Building a Sustainable Regional Health System

A Status Report on ReThink Health: The Upper Connecticut River Valley

April 26, 2013

Initial Planning Team

Barbara Couch	VP Corporate Social Responsibility, Hypertherm
Elliott Fisher	Director, The Dartmouth Institute for Health Policy and Clinical Practice
Sara Kobylenski	Executive Director, The Upper Valley Haven
Laura Landy	President & CEO, The Fannie E. Rippel Foundation
Gregg Meyer	Chief Clinical Officer and Executive Vice President for Population Health, Dartmouth-Hitchcock Medical Center
Al Mulley	Director, The Dartmouth Center for Health Care Delivery Science
Gene Nelson	Director of Population Health and Measurement, The Dartmouth Institute and Dartmouth-Hitchcock Medical Center
Steve Voigt	President & CEO, King Arthur Flour

Forward

While debate about health care reform continues at the national level, many health care leaders are coming to realize that both health and health care are locally produced. The Dartmouth Atlas of Health Care[1] and other research has shown that access to care, the social, behavioral and environmental factors that influence future health, and the use of services and average amount spent per person differ dramatically across communities. Many – if not most – of the important determinants of both health and health care can be influenced by local decisions.

With that in mind, the eight of us listed on the title page came together in fall 2012 as an Initial Planning Team (see Appendix 1) to share our own concerns about local health and health care and to see if we could seed an effort that would take advantage of what we saw as an important opportunity. We knew that rising health care costs threaten our community. We understood the implications of the long history of research showing that both higher quality and lower spending should be possible in a redesigned system. We saw how emerging new payment and health care delivery models could help accelerate the needed changes. We recognized how remarkable it was to have local health care leaders deeply committed to new payment models and to improving population health and transforming care. And we appreciated the passion and dedication of leaders across the community who are committed to improving our lives and those of our friends and neighbors.

With the support of colleagues from a national initiative, ReThink Health, the members of the Initial Planning Team completed a round of interviews with a number of local leaders over the past few months to learn more about what they thought. Many agreed that residents of this region face an important choice among three alternative paths: choose to accept continually rising health care costs; choose the alternative of significant cuts to services; or choose a third way – commit to pursuing a shared vision of a regional system committed to empowering individuals to maintain their health and work with others to improve the health and vitality of this region and the health system that serves it. Our Initial Planning Team is advocating the third way. The path will require substantial and sometimes painful change. Rather than waiting for change to be forced upon us, we believe that a collective effort to manage that change will bring our community to a better place.

On April 30th, the Initial Planning Team is hosting a gathering to advance this early conversation. This report is intended to explain the team's motivation for beginning this work, summarize what was learned, describe our current thinking about the challenges and opportunities facing this region, and provide an overview of what is in place to support this emerging initiative. Most importantly, our goal is to invite you to join us and others in our community to create a health system that makes our region the most attractive place to live, play, work, and locate a business.

Section 1. Why this initiative? Why now?

Increasingly, leaders in America are recognizing the need to make high-quality health care affordable for all. Rising health care costs threaten public and private budgets. Financial and other barriers prevent many from receiving needed care. Uneven and unreliable quality limits the effectiveness of health care services. And the environmental, social and behavioral determinants of health receive insufficient investment. Research by faculty at Dartmouth and elsewhere has shown that much of what is now spent on health care is wasted and does not contribute to the health of patients or populations. Sometimes it even does harm. At the same time, new payment and delivery models are emerging that offer real promise for the future.

Leaders of the health systems serving the Upper Connecticut River Valley recognize these challenges and have made a commitment to both improving population health and reforming health care delivery. Several other leaders – representing major employers, social service agencies, and ReThink Health (a national initiative of the Fannie E. Rippel Foundation) have joined the health system leaders in forming an Initial Planning Team. Together we chose to embark on a longer process of assessment, engagement, and action. Our goal was and is to identify and draw on the knowledge and insights of community leaders who share an interest in rethinking our health system in fundamental ways and then to work together to formulate and implement a strategy for the transformation of our region's health and health care delivery systems. The primary beneficiaries will be the residents of the region: all of us who live here should have excellent access to care, be engaged and empowered to maintain our health and make well-informed choices about our treatments, and thereby be able to live healthier more satisfying lives. The resulting changes to the system must be economically sustainable and affordable – with a goal of attracting and keeping both employers and families in our region. The aim is to create a model health system here that shows the country what is possible.

ReThink Health was founded in 2007 with a focus on accelerating change and enhancing health system performance, drawing on the insights of many prominent individuals, including: Elinor Ostrom, winner of the 2009 Nobel Laureate in Economic Sciences for her work on sustainable management of common resources; Marshall Ganz, organizing strategist for the United Farm Workers and the 2008 and 2012 Obama campaigns; Peter Senge, management strategist and proponent of the learning organization; Don Berwick, founder of the Institute for Healthcare Improvement and former head of CMS; and John Sterman, head of MIT's System Dynamics Group.

In its work in over 20 communities, ReThink Health is evolving a set of system dynamic models and games, robust training and workshop programs, skilled coaching and facilitation, and growing communities of practice to help build regional capacity for change. Evolving partnerships with regional organizations and academic institutions strengthen the offerings, and enhance the potential for impact of local initiatives such as the emerging work in the Upper Connecticut River Valley.

The Upper Connecticut River Valley is poised to address these challenges. The current health landscape is rapidly changing and is driving decisions about how the system will evolve. Our community's collective goal should be to shape that landscape in thoughtful – not reactive – ways. If we do not join together to do this now, others will do it for us – in ways that we might not choose ourselves.

Section 2. How has the work proceeded?

As a catalyst to achieving the goals above, the Initial Planning Team pursued four broad areas of activity.

First, we worked with the ReThink Health team and The Dartmouth Institute for Health Policy & Clinical Practice staff to begin to compile information on the health and health care systems of this region and other initiatives related to health, health care, and community development that are underway. The findings from this work are provided in Appendices 3-6.

Second, we began a series of interviews with leaders from across the region. These interviews focused on the following areas of inquiry: (1) Exploring their vision for this region: what would a thriving, healthy community look like; (2) Asking how they would know that we had achieved this vision – what measures would allow them to be confident that progress was being made; (3) Identifying the barriers that impede progress toward that vision and the underlying causes of those barriers; and (4) Exploring the community attributes, resources, and specific projects that are already underway that could make achieving a sustainable health system possible in this region. The major findings of this work are summarized below, with additional detail provided in Appendix 2.

Third, based on both the data analysis and a synthesis of the interviews, we tried to characterize the challenges and opportunities facing this region. While the details of the many challenges and opportunities are provided in the Appendix, this report summarizes the preliminary insights of the Initial Planning Team knowing that this is certain to evolve as others become more deeply engaged.

Finally, the Initial Planning Team began to define aims for the first year of work (2013), develop a preliminary work plan that would allow these aims to be achieved, and establish the workgroups that would be needed to further refine the aims and plan, drawing on input from the broader community. This included identifying and obtaining the commitments needed to provide the in-kind and financial contributions required to support the current year's work. The last section of this report describes the working groups, their charges, and their current membership.

Section 3. What has been learned?

The challenge and opportunity: understanding health care costs

A careful look at national and local data on the performance of the health care system reveals an unsettling picture. Current estimates are that about 18 cents of every U.S. dollar are spent on health care, which works out to $8,200 per person per year.[2] In this region, this is estimated to grow to 25 cents of every dollar by 2017.[3] National health care spending has risen faster than economic growth, quadrupling since 1990. And the population is living longer, with 15 percent of the current local population over the age of 65 (see Appendix 5, Table 2).

Some believe that all this money buys Americans the best health care system in the world, but the evidence does not support this claim. Compared to most developed countries, the U.S. is in the middle of the pack in both quality and health outcomes, even though spending is markedly

higher. Granted, this region fares better than the U.S. average on most measures of population health and the quality and cost of health care,[4] but better isn't good, and improved outcomes – and lower costs – are possible.

The economic problem is complex. Health care is often the single largest employer in a region and our area is no different. In the states of Vermont and New Hampshire, 75,000 people work in health care.[5] Many of these people have good jobs with excellent benefits, so policies that reduce costs by reducing health care employment may have a number of negative effects, including reduced income and worse health insurance coverage. The loss of high paying jobs would in turn lead to decreased local demand for other goods and services. At the same time, increasing health care costs create a burden for all employers. Local employers report that they have a choice: continue to provide benefits, increase their costs of doing business and reduce their competitiveness in global markets, or reduce the benefits they provide and risk losing great employees. If those lost employees move to other parts of the country in search of good jobs, then the local economy will be even worse off. Many of those interviewed expressed concern about the loss of young people from our communities.

There is another way to look at this challenge. While Americans may have spent an average of $8,200 per person per year on health care, most of this care was provided to a fairly small number of people. The 80-20 rule is a good approximation: about 80 percent of costs are generated by a relatively small (perhaps 20 percent) of the population. But is the care these seriously ill patients are receiving what they really need or want? The regions with higher costs tend to spend more on avoidable hospital and nursing home stays, and more frequent use of specialists and diagnostic tests for patients with chronic illness. These discretionary and potentially avoidable services often do not lead to either better quality or better health outcomes. The reverse is also true, according to the Dartmouth Atlas: many regions of the country that have lower spending also have equal or better outcomes. Even though this region has overall costs slightly below the national average and quality that is somewhat better than average, other regions are doing better. We also have some of the lowest reimbursement rates to providers and hospitals in the country. These observations suggest real opportunities for constructive change. Finally, there is growing evidence that it is possible to substantially reduce the costs of care by coordinating and improving care for those who are seriously ill – the 20 percent. It is also important to recognize that at some point we may all be in that 20 percent.[6]

Key findings from the first round of interviews

The Initial Planning Team and ReThink Health team interviewed almost 50 individuals from across the region. The hope was to uncover the community's concerns, vision of a healthier future, barriers, and enablers. The interviews revealed important information about our community and what we might be able to accomplish together.

A number of concerns about our region's health and health care were widely shared:

- **Elders are challenged** to get the services they need. A dispersed population, a lack of social support, limited public transportation, limits to our telecommunications infrastructure, and other factors make aging in place a challenge, leaving many underserved and isolated.

- **Employers are stressed**. Extensive health care services are seen as an asset in attracting and retaining good employees, but the costs of doing business may force a reduction in salaries, benefits, and/or investment in the future. Growth is at risk.
- **Physicians, nurses, and other health professionals feel disconnected** from the sense of calling that brought them to medicine and a life of caring for others. They report that the system neither rewards them for providing the care most valued by their patients nor the care that will produce the best outcomes. Under pressure to do more with less, most feel they can't influence the future.
- **Patients feel bewildered and frustrated** about how and where they can get the care they need. Many do not have access to care; few have experienced anything resembling integrated or coordinated care across all of their providers.
- **The number of people with unmet mental and dental health needs** appears to be rising, and they cut across all population segments. These unmet needs translate into greater overall health care costs and worse outcomes.

Many were able to envision a future that was much brighter:

- **A focus on what creates health - for everybody**. Rather than a system that focuses only on physicians in white coats, many imagine a future where the health system also includes a community focused on addressing the social, economic, behavioral, and environmental barriers to good health, such as better schools, better jobs, access to healthy foods, and opportunities to pursue physical activities.
- **An expanded definition of the health care system** that includes public health services and the activities of social service agencies, since both directly affect personal well-being. Patching the many holes in the safety net was mentioned frequently. Many called for ensuring good communication and integration not only among providers, but also with social service agencies. In our region, as of 2010, 23 percent of children from birth to age six are low-income, one out of seven are on food stamps, and many fear losing their housing. A healthy system would address these challenges.
- **Engaged and empowered patients**. Too often, the experience of health care is to be a passive or unconscious participant in some of the most important events in life. For most conditions, such as breast or prostate cancer, patients have real choices about their treatments. Care choices should reflect their well-informed preferences and goals and be undertaken with the patient and family as active participants.
- **Health professionals who once again love their work.** Many interviewees hoped for a redesigned system that gives health care professionals the time, information, and financial incentives that would enable them to provide great care – the kind of care that inspired them to pursue medicine in the first place. As one physician told us: "If I only have a few minutes to spend with a patient, I use tests as a substitute for conversation – I can read [extensive] test results in a minute. Is it any surprise that we order tests?" Re-establishing the joy and meaning in health care work is an opportunity for the entire community.
- **New approaches to health and wellness** built around health coaching and active involvement of friends, neighbors, and family members. Some imagined a future where care

is truly centered on the patient, with most of the care and coordination happening in our homes rather than in physician offices, clinics, or other specialized facilities. Improvements in cellular, cable, and Internet services could provide in-home or mobile support via Skype and FaceTime. Those with multiple chronic conditions or at highest risk of hospital admissions could receive visits from parish or town nurses and health volunteers.

- **Employers who support regional health goals** and reap the benefits in healthier, happier, and more productive employees and family members. By providing basic health, dental, mental health, and wellness care services and activities at or near the workplace, employers can directly help their employees achieve their individual health goals – and lower their health care costs.

Section 4. Challenges and opportunities: implications for moving forward

As was mentioned above, a major aim of the interviews was to identify the barriers to achieving the vision of a healthier region and the factors that might help overcome these barriers. After reviewing the information, the Initial Planning Team identified four broad challenges that appeared to be especially important, along with what it will take to overcome them. These are listed below in Table 1.

