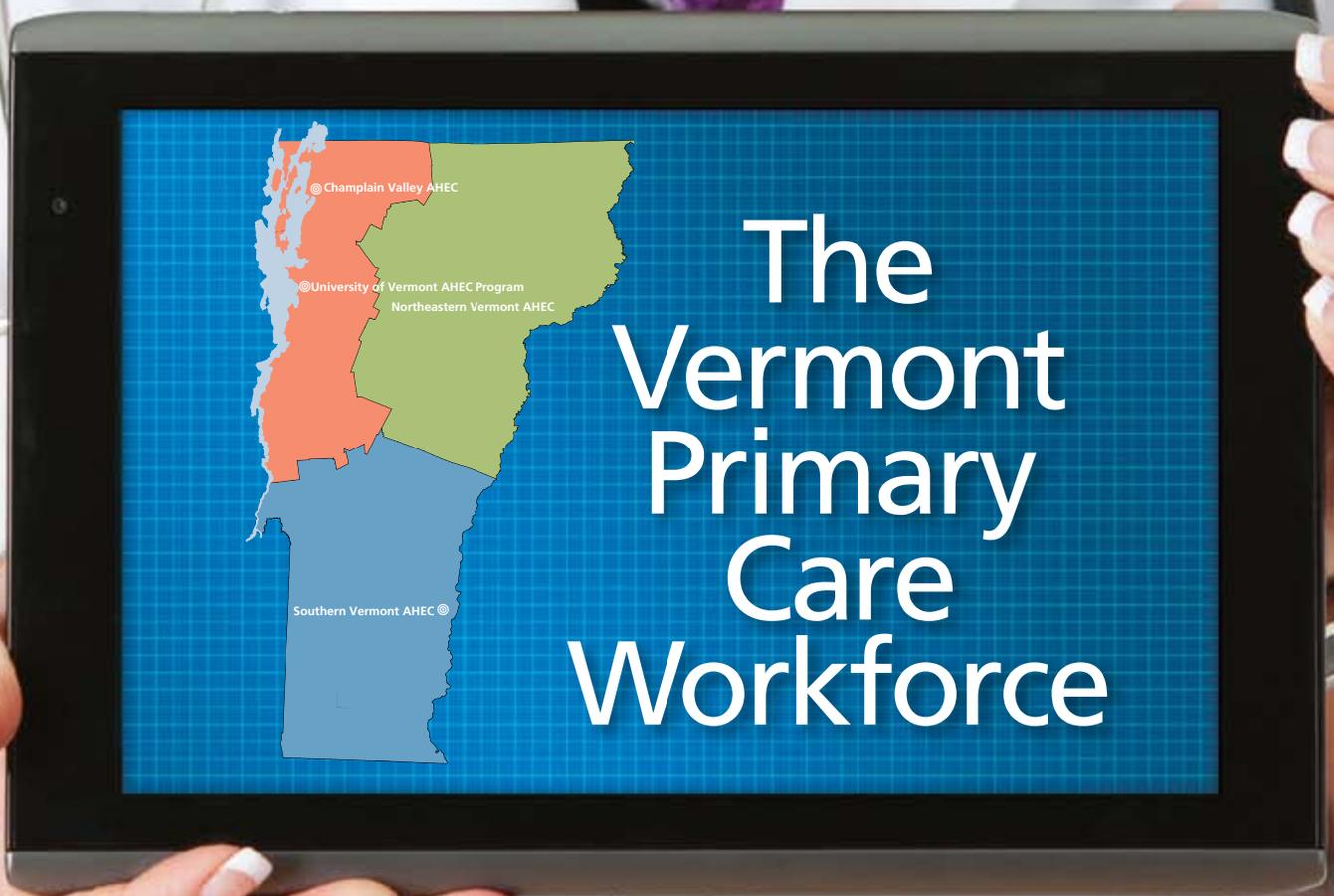


ADULT VERMONTERS NEED BETTER ACCESS TO PRIMARY CARE



2011 SNAPSHOT



## About Vermont AHEC

The Vermont Area Health Education Centers (AHEC) Program, in collaboration with many partners, improves access to quality health care through its focus on workforce development. AHEC work includes: support for pipeline programs in health careers awareness and exploration for Vermont youth; support for and engagement of health professions students at the University of Vermont and residents at Fletcher Allen Health Care; and support to help recruit and retain a high-quality healthcare workforce in Vermont.

In addition to health workforce development, AHEC brings educational and quality improvement programming to Vermont's primary care practitioners and supports community health education.

AHEC believes that success in healthcare innovation, transformation, and reform depends on an adequate supply and distribution of well-trained healthcare professionals so that *all* Vermonters have access to high-quality care, including those who live in rural areas and underserved populations.

## AHEC History & Partners

The Vermont Area Health Education Centers Program was established in 1996 by the Office of Primary Care at the University of Vermont College of Medicine. AHEC is funded through multiple grants and contracts including: Federal HRSA Title VII, State of Vermont, Vermont Department of Health, University of Vermont College of Medicine, Fletcher Allen Health Care, Vermont's 13 community hospitals, and private foundations.

The statewide infrastructure of AHEC consists of a program office at the University of Vermont and three regional centers which are 501(c)(3), non-profit organizations. AHEC is a dynamic, academic-community partnership linking the University of Vermont College of Medicine and Vermont's communities in all fourteen counties.

