

# The Vermont Primary Care Workforce

## 2012 SNAPSHOT

WORKFORCE SHOWS IMPROVEMENT BUT SHORTAGE  
IN ADULT PRIMARY CARE PERSISTS



UNIVERSITY OF VERMONT



AREA HEALTH EDUCATION CENTERS PROGRAM

## 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, including those who live in rural areas and underserved populations, have access to high-quality care.

## 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, private foundations, and individual contributors.

The statewide infrastructure of AHEC consists of a program office at the University of Vermont College of Medicine and three regional centers which are each a 501(c)(3), non-profit organization. AHEC is a dynamic, academic-community partnership linking the University of Vermont College of Medicine and communities in every county of the state.

## Acknowledgments

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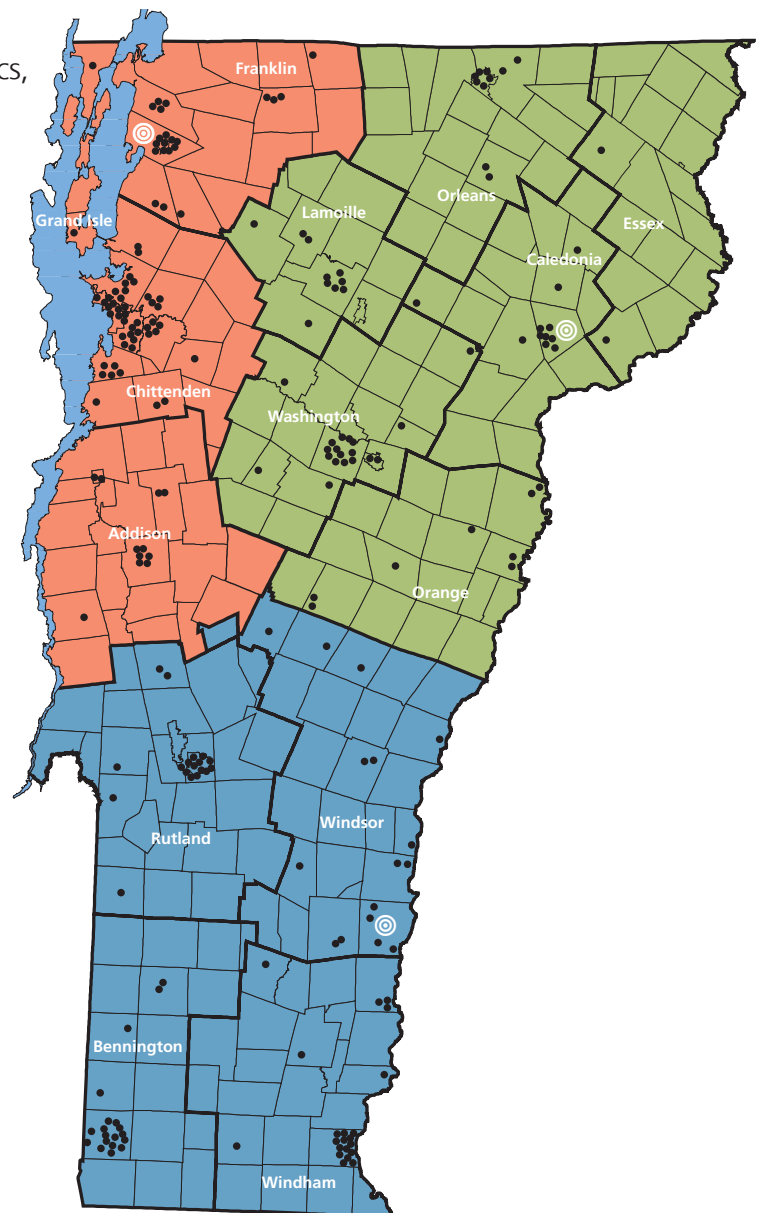
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# Workforce Shows Improvement but Shortage in Adult Primary Care Persists

- In Vermont, during the three year period 2010 to 2012 the number of primary care practitioners grew; **however, the shortage of adult primary care practitioners has persisted across all regions of the state.** Primary care practitioners include physicians, advanced practice registered nurses, certified nurse midwives, and certified physician assistants who work at primary care practice sites in Vermont.
- Despite some increases in family medicine, pediatrics, and obstetrics-gynecology practitioners over time, the shortfall in internal medicine persisted. Three-year trend data showed a continued decline in the number of internal medicine physicians from 2010 to 2012.
- The need for primary care practitioners who care for adults was further supported by the percent of practitioners limiting or closing their practice to new patients in 2012. While the overall increase in total practitioners was associated with a small decline in the percent limiting or closing their practice, **two-thirds of the internal medicine and almost half of the family medicine physicians limited or closed their practice to new patients in 2012.**



● Primary Care Practice Sites in Vermont AHEC Regions

## Background: Annual AHEC Survey

In this report we examine the clinical hours of primary care practitioners (PCPs) including physicians (MD/DOs), advanced practice registered nurses (APRNs), certified nurse midwives (CNMs), and certified physician assistants (PA-Cs) in primary care practices. Analyses are presented by primary care specialty to identify the needs of different populations of Vermonters:

- family medicine practitioners serve children through adults;
- general internal medicine practitioners serve adolescents and adults;
- general pediatric practitioners serve children and adolescents; and
- general obstetrics-gynecology practitioners serve adolescents and adult women.

Regional analyses examine the primary care workforce in different parts of Vermont, including county and multi-county regions: Northeastern Vermont, Champlain Valley, and Southern Vermont.

