

# MEMORANDUM

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**DATE:** November 1, 2022

**TO:** Honorable Chris Sununu, Governor  
Honorable Sherman Packard, Speaker of the House  
Honorable Chuck Morse, President of the Senate  
Honorable Paul C. Smith, House Clerk  
Honorable Tammy L. Wright, Senate Clerk  
Michael York, State Librarian

**FROM:** Hon. Mindi Messmer, Chair

**SUBJECT:** Interim Report of the Commission to Study Environmentally Triggered Chronic Illness RSA 126-A:73-a (SB 85, Chapter 229:2, Laws of 2019)

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Pursuant to RSA 126-A:73-a (SB 85, Chapter 229:2, Laws of 2019), please find enclosed the interim report for the Commission to Study Environmentally Triggered Chronic Illness. This report details the progress and recommendations of the Commission thus far.

If you have any questions or concerns about this report, please do not hesitate to contact me.

Sincerely,

Hon. Mindi Messmer  
Chair

Attachment A: Reports on Data Sharing (DHHS and DES, 2022)  
Attachment B: Meeting Minutes

**COMMISSION TO STUDY ENVIRONMENTALLY-TRIGGERED CHRONIC  
ILLNESS**

*establishing the commission to study environmentally-triggered chronic illness.*

**INTERIM REPORT**

11/1/2022

**Overview:**

Active Statutory Committee (2019)  
SB85  
Effective Date: 7/12/2019

Chapter Law: 229:2  
RSA Chapter: 126-A:73-a  
Final Report Due: 11/1/2024

**Membership:**

Representative Jeffrey Salloway – House  
Representative Betty Gay – House  
Representative Gary Woods – House  
Senator Denise Ricciardi– Senate  
Karen Craver – NH DES  
Dan Tzizik, PA – NH Medical Society  
Margaret DiTulio – NH Nurse Practitioner Assoc  
Honorable Nancy Murphy– House  
Senator Tom Sherman  
Dr. Kathleen Bush – DHHS  
Amy Costello – IHPP  
Robert Timmons – NHHA  
Dr. Louis Kazal, NH Medical Society  
Mindi Messmer, Chair – Community Member appt by the President of the  
Senate

## **Charges of the Commission:**

(a) The commission's study shall include, but not be limited to:

1. Determining which entities may report confirmed cases of chronic conditions or other health-related impacts to the public health oversight program.
2. Recommending ways to alert public health officials regarding higher than expected rates of chronic disease or other health-related impacts which may be related to exposures to unrecognized environmental contaminants.
3. Recommending a method to inform citizens regarding programs designed to manage chronic disease or other environmental exposure health-related impacts.
4. Recommending data sources and a method to include data compiled by a public or private entity to the greatest extent possible in the development of the public health oversight program.
5. Defining by codes, the health status indicators to be monitored, including chronic conditions, medical conditions, and poor health outcomes.
6. Studying current health databases, including years available, the potential for small area analysis, and privacy concerns.
7. Researching currently existing health data reports by agency, bureau, or organization.
8. Creating a model of desired data outputs and reports for chronic conditions and other health-related impacts.
9. Identifying the gaps between what currently exists and the model output.
10. Recommending the organizational structure responsible for the oversight function and mandatory reporting requirements.
11. Reviewing results of stages 1, 2, and 3 of the pilot study recommended by the previous commission established by 2017, 166 and identifying changes to subparagraphs (8), and further identifying items in (9) and (10).
12. Identifying technology system changes necessary to carry out the charge of the commission.
13. Collaborating with the National Institutes of Health, the United States Environmental Protection Agency, and the Centers for Disease Control and Prevention to develop protocols for the department of health and human services to educate and provide guidelines for physicians and other advanced health care practitioners to identify and evaluate appropriate diagnostic screening tests to assess health effects from exposure to emerging contaminants.
14. Collaborating with the National Institutes of Health, the United States Environmental Protection Agency, and the Centers for Disease Control and Prevention to develop protocols for programs to streamline education and outreach to healthcare providers about how to implement the guidelines specified in subparagraph (13). The protocols shall include

education relative to methods to reduce further exposures and eliminate contaminants if effective methods are available.

15. Recommending legislation, as necessary, to carry out the charge of the commission.

(b) The commission shall solicit information from any person or entity the commission deems relevant to its study.

(c) The commission may, with input from a state agency or agencies, decide whether additional appropriations are necessary to complete the work of the commission. The commission may recommend additional appropriations for approval by the general court.

DRAFT

## **Overview and Progress:**

*Please note that members of the Commission on Environmentally Triggered Disease agree to the filing of this interim report by the Chair. This action should not be construed in any way as the adoption of any agency or organization positions.*

*This report builds on information and findings documented in prior Interim Reports of the HB511 and the extension (SB85) Commissions.*

## **Meetings of the SB85 Commission**

The SB85 Commission met 6 times in 2022. Meeting minutes for the April 1, May 12, June 6, July 8, August 12, and September 16, 2022, meetings are provided in Attachment B.

In April 2022, Senator Sherman stepped down as Chair and the commission confirmed Hon. Mindi Messmer as new chair and Hon. Nancy Murphy as Vice Chair.

The commission meetings included agency presentations on data sharing progress reports (Attachment A) and the progress of efforts to reinstate a memorandum of agreement between the DHHS and DES for data sharing.

The commission heard presentations from Rep. Rosemarie Rung and Rep. Chuck Grassie regarding cyanobacteria and lead issues, respectively in July 2022.

In August 2022, the commission heard a presentation by Dr. Frank Bove, a 35-year environmental epidemiologist with significant history working with cancer cluster investigations in the federal government. Dr. Bove worked on cluster investigations – Fallon NV childhood leukemia cluster, Brick Twp, NJ childhood autism cluster, and Toms River, NJ childhood leukemia and brain/CNS cluster. He was also on the committee that prepared the CDC cancer cluster guidelines published in MMWR in 2013. The presentation was followed by a presentation by Senator Riccardi, supported by Rep. Woods on 5G technology and public health.

In September 2022, the commission heard a presentation by Alina Peluso, of Oak Ridge National Laboratories regarding environmental determinants of health and environmental indices followed by a presentation by Joe Tuccillo, of Oak Ridge National Laboratories. Dr. Tuccillo presented on UrbanPop, a spatial microsimulation framework that supports the assessment of environmental hazards, public health, and energy/mobility.