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## TABLE OF CONTENTS

Primary Care Workforce Summary 2011 .....	1
Primary Care Practitioners – Statewide Findings 2011	
Primary Care Practice Sites and Individual Practitioners....	3
Benchmarks and Full-Time Equivalents .....	3
Primary Care Practitioners	
by Discipline .....	3
by Specialty .....	4
by County .....	6
Hospitalist Services and Primary Care Practices .....	9
Conclusions.....	9
Primary Care Practitioners by AHEC Region – 2011	
Northeastern Vermont .....	10
Champlain Valley .....	11
Southern Vermont .....	12
Endnotes.....	13

# Adult Vermonters Need Better Access to Primary Care

- In Vermont, during the three year period 2009 to 2011, there was a persistent shortage of more than 50 general internal medicine physicians relative to national benchmarks. This shortfall was pervasive, impacting every region of the state. Over the same period, the supply of family medicine physicians, who serve both children and adults, hovered around the adequate level statewide, with supply and distribution varying by region.
- Combining all primary care practitioners in internal and family medicine, including physicians, advanced practice registered nurses, certified nurse midwives, and certified physician assistants, there was not an adequate supply to serve adults in Vermont. Further evidence of the strain on supply was seen in the increasing proportion of practitioners limiting or closing their practices to new patients during the period. In 2011, two-thirds of internal physicians and half of family medicine physicians in primary care practices were limiting or no longer accepting new patients.
- The number of primary care practitioners in obstetrics-gynecology and pediatrics was generally adequate statewide with some variability in supply and distribution by region.
- Given the aging of the population, the aging of the primary care workforce, and competition from other states to recruit primary care practitioners, Vermont will continue to face challenges in both maintaining and increasing the supply of primary care practitioners for adults.



## Background on Primary Care Physician Supply

Based on biennial physician surveys conducted by the Vermont Department of Health, the total number of primary care physicians, which was growing in Vermont between 1996 and 2006, has more recently shown a slow decline (2008 and 2010)<sup>1</sup>. These same surveys of individual physicians show that Vermont's primary care workforce is aging. In 2000, 9% of all primary care physicians were over age 60. By 2010, 21% were over age 60. For general internal medicine physicians, 26% were over age 60 in 2010.

## Annual AHEC Survey of Primary Care Practices

This report examines the clinical hours of primary care practitioners (PCPs), including physicians (MD/DOs), advanced registered nurse practitioners (APRNs), certified nurse midwives (CNMs), and certified physician assistants (PA-Cs) in primary care practices in Vermont. Analyses are presented by primary care specialty to identify the needs of different populations of Vermonters, since family medicine serves children and adults; general internal medicine serves adults; general pediatrics serves children and adolescents; and general obstetrics-gynecology serves women. Regional analyses examine the primary care workforce in different parts of Vermont.

This snapshot of net changes from year to year in the number of primary care practitioners does not present the ongoing and dynamic changes of the primary care workforce, i.e., recruitment and retention activities required in every region of Vermont to maintain the current workforce and replace those who leave. Rather, it focuses on unmet needs for primary care practitioners to serve Vermonters of every age and in all regions of the state.

## Primary Care Workforce Challenges in Vermont

Special challenges to maintain and increase our primary care workforce include:

- competition to recruit as other states are also working to increase their primary care workforce;
- reimbursement of and workload pressures on primary care practitioners;
- financial and other pressures on student physicians, nurse practitioners and physician assistants to select other specialties;

- the aging of Vermont primary care physicians, especially internal medicine physicians; and
- impact of the elderly population becoming an increasingly larger proportion of the Vermont population, as this group is associated with increased medical needs.

## Ongoing Work to Strengthen the Primary Care Workforce

There is significant activity underway in Vermont to support development of the next generation of healthcare workers. Examples include AHEC's healthcare exploration programs in middle and high school, and support and engagement of health care professions students at the University of Vermont and residents at Fletcher Allen Health Care, to encourage their future practice in Vermont.

There is considerable community and statewide support to continue to recruit and retain the primary care workforce, including the state-funded, AHEC-administered, Vermont Educational Loan Repayment Program for Primary Care Practitioners, which helps reduce educational debt in exchange for a service commitment to practice in Vermont. To date, over one-quarter of Vermont's primary care physicians have benefitted from this program.

## Changes in the Delivery of Primary Care Services

As implementation of state and federal reforms progresses, including the Vermont Blueprint for Health<sup>2</sup>, we need to consider how changes to the delivery of primary care services affect primary care practitioner-to-population benchmarks which determine adequate supply. Other service delivery changes include the introduction of the concierge model in Vermont, where patients pay an upfront sum for primary care.

Consideration of benchmarks also needs to be reviewed in light of current work at the federal level updating methods for measuring underserved populations and shortage areas.<sup>3</sup>

1. Vermont Department of Health. 2010 Physician Survey Statistical Report, Burlington, VT, August 2011.

2. Bielaszka-DuVernay, C. *Vermont's Blueprint for Medical Homes, Community Health Teams, and Better Health at Lower Cost*. Health Affairs, 30, no. 3 (2011):383-386.

3. Tess Kuenning, *Negotiated Rulemaking Committee: Designation of Medically Underserved Populations and Health Professional Shortage Areas*. Presented at the Bi-State Primary Care Meeting, Montpelier, VT, December 15, 2011.

## PRIMARY CARE PRACTITIONERS – STATEWIDE FINDINGS 2011

### Primary Care Practice Sites and Individual Practitioners

In Vermont in 2011, there were 224 primary care practice sites. Primary care practice sites included those privately-owned and hospital-owned, as well as federally designated sites such as rural health clinics and federally qualified health centers.

Primary care practitioners (PCPs) at these sites included 536 individual physicians (MD/DOs), 143 individual advanced practice registered nurses (APRNs), 30 certified nurse midwives (CNMs), and 78 certified physician assistants (PA-Cs), yielding 787 individual PCPs at primary care practice sites (see Table 1).

Eighty percent of the sites included PCPs who practiced one primary care specialty: family medicine, general internal medicine, general obstetrics-gynecology, or general pediatric medicine. Twenty percent of practices counted PCPs representing at least two primary care specialties, such as family and internal medicine, internal medicine and pediatrics, pediatrics and obstetrics-gynecology, and other combinations, including some practice sites with PCPs from all four primary care specialties.

Half of the primary care practices in Vermont had family medicine PCPs; one-third had internal medicine PCPs; one-quarter had pediatric PCPs; and 14% had obstetrics-gynecology PCPs (counting a practice more than once if PCPs practiced more than one primary care specialty).

### Benchmarks and Full-Time Equivalent

National benchmarks, which are applied to the Vermont population, are used to determine the number of primary care practitioners needed for an adequate supply of PCPs. When the “Supply to Benchmark” is positive, this represents an adequate supply of practitioners. When it is negative, there is a shortage of practitioners.

