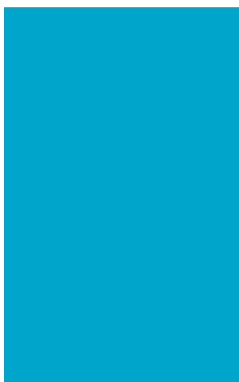




**REPORT CARD | 2009**



WEST VIRGINIA HIGHER EDUCATION POLICY COMMISSION | **HEALTH SCIENCES AND RURAL HEALTH**



## **Health Sciences and Rural Health Report Card 2009**

West Virginia Higher Education Policy Commission  
Vice Chancellor for Health Sciences  
Robert B. Walker, M.D.

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## INTRODUCTION

These are challenging times for our health care system. As we publish this report, only the barest outline of national health reform is available to us, and we don't yet know the implications for West Virginia. Nevertheless, we must continue to address issues of special concern to our state, while remaining adaptable to the agenda of national policymakers. In West Virginia, we are fortunate to have high quality health professions training programs that can be a valuable asset in this endeavor.

Because the training of health professionals requires a large share of the state's resources, performance expectations are high. We must provide the sons and daughters of West Virginians with access to educational programs they will need to compete in the wider world, but we must also be concerned with supplying the workforce that our state's health care system requires. Our clinical campuses must provide the day-to-day health care services our citizens need, but we must also use our unique insight to influence the creation of new health paradigms – delivery systems, payment mechanisms, public health outreach, and professional education. This could be an intimidating assignment, but by drawing on the resourcefulness for which West Virginians are justifiably renowned, we can have greater impact than ever before.

Over the past couple of years, we have obtained three evaluations from outside consultants, as well as a report from the Legislative Auditor. Our analysis of this information leads us to the conclusion that, while aspects of the Rural Health Education Partnerships program have been successful, we must now narrow our focus to emphasize the health problems and underserved areas of the state that remain largely intractable.

The upcoming year will be a transitional period. We will address the administrative issues highlighted by the Legislative Auditor's report. In addition, we will continue our support of joint efforts by our Health Sciences Centers to address the state's most pressing health problems. These centers are heavily involved in an outstanding model of collaboration, the Perinatal Partnership, which has already begun to show, not just cost-savings, but clinical success, by improving pregnancy and birth outcomes across the state. Similar models of collaboration will be applied to improve rural health delivery and services for our elders.

Lastly, we will seek ways to capitalize on our investment. The ability to recruit, educate, and retain health providers for West Virginia has been limited by a stagnant number of post-graduate residency spots available in rural education centers. We intend to study how this essential part of the recruitment pipeline can be expanded, allowing us to place skilled providers in our most rural and underserved communities.

### **West Virginia Perinatal Partnership – a Model for Collaboration**

The health agenda has become so large and complex that no single sector or organization can tackle health improvements alone. The Perinatal Partnership provides a model for statewide collaboration among many partners – health sciences schools, state

agencies, professional associations, private medical providers, corporate health care systems, and civic groups – working together to improve health outcomes. The partnership conducts studies to identify problems, issues reports and recommendations, and develops action plans in key areas. Implementation is carried out by working committees. The major focus is the coordination and improvement of perinatal care services. The expertise of many professionals is focused on a common goal – providing excellent health care to women, babies, and families across West Virginia.

The partnership, which is coordinated by a nonprofit organization, West Virginia Community Voices, has been funded by the Claude Worthington Benedum Foundation since 2006. Plans are underway to sustain the partnership through support from the Office of the Vice Chancellor for Health Sciences in the Policy Commission.

Currently, the partnership members have been collaborating on 18 projects. A few of the accomplishments are briefly noted:

- Developed recommendations to improve the system for emergency transport of mothers and babies, and began plans, along with the state Emergency Medical Services office, to establish a “one call” system for rural hospitals.
- Demonstrated consultation via telemedicine between a community obstetrician attending a delivery and specialists at a tertiary hospital. Partnered with CAMC Research Institute and the West Virginia Telehealth Alliance to identify the needs of maternity hospitals for bandwidth and equipment and received funding from the U.S. Department of Agriculture and the Health Care Authority to develop a perinatal telecommunication network for rural hospitals and clinics.
- Identified costly medical procedures associated with poor birth outcomes. As a result of a study of the frequency of labor induction among first-time mothers, the partnership worked with 15 hospitals to reduce elective deliveries prior to 39 weeks gestation. In only eight months, elective deliveries were reduced from 21.8 percent to 8.1 percent of births.
- Developed guidelines to identify and treat drug use during pregnancy, began an educational program for medical and nursing providers, and issued a tool kit to identify addicted newborns. Conducted an umbilical cord tissue study to research the extent of drug or alcohol use among pregnant women giving birth at eight hospitals. The study found the overall rate to be 19 percent of births.



## HIGHLIGHTS OF 2009

- Expansion of medical school enrollment has resulted in a greater proportion of out-of-state students. This year, over 51% of first-year students in West Virginia medical schools were residents of other states. By school, the breakdown is West Virginia University, 40%; Marshall University, 27%; and the West Virginia School of Osteopathic Medicine, 69%.
- Over 39% of West Virginia's medical school graduates from 1999 – 2004 are practicing in the state after completing residency training. The proportion has remained steady for more than a decade; however, trends in enrollment at the state's medical schools may affect retention adversely in future years.
- If state medical school graduates do their hospital residency training in West Virginia, retention is even higher. This year, 39 state medical graduates completed their primary care residencies in West Virginia and 34 (87%) are now practicing in the state. In comparison, 56 state medical graduates completed out-of-state primary care residencies, and only 7 (13%) are now practicing in West Virginia.
- In other health sciences fields, 33 (75%) of the dentistry graduates and 47 (64%) of the pharmacy graduates remained in the state.
- From 1991, West Virginia began developing rural training sites for health professions under the Kellogg Community Partnerships Initiative and the Rural Health Education Partnerships (RHEP) program. Since then, 1,201 graduates in health fields have been retained and are currently practicing in the state. These graduates include 300 physicians, 124 nurse practitioners, 184 physician assistants, 115 dentists, 216 pharmacists, and 262 allied health personnel. Of these graduates, 38% of the physicians, 43% of the nurse practitioners, and 29% of the physician assistants received state scholarships or loan repayment.
- This year, the RHEP training consortia reported a total of more than 75,000 contacts with rural West Virginians in providing community services and education on topics such as oral hygiene, asthma, nutrition and fitness, and osteoporosis. In addition, RHEP staff and students provide support to CARDIAC, a research project that provides screening, intervention, and health education statewide. Since 1998, the program has screened almost 61,000 fifth graders for cardiovascular risk factors and has added screening of second graders and kindergarten children in recent years.
- This year RHEP dental and dental hygiene students provided 10,417 clinical procedures and 402 outreach activities. RHEP dental sites, including dentists and students, provided over \$3.9 million in uncompensated care.