Table 1. Major challenges identified through community interviews and ideas about how they might be addressed

CHALLENGES NOTED BY INTERVIEWEES	SUGGESTIONS FOR OVERCOMING THEM
Diverse identities and perspectives. The region spans many viewpoints: Vermont – New Hampshire; old – young; Hanover – Lebanon – smaller towns; rugged individualism – regional collaboration; and others.	**Build on existing collaborative initiatives and local leadership**. Many region-wide initiatives are thriving and offer insights on how to bridge divisions and create opportunities for alignment. Build on local leaders' knowledge.
Difficulty spreading innovative programs. There are many remarkable programs within the region that fail to spread, and there are many innovations emerging elsewhere across the nation that are not even tested here.	**Identify promising innovations and encourage their adoption** by creating an environment supportive of innovation and strategic investments that test high-impact ideas and spread successful ones.
Limited resources make it difficult to invest in new and sustain existing programs to improve health, address disparities, promote access, or test innovative health care delivery models.	**Take advantage of new payment models** and ensure that some of the savings achieved are reinvested in programs and services that can improve health and health care.
Complacency. While many in our community are struggling, they are largely out of sight. While some understand that the current trend of rising health care costs cannot be sustained, most do not.	**Build a sense of urgency** around problems identified in recent surveys by celebrating local successes and developing new solutions that can be implemented through collaboration.

It is important to note that the geographic definition of the region was also seen as a potential challenge. Many different ideas emerged from the interviews. It became relatively clear, however, that the exact boundary may not be as important as the notion that people who live and work in the area share a common set of concerns. A recent series of community-based surveys conducted by the Upper Valley United Way, the Bi-State Coalition for Community Health Improvement, and the New Hampshire Mascoma Valley Health Initiative (see Appendix 4), each based on a slightly different definition of the "region," identified a remarkably similar list of major public concerns: inequities in access and the need for better transportation, care for those with mental health challenges, and dental care. For the preliminary purposes of the current initiative (especially with regard to data analysis), the Initial Planning Team decided to use the Vital Communities definition of the Upper Connecticut River Valley (see Appendix 5.2).

In addition to these challenges, the Initial Planning Team recognized that the long-term success of this initiative would require the eventual formation of an administrative structure to support and coordinate further work, the development of a financial plan and in-kind commitments needed to support the work in the near term, and serious attention to implementing a set of measures that would allow those engaged in this work to track the impact of the initiatives. The next section provides a broad overview of the current status of how the Initial Planning Team is approaching these issues.

Section 5. Current status of the work: a first draft that is open to change

The members of the Initial Planning Team aspire to welcoming others into leadership roles in this initiative in order to guide the further development of this work and ensure that the aims, structure, and processes reflect the values and norms of this community. At the same time, we feel an obligation to move the work forward: the window of opportunity to influence the shape of the regional health care system is open now, but may not be so for long. To resolve the tension between the need for reflection and action, we have developed a "working draft" of aims and established workgroups to advance these aims. The aims are as follows:

1) **To develop a stewardship structure and process** to move the work forward. This structure will include recommended approaches for collaborating and integrating leadership across existing entities. The structure will be informed by the local health system and community, will focus on mobilizing local leaders to participate, and will build on innovative ideas within the community. The leadership structure should have the capacity to influence the project and to obtain and allocate hard dollars and in-kind support that will allow the work of the initiative to move forward.
2) **To align the work and partnerships with other local initiatives** in order to create effective collaboration and mutual support while minimizing competition, duplication, and waste.
3) **To implement experiments to produce an innovative care and health system,** working to overcome the region's prior difficulty spreading innovative programs. We will be willing to test approaches that may not work and to harvest learning from our experiences.
4) **To have a demonstrated and sustained impact in the community** by implementing an approach to financing based on a commitment by those in the system who achieve savings to share a portion of those savings to fund the innovations needed to improve health and care.

In order to achieve the above aims (and keep the trains moving on time), the Initial Planning Team developed six working groups that have – for the moment – taken charge of the work needed to move toward the aims. The groups are coordinated by the Initial Planning Team and include: (1) Community Engagement; (2) Health Stewardship Design; (3) Measurement; (4) Innovation; (5) Reinvestment; and (6) Management and Communication.

Table 2. Working groups and their primary responsibility

WORKING GROUP	PRIMARY RESPONSIBILITIES
Community Engagement	To enable broad engagement with this work, help develop a shared vision and goals, and create the conditions needed for regional stewardship To create a series of community gatherings that engage community leaders
Health Stewardship Design	To design and help support the emergence of a stewardship structure (or structures) that will enable a collaborative, multi-stakeholder approach to health system transformation
Measurement	To develop and implement a measurement strategy that enables the initiative to trace progress, test effectiveness, learn from action, take increasingly informed action, and share lessons
Innovation	To create an inventory of current initiatives and possible activities To foster a cohesive and high leverage approach to advance system change To create an environment that helps initiatives succeed in the long term
Reinvestment	To develop a strategy for assessing, capturing, and reinvesting savings from the health system to enable sustainable funding of innovation over time
Management and Communication	To develop, oversee, and manage the work and staffing plans To coordinate work group progress To develop the 2014-16 funding plan and oversee the budget To facilitate external communications around a website and a report

Conclusion: Current thoughts on next steps

Over the next six months the Initial Planning Team is currently planning to host three community gatherings.

Spring meeting. The first will take place April 30th and aims to bring community leaders together to create a shared vision for the health system. *The key questions: Who are we? Why are we here? What might our best future look like?*

Summer meeting. Next, the Team plans to host a gathering in August or early September, aimed at bringing the community together to create a shared understanding of the health system as a whole and how the different aspects of the health system (such as economic and social factors, insurance coverage, access to primary care, and the design of payment systems) can influence both health and the affordability of care. Building on that knowledge, participants will help identify sets of strategies that can help us build short-term momentum and achieve long-term goals. *The key question: What might we do to make our best future happen?*

Fall meeting. And finally, the Team plans to host a gathering in November, during which the attendees will work together to decide how best to take action. This will include exploring how community leaders, organizations, and community members could effectively join the work. The key question: *How will we do this work? What specific actions should we now take?*

Afterward

We – the members of the Initial Planning Team – recognize that we are asking you to join us in difficult work that is filled with paradox. We aspire to create a model that will serve both our region and our country. The path forward is both clear and uncertain. To succeed we will have to be supportive and critical, optimistic and skeptical, cautious and bold. Above all, we will have to trust that by working together we can find a path forward. We ask you to join us.

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[1] The Dartmouth Atlas for Health Care: Understanding of the Efficiency and Effectiveness of the Health Care System. For more than 20 years, the Dartmouth Atlas Project has documented glaring variations in how medical resources are distributed and used in the United States. The project uses Medicare data to provide information and analysis about national, regional, and local markets, as well as hospitals and their affiliated physicians. This research has helped policymakers, the media, health care analysts and others improve their understanding of our health care system and forms the foundation for many of the ongoing efforts to improve health and health systems across America. See: http://www.dartmouthatlas.org/.

[2] OECD Health Data 2012. For discussion about how the US compares to other countries and trends in health care spending, see: http://www.pbs.org/newshour/rundown/2012/10/health-costs-how-the-us-compares-with-other-countries.html.

[3] Dennis Delay and Steve Norton, *Driving the Economy: Healthcare in New Hampshire*. NH Center for Public Policy Studies NH Center for Public Policy Studies, Sept. 2008.

[4] The Commonwealth Health Fund's Local Scorecard rates the Lebanon Health Referral Region, which, as defined by the Dartmouth Atlas, runs the entire length of the Vermont-New Hampshire border, as being in the top national quartile in overall performance, in the top 10% in Prevention and Treatment, and one of the top 3 areas in Medicare imaging costs per enrollee. On equity measures, however, this region falls only in the top half of the national distribution. More disturbingly, this report notes that the Lebanon HRR is one of only two areas in Northeast with a suicide rate higher than national median.

[5] Kaiser State Health Facts: http://www.statehealthfacts.org/comparemaptable.jsp?ind=445&cat=8&sub=105&yr=200&typ=1&sort=a&rgnhl=1. The number of people employed by state and local government is approximately the same. See US Census, Government Employment and Payroll. http://www.census.gov/govs/apes/

[6] C. H. Colla, D. E. Wennberg, E. Meara et al., "Spending Differences Associated with the Medicare Physician Group Practice Demonstration," *Journal of the American Medical Association*, Sept. 12, 2012 308(10):1015–23.

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Appendix 1. Members of the Initial Planning Committee & Staff Support from The Dartmouth Institute and ReThink Health

Initial Planning Committee Members

BARBARA J. COUCH, MS, has been with Hypertherm, Inc. for 25 years, responsible for developing the nationally award winning programs that focus on the development and well-being of Hypertherm's associates, an integral piece of the company's mission statement. Recognized as one of the best places to work in the United States and in NH, the company's awards include being listed #12 on the *Fortune Magazine* list of the 100 Best Companies to Work For in the United States and *Business NH Magazine's* Top 10 Best Companies to Work For in NH. Until March, 2009, she served as Vice President, Human Resources and currently she stewards the company's Corporate Social Responsibility (CSR) initiatives serving as VP, CSR and serving as founder and president of the company's HOPE Foundation. Hypertherm has been recognized nationally and in NH for its CSR programs. Barbara also serves on Hypertherm's Board of Directors. Barbara currently serves as past chair of New Hampshire Public Radio (NHPR); she is on the Board of Trustees at Dartmouth Hitchcock Medical Center and on the Board of Overseers for the Geisel School of Medicine. Barbara holds an appointed position to the NH Governor's Advanced Manufacturing Education Council. She is on numerous statewide Advisory Boards and locally, is an elder at her church. Barbara graduated from Bradley University with a B.A. in sociology and psychology and she received her master's degree in counseling psychology from Northeastern Illinois University. Barbara and her husband, Richard, live in Hanover and have three grown daughters. Her latest passion is time spent with their two young granddaughters.

"Dinner table conversations when I was growing up were rich on topics of politics, civil rights, religion and war. It was the 1960s, and my father was passionate about these subjects. From school boards to political campaigns, he made time for things he deemed important outside of work and family.
In my teens I participated in a racial integration experience orchestrated by my dad. I was bussed to an inner city school in Chicago several days a week while students from the inner city school traveled to my high school in the suburbs. What I learned from this experience influenced my life. I learned that there were haves and have-nots, and despite my family's humble beginnings, I was a have. I felt what it was like to walk in the shoes of others.

My dad is now well into his eighties. Up until very recently he was living independently. While frail in body, he was strong in might and mind. But all that changed when he was hospitalized for routine tests following a fall in March 2013. While in the hospital for four days, he developed a serious infection that resulted in pneumonia. Despite his advanced directives that included DNR and DNI, he was placed on a ventilator and in the ICU for two weeks. My dad survived that experience, but his life is changed forever. He is now in a 24/7 skilled nursing facility where he will likely remain. My heart is heavy as I walk in his shoes today.

From my dad I learned the importance of taking a stance on issues for which one is passionate – to get involved in things bigger than ourselves, to make a difference wherever and whenever we can. I come to this mission with my dad's past energy and determination. I am excited about what we can create together."

ELLIOTT S. FISHER, MD, MPH, is the James W. Squires Professor of Medicine and Community and Family Medicine at The Geisel School of Medicine and Director for Population Health and Policy at the Dartmouth Institute for Health Policy and Clinical Practice. He is also Co-Director of the Dartmouth Atlas of Health Care and a founding director of ReThink Health. His early research focused on exploring the causes of the two fold differences in spending observed across U.S. regions and on understanding the implications of these variations for health and health care. His recent work has focused on developing and evaluating policy approaches to slowing the growth of health care spending while improving quality. He was one of the originators of the concept of "accountable care organizations" (ACOs) and worked with Mark McClellan, former CMS administrator, to establish a joint Brookings-Dartmouth program to advance ACOs through multi-stakeholder collaboration, policy analyses and the creation of a learning network that now includes ACOs across the U.S. His current work focuses on two areas: exploring the determinants of successful ACO formation and performance; and, exploring how to catalyze successful local health system transformation through his partnership with ReThink Health. He has published nearly 150 research articles and commentaries in leading academic journals. He received his undergraduate and medical degrees from Harvard University and completed his internal medicine residency and public health training at the University of Washington. He is a member of the Institute of Medicine of the National Academy of Sciences

"I grew up in a privileged family with high expectations and a strong sense of responsibility. I was named after my grandfather, Elliott Speer, an Episcopalian minister and educator, who was murdered when my mother was 12. My father lost his closest friends in World War II and flew the weather reconnaissance flights that made possible the bombing of Hiroshima. He came back convinced that war was no way to settle differences. He devoted his life to reducing the risk of conflict, helped establish the field of conflict resolution (writing a best-seller, Getting to Yes, along the way). My brother and I grew up knowing we were supposed to make a difference, but we had no idea how or even whether we would be able to do so. The pressure created by the gap between his impact and our insecurity caused us both to rebel.

I became a climber. I majored in mountaineering at Harvard (with a minor in East Asian Studies). I taught at Outward Bound. After college, I drove an ambulance in Somerville, Massachusetts. I discovered that I was able to help people with real problems and even save a life or two. I also saw how poverty and poor health care limited the lives of children just a few miles from the elegant homes of Harvard faculty. I decided to go to medical school, and hoped someday to be involved in health policy.

Since then, I have had the incredible good fortune to work on interesting problems with great colleagues and apply the insights we have gained to making health care both better and more affordable. I am now beginning to believe that we may be able to address the disparities in health and health care that brought me to this work – and that our best chance to do so will be by showing what can be done in a few U.S. regions. This region should be one of them."