For comparisons to benchmarks, PCPs are counted in Full-Time Equivalent (FTEs), rather than individual practitioners, to standardize the measurement of clinical time, given that there are part-time and full-time practitioners. PCP shortages are highlighted in the tables and maps. (See Endnotes, page 13, for additional details on methods.)

### Primary Care Practitioners by Discipline

Combining all primary care specialties, family medicine, internal medicine, obstetrics-gynecology, and pediatrics, a shortage of primary care physicians (in FTEs) continued between 2009 and 2011 (see Table 1). While still showing a shortage in 2011, the supply of primary care APRNs, CNMs, and PA-Cs (combined) improved from 2009 to 2011.

**Table 1: All Primary Care Practitioners by Discipline**

Discipline	No. PCPs (2011)	No. in FTEs* (2011)
<b>PHYSICIANS (MD/DOs)</b>	<b>536</b>	<b>469</b>
<b>APRNs, CNMs, PA-Cs (combined)</b>	<b>251</b>	<b>163</b>
Advanced Practice Registered Nurses (APRNs)	143	87
Certified Nurse Midwives (CNMs)	30	17
Certified Physician Assistants (PA-Cs)	78	58

**Supply to Benchmark**

Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
<b>-27</b>	<b>-25</b>	<b>-35**</b>
<b>-15</b>	<b>-7</b>	<b>-5</b>

\* small discrepancies are due to rounding      ■ workforce shortage

\*\* As a result of a methods change in 2011, 3 practices were no longer included in the data in 2011. We estimate that the Physician Supply in FTEs in 2011 would have been between -27 and -28, rather than -35, were these practices included in 2011. See Endnotes.

### Primary Care Practitioners by Specialty

Between 2009 and 2011 there continued to be a shortage of more than 50 internal medicine physician FTEs in primary care statewide (see Table 2). This shortage was seen in every region of Vermont (see Tables 11-13). During the same period, the supply of family medicine physicians hovered around the adequate level.

The supply of physicians in obstetrics-gynecology and pediatrics was generally adequate statewide from 2009 to 2011, with some variability in supply and distribution, which is noted in the regional analyses (Tables 11-13).

**Table 2: Primary Care Physicians by Specialty**

Primary Care Specialty	No. MD/DOs in FTEs* (2011)
Family Medicine	197
Internal Medicine	117
Obstetrics–Gynecology	63
Pediatrics	91
<b>TOTAL STATEWIDE</b>	<b>469</b>

**Supply to Benchmark**

Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
2	-2	-6**
-56	-54	-58
6	6	6
21	25	24
<b>-27</b>	<b>-25</b>	<b>-35**</b>

\* small discrepancies are due to rounding  workforce shortage

\*\* As a result of a methods change in 2011, 3 practices with 5-6 family medicine physicians and one internal medicine physician were no longer included in the data in 2011. We estimate Family Medicine Supply in FTEs in 2011 would have been near 0, were these practices included in 2011, and Total Statewide Supply in FTEs in 2011 would have been between -27 and -28. See Endnotes.

Examining the percent of primary care physicians limiting or closing their practice to new patients showed an increasing percent of family and internal medicine physicians applying limitations from 2009 to 2011 (see Table 3). **In 2011, two-thirds of the internal medicine physicians and half of the family medicine physicians were no longer accepting or limiting acceptance of new patients.** Limitations included accepting a new patient only if a family member was already a patient, or if the person seeking care lived in the same town as the practice.

**Table 3: Primary Care Physicians Limiting New Patients by Specialty**

Primary Care Specialty	% MD/DOs Limiting/ Not Accepting (2009)	% MD/DOs Limiting/ Not Accepting (2010)	% MD/DOs Limiting/ Not Accepting (2011)
Family Medicine	45%	43%	51%
Internal Medicine	54%	54%	68%
Obstetrics–Gynecology	5%	6%	17%
Pediatrics	7%	22%	12%
<b>TOTAL STATEWIDE</b>	<b>34%</b>	<b>36%</b>	<b>43%</b>

In 2011, for APRNs and PA-Cs, combining those in family medicine (who serve children and adults) and internal medicine (who serve only adults), the supply in FTEs was below adequate, but showed improvement from the prior year (see Table 4). The supply of APRNs, CNMs and PA-Cs in obstetrics-gynecology was adequate statewide. The supply of APRNs and PA-Cs in pediatrics statewide was below adequate.

**Table 4: Primary Care APRNs, CNMs, and PA-Cs by Specialty**

Primary Care Specialty	No. APRNs, CNMs, PA-Cs (combined) in FTEs* (2011)
Family Medicine	97
Internal Medicine	25
Obstetrics–Gynecology	25
Pediatrics	16
<b>TOTAL STATEWIDE</b>	<b>163</b>

**Supply to Benchmark**

2009 Data Not Available	Supply in FTEs* (2010)	Supply in FTEs* (2011)
	28	30
	-37	-34
	7	6
	-5	-6
	-7	-5

\* small discrepancies are due to rounding  workforce shortage

As with primary care physicians, the proportion of APRNs, CNMs, and PA-Cs limiting or closing their practice to new patients increased across time (see Table 5). Also similar to physicians, the highest proportion of APRNs and PA-Cs limiting or closing their practice to new patients was associated with internal medicine. The percent of APRNs and PA-Cs in family medicine and pediatrics limiting or closing their practice to new patients also showed an increase from 2010 to 2011.

**Table 5: Primary Care APRNs, CNMs, and PA-Cs Limiting New Patients by Specialty**

Primary Care Specialty	2009 Data Not Available	% APRNs, CNMs, PA-Cs Limiting/Not Accepting (2010)	% APRNs, CNMs, PA-Cs Limiting/Not Accepting (2011)
Family Medicine		35%	38%
Internal Medicine		36%	53%
Obstetrics–Gynecology		14%	14%
Pediatrics		26%	39%
<b>TOTAL STATEWIDE</b>		<b>31%</b>	<b>36%</b>

## Primary Care Practitioners by County

Shortages of primary care physicians, combining all specialties, persisted in every region of the state. While it is most useful to examine these shortages by primary care specialty to see which populations are impacted by a shortage of practitioners (see Tables 2-5), clustering the specialties by county tells us about the general robustness or stress on primary care services by region (see Tables 6-9).