## MEDICAL SCHOOL ENROLLMENT

### West Virginia University School of Medicine

Average scores for the Medical College Admission Test (MCAT) are reported as “means” for the multiple-choice sections and “medians” for the Writing Sample. Test scores on the multiple-choice are on a scale of 1-15 and on the Writing Sample, a scale of J-T. The national averages for students entering allopathic medical schools in 2008-09 were the following:

Biological Sciences: 10.7

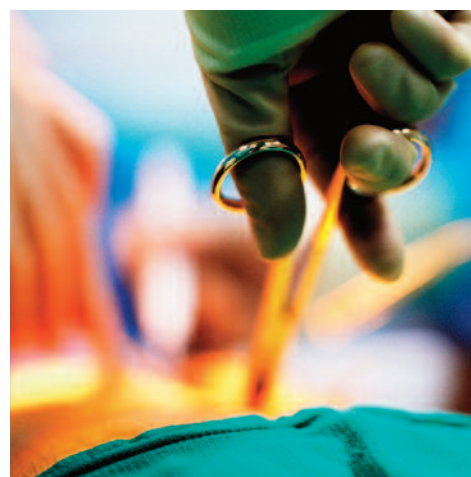
Physical Sciences: 10.3

Verbal Reasoning: 9.9

Writing Sample: P

The national mean GPA was 3.66.

Source: Association of American Medical Colleges.



|                                  | 2004-05      | 2005-06      | 2006-07      | 2007-08      | 2008-09      |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|
| <b>Applicants</b>                |              |              |              |              |              |
| In-State                         | 189          | 187          | 204          | 212          | 217          |
| Out-of-State                     | 865          | 933          | 1,629        | 2,454        | 2,545        |
| <b>Total</b>                     | <b>1,054</b> | <b>1,120</b> | <b>1,833</b> | <b>2,666</b> | <b>2,762</b> |
| <b>Acceptances Issued</b>        |              |              |              |              |              |
| In-State                         | 90           | 88           | 94           | 94           | 86           |
| Out-of-State                     | 73           | 79           | 84           | 62           | 100          |
| <b>Total</b>                     | <b>163</b>   | <b>167</b>   | <b>178</b>   | <b>156</b>   | <b>186</b>   |
| <b>First Year New Enrollment</b> |              |              |              |              |              |
| In-State                         | 66           | 43           | 62           | 82           | 66           |
| Out-of-State                     | 35           | 55           | 48           | 26           | 44           |
| <b>Total</b>                     | <b>101</b>   | <b>98</b>    | <b>110</b>   | <b>108</b>   | <b>110</b>   |
| <b>Entering Class Data</b>       |              |              |              |              |              |
| Mean GPA                         | 3.7          | 3.7          | 3.7          | 3.7          | 3.7          |
| Mean MCAT Scores                 |              |              |              |              |              |
| Biology/Biological Sciences      | 9.2          | 9.6          | 9.8          | 9.9          | 9.9          |
| Physics/Physical Sciences        | 8.7          | 9.2          | 9.2          | 9.5          | 9.5          |
| Reading/Verbal Reasoning         | 8.9          | 9.0          | 9.0          | 9.1          | 9.0          |
| Median Writing Sample            | N/A          | 0            | 0            | P            | 0            |
| <b>Total Medical Students</b>    | <b>391</b>   | <b>424</b>   | <b>424</b>   | <b>421</b>   | <b>432</b>   |

## MEDICAL SCHOOL ENROLLMENT

### Marshall University School of Medicine

|                                  | 2004-05    | 2005-06    | 2006-07      | 2007-08      | 2008-09      |
|----------------------------------|------------|------------|--------------|--------------|--------------|
| <b>Applicants</b>                |            |            |              |              |              |
| In-State                         | 180        | 167        | 198          | 189          | 209          |
| Out-of-State                     | 539        | 618        | 1,375        | 1,756        | 1,107        |
| <b>Total</b>                     | <b>719</b> | <b>785</b> | <b>1,573</b> | <b>1,945</b> | <b>1,316</b> |
| <b>Acceptances Issued</b>        |            |            |              |              |              |
| In-State                         | 80         | 83         | 96           | 90           | 94           |
| Out-of-State                     | 16         | 19         | 27           | 33           | 34           |
| <b>Total</b>                     | <b>96</b>  | <b>102</b> | <b>123</b>   | <b>123</b>   | <b>128</b>   |
| <b>First Year New Enrollment</b> |            |            |              |              |              |
| In-State                         | 43         | 50         | 48           | 51           | 57           |
| Out-of-State                     | 9          | 10         | 16           | 21           | 21           |
| <b>Total</b>                     | <b>52</b>  | <b>60</b>  | <b>64</b>    | <b>72</b>    | <b>78</b>    |
| <b>Entering Class Data</b>       |            |            |              |              |              |
| Mean GPA                         | 3.5        | 3.5        | 3.5          | 3.6          | 3.5          |
| Mean MCAT Scores                 |            |            |              |              |              |
| Biology/Biological Sciences      | 9.2        | 8.9        | 8.7          | 8.9          | 9.3          |
| Physics/Physical Sciences        | 8.4        | 8.2        | 8.3          | 8.7          | 8.3          |
| Reading/Verbal Reasoning         | 9.2        | 9.1        | 8.9          | 8.9          | 8.7          |
| Median Writing Sample            | M          | 0          | 0            | M            | Q            |
| <b>Total Medical Students</b>    | <b>200</b> | <b>211</b> | <b>227</b>   | <b>246</b>   | <b>281</b>   |



Average scores for the Medical College Admission Test (MCAT) are reported as “means” for the multiple-choice sections and “medians” for the Writing Sample. Test scores on the multiple-choice are on a scale of 1-15 and on the Writing Sample, a scale of J-T. The national averages for students entering allopathic medical schools in 2008-09 were the following:

|                      |      |
|----------------------|------|
| Biological Sciences: | 10.7 |
| Physical Sciences:   | 10.3 |
| Verbal Reasoning:    | 9.9  |
| Writing Sample:      | P    |

The national mean GPA was 3.66.

*Source: Association of American Medical Colleges.*



## MEDICAL SCHOOL ENROLLMENT

### West Virginia School of Osteopathic Medicine

Average scores for the Medical College Admission Test (MCAT) are reported as “means” for the multiple-choice sections and “medians” for the Writing Sample. Test scores on the multiple-choice are on a scale of 1-15 and on the Writing Sample, a scale of J-T. The national averages for students entering osteopathic medical schools in 2008-09 were the following:

|                      |     |
|----------------------|-----|
| Biological Sciences: | 9.1 |
| Physical Sciences:   | 8.3 |
| Verbal Reasoning:    | 8.5 |
| Writing Sample:      | J   |

The national mean GPA was 3.47.