This report is a snapshot of the **net changes** in total PCPs from year to year between 2010 and 2012. Its purpose is to identify areas where the primary care workforce is adequate and where there are shortfalls. The supply of practitioners is examined by primary care specialty both statewide and within regions of Vermont.

## Benchmarks: How Many Practitioners Do We Need?

For this 2012 report, we are maintaining the same method as used in previous years for analyzing the primary care workforce, employing national benchmarks to determine how many practitioners are needed. As the primary care services evolve and as new benchmarks are developed,<sup>1,2,3</sup> we will update our analyses (see Endnotes, page 13, for information on the current method).

Some of the factors which put pressure on older benchmarks include the implementation of health care reforms both in Vermont and nationally, which will likely increase the number of people who will be seeking primary care. Demographic analyses also show an aging population which is generally associated with increased need for medical care.

In this era of healthcare reform, the organization of the healthcare delivery system is also changing.<sup>4</sup> In the current report, we include physicians, advanced practice registered nurses, physician assistants, and certified nurse midwives. As more Vermont practices employ a team approach to deliver care, and as more primary care practices become medical homes, additional disciplines (professions) may need to be added to the analyses. Changes in the delivery of care may also change the role of current PCPs; this should also be reflected in future workforce benchmarks.

Vermont has seen a very rapid adoption of electronic medical records (EMR) over the past three years. While this may lead to advances in safety and efficiency down the road, the process of choosing, installing, and learning to use an EMR takes a considerable commitment of time and energy on the part of every member of a practice. It is not yet clear if EMR adoption will lead to long term changes in the capacity of PCPs or primary care practice.<sup>5</sup>

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1. Kuenning T. Negotiated Rulemaking Committee: Designation of Medically Underserved Populations and Health Professional Shortage Areas. Presented at the Bi-State Primary Care Meeting, Montpelier, VT, 12/15/2011.  
2. [www.healthworkforce.unc.edu/documents/PF\\_FAQ\\_Aug2012.pdf](http://www.healthworkforce.unc.edu/documents/PF_FAQ_Aug2012.pdf), 11/26/2012.  
3. [www.annfammed.org/content/10/6/503.full.pdf+html](http://www.annfammed.org/content/10/6/503.full.pdf+html), 12/5/2012.  
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### **Challenges: Maintaining/Increasing the Primary Care Workforce**

There are still special challenges to maintaining and, where needed, increasing the primary care workforce in Vermont:

- financial and other pressures on healthcare trainees, including medical students and residents, nurse practitioners, and physician assistants, to sub-specialize rather than choose primary care;
- reimbursement of and workload pressures on primary care practitioners;
- the aging of Vermont primary care practitioners, especially internal medicine physicians;<sup>6</sup>
- the impact of the elderly population becoming an increasingly larger proportion of the population, as this group is associated with increased need for medical care; and
- competition from other states that are also working to increase their primary care workforce.

### **Ongoing Work: Strengthening 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 career exploration programs in middle and high school, and the support and engagement of health care professions students at the University of Vermont and residents at Fletcher Allen Health Care. These programs encourage trainees to consider future practice in health careers in Vermont.

The Vermont Blueprint for Health is working to change the way we deliver healthcare, particularly in the advanced primary care practice initiative which is providing an opportunity to explore novel and more efficient ways to improve health.

There are considerable community and statewide activities and programs to help recruit and retain the primary care workforce, including the state-funded, AHEC-administered Vermont Educational Loan Repayment Program for Primary Care Practitioners. These funds help to reduce a practitioner's educational debt in exchange for a commitment to practice in Vermont. To date, over one-quarter of Vermont's primary care physicians have benefitted from this program.

6. Vermont Department of Health. 2010 Physician Survey Statistical Report, Burlington, VT, Aug 2011. NOTE: Report on the 2012 survey of individual physicians is expected in 2013.

## PRIMARY CARE PRACTITIONERS – STATEWIDE FINDINGS 2012

### Primary Care Practice Sites

In 2012, there were 218 primary care practice sites in Vermont, including family medicine, general internal medicine, general pediatrics, and general obstetrics-gynecology sites. Practice sites ranged in size from one to 18 primary care practitioners (PCPs) per site (see Figure 1). About 80% percent of the primary care practices had between one to five individual PCPs. The mean practice size was four individual PCPs; the median was three PCPs.

Eighty percent of the sites included PCPs who practiced the same primary care specialty. Twenty percent of practices had PCPs representing at least two primary care specialties, such as family and internal medicine, internal medicine and pediatrics, pediatrics and obstetrics-gynecology, or other combinations, including PCPs from all four primary care specialties.

In 2012, half of all primary care practices in Vermont had at least one family medicine PCP. One-third had at least one internal medicine PCP. Twenty-two percent of the practices had at least one pediatric PCP. Twenty-two percent of practices had at least one obstetrics-gynecology PCP.

Half of the primary care practices were privately owned; one-quarter (28%) were owned by a hospital; 15% were Federally Qualified Health Centers (FQHCs); and 6% were Rural Health Clinics (RHCs). (See Endnotes, page 13, for additional criteria used to define primary care sites.)