In Northeastern Vermont, while still showing a need for primary care physicians in five counties (Orleans, Orange, Essex, Lamoille, and Caledonia) in 2011, the region showed improvement from 2009. In 2011, Washington County achieved an adequate supply of primary care physician FTEs. There was an adequate supply of APRNs, CNMs, and PA-Cs (combined) in FTEs in the region during the same period (see Tables 6 & 7).

In the Champlain Valley, which has experienced population growth, the trend has been a decline in the number of primary care physician FTEs to the population. In 2011 the greatest need for primary care physicians continued to be in Franklin County, even though trends showed improvement since 2009. Need continued in Grand Isle County and grew in Addison County from 2009 to 2011. The supply in Chittenden County, while still adequate (combining all primary care specialties), declined over the period. The supply of APRNs, CNMs, and PA-Cs (combined) was not adequate in the Champlain Valley, but the trend showed improvement from 2009 to 2011 (see Tables 6 & 7).

In Southern Vermont, the greatest need for primary care physicians, combining all specialties, was in Rutland and Windsor Counties from 2009 to 2011. In Bennington County, physician supply hovered around adequate during the period and was adequate in Windham County. The supply of APRNs, CNMs, and PA-Cs (combined) in Southern Vermont hovered around the adequate level during the same period (see Tables 6 & 7).

**Table 6: Primary Care Physicians by County**

County	Population (2010)	No. Practice Sites (2011)	No. MD/DOs in FTEs* (2011)	Supply to Benchmark		
				Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
<b>NORTHEASTERN VERMONT</b>				<b>-20</b>	<b>-15</b>	<b>-9</b>
Caledonia	31,227	10	25	-3	1	-1
Essex	6,306	2	2	-3	-3	-3
Lamoille	24,475	11	18	-1	-2	-1
Orange	28,936	8	20	-5	-5	-3
Orleans	27,231	9	18	-6	-5	-4
Washington	59,534	20	51	-2	-1	3
<b>CHAMPLAIN VALLEY</b>				<b>1</b>	<b>5</b>	<b>-7</b>
Addison	36,821	11	29	1	3	-1
Chittenden	156,545	50	132	17	18	6
Franklin	47,746	23	30	-12	-10	-8
Grand Isle	6,970	2	1	-5	-5	-4
<b>SOUTHERN VERMONT</b>				<b>-9</b>	<b>-14</b>	<b>-19</b>
Bennington	37,125	19	27	-1	0	-3**
Rutland	61,642	19	39	-9	-12	-10
Windham	44,513	22	41	7	5	5**
Windsor	56,670	18	35	-6	-7	-11**
<b>TOTAL STATEWIDE</b>	<b>625,741</b>	<b>224</b>	<b>469</b>	<b>-27</b>	<b>-25</b>	<b>-35**</b>

\* small discrepancies are due to rounding  workforce shortage

\*\* As a result of a methods change in 2011, 3 practices were no longer included in the data. We estimate Physician Supply in FTEs would have been 0 to +1 in Bennington, 6 in Windham, and -9 Windsor County; -12 to -13 in Southern Vermont; and -27 to -28 for Total Statewide Supply in FTEs in 2011, were these practices included in the data. See Endnotes.

**Table 7: Primary Care APRNs, CNMs, and PA-Cs by Region by County**

County	No. APRNs, CNMs, PA-Cs (combined) in FTEs* (2011)
<b>NORTHEASTERN VERMONT</b>	
Caledonia	10
Essex	2
Lamoille	6
Orange	9
Orleans	10
Washington	19
<b>CHAMPLAIN VALLEY</b>	
Addison	6
Chittenden	32
Franklin	14
Grand Isle	1
<b>SOUTHERN VERMONT</b>	
Bennington	10
Rutland	17
Windham	12
Windsor	14
<b>TOTAL STATEWIDE</b>	<b>163</b>

**Supply to Benchmark**

Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
<b>5</b>	<b>7</b>	<b>8</b>
0	1	1
0	0	0
-1	0	0
1	0	1
4	4	3
1	2	3
<b>-22</b>	<b>-13</b>	<b>-12</b>
-5	-3	-4
-13	-7	-10
-3	-3	1
-1	0	-1
<b>1</b>	<b>-2</b>	<b>-1</b>
-2	-3	0
1	0	1
2	3	0
0	-2	-2
<b>-15</b>	<b>-7</b>	<b>-5</b>

\* small discrepancies are due to rounding  workforce shortage

Among the three counties with the greatest need for primary care physicians, Franklin, Rutland, and Windsor Counties, Rutland had the highest proportion of physicians limiting or not accepting new patients from 2009 to 2011. All three followed the statewide trend of increasing proportions of primary care physicians limiting or not accepting new patients (see Table 8). Limitations included accepting a new patient only if a family member was already a patient, or if the person seeking care lived in the same town as the practice.

For Northeastern Vermont, which experienced an increase in the number of primary care physicians from 2009 to 2011, the percent of physicians limiting or not accepting new patients appeared to level off. However, this six-county region continued to show the highest proportion of physicians limiting or not accepting new patients in the state in 2011. Champlain Valley and Southern Vermont both experienced an increase in the percent of primary care physicians limiting or not accepting new patients from 2009 to 2011.

