University of Vermont
Planetary Health Initiative - Academic Year 2024-25 Year One Report
July 30, 2025

Background

The Planetary Health Initiative at the University of Vermont (UVM) arose from conversations with senior administrators, faculty members, and other academic leaders beginning in October 2022. Planetary Health was identified as an opportunity to coalesce and leverage UVM's strong emphasis on research and education related to the health of human societies and the natural environment. Discussions of the concept and its fit and possibilities at UVM continued through April 2024. The initiative was formally launched in October 2024. The initiative's overarching goal is UVM's recognition as global leader in planetary health, with the related outcome of a ranking as one of the top 71 American Association of University research institutions by 2030. The initiative has been advanced by the Office of the Provost in partnership with the Office of the Vice President for Research and has been guided by a Working Group including key faculty, staff, and administrators. In FY25, President Garimella committed $500,000 annually for a period of five years to support the initiative[1].

UVM's Planetary Health Positioning Statement

Planetary Health at UVM encompasses activity/issues at the intersection of human health and environmental health. UVM's Planetary Health positioning statement:

'Human well-being is inextricably linked with the health of the environment. The UVM Planetary Health Initiative explores these connections and inspires action so that both people and planet can thrive.'

Foundational Principles and Objectives

The UVM Planetary Health Initiative is based on the foundational principles of:

- **Whole Health**: physical, mental, social, spiritual, community, and ecological well-being
- **Environmental Stewardship**: we all play a role in preserving our planet
- **Reciprocity**: human and environmental health are inextricably linked
- **Relationships**: partnership and collaboration are necessary to solve complex problems

[1] The current status of this commitment is under discussion.

- **Hope**: the belief that we can and will have a positive impact is essential to success

This initiative harnesses UVM's existing strength in human and environmental health across the areas of **education**, **research**, **policy**, **outreach**, and **service**. It builds on the university's robust tradition of interdisciplinary research and teaching in ecosystem science, public health, global infectious diseases, behavioral medicine, renewable energy, ecological economics, sustainable agriculture, complex systems, environmental thought, the social sciences, the humanities, and beyond. This university-wide effort positions UVM to be a global leader in Planetary Health, particularly in rural communities, in this rapidly expanding field.

The university seeks the full spectrum of partnership in this effort – from local to global and from grassroots to governmental – to advance scientific frontiers; develop and test innovative solutions to identified health and environmental challenges; and share, learn, and collaborate with partners here at home and across the globe leading the pursuit of Planetary Health.

The goals for advancing UVM's leadership in Planetary Health address four primary objectives:

- **Increasing research** that expands our knowledge of the linkages between human and environmental health in the context of a changing climate
- **Expanding educational programming** that emphasizes the health consequences of global change, and the equitable implementation of technical and other solutions, particularly for vulnerable populations
- **Supporting policy** by developing viable science- and technology-based and economically sustainable solutions to our current health and environmental challenges
- **Engaging with communities** to implement actions that help people and nature thrive together

<u>Year One Observations</u>

- The community largely embraced the initiative (there was also a reasonable level of neutrality, but the initiative did not face notable opposition); the initiative has a number of committed faculty champions
- Several units see their connection to the initiative more clearly than others and are more deeply engaged as a result
- There is not a broad understanding across campus of Planetary Health as the *intersection* of human health and environmental health; the term is often used synonymously with sustainability, climate change, and environmentalism
- A larger, long-term institutional strategy for the initiative has not been developed
- It may be helpful to expand the university's Planetary Health definition and position Planetary Health as an extension of our larger sustainability effort; at the same time, some Planetary Health proponents believe the narrow definition is essential to the initiative's distinctiveness and success
- The initiative could benefit from additional and stable resources (administrative support, communications support, investment and event funds, etc.)
- Careful thought should be given to the leadership/advisory structure for the initiative moving forward
- The future disposition of the initiative should be articulated thoughtfully; faculty members may be less likely to engage in central efforts over time as a result of 'initiative fatigue' if it is perceived as abandoned and some expectations have been set with external audiences

<u>Academic Year 2024-25 Action Plan and Report</u>

An Academic Year 2024-25 "Year One" Action Plan was released in September 2024. The plan was aimed at the development of the infrastructure and other foundational elements of the initiative essential to the success of a larger institutional strategy to be developed over time. What follows is a report of progress against this plan. This report is not intended to be all-inclusive; several sections include only a sampling of related actions and activities.

Planetary Health Initiative - Academic Year 2024-25 Action Plan

BUILDING INTERNAL UNDERSTANDING and POSITIVE FRAMING

1. Create positive framing language

A. Develop positive/hopeful framing to be used on the website, in workshops, etc. "For people and planet" leads to the UVM Planetary Health Statement which leads to the positive framing

A positive framing statement was developed and is included as Attachment One of this report.

2. Build campus understanding

A. Increase awareness through a series of monthly faculty/staff/student workshops hosted by OVPR, the Provost's Office, Osher, DOSA, the Gund Institute, etc. and featuring different campus participants/researchers (including external scholars and existing speaker series)

Many units across campus hosted Planetary Health workshops, speakers, and other events (some were more closely aligned with Planetary Health than others), including:

- *Office of the Provost: Planetary Health events during Earth Week and Research Week; Planetary Health primer/agenda items at the Academic Leadership Council meetings*
- *Planetary Health Intern: 'Takeovers' of major UVM Instagram Accounts: UVM Dining – 1,150 views, Office of Sustainability – 50 views, Patrick Leahy Honors College – 300 views, @UVM 5,700 views*
- *Office of Sustainability: Planetary Health Teach-In for undergraduates in cooperation with the Patrick Leahy Honors College and the Rubenstein School of Environment and Natural Resources*
- *Office of Sustainability: "What is Planetary Health?" event for recognized student organizations*
- *Osher Center for Integrative Health: Planetary Health Summit*
- *College of Agriculture and Life Sciences: Careers in Climate panel event*
- *College of Nursing and Health Sciences: Interprofessional Education event aimed at deepening the campus community's understanding of Planetary Health*
- *Grossman School of Business: Sustainable Innovation MBA organized over 30 talks, panels, and workshops focused on topics aligned with Planetary Health*
- *Gund Institute for Environment regularly hosts planetary health events; a sampling from the year includes:*
    - *Public Talk: Human Health and Environmental Conservation in the Federal Government: Status and Prospects featuring presentations by and discussion with Macmillan Visiting Scholars Elizabeth Daut, Global Biodiversity and OneHealth Expert, and Sarah Greenberger, Energy, Climate, and Conservation Expert*
    - *Public Talk: Advancing the Symphony Project: Agroecology and Planetary Health through Community-Centered, Transdisciplinary, and Plural Research in Ecuador's Highlands*

featuring Carlos Andres Gallegos-Riofrio, Research Assistant Professor, College of Agriculture and Life Sciences, Gund Affiliate