SARA KOBYLENSKI, MSW, is the Executive Director of The Upper Valley Haven. She has an MSW from the University of Pennsylvania, post MSW training from Smith College, and a certificate from the Executive Leadership Curriculum at Harvard University's Kennedy School of Government. Following work with children and families in Massachusetts and Philadelphia, she came to the Upper Valley in 1981 to work at Upper Valley Youth Services. In 1984 she joined the staff of the Annie E. Casey Foundation to open the area division of Casey Family Services. Retiring from Casey in 2003, she went to work for the State of Vermont, first in child welfare and then as Hartford District Field Director for the Secretary of the Agency of Human Services until coming to the Haven in 2009. She has served on many community boards and committees, including 8 years on the Hartland School Board, nine years with Alice Peck Day Memorial Hospital and Health System Boards, and twenty years on the Vermont Supreme Court Standing Committee on Family Rules. Currently she is a Director of Mascoma Savings Bank and chair of the Board of Vermont Parent Representation Center.

"I grew up in the only racially integrated neighborhood in my home town – a public housing project – with parents who came from different religious traditions at a time when that was considered socially questionable. What I learned from this convergence of differences and cultural impossibilities was the common threads of needs and hopes and desires that make us all human. I learned that determination and refusal to accept assumptions about the world are powerful attitudes. We do have the capacity to impact our own destiny and to change the world. I suppose that is why I became a social worker: to be an advocate, sometimes for individuals and sometimes with groups around collective issues.

In 44 years as a social worker everyone I have met has come with a body, and there is a vast difference as to what happens to those bodies over a lifetime, depending on what opportunities folks have for general health and well-being and for health care. As a manager of social service organizations I have been challenged by the costs of providing good-enough health care resources for employees while maintaining a frugal budget. As a community member in the 21st century I can think of no more pressing issue than health and health care. And I know that if we want things to be different, then we are the ones who must take on the challenge for change."

LAURA K. LANDY, MBA, is President and Chief Executive Officer of the Rippel Foundation, founder and chair of ReThink Health, and a member of the Dartmouth-Hitchcock Medical Center Board of Trustees. Throughout her career, Ms. Landy has brought sound business and strategic thinking to creating sustainable solutions to pressing social issues. As President of Applied Concepts, a consulting firm she established in 1983, her efforts focused on the changing dynamics in health, higher education, finance, social services and culture. Among her health-related activities have been relationships with Pfizer, the New Jersey Department of Health and Senior Services, AT&T and urban health systems. Ms. Landy's expertise in entrepreneurship and corporate venturing led her to create and direct the Institute for Nonprofit Entrepreneurship at NYU's Stern School of Business where she also taught and served as Associate Director of the Center for Entrepreneurial Studies. She has also been a member of the adjunct faculty of Columbia University, Carnegie Mellon, the New School, and Fairleigh Dickinson. Ms. Landy received her undergraduate degree from Washington University in St. Louis. After graduate work at the University of California, Berkeley, she received her MBA from New York University. She is a Fellow of the New York Academy of Medicine.

"I have always believed that we could solve the problems facing us by working together. Perhaps it began at the League of Women Voters. My mother was president; I cranked the mimeograph machine and handed out voter information to my elementary school classmates. My father, who owned an advertising agency, included among his clients four successful gubernatorial candidates. Our dinner table conversation: the challenges of poverty, urban housing, education and health care… and often the seedier side of our democratic processes.

My teens and early 20s were marked by political assassinations; debates about race relations; riots and burning neighborhoods; Vietnam, Kent State and the draft; Earth Day; Women's Liberation and the period of "women can do it all." My first real job had me tackling poverty and unemployment; I was director of planning and responsible for $26 million each year. It was tough, but through it all I learned one BIG lesson: There had to be a better way than what we were doing.

At business school I immersed myself in innovation and social entrepreneurship, drawing the best from the social and policy sectors and from business. The combination of skills and perspectives was powerful and I have worked with these ideas for many years. Among the things I have come to understand is that lasting positive change will only come from (1) truly understanding underlying causes, not just symptoms, (2) seeing the whole system and how the pieces interact, (3) carefully choosing high leverage interventions even if they are not your favorite, (4) trying to give people what they really want, (5) being open to new solutions and working across boundaries even if it is uncomfortable, (6) acting as individuals and as a community; and (7) being committed for the long haul.

Our health and our health system, and the environment, are the greatest threats to our nation and our people. These are big, complex challenges but ones we need to face and fix if we care about our future and our children's future. There are solutions; we see better examples all over the world and across the country and some of those ideas originated at Dartmouth. While there are always huge barriers to change, there is a spirit and commitment to health in the Upper Valley that can make something happen. It would be great to do it to show others; most importantly we need to do it for ourselves."

GREGG MEYER, MD, MSC, is Dartmouth-Hitchcock's first Chief Clinical Officer and Executive Vice President for Population Health. In the newly created role, Dr. Meyer works closely with Dartmouth-Hitchcock President and CEO Dr. James Weinstein, with broad responsibility for the clinical operations of the Dartmouth-Hitchcock system across New Hampshire and Vermont. Dr. Meyer is also Senior Associate Dean for Clinical Affairs and the first recipient of the Paul B. Batalden Chair in Health Care Leadership Improvement at the Geisel School of Medicine at Dartmouth. Dr. Meyer came to Dartmouth-Hitchcock from Harvard Medical School and the Massachusetts General Hospital and the Massachusetts General Physicians Organization, where he was the Senior Vice President of the Edward P. Lawrence Center for Quality and Safety. In addition, Dr. Meyer served as a fellow in the health office of the U.S. Senate Labor and Human Resources Committee and was an Associate Professor in the Departments of Medicine and Preventive Medicine & Biometrics and Division Director of General Internal Medicine at the Uniformed Services University of the Health Sciences (USUHS), where he coordinated design and analysis of the Department of Defense's Cardiovascular National Quality Management Project and developed curricula for senior military medical leaders. While at USUHS Dr. Meyer served as an active-duty Medical Corps officer and Colonel in the U.S. Air Force. Following his time at USUHS Dr. Meyer was Director of the Center for Quality Improvement and Patient Safety at the US Agency for Healthcare Research and Quality (AHRQ) where he was responsible for conducting and supporting research on the measurement and improvement of the quality of health care, including clinical performance measurement, patient safety issues, consumer surveys, and satisfaction with healthcare

services. Dr. Meyer is the author of more than 100 articles, editorials, chapters, and monographs and is board certified in Internal Medicine. He is a Phi Beta Kappa graduate of Union College and magna cum laude graduate of Albany Medical College. He earned a master's degree from Oxford University as a Rhodes Scholar and after returning from England, he completed a residency in primary care internal medicine at Massachusetts General Hospital. After residency, he completed fellowship training in general internal medicine at Massachusetts General Hospital and Harvard Medical School, and received a master's degree in Health Policy and Management from the Harvard School of Public Health.

"My first experience with healthcare was through my community's General Practitioner who not only cared for my family and everyone else I knew, but was also especially kind and generous to my family. My grandmother, an immigrant from Scotland, worked as his front desk staff, assistant, and unregistered nurse. The smell of his office, the stories about service to the community, his interactions with my father (who was Chief of the local police department), and his dedication to lifelong learning are indelible. While I was in medical school he died in his driveway, black bag in hand, on the way to make a house call. He understood population health and caring in a way that I only hope to express in my own work.

I have been blessed by wonderful experiences: working as a GP in the UK National Health Service where I made house calls at lunch time (popping into the pub to call our naughtier patients to task); serving as an officer in our military's healthcare system (where everyone knows it takes an entire community to keep us safe); working in two different administrations in Washington trying (and failing more often than not) to make healthcare better for Americans; and having leadership opportunities in world class academic health centers. In all of these I have lived in intersection between clinical medicine for individuals, healthcare delivery for populations, the policies that guides them, the operations that support them, and the research with which they are informed. It is a very messy place to be and I have become increasingly convinced that medical providers and policymakers in Washington are ill equipped and often unwilling to lead us. We need a different approach.

Twenty years ago I served as one of "those people" who worked on President Clinton's Health Care Reform Task Force. It was a well intentioned but poorly organized and executed effort that fell flat. I believe we now have an opportunity to reset those conversations in a way that can really work. Not led by policymakers or providers, but by an entire community focused on working towards health and making healthcare work."

ALBERT G. MULLEY, JR, MD, MPP, is Director of the Dartmouth Center for Health Care Delivery Science and Professor of Medicine at the Geisel School of Medicine at Dartmouth. Before joining the Dartmouth Center, Dr. Mulley spent 35 years on the Harvard faculty and the staff of Massachusetts General Hospital where he was the founding Chief of the General Medicine Division and Director of the Medical Practices Evaluation Center. Dr. Mulley's research focuses on the use of decision theory and outcomes research to distinguish between warranted and unwarranted variations in clinical practice. This work led to development of research instruments and approaches, including shared decision-making programs, to support clinicians and patients in their decision-making roles and to catalyze both learning collaboratives and clinical trials. These approaches have shown decreasing utilization of high cost medical and surgical interventions while improving measures of decision quality, including stronger associations between patients' personal preferences for health outcomes and the care they receive. Dr. Mulley's work, aimed at improving the quality of health care decision-making, has influenced the agendas of many public and private organizations engaged in clinical care as well as medical research and education. He was a founding director of the Foundation for Informed Medical Decision Making and continues to serve as senior clinical advisor. He also served on multiple committees of the Institute of Medicine, of professional societies, and as a consultant and visiting professor to government agencies, health care organizations, and

academic medical centers in North America, Europe, and Asia. In 2011, he was named the first International Visiting Fellow at the King's Fund in London and appointed International Consultant to the Chinese Hospital Association. Al and his wife Margaret have lived in Hanover since Al's full-time return to Dartmouth in 2010. Though they are new residents of the Upper Valley, Al has remained close to Dartmouth and the Upper Valley community since his graduation in 1970 as an alumnus, a research collaborator, an overseer of the medical school, and a trustee of Dartmouth College. And Al and Margaret have been Dartmouth parents for more than a decade: their daughter Kate graduated from the College in 2005; their son Alex graduated from Tuck in 2008.

"Before I had shaved for the first time, I was climbing steel with my father 500 feet above Boylston Street in Boston. It was 1964, and we were putting finishing touches on the top of the tallest building in the city, the Prudential Tower. Each summer, for the next nine years, I worked with iron workers to build some of Boston's iconic skyscrapers. Only in retrospect did I recognize how much my time as an iron worker guided the choices I made in pursuing my education and the vocation that followed. At an early age, I learned the importance of risk-taking, trust, and teamwork in making new and lasting connections – both structural and relational – to create an enduring piece of the future.

Medicine was an easy choice for me, being the most visible service career for someone with my family background. But as a junior at Dartmouth in 1969, I was introduced by then-biology professor Bill Ballard to the just-published Garrett Hardin article, Tragedy of the Commons. This parable about the dangers of pursuit of self-interest in the use of "common-pool resources" seemed especially relevant to health care so soon after the passage of Medicare and Medicaid. Intrigued by the complexity of the problem, I decided then that I would only apply to medical schools where I could pursue a degree in economics as well as medicine. I did so and have since spent my career doing my best to put to good use what I learned nearly 50 years ago above the streets of Boston about risk-taking, trust and teamwork."

EUGENE C. NELSON, DSC, MPH, is a Professor of Community and Family Medicine at The Geisel School of Medicine at Dartmouth and The Dartmouth Institute for Health Policy and Clinical Practice. He serves as the director of Population Health and Measurement at The Dartmouth Institute and at Dartmouth-Hitchcock Health. Dr. Nelson is a national leader in health care improvement and the development and application of measures of quality, system performance, health outcomes, value, and patient and customer perceptions. In the early 1990s, Dr. Nelson and his colleagues at Dartmouth began developing clinical microsystem thinking. His work developing the "clinical value compass" and "whole system measures" to assess health care system performance has made him a well-recognized quality and value measurement expert. He is the recipient of The Joint Commission's Ernest A. Codman award for his work on outcomes measurement in health care. Dr. Nelson has been a pioneer in bringing modern quality improvement thinking into the mainstream of health care; he helped launch the Institute for Healthcare Improvement and served as a founding Board Member. He has authored over 150 publications and is an author of three recent books: (a) Quality by Design: A Clinical Microsystems Approach, (b) Practice-Based Learning and Improvement: A Clinical Improvement Action Guide: Second Edition, and (c) Value by Design: Developing Clinical Microsystems to Achieve Organizational Excellence. He received an AB from Dartmouth College, a MPH from Yale University and a DSc from Harvard University.

"In May 1970, I stood with my thumb out on the on the Lebanon ramp to Route 89 south, hoping for a ride to Boston's Logan Airport. In less than a month I was set to graduate from Dartmouth College, get married and start graduate school in sociology at the University of North Carolina with a full scholarship and stipend. A stranger named Casey Plough pulled over and offered me a ride to Logan. By the time we got to the airport, I changed my

mind about sociology. Casey had just been hired to start the Medex Physician Assistant program – a brand new idea for U.S. health care, akin to barefoot doctors in China – and his education was in public health.