Source: American Association of Colleges of Osteopathic Medicine.



|                                  | 2004-05      | 2005-06      | 2006-07      | 2007-08      | 2008-09      |
|----------------------------------|--------------|--------------|--------------|--------------|--------------|
| <b>Applicants</b>                |              |              |              |              |              |
| In-State                         | 138          | 123          | 151          | 136          | 164          |
| Out-of-State                     | 1,362        | 1,512        | 2,170        | 2,634        | 2,715        |
| <b>Total</b>                     | <b>1,500</b> | <b>1,635</b> | <b>2,321</b> | <b>2,770</b> | <b>2,879</b> |
| <b>Acceptances Issued</b>        |              |              |              |              |              |
| In-State                         | 71           | 60           | 84           | 62           | 78           |
| Out-of-State                     | 237          | 250          | 508          | 456          | 442          |
| <b>Total</b>                     | <b>308</b>   | <b>310</b>   | <b>592</b>   | <b>518</b>   | <b>520</b>   |
| <b>First Year New Enrollment</b> |              |              |              |              |              |
| In-State                         | 53           | 50           | 61           | 56           | 63           |
| Out-of-State                     | 52           | 61           | 135          | 155          | 140          |
| <b>Total</b>                     | <b>105</b>   | <b>111</b>   | <b>196</b>   | <b>211</b>   | <b>203</b>   |
| <b>Entering Class Data</b>       |              |              |              |              |              |
| Mean GPA                         | 3.4          | 3.4          | 3.5          | 3.4          | 3.4          |
| Mean MCAT Scores                 |              |              |              |              |              |
| Biology/Biological Sciences      | 8.1          | 7.4          | 7.9          | 8.0          | 8.3          |
| Physics/Physical Sciences        | 6.9          | 7.1          | 7.1          | 7.4          | 7.5          |
| Reading/Verbal Reasoning         | 7.4          | 7.8          | 7.8          | 8.1          | 8.1          |
| Median Writing Sample            | N/A          | N/A          | N/A          | N/A          | N/A          |
| <b>Total Medical Students</b>    | <b>363</b>   | <b>397</b>   | <b>503</b>   | <b>598</b>   | <b>710</b>   |

## MEDICAL SCHOOL GRADUATES

Number of Examinees/Number Passing US Medical Licensing Exam, Step 3

|                          | 2004-05     | 2005-06     | 2006-07     | 2007-08      | 2008-09      |
|--------------------------|-------------|-------------|-------------|--------------|--------------|
| West Virginia University | 69/68 (99%) | 81/79 (98%) | 64/63 (98%) | 77/74 (96%)  | 88/88 (100%) |
| Marshall University      | 41/35 (85%) | 44/40 (91%) | 38/36 (95%) | 38/38 (100%) | 38/38 (100%) |

All data are for first-time test takers. Data for MD students are based on the US Medical Licensing Exam (USMLE), Step 3. Data for MD students become available two years after graduation, i.e., results for 2006 graduates are shown in 2008-09. The national average for this cohort was 96%.

Number of Examinees/Number Passing COMLEX-Level 3

|                                   | 2004-05     | 2005-06     | 2006-07      | 2007-08      | 2008-09     |
|-----------------------------------|-------------|-------------|--------------|--------------|-------------|
| WV School of Osteopathic Medicine | 72/70 (97%) | 68/58 (85%) | 62/62 (100%) | 64/64 (100%) | 55/53 (96%) |

All data are for first-time test takers. Data for DO students are based on the Comprehensive Osteopathic Medicine Licensing Examination (COMLEX), Level 3. Results are for year of graduation. The national average for the 2008-09 cohort was not available for this report.

Medical School Graduates Choosing Primary Care Residencies\*

|                                   | 2004-05    | 2005-06    | 2006-07    | 2007-08    | 2008-09     |
|-----------------------------------|------------|------------|------------|------------|-------------|
| West Virginia University          | 46 (61%)   | 55 (56%)   | 56 (53%)   | 43 (49%)   | 49 (50%)**  |
| Marshall University               | 29 (66%)   | 28 (62%)   | 33 (67%)   | 26 (62%)   | 32 (62%)**  |
| WV School of Osteopathic Medicine | 36 (53%)   | 53 (68%)   | 66 (69%)   | 62 (66%)   | 69 (69%)*** |
| <b>TOTAL</b>                      | <b>101</b> | <b>111</b> | <b>136</b> | <b>155</b> | <b>150</b>  |

\* Primary care includes family medicine, internal medicine, pediatrics, internal medicine/pediatrics, and obstetrics/gynecology.

\*\* In 2009, the national average for choice of primary care residencies was 46.0% for all allopathic (MD) graduates.

\*\*\* The national average for osteopathic students is not available.



## RETENTION

### Medical School Graduates from 1999-2004 Practicing in West Virginia

A total of 1,140 graduates of the state's three medical schools between 1999 and 2004 have completed residency training. Of these graduates, 39.2% are practicing in West Virginia, and 10.2% are practicing in rural areas. In tracking the retention of graduates, this report factors in the additional 3 to 5 years of residency training that physicians complete in their specialty before beginning practice.



| Institutions                      | Graduates from 1999-2004 with Completed Training |                          |                               |   |
|-----------------------------------|--|--------------------------|-------------------------------|---|
|                                   | Total Number                                     | Number in Practice in WV | Number in Primary Care in WV* | Number in Practice in Rural Areas in WV** |
| West Virginia University          | 458  | 179 (39.0%)              | 89 (19.4%)                    | 32 (6.9%)                                 |
| Marshall University               | 281  | 112 (39.8%)              | 69 (24.5%)                    | 20 (7.1%)                                 |
| WV School of Osteopathic Medicine | 401  | 156 (38.9%)              | 116 (28.9%)                   | 65 (16.2%)                                |
| <b>TOTAL</b>                      | <b>1,140</b>                                     | <b>447 (39.2%)</b>       | <b>274 (24.0%)</b>            | <b>117 (10.2%)</b>                        |

**Note:** Excludes SREB contract students at WVSOM who have a contractual obligation to return to their home state following graduation.