- *Public Talk: From Climate Change Evidence to Action – Accelerating Pathways for Healthy People and a Healthy Planet featuring Jonathan Patz, M.D., MPH, John P. Holton Chair of Health and the Environment, University of Wisconsin-Madison; Macmillan Visiting Scholar, Gund Institute for Environment*
- *Public Talk: Nature and Human Health – Flash Talks, Q&A, and Conversations featuring Macmillan Visiting Scholars:*
  - *Timothy Bowles, University of California Berkeley*
  - *Matt Browning, Clemson University*
  - *Monika Derrien, U.S. Forest Service Pacific Northwest Research Station*
  - *Lora Fleming, University of Exeter*
  - *Howard Frumkin, Trust for Public Land and University of Washington*
  - *Michele Kondo, U.S. Forest Service Northern Research Station*
  - *Jonathan Patz, University of Wisconsin*
  - *Amber Pearson, Michigan State University*
  - *Alessandro Rigolon, University of Utah*
  - *Jen Roberts, University of Maryland*

B. Post regularly on the Planetary Health listserv and Inside UVM; encourage college/school communicator stories that can be amplified by Strategic Communications and included on the Planetary Health website; continue to refine website; create a coordinated internal communications plan across the year

Strategic Communications regularly posted stories in Inside UVM related to Planetary Health and tagged content as such to populate the Planetary Health website; Strategic Communications met regularly with communicators in the units and highlighted the importance of featuring this initiative and UVM's position.

Strategic Communications Metrics:

- *8,391 planetary health site page views (4/1/24- 5/24/25, 12+ months); 3,092 users, 2.71 views/ user*
- *Tagged 18 stories on main UVM News channel as PHI*
- *Multiple stories tagged in Research Matters newsletters (November '24, February '25, April '25) (See full list in Attachment Two)*
- *Created hand-out for Children's Health and Environment in VT for Legislators*
- *Assisted in the launch event and its promotion:*
  - *Video introducing Planetary Health Initiative multiple versions were created for different audiences – 605 views, with high viewer attention (duration 2:21 or 85%)*
  - *Digital Screens*
  - *Bus Signs*
  - *Social Media 1,382 posts with 194k impressions (See data in Attachment Two)*
- *35 events tagged planetary health in UVM events (Localist)*

Examples of communications engagement by other units include:

- *Osher Center for Integrative Health: Published to the Planetary Health Listserv 8 times and submitted to Inside UVM 10 times (featured 7 times)*

- *College of Agriculture and Life Sciences: Published 26 stories on the CALS website under the Planetary Health theme over the past year*

3. Establish a direct and visible campus connection; emphasize the relationship between understanding and action

A. Brand and publicize the Sustainability, Osher Center, and Environmental Program Natural Areas strategic plans and work/actions with strong ties to Planetary Health

The three noted offices engaged deeply with the initiative and incorporated Planetary Health into their 'brands' and activities. Other offices contributed to this as well.

- *Office of Sustainability:*
  - *Organized Planetary Health tabling at Admitted Student Visit Days*
  - *Communicated around the connections between the university's Comprehensive Sustainability Plan and Planetary Health*
- *Osher Center for Integrative Health:*
  - *Became a member of the Planetary Health Alliance in 2024*
  - *Participated in the Employee Wellness Fair with Planetary Health initiatives, Culinary Medicine program, health coaching, and sustainability*
- *Environmental Program:*
  - *Celebrated UVM Natural Areas 50th Anniversary with a day-long conference including a session on 'Better utilizing Natural Areas as "Living Laboratories" for Planetary Health'*
  - *Launched a new website for the UVM Natural Areas highlighting their unique characteristics including access for recreation and worked with WCAX – Across the Fence to develop and deliver episodes on Centennial Woods, Mount Mansfield, Joe's Pond, Shelburne Pond, Carse Wetland and Molly Bog*
- *Strategic Communications:*
  - *Established ties with existing initiatives and promoted Planetary Health regularly*
  - *Helped with the development of the Road Show (See CURRICULUM 1.B.)*
  - *Promoted the initiative to prospective students by creating a video and working with the Division of Enrollment Management to promote it*
- *UVM Extension: Bolstered community resilience and enhanced communities' broader understanding of Planetary Health by actively engaging with Vermont organizations, societies and government leaders on topics related to Planetary Health*

4. Increase student access to and involvement in Planetary Health and sustainability efforts

A. Identify and increase opportunities for curricular access

Progress here was understandably limited. In retrospect, it may have been unreasonable to expect substantial curricular impact while the campus was still building understanding, but advances included:

- *Community-Engaged Learning Office (CELO): Provided professional development for CELO staff in the Planetary Health framework (via collaboration with the Osher Center for Integrative Health's Planetary Health lead Christine Vatovec); trained 5 faculty in Planetary Health Framework for Community-Engaged Learning; offered 1 new community-engaged course focused on Planetary Health; expanded the Planetary Health foci of two existing courses*

- *College of Nursing and Health Sciences: Led conversations around a graduate credential in Planetary Health*
- *Colleges/Schools: Offered thousands of enrollments in hundreds of courses with the Sustainability Catamount Core Curriculum designation*
- *Grossman School of Business: The capstone course experience of the Sustainable Innovation MBA is the Practicum Project, which is a full-time, hands-on, three-month consulting engagement with an organization seeking to advance sustainable business ideas and driving planetary health objectives*