I went to Yale School of Public Health in 1971, with the goal of making a difference by using social science research methods to improve health care and promote self-care and community health. My first job was at the Department of Community Medicine at Dartmouth with Mike Zubkoff, to start innovative self-care programs and the Primary Care Coop Project, a regional initiative that brought together primary care doctors to discover new ways to measurably improve health outcomes. I have been working on these two aims – better self-care for better health, and better health care for better health – ever since, but usually in disconnected ways.

Now we have the opportunity to connect self-care and community health with personal healthcare services delivery. In Kerr White's words, we might be able to "heal the schism" that divides population health and health care. Imagine what we might be able to accomplish if we rethink what we do and how we do it. We will be system thinkers and innovators. We will show how citizens in a region can work together to reduce the burden of illness, promote health, make quality health care more accessible to everyone, reduce medical care costs and make the local economy stronger and more competitive. For me, these are worthy goals to work on."

STEVE VOIGT, MBA, has been President and CEO of King Arthur® Flour since 1999. Hired in 1992 as Vice President of Finance, Steve became Chief Operating Officer in 1998. Prior to King Arthur Flour, Steve worked for Benedetto, Gartland & Greene in New York, where he raised private equity for venture, LBO and alternative asset funds. During his tenure there, Steve also supported his wife in founding, and later selling, Robin's Homemade Breads of Greenwich, CT. He also consulted out of Zurich, Switzerland and Cleveland for McKinsey & Company. Steve is a graduate of the Amos Tuck School of Business Administration at Dartmouth College, and Colgate University. Steve is Chair of Vermont Business Roundtable and is also on the boards of Newport Harbor, Montshire Museum of Science and King Arthur Flour. Steve is also an active member of The ESOP Association serving on the Board of Governors from 2003-2009.

"The first time I heard someone say that private business had to fix health care, I winced. I knew firsthand the costs of employee health insurance but considered my primary responsibility to our customers. With such a large portion of our GDP going to health care, there must be resources for this elsewhere in the system.

I drew similar lines around my personal health until a mountain bike ride with my primary care doc revealed my self-perception was decades out of date – I had to turn around early in the ride. If I wanted to compete, I needed to dedicate myself to the fitness I used to take for granted.
When I attended the Accelerating Change conference at Dartmouth in 2012, I met similarly focused business executives from all industries with equally deep competitive streaks. They shared why business needs to lead on health. Innovators shared data and offered examples of outcomes achievable through new approaches.

I saw the special opportunity this presents. As a 100% ESOP (employee owned company) and a recent Vermont Benefit Corporation, taking steps outside the business realm for important social ends is part of our motivation at King Arthur Flour. We must lead our community to achieve the health outcomes we should expect, and that starts now. We can be successful if we dedicate ourselves and come together to help each other. I recently rode the mountain bike route I failed to complete years ago alongside one of the docs leading this effort. "

The Dartmouth Institute Support Staff

SARAH KLER, AB, is a Health Policy Fellow for the Center for Population Health at The Dartmouth Institute for Health Policy and Clinical Practice. She is a recent graduate from Dartmouth College where she majored in Geography with a focus on geographies of health. She received a Global Health Certificate after interning at a pediatric infectious disease clinic overseas and studying health mapping, anthropology of international health, and health policy. Outside of the office she is a coach for the Dartmouth women's rowing team and enjoys volunteering with the Family Place. She is working closely with Elliott Fisher on ReThink Health: The Upper Valley.

ReThink Health Staff

KATE B. HILTON, JD, MTS, is a Founding Member of ReThink Health and a Principal in Practice for Leading Change at the Hauser Center for Nonprofit Organizations at Harvard University. She designs campaigns, teaches organizing and leadership skills, and strategizes with leadership teams to take action. In 2010-11, Ms. Hilton served as the lead coach for a campaign to improve quality and lower costs in the National Health Service in England. She has led organizing and leadership training for a multitude of organizations including the Institute of Healthcare Improvement, the South Carolina Hospital Association, the Episcopal Diocese of Massachusetts, and many others. Ms. Hilton taught in Dr. Marshall Ganz's organizing course at Harvard Kennedy School in 2004 and 2009 and co-designed and led the distance learning version of the course in 2010. Ms. Hilton received a JD from the University of Wisconsin Law School in 2008, an MTS from Harvard Divinity School in 2004 and an AB from Dartmouth College in 1999. She is licensed to practice law in Wisconsin and Massachusetts. Kate lives in Lyme, New Hampshire, with her husband Andy, son Hans and Labrador retriever Jethro.

C. SHERRY IMMEDIATO, MPP, MBA, is a Founding Member of ReThink Health. Among her many roles are leading processes to capture and apply learning to enhance the work of ReThink Health, facilitating sessions across the country, designing and delivering training programs, and guiding work and strategy in communities and with key constituencies to create multi-stakeholder stewardship structures. She is a founding member of SoL, the Society for Organizational Learning and served as its managing director and president from 2001-2010. Ms. Immediato began her career as a large system organizational consultant when she joined Peter Senge and Charlie Kiefer in 1982 to develop the work that resulted in the publication of *The Fifth Discipline: The Art and Practice of the Learning Organization* in 1990. Ms. Immediate is the co-author of *Creating Integrated Care and Healthier Communities,* a computer simulation and learning experience for health care leaders; served as the lead faculty member of the national Public Health Education Leadership Institute and the CDC sponsored national Environmental Public Health Leadership Institute, and is an adjunct faculty member at the S. Louis University School of Public Health. She holds a BS from the University of Wisconsin-Madison, an MPP from the Kennedy School of Government and an MBA from the Harvard Business School. She is a New Hampshire native and resides in the Boston area.

MICHAEL D. MCGINNIS, PHD, is a Professor of Political Science at Indiana University, Bloomington. He is former Director of the Vincent and Elinor Ostrom Workshop in Political Theory and Policy Analysis, an inter-disciplinary research and teaching center focused on the study of institutions, development, and governance. He has a Ph.D. in political science from The University of Minnesota and a B.S. in mathematics from The Ohio State University. He has published on topics in public policy, institutional analysis, humanitarian aid, arms control, game theory, and the role of faith-based organizations in public policy. His current research focuses on the ways in which health care policy in the U.S. can be improved through increased collaboration among stakeholders at the community or regional level. McGinnis is Principal Investigator of the Managing the Health Commons research project, which applies principles of commons governance identified by Elinor Ostrom and others to the study of regional health and health care systems. This project is part of the ReThink Health network, established and funded by the Fannie E. Rippel Foundation. From January through June 2013 he will be spending his sabbatical leave as a Visiting Professor at Dartmouth, and will be living in Hanover, New Hampshire.

ERIN R. PICHIOTINO, MPH, is a Project Coordinator for ReThink Health. She is a recent graduate of The Dartmouth Institute for Health Policy and Clinical Practice where she was her class commencement student marshal in 2012. Most recently, she has been working as a research assistant on obesity and child nutrition epidemiological studies at the Hood Center for Children and Families in Lebanon, New Hampshire, and at the Department of Veteran Affairs in White River Junction, Vermont where she performed exhaustive electronic medical record (EMR) data reviews aimed to capture, understand, and categorize incidental thyroid findings. She held a pre-medical concentration as an undergraduate at the University of Vermont, where she completed a degree in Environmental Studies. Erin is a girl's youth soccer coach with Lightning Soccer Club, having been a Varsity soccer player at UVM and a semi-professional soccer league captain in her previous life. She also serves as a teaching assistant at the Tuck School of Business. Originally from Burlington, Vermont, Erin now resides in Norwich.

RUTH WAGEMAN, PHD, directs a suite of ReThink Health research projects. Dr. Wageman works deeply with groups and communities to develop stewardship capacity and create new knowledge and practical tools for leaders. Dr. Wageman is Associate Faculty in Psychology at Harvard University, where she specializes in the field of Organizational Behavior, researching the conditions under which people are able to accomplish great things, especially in collaboration with one another. She has published prolifically on a range of subjects in organizational behavior, including *Senior Leadership Teams: What it Takes to Make Them Great*,2008, co-authored with Debra A. Nunes, James Burruss, and Richard Hackman. Dr. Wageman earned a PhD from Harvard's University's Joint Doctoral Program in Organizational Behavior in 1994 and a BA in Psychology from Columbia University in 1987, where she later returned to teach at the Graduate School of Business as the first female alum to join Columbia's faculty. She served on the faculty of Dartmouth's Amos Tuck School of Business for five years and as a Visiting Scholar in Leadership at the Kennedy School of Government. Ruth fell in love with the region and has lived along the shores of Pleasant Lake in New London, New Hampshire for 12 years now.

Appendix 2. The ReThink Health Upper Valley Interview Process

Description of the Process

Starting in October 2012, the ReThink Health Staff (RTH) and members of the Initial Planning Team (IPT) interviewed 43 identified leaders in the Connecticut River Valley Region, ranging from those involved in the traditional health care system to those involved in community organizations and education. The conversational, semi-structured interviews were conducted in pairs to explore themes including learning more about what calls leaders to work; visions for a healthy, thriving community; barriers and enablers to achieving that vision; and to learn about actions already being taken that make us hopeful that we can transform our health and health systems. In addition, the RTH staff and members of the IPT asked for a definition of the "Upper Valley" and for names of other leaders in the region who should be involved in this process. From the first round of interviews, taking place between October 24th and November 27th, 2012, the team collected a list of other identified leaders in the region, of whom eleven were invited to interview as part of our second round. The second round of interviews took place between December 5, 2012 and March 11th, 2013.

This is a summary of the themes raised in the 43 interviews, organized by interview question. Notes were captured around key questions and quotes were taken where possible. All interviews were coded first using existing frameworks and then with subcategories as they emerged during the process. All content was included regardless of the source. The content to follow has been synthesized with key lessons captured.

Table 1: Interviewee Demographics

Gender, *n (%)*	
Women	20 (47)
Men	23 (53)
State Worked, *n (%)*	
Vermont	13 (30)
New Hampshire	30 (70)
Organizations Represented, *n (%)*	
Local Employers	4 (9)
DHMC Employees	6 (14)
Dartmouth College, Tuck, Geisel, and TDI Employees	9 (21)
Faith Community Representatives	3 (7)
Community Organization Representatives	10 (23)
State or Town Managers	3 (7)
State Representatives	3 (7)
Non-DHMC Health Care Organizations	4 (9)
Board of DHMC, *n (%)*	5 (12)
Clinicians, *n (%)*	14 (32)

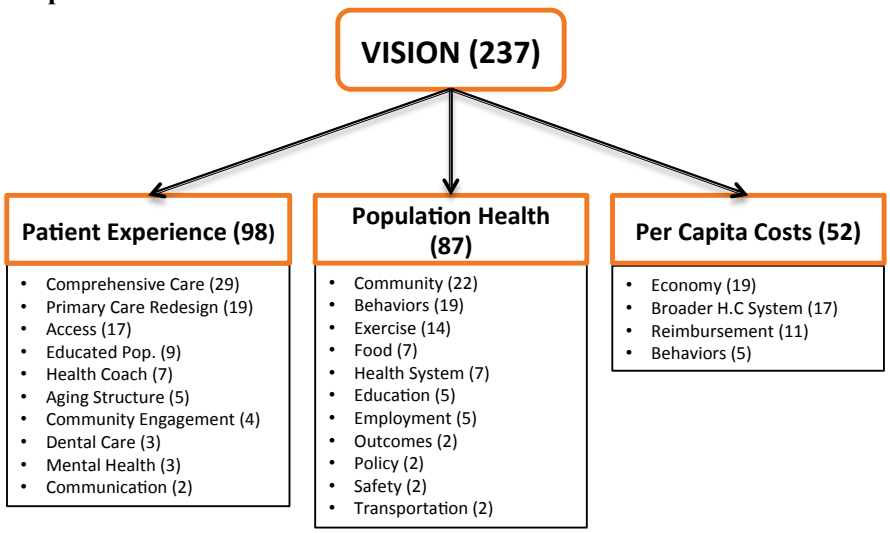
Summary of Interviews

Topic 1: VISION
Question: What are your hopes, aspirations, and vision of a health Upper Valley and a sustainable health system; why is this important to you?