The percent of physicians limiting or closing their practice to new patients has been increasing across time, and regions are looking increasingly similar. **The practical implication of this is that Vermonters who cannot find primary care practitioners in their own community are not going to find services more readily available in another part of the state, even if they have the means to travel.**

**Table 8: Primary Care Physicians Limiting New Patients by County**

County	% MD/DOs Limiting/ Not Accepting (2009)	% MD/DOs Limiting/ Not Accepting (2010)	% MD/DOs Limiting/ Not Accepting (2011)
<b>NORTHEASTERN VERMONT</b>	<b>50%</b>	<b>55%</b>	<b>51%</b>
Caledonia	32%	55%	42%
Essex	50%	50%	63%
Lamoille	55%	62%	60%
Orange	9%	18%	13%
Orleans	59%	47%	58%
Washington	73%	71%	65%
<b>CHAMPLAIN VALLEY</b>	<b>29%</b>	<b>31%</b>	<b>40%</b>
Addison	32%	40%	35%
Chittenden	31%	31%	43%
Franklin	16%	23%	30%
Grand Isle	0%	0%	0%
<b>SOUTHERN VERMONT</b>	<b>28%</b>	<b>29%</b>	<b>40%</b>
Bennington	36%	26%	55%
Rutland	24%	36%	49%
Windham	33%	30%	28%
Windsor	20%	24%	33%
<b>TOTAL STATEWIDE</b>	<b>34%</b>	<b>36%</b>	<b>43%</b>

Similar to statewide trends for primary care physicians, for APRNs, CNMs, and PA-Cs (combined) across all primary care specialties, the percent limiting or no longer accepting new patients increased from 2009 to 2011. The variability between regions was also smaller in 2011, compared to earlier years (see Table 9).

**Table 9: Primary Care APRNs, CNMs, and PA-Cs Limiting New Patients by County**

County	% APRNs, CNMs, PA-Cs Limiting/Not Accepting (2009)	% APRNs, CNMs, PA-Cs Limiting/Not Accepting (2010)	% APRNs, CNMs, PA-Cs Limiting/Not Accepting (2011)
<b>NORTHEASTERN VERMONT</b>	<b>31%</b>	<b>44%</b>	<b>38%</b>
Caledonia	25%	21%	27%
Essex	37%	67%	33%
Lamoille	40%	57%	67%
Orange	0%	18%	17%
Orleans	23%	62%	26%
Washington	54%	56%	51%
<b>CHAMPLAIN VALLEY</b>	<b>13%</b>	<b>24%</b>	<b>38%</b>
Addison	0%	36%	11%
Chittenden	15%	22%	43%
Franklin	17%	24%	44%
Grand Isle	0%	0%	0%
<b>SOUTHERN VERMONT</b>	<b>35%</b>	<b>22%</b>	<b>33%</b>
Bennington	43%	11%	23%
Rutland	48%	45%	52%
Windham	27%	26%	23%
Windsor	26%	0%	27%
<b>TOTAL STATEWIDE</b>	<b>27%</b>	<b>31%</b>	<b>36%</b>

## Hospitalist Services and Primary Care Practices

One method which may reduce some of the pressure on primary care practitioners in office (outpatient) practice is to delegate the responsibility of attending medical hospitalizations to a dedicated hospitalist service. This may result in office-based, primary care generalists having additional office hours.

Hospitalist services have been growing nationally<sup>4</sup>, as well as in Vermont, and research is beginning to examine the effectiveness of these services on patient care and outcomes.<sup>5</sup>

Information collected in the 2011 primary care office survey examined whether the PCPs at primary care practice sites generally cared for their own patients during medical hospitalizations (i.e., PCPs assumed the role of inpatient attending), shared this role with their practice colleagues, or delegated it to a dedicated hospitalist program.

In 2011, primary care office practices with internal medicine physicians were most likely to engage hospitalist services. This was followed by offices with family medicine physicians. It was a far less common practice for obstetrics-gynecology and pediatric practices.

**Table 10: Primary Care Practices Using Hospitalist Services – 2011**

Primary Care Specialty	Cared for Own Patients	Shared with Practice Colleagues	Delegated to Hospitalist Program
Family Medicine	13%	20%	67%
Internal Medicine	14%	14%	72%
Obstetrics–Gynecology	54%	25%	21%
Pediatrics	38%	33%	29%

Use of hospitalist services was found to be associated with internal medicine practices whether the practice was solely internal medicine or it was in an office with a mix of primary care specialties. Use of hospitalist services in family medicine, obstetrics-gynecology, and pediatrics tended to be in practices with a mix of primary care specialties among their PCPs. Further study is needed to understand the impact of these services on primary care practice in Vermont.

## Conclusions

In 2011, shortages of internal medicine physicians continued in every region of Vermont, impacting the supply of primary care practitioners for adults. Trends from 2009 to 2011 did not show any easing of the situation. There continues to be a need for more PCPs to care for adults in every region of Vermont. This shortage is reflected not only in the numbers of PCPs by primary care specialty, but also in the growing proportion of internal and family medicine practitioners limiting or no longer accepting new patients.

4. Kuo, Y-F, Sharma, G., Freeman, J.L., and Goodwin, J.S. Growth in the Care of Older Patients by Hospitalists in the United States. *N Engl J Med* 2009;360:1102-12.

5. Chen, L.M. and Saint, S. Moments in Time. *Ann Intern Med* 2011;155:194-195.

# Northeastern Vermont

## Caledonia, Essex, Lamoille, Orange, Orleans, and Washington Counties

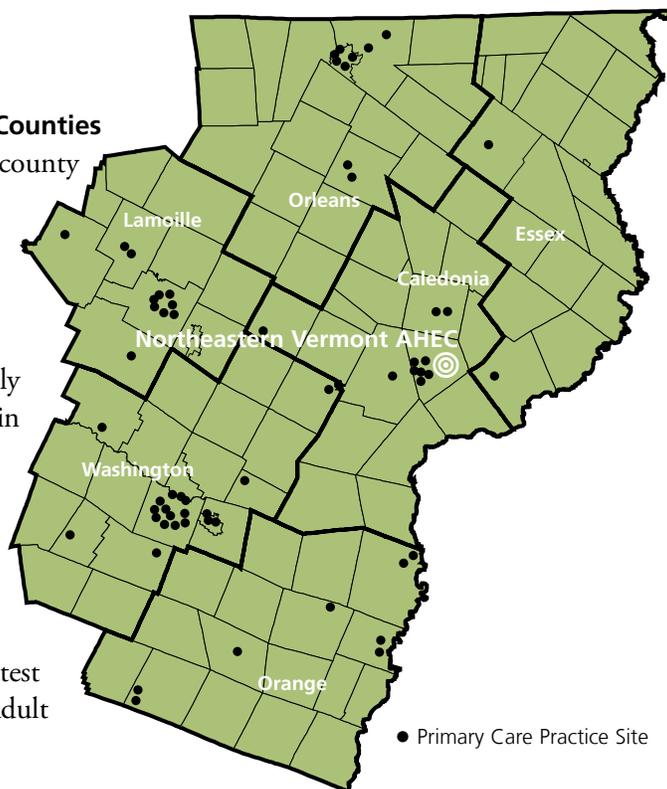
In 2011, there were 60 primary care practices (see map) in this six-county region of 177,709 Vermonters. The 146 primary care physicians and 87 APRNs, CNMs, and PA-Cs yielded a total primary care workforce of 233 individual practitioners.