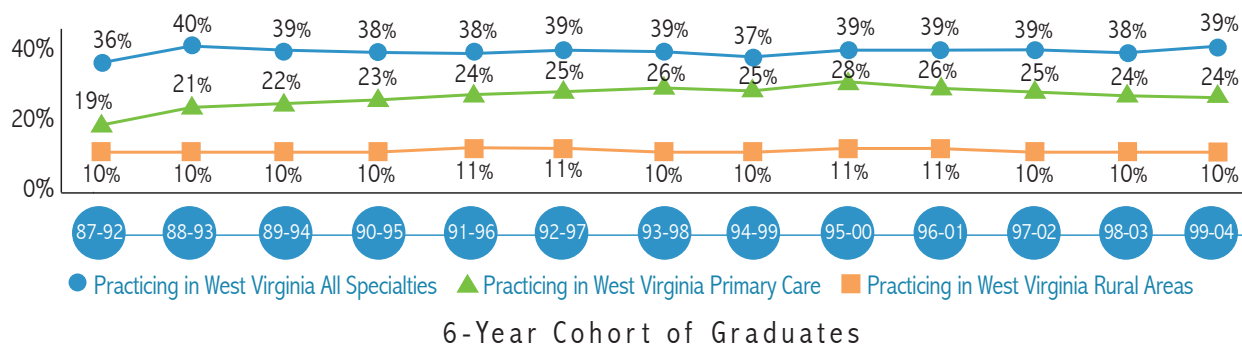
\* Primary care is defined as family medicine, internal medicine, pediatrics, internal medicine/pediatrics, and obstetrics/gynecology.

\*\* Rural areas exclude graduates practicing in: Beckley, Charleston (including South Charleston, Dunbar, Nitro, Institute, etc.), Clarksburg, Fairmont, Huntington (including Barboursville), Hurricane, Martinsburg, Morgantown (including Star City and Westover), Parkersburg (including Vienna), Weirton, and Wheeling.

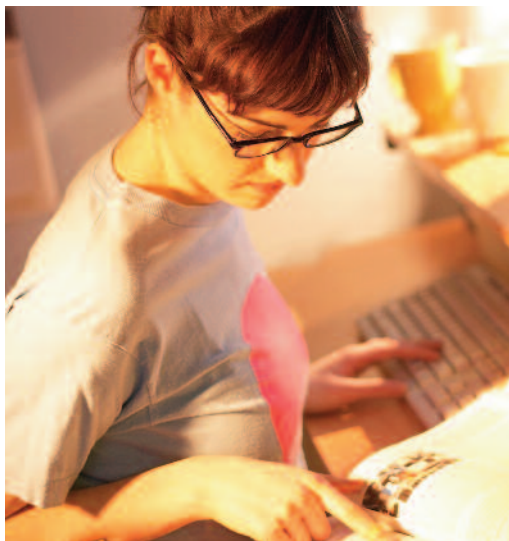
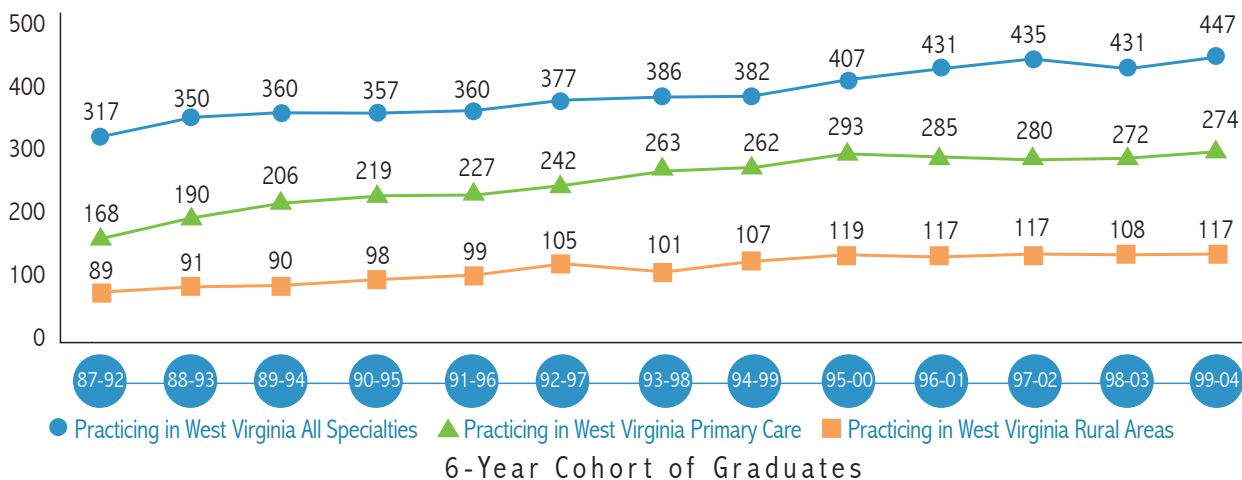
## RETENTION

### West Virginia Medical School Graduates Practicing in West Virginia

#### Percentage of Graduates Retained, 1987-2004



#### Number of Graduates Retained, 1987-2004



Retention is tracked annually for a 6-year cohort of medical school graduates who have completed residency training. The greatest change has been in retention of graduates in primary care fields. In the past 13 years, the number of graduates retained in primary care increased from 168 (19%) to 274 (24%) although in recent years there has been a slight decline. The proportion of medical graduates retained in West Virginia (39%) and in rural areas of the state (10%) has remained relatively flat, although the numbers in both categories have increased. West Virginia's overall retention rate of 39% is approximately equal to the national average.

This map portrays retention of the most recent medical graduates who have completed residency training. A total of 447 graduates are dispersed to 48 of the state's 55 counties. Graduates from prior years are not shown.

*Total Graduates from Classes of 1999-2004 Practicing by County in 2009*

| County        | Graduates |
|---------------|-----------|
| ALLEGANY      | 1         |
| BARBOUR       | 2         |
| BERKELEY      | 7         |
| BOWLING GREEN | 1         |
| BROOKS        | 1         |
| BRUNNEN       | 1         |
| BUCKINGHAM    | 1         |
| CHARLES       | 1         |
| CLAY          | 1         |
| CLINTON       | 1         |
| COLUMBIA      | 1         |
| CRAWFORD      | 1         |
| CUMBERLAND    | 1         |
| DODD          | 1         |
| DUPONT        | 1         |
| EAST RIVER    | 1         |
| FAYETTE       | 4         |
| FRANKLIN      | 1         |
| GALLEGOS      | 1         |
| GREENBRIER    | 14        |
| GREENUP       | 1         |
| HAMPSHIRE     | 1         |
| HARDY         | 1         |
| HARRISON      | 18        |
| HENRICKS      | 1         |
| JEFFERSON     | 2         |
| JACKSON       | 5         |
| KANAWHA       | 94        |
| KING          | 1         |
| KIRK          | 1         |
| LABETTE       | 1         |
| LEWIS         | 4         |
| LINCOLN       | 2         |
| LOGAN         | 4         |
| LOUISIANA     | 1         |
| MASON         | 3         |
| MCDOWELL      | 0         |
| MERCER        | 7         |
| MORGAN        | 0         |
| MUNRO         | 1         |
| NICHOLS       | 2         |
| NORTH         | 1         |
| OKMONT        | 1         |
| OLNEY         | 1         |
| OSAGE         | 1         |
| OSKANA        | 1         |
| OWEN          | 1         |
| POCAHONTAS    | 1         |
| PENDLETON     | 1         |
| PRESTON       | 2         |
| PUTNAM        | 9         |
| RALEIGH       | 14        |
| ROANE         | 4         |
| ROCKWELL      | 1         |
| SANDERS       | 1         |
| SOMERSET      | 1         |
| SUMMERS       | 0         |
| TAYLOR        | 3         |
| TERRY         | 1         |
| TUCKER        | 0         |
| UNION         | 1         |
| UPSHUR        | 2         |
| WAGNER        | 1         |
| WALKER        | 1         |
| WATKINS       | 1         |
| WETZEL        | 1         |
| WHEELING      | 1         |
| WILSON        | 1         |
| WOOD          | 24        |
| WYOMING       | 1         |
| YORK          | 1         |