Categories: Images of an aspirational future, based on the Triple Aim

1. **Improve Patient Experience—**An improved health care system
2. **Improve Population Health—**What thriving looks like, including mental health
3. **Reduce Per-Capita Costs—**A financially more sustainable system or a healthier economic balance in the region

Responses:



Some key findings:

- **Emphasis on relationships as an aspect of thriving**
  - A healthy community is about people's relationships with each other: patient/provider, neighbors, family members, health coaches, parish nurses, volunteer health advocates – feeling part of a community looking after each other's health
- **"A lot of great things going on, but not effectively connected"** – people when interviewed express their vision and quickly point to work they already are doing toward it
- **A vision of one community rather than divided socio-economic classes**
  - Equity and justice for the "hidden" population
  - Economic vitality is a shared value
  - Desire for meaningful work is a widespread aspiration
- **Hope found in youth and elders** – retention of young people and aging in place
  - Students and seniors seen as untapped change agents

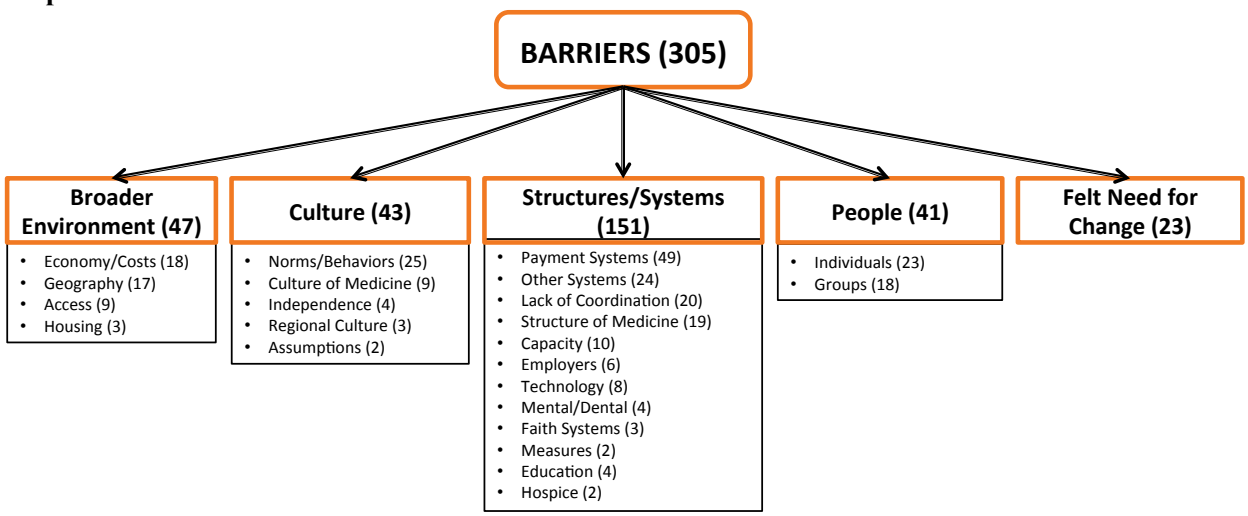
Topic 2: BARRIERS
Question: What do you see as the barriers to achieving that vision; what are in the place now that may get in the way?

Categories: *Forces likely to act against system change toward the aspirational future*

1. **Broader environment:** Features of the larger context, relatively difficult to influence or control i.e. Geography, state policy, physical environment, demographics

2. **Culture:** Regional culture, including cultural divides, deeply held value, beliefs/values, habits, norms, behaviors
3. **Structures and Systems:** Institutions (characteristics and behavior of and/or relationships between key institutions like employers, hospitals, churches, etc.), incentives, legal system, structure of towns and their regulations
4. **People:** Key named groups and individuals' defining characteristics, including leadership, relationships, conflict
5. **Felt need for change:** Desires (low aspirations) and pain (e.g., no sense of urgency, poorer citizens not completely disenfranchised)

Responses:



Some key findings:

How realistic is it to think about "regional stewardship" when there is no regional identity?

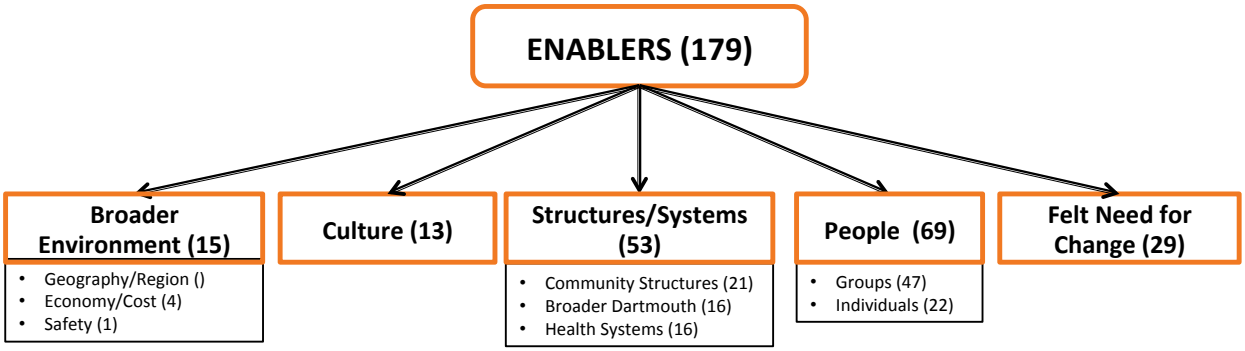
- Many fracture lines: VT/NH, towns, Dartmouth, provider specialists/generalists, generational divides, newcomers, renters, socio-economic classes, UV/rest of state
- Cultural values around self-reliance and individualism (but some evidence of understanding the commons as well)
- Lack of coordination is pervasive
  - Many siloes working wastefully: small providers replicating care systems, towns not working together to leverage resources for greater impact, reinventing wheel
  - Not currently a "safe harbor" to connect health initiatives on a regional basis
- Any institution in Dartmouth is viewed as part of "Dartmouth"
  - From community perspective, all "big green" messages that come out of this effort (public communications about intentions) may be easily be undermined by independent action by other, unrelated aspect of "Dartmouth"
- HIT fatigue in the region – not expecting serious enthusiasm for it
  - Yet transportation and access identified as barriers for which regional technological connectivity could help – not only to people but for businesses
- Resource constraints

Topic 3: ENABLERS
Question: What gives you hope; what can we build on?

Categories: Forces likely to promote system change toward the aspirational future

2. **Broader environment:** Features of the larger context, relatively difficult to influence or control i.e. Geography, state policy, physical environment, demographics
3. **Culture:** Regional culture, including cultural divides, deeply held value, beliefs/values, habits, norms, behaviors
4. **Structures and Systems:** Institutions (characteristics and behavior of and/or relationships between key institutions like employers, hospitals, churches, etc.), incentives, legal system, structure of towns and their regulations
5. **People:** Key named groups and individuals' defining characteristics, including leadership, relationships, conflict
6. **Felt need for change:** Desires (low aspirations) and pain (e.g., no sense of urgency, poorer citizens not completely disenfranchised)

Responses:



Some key findings:

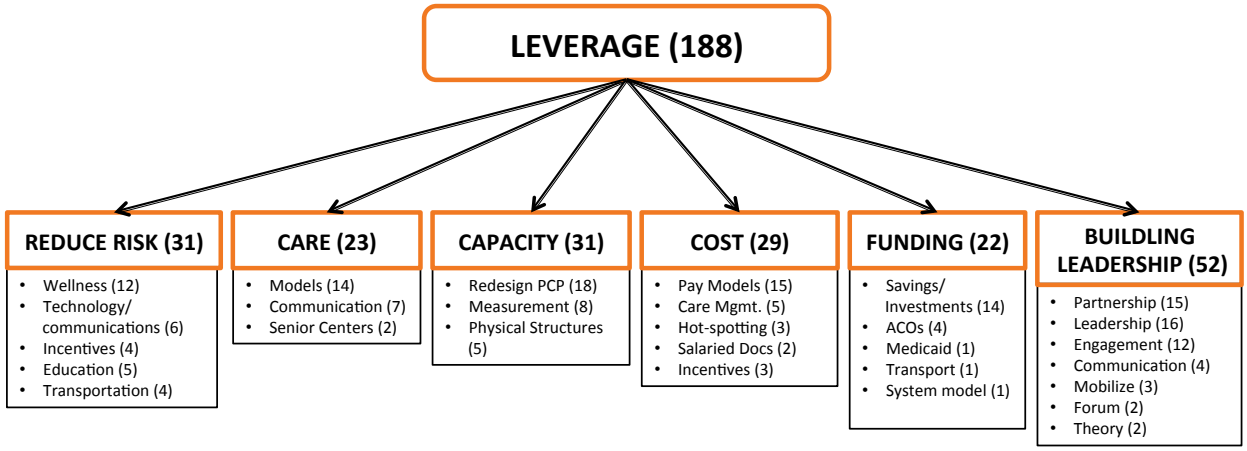
- While there is relatively little urgency existing for major change right now, there are a handful of **potential sources of urgency that could be surfaced**:
    - Hidden poverty is under recognized
    - Concern for substance abuse and mental health and depression and lack of capacity
    - Providers are not happy with the status quo-"soul-sick" medicine
    - End of life care "is capital T TERRIBLE"
    - Payment system is viewed as crazy, felt largely by providers and employers
- **Collaboration in the region is characterized as on an upward trend**, and is perhaps a zeitgeist this project could capture
- While there isn't a regional identity **there is shared pride in living in this area** – and in specific towns
- **Seniors/Recent retirees, students, churches, and employers—possible change agent constituencies** identified as people who have latitude and resource to work on change
- **Sharp systems thinking in the population**—many leaders see only a small part of system, but are still well able to articulate how pieces can connect and make virtuous cycle, or not

Topic 4: LEVERAGE
Question: What are some ideas for action; what can we do to move toward that vision?

Categories: Potential interventions of different kinds that might bring about change; categories are drawn from the RTH System Dynamics model

1. **Reduce risk:** Changing health related behaviors (smoking, exercise, diet), reducing environmental hazards, crime, pathways to advantage to reduce social determinants of poor health
2. **Care:** Prevention/chronic disease management, mental illness, self-care, reducing hospital-acquired infections
3. **Capacity**: Improving primary care efficiency, recruiting primary care physicians, hospital efficiency
4. **Cost**: Pre-visit consult, medical home, coordinated care, shared-decisions, post-discharge care, malpractice, generic prescriptions, hospice
5. **Funding:** Innovation fund, capture/re-invest, share with providers, global contingent payment
6. **Building Leadership and Collaborative Capacity**: Formation of new groups, coalitions, shared goals, improving relationships, developing individuals and groups' abilities to lead and work together

Responses:



Some key findings:

- **Building leadership and collaborative capacity: an emergent code, easily the largest theme**
  - Many named admired groups: an employer coalition, network of non profits, etc.
  - Many named efforts at redesigning some aspect of the system, all described as unconnected
- **Expressed need for a neutral convener with good relations**
  - Dartmouth is not seen as neutral
  - Vital Communities came up frequently but with a recognition of a somewhat narrow agenda
- **Redesign incentives (many comments, few experiments)**
- **Supporting an Ecology of Innovation**
  - Mapping ongoing efforts in key areas identified by overarching strategy
  - Promoting, supporting, enabling, and expanding and studying existing local efforts.
  - "TDI is such an important resource, can they help us measure/improve what is happening?"
  - Launch new efforts where there are gaps

Appendix 3. Community Initiatives & Resources

Methodology

During the interview process, the ReThink Health and Initial Planning team members asked interviewees for enablers—initiatives, people, groups, and organizations—that give us hope for the future and on which we can build to achieve a shared vision. In addition, members of the ReThink Health Staff built upon previous needs assessments from the Region, including the *Granite United Way Needs Assessment of 2008* (cite), *The Upper Valley Healthy Community Project Assessment* presented by the Mascoma Valley Health Initiative (cite), and a search for health care and community organizations in the 2013 Connecticut River Valley Yellow Pages, internet searches, and from word of mouth identification. In addition, we found a wealth of online resources including *ValleyNet (www.valley.net)* and the *Upper Valley Resource Directory (theuppervalley.com)*. This is a summary of the organizations and groups that were identified through both processes. The content to follow has been compiled not to be exhaustive, but rather as a tool to spur conversation and collaboration. The maps are included for visual purposes only and a list of the included organizations can be produced upon request. All content was included regardless of the source.

List of Enablers from Interviews

Health Initiatives

1. MASCOMA VALLEY HEALTH INITIATIVE - http://www.mvhi.org/
2. UPPER VALLEY HEALTHY EATING ACTIVE LIVING (HEAL) PARTNERSHIP – http://www.uvheal.org

Community Services and Organizations

3. VITAL COMMUNITIES - http://www.vitalcommunities.org/
4. VALLEYNET COMMUNITY ORGANIZATIONS PAGES - http://www.valley.net/index.html
5. UNITED VALLEY INTERFAITH PROJECT - http://unitedvalleyinterfaith.org
6. TWIN PINES HOUSING TRUST - http://www.tphtrust.org/
7. UPPER VALLEY AT WORK - http://www.uvatwork.org/
8. UPPER VALLEY HOUSING COALITION - http://www.uvhc.org/volunteer.html
9. UPPER VALLEY STRONG – WILDER, VT- http://www.uvstrong.org/
10. COMMUNITY ALLIANCE OF HUMAN SERVICES - http://www.communityalliance.net/
11. COMMUNITY BASED SERVICES OF CLAREMONT – website unavailable
12. WHITE RIVER COUNCIL ON AGING – WHITE RIVER JUNCTION, VT - www.bugbeecenter.org

Crisis Services

13. ACORN - www.acornvtnh.org
14. COVER HOME REPAIR & REUSE PROGRAM - www.coverhomerepair.org
15. HEADREST, INC. - www.headrest.org
16. LISTEN COMMUNITY SERVICES, INC. - www.listeninc.org
17. TRI-COUNTY CAP- www.tccaphomeless.org
18. UPPER VALLEY HAVEN- www.uppervalleyhaven.org
19. WISE OF THE UPPER VALLEY - http://www.wiseoftheuppervalley.org/
20. WILLING HANDS – LEBANON, NH - -www.willinghandsinc.org

Potential Volunteer Groups

21. GIRL SCOUTS OF THE GREEN & WHITE MOUNTAINS - www.swgirlscouts.org
22. GRAFTON COUNTY SENIOR CITIZENS COUNCIL - WWW.GCSCC.ORG

23. MEDICAL STUDENTS
24. PARISH NURSE PROGRAMS
25. NURSE EDUCATION PROGRAMS
26. PHYSICIAN ASSISTANT PROGRAMS
27. SOCIAL WORK EDUCATION PROGRAMS
28. ROTARY CLUBS
29. WORLD OF HEALTH DISCUSSION GROUP IN LYME
30. EMPLOYERS