B. Identify and increase opportunities for co-curricular access

Co-curricular activity was robust and varied

- *Environmental Program:*
  - *Offered the second year of UVM GO: Natural Areas with the themes: health, recreation and restoration*
  - *Awarded the inaugural Planetary Health Summer Research Fellowships $16,000 to four UVM Undergrads in three Colleges*
- *Graduate College: Orchestrated the first graduate student competition for the Planetary Health Ph.D. Student Research Awards*
- *Patrick Leahy Honors College:*
  - *Participated in the Climate Stories Project, an educational and artistic forum for sharing personal stories about the changing climate; students completed training preliminary to the development of a climate stories project in PLHC*
  - *Offered student programming including:*
    - *Bringing Calm and Nature to Your (dorm) Room*
    - *UVM Gardens Tour*
    - *Growing Microgreens in your (dorm) Room*
    - *Woolly Bear Roundup*
    - *Nature Rx (walks utilizing campus natural areas)*
    - *Nature Journaling*
  - *Selected as its first-year read Amitav Ghosh's* The Great Derangement, *which considers the climate change crisis as a crisis of epistemology, not unlike other moments in history like the Enlightenment and the Renaissance*
- *Osher Center for Integrative Health: Co-advised the 2nd Larner College of Medicine Planetary Health Report Card, and is advising the inaugural College of Nursing and Health Sciences Planetary Health Report Card, both of which are student-led endeavors*
- *University Housing and Dining: The Residential Learning and Academic Engagement (RLAE) unit leads the programmatic efforts for students living on-campus through 8 learning communities; in Fall 2024, RLAE hosted 26 Planetary Health-focused programs, reaching 342 students; in Spring 2025, RLAE 42 programs engaging 2,881 participants*
- *UVM GO: The UVM GO Community Program offers students an immersive experience into the lacustrine history of our region; students split their time between the research vessel Marcelle-Melosira and the Lake Champlain Maritime Museum, deepening their understanding of freshwater systems and their role in sustaining planetary well-being*
- *Fellowships, Opportunities, and Undergraduate Research Office: Awarded 44 students $124,000 in funding related to Planetary Health*

EXTERNAL ENGAGEMENT

1. **Publicize the UVM Planetary Health Initiative externally and with key audiences**

   A. Develop the list of UVM Planetary Health experts by topic area

   A faculty interest list was developed by the Research Development Office. To date, the interest list includes 71 faculty and staff either currently involved in Planetary Health research or interested in finding collaborators with whom to initiate such research.

   B. Develop a digital 'one-pager' for distribution to external constituents, modify the document to include the positive framing language when it is developed

   The Office of the Provost and Strategic Communications developed a one-pager highlighting the initiative, that was later modified to include the positive framing language. It can be found on the SharePoint Site.

   C. Develop a digital 'mark' to identify UVM Planetary Health programs and events

   The mark (pictured below) was developed by Strategic Communications and is being used in all relevant news stories, web pages, and related collateral.

   D. Focus on Planetary Health when selecting Strategic Communications stories, create a coordinated external communications plan across the year, identify and pitch UVM Planetary Health stories to external media outlets

   Strategic Communications metrics (more detailed coverage is listed in Attachment Two):

   - *Media Mentions:*
     - *2023 – 0 mentions*
     - *2024 – 13 mentions*
     - *2025 (first 5 months) – 15 mentions*
   - *Coverage/support highlights:*
     - *The Strategic Communications media relations team pitched the 2024 Planetary Health Initiative Launch to media, securing pre- and post-event stories on WCAX (Vermont's most-watched TV news) and Vermont Business Magazine.*
     - *Additional Planetary Health mentions resulted from stories pitched by the media relations team, including:*
       - *Seven Day's coverage of the UVM Climate Kitchen (2025)*
       - *WCAX's coverage UVM's 5K Run For Wellness (2025)*
       - *A UVM rights of nature study release (2025)*
       - *A UVM deforestation and malaria study release (2024)*

2. **Connect with related Vermont organizations, societies (e.g., VTPHA), and governmental leaders to increase their awareness of the Planetary Health Initiative, to encourage engagement, and to support their related efforts**

   A. Meet with key Vermont legislative and agency leaders to promote the initiative and invite engagement

   - *Office of the President – Interim President Prelock submitted a white paper to the Governor's staff, describing the initiative and offering UVM's policy support to the state on anything related to Planetary Health; she also spoke about the Planetary Health Initiative in her testimony to Vermont Appropriations and Education Committees*
   - *Osher Center for Integrative Health:*
     - *Planetary Health Lead Christine Vatovec and Osher Affiliates attended a VT Academy of Family Physicians Legislative Breakfast (along with a group of current medical students) at the State House and discussed connections between Primary Health Care and Planetary Health with legislators and the Lieutenant Governor*
     - *Met with leaders of the VT Public Health Association to discuss shared interests at the intersection of Public Health and Planetary Health*

   B. Develop a CESS action plan for engagement with the first 5 Vermont schools participating in the Community Schools Project

   The Catamount Community Schools Collaborative (CCSC) is a dynamic and longstanding research-policy-practice-partnership (RPP) between the Vermont Agency of Education and the University of Vermont's College of Education and Social Services (CESS) to support a sustainable ecosystem of community schools across Vermont. The CCSC aligns with the national University Assisted Community Schools (UACS) model, where institutions of higher education serve as lead partners in community schools implementation and sustainability through long-standing, mutually beneficial, and democratic partnerships. The CCSC model aligns with the goals of the Planetary Health Initiative, focusing on the ways in which universities and other partners can promote the health of individuals, families, schools and the communities they make up. Concepts about whole health and community resilience are central to the CCSC model, and they affirm the Planetary Health focus on the reciprocal nature of people and planet. The CCSC operates like a hub and spoke, promoting engagement between UVM and our community partners, now including 11 supervisory unions/districts across Vermont.

   A sampling of AY2024-2025 accomplishments highlighting the link between the CCSC and Planetary Health Initiative includes:

   - *The launch of a CCSC Internship Program, connecting various UVM departments and students (undergrad to doctoral) with Community Schools partners to support initiatives/programs/research prioritized by schools. Interns came from Public Communications, Public Health, Social-Emotional Health & Inclusive Education (SHIE), and Food Systems*
   - *Increased interactions between Community Schools partners and their local food systems, resulting in increased food security for families, students, and the broader community*
   - *Intergenerational Meals program at Newport Town School, in Newport Center, VT, bringing together community elders and elementary school students in the school, to mitigate food*

waste, combat senior citizen loneliness/isolation/food insecurity, and build connections between community members

C. Continue to build awareness, connection, and communication between UVM and UVMHN regarding Planetary Health activities with the aim of developing a shared, actionable plan with the UVM Health Network Director of Sustainability

The Osher Center for Integrative Health leadership met monthly with UVM Health Network leadership to discuss overlapping projects and how to be a unified group at the intersection of UVM and UVMHN. Together, the group explored internship opportunities for future years, debriefed on events, and strategized on how to connect UVMHN with other UVM centers and programs. Shared programming in 2024/2025 included:

- *Planetary Health Summit (October 2024) - Diane Imrie and Beth Zigmund of the UVMHN were speakers*
- *Diane Imrie was a member of one of the Planetary Health Seed Grant proposals that successfully made it to Round 2 of the application process*
- *Grand Rounds featuring Planetary Health topics:*
  - *Mike Latreille hosted Climate & Health Scholar Dr. Gaurab Basu for Internal Medicine Grand Rounds, "Climate Change – Acting Courageously for Our Patients in an Uncertain Time" in March 2025*
  - *Jonathan Patz, MD, MPH – Gund Visiting Macmillan Fellow, Family Medicine Grand Rounds, and provided a Laura Mann Lecture titled "The Role of Medicine in Planetary Health" in January 2025*
  - *Katherine Liu, MD, FACP – "Bringing Environmental Health into Practice: Actionable Improvements for Clinical and Non-Clinical Settings" in March 2025*
- *Both Christine Vatovec (Opportunities for Decarbonizing Healthcare) and Diane Imrie were invited speakers to Dr. Constance van Eoghan's graduate-level Cell to Society class*
- *Climate Cafe hosted by Andrew Rosenfeld, MD and Diane Imrie in May 2025 explored how climate change impacts mental health*
- *Larner College of Medicine Frymoyer Grant awarded for developing climate-health trainings for medical residents (PI: David Rand, MD; Co-PI: Christine Vatovec)*
- *The culinary medicine program has broadened; there is a full team comprised of Diane Imrie, the Network Director of Sustainability who founded the Culinary Medicine Program. R. Leah Pryor, the Executive Chef Manager and co-founder of the program. Additionally, there is a chef educator, garden educators, and three registered dietitians; the program approaches food as medicine and prioritizes creating connections around eating in ways that support individual health and planetary health*
- *There are now 37 physicians on the UVMHN Sustainability Committee; they discuss and work on the hospital's sustainability and how to balance the demanding needs of our planet with patients who have high needs and require significant medical supplies*

D. Participate in the Planetary Health Alliance University group

The UVM Press has joined the Planetary Health Alliance and is launching a Planetary Health book series. The first book (2026) will be an edited volume on walkability and its connection to personal and Planetary Health. They are also launching a new journal—Journal of Ecological Engineering and Design: https://journals.uvm.edu/jeed/.

The Osher Center for Integrative Health became the first Osher Center and UVM entity to join the Planetary Health Alliance last year and has pitched membership to the entire Osher Collaborative. Currently, Harvard has also joined; UVM Osher has developed a strong partnership with the Harvard Osher Center and they have collaborated on:

- *UVM Planetary Health Summit*
- *Osher Collaborative Planetary Health Symposium in November*
- *A Planetary Health module in the Osher Collaborative Integrative Health Elective Course that will be available to any student across all 11 Osher Centers*

E. Encourage the Center for Community News/Community News Service to develop reporting around Planetary Health issues in local rural communities

The Community News Service has produced 52 print and audio stories about Planetary Health in Vermont since May 30, 2024.

The Center for Community News has hired environmental reporter Austyn Gaffney in a joint hire with VT Digger in July 2025; Gaffney was most recently a climate reporting fellow at the New York Times. She will mentor student reporters and cover environmental issues across the state for VT Digger.

F. Engage with Leahy Institute for Rural Partnerships and Professional and Continuing Education on community projects related to Planetary Health

In 2024-2025, the Leahy Institute for Rural Partnerships granted Round One partnership projects while launching Round Two projects. Of these 29 funded projects, 16 address priority Planetary Health issues. Additionally, the Leahy Institute is supporting a cohort of 4 faculty via the Community-Engaged Learning Office who will deliver flood-resilience related service-learning courses to approximately 100 students in Fall 2025.

Professional and Continuing Education facilitated a funded collaboration between Applied Research Associates (ARA) and UVM's College of Engineering and Mathematical Sciences (CEMS). This partnership, supported by a $10,000 Capacity Grant through the Leahy Institute's 2025 Grant Round Two, focused on developing microbot technology for environmental remediation of microplastics—advancing healthy ecosystems and regenerative agriculture in the Randolph region.

G. Collaborate with the Vermont Prosperity Project, the Vermont Public Health Association and other relevant organizations to support policy development and expert advice related to Planetary Health

UVM is represented on the steering committee of the Vermont Prosperity Project (VPP) through the participation of Prof. Jon Erickson. The VPP is a "network of networks" that facilitates creative conversations across Vermont about our economy and the beliefs, values, and aspirations that shape and reshape it. These include applications of Planetary Health frameworks to building a wellbeing economy in Vermont, including presentations at UVM Planetary Health launch events, the Osher Center for Integrative Health convenings, and the UVM RISE Summit. UVM's participation in this cross-sector initiative includes a current application (led by the Vermont Sustainable Jobs Fund) for funding to the Rockefeller Foundation, work that would result in statewide workshops and facilitated meetings that

would connect the UVM Planetary Health Initiative with state agency and NGO strategy planning at the intersection of public and environmental health.

3. Increase external support for UVM Planetary Health activities

A. Identify opportunities for philanthropic support

Stemming from the Provost's support of a collaboration on "Climate Impacts on Child Health" (See Attachment Three) between the Vermont Center on Child Health Improvement in the Larner College of Medicine, the Rubenstein School of Environment and Natural Resources, and the Gund Institute for Environment, Prof. Jon Erickson and Prof. Rachel Garfield are leading the development of a Letter of Intent in response to a call from the Burroughs Welcome Fund to fund a $10 million Climate and Health Excellence (CHEX) Center. A proposal for "CHEX: Center for Climate Resilience and Child Health" would fund a planetary health initiative in translational science between UVM research, medical and doctoral student training, and Vermont's school and community health professionals.

The UVM Foundation has been actively speaking with potential supporters about the Planetary Health Initiative; the approach has been to evaluate and test the potential for long term support in a feasibility mode; the Foundation has also prepared for a future micro campaign effort by building the support mechanisms within our CRM as well as preparing an initial case statement.

RESEARCH

1. Identify key UVM Planetary Health research themes

A. Hold center and institute events to identify themes that will help faculty see themselves in the initiative and guide research collaborations

Two internal funding initiatives were developed to promote cross-college collaboration and identify and build research strengths in Planetary Health: a call for postdoctoral scholars (funded by the Provost's Office) and a seed grant competition (jointly funded by the Provost's Office and the Office of the Vice President for Research). Both calls elicited significant interest, with seven postdoctoral proposals involving 21 faculty across six academic units, and nine seed grant proposals involving 64 researchers from seven academic units, the UVM Health Network, and Extension. The winning proposals (two postdoctoral awards and one seed grant award) are briefly described below; all were centered around the topic of climate change and vector-borne disease. Note that the postdoctoral awards were ultimately not funded due to the changing fiscal climate, but the proposed projects are a good indicator of the breadth of interest in this topic.