This map portrays retention of the most recent medical graduates who have completed residency training. A total of 447 graduates are dispersed to 48 of the state's 55 counties. Graduates from prior years are not shown.

*Total Graduates from Classes of 1999-2004  
Practicing by County in 2009*

This map portrays retention of the most recent medical graduates who have completed residency training in primary care fields. Primary care is defined as family medicine, internal medicine, pediatrics, internal medicine/pediatrics, and obstetrics/gynecology. A total of 274 graduates in these fields are dispersed to 44 of the state's 55 counties.

*Total Graduates from Classes of 1999-2004  
Practicing in Primary Care by County in 2009*

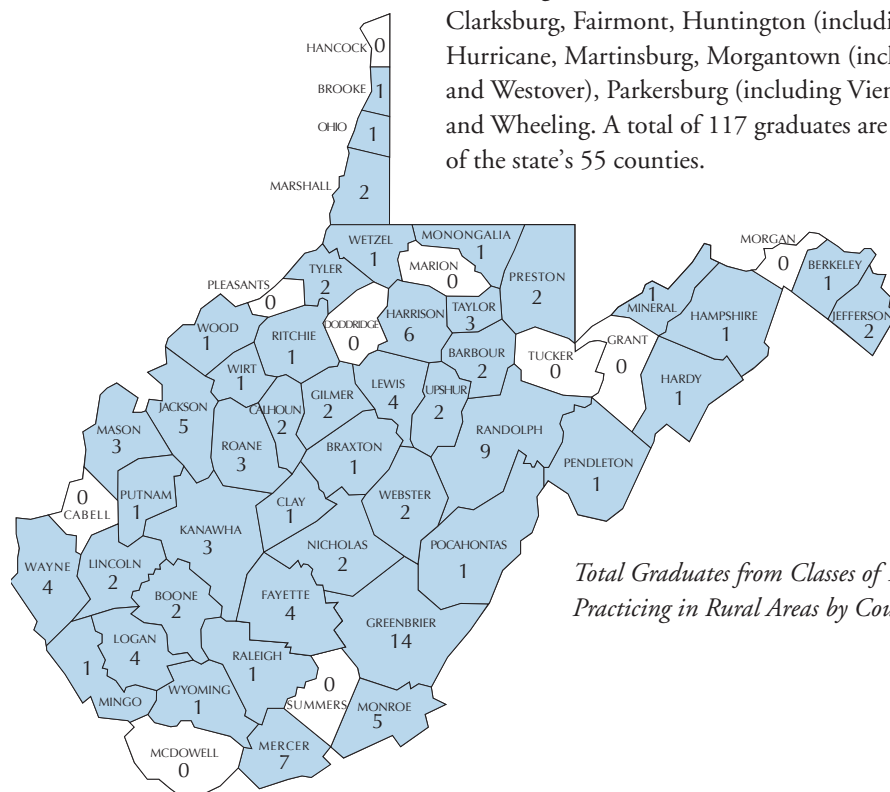
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*Total Graduates from Classes of 1999-2004  
Practicing in Primary Care by County in 2009*

# RETENTION

## West Virginia Medical Graduates, 1999-2004, in Rural Areas

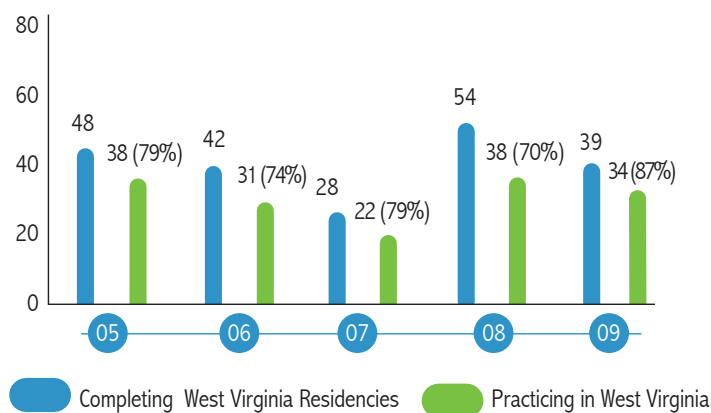
This map portrays retention of the most recent medical graduates who have completed residency training and are practicing in rural areas of the state. The “rural” definition excludes graduates practicing in Beckley, Charleston (including South Charleston, Dunbar, Nitro, Institute, etc.), Clarksburg, Fairmont, Huntington (including Barboursville), Hurricane, Martinsburg, Morgantown (including Star City and Westover), Parkersburg (including Vienna), Weirton, and Wheeling. A total of 117 graduates are dispersed to 45 of the state’s 55 counties.



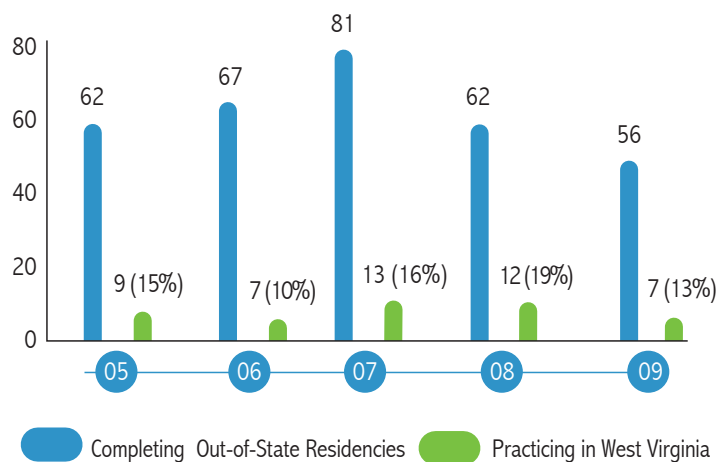


## West Virginia Medical Graduates Completing West Virginia Primary Care Residencies, 2005-2009

Medical school graduates begin practice after completing 3 to 5 years of residency training in a given specialty. Two factors are important in tracking their retention: (1) specialty choice, because primary care fields are generally most needed in rural West Virginia; and (2) location of the residency, because graduates who complete residencies in West Virginia are much more likely to practice in the state. The charts below show that retention of West Virginia medical graduates who completed in-state primary care residencies in 2009 was 87%, compared to 13% for those who completed out-of-state residencies. Efforts are needed to make in-state primary care residencies more attractive to medical graduates who are deciding upon residency programs.