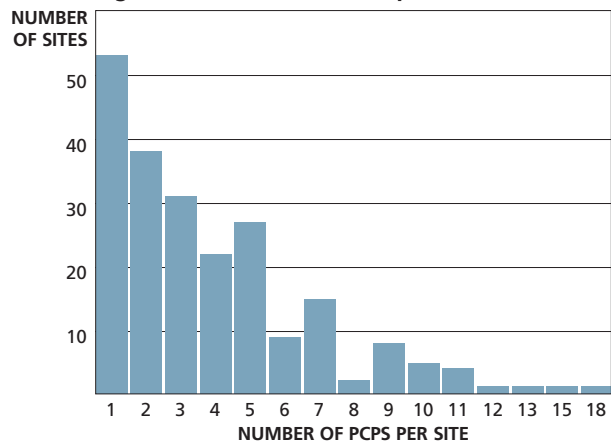
### From Individual Practitioners to FTEs

In 2012, there were 554 individual MD/DOs, 147 individual APRNs, 35 CNMs, and 78 PA-Cs practicing in Vermont primary care practices, yielding 814 individual PCPs (see Table 1). This was a net increase of 27 individual PCPs from 2011.<sup>7</sup> There were net increases in MD/DOs, APRNs, and CNMs, but there was no change in the number of individual PA-Cs from 2011.

For comparisons to national benchmarks, the count of individual PCPs (see “No. PCPs” in Table 1), was converted to Full-Time Equivalents (FTEs) (see “No. in FTEs” in Table 1) to standardize the measurement of **clinical time/effort**. This is important since there are both part-time and full-time practitioners at primary care sites. Part-time practitioners may be splitting their clinical time among small rural sites, may have only part-time clinical hours with the balance of their time devoted to administrative or research responsibilities, or may practice part-time for other reasons.

In 2012, combining all primary care specialties, the primary care workforce grew by 15 physician FTEs and 12 APRNs, CNMs, and PA-Cs FTEs (see Table 1, “Supply to Benchmark”).

Figure 1: Number of PCPs\* per Site (N=218 Sites)



\* Count of individual PCPs without regard to part- or full-time status. One PCP at two or more sites is counted at each site.

Table 1: All Primary Care Practitioners by Discipline

| Discipline                                  | No. PCPs (2012) | No. in FTEs* (2012) |
|---|-----------------|---------------------|
| <b>PHYSICIANS (MD/DOs)</b>                  | <b>554</b>      | <b>484</b>          |
| <b>APRNs, CNMs, PA-Cs (combined)</b>        | <b>260</b>      | <b>175</b>          |
| Advanced Practice Registered Nurses (APRNs) | 147             | 95                  |
| Certified Nurse Midwives (CNMs)             | 35              | 21                  |
| Certified Physician Assistants (PA-Cs)      | 78              | 60                  |

Supply to Benchmark

| Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|------------------------|------------------------|------------------------|
| -25                    | -35                    | -20                    |
| -7                     | -5                     | 7                      |

\* small discrepancies are due to rounding  
 workforce shortage

7. Area Health Education Centers Program (AHEC). The Vermont Primary Care Workforce, 2011 Snapshot. Burlington, VT. Jan 2012.

National benchmarks were used to determine the number of primary care practitioners needed for an adequate supply of PCPs, when applied to the Vermont population. When the “Supply to Benchmark” is positive, the PCP supply is adequate for the population. When “Supply to Benchmark” is negative, there is a shortfall of PCPs. PCP shortfalls are highlighted in the tables and maps. (See Endnotes, page 13, for additional details on methods.)

### Primary Care Practitioners By Specialty (in FTEs)

Categorizing the statewide totals by primary care specialty, the supply of family medicine physicians in FTEs was close to adequate statewide in 2012. The supply of obstetrician-gynecologists and pediatricians was adequate. Each of these primary care specialties also showed net improvement in physician FTEs from the prior year (see Table 2, “Supply to Benchmark”). However, the trend for general internal medicine physicians, who serve adults, continued to decline from 2010 to 2012. In 2012, there was a shortfall of sixty internal medicine physician FTEs.

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

| Primary Care Specialty | No. MD/DOs in FTEs* (2012) |
|------------------------|----------------------------|
| Family Medicine        | 202                        |
| Internal Medicine      | 116                        |
| Obstetrics–Gynecology  | 71                         |
| Pediatrics             | 96                         |
| <b>TOTAL STATEWIDE</b> | <b>484</b>                 |

**Supply to Benchmark**

| Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|------------------------|------------------------|------------------------|
| -2                     | -6                     | -2                     |
| -54                    | -58                    | -60                    |
| 6                      | 6                      | 13                     |
| 25                     | 24                     | 29                     |
| <b>-25</b>             | <b>-35</b>             | <b>-20</b>             |

\* small discrepancies are due to rounding  workforce shortage

For APRNs, CNMs, and PA-Cs in primary care, there were increases in 2012 in family medicine and obstetrics-gynecology, as measured in FTEs. However, there was little or no net change in internal medicine and pediatrics (see Table 3, “Supply to Benchmark”). In 2012, there was a shortfall of six pediatric APRNs/PA-Cs and a shortfall of 35 APRNs/PA-Cs in internal medicine. Since APRNs and PA-Cs in internal medicine serve adults, and APRNs and PA-Cs in family medicine also serve adults (as well as children), the APRNs/PA-Cs in family medicine were very likely off-setting some of the shortfall in internal medicine.

**Table 3: Primary Care APRNs, CNMs, and PA-Cs by Specialty**

| Primary Care Specialty | No. APRNs, CNMs, PA-Cs (combined) in FTEs* (2012) |
|------------------------|---|
| Family Medicine        | 106   |
| Internal Medicine      | 24  |
| Obstetrics–Gynecology  | 29  |
| Pediatrics             | 16  |
| <b>TOTAL STATEWIDE</b> | <b>175</b>  |

**Supply to Benchmark**

| Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|------------------------|------------------------|------------------------|
| 28                     | 30                     | 38                     |
| -37                    | -34                    | -35                    |
| 7                      | 6                      | 10                     |
| -5                     | -6                     | -6                     |
| <b>-7</b>              | <b>-5</b>              | <b>7</b>               |

\* small discrepancies are due to rounding  workforce shortage

Combining physicians (see Table 2) with APRNs and PA-Cs (see Table 3) in internal and family medicine, the **overall increase in all PCPs in 2012 did not improve the area of greatest need in Vermont: primary care services for adults**. Further evidence of the need for PCPs in adult primary care is presented in the regional sections of this report in Tables 10, 11 and 12 (see pages 10-12).