## **Education Subcommittee**

A primary goal of the Commission’s Education Subcommittee has been to find a cost-effective approach to directly educating NH clinicians on the issue of groundwater contamination by per- and poly-fluoroalkyl substances (PFAS) and other natural and man-made chemicals. In keeping with this objective, on Friday, April 8, 2021, a workshop session entitled “Perfluoro: What? An Introduction to Forever Chemicals and Implications for Community Practice” was presented to 50 nurse practitioners at the Northern New England Nurse Practitioner Conference. Dr. Jonathan Petali, Environmental Toxicologist (NHDES), former NH Representative Nancy Murphy, and Amanda Cosser, Administrator Biomonitoring Program (NHHHS) provided this ninety-minute educational session. As there was robust interest in this session, this same group will be presenting at a full plenary session at the 2023 Conference.

## **Data Subcommittee**

A primary goal of the Data Subcommittee is to focus on the systems and data needed to and make legislative recommendations to support the goals of the commission.

### **I. Data Subcommittee Uncompleted Tasks**

Going forward, the data subcommittee will develop recommendations related to the following core topics: Surveillance, Reporting, Communications, and Capacity Building

### **II. Data Subcommittee Recommendations**

Community engagement needs to include an iterative feedback loop to gather and address Community Concerns. It is important for environmentally contaminated communities to be well-informed and have a seat at the table when decisions are/will be made that impact them. Beyond the duty to educate and inform NH citizens about the environmental contamination that may also impact public health, is another that is equally important to consider. It is important that communities impacted by environmental contamination be able to count on the direct responsiveness of state environmental and public health agencies to collective citizen concerns and needs. Ongoing and mutual conversation and responsiveness between local and state government and NH citizens are key.

### **Suggestions for Future Presentations:**

- DOE Presentation on special needs education in NH.
- Air quality in schools.
- Lead in drinking water in schools.

Members of the subcommittee began addressing the need to create an NH-centered database of environmental threats and environmentally triggered diseases based on the list maintained by the National Institute of Health (NIH) until 2017 (see Table 1). The subcommittee continues to develop the NH-centered list.

**Table 1. NIEHS Summary of Disease or Condition and Environmental Toxin**

Disease or Condition	Subtype Diagnosis	Environmental Toxin(s)
Asthma	Asthma	Air pollution, ozone, fine particulates, allergens
Autism	n/a	Air pollution,
Autoimmune diseases (i.e., Lupus)	Diabetes Lupus Multiple sclerosis Rheumatoid Arthritis Celiac disease	Solvents Smoking Silica Mercury
Cancer	Breast cancer Endometrium Kidney Colon Lung Esophagus	Acrylamide (fried food) Aristolochic acids (herbals) Tobacco Obesity Pesticides Solvents Silica Dioxins PAHs Arsenic Beryllium
Lung disease	COPD	Tobacco Allergens Air pollution Asbestos
Obesity (Obesogens)		Tobacco Tributyltin Pesticides PCBs Phthalates Flame retardants
Parkinson's disease		Pesticides DDT
Reproductive Health		Lead Mercury

In 2020, the New Hampshire Department of Health and Human Services (NH DHHS) established the Enterprise Business Intelligence (EBI) Platform - a department-wide information technology solution that includes a Data Warehouse and internal and external data dashboards (See Figure 1). It is an Oracle-based system and links to R Studio and Tableau. We currently have several server-based environments that allow new content to move from development to production. NH's work in this area directly aligns with CDC's Data Modernization Initiative to build a strong IT infrastructure and accelerate data to action. We share the vision that investments in Data Modernization will produce a public health system that utilizes timely, relevant, and actionable data to meet program goals.

## DHHS Enterprise Business Intelligence (EBI) Platform

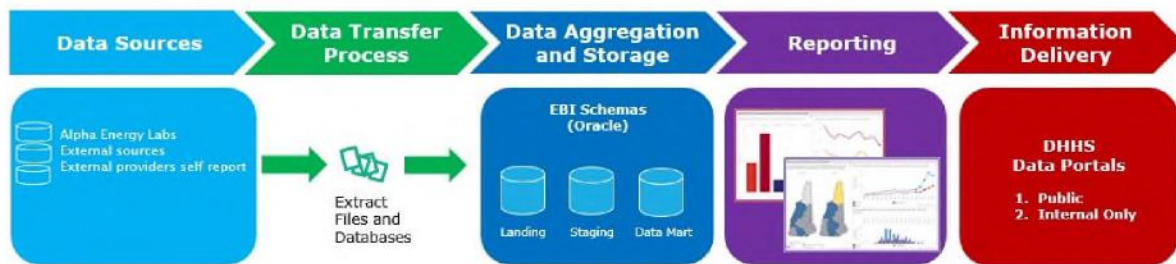


Figure 1 EBI Schematic

The agencies continue to work collaboratively with partners to access, analyze, and interpret data. Through this collaboration, we will continue to coordinate and support the Data Portal, which includes the EPHT Portal focused on environmental health-specific exposures and outcomes. The data portal is the primary conduit to share data for exploratory services, including our recently launched town-level well water quality and childhood lead poisoning dashboards, as well as our flagship small area project the Community Health Outlooks, which included an interactive map that links to 200 Community Reports with over 35 metrics summarizing population health. The DHHS Data Portal can be accessed here:

<https://wisdom.dhhs.nh.gov/wisdom/>.

The DHHS and DES progress reports on data sharing are provided in Attachment A.

### Progress on 2022 Recommendations

1. While the agencies represent continued efforts to finalize a new interagency memorandum of agreement to share data, as of October 21, 2022, an agreement has not been finalized.
2. Review the resource bill (2019 SB81) for staffing, etc. previously submitted by Senator Sherman (not completed).
3. The commission supports efforts to inform communities impacted by environmental contamination with direct responsiveness by state environmental and public health agencies responsive to collective citizen concerns and needs.
4. Request presentation on lead in schools update during next year.

### **The following recommendations are made for NH Legislative actions:**

1. File legislation to create a state-wide registry to collect and monitor health impacts cited in scientific literature as being linked to PFAS exposure. The registry will not contain patient identifiers.



2. File legislation to create a feasibility study to understand how existing health data collection processes can be leveraged to collect data of PFAS-linked health impacts.
  3. Resubmit legislation (HB1356 2018) requiring agencies to enter into a memorandum of agreement to enable cross-agency data sharing.
1. Support resubmission of a resource bill like SB81 2018 for agency staffing, etc. to support goals of this commission.