## West Virginia Medical Graduates Completing Out-of-State Primary Care Residencies, 2005-2009



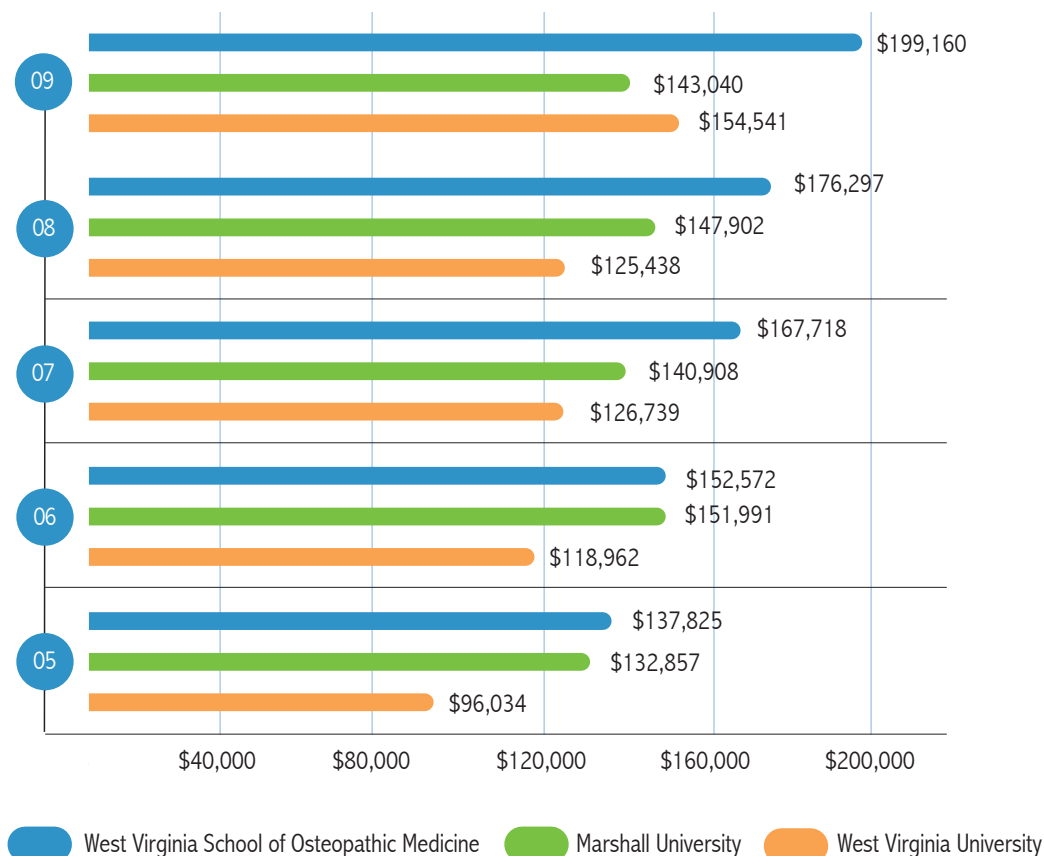
## MEDICAL STUDENT INDEBTEDNESS

2005 – 2009

This chart shows the average indebtedness of graduating medical students. As a point of reference, the annual tuition and fees for the medical schools in 2008-09 are shown below.

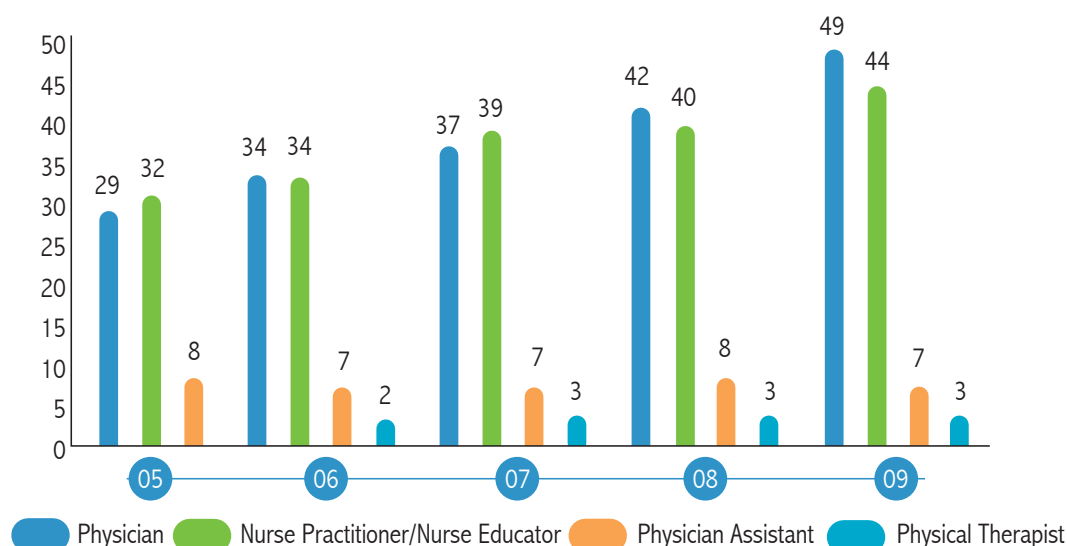
|                                   | Resident | Non-Resident |
|-----------------------------------|----------|--------------|
| West Virginia University          | \$20,164 | \$43,960     |
| Marshall University               | \$18,708 | \$44,298     |
| WV School of Osteopathic Medicine | \$20,426 | \$50,546     |

The difference in graduate indebtedness may be attributed in part to differences among the schools in the proportion of students paying non-resident tuition and fees.



## SCHOLARSHIPS AND LOANS

### Health Sciences Scholarship Participants Practicing in Rural West Virginia



The Health Sciences Scholarship Program provides an incentive for graduates to practice in underserved areas of the state. Medical students receive a \$20,000 award for a two-year service commitment. Other disciplines receive \$10,000. In 2009, mental health disciplines - licensed independent clinical social workers and doctoral clinical psychologists – became eligible. The chart shows graduates who are fulfilling their service obligation.