### Limiting New Patients by Specialty

The increase in primary care physician FTEs, in the 2012 aggregate, was associated with a small decline in physicians limiting or closing their practice to new patients (see Table 4, “Total Statewide”). This may indicate a reversal of the trend we have been observing since 2009,<sup>8</sup> when 34% of physicians were limiting or closing their practice to new patients. This rose to 36% in 2010 and 43% 2011, but declined to 40% in 2012.

**Table 4: Primary Care Physicians Limiting or No Longer Accepting New Patients by Specialty**

| Primary Care Specialty | % MD/DOs Limiting/Not Accepting (2010) | % MD/DOs Limiting/Not Accepting (2011) | % MD/DOs Limiting/Not Accepting (2012) |
|------------------------|--|--|--|
| Family Medicine        | 43%                                    | 51%                                    | 47%                                    |
| Internal Medicine      | 54%                                    | 68%                                    | 66%                                    |
| Obstetrics–Gynecology  | 6%                                     | 17%                                    | 15%                                    |
| Pediatrics             | 22%                                    | 12%                                    | 13%                                    |
| <b>TOTAL STATEWIDE</b> | <b>36%</b>                             | <b>43%</b>                             | <b>40%</b>                             |

While there were small improvements in 2012 in most of the primary care specialties, **still almost half the family medicine physicians and two-thirds of the internal medicine physicians in Vermont limited or closed their practice to new patients in 2012**.

Limitations included only accepting new patients if they lived in the practice town or if a family member was already a patient at the practice.

Similar to the physician trend, an some increase in the number of APRNs, CNMs, and PA-Cs was associated with some decline in the percent of these PCPs limiting or closing their practice to new patients (see Table 5, “Total Statewide”). Also similar to the physician trend, the greatest percent of these PCPs limiting or closing their practice to new patients was for APRNs and PA-Cs in internal and family medicine practices.

**Table 5: Primary Care APRNs, CNMs, and PA-Cs Limiting or No Longer Accepting New Patients by Specialty**

| Primary Care Specialty | % APRNs, CNMs, PA-Cs Limiting/Not Accepting (2010) | % APRNs, CNMs, PA-Cs Limiting/Not Accepting (2011) | % APRNs, CNMs, PA-Cs Limiting/Not Accepting (2012) |
|------------------------|--|--|--|
| Family Medicine        | 35%  | 38%  | 32%  |
| Internal Medicine      | 36%  | 53%  | 61%  |
| Obstetrics–Gynecology  | 14%  | 14%  | 5%   |
| Pediatrics             | 26%  | 39%  | 7%   |
| <b>TOTAL STATEWIDE</b> | <b>31%</b>   | <b>36%</b>   | <b>28%</b>   |

8. Area Health Education Centers Program (AHEC). The Vermont Primary Care Workforce, 2009 Snapshot. Burlington, VT. Jan 2010.



## Primary Care Practitioners by Region (in FTEs)

Examining the primary care physician shortfalls by regions of the state, each of the AHEC regions reflected the statewide trend and showed some improvement in the total number of primary care physician FTEs in 2012, though a shortfall persisted in each region (see Table 6, “Supply to Benchmark” for Northeastern VT, Champlain Valley, and Southern VT). **Despite the overall increases since 2011, the need for primary care services for adults within each region continued in 2012**, as shown in further regional breakdowns by specialty in Tables 10, 11 and 12 (see pages 10-12).

Table 6: Primary Care Physicians by County

| County                      | Population (est. 2011) | No. Practice Sites (2012) | No. MD/DOs in FTEs* (2012) |
|-----------------------------|------------------------|---------------------------|----------------------------|
| <b>NORTHEASTERN VERMONT</b> |                        |                           |                            |
| Caledonia                   | 31,166                 | 11                        | 24                         |
| Essex                       | 6,291                  | 2                         | 2                          |
| Lamoille                    | 24,701                 | 10                        | 19                         |
| Orange                      | 29,006                 | 8                         | 20                         |
| Orleans                     | 27,173                 | 10                        | 22                         |
| Washington                  | 59,626                 | 19                        | 51                         |
| <b>CHAMPLAIN VALLEY</b>     |                        |                           |                            |
| Addison                     | 36,742                 | 11                        | 25                         |
| Chittenden                  | 157,491                | 50                        | 141                        |
| Franklin                    | 48,113                 | 21                        | 30                         |
| Grand Isle                  | 6,931                  | 2                         | 1                          |
| <b>SOUTHERN VERMONT</b>     |                        |                           |                            |
| Bennington                  | 36,970                 | 19                        | 30                         |
| Rutland                     | 61,289                 | 18                        | 41                         |
| Windham                     | 44,266                 | 21                        | 38                         |
| Windsor                     | 56,666                 | 16                        | 39                         |
| <b>TOTAL STATEWIDE</b>      | <b>626,431</b>         | <b>218</b>                | <b>484</b>                 |

Supply to Benchmark

| Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|------------------------|------------------------|------------------------|
| <b>-15</b>             | <b>-9</b>              | <b>-5</b>              |
| 1                      | -1                     | -1                     |
| -3                     | -3                     | -3                     |
| -2                     | -1                     | -1                     |
| -5                     | -3                     | -3                     |
| -5                     | -4                     | 0                      |
| -1                     | 3                      | 3                      |
| <b>5</b>               | <b>-7</b>              | <b>-3</b>              |
| 3                      | -1                     | -4                     |
| 18                     | 6                      | 15                     |
| -10                    | -8                     | -9                     |
| -5                     | -4                     | -5                     |
| <b>-14</b>             | <b>-19</b>             | <b>-12</b>             |
| 0                      | -3                     | 1                      |
| -12                    | -10                    | -8                     |
| 5                      | 5                      | 3                      |
| -7                     | -11                    | -7                     |
| <b>-25</b>             | <b>-35</b>             | <b>-20</b>             |

\* small discrepancies are due to rounding  workforce shortage.