**The following non-legislative recommendations are made:**

1. Evaluate EPA Interim Health Advisory, anticipated EPA MCLs to issue in the next 12 months, and other scientific studies and standards to develop recommendations for MCL/AGQS standards for PFAS compounds in addition to PFOA, PFOS, PFHxS, and PFNA and or develop recommendations for aggregate MCL/AGQS standards for PFAS compounds.
2. Continue to support data modernization efforts and enhance environmentally triggered illness tracking, surveillance, and data sharing across agencies.
3. Support healthcare provider education efforts to nurses, and extend to nursing associations, physicians, hospital staff, and other healthcare providers.
4. Request agencies to present on findings on lead in school drinking water in response to HB 1421.
5. Request agencies to reporting on cancer incidence rates in southern NH communities, in addition to Merrimack, that are impacted by PFAS exposure.
6. Continue outreach efforts to the Board of Education to provide a presentation to the commission on special education spending, facility upgrades, including school drinking water and ventilation.

**AN ACT reestablishing the commission to study environmentally-triggered chronic illness.**

**SB85, Chapter 229, 126-A:73-a, Laws of 2019**

Meeting Minutes

Friday, April 1, 2022, Meeting

The meeting was called to order by Senator Sherman at 12:12pm.

Roll Call determined that a quorum was met.

Attendance: Sen. Sherman (Chair)

Sen. Ricciardi

Margaret Ditulio (NHNPA)

Hon. Mindi Messmer (Virtual Attendance Appointed by Community member)

Dr. Kathleen Bush (NHDHHS)

Karen Craver (NHDES)

Rep. Gary Woods

Hon. Nancy Murphy

Absent: Rep. Jeffrey Salloway

Rep. Betty Gay

Amy Costello (IHPP)

Robert Timmons (NHHA)

Rep. Nelson

Chairman Senator Sherman asked to review the minutes from the last meeting – Seconded by Representative Gary Woods.

Karen Craver (NHDES) corrected minor changes in the minutes to strike DHHS and replace with DES and in place of contamination to contaminate. Minutes were accepted by voice roll call 7 yes and 1 abstain Senator Ricciardi.

Senator Sherman asked to the start the presentation by Karen Craver. Karen started by stating data sharing and other collection plus a memorandum of understanding (MOU) is in place. Still pursuing better integrated data.

Then Dr. Bush cited the submission of the NH DHHS' 6<sup>th</sup> Progress Report to the SB85 Commission on data sharing and partnering with DES (attached). Dr. Bush spoke about the dashboard created to share baseline knowledge about water quality.

Senator Sherman announced that he needs to step down from his role as chair due to his run for Governor and he will no longer be in the Senate and asked if we would agree to appoint Hon. Mindi Messmer as Chair and Hon. Nancy Murphy as Vice Chair. He will attend when he can. It was voted 6 yes and 2 agency representatives abstained due to conflict of interest.

Meeting adjourned @ 1:43pm.

**AN ACT reestablishing the commission to study environmentally-triggered  
chronic illness.**

**SB85, Chapter 229, 126-A:73-a, Laws of 2019**

Meeting Minutes

Friday, May 12, 2022

- A. Roll Call
  - Hon. Messmer (Chair)
  - Sen. Ricciardi
  - Margaret DiTulio (NHNPA)
  - Dr. Kathleen Bush (NHDHHS)
  - Karen Craver (NHDES)
  - Rep. Gary Woods
  - Hon. Nancy Murphy
  - Sen. Sherman
  - Rep. Jeffrey Salloway
  - Rep. Betty Gay
  - Amy Costello (IHPP)
  - Robert Timmons (NHHA)
  - Rep. Nelson
  
- B. Discussion of prior meeting summary
- C. Update from NHDHHS/NHDES
- D. Review of SB85 Commission Charge
- E. Discussion of Activities Moving Forward
  - a. Future Presentations
  - b. Subcommittees, membership
    - i. Education
      - 1. Rep. Salloway (chair)
      - 2. Others...?
      - 3. Physician Education
      - 4.
    - ii. Data
      - 1. Mindi Messmer (chair)
      - 2. Amy Costello
      - 3. Katie Bush
      - 4. Hon. Nancy Murphy
      - 5. Rep. Woods
      - 6. Mr. Timmons (on leave)
  - c. Legislative Initiatives – Subcommittee?
  - d. Chronic Disease Repository
- F. Meeting Adjourned

**AN ACT reestablishing the commission to study environmentally-triggered  
chronic illness.**

**SB85, Chapter 229, 126-A:73-a, Laws of 2019**

Meeting Minutes

Monday, June 6, 2022

A. Roll Call

Attendance: Hon. Messmer (Chair)  
Sen. Ricciardi (Senate)  
Margaret DiTulio (NHNPA)  
Dr. Kathleen Bush (NHDHHS)  
Karen Craver (NHDES)  
Rep. Gary Woods (House)  
Hon. Nancy Murphy  
Sen. Sherman (Senate)  
Rep. Jeffrey Salloway (House)  
Rep. Betty Gay (House)  
Amy Costello (IHPP)  
Robert Timmons (NHHA)

B. Discussion of prior meeting summary

C. Update from Peg DiTulio on Education Outreach Survey (15 mins)

D. Update from NHDHHS/NHDES

- a. Karen Craver Data EH Guide and Exposure Spreadsheet Update (15 mins)  
EH Guide info:

<https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/nh-ehg.pdf>

- b. EBC update from Amy and Katie
- c. Cyanobacteria/ALS Presentation

E. Subcommittee Updates

a. Education

- i. Rep. Salloway (chair)
- ii. Others...?
- iii. Physician Education
- iv. Legislative Initiatives – Subcommittee?
- v.

b. Data

- i. Mindi Messmer (chair)
- ii. Amy Costello
- iii. Katie Bush
- iv. Hon. Nancy Murphy
- v. Rep. Woods
- vi. Legislative Update

c. Chronic Disease Repository

F. Meeting Adjourned.

**AN ACT reestablishing the commission to study environmentally triggered chronic illness.**

**SB85, Chapter 229, 126-A:73-a, Laws of 2019**

Meeting Minutes

Friday July 8, 2022

- A. Attendance
  - a. Non. Mindi Messmer
  - b. Rep. Jeff Salloway
  - c. Peg DiTulio
  - d. Rep. Chuck Grassie
  - e. Amy Costello
  - f. Senator Riccardi
  - g. Katie Bush
  - h. Nancy Murphy
  - i. Rep. Rosemarie Rung
  - j. Rep. Gary Woods
- B. Update from Peg DiTulio on NPA Education plans
- C. Update from NHDHHS/NHDES on MOA
  - a. MOA expired June 30th
  - b. Other update on dashboard?
- D. Legislative Updates
  - a. Lead legislative update – Rep. Chuck Grassie
    - i. \$34M will be available to remediate school drinking water
    - ii.
  - b. Cyanobacteria/PFAs Legislation - Rep. Rung
    - i. Shoreline septic systems
    - ii. ALS and other neurological diseases
    - iii. Connection to climate change
    - iv. BMAA exposure Dr. Stommel, Dartmouth ALS research Mascoma Lake
    - v. Cyanobacteria fund
    - vi. Address PFAS breakthrough PFBA
  - c. Legislation in fall
- E. Subcommittee Coakley landfill
  - a. Rep Meuse
- F. Rep Salloway comments
  - a. Reorganize to prevent not just mitigate
  - b. Regional effort with other states
- G. Meeting Adjourned at 12:15PM.