- *Seed grant award winner ($100,000 over two years): MAP^{2}LE: Monitoring, Analysis, and Prediction of Pathogens in Local Ecosystems; Co-PIs Dr. Jason Botten, Larner College of Medicine and Dr. E. Lauterbur, College of Arts and Sciences. The goal of the MAP^{2}LE network is to employ cutting-edge genomic pathogen detection and predictive computational modeling to identify infectious disease threats prior to significant population spread.*
- *Postdoctoral award winner 1 (2-year appointment and research support – award currently on pause): Infectious Disease Modeling in a Changing World; Drs. Melissa Pespini, Elise Lauterbur, and Joaquin Nunez, College of Arts and Sciences. The goal of the appointment is to build a framework that allows the prediction of transmission and virulence in the context of both*

host-pathogen and coevolution and ecosystem processes and changes to support better prediction of future epidemics of societal and ecosystem importance.

- *Postdoctoral award winner 2 (2-year appointment and research support – award currently on pause): Transdisciplinary Infectious Disease Research – Linking Human Health, Recreation, and Ecological Management to Understand and Mitigate Tick-borne Disease in New England; Drs. Brendan Fisher and Jed Murdoch, Rubenstein School of Environment and Natural Resources, Dr. Benjamin Lee, Larner College of Medicine, Dr. Ellen Martinsen, College of Arts and Sciences, Dr. Christine Vatovec, College of Nursing and Health Sciences. The focus of the appointment is on the interactions between land use, climate change, and infectious disease to help elevate and connect several separate streams of current UVM research.*

The Office of the Vice President for Research hosted several meetings with research leaders and University Distinguished Professors, University Scholars, and Endowed Professors to discuss research themes and strategies.

The research theme development timeline:

- *Oct - Nov 2024 – Extracted dominant Planetary Health research themes at UVM from existing funded awards, proposals for seed grant and postdoctoral funding opportunities, and faculty interest list*
- *Dec 2024 – Discussion of potential research themes by Planetary Health working group*
- *Jan 2025 – Draft plan for domains and themes developed, with five themes for Planetary Health activities organized under each of three domains: Research, Innovation and Action*
- *April 2025 – Associate Vice President for Research Sara Cahan presented draft Domains/Research themes to Planetary Health Working Group for feedback and discussion; Cahan is currently revising themes (See Attachment Four) in response to feedback and working with Strategic Communications on graphic design for presentation on the Planetary health website*

Examples of other research theme discussions:

- *Osher Center for Integrative Health: Hosted a Planetary Health Working Group meeting to share conceptual framework for integrating Planetary Health across all work including research, and to identify research needs, interests, and strengths*
- *Leahy Institute for Rural Partnerships: Co-sponsored a spring speakers series with the Water Resources Institute that brought community members into dialogue with UVM researchers*

2. Promote faculty engagement and collaboration, particularly among the Larner College of Medicine (LCOM) and other schools/colleges

A. Host LCOM faculty/environment faculty meet-ups and support funded opportunities to work together to solve Planetary Health problems

The Office of the Vice President for Research coordinated one of the primary mechanisms for encouraging cross-college collaboration in Planetary Health – the seed grant program, which offered $100,000 over a period of two years to teams co-led by faculty with complementary expertise in environmental and human health that include researchers from three or more colleges or schools across

UVM. Nine proposals were submitted and seven of them included faculty members from the Larner College of Medicine.

See also EXTERNAL ENGAGEMENT 3.A. above for additional Larner College of Medicine engagement.

B. Facilitate faculty cluster hires in Planetary Health

Formal cluster hiring was modest, but many colleges and schools hired faculty with expertise directly related to Planetary Health.

CURRICULUM

1. Increase the Planetary Health curriculum across disciplines

A. Create new courses and programs focused on Planetary Health

As with BUILDING INTERAL UNDERSTANDING 4.A., progress here was understandably limited. In retrospect, it may have been unreasonable to expect substantial curricular impact while the campus was still building understanding, but advances included:

- *Graduate College: Will lead discussions in Fall 2025 around the development of a microCertificate of Graduate Study that could lead to a Certificate of Graduate Study or even an MS in the future*
- *Vice Provost for Academic Affairs and Student Success: Has explored the development of a "Planetary Health" designation for Planetary Health courses; there are some related complexities that will require attention*
- *College of Agriculture and Life Sciences: Launched 10 new courses with a core Planetary Health focus*
- *Professional and Continuing Education: Developed seven new non-credit courses and programs that reflect core Planetary Health themes such as sustainability, environmental resilience, and systems thinking. These include the NABCEP PV Design Specialist Certification, which prepares learners for careers in solar energy; a Hospitality Management Professional Certificate with a focus on sustainable tourism; and the Vermont Local Government Institute, which trains municipal leaders in community-focused operational excellence. Additional offerings—Lean Six Sigma Green Belt Prep, Logistics and Distribution Management, and Operations Management—embed principles of efficiency, sustainability, and supply chain resilience. While these are non-credit offerings, they represent a meaningful expansion of Planetary Health-aligned education and workforce development opportunities across sectors.*

B. Build awareness of the cross-cutting principles for Planetary Health Education, develop a 'roadshow' presentation

Osher Center for Integrative Health Planetary Health Lead Christine Vatovec presented the "roadshow" to the Deans' Council (March 2025) and has been working with the Faculty Senate to be added to their agenda (anticipated Fall 2025); Vatovec presented to CESS faculty (April 2025) and is working with Deans to present at Fall 2025 faculty retreats. Vatovec also worked specifically with small groups of faculty in both LCOM and CNHS in Spring 2025 to identify opportunities to integrate

Planetary Health into the curriculum. In connection to these efforts, Vatovec was the invited speaker for the annual spring Interprofessional Education Event (CNHS + LCOM) where she introduced ~150 current graduate-level students to Planetary Health.