### Supply and Distribution by County

From 2009 to 2011, combining all primary care specialties, the supply of primary care physician FTEs improved, but there were still needs in Orleans, Orange, and Essex, followed by Caledonia and Lamoille Counties in 2011 (see Table 6). The supply of APRN, CNM, and PA-C FTEs remained adequate in each county combining primary care specialties during the same period (see Table 7).

### Supply and Distribution by Specialty

Similar to the statewide findings by specialty (see Table 2), the greatest need for primary care physicians in Northeastern Vermont was in adult primary care, with shortages in internal medicine (see Table 11).



**Table 11: Primary Care Physicians by Specialty**

Primary Care Specialty	No. MD/DOs in FTEs* (2011)	Supply to Benchmark		
		Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
Family Medicine	63	0	2.5	5
Internal Medicine	32	-21	-18	-18
Obstetrics–Gynecology	18	1	-1	2
Pediatrics	22	0	0	3

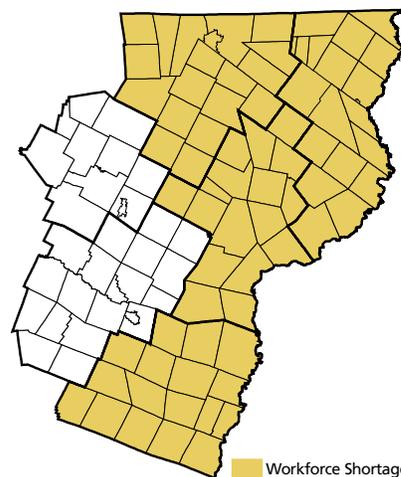
\* small discrepancies are due to rounding   workforce shortage

Combining internal medicine physicians (who serve adults) and family medicine physicians (who serve both adults and children), there were physician shortages in Caledonia, Essex, Orange, and Orleans Counties, as shown in the highlighted areas of the accompanying map. There was also a shortage of pediatricians in Lamoille County.

### PCPs Limiting or Not Accepting New Patients

With the net gain in all primary care physicians from 2009 to 2011, there was a leveling-off in the percent of individual physicians limiting or closing their practice to new patients (see Table 8). However, this region still continued to be higher than the statewide average in 2011.

In 2011, for family and internal medicine (combined), 65% of physicians limited or closed their practice to new patients and 47% of APRNs and PA-Cs in these same specialties limited or closed their practice to new patients.



# Champlain Valley

## Addison, Chittenden, Franklin, and Grand Isle Counties

In 2011, there were 86 primary care practices (see map) in this four-county region of 248,082 Vermonters. The 234 primary care physicians and 84 APRNs, CNMs, and PA-Cs yielded a total primary care workforce of 318 individual practitioners.

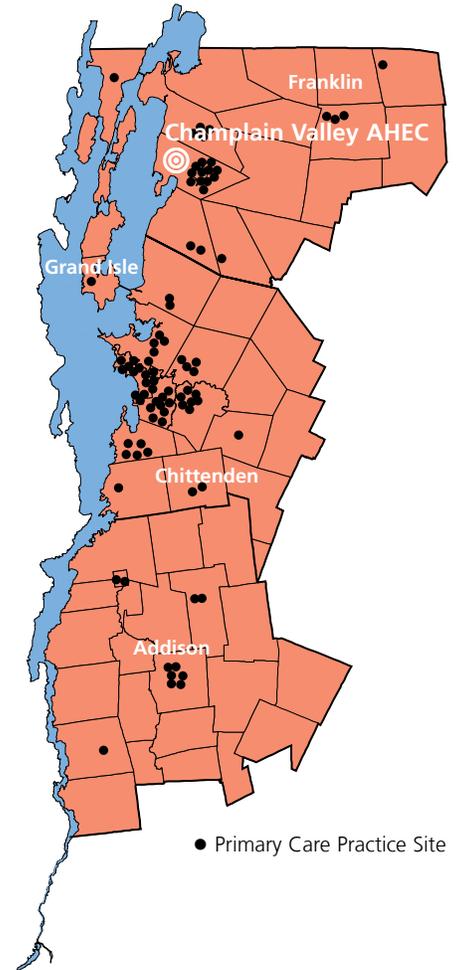
### Supply and Distribution by County

From 2009 to 2011, combining all specialties, the need for primary care physician FTEs grew along with some increase in population in this region (see Table 6). The greatest need for physicians continued to be in Franklin County, though the county showed some improvement during the period. Grand Isle and Addison Counties also showed an overall shortage in physicians across all specialties in 2011.

While the supply of APRN, CNM, and PA-C FTEs showed improvement from 2009 to 2011, there remained an overall shortage in the region 2011 (see Table 7).

### Supply and Distribution by Specialty

Similar to the statewide findings by specialty (see Table 2), the greatest need for primary care physicians in the Champlain Valley was in adult primary care, with shortages in internal medicine (who serve adults) and family medicine (who serve children and adults). The shortage in family and internal medicine physicians (combined) increased from 24 to 33 physicians from 2009 to 2011 (see Table 12).