**AN ACT reestablishing the commission to study environmentally triggered  
chronic illness.**

**SB85, Chapter 229, 126-A:73-a, Laws of 2019**

Meeting Minutes

Friday August 12, 2022

- A. Attendance
- B. NHDHHS/NHDES updated on MOA – according to Katie Bush and Karen Craver, MOA between NHDHHS and NHDES still being discussed.
- C. Presentation by Dr. Frank Bove, 35-year environmental epidemiologist, significant history working with cancer cluster investigations in federal government. Dr. Bove worked on cluster investigations – Fallon NV childhood leukemia cluster, Brick Twp, NJ childhood autism cluster, and Toms River, NJ childhood leukemia and brain/CNS cluster. He was also on the committee that prepared the CDC cancer cluster guidelines published in MMWR in 2013.
- D. Presentation by Sen. Riccardi on 5G
- E. Subcommittee Coakley landfill
  - a. Rep Meuse
- F. Legislative Update/Tracking
  - a. Lead legislative update – signed into law
    - i. \$34M will be available to remediate school drinking water
  - b. Legislation in fall
    - i. MOA
    - ii. Other?
- G. Meeting Adjournment

**AN ACT reestablishing the commission to study environmentally triggered  
chronic illness.**

**SB85, Chapter 229, 126-A:73-a, Laws of 2019**

Meeting Minutes

Friday September 16, 2022

- A. Attendance
- B. NHDHHS/NHDES update on MOA and progress report.
- C. Presentation by **Alina Peluso**, Oak Ridge National Laboratories. Environmental Determinants of Health – Environmental index
- D. Presentation by **Joe Tuccillo**, Oak Ridge National Laboratories, UrbanPop, a spatial microsimulation framework that supports assessment of environmental hazards, public health, and energy/mobility.
- E. Subcommittee Coakley landfill – update Rep. Meuse
- F. Legislative Update/Tracking
  - a. Legislation in fall
    - i. Incumbent filing period – ends 9/16
      - 1. MOA
      - 2. Other?
- G. Meeting Adjourned 4:41PM.



The State of New Hampshire  
**Department of Environmental Services**



**Robert R. Scott, Commissioner**

September 2, 2022

Hon. Mindi Messmer, Chair  
C/O Senator Thomas Sherman  
Commission to Study Environmentally-triggered Chronic Illness  
State House  
Room 107  
107 North Main Street  
Concord, NH 03301

**Re: *Report on Data Sharing between the New Hampshire Departments of Health and Human Services (DHHS) and Environmental Services (DES)* (RSA 126-A:76, III) Chapter 229:5**

Dear Ms. Messmer:

As required by SB 85 (2019), an act reestablishing the Commission to Study Environmentally-Triggered Chronic Illness, please find attached a report that summarizes recent efforts by DHHS and DES that demonstrates our commitment to collaboration and data sharing as required under paragraph 1.

The following documents are enclosed:

- SB 85 DHHS/DES 7<sup>th</sup> Progress Report

The Department staff will be available to answer questions about the report to the Commission to Study Environmentally-triggered Chronic Illness at the October meeting or at another future meeting as determined by Commission members and staff availability. A copy of the report will be provided to all Commission members electronically to allow review in advance of the meeting.

Respectfully Submitted,

Patricia Tilley, Director  
Division of Public Health Services

Craig A. Wright, Director  
NHDES Air Resources Division

[www.des.nh.gov](http://www.des.nh.gov)

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(603) 271-3503 • Fax: 271-2867 TDD Access: Relay NH 1-800-735-2964



# 7<sup>th</sup> Progress Report for SB85

Submitted by:

New Hampshire Department of Health and Human Services  
Division of Public Health Services

&

New Hampshire Department of Environmental Services

September 2022

## Introduction

This is the seventh report related to Senate Bill (SB) 85 (2019), which directs the New Hampshire (NH) Department of Environmental Services (DES) and the Department of Health and Human Services (DHHS) to improve coordination and collaboration as it relates to environmental health, with a specific focus on data sharing.

## Background

Senate Bill (SB) 85 (2019), re-established a legislative commission to study environmentally-triggered chronic illness. The objectives of SB85 build on previous work related to House Bill (HB) 511 (2017) and HB 1356 (2018). The work of this Commission is focused on conducting environmental health surveillance and improving coordination and collaboration between DES and DHHS to allocate resources efficiently to reduce exposure to environmental contaminants and prevent disease.

The SB 85 Statement of Intent reads as follows: “The general court recognizes that nearly half of adults in the United States have at least one chronic health condition and chronic diseases are responsible for increased health care costs. Seventy percent of health care costs in the United States are for chronic diseases. Some chronic diseases are known or thought to be associated with environmental causes. According to the Centers for Disease Control, the state of New Hampshire has the highest rates of people with bladder, breast, esophageal, and pediatric cancer in the country. In addition, a double pediatric cancer cluster was identified in the seacoast of New Hampshire in 2014. Therefore, the general court hereby establishes the commission to study environmentally-triggered chronic illness.”

HB 511 (2017) established a legislative commission to study environmentally-triggered chronic illness.

HB 1356 (2018) charged DES and DHHS to develop and implement a method by which the departments share certain health outcome and environmental data. The HB 1356 Preliminary Report submitted in August 2018 includes more information on the status of the activities listed below.

Specifically, the departments were tasked to:

- Update a memorandum of agreement related to data sharing.
- Sign a joint standard operating procedure on how data layers can be shared between the two departments to identify linkages between environmental contaminants and health outcomes.
- Hold a presentation on the departments' ongoing, joint efforts under the Centers for Disease Control and Prevention environmental public health tracking cooperative agreement; and
- Compile a report describing and estimating the cost to perform a 2-way pilot project between the departments on arsenic in drinking water, where both health effects and environmental data exist.