In 2012, the number of APRNs, CNMs, and PA-Cs in FTEs showed improvement in the Northeastern and Champlain Valley regions, but there was little change in Southern Vermont combining all primary care specialties (see Table 7, “Supply to Benchmark”).

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

| County                      | No. APRNs, CNMs, PA-Cs (combined) in FTEs* (2012) |
|-----------------------------|---|
| <b>NORTHEASTERN VERMONT</b> |   |
| Caledonia                   | 10  |
| Essex                       | 2   |
| Lamoille                    | 7   |
| Orange                      | 9   |
| Orleans                     | 9   |
| Washington                  | 20  |
| <b>CHAMPLAIN VALLEY</b>     |   |
| Addison                     | 9   |
| Chittenden                  | 41  |
| Franklin                    | 13  |
| Grand Isle                  | 2   |
| <b>SOUTHERN VERMONT</b>     |   |
| Bennington                  | 9   |
| Rutland                     | 15  |
| Windham                     | 12  |
| Windsor                     | 15  |
| <b>TOTAL STATEWIDE</b>      | <b>175</b>  |

**Supply to Benchmark**

| Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|------------------------|------------------------|------------------------|
| <b>7</b>               | <b>8</b>               | <b>11</b>              |
| 1                      | 1                      | 2                      |
| 0                      | 0                      | 1                      |
| 0                      | 0                      | 1                      |
| 0                      | 1                      | 1                      |
| 4                      | 3                      | 2                      |
| 2                      | 3                      | 4                      |
| <b>-13</b>             | <b>-12</b>             | <b>-2</b>              |
| -3                     | -4                     | -1                     |
| -7                     | -10                    | -2                     |
| -3                     | 1                      | 0                      |
| 0                      | -1                     | 0                      |
| <b>-2</b>              | <b>-1</b>              | <b>-2</b>              |
| -3                     | 0                      | -1                     |
| 0                      | 1                      | -2                     |
| 3                      | 0                      | 0                      |
| -2                     | -2                     | 0                      |
| <b>-7</b>              | <b>-5</b>              | <b>7</b>               |

\* small discrepancies are due to rounding  workforce shortage

In the six-county, northeastern region of Vermont, which has traditionally had the highest need for primary care PCPs, physician FTEs improved from 2010 to 2012. The greatest overall need for primary care physicians continued in Essex and Orange Counties (see Table 6). The region had an adequate supply of APRNs, CNMs, and PA-Cs combining specialties, and the supply continued to strengthen from 2010 to 2012 (see Table 7). Further analyses by specialty within the region, including shortfalls in adult primary care, are presented in Table 10 (page 10).

In the four Champlain Valley counties, the improved physician FTEs in 2012 were driven by improvements only in Chittenden County. There was some decline in physician FTEs in Addison, Franklin, and Grand Isle Counties. The greatest overall need in the region for primary care physicians continued in Franklin County (see Table 6). The region showed an improvement in the supply of APRNs, CNMs, and PA-Cs across primary care specialties, with the greatest improvements in Chittenden County, followed by Addison County (see Table 7). Further analyses by specialty within the region, including shortfalls in adult primary care, are presented in Table 11 (page 11).

The four southern counties of Bennington, Rutland, Windham, and Windsor combined to be the region with the greatest need for primary care physicians in Vermont in 2012. This was driven by high needs in Rutland and Windsor Counties, when combining all primary care specialties. Despite these needs, most counties in the region showed some improvement in the number of physician FTEs from 2011 to 2012 (see Table 6). The supply of APRNs, CNMs, and PA-Cs in the region was close to adequate in 2012, with Rutland County experiencing the greatest need (see Table 7). Further analyses by specialty within the region, including shortfalls in adult primary care, are presented in Table 12 on page 12.

### Limiting New Patients By Region

From 2011 to 2012, the overall improvement in the total number of primary care MD/DOs, APRNs, CNMs, and PA-Cs was generally associated with a decline in the percent of PCPs limiting or not accepting new patients (see Tables 8 & 9). There was also less variability between the regions in 2012, compared to 2010.

**Table 8: Primary Care Physicians Limiting or No Longer Accepting New Patients by County**

| County                 | % MD/DOs Limiting/<br>Not Accepting (2010) | % MD/DOs Limiting/<br>Not Accepting (2011) | % MD/DOs Limiting/<br>Not Accepting (2012) |
|------------------------|--|--|--|
| Northeastern Vermont   | 55%  | 51%  | 43%  |
| Champlain Valley       | 31%  | 40%  | 42%  |
| Southern Vermont       | 29%  | 40%  | 35%  |
| <b>TOTAL STATEWIDE</b> | <b>36%</b>                                 | <b>43%</b>                                 | <b>40%</b>                                 |