**Table 12: Primary Care Physicians by Specialty**

Primary Care Specialty	No. MD/DOs in FTEs* (2011)
Family Medicine	65
Internal Medicine	53
Obstetrics–Gynecology	31
Pediatrics	44

**Supply to Benchmark**

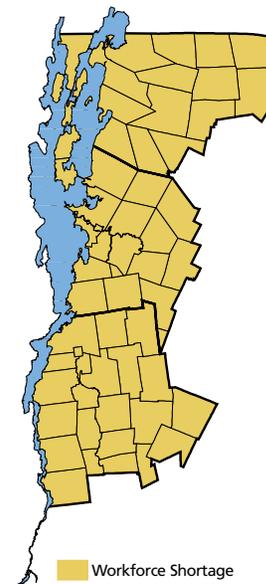
	Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
Family Medicine	-9	-12	-16
Internal Medicine	-15	-14	-17
Obstetrics–Gynecology	9	10	8
Pediatrics	17	21	17

\* small discrepancies are due to rounding  workforce shortage

Combining family and internal medicine physicians, there were shortages in every county, including the most populous, Chittenden County, as shown in the highlighted areas on the accompanying map. There were also small shortages of obstetrics-gynecology physicians in Franklin and Grand Isle Counties, and pediatricians in Grand Isle County in 2011.

### PCPs Limiting or Not Accepting New Patients

The percent of physicians limiting or closing their practice to new patients rose from 29% to 40% from 2009 to 2011, for all primary care specialties (see Table 8) in the Champlain Valley. In 2011, for internal and family medicine (combined), 55% of physicians limited or closed their practice to new patients and 34% of APRNs and PA-Cs in these same specialties limited or closed their practice to new patients.



# Southern Vermont

## Bennington, Rutland, Windham, and Windsor Counties

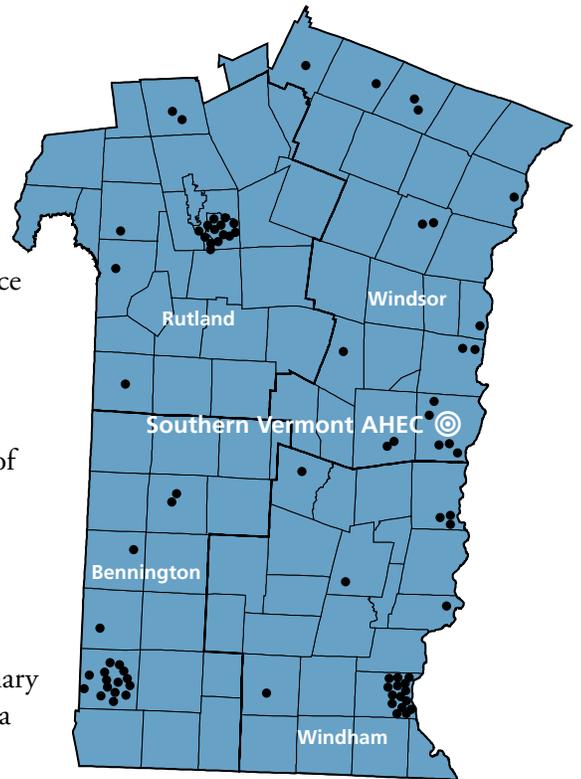
In 2011, there were 78 primary care practices (see map) in this four-county region of 199,950 Vermonters. The 156 primary care physicians and 80 APRNs, CNMs, and PA-Cs yielded a total primary care workforce of 236 individual practitioners.

### Supply and Distribution by County

The greatest needs for primary care physician FTEs between 2009 and 2011 were in Rutland and Windsor Counties (see Table 6). The supply of APRN, CNM, and PA-C FTEs was generally adequate during the same period (see Table 7).

### Supply and Distribution by Specialty

Similar to the statewide findings by specialty (see Table 2), the greatest need for primary care physicians in Southern Vermont was in adult primary care, with a shortage in internal medicine (see Table 13). There was also a shortage of physicians in obstetrics-gynecology in the region.



● Primary Care Practice Site

**Table 13: Primary Care Physicians by Specialty**

Primary Care Specialty	No. MD/DOs in FTEs* (2011)	Supply to Benchmark		
		Supply in FTEs* (2009)	Supply in FTEs* (2010)	Supply in FTEs* (2011)
Family Medicine	70	11	8	5**
Internal Medicine	32	-20	-22	-24
Obstetrics-Gynecology	14	-3	-3	-4
Pediatrics	26	4	3	4

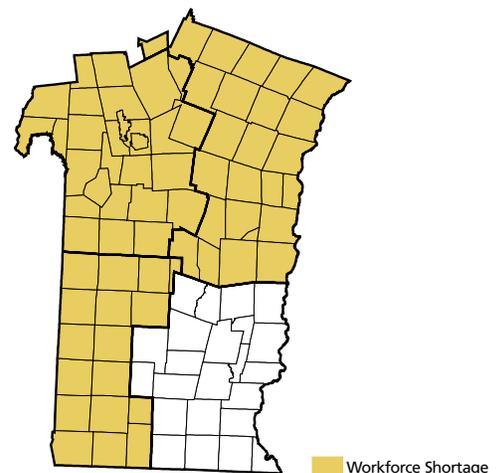
\* small discrepancies are due to rounding ■ workforce shortage

\*\* As a result of a methods change in 2011, 3 practices with 5-6 family medicine physicians and one internal medicine physician were no longer included in the data. We estimate Family Medicine Physician Supply in FTEs would have been 10-11 in 2011, were these practices included in the data. See Endnotes.

Combining internal medicine physicians (who serve adults) and family medicine physicians (who serve both adults and children), there were physician shortages in Bennington, Rutland, and Windsor Counties in 2011, as shown in the highlighted areas on the accompanying map. There was also a small shortage of obstetrics-gynecology physicians in Rutland and Windsor Counties.

### PCPs Limiting or Not Accepting New Patients

The percent of physicians limiting or closing their practice to new patients rose from 28% in 2009 to 40% in 2011, for all primary care specialties (see Table 8). In 2011, for family and internal medicine (combined), 52% of physicians limited or closed their practice to new patients and 43% of APRNs and PA-Cs in these same specialties limited or closed their practice to new patients.



■ Workforce Shortage

## ENDNOTES

**Primary Care Practice:** An office or clinic which offers general primary care to adults and/or children, an ongoing relationship between a primary care practitioner (PCP) and the patient, comprehensive care, continuity of care, and coordination of care in family medicine, general internal medicine, general obstetrics-gynecology, and general pediatrics. Site may include the patient's home for an "all home care" primary care practitioner.