## Updates from NH Department of Health and Human Services (NH DHHS), Division of Public Health Services (DPHS)

### Biomonitoring NH Program

BiomonitoringNH, a program within the New Hampshire Division of Public Health Services (NH DPHS), Bureau of Public Health Laboratories, Chemistry Program, seeks to understand the environmental chemical body burden of NH residents. This goal is accomplished via three targeted investigations and one surveillance study with funding from the Centers for Disease Control and Prevention. Most recently, BiomonitoringNH collaborated with the United States Geological Survey (USGS), NH Environmental Public Health Tracking Program (EPHT), and the NH Department of Environmental Services (NHDES) on a targeted assessment of ten geographic areas in NH at increased risk for uranium groundwater contamination. The Evaluating Metals in Private Wells and people for Exposure Reduction - Uranium (EMPoWER-U) Study recruitment areas were identified using USGS modeling and hot spot analysis of test results from NH DPHS and NHDES.<sup>1,2</sup>

Uranium is a naturally occurring element present in NH groundwater due to the state's bedrock geology with potential for chronic health effects for those who consume contaminated water (kidney damage).<sup>3</sup> With close to half of the state's residents relying on unregulated private drinking water wells, exploring residential exposure to uranium and other metals via biomonitoring (testing urine) and paired environmental analysis (testing private well water) with the goals of understanding and reducing this exposure is a priority for BiomonitoringNH and its partners. The USGS, NH EPHT, and NHDES assisted BiomonitoringNH with population selection, water sampling, and funding water and air (radon) testing for this project.

The EMPoWER-U Study was launched late November 2021 and 271 people from 199 homes participated, just one home shy of the study goal of 200 households (20 homes from 10 targeted areas). Urinary arsenic speciation testing has been completed and urinary multi-element testing for a panel of 16 metals and metalloids is in progress. Water and air testing is mostly complete; however, many water results are still pending due to a detailed quality control process. BiomonitoringNH is working closely with the USGS and the NHDES on formatting the water quality information into easy-to-read reports, a process that has been moving forward over the past several months. The study was designed so that exposure to water contamination could be assessed in part by biomonitoring testing and so there is overlap between the panels (metals being assessed). BiomonitoringNH will work with the NHDES, the USGS, and the NH EPHT Section to analyze these paired data and look for associations between environmental exposure and body burden. The data gathered will help inform USGS modeling and NH DPHS educational interventions.

Home air radon testing was a unique addition to this project compared to previous BiomonitoringNH investigations and was provided through the support of the NH Radon Program. Radon is the decay product of uranium and it can cause chronic health effects. Radon gas exposure is the leading environmental cause of lung cancer for the US population with an excess of 100 NH resident deaths per year from this disease due to long-term radon exposure.<sup>4</sup> The EMPoWER-U Study will provide NH residents with important information on their risk of uranium, metals, and radon exposure and the data collected will serve the greater purpose of identifying which populations are most at risk for exposure in order to target education, prevention services, and develop best practices and legislation. BiomonitoringNH would be grateful to share findings from this study with the

Commission once the study is complete. Questions can be shared with Dr. Kathleen Bush or emailed to the program at [BiomonitoringNH@dhhs.nh.gov](mailto:BiomonitoringNH@dhhs.nh.gov).

BiomonitoringNH is also facilitating a new memorandum of understanding (MOU) with attached data sharing agreements (DSAs) for the NH DHHS and the NHDES. As previously mentioned, HB 1356 (2018) tasked the departments with signing a MOU for data sharing; however, it expired June 30, 2022. Due to the nature of the data that is often shared between the departments, which can contain personally identifiable information (PII) and the strict rule that NH DHHS must maintain federal Health Insurance Portability and Accountability Act (HIPAA) compliance, the DSAs are a new feature to this MOU and will take time to develop. Representatives from both departments have been meeting regularly as a workgroup and are collaborating with their informatics and legal teams as well as the NH DHHS Privacy officer to draft the MOU and DSAs.

## References

1. Exceedance Probability and Predictor Data for Uranium and Radon Concentrations in New Hampshire Groundwater, United States Geological Survey, <https://www.sciencebase.gov/catalog/item/60c0cdcd34e86b93894048b>.
2. Drinking Water - Private Well Water Quality, WISDOM Health Data Portal, New Hampshire Division of Public Health Services, <https://wisdom.dhhs.nh.gov/wisdom/index.html>.
3. Natural and depleted uranium – ToxFAQs, Agency for Toxic Substances and Disease Registry, <https://www.atsdr.cdc.gov/toxfaqs/tfacts150.pdf>.
4. Radon in Your Home – An overview for New Hampshire Homeowners, NH Department of Environmental Services, <https://www.des.nh.gov/sites/g/files/ehbemt341/files/documents/2020-01/dwgb-3-12.pdf>.

## Merrimack Cancer Investigation

In January 2018, the DHHS released a report of their analysis of cancer incidence in Merrimack, NH that was completed in response to community concerns related to the detection of perfluorooctanoic acid (PFOA) drinking water contamination. This report showed that cancers associated with PFOA were not higher in Merrimack when compared with the rest of New Hampshire.

In December of 2021, DHHS shared the results of an updated analysis of cancer incidence in Merrimack which showed a statistically significant excess of kidney cancer cases in Merrimack, when compared to the rest of the state. Results of these analyses were shared with the 737 Commission on the Environmental and Public Health Impacts of Perfluorinated Chemicals.

Slides from HB737 Commission Meeting on 12/6/21 available here:

<https://www.dhhs.nh.gov/dphs/cdpc/documents/737-dec102021-merrimackdata-final.pdf>

Recording of virtual community meeting on 1/27/22 available here:

<https://www.youtube.com/watch?v=Rx0bdocLUIU>).

In December 2021, the DHHS began convening the Cancer Concern Review Team (CCRT) for the purpose of guiding next steps of an investigation into the excess of kidney cancer in Merrimack, NH. The CCRT has worked to complete additional data analysis to complete the assessment phase of the investigation. As these analyses

are completed the CCRT will make a conclusion about whether to progress into determining the feasibility of conducting an epidemiological study.

This decision will be based on the following criteria:

<b>Decision to close the investigation at Step 2</b>
Are there enough cases and a large enough population for statistical stability? In general, the population size of a typical census tract is the smallest denominator that will allow reliable results to be generated.
If there is a large enough numerator for statistical stability, how likely is it that this SIR might have occurred by chance, assuming that the underlying incidence rates were not elevated (for example does the CI cross 1.0)?
Are there environmental contaminants and/or events that could be related to these cases?
Are there any population related issues (e.g., a substantial number of people moving into the community) that might in part explain the observed cancer excess?
Has there been an increase in the incidence rate of the specific cancer overtime? How many more observed cases are there than expected?
Are the demographic characteristics of these cases unusual for the type of cancer?

A draft report sharing the results of additional data analyses and decision-making is being reviewed internally and will be shared upon approval.