Vatovec and CELO Director Susan Munkres developed and are offering a CELO Planetary Health Workshop to faculty in June 2025. Vatovec has ongoing efforts with CTL to develop programs and resources for faculty from across campus interested in integrating Planetary Health into their courses. As part of this work, each Dean's Office invited instructors to add their courses to the Planetary Health course list which highlights 50 courses (the list is not all-inclusive): CALS (12 courses), CAS (2), CNHS (3), CEMS (5), CESS (5), LCOM (14), RSENR (5), and Grossman (4). Instructors indicated up to four of the 12 Cross-Cutting Principles of Planetary Health Education they focus on in the course; the most often cited principle was Systems Thinking (32 courses), followed by using A Planetary Health Lens (21), Urgency & Scale (19), Global Citizenship & Cultural Identity (15), Equity (15), Policy (13), Unintended Consequences (11), Communication (10), Historical & Current Global Values (8), Organizing & Movement Building (5), Bias (5), and Governance (3).

UVM HEALTH AND WELLNESS

1. Increase the health and wellness of the UVM community

A. Create new, and re-brand existing Osher and Employee Wellness programs to support Planetary Health, develop programming to address ecoanxiety that aligns with the initiative's positive framing

Efforts to improve employee (and student) wellness have increased over the course of the initiative, and many have focused on the positive impact of time in nature. Examples:

- *Osher Center for Integrative Health: Hosted an Earth Week workshop titled "Nature's Daily Dose" focused on finding small ways to connect with nature each day. The Health and Wellness Coaching program is developing strategies to connect people to the environment and have their behavior changes not only support their own health but the health of the planet. A sampling of events with Planetary Health aspects (connecting with nature to support mental health):*
  - *9/6/24 UVM Employee Wellness Welcome Fall 2024*
  - *9/16/24 Staff Appreciation Walk to UVMMC Garden, Mindfulness, & Tasting*
  - *9/27/24 Osher Center UVM Weekend Welcome!*
  - *11/6/24 Employee Benefits and Wellness Fair*
  - *1/29/25 Employee Wellness Winter Open House*
  - *4/17/25 Nature's Daily Dose (Earth Week Event)*
  - *4/30/25 Green Up VT Walk with Employee Wellness*
  - *4/30/25 Spring 2025 Employee Wellness Semester Celebration*
- *The College of Nursing and Health Sciences has taken a leadership role in institutionalizing wellness by becoming the first college at UVM to establish a standing Health and Wellness Committee as part of its official bylaws.*
- *Climate anxiety sessions were held during Earth Week, in the Rubenstein School of Environment and Natural Resources and at the Patrick Leahy Honors College teach-in.*

ATTACHMENT ONE

Hope
and the University of Vermont
Planetary Health Initiative

Reports on the health of our planet and our people are sobering. Grief and distress are legitimate responses to our current state, but so too is hope for a healthier future. The UVM Planetary Health Initiative explores the connections between human health and environmental health to inspire action so that both people and planet can thrive. Hope is foundational to our approach and essential to our success.

We are hopeful because…

- It is true that the situation is urgent, *and* that there is much we can do
- Thoughtfully responding to planetary health challenges offers the greatest opportunity for improving human health and well-being of our time
- Impactful and effective solutions are all around us
- Individual choices and actions add up; every *fraction* of a degree of warming prevented matters
- The collective action and innovation that creates problems also discovers solutions
- We are raising awareness and making progress
- We are surrounded by a community that believes in Planetary Health
- Hope is empirically justified
- We must embody hope to inspire hope
- Hope leads to action; it's how we build and grow a movement

We will use the principles of Hope Theory to propel and sustain hope by…

- Truthfully assessing the problem
- Acknowledging the related grief/pain/distress
- Envisioning and articulating success (goals)
- Identifying pathways to success (strategy)
- Motivating and empowering people to act (agency)

The belief in the power of hope runs deep:

Hope has long been seen as a pillar of human existence. This perspective is vividly expressed in theology, literature, and the arts. In Dante's Inferno, the hapless arrivals at the gates of Hell were not required to surrender their money, their status, their children, or the keys to their cars; they were commanded to "Abandon hope." For Martin Luther, "Everything that is done in this world is done by hope," and for Dostoevsky, "to live without hope is to cease to live."

From Howard Frumkin, Hope, Health, and the Climate Crisis, The Journal of Climate Change and Health, Volume 5, 2022, 100115, ISSN 2667-2782, https://doi.org/10.1016/j.joclim.2022.100115.

ATTACHMENT TWO

Strategic Communications - Additional Metrics and Examples

Planetary Health Initiative Scorecard: PHI Scorecard.xlsx

Planetary Health "tagged" stories:

https://uvm.edu/magazine/news/tick-tick-boom
https://www.uvm.edu/cals/food-systems-research/news/study-vermont-farmers-embrace-soil-health
https://www.uvm.edu/cals/food-systems-research/news/mealworms-menu
https://www.uvm.edu/cals/news/what-if-mother-earth-could-sue-mistreatment-endangered-ecuadorian-frogs-and-junin
https://www.uvm.edu/uvmnews/news/sensing-sickness-study-supports-new-method-boosting-bee-health
https://www.uvm.edu/cals/food-systems-research/news/changing-palates-phd-students-research-nutritious-and-climate
https://www.uvm.edu/cems/trc/news/trc-launches-new-transportation-sustainability-tracking-tool
https://www.uvm.edu/cals/food-systems-research/news/scraps-stats-testing-tabletop-food-recycler-climate-kitchen
https://www.uvm.edu/gund/news/dead-trees-keep-surprisingly-large-amounts-carbon-out-atmosphere-study
https://www.uvm.edu/rsenr/news/casella-commits-15-million-launch-uvm-center-circular-economy
https://www.uvm.edu/uvmnews/news/discovery-great-whale-pee-funnel
https://www.uvm.edu/gund/news/hidden-consequences-uvm-researchers-investigate-wider-impacts-conservation-efforts
https://www.uvm.edu/water/news/climate-change-and-cyanobacteria-uvms-cutting-edge-research-lake-and-stream-health-0
https://www.uvm.edu/uvmnews/news/got-sustainability-uvm-researchers-test-ways-green-dairy-farming
https://www.uvm.edu/uvmnews/news/trout-turnabout
https://www.uvm.edu/cals/food-systems-research/news/uvm-soil-testing-center-gives-vermont-farmers-local-solution
https://www.uvm.edu/water/news/first-its-kind-ai-tool-can-predict-water-quality-across-us
https://www.uvm.edu/uvmnews/news/after-floods

In Research Matters April 23, 2025:

Vermont Farmers Get Local Solutions from UVM's Soil Testing Center
First-of-its-kind AI Tool Can Predict Water Quality Across the U.S.
Whales: Not Just Big, They're a Big Deal for Healthy Oceans
Sensing Sickness: Study Supports New Method for Boosting Bee Health

In Research Matters February 20, 2025:

UVM Researchers Engage Dairy Sector for Livestock Disease Prevention

In Research Matters November 2025:

Ten Views of Planetary Health
Trout Turnabout: Lessons on water quality and fish species and human interaction
The Science Behind a "Superfood" : Food Systems Research Center Fellow Sandra Nnadi is researching a common fruit farming practice and its effects on an element that's beneficial to human health.