Sites which are not included are: walk-in/immediate/acute care clinics, school-based clinics, free clinics, Planned Parenthood clinics, college health centers, Department of Corrections health facilities, sites for at-risk youth, sites for homeless people, nursing homes, residential assisted-living facilities, and Veterans Administration clinics.

**2011 Change in Methods:** As a result of a methods change in 2011, 3 practices were no longer included in the data. These practices had physicians associated with Vermont hospitals, but practices were physically outside of Vermont's borders. These practices combined contained 5-6 family medicine physicians and one internal medicine physician. We estimate physician FTEs would have been 0 to +1 in Bennington, 6 in Windham, and -9 in Windsor County; -12 to -13 for Southern Totals; 0 for Statewide Family Medicine Supply in FTEs; and -27 to -28 for Total Statewide Physician Supply FTEs in 2011, were these practices included in the data. These notes are included in footnotes on the relevant tables.

**Primary Care Practitioners:** PCPs include physicians, MDs and DOs, advanced nurse practitioners (APRNs), certified nurse midwives (CNMs), and certified physician assistants (PA-Cs) at primary care practice sites.

**Practice-Based Survey:** Primary care office administrators from all 224 primary care practices in Vermont were surveyed by AHEC during a 3-month period in the spring/early summer of 2011, to update the prior year's list of PCPs and to report their current, typical, weekly office hours at the practice site. Per diem, or other temporary PCPs were not included, if the practice was searching for a permanent practitioner.

**Measuring the Primary Care Workforce:** Measurement of the primary care workforce was guided by standards from the Graduate Medical Education National Advisory Committee (GMENAC) and the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services.

**Calculating Physician Full-Time Equivalent (FTEs):** Using a method developed by HRSA<sup>6</sup> to measure physician shortage areas in geographic regions, physician in-office patient hours are adjusted to reflect additional time for: diagnosis, treatment, and clinical reports in the course of direct patient care; time spent outside of

the office at a hospital, nursing home, emergency department or care delivered in the patient's home. The amount of adjustment differs by primary care specialty. All calculations extend to two decimal places (100ths place) and no physician exceeds one FTE

**Table 14: HRSA Physician FTE Methodology**

Primary Care Specialty	Office Hours	Adjustment Factor	Hours Per Week	Full-Time Equivalent
Family Medicine	#	x 1.4	÷ 40	= FTE
Internal Medicine	#	x 1.8	÷ 40	= FTE
Obstetrics–Gynecology	#	x 1.9	÷ 40	= FTE
Pediatrics	#	x 1.4	÷ 40	= FTE

### Calculating APRN, CNM, PA-C Full-Time Equivalent (FTEs):

Using the base of a 40-hour week, current, typical, weekly hours for each of these PCPs based on in-office patient hours is divided by 40. All calculations extend to two decimal places (100ths place) and no individual exceeds one FTE.

**FTEs and Small Discrepancies Due to Rounding:** While all FTE calculations are carried out to the hundredths place and then aggregated by discipline, region, and primary care specialty, the reader will find only whole numbers in the tables. Often this creates small discrepancies due to rounding. For example, while  $24.40+25.40+25.40+25.30 = 100.40$ , in this report these aggregated numbers are presented as  $24+25+25+25=100$ .

**Benchmark to Identify Adequacy and Shortage:** AHEC uses guidelines from GMENAC (1981)<sup>7</sup> for the number of primary care physicians (in FTEs) per population (U.S. Census, VT 2010 population as of July 2011<sup>8</sup>) for each primary care specialty:

**Table 15: GMENAC Physician Recommendations**

Family Medicine	32.5 FM physicians per 100,000
Internal Medicine	28.1 IM physicians per 100,000
Obstetrics–Gynecology	9.2 OB-GYN physicians per 100,000
Pediatrics	10.7 PED physicians per 100,000

Based on GMENAC assumptions of an additional three-tenths of an APRN/CNM/PA-C for every primary care physician, the Vermont Department of Health has considered it a shortage if there is less than one of these PCPs for every three primary care physicians, although service delivery models vary by region.

Shortages are defined as one or more practitioners below the benchmarks set forth by discipline, region, and primary care specialty.

6. <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/medicaldentalhpsaguidelines.html>, January 2012.  
 7. U.S. Department of Health and Human Services, Health Resources Administration: Report of the Graduate Medical Education National Advisory Committee (GMENAC) Vol. I: Summary Report. DHHS Publication No. (HRA) 81-651. U.S. Government Printing Office, Washington, D.C., 1980.  
 8. <http://quickfacts.census.gov/qfd/states/50000.html>, January 2012.

## Primary Care Survey

PRACTICE NAME \_\_\_\_\_ DATE OF COMPLETION \_\_\_\_\_

PHYSICAL TOWN OF PRACTICE \_\_\_\_\_

CONTACT PERSON \_\_\_\_\_ CONTACT EMAIL \_\_\_\_\_ CONTACT TELEPHONE \_\_\_\_\_

Please include all MDs, DOs, APRNs, CNMs, and PA-Cs who see patients at your practice site. Indicate office hours, not including call, rounds or administrative time.

Practitioner Name	Degree/Certificate	Specialty	In-Office Patient Hours Per Week	Accepting New Patients?		
				Yes	No	Limited to:

In general, for patients who are admitted to the hospital for medical problems, our physicians (check only one):

- Assume the role of attending, each for his or her own patients only.
- Share inpatient responsibilities with other practice physicians on a rotating basis (e.g., weekly hospitalist duty).
- Delegate responsibility to a dedicated hospitalist program.
- Other (please describe): \_\_\_\_\_



*Connecting students to careers, professionals to communities, and communities to better health.*

For more information contact your regional AHEC at:  
[www.nevahec.org](http://www.nevahec.org), [www.cvahec.org](http://www.cvahec.org), [www.svahec.org](http://www.svahec.org) or:

Denis Barton, Director  
 Denis.Barton@uvm.edu

(802) 656-0030

[www.vtahec.org](http://www.vtahec.org)