### NH Environmental Public Health Tracking (EPHT)

The NH Environmental Public Health Tracking Program is excited to announce that the program was refunded under a new 5-year Cooperative Agreement with CDC. In the last year, the EPHT program has launched two town-level dashboards focused on private well water quality and childhood lead poisoning. The program continues to build on previous projects to integrate data and explore environmental exposures and health outcomes across the State. Looking ahead, the program expects to launch new dashboards related to radiation monitoring and radon in air, and will also continue to focus on user testing and training to make sure that data products meet the needs of diverse stakeholders to support decision making and public health interventions.

### NH Environmental Health Conference

Through NH DES' collaboration with the Division of Public Health Services, ' Environmental Health Integration Team, steps have been taken to rebrand a NH based conference that had not met in person since 2019. This annual conference historically had focused on Healthy Homes, and through this new collaboration, NH DES will help sponsor the upcoming [Environmental Health Conference](#) scheduled for October 27, 2022. This 'in-person' conference will be a full day and is expected to draw an audience of an estimated 180 attendees. The agenda includes topic such as indoor and outdoor air quality, the built environment (radon, lead, carbon monoxide, mold, VOCs), climate and health, and environmental health policy.

## Updates from NH Department of Environmental Services (NH DES)

### NH Water Well-ness Initiative: Distribution of Filter Pitchers to Vulnerable Populations

NH DES, in cooperation with DHHS and the state's network of Women, Infant, and Children (WIC) clinics, is conducting a project to provide free water testing and filter pitchers to low-income pregnant women using private wells with elevated levels of contaminants. The project, known as NH Water Well-ness Initiative, is funded by the NH Drinking Water and Groundwater Trust Fund. Following a pandemic related delay, the pilot phase of the program, which was limited to WIC locations in Rockingham and Hillsboro counties, began in September of 2020 and ran through March 2022. Through the pilot, WIC services remained remote. Pandemic operations coupled with all that people are balancing through the pandemic impacted the level of participation.

Following the pilot-phase, the program was evaluated, and improvements were made based on lessons learned. Evaluation of the program included review of both process and outcomes, with qualitative and quantitative data collected through program records, as well as interviews with and surveys of WIC participants and WIC nutritionists. As a result of the evaluation, the program was expanded to address four additional contaminants including lead, copper, uranium, and manganese. Additionally, an address look up tool was created to assist WIC Nutritionists in identifying which WIC participants are drinking from private, un-regulated wells.

In April 2022, the Initiative was expanded state-wide, and WIC Nutritionists from all four regional offices were trained on how to implement the project for their pregnant participants. The project team continues to work on expanding the reach of the Initiative, as WIC offices have returned to in-person services, and WIC Nutritionists gain more experience with promoting the Initiative and enrolling their pregnant participants.

The program has gained local and national attention. The Association of Public Health Laboratories highlighted the program as an example of a promising Environmental Justice Practice in their association's journal in the summer of 2021. A researcher from the Prevention Research Center at the Harvard T.H. Chan School of Public Health has interviewed the project team for a series of briefs and an article that they are writing about strategies to improve safe drinking water in the homes of low-income families with young children. In addition, a staff member at Dartmouth Hitchcock Medical Center interviewed the team to learn more about the program so that they can consider implementation of a similar program among their patient population.

### ATSDR's (Agency for Toxic Substances and Disease Registry) Partnership to Promote Localized Efforts to Reduce Environmental Exposure (APPLETREE):

New Hampshire Department of Environmental Services (NHDES) was awarded a three-year cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR); the re-established APPLETREE program is now in the third year of its grant. APPLETREE stands for the Agency for Toxic Substances and Disease Registry's Partnership to Promote Local Efforts to Reduce Environmental Exposures; a formal partnership enabling us to be successful at our work is established between ATSDR, NHDES, and the Department of Health and Human Services, Division of Public Health Services (NH DHHS DPHS).

The team includes staff from both partnering NH agencies; we have expertise in health risk assessment, environmental health, toxicology, health education, community engagement, and project

management. APPLETREE's primary goal is to help reduce NH residents' exposure to hazardous chemicals, with a focus on National Priority List (e.g., Superfund) sites and other state and community identified sites. A component of the grant largely staffed by NH DHHS DPHS, Choose Safe Places for Early Care and Education (Choose Safe Places), is specifically focused on assuring safe siting of child care facilities. The goal of reducing exposure to hazardous chemicals is accomplished by identifying and assessing potential exposures, summarizing findings, developing health-based recommendations, and engaging community members to promote action to reduce exposure.

There have been several program activities and successes to date, all of which involved cross-agency collaboration as well as collaboration with partners external to state agencies. A few examples that highlight programmatic capacity and collaboration with partners are included below:

- Routine sampling conducted in Hooksett for a State project showed uranium present in groundwater at high levels. While there are guidelines and recommendations related to residential well water-quality, testing and treatment is not required, and Hooksett is not the only community with elevated uranium in the state. NHDES worked in coordination with NH DPHS, and with the United States Environmental Protection Agency (EPA) to develop and implement a plan to sample residential well-water in the Hooksett Community. The goal of the sampling was to understand the extent of exposure to harmful contaminants, and to develop health-based recommendations to reduce exposure and risk. APPLETREE staff have presented findings and recommendations to the community via an oral presentation at a town council meeting, through a formal written report, and through a summary factsheet that has been posted online and made available in print. Health based recommendations include additional well-water testing, testing of home air for radon gas, and installation of treatment to reduce exposure where contaminants are found in water and/or air. The town of Hooksett has conducted a feasibility study to assess the potential for connection of some residents to public water and the APPLETREE team and other NH DES programs remain in communication with town administration. The study indicates that the town will require additional funding sources, and these are being explored through state and federal avenues. APPLETREE is committed to supporting Hooksett efforts to reduce exposure and will ensure that programmatic efforts complement any larger exposure reduction efforts implemented by the town, including potential connection to public water for some community members. Cost effective educational opportunities for well owners are also being discussed. To celebrate its bicentennial, Hooksett distributed a summer newsletter, which also included APPLETREE's published resources. The town Administration continues to engage the APPLETREE program when in need of environmental health assistance and agency introductions. This relationship serves as a model for future state-identified communities facing exposures.
- Through a contract established with the Trustees of Dartmouth, the APPLETREE team is working to finalize training and resources aimed at supporting local leaders in response to community environmental health concerns. This work is being conducted in coordination with the NH DHHS DPHS Cancer Program and with stakeholder engagement to inform the development of training and resources. Stakeholders participating include State legislators, health professionals, town administration and representatives, and municipal employees. The first stakeholder engagement occurred in November 2021. Feedback has resulted in the development of three trainings on environmental health topics to be

offered in series as well as a resource tool called the “New Hampshire Environmental Health Guide (NH-EHG). This guide is designed to help local leaders and other stakeholders find the appropriate State resource or agency quickly to address environmental concerns raised by members of their community. The trainings offered are freely accessible and cover an introduction and use of the NH-EHG, an overview of cancer and addressing cancer concerns in communities, and a presentation on environmental contamination and risk. Links to training videos and the NH-EHG can be found on the NHDES website here: <https://www.des.nh.gov/new-hampshire-appletree>.