### Medical Student Loan Program

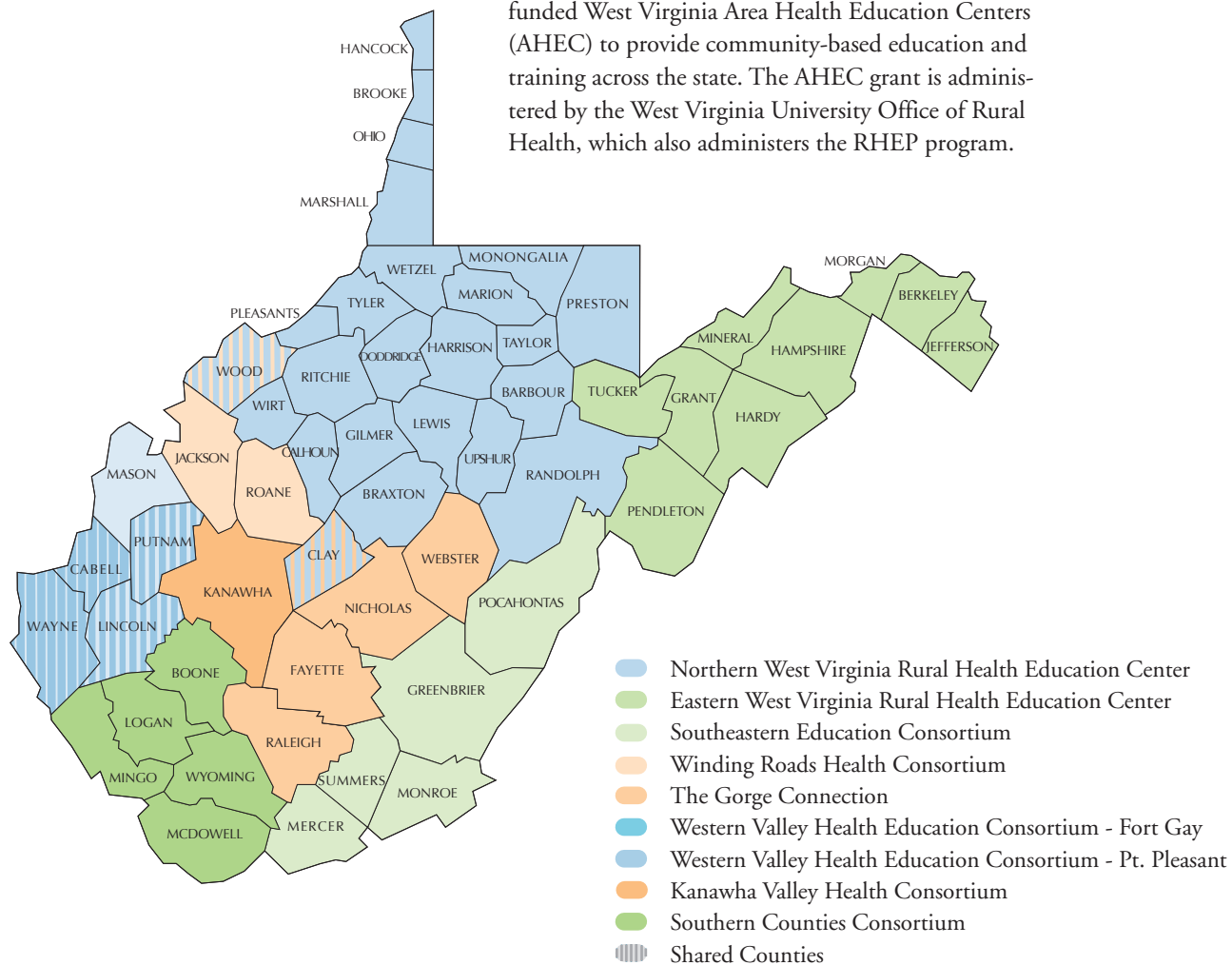
|                                 | 2004-05     | 2005-06     | 2006-07     | 2007-08     | 2008-09     |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|
| Loans Awarded in Fiscal Year    | 306         | 317         | 323         | 296         | 312         |
| Total Amount Awarded            | \$1,586,700 | \$1,023,705 | \$1,349,155 | \$1,861,456 | \$1,881,843 |
| Amount of Unexpended Funds      | \$2,609,608 | \$3,157,511 | \$3,525,991 | \$3,145,311 | \$2,642,508 |
| Loan Postponement               | 20          | 15          | 20          | 12          | 22          |
| Loan Forgiveness                | 50          | 47          | 37          | 40          | 47          |
| Default Rate on Previous Awards | 3.3%        | 3.0%        | 2.9%        | 2.8%        | 2.5%        |

The Medical Student Loan Program, which is funded from student fees, is a need-based program for state medical students. Borrowers may earn loan forgiveness of up to \$10,000 per year for practicing in an underserved area or in a medical shortage field in West Virginia. Schools may award loans of up to \$10,000 each year. The unexpended funds include loan repayments.

The “loan postponement” data show the number of borrowers who began practicing in West Virginia each fiscal year and will qualify for loan forgiveness. The “loan forgiveness” data show the number of borrowers who completed full-time practice in West Virginia each fiscal year and received loan forgiveness.

## WEST VIRGINIA RURAL HEALTH EDUCATION PARTNERSHIPS

The West Virginia Rural Health Education Partnerships (RHEP) comprise nine training consortia statewide. The program has formed a partnership with the federally funded West Virginia Area Health Education Centers (AHEC) to provide community-based education and training across the state. The AHEC grant is administered by the West Virginia University Office of Rural Health, which also administers the RHEP program.