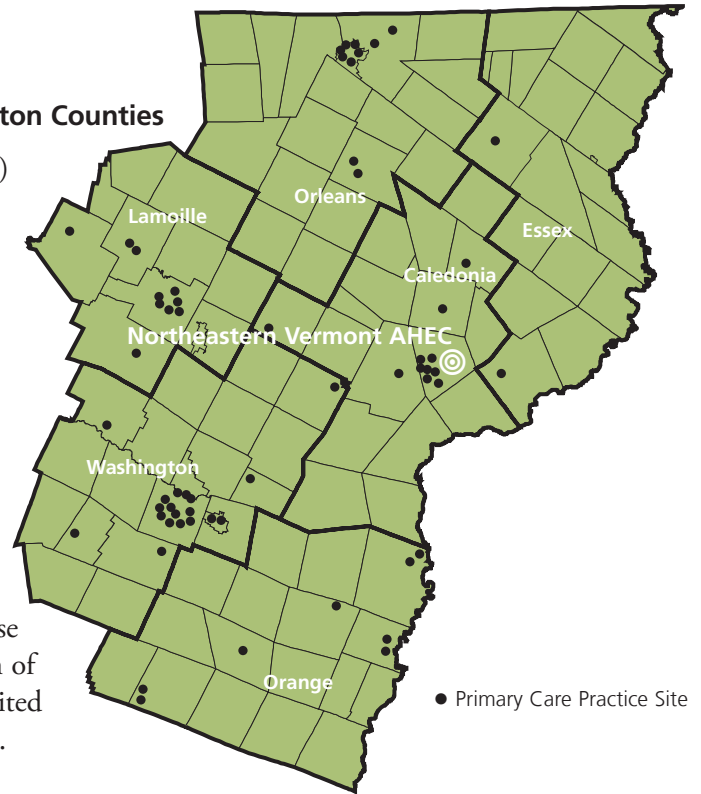
**Table 9: Primary Care APRNs, CNMs, and PA-Cs Limiting or No Longer Accepting New Patients by County**

| County                 | % APRNs, CNMs, PA-Cs<br>Limiting/Not Accepting (2010) | % APRNs, CNMs, PA-Cs<br>Limiting/Not Accepting (2011) | % APRNs, CNMs, PA-Cs<br>Limiting/Not Accepting (2012) |
|------------------------|---|---|---|
| Northeastern Vermont   | 44%   | 38%   | 26%   |
| Champlain Valley       | 24%   | 38%   | 32%   |
| Southern Vermont       | 22%   | 33%   | 25%   |
| <b>TOTAL STATEWIDE</b> | <b>31%</b>  | <b>36%</b>  | <b>28%</b>  |

# Northeastern Vermont

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

In 2012, there were 60 primary care practices (see adjacent map) in this six-county region of 177,963 Vermonters. The 150 primary care physicians and 88 APRNs, CNMs, and PA-Cs combined to yield a total primary care workforce of 238 individual practitioners.



### Supply and Distribution by County (in FTEs)

From 2010 to 2012, combining all primary care specialties, the supply of primary care physicians, APRNs, CNMs, and PA-Cs showed improvement (see Tables 6 & 7). In 2012, the greatest overall need for primary care physicians continued in Essex and Orange Counties. The region had an adequate supply of APRNs, CNMs, and PA-Cs across primary care specialties. These improvements were further reflected in the declining proportion of PCPs in the region reporting that their practices were either limited or closed to new patients from 2010 to 2012 (see Tables 8 & 9).

### Supply and Distribution by Specialty (in FTEs)

Examining primary care physician supply by specialty, there was some improvement across all specialties (see Table 10). However, in 2012, there continued to be a shortfall of primary care physicians for adults (combining family and internal medicine) in Caledonia, Essex, and Orange counties, as illustrated in the small map at the bottom of this page.

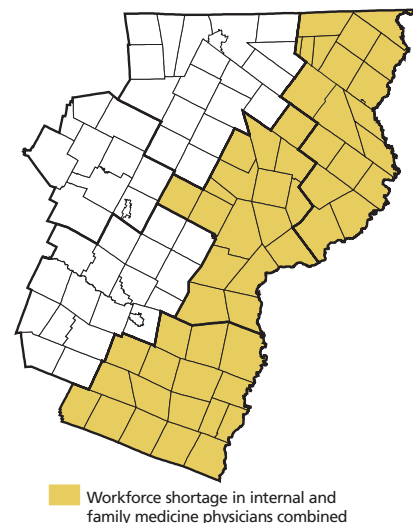
**Table 10: Primary Care Physicians by Specialty**

| Primary Care Specialty | No. MD/DOs in FTEs* (2012) | Supply to Benchmark    |                        |                        |
|------------------------|----------------------------|------------------------|------------------------|------------------------|
|                        |                            | Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
| Family Medicine        | 64                         | 2.5                    | 5                      | 6                      |
| Internal Medicine      | 35                         | -18                    | -18                    | -15                    |
| Obstetrics-Gynecology  | 17                         | -1                     | 2                      | 0                      |
| Pediatrics             | 23                         | 0                      | 3                      | 4                      |

\* small discrepancies are due to rounding  workforce shortage

### PCPs Limiting or Not Accepting New Patients

In prior years, high need for PCPs in this region was associated with a higher percent of PCPs limiting or closing their practice to new patients, compared to the statewide average. As the total number of PCPs in this region has improved, the percent limiting or closing their practice to new patients has improved, i.e., decreased (see Tables 8 & 9). In 2012, 57% of family and internal medicine physicians and 36% of family and internal medicine APRNs and PA-Cs in this region limited or closed their practice to new patients.



# Champlain Valley

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

In 2012, there were 84 primary care practices (see adjacent map) in this four-county region of 249,277 Vermonters. The 236 primary care physicians and 93 APRNs, CNMs, and PA-Cs combined to yield a total primary care workforce of 329 individual practitioners.

