidence of widespread voluntary water quality testing by well owners.
* Risk of exposure to natural and anthropogenic contaminants.

* 40% of NH Rely on “Private” (domestic) wells

* Private wells: Contaminants and Testing in NH
  * 1 in 5 private wells expected to exceed the health-based standard for arsenic. (100,000+ people)
  * No state requirements to test when a well is installed, property transferred or when a building is to be occupied.
  * Only a handful of municipalities have any well testing requirements (Salem, Pelham, Windham, Bow)

* How may this affect our health?

* Chronic exposure to Arsenic - Bladder cancer and other diseases...

* New privately owned housing units authorized
  * New Hampshire 229 (all units 2012)
  * http://www.nhnea.org/construction/hh/sustain/annual.html

* New private wells drilled, 1998-2012

* Every year new bedrock wells are drilled. Potable?
What is potable water?

It meets quantifiable health-based (MCL) standards set by DES/EPA for specific contaminants (like arsenic).

If not, it is treated to reduce contaminants using appropriate treatment technology.

Define potable water in measurable terms

IPC Definition of “Potable Water”: “Water free from impurities in quantities sufficient to cause disease...huh”

What impurities? How “free from impurities”?

How to define Potable Water?

Guide municipalities to define “potable” as (at a minimum) meeting all DES recommended tests (16 analytes) AND - Additional parameters based on local “circumstances” (nearby contamination, land uses, etc.)

What if Water Doesn’t Meet Standards? Treatment

In medieval times, ale was safer to drink than (treating water through fermentation was common practice)

Treatment - “point of use” or “whole house” to MCL standards

Treatment - either “point of use” or “whole house” to MCL standards

Building permit - Could address whether there is adequate amount of water with a “pump test” done by a licensed hydrologist.

Building Permit (with pump test attached)
The Town of Salem requires water supplies in new construction to meet water quality standards before obtaining a certificate of occupancy.

The testing requirement also applies to replacement wells. (Town of Salem Disposal Systems and Wells §253-10 D)

The town’s subdivision regulations require the applicant to present evidence of suitable water supply to the code enforcement officer indicating adequate potable water to supply the foreseeable needs of the subdivision prior to a building permit. Town of Wakefield, New Hampshire: “Subdivision Regulations” and “Subdivision Plan Application”

http://www.wakefieldnh.com/Forms.htm

Where in the Process? (Test/Treat)

Questions!