Drug and Alcohol Abuse and Treatment

31. THE CIRCLE PROGRAM - www.circleprogram.org
32. SECOND WIND - www.turningpointclub.com
33. BRIDGES TO PREVENTION - http://www.bridges2prevention.org

Family Services

34. HANNAH HOUSE - www.hannahhouseinc.org
35. THE FAMILY PLACE - http://www.the-family-place.org/
36. THE MAYHEW PROGRAM - www.mayhew.org
37. SECOND GROWTH INC. - www.secondgrowth.org
38. SPECIAL NEEDS SUPPORT CENTER OF THE UPPER VALLEY - www.snsc-uv.org
39. VERMONT CHILDREN'S AID SOCIETY - www.vtcas.org
40. PREGNANCY CENTER OF THE UPPER VALLEY - http://www.pregnancycenteruppervalley.com/
41. UPPER VALLEY BUSINESS AND EDUCAITON PARNTERNSHIP - http://www.uvbep.org/
42. GOOD BEGINNINGS OF THE UPPER VALLEY - http://www.goodbeginnings.net/uppervalley.html

Chambers of Commerce

43. CLAREMONT CHAMBER OF COMMERCE
44. HANOVER AREA CHAMBER OF COMMERCE
45. HARTFORD AREA CHAMBER OF COMMERCE
46. LEBANON CHAMBER OF COMMERCE
47. LOWER COHASE CHAMBER OF COMMERCE
48. NEWPORT AREA CHAMBER OF COMMERCE
49. OKEMO VALLEY CHAMBER OF COMMERCE
50. UPPER VALLEY BI-STATE REGIONAL CHAMBER OF COMMERCE
51. WOODSTOCK AREA CHAMBER OF COMMERCE

State Non-Profit Listings

52. THE NEW HAMPSHIRE CENTER FOR NONPROFITS- http://www.nhnonprofits.org/nonprofitsector/NHCNmembers.cfm

Funders

53. THE VERMONT COMMUNITY FOUNDATION- http://fdovermont.foundationcenter.org/
54. MASCOMA SAVINGS BANK FOUNDATION - https://www.mascomabank.com/foundation/msb-foundation
55. NH CHARITABLE FOUNDATION - http://www.nhcf.org/
56. GRANITE STATE UNITED WAY - http://www.graniteuw.org/aboutus/
57. GREEN MOUNTAIN UNITED WAY - http://www.gmunitedway.org/
58. RUTLAND COUNTY UNITED WAY- http://www.uwrutlandcounty.org/

Regional Associations

1. TWO RIVERS-OTTAUQUECHEE REGIONAL COMMISSION- http://www.trorc.org/
2. GREEN MOUNTAIN ECONOMIC DEVELOPMENT CORPORATION- http://www.gmedc.com/
3. UPPER VALLEY LAKE SUNAPEE REGIONAL PLANNING COMMISSION - http://www.uvlsrpc.org/
4. GRAFTON COUNTY NH ECONOMIC DEVELOPMENT COUNCIL- http://www.graftoncountyedc.org/
5. ACCESS VERMONT- http://Access-Vermont.com/
6. CONNECTICUT RIVER JOINT COMMISSIONS, INC - http://www.crjc.org/

*See also Resource Manual for the Upper Valley VT/NH, November 2010 http://www.youth-in-transition-grant.com/uploads/Orange-No._Windsor_Resource_Manual__2_.pdf

Appendix 4. Community Needs Assessments

Vermont and New Hampshire recent community needs assessments:

1. 2012 Assessment of Community Needs and Assets in the Upper Valley Region of Vermont and New Hampshire, Upper Valley United Way, (not yet publicly released)
2. 2008 Assessment of Community Needs and Assets in the Upper Valley Region of Vermont and New Hampshire, Upper Valley United Way, February 2009, http://www.dartmouth-hitchcock.org/dhmc-internet-upload/file_collection/Upper Valley CNA 2008.pdf
3. 2005 Community Health and Needs Assessment Telephone Survey: Upper Valley and Sullivan County, Bi-State Coalition for Community Health Improvement, prepared by RKM Research and Communications, Inc. http://www.dartmouth-hitchcock.org/dhmc-internet-upload/file_collection/ACFA740.pdf
4. New Hampshire only: Upper Valley Healthy Community Project Assessment, 2011, Mascoma Valley Health Initiative http://www.mvhi.org/wp-content/uploads/2011/06/UVHCP_Assessment_June_2011.pdf

Recurring themes include

1. Need for access to basic health care
2. Transportation
3. Mental health care
4. Dental care
5. Poor rural health

New Hampshire only community needs assessments

1. Upper Valley Healthy Community Project Assessment, June 2011, Mascoma Valley Health Initiative http://www.mvhi.org/wp-content/uploads/2011/06/UVHCP_Assessment_June_2011.pdf
2. New Hampshire State Health Profile http://www.dhhs.nh.gov/dphs/documents/2011statehealthprofile.pdf
3. New Hampshire Public Health Network, community assessment http://www.nhphn.org/resources/assessment.html
4. Healthy New Hampshire http://www.nhphn.org/docs/HealthyPeople2010.pdf
5. NH Citizens Health Initiative http://citizenshealthinitiative.org/

Vermont only community needs assessments

1. Blueprint for Health reports http://hcr.vermont.gov/blueprint
    a. 2011 Annual Report http://hcr.vermont.gov/sites/hcr/files/Blueprint%20Annual%20Report%20Final%2001%2026%2012%20_Final_.pdf
    b. 2010 Annual Report http://hcr.vermont.gov/sites/hcr/files/final_annual_report_01_26_11.pdf
2. Health Disparities of Vermonters 2010 (see esp. pp. 38-49) http://healthvermont.gov/pubs/healthdisparities/readersguide.pdf
3. Dept. of Health, Agency for Human Services http://www.healthvermont.gov/research/index.aspx
4. Medicare/Medicaid Enrollee state profile http://www.integratedcareresourcecenter.com/PDFs/StateProfileVT.pdf

Hospital Community Benefits Reports

1. Dartmouth-Hitchcock http://patients.dartmouth-hitchcock.org/community_health/community_benefits_program.html ; list of community partnerships http://www.dartmouth-hitchcock.org/dhmc-internet-

upload/file_collection/Attachment_6_Partial_Listing_of_Community_Coalitions.pdf

2. Alice Peck Day Hospital
   http://www.alicepeckday.org/assets/files/Community_Benefits_Report_APD_FY_2011.pdf and
   http://www.alicepeckday.org/assets/files/Community_Benefits_Addendum_APD_FY_2011.pdf
3. Visiting Nurse Association & Hospice of Vermont and New Hampshire,
   http://www.vnavnh.org/Assets/publications/benefit/2011-2012%20Community%20Benefit%20Report.pdf

Miscellaneous Specialized reports:

1. Response to Irene http://mba.tuck.dartmouth.edu/pages/faculty/eric.johnson/pdfs/Irene%20v5.pdf
2. Ten Years of Community Profiles (NH)
   http://extension.unh.edu/CommDev/documents/C_Profiles.pdf
3. Climate and Energy Needs http://www.nhcf.org/document.doc?id=975
4. Arts and Culture http://www.nhcf.org/document.doc?id=973

Appendix 5. Demographic and Geographic Data

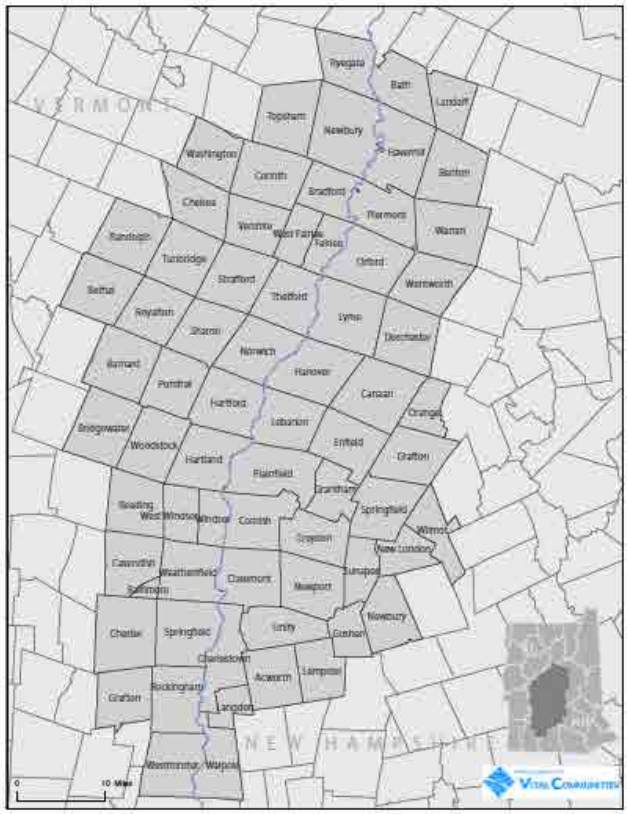
- Basic data on population, age cohorts, race/ethnicity, social-economic status, average income, etc.
- Data on variation within the Upper Valley by county or municipality/town (mostly urban/rural and income/employment figures)

Defining the Region: Data Units and Aggregation Options

1. There is no consensus definition of the Upper Valley as a region
    a. Definitions matter for at least two reasons: Defining the scale of our effort and building a sense of community
    b. Region-level data will have to be constructed by aggregating up from data collected at different scales for different purposes

2. **Vital Communities (VC) Service Area**: 69 towns (34 NH, 35 VT), perhaps just right
    a. Total population (2010): 185,000 (approx. 50% of Lebanon HRR)
    b. Only 4 towns (Topsham, Washington in VT; Dorchester, Wentworth in NH) lie outside the Lebanon HRR
    c. Seems best place to start definition process for Upper Valley region
    d. VC population is almost evenly spread between NH and Vermont
        i. Approximately 100,000 in NH, 85,000 in VT (for towns in VC region)
        ii. NH total population approx. 1.3 million, Vermont at 630,000
        iii. VC service area constitutes approx. 10% of total population in states of NH & VT combined, and nearly half of entire Lebanon HRR

Vital Communities Service Area



3. **Relevant units of analysis for defining the geography of the Upper Valley**
    a. Political units of analysis:

i. State
ii. Towns
iii. Counties:
    1. 4 counties include 61 of 69 VC towns
    2. NH: 30 towns in 2 counties (Grafton, Sullivan)
        - But only 53% of Grafton co. residents are in VC area
        - Lose 3 towns (New London, Newbury, Wilmot) in Merrimack county
        - 1 town (Walpole) in Cheshire county
    3. Vermont: 31 towns in 2 counties (Orange, Windsor)
        - 3 towns (Rockingham, Grafton, Westminster) in Windham county
        - 1 town (Ryegate) in Caledonia county

b. Dartmouth Atlas units of analysis:
    i. Hospital Referral Region (HRR)
        1. The Lebanon HRR is too large to accurately represent the Upper Valley. It ranges from MA to Canadian border. Total population approximately 400,000 (397,373 in Dartmouth Atlas). Approximately 20% of combined population of New Hampshire and Vermont
    ii. Hospital Service Area (HSA): a subset of the HRR
        1. Inner Core of the Upper Valley: Lebanon, Windsor, and Claremont HSAs include:
            - 30 Vital Communities towns (14 NH, 16 VT), only 46% of VC population
            - 5 Primary Care Service Areas (PCSAs): West Lebanon, Woodstock, Windsor, Claremont, Charlestown
            - 5 Hospitals:
                i. Dartmouth-Hitchcock Medical Center, Lebanon, NH
                ii. Mt. Ascutney Hospital & Health Center, Windsor, VT
                iii. Valley Regional Hospital, Claremont, NH
                iv. Alice Peck Day Memorial Hospital, Norwich, VT
                v. Veterans Administration Hospital
        2. Middle Core of the Upper Valley (5 HSAs): Inner core HSAs in addition to New London and Woodsville HSAs
            - 49 VC towns (but unbalanced: 30 NH, 19 VT), 76% of VC population
            - Total of 8 PCSAs: add New London, Newport, Woodsville
            - 2 additional hospitals:
                i. Cottage Hospital, Woodsville, NH
                ii. New London Hospital, New London, NH
        3. Large Core of the Upper Valley (7 HSAs): inner and middle core plus Randolph and Springfield HSAs
            - 62 VC towns (30 NH, 32 VT), 98% of VC towns population
            - Total of 11 PCSAs: add Randolph, Springfield, Bellows Falls
            - Lose only 8 VC towns: NH: Dorchester*, Wentworth*, Langdon, Walpole, VT: Topsham*, Washington*, Westminster, Cavendish (*outside Lebanon HRR)
            - Add several towns in both Randolph and Springfield HSAs
            - 3 additional hospitals:
                i. Gifford Medical Center, Randolph, VT
                ii. Springfield Hospital, Springfield, VT
                iii. The Health Center at Bellows Falls, VT
        4. Note: Plymouth and Berlin HSAs each include two VC towns, but these HSAs

are NOT in the Lebanon HRR. In addition, a few VC towns are in Keene and Brattleboro HSAs, and part of Landaff in Littleton (NH) HSA, but there seems little reason to include these HSAs. Specifically, the VC towns excluded are:

- Dorchester and Wentworth (NH) in Plymouth HSA
- Topsham and Washington (VT) in Berlin HSA
- Westsminster (VT) in Brattleboro HSA
- Walpole, Langdon, and half of Acworth (NH) in Keene HSA

c. Zip code areas (ZCTAs) and census tracts will provide us data for understanding the Upper Valley but are too small as units of analysis for defining the region.