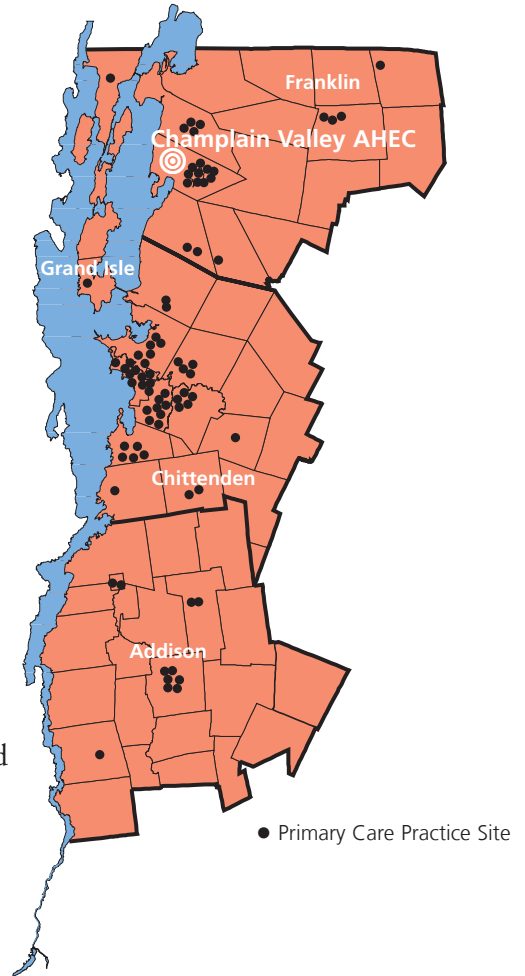
### Supply and Distribution by County (in FTEs)

The region showed improvement in the total number of physicians across primary care specialties (see Table 6), but this was driven by increases in Chittenden County and some decline in Addison, Franklin, and Grand Isle Counties. The greatest needs continued in Franklin County. The region has shown an increase in the proportion of primary care physicians reporting that their practices were limited or closed to new patients since 2010 (see Table 8).

There were improvements in the supply of APRNs, CNMs, and PA-Cs across primary care specialties, with the greatest improvements in Chittenden, followed by Addison County (see Table 7). This was associated with a decline in the proportion of these PCPs reporting their practices limited or closed to new patients since 2011 (see Table 9).

### Supply and Distribution by Specialty (in FTEs)

Examining primary care physicians by specialty, obstetrics-gynecology physicians showed the most improvement (see Table 11). The supply of pediatricians remained adequate. But the supply of physicians for adults, including family and internal medicine, continued to show a very high need. As illustrated on the small map at the bottom of this page, every county in the region had a shortfall of physicians to serve adults in primary care in 2012.



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

| Primary Care Specialty | No. MD/DOs in FTEs* (2012) |
|------------------------|----------------------------|
| Family Medicine        | 66                         |
| Internal Medicine      | 51                         |
| Obstetrics–Gynecology  | 36                         |
| Pediatrics             | 44                         |

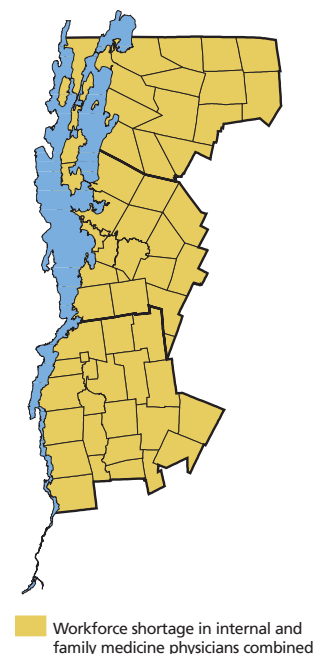
**Supply to Benchmark**

|                       | Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|-----------------------|------------------------|------------------------|------------------------|
| Family Medicine       | -12                    | -16                    | -15                    |
| Internal Medicine     | -14                    | -17                    | -19                    |
| Obstetrics–Gynecology | 10                     | 8                      | 13                     |
| Pediatrics            | 21                     | 17                     | 18                     |

\* small discrepancies are due to rounding ■ workforce shortage

### PCPs Limiting or Not Accepting New Patients

In 2012, 59% of family and internal medicine physicians and 41% of family and internal medicine APRNs and PA-Cs limited or closed their practice to new patients in this region.



# Southern Vermont

## Bennington, Rutland, Windham, and Windsor Counties

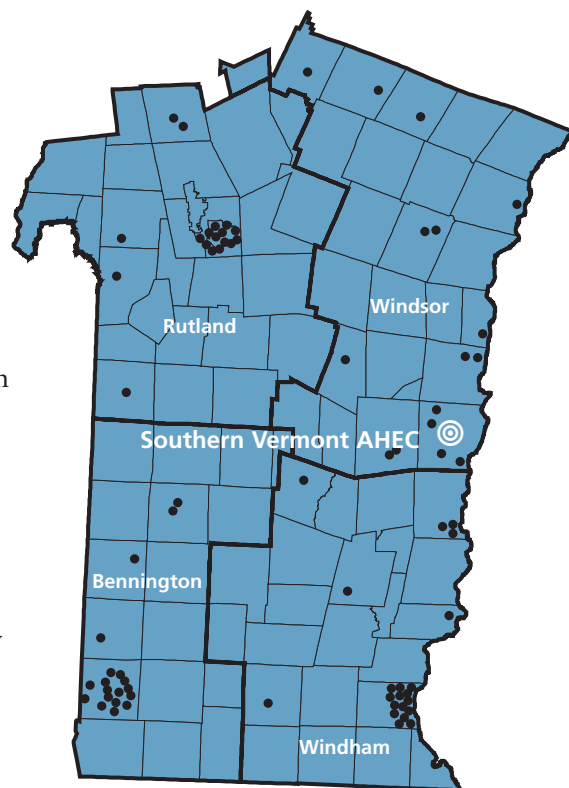
In 2012, there were 74 primary care practices (see adjacent map) in this four-county region of 199,191 Vermonters. The 168 primary care physicians and 79 APRNs, CNMs, and PA-Cs combined to yield a total primary care workforce of 247 individual practitioners.