- Through a contract established with the University of New Hampshire, the APPLETREE team worked with the UNH Survey Center to develop and implement data collection tools to inform the programs efforts. Data collection tools being developed and implemented include a statewide survey, Granite State Poll questions (for survey validation purposes), and four focus groups. Results for the statewide survey, including environmental health knowledge, risk prioritization trends, and recreational habits, are complete. Select survey questions have been repeated and a summary will be created for the APPLETREE team. Four focus groups: 1) targeting Hooksett residents; 2) targeting residents across the state of New Hampshire; 3) targeting local health officers; and 4) targeting childcare licensing coordinators have met with UNH Survey center. Focus group results are summarized in a written report. All activities associated with this initiative are complete and survey results will be used for future risk assessments and educational materials.
- One critical function of the APPLETREE team is to provide support to state and local programs working at Superfund sites designated by the Environmental Protection Agency (EPA). To this end, APPLETREE meets quarterly with NH DES site managers for Superfund sites to evaluate progress together and to provide technical support when exposure risks are present. These meetings have expanded to include EPA community involvement coordinators and remedial project managers. APPLETREE therefore serves as a hub for exposure reduction strategy for multiple agencies at the 23 Superfund sites in New Hampshire. These meetings function to streamline communication between the agencies and promote a shared understanding of the community’s evolving environmental health concerns. Using this method, we can provide prompt and focused technical assistance as well as health education. Site specific messaging and communication is often reviewed collectively rather than piecewise. Moreover, collective promotion of upcoming educational opportunities, public meetings, trainings, and administrative news ensures that we are providing the most up to date opportunities to the public. These meetings have also inspired site managers to utilize their time in new ways. For example, NHDES site managers have used meetings as working meetings for technical assistance, as cross training meetings for one another, and for specific sites or meetings that require substantial EPA Region 1 participation. A new risk assessor, Dr. Kelly Thrippleton-Hunter, was hired in 2022 to complete the team’s planned roles, increasing capacity for State evaluation of exposure data.
- Recently, towns with historical or known environmental exposures have received a lot of communication regarding drinking water quality. To clarify the messages of multiple reports, written for distinct and separate purposes, APPLETREE engaged the Agency for Toxic Substances and Disease Registry (ATSDR) and these communities. For example, APPLETREE moderated ATSDR’s public presentation to Merrimack and NH DES provided logistical support for virtual display in February 2022. These interactions blossomed into a “fire-side chat” meeting that APPLETREE continued with the communities, strengthening trust and working relationships. It is anticipated that APPLETREE will



continue to hold these and similar methods for outreach in 2022-2023 with a goal of connecting communities to academic institutions and partners. Another such example occurred in July 2022, in which APPLETREE provided logistical support and state contact support for ATSDR's public presentation to residents in and around Pease Airforce Base. Specifically, this public meeting provided clinical guidance for medical providers in New Hampshire who may be receiving calls or concerns from patients exposed to PFAS near Pease. Finally, APPLETREE and ATSDR will continue to collaborate on public presentations and harmonized messaging for New Hampshire residents. Currently, we are working with NHDES water engineers and water systems records in Merrimack as ATSDR completes work on a report of drinking water exposures and recommendations for the community.

### New Hampshire's Choose Safe Places for Early Care and Education Program, an APPLETREE Program:

Because ATSDR is committed to promoting the healthy development of children, ATSDR expanded the scope of APPLETREE in 2017 to include Choose Safe Places for Early Care and Education (CSPECE). The NH Choose Safe Places Program (NH CSP) is working to protect children from harmful chemicals in child care facilities by: resource sharing with and training for local governments including health officers, developing a private well-water testing initiative, identifying opportunities for professional development for child care providers, working with state child care licensing and development agencies to identify best practices to improve the inspection and siting process, and improving environmental health guidance and best practices for early care and education programs.

The NH CSP work is carried out using a multi-disciplinary approach. A statewide advisory team was created to provide guidance to the CSP program. Committee members include child care providers and provider-based regional organizations, health and human services staff (Child Care Licensing, Bureau of Child Development and Head Start Collaboration and the Division of Public Health Services), local health officers, staff from the NH Department of Environmental Services, the NH APPLETREE program, and NH Child Care Aware of America representatives. Advisory meetings are held virtually on a monthly basis, which has been a plus for partners who live remotely.

Local health officers' outreach has occurred via surveys and focus groups and through the health officer liaison with the Division of Public Health Services at the NH Department of Health and Human Services. Engagement enabled the assessment of gaps and opportunities within the child care landscape. Partnering with local health officials has also increased understanding of the resources available to educate child care providers on environmental health--leading to more providers receiving education and resources. Children's environmental health has become a greater priority at the local level due to the NH CSP work. Through this local work, the NH CSP staff learned more about child care licensing and inspection processes and identified potential opportunities for action and improvement.

To improve local child care providers' knowledge of environmental health, NH Choose Safe Places provided free training by purchasing usages of the Eco-Healthy Child Care®'s Protecting Children's Environmental Health e-course for state child care providers. The course is approved for adult learning clock hours in the state of NH. To date 100+ courses have been taken for free through this collaboration.

Finally, the NH CSP program is piloting free water quality testing (including the NH Public Health Lab standard testing package plus radon, VOCs and PFAS) for NH child care facilities. Voluntary sampling is occurring for licensed child care facilities using private wells as their water source. Providers also receive a toolkit with well water testing and treatment information with links to additional resources, to provide them with a long-term resource. This free testing effort is being coordinated with the New Hampshire Department of Environmental Services lead testing for schools and child cares via EPA's WIIN grant. For child care facilities that require remediation, funds from the American Rescue Plan Act, NH Department of Environmental Services' PFAS program, and EPA's WIIN program can be used. NH CSP will use data gathered from sampling to identify areas of concern for elevated contaminants in water and direct efforts towards outreach and education in these areas.

### Lead in Drinking Water at NH Schools and Child Care Facilities:

On July 8, 2022, Governor Sununu signed House Bill 1421, which made several significant changes to the 2018 law that requires all public and private schools and licensed child care facilities to test for lead in their drinking water. Most notably, the new law decreased the action level for lead in drinking water at schools and child care facilities from 15 parts per billion (ppb) to 5 ppb.