Key Data Sources:

1. Dartmouth Atlas http://www.dartmouthatlas.org/
2. Local Scorecard, Commonwealth Fund Health System Data Center (based on HRR) http://www.commonwealthfund.org/Publications/Health-System-Scorecards.aspx
3. Kaiser State Health Facts http://www.statehealthfacts.org/
4. County Health Rankings, U. Wisconsin, funded by RWJ Foundation, http://www.countyhealthrankings.org/
    a. NH: http://www.countyhealthrankings.org/app/new-hampshire/2012/rankings/outcomes/overall
    b. VT: http://www.countyhealthrankings.org/app/vermont/2012/rankings/outcomes/overall
    c. Data Sources and Measures: http://www.countyhealthrankings.org/ranking-methods/data-sources-and-measures
5. Community Health Status Indicators, US HHS, http://www.communityhealth.hhs.gov/homepage.aspx?j=1

General Demographic Data (see tables below)

1. Total Population of Vital Communities region (2010): 185,000
    a. Entire Lebanon HRR has population of approximately 400,000
    d. State populations: NH 1.3 million, VT 630,000, total nearly 2 million
    b. Vital Communities about 10% of two-state area
2. Minority population is a very small proportion of total
3. Poverty rate varies in different sources, but hovers around 10%

Table 1: New Hampshire Census Data 1960 - 2010

	1960	1970	1980	1990	2000	2010	Numeric chg 00-10	Percent chg 00-10
Grafton County								
VC towns	**27,734**	**30,566**	**35,770**	**40,177**	**44,296**	**47,039**		
non-VC	**21,123**	**24,348**	**30,036**	**34,752**	**37,444**	**42,079**	**4,635**	**12.4%**
total	**48,857**	**54,914**	**65,806**	**74,929**	**81,740**	**89,118**		
		0.57	**0.56**	**0.54**	**0.54**	**0.54**	**0.53**	
Vital Communities Towns								
Bath	604	607	761	784	893	1,077	184	20.6%
Benton	172	194	333	330	314	364	50	15.9%
Canaan	1,507	1,923	2,456	3,045	3,319	3,909	590	17.8%
Dorchester	91	141	244	392	353	355	2	0.6%
Enfield	1,867	2,345	3,175	3,979	4,618	4,582	-36	-0.8%
Grafton	348	370	739	923	1,138	1,340	202	17.8%
Hanover	7,329	8,494	9,119	9,212	10,850	11,260	410	3.8%
Haverhill	3,127	3,090	3,445	4,164	4,416	4,697	281	6.4%
Landaff	289	292	266	350	378	415	37	9.8%
Lebanon	9,299	9,725	11,134	12,183	12,568	13,151	583	4.6%
Lyme	1,026	1,112	1,289	1,496	1,679	1,716	37	2.2%
Orange	83	103	197	237	299	331	32	10.7%
Orford	667	793	928	1,008	1,091	1,237	146	13.4%
Piermont	477	462	507	624	709	790	81	11.4%
Warren	548	539	650	820	873	904	31	3.6%
Wentworth	300	376	527	630	798	911	113	14.2%
Non-Vital Communities Towns								
Alexandria	370	466	706	1,190	1,329	1,613	284	21.4%
Ashland	1,473	1,599	1,807	1,915	1,955	2,076	121	6.2%
Bethlehem	898	1,142	1,784	2,033	2,199	2,526	327	14.9%
Bridgewater	293	398	606	796	974	1,083	109	11.2%
Bristol	1,470	1,670	2,198	2,537	3,033	3,054	21	0.7%
Campton	1,058	1,171	1,694	2,377	2,719	3,333	614	22.6%
Easton	74	92	124	223	256	254	-2	-0.8%
Ellsworth	3	13	53	74	87	83	-4	-4.6%
Franconia	491	655	743	811	924	1,104	180	19.5%
Groton	99	120	255	318	456	593	137	30.0%
Hebron	153	234	349	386	459	602	143	31.2%
Holderness	749	1,048	1,586	1,694	1,930	2,108	178	9.2%
Lincoln	1,228	1,341	1,313	1,229	1,271	1,662	391	30.8%
Lisbon	1,435	1,480	1,517	1,664	1,587	1,595	8	0.5%
Littleton	5,003	5,290	5,558	5,827	5,845	5,928	83	1.4%
Lyman	201	213	281	388	487	533	46	9.4%
Monroe	421	385	619	746	759	788	29	3.8%
Plymouth	3,210	4,225	5,094	5,811	5,892	6,990	1,098	18.6%
Rumney	820	870	1,212	1,446	1,480	1,480	0	0.0%
Sugar Hill	353	336	397	464	563	563	0	0.0%
Thornton	480	594	952	1,505	1,843	2,490	647	35.1%
Waterville	14	109	180	151	257	247	-10	-3.9%
Woodstock	827	897	1,008	1,167	1,139	1,374	235	20.6%
Sullivan County	**8,067**	**30,949**	**36,063**	**38,592**	**40,458**	**43,742**	**3,284**	**8.1%**
Vital Communities Towns								
Acworth	371	459	590	776	836	891	55	6.6%
Charlestown	2,576	3,274	4,417	4,630	4,749	5,114	365	7.7%

Claremont	13,563	14,221	14,557	13,902	13,151	13,355	204	1.6%
Cornish	1,106	1,268	1,390	1,659	1,661	1,640	-21	-1.3%
Croydon	312	396	457	627	661	764	103	15.6%
Goshen	351	395	549	742	741	810	69	9.3%
Grantham	332	366	704	1,247	2,167	2,985	818	37.7%
Langdon	338	337	437	580	586	688	102	17.4%
Lempster	272	360	637	947	971	1,154	183	18.8%
Newport	5,458	5,899	6,229	6,110	6,269	6,507	238	3.8%
Plainfield	1,071	1,323	1,749	2,056	2,241	2,364	123	5.5%
Springfield	283	310	532	788	945	1,311	366	38.7%
Sunapee	1,164	1,384	2,312	2,559	3,055	3,365	310	10.1%
Unity	708	709	1,092	1,341	1,530	1,671	141	9.2%
Non-Vital Communities Towns								
Washington	162	248	411	628	895	1,123	228	25.5%
Merrimack County	**67,785**	**80,925**	**98,302**	**120,005**	**136,225**	**146,445**	**10,220**	**7.5%**
Vital Communities Towns								
Newbury	342	509	961	1,347	1,702	2,072	370	21.7%
New London	1,738	2,236	2,935	3,180	4,116	4,397	281	6.8%
Wilmot	391	516	725	935	1,144	1,358	214	18.7%
Non-Vital Communities Towns								
Allenstown	1,789	2,732	4,398	4,649	4,843	4,322	-521	-10.8%
Andover	955	1,138	1,587	1,883	2,109	2,371	262	12.4%
Boscawen	2,181	3,162	3,435	3,586	3,672	3,965	293	8.0%
Bow	1,340	2,479	4,015	5,500	7,138	7,519	381	5.3%
Bradford	508	679	1,115	1,405	1,454	1,650	196	13.5%
Canterbury	674	895	1,410	1,687	1,979	2,352	373	18.8%
Chichester	821	1,083	1,492	1,942	2,236	2,523	287	12.8%
Concord	28,991	30,022	30,400	36,006	40,687	42,695	2,008	4.9%
Danbury	435	489	680	881	1,071	1,164	93	8.7%
Dunbarton	632	825	1,174	1,759	2,226	2,758	532	23.9%
Epsom	1,002	1,469	2,743	3,591	4,021	4,566	545	13.6%
Franklin	6,742	7,292	7,901	8,304	8,405	8,477	72	0.9%
Henniker	1,636	2,348	3,246	4,151	4,433	4,836	403	9.1%
Hill	396	450	736	814	992	1,089	97	9.8%
Hooksett	3,713	5,564	7,303	8,767	11,721	13,451	1,730	14.8%
Hopkinton	2,225	3,007	3,861	4,806	5,399	5,589	190	3.5%
Loudon	1,194	1,707	2,454	4,114	4,481	5,317	836	18.7%
Newbury	342	509	961	1,347	1,702	2,072	370	21.7%
New London	1,738	2,236	2,935	3,180	4,116	4,397	281	6.8%
Northfield	1,784	2,193	3,051	4,263	4,548	4,829	281	6.2%
Pembroke	3,514	4,261	4,861	6,561	6,897	7,115	218	3.2%
Pittsfield	2,419	2,517	2,889	3,701	3,931	4,106	175	4.5%
Salisbury	415	589	781	1,061	1,137	1,382	245	21.5%
Sutton	487	642	1,091	1,457	1,544	1,837	293	19.0%
Warner	1,004	1,441	1,963	2,250	2,760	2,833	73	2.6%
Webster	457	680	1,095	1,405	1,579	1,872	293	18.6%
Wilmot	391	516	725	935	1,144	1,358	214	18.7%

Table 2: QuickFacts for Vermont and New Hampshire Counties from Census.GOV

	Orange County	Windsor County	VT part	Vermont	Sullivan County	Grafton County	.53x Grafton	Merrimack	0.5x Merr.	NH part	New Hampshire	Total Region	USA
Population, 2011 estimate	29,006	56,666	85,672	626,431	43,462	88,923	47,129	146,579	7,827	98,418	1,318,194	184,090	311,591,917
Population, 2010 (April 1) estimates base	28,936	56,670		625,741	43,742	89,118		146,445			1,316,472		308,745,538
Population, percent change, April 1, 2010 to July 1, 2011	0.2%	Z		0.1%	-0.6%	-0.2%					0.1%		0.9%
Population, 2010	28,936	56,670	85,606	625,741	43,742	89,118	47,233	146,445	7,827	98,802	1,316,470	184,408	308,745,538
Persons under 5 years, percent, 2011	4.9%	4.7%		5.0%	5.2%	4.5%					5.1%		6.5%
Persons under 18 years, percent, 2011	20.4%	19.3%		20.1%	20.6%	17.9%					21.2%		23.7%
Persons 65 years and over, percent, 2011	15.4%	18.4%		15.0%	17.1%	16.0%					14.0%		13.3%
Female persons, percent, 2011	50.1%	51.1%		50.7%	50.5%	50.5%					50.6%		50.8%
White persons, percent, 2011 (a)	97.2%	96.4%		95.5%	97.2%	93.9%					94.6%		78.1%
Black persons, percent, 2011 (a)	0.4%	0.7%		1.1%	0.5%	1.0%					1.3%		13.1%
American Indian and Alaska Native persons, percent, 2011 (a)	0.3%	0.3%		0.4%	0.3%	0.4%					0.3%		1.2%
Asian persons, percent, 2011 (a)	0.6%	1.0%		1.4%	0.6%	3.0%					2.3%		5.0%
Native Hawaiian and Other Pacific Islander persons, percent, 2011 (a)	Z	Z		Z	Z	Z					Z		0.2%
Persons reporting two or more races, percent, 2011	1.5%	1.6%		1.7%	1.4%	1.7%					1.5%		2.3%
Persons of Hispanic or Latino Origin, percent, 2011 (b)	1.1%	1.3%		1.6%	1.2%	1.9%					2.9%		16.7%
White persons not Hispanic, percent, 2011	96.2%	95.3%		94.2%	96.1%	92.3%					92.2%		63.4%

Living in same house 1 year & over, 2006-2010	90.9%	86.3%	86.0%	87.0%	84.0%	86.4%	84.2%
Foreign born persons, percent, 2006-2010	1.8%	3.1%	4.0%	2.8%	5.6%	5.3%	12.7%
Language other than English spoken at home, pct age 5+, 2006-2010	2.5%	3.8%	5.4%	2.9%	7.6%	8.0%	20.1%
High school graduates, percent of persons age 25+, 2006-2010	90.3%	91.6%	90.6%	89.9%	90.9%	90.9%	85.0%
Bachelor's degree or higher, pct of persons age 25+, 2006-2010	29.2%	32.8%	33.3%	25.9%	35.3%	32.9%	27.9%
Veterans, 2006-2010	2,588	5,878	52,765	4,528	8,541	121,711	22,652,496
Mean travel time to work (minutes), workers age 16+, 2006-2010	27	21.3	21.5	23.8	21.6	25.5	25.2
Housing units, 2011	14,962	34,180	324,389	22,428	51,696	617,704	132,312,404
Homeownership rate, 2006-2010	81.2%	72.1%	71.4%	73.7%	70.8%	72.6%	66.6%
Housing units in multi-unit structures, percent, 2006-2010	9.0%	23.4%	23.2%	20.8%	21.9%	25.7%	25.9%
Median value of owner-occupied housing units, 2006-2010	$182,700	$209,900	$208,400	$181,800	$210,600	$253,200	$188,400
Households, 2006-2010	11,967	24,804	256,612	18,227	34,312	513,804	114,235,996
Persons per household, 2006-2010	2.37	2.25	2.34	2.37	2.4	2.48	2.59
Per capita money income in past 12 months (2010 dollars) 2006-2010	$25,951	$29,053	$27,478	$26,322	$28,170	$31,422	$27,334
Median household income 2006-2010	$52,079	$50,893	$51,841	$50,689	$53,075	$63,277	$51,914
Persons below poverty	10.0%	9.7%	11.1%	10.0%	9.8%	7.8%	13.8%

Table 3: Business QuickFacts for Vermont and New Hampshire Counties from Census.Gov