### Supply and Distribution by County (in FTEs)

This region showed the greatest need for primary care practitioners from 2010 to 2012. While Bennington, Rutland, and Windsor Counties showed some improvement since 2011 in the total number of primary care physicians, Rutland and Windsor Counties continued to show the greatest needs in the region in 2012 (see Table 6). Rutland also showed the greatest need in the region for APRNs, CNMs, and PA-Cs (see Table 7). In 2012, combining all primary care specialties, PCPs showed improvement in the proportion limiting or closing their practice to new patients (see Tables 8 & 9).

### Supply and Distribution by Specialty (in FTEs)

Examining primary care physicians by specialty, in 2012, there were improvements in physician supply in family medicine, obstetrics-gynecology, and pediatrics, but a decline in internal medicine physicians (see Table 12). As illustrated on the small map at the bottom of this page, every county in the region had a shortfall of physicians in adult primary care (combining family and internal medicine physicians).



● Primary Care Practice Site

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

| Primary Care Specialty | No. MD/DOs in FTEs* (2012) |
|------------------------|----------------------------|
| Family Medicine        | 72                         |
| Internal Medicine      | 29                         |
| Obstetrics–Gynecology  | 18                         |
| Pediatrics             | 29                         |

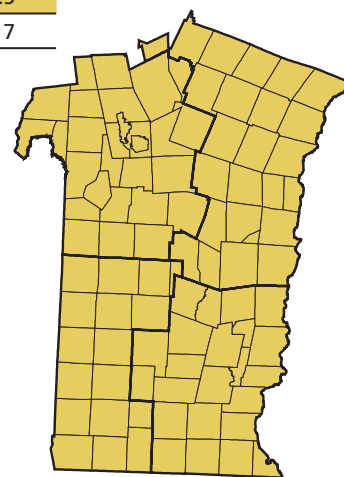
**Supply to Benchmark**

| Supply in FTEs* (2010) | Supply in FTEs* (2011) | Supply in FTEs* (2012) |
|------------------------|------------------------|------------------------|
| 8                      | 5                      | 7                      |
| -22                    | -24                    | -26                    |
| -3                     | -4                     | -0.5                   |
| 3                      | 4                      | 7                      |

\* small discrepancies are due to rounding  workforce shortage

### PCPs Limiting or Not Accepting New Patients

In 2012, 47% of family and internal medicine physicians and 35% of family and internal medicine APRNs and PA-Cs limited or closed their practice to new patients in this region.



Workforce shortage in internal and family medicine physicians combined

## ENDNOTES

**Primary Care Practice:** An office or clinic which offered 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 have included the patient's home for an "all home care" primary care practitioner.

Sites not included were: 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.

**Primary Care Practitioners:** PCPs included physicians (MDs and DOs), advanced practice registered nurses (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 218 primary care practices in Vermont were surveyed by AHEC in the spring/early summer of 2012, 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 Equivalents (FTEs):** One FTE was 40 hours per week. Using a method developed by HRSA<sup>9</sup> to measure physician shortage areas in geographic regions, physician in-office patient hours were 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 differed by primary care specialty (see Table 13). All calculations were extended to two decimal places (100ths place). No physician exceeded one FTE.

**Table 13: 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 Equivalents (FTEs):**

One FTE was 40 hours per week. Weekly hours for each of these PCPs were divided by 40. All calculations were extended to two decimal places (100ths place). No practitioner exceeded one FTE.

**Reporting FTEs: Small Discrepancies Due to Rounding:**

While all FTE calculations were carried out to the hundredths place and then aggregated by discipline, region, and primary care specialty, the reader will find whole numbers in the charts. Often this created small discrepancies in column totals. These discrepancies were due to rounding up to whole numbers. For example, while  $24.40+25.40+25.40+25.30 = 100.40$ , in this report these aggregated numbers were presented as  $24+25+25+25=100$ .

**Benchmark to Identify Adequacy and Shortage:** AHEC used guidelines from GMENAC<sup>10</sup> for the number of primary care physicians (in FTEs) per population<sup>11</sup> for each primary care specialty:

**Table 14: 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 were defined as one or more practitioners below the benchmarks set forth by discipline, region, and primary care specialty.

9 <http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/medicaldentalhpsaguidelines.html>. Jul 2012.

10. U.S. Department of Health and Human Services, Health Resources Administration: Report of the Graduate Medical Education National Advisory Committee (GMENAC) Vol. 1: Summary Report. DHHS Pub No. (HRA):81-651. U.S. Government Printing Office, Washington, D.C. 1980.

11. <http://quickfacts.census.gov/qfd/states/50000.htm>. Jul 2012.

## Primary Care Survey

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

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

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

Practice Site Ownership:  FQHC  RHC  Hospital-owned  Private practice

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: |
|                   |                    |           |                                  |                         |    |             |
|                   |                    |           |                                  |                         |    |             |
|                   |                    |           |                                  |                         |    |             |
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|                   |                    |           |                                  |                         |    |             |
|                   |                    |           |                                  |                         |    |             |



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