In UVM Magazine:

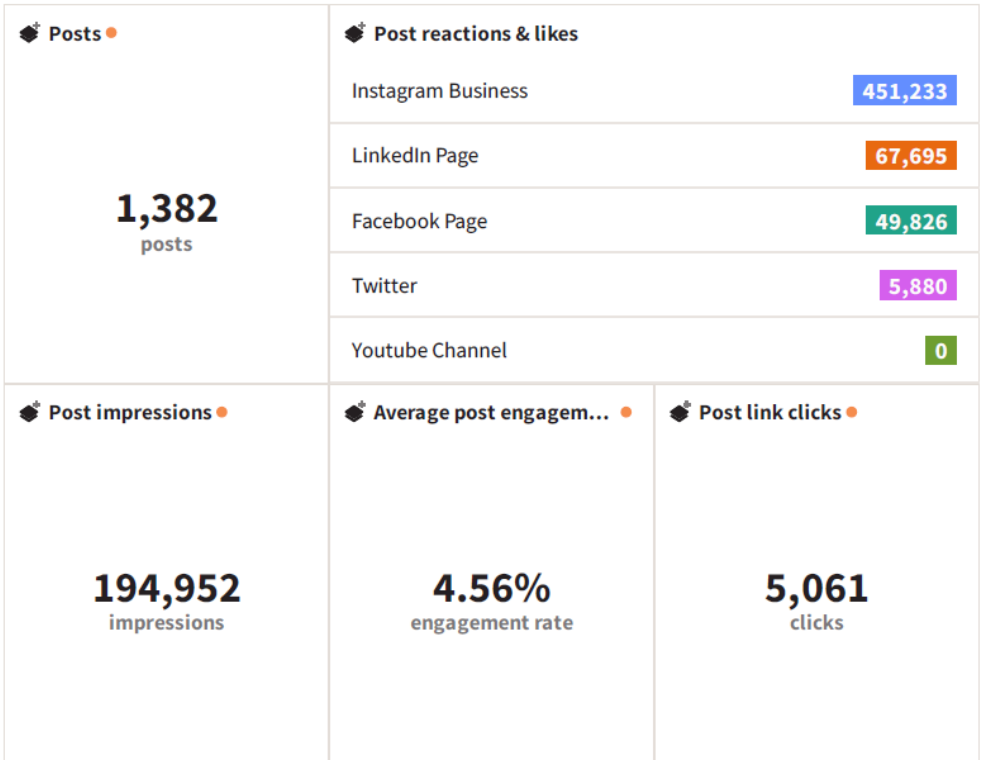
Fall 2024:

- After the Floods: Vermonters cope and plan for a wetter future and what that means for crops, social planning, mental health, etc.
-
- Trout Turnabout: How did our effect on the environment drive away native trout, and why, suddenly, has the population rebounded? What does this mean for our water quality and for other species' expansion in Vermont's most important watershed?

Spring 2025:

- Tick...Tick... Boom: Until 2004, the blacklegged tick had never been found in Vermont. Thirteen years later, the Green Mountain State led the nation in Lyme disease infections per capita. Across UVM, researchers are working to understand the spread of tick populations, and to help develop an effective Lyme vaccine.
- Got Sustainability? UVM researchers test ways to green-up dairy farming.
- Stirring the Pot: Whales are not just big, they're a big deal for the nutrient cycle of healthy oceans that humans depend upon for food.

Social Media Planetary Health Content Data:



ATTACHMENT THREE

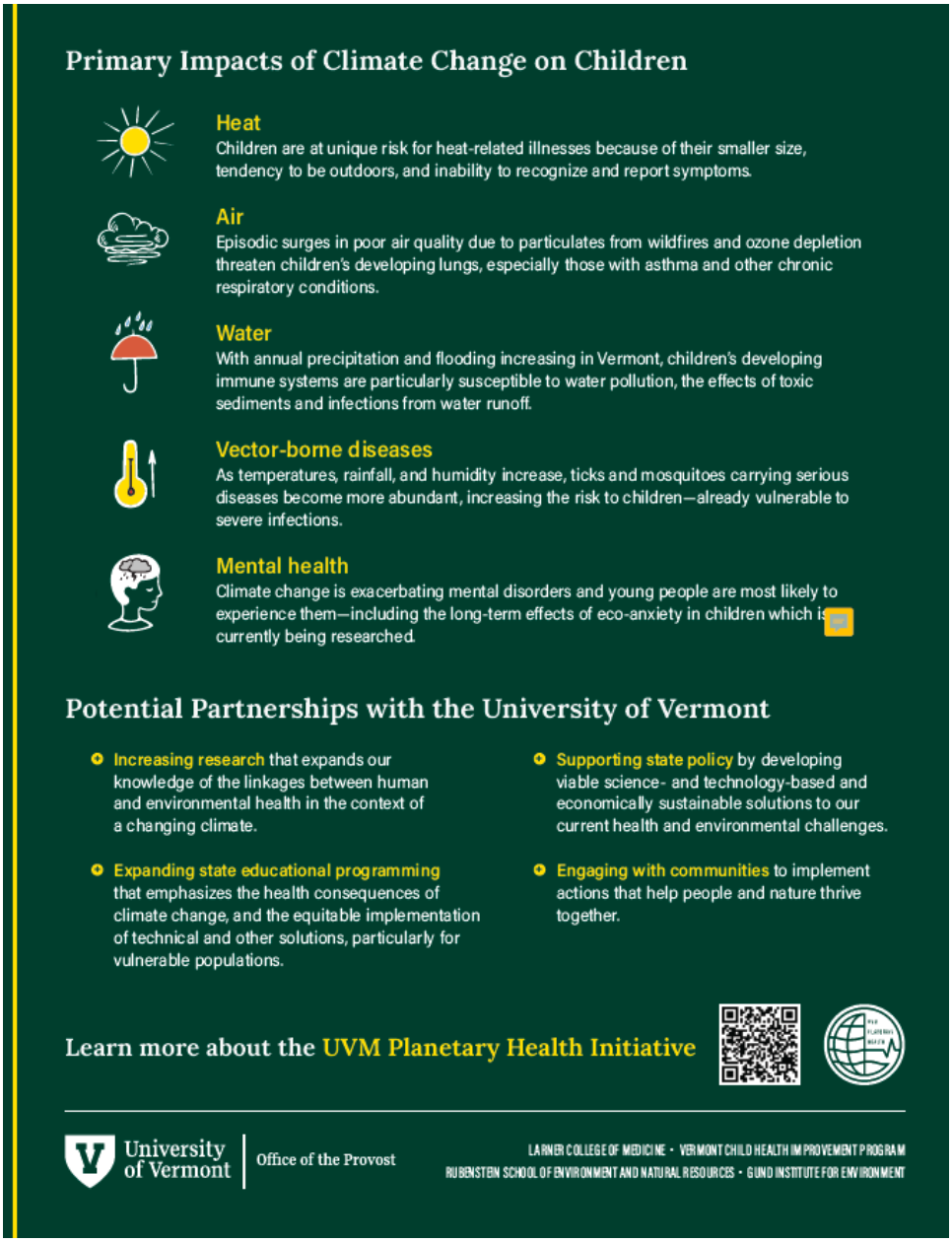
Graphic summary accompanying the paper:

CLIMATE CHANGE AND VERMONT'S CHILDREN

Acting Now to Protect Our Future

Optimal human health depends on a healthy planet. Even more than adults, children are uniquely vulnerable to environmentally-driven health hazards including extreme heat, contaminated water and soil, poor air quality, and infectious diseases. Severe climate events put children at risk for long-term negative physical and mental health outcomes. Climate change is exacerbating these threats in Vermont despite our state's best efforts to contain these dangers.

As part of its Planetary Health Initiative, the University seeks the full spectrum of partnership in this effort—from local to global and from grassroots to governmental—to advance scientific frontiers; develop and test innovative solutions to identified health and environmental challenges; and share, learn, and collaborate with partners here at home and across the globe.



Transmittal memo to Governor Scott:

Dear Governor Scott,

As you know, Vermont's children are uniquely threatened by the impacts of climate change. Their organ systems are still developing, so they are physiologically more affected by airborne particulates, toxins in flood sediments, and exposure to carcinogens. They are at increased risk for heat-related and vector-borne illnesses and their social/emotional development is deeply shaped by the immediate stresses climate change presents as well as the eco-anxiety arising from its long-term implications.

The University of Vermont has gathered a diverse group of experts from public health, pediatrics, ecology, data science and climate science to identify and better understand these risks so that we might help the state adapt to current and future climate impacts. I know this was a priority for Former Commissioner of Health, Mark

Levine, and he has challenged his public health experts to address his concerns regarding climate and health for all populations in Vermont.

At UVM, we have embarked on a university-wide effort to recognize and address the inextricable links between human health and the health of the environment through our Planetary Health Initiative. Our initiative explores these connections and inspires action so that people and planet can thrive. Climate is a key determinant of Planetary Health, and we would like to collaborate with the state to address the climate and health issues that I know you have identified as priorities for ensuring we have healthy, resilient communities.

As part of our Planetary Health Initiative, we are funding a case study to quantify the impacts of smoke from the 2023 forest fires on children with asthma in Vermont. This case study leverages data available through the Vermont Child Health Improvement Program (VCHIP) clinical quality improvement efforts. These linked projects illustrate the wide range of research and policy support that UVM can provide in this space in partnership with state experts. Examples range from specific studies to syntheses of knowledge for policy development.

The University of Vermont is eager to partner with you and your team on this important and emerging convergence of science and public policy. I attach for your review an executive summary and a white paper of the specific threats of climate change to the health of the children of Vermont in the areas of heat, air quality, water quality and flooding, and vector-borne diseases. I am also attaching a simple graphic that outlines the important environmental issues that are impacting our young Vermonters.

Our goal now is to make sure that we discuss this with you so that UVM can serve as an intellectual support for your policy goals around climate and the environment. We look forward to partnering with the state to create a healthy environment that supports the health of our Vermont children and our broader population. I will be in touch soon to schedule a time when we might talk about possible next steps in this effort to collaborate.

Sincerely,

Patricia A. Prelock
Interim President

Executive Summary of the paper:

Optimal human health depends on a healthy planet. While humans of all ages are affected by environmentally driven health hazards, children are uniquely vulnerable to extreme heat, poor water quality, poor air quality, and infectious diseases. Stressful climate events put children at risk for long-term negative physical and mental health outcomes. Climate change is exacerbating these threats in Vermont despite our state's reputation as a climate refuge.

The most effective way to avoid the worst impacts of climate change is to reduce greenhouse gas emissions, which is the goal of Vermont's Global Warming Solutions Act. The law also tasks state agencies with developing strategies for adapting to the impacts of climate change. This report provides an overview of how heat, air quality, vector-borne diseases, water quality and flooding, and climate anxiety are negatively shaping the health of Vermont's children and their families *and* how the University of Vermont and the State of Vermont can work together to mitigate those harms.

Why focus on children? Environmental health hazards affect everyone, but children are more vulnerable to these health effects than adults. They are more susceptible to heat-related illness and many vector-borne diseases. Because their organ systems are still developing, they are physiologically more at risk from airborne particulates and toxins in flood sediments. Because of their long future lifespans, they suffer more from exposure to carcinogens. Their social/emotional development is also deeply shaped by the stress of climate change. Finally, concern for our children unites Vermonters across the political spectrum. They are our future, and our commitment to them reflects on all of us. Because children generally use health care services at a less intense level than adults, they can get lost in discussions of broad population health and health care services policy.

Why now? The impacts of climate change are increasing rapidly, and it is cheaper and more effective to anticipate these threats than to react to them. However, our responses are constrained by research gaps and a lack of real-time, location-specific information. Public, private, and university partners need to collaborate and invest in research, information-gathering tools, and platforms for information **sharing.**

Recent reports from the Vermont Department of Health and the Vermont Climate Assessment effectively summarize the overall health risks from climate change in Vermont. We complement and extend these reports by:

- Specifically focusing on children
- Identifying cross-cutting policy initiatives that can protect them
- Assessing what we still don't know about climate's impact on Vermont's youth and identifying opportunities for collaborative research
- Highlighting how UVM can partner with the state to protect children's health

ATTACHMENT FOUR

Planetary Health Research Domains and Themes