	Orange County	Windsor County	Vermont	Sullivan County	Grafton County	New Hampshire	USA
Private nonfarm establishments, 2010	779	2,099	21,451	988	2,925	37,452	7,396,628
Private nonfarm employment, 2010	6,043	28,234	264,099	10,733	53,114	562,505	111,970,095
Private nonfarm employment, percent change, 2000-2010	-3.5	42.9	4.2	-15.3	8.4	2.9	-1.8
Nonemployer establishments, 2010	3,003	6,168	59,945	3,391	7,936	102,823	22,110,628
Total number of firms, 2007	4,189	8,768	78,729	4,103	11,174	137,815	27,092,908
Black-owned firms, percent, 2007	F	F	S	F	F	0.5%	7.1%
American Indian- and Alaska Native-owned firms, percent, 2007	F	S	0.5%	S	F	0.4%	0.9%
Asian-owned firms, percent, 2007	F	S	0.8%	F	S	1.6%	5.7%
Native Hawaiian and Other Pacific Islander-owned firms, percent, 2007	F	F	S	F	F	0.0%	0.1%
Hispanic-owned firms, percent, 2007	F	0.3%	0.6%	F	0.3%	1.0%	8.3%
Women-owned firms, percent, 2007	24.7%	24.5%	26.0%	24.8%	24.0%	25.8%	28.8%
Manufacturers shipments, 2007 ($1000)	161,917	406,465	10,751,461	640,776	1,314,279	18,592,406	5,338,306,501
Merchant wholesaler sales, 2007 ($1000)	D	327,739	5,121,694	D	D	14,564,458	4,174,286,516
Retail sales, 2007 ($1000)	237,240	691,702	9,310,119	562,392	1,961,272	25,353,874	3,917,663,456
Retail sales per capita, 2007	$8,181	$12,147	$15,005	$13,154	$22,919	$19,246	$12,990
Accommodation and food services sales, 2007 ($1000)	26,208	154,409	1,367,630	32,307	272,818	2,630,968	613,795,732
Building permits, 2011	23	60	1,299	53	189	2,346	624,061

1: Includes data not distributed by county.
(a) Includes persons reporting only one race.
(b) Hispanics may be of any race, so also are included in applicable race categories.
D: Suppressed to avoid disclosure of confidential information
F: Fewer than 100 firms
FN: Footnote on this item for this area in place of data
NA: Not available
S: Suppressed; does not meet publication standards
X: Not applicable
Z: Value greater than zero but less than half unit of measure shown
Source U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing, State and County Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits, Consolidated Federal Funds Report

Appendix 6. Health Profile

Data for two counties each in NH and VT, which together cover most of the VC area (see appendix 5)
From County Health Rankings, U. Wisconsin, funded by RWJ Foundation,
http://www.countyhealthrankings.org/

Table 1: Vermont and New Hampshire County Health Profiles

	Orange County (VT)	Windsor County (VT)	Vermont State	Grafton County (NH)	Sullivan County (NH)	New Hampshire State	Nat'l Benchmark
HEALTH OUTCOMES							
Mortality							
Premature death	6,043	6,326	5,694	5,408	7,327	5,435	5,466
Morbidity							
Poor or fair health	12%	11%	11%	10%	12%	11%	10%
Poor physical health days	3	3.2	3.2	3.1	3.5	3.2	2.6
Poor mental health days	3.2	3.2	3.3	3.1	3.4	3.2	2.3
Low birth weight	7.40%	6.60%	6.60%	6.30%	7.70%	6.60%	6.00%
HEALTH FACTORS							
Health Behaviors							
Adult smoking	20%	17%	18%	19%	21%	19%	14%
Adult obesity	28%	24%	24%	24%	29%	27%	25%
Physical inactivity	21%	20%	19%	20%	26%	22%	21%
Excessive drinking	21%	19%	19%	18%	16%	18%	8%
Motor vehicle crash death rate	13	14	13	12	18	11	12
Sexually transmitted infections	135	173	191	144	232	160	84
Teen birth rate	25	24	21	16	38	19	22
Clinical Care							
Uninsured	11%	10%	10%	14%	14%	12%	11%
Primary care physicians**	1,157:1	701:01:00	720:01:00	317:01:00	1,098:1	978:01:00	631:01:00
Preventable hospital stays	60	64	55	48	57	59	49
Diabetic screening	88%	88%	89%	87%	86%	89%	89%
Mammography screening	75%	76%	74%	77%	69%	74%	74%
Social & Economic Factors							
High school graduation	81%	85%	88%	88%	83%	86%	
Some college	57%	62%	63%	65%	55%	66%	68%
Unemployment	6.10%	5.90%	6.20%	4.90%	5.70%	6.10%	5.40%
Children in poverty	17%	14%	16%	13%	15%	11%	13%
Inadequate social support	19%	18%	17%	17%	20%	18%	14%
Children in single-parent households	28%	26%	30%	28%	26%	25%	20%
Violent crime rate	72	105	134	154	173	160	73

Physical Environment

Air pollution-particulate matter days	0	0	1	0	0	1	0
Air pollution-ozone days	0	0	0	0	0	3	0
Access to recreational facilities	3	18	14	25	2	15	16
Limited access to healthy foods	3%	0%	5%	1%	0%	5%	0%
Fast food restaurants	28%	24%	33%	35%	50%	46%	25%

*90 percentile, i.e., only 10% are better
** This data was updated on Nov. 1, 2012. Please see http://www.countyhealthrankings.org/node/8939 for more information.
Note: Blank Values reflect unreliable or missing data

Additional details

Table 2: Grafton County in New Hampshire

	Grafton County	Error Margin	National Benchmark*	New Hampshire	Trend	Rank (of 10)
HEALTH OUTCOMES						3
Mortality						4
Premature death	5,408	4,826-5,989	5,466	5,435		
Morbidity						3
Poor or fair health	10%	9-11%	10%	11%		
Poor physical health days	3.1	2.8-3.4	2.6	3.2		
Poor mental health days	3.1	2.8-3.4	2.3	3.2		
Low birthweight	6.3%	5.6-6.9%	6.0%	6.6%		
HEALTH FACTORS						1
Health Behaviors						2
Adult smoking	19%	17-21%	14%	19%		
Adult obesity	24%	22-26%	25%	27%		
Physical inactivity	20%	18-21%	21%	22%		
Excessive drinking	18%	16-20%	8%	18%		
Motor vehicle crash death rate	12	10-15	12	11		
Sexually transmitted infections	144		84	160		
Teen birth rate	16	14-17	22	19		
Clinical Care						1
Uninsured	14%	12-16%	11%	12%		
Primary care physicians**	317:1		631:1	978:1		
Preventable hospital stays	48	44-52	49	59		
Diabetic screening	87%	82-93%	89%	89%		
Mammography screening	77%	71-82%	74%	74%		
Social & Economic Factors						2
High school graduation	88%			86%		
Some college	65%	61-69%	68%	66%		
Unemployment	4.9%		5.4%	6.1%		
Children in poverty	13%	10-17%	13%	11%		
Inadequate social support	17%	15-19%	14%	18%		
Children in single-parent households	28%	23-32%	20%	25%		
Violent crime rate	154		73	160		
Physical Environment						1
Air pollution-particulate matter days	0		0	1		
Air pollution-ozone days	0		0	3		
Access to recreational facilities	25		16	15		
Limited access to healthy foods	1%		0%	5%		
Fast food restaurants	35%		25%	46%		

* 90th percentile, i.e., only 10% are better
** This data was updated on Nov. 1, 2012. Please see http://www.countyhealthrankings.org/node/8939 for more information.
Note: Blank values reflect unreliable or missing data

Table 3: Sullivan County in New Hampshire

	Sullivan County	Error Margin	National Benchmark*	New Hampshire	Trend	Rank (of 10)
HEALTH OUTCOMES						**9**
Mortality						9
Premature death	7,327	6,359-8,294	5,466	5,435		
Morbidity						9
Poor or fair health	12%	10-13%	10%	11%		
Poor physical health days	3.5	3.1-3.9	2.6	3.2		
Poor mental health days	3.4	3.0-3.9	2.3	3.2		
Low birthweight	7.7%	6.8-8.6%	6.0%	6.6%		
HEALTH FACTORS						**9**
Health Behaviors						9
Adult smoking	21%	19-24%	14%	19%		
Adult obesity	29%	26-32%	25%	27%		
Physical inactivity	26%	23-29%	21%	22%		
Excessive drinking	16%	14-18%	8%	18%		
Motor vehicle crash death rate	18	13-22	12	11		
Sexually transmitted infections	232		84	160		
Teen birth rate	38	34-42	22	19		
Clinical Care						8
Uninsured	14%	12-15%	11%	12%		
Primary care physicians**	1,098:1		631:1	978:1		
Preventable hospital stays	57	51-63	49	59		
Diabetic screening	86%	78-93%	89%	89%		
Mammography screening	69%	61-75%	74%	74%		
Social & Economic Factors						9
High school graduation	83%			86%		
Some college	55%	50-60%	68%	66%		
Unemployment	5.7%		5.4%	6.1%		
Children in poverty	15%	11-20%	13%	11%		
Inadequate social support	20%	18-23%	14%	18%		
Children in single-parent households	26%	21-31%	20%	25%		
Violent crime rate	173		73	160		
Physical Environment						7
Air pollution-particulate matter days	0		0	1		
Air pollution-ozone days	0		0	3		
Access to recreational facilities	2		16	15		
Limited access to healthy foods	0%		0%	5%		
Fast food restaurants	50%		25%	46%		

Table 4: Orange County in Vermont

	Orange County	Error Margin	National Benchmark*	Vermont	Trend	Rank (of 14)
HEALTH OUTCOMES						**8**
Mortality						8
Premature death	6,043	4,991-7,095	5,466	5,694		
Morbidity						8
Poor or fair health	12%	10-14%	10%	11%		
Poor physical health days	3.0	2.7-3.3	2.6	3.2		
Poor mental health days	3.2	2.8-3.5	2.3	3.3		
Low birthweight	7.4%	6.2-8.5%	6.0%	6.6%		
HEALTH FACTORS						**9**
Health Behaviors						11
Adult smoking	20%	18-22%	14%	18%		
Adult obesity	28%	25-30%	25%	24%		
Physical inactivity	21%	19-23%	21%	19%		
Excessive drinking	21%	18-23%	8%	19%		
Motor vehicle crash death rate	13	8-18	12	13		
Sexually transmitted infections	135		84	191		
Teen birth rate	25	21-28	22	21		
Clinical Care						11
Uninsured	11%	10-12%	11%	10%		
Primary care physicians**	1,157:1		631:1	720:1		
Preventable hospital stays	60	52-68	49	55		
Diabetic screening	88%	79-97%	89%	89%		
Mammography screening	75%	65-84%	74%	74%		
Social & Economic Factors						7
High school graduation	81%			88%		
Some college	57%	52-62%	68%	63%		
Unemployment	6.1%		5.4%	6.2%		
Children in poverty	17%	12-23%	13%	16%		
Inadequate social support	19%	17-22%	14%	17%		
Children in single-parent households	28%	22-33%	20%	30%		
Violent crime rate	72		73	134		
Physical Environment						6
Air pollution-particulate matter days	0		0	1		
Air pollution-ozone days	0		0	0		
Access to recreational facilities	3		16	14		
Limited access to healthy foods	3%		0%	5%		
Fast food restaurants	28%		25%	33%		

Table 5: Windsor County in Vermont

	Windsor County	Error Margin	National Benchmark*	Vermont	Trend	Rank (of 14)
HEALTH OUTCOMES						**9**
Mortality						10
Premature death	6,326	5,540-7,113	5,466	5,694		
Morbidity						5
Poor or fair health	11%	10-12%	10%	11%		
Poor physical health days	3.2	2.9-3.5	2.6	3.2		
Poor mental health days	3.2	3.0-3.5	2.3	3.3		
Low birthweight	6.6%	5.8-7.4%	6.0%	6.6%		
HEALTH FACTORS						**4**
Health Behaviors						6
Adult smoking	17%	16-19%	14%	18%		
Adult obesity	24%	22-26%	25%	24%		
Physical inactivity	20%	18-22%	21%	19%		
Excessive drinking	19%	17-21%	8%	19%		
Motor vehicle crash death rate	14	10-17	12	13		
Sexually transmitted infections	173		84	191		
Teen birth rate	24	21-27	22	21		
Clinical Care						3
Uninsured	10%	9-11%	11%	10%		
Primary care physicians**	701:1		631:1	720:1		
Preventable hospital stays	64	59-69	49	55		
Diabetic screening	88%	81-94%	89%	89%		
Mammography screening	76%	69-82%	74%	74%		
Social & Economic Factors						4
High school graduation	85%			88%		
Some college	62%	57-67%	68%	63%		
Unemployment	5.9%		5.4%	6.2%		
Children in poverty	14%	10-18%	13%	16%		
Inadequate social support	18%	17-20%	14%	17%		
Children in single-parent households	26%	22-30%	20%	30%		
Violent crime rate	105		73	134		
Physical Environment						1
Air pollution-particulate matter days	0		0	1		
Air pollution-ozone days	0		0	0		
Access to recreational facilities	18		16	14		
Limited access to healthy foods	0%		0%	5%		
Fast food restaurants	24%		25%	33%		

* 90th percentile, i.e., only 10% are better
** This data was updated on Nov. 1, 2012. Please see http://www.countyhealthrankings.org/node/8939 for more information.
Note: Blank values reflect unreliable or missing data