Under the new law, schools and child care facilities must correct all locations where previous testing results showed lead levels at or above 5 ppb. Facilities have 90 days to review previous testing results and submit a remediation plan to the New Hampshire Department of Environmental Services (NHDES) for approval. Also under the new law, facilities that have not previously tested their water for lead have 30 days to do so. The new law also changes the frequency of testing; three rounds of testing must be completed by June 30, 2024.

To support schools and child care facilities in meeting these requirements, NHDES launched the Get the Lead Out of Drinking Water Program. The program provides resources and technical support to schools and child care facilities to complete testing and remediation. The program has been contacting facilities to collect outstanding data and remediation information and let them know about the changes to the law. As part of this effort, NHDES recently re-launched its lead in drinking water website to provide additional resources to schools and child care facilities (<https://www.des.nh.gov/water/drinking-water/lead>).

Testing data are now available on the website in a user-friendly format, in addition to information for facilities on collecting samples, remediating locations that test above the action level, and reporting information to NHDES. In addition, the University of New Hampshire (UNH) GRANIT is creating a GIS-based web portal / data dashboard to visualize and analyze lead in drinking water data that will be linked from the website.

Funding for these efforts is from the U.S. Environmental Protection Agency (USEPA) Water Infrastructure Improvement for the Nation (WIIN) Act. WIIN funding will also cover testing costs for public schools and licensed child care facilities for an anticipated two rounds of testing. Within the next month, the Get the Lead Out of Drinking Water program team will be reaching out schools and child care facilities with information on how to properly collect water samples for lead and have samples analyzed for free.

To support remediation efforts, the New Hampshire Department of Education (NHDOE) secured a grant totaling \$1.6 million from the New Hampshire Drinking Water and Groundwater Trust Fund (DWGTF). This Lead Remediation Grant reimburses public and nonpublic schools for 50% of the costs of remediation of drinking

water locations with lead results at 5 ppb or higher. NHDES works with schools to provide support for remediation efforts and helps facilitate the grant application and approval process with NHDOE.

NHDES is collaborating with programs at NH DHHS, including Child Care Licensing, Environmental Public Health Tracking (EPHT), Healthy Homes and Lead Poisoning Prevention program, and the Choose Safe Places program, as well as NH DOE, on ways to analyze and share data and coordinate messaging with schools and child care facilities.

### Statewide Private Well Sampling Initiative:

The Statewide Private Well Sampling Initiative is a NHDES project funded by the New Hampshire Drinking Water & Groundwater Trust Fund to provide homeowners with information about the quality of their drinking water, and when necessary, steps that can be taken to improve water quality. The project collected approximately 490 samples from randomly selected private drinking water wells and analyzed the samples for over 250 chemicals. It was the first statewide assessment of bacteria, nitrate, lead, fluoride, manganese, arsenic radionuclides, and salt to be conducted in the state. The battery of tests also included several emerging contaminants, including perchlorate, 1,4-dioxane, PFAS, and pesticides and their breakdown products. All of the sampling and analysis have been completed and participants have been provided their result. Data review and summation will be completed by NHDES in the coming months. More information is available about the study at the following link: [https://www4.des.state.nh.us/nh-dwg-trust/?page\\_id=998](https://www4.des.state.nh.us/nh-dwg-trust/?page_id=998)

NHDES and DHHS partnered to leverage the impact of this study by including nearly 100 homes that were also randomly selected to participate in DHHS's TrACE biomonitoring study. The collaboration provided information about the relationship between chemicals measured in drinking water and in the bodies of the study participants. Findings have been presented in several settings, including at the Commission to Study Environmentally-triggered Chronic Conditions, and at the NHDES Drinking Water Source Protection Conference in May of 2021.

### NHDES Private Well and Risk Communication:

NHDES recently created and filled a position within the Water Division, the Private Well and Risk Communication Coordinator. Having a full-time person dedicated to private well work and risk communication has enabled NHDES to start making greater inroads into the challenges issues posed by the fact that nearly half the state's population is served by water supplies for which there is no oversight with respect to safety.

### Targeted Education and Sampling for Private Well Owners

In 2021-22, NHDES conducted free targeted private well sampling in three towns: Auburn, Pelham, and Bethlehem. These areas were chosen due to the suspected presence of high levels of naturally occurring uranium in well water. Residents were invited by mail to participate in the free well testing, and those that participated were mailed sample bottles, collected their own water samples, and mailed them to the lab. A summary report on results for each town was distributed to participants and town officials. NHDES also held a workshop for each town, where residents learned about contaminants in their area, potential health impacts, and how to treat their water if contaminants were found above health limits. Workshop participants learned about follow-up testing for their well water and were encouraged to test for radon in the air of their homes. Over 300 private well owners participated in the program. Collaboration with Environmental Public Health

Tracking (EPHT) Program was key to the success of this program, analyzing data, preparing a report on outcomes for each town, and assisting with survey/data collection from participants.

### Seacoast Private Well Initiative

In 2022, NHDES launched the Seacoast Private Well Initiative, which includes free well water testing, educational workshops, and a drinking water fair to 12 Seacoast towns. The Seacoast Private Well Initiative was created by the Seacoast Commission on Long-Term Goals and Requirements for Drinking Water (The Seacoast Commission) and received funding from the Drinking Water and Groundwater Trust Fund. All private well owners in the 12 towns are invited to participate in an educational workshop, followed up by free water testing. Local coordinators have been recruited to assist with getting the word out, and assisting with organizing logistics such as identifying workshop venue and assisting with water sample drop offs. The first workshop is occurring in September 2022. The Initiative will also provide free filter pitchers to low-income participants, and a drinking water fair will be held at the end of the Initiative so residents can learn more about private well contaminants, resources available, options to reduce contaminants they may have discovered in their water. NHDES is collaborating with NH DHHS EPHT program on this important project.

### Recommendations

We look forward to continuing to engage in this work as we further refine our data sharing practices and find innovative ways to use data to drive decision making, while also recognizing the limitations of the data and resources available to support this work. In collaboration with the Commission, we will explore further opportunities to improve data sharing and analysis of environmental exposure and health outcome data.

### References Used in this Report

NH DES OneStop Data Portal: <https://www.des.nh.gov/onestop/>  
NH Environmental Public Health Tracking Program: <https://www.nh.gov/epht/>  
NH Health WISDOM Data Portal: <https://wisdom.dhhs.nh.gov/wisdom/#main>  
BiomonitoringNH Program: <https://tinyurl.com/BiomonitoringNH>  
2019 NH TrACE Study: <https://tinyurl.com/2019TrACEStudy>