# TRAINING CONSORTIA

## INFRASTRUCTURE

| Consortium<br>Lead Agency and Sub-areas             | Counties  | Number of<br>Training Sites | Number of<br>Field Faculty |
|---|---|-----------------------------|----------------------------|
| <b>Eastern WV Rural Health Education Consortium</b> |   |                             |                            |
| -- Martinsburg                                      | Berkeley, Jefferson, and Morgan   | 33                          | 75                         |
| --Petersburg  | Grant, Hampshire, Hardy, Mineral, Pendleton, and Tucker                                 | 59                          | 87                         |
| The Gorge Connection                                | Fayette, Raleigh, Nicholas, and Webster   | 29                          | 67                         |
| <b>Kanawha Valley Health Consortium</b>             | Rural areas of Kanawha  | 24                          | 46                         |
| <b>Northern WV Rural Health Education Center</b>    |   |                             |                            |
| -- Region 1   | Brooke, Hancock, Marshall, Ohio, and Wetzel   | 46                          | 69                         |
| -- Region 2   | Calhoun, Doddridge, Gilmer, Pleasants, Ritchie, Tyler Wirt, and Wood ( <i>partial</i> ) | 29                          | 41                         |
| -- Region 3   | Braxton, Harrison, Lewis, Marion, Monongalia, and one site in Clay                      | 70                          | 94                         |
| -- Region 4   | Barbour, Preston, Randolph, Taylor, and Upshur  | 73                          | 122                        |
| <b>Southern Counties Consortium</b>                 | Boone, Logan, McDowell, Mingo, and Wyoming  | 31                          | 46                         |
| <b>Southeastern Education Consortium</b>            | Greenbrier, Mercer, Monroe, Pocahontas, and Summers                                     | 44                          | 77                         |
| <b>Western Valley Health Education Consortium</b>   |   |                             |                            |
| -- Ft Gay   | Wayne, parts of Cabell, and one site each in Putnam and Lincoln                         | 17                          | 32                         |
| -- Point Pleasant                                   | Mason and parts of Cabell, Lincoln and Putnam   | 44                          | 69                         |
| <b>Winding Roads Health Consortium</b>              | Clay( <i>partial</i> ), Roane, Jackson, and Wood ( <i>partial</i> )                     | 24                          | 54                         |
| <b>TOTAL</b>  |   | <b>523</b>                  | <b>879</b>                 |

### 879 Field Faculty by Discipline

|     |                     |     |                      |
|-----|---------------------|-----|----------------------|
| 1   | Clinical Psychology | 1   | Occupational Therapy |
| 66  | Dentistry           | 103 | Pharmacy             |
| 339 | Medicine            | 1   | Pharmacy Tech.       |
| 25  | Medical Technology  | 40  | Physician Assistant  |
| 157 | Nursing             | 69  | Physical Therapy     |
| 8   | Nurse-Midwife       | 7   | Social Work          |
| 61  | Nurse Practitioner  | 1   | Speech Therapy       |

## TRAINING CONSORTIA

### EXPENDITURES

July 1, 2008 – June 30, 2009

| CONSORTIA<br>Lead Agency                     | EASTERN WVRHEC<br>Grant Memorial<br>Hospital | GORGE CONNECTION<br>New River Health<br>Association | KANAWHA VALLEY<br>Cabin Creek Health Center | NORTHERN WVRHEC<br>Tri-County Health Clinic |
|--|--|---|---|---|
| Salaries and Benefits                        | 157,251                                      | 100,730   | 56,134                                      | 312,678                                     |
| On-Site Clinical Director                    | -  | 18,200  | 11,040                                      | 25,000                                      |
| Operating Costs                              | 30,280                                       | 22,669  | 17,834                                      | 65,155                                      |
| Staff Travel and Development                 | 7,001  | 19,049  | 11,022                                      | 37,795                                      |
| Annual Honorarium                            | 26,873                                       | 44,117  | 5,603                                       | -   |
| Faculty Development                          | -  | 4,718   | 3,189                                       | 2,645                                       |
| Interdisciplinary Sessions                   | 6,737  | 6,341   | 5,969                                       | 30,582                                      |
| Graduate Medical Education                   | 22,000                                       | -   | -   | 9,598                                       |
| Recruitment and Retention                    | 275  | 8,199   | 1,000                                       | 1,000                                       |
| Community Service/Health Promotion           | 9,135  | 7,491   | 9,501                                       | 17,145                                      |
| Student/Resident Housing                     | 40,063                                       | 31,017  | 738   | 85,060                                      |
| Property and Equipment                       | 6,700  | -   | -   | 1,699                                       |
| Administrative Cost-Lead Agency              | 23,083                                       | 14,700  | 9,185                                       | 55,749                                      |
| <b>Subtotal</b>                              | <b>\$329,398</b>                             | <b>\$277,231</b>                                    | <b>\$131,215</b>                            | <b>\$644,106</b>                            |
| <b>SPECIAL PROJECTS</b> (Other Programs)     |  |   |   |   |
| CARDIAC Program Expenses                     | 4,791  | -   | -   | 17,702                                      |
| WV Geriatric Education Center Grant Expenses | 7,500  | 8,383   | 3,078                                       | 2,419                                       |
| Oral Health Project Expenses                 | -  | -   | -   | -   |
| Tobacco Mini Grant                           | 3,580  | 2,000   | -   | 3,565                                       |
| <b>Subtotal</b>                              | <b>\$15,871</b>                              | <b>\$10,383</b>                                     | <b>\$3,078</b>                              | <b>\$23,686</b>                             |
| <b>TOTAL PROJECT COST</b>                    | <b>\$345,269</b>                             | <b>\$287,614</b>                                    | <b>\$134,293</b>                            | <b>\$667,792</b>                            |
| <b>LESS OTHER INCOME</b>                     |  |   |   |   |
| Other RHEP Income Earned                     | (1,422)                                      | -   | -   | (909)                                       |
| Lead Agency Funds Contributed                | (12)   | -   | -   | -   |
| CARDIAC Income                               | (6,408)                                      | -   | -   | (13,320)                                    |
| WV Geriatric Education Center Grant Income   | (7,500)                                      | (8,383)   | -   | (14,345)                                    |
| Other Grants/Special Project Income          | (3,580)                                      | (2,000)   | -   | (4,000)                                     |
| Oral Health Project                          | (248)  | -   | -   | (2,792)                                     |
| <b>TOTAL RHEP GRANT EXPENDITURES</b>         | <b>\$326,099</b>                             | <b>\$277,231</b>                                    | <b>\$134,293</b>                            | <b>\$632,426</b>                            |

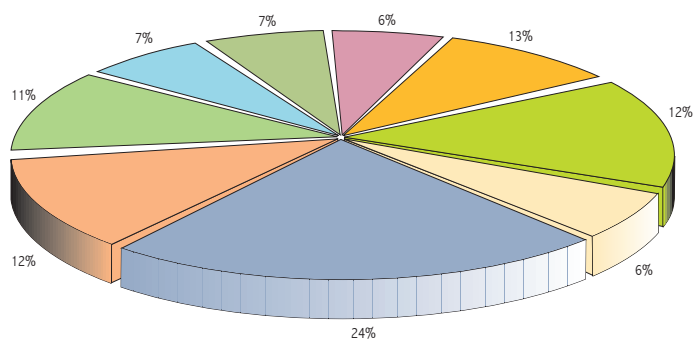


| SOUTHEASTERN<br>EDUCATION<br>Rainelle Medical Center | SOUTHERN COUNTIES<br>WVU Research<br>Corporation | WESTERN VALLEY - FT GAY<br>Valley Health System | WESTERN VALLEY -<br>PT PLEASANT<br>Pleasant Valley Hospital | WINDING ROADS<br>Jackson General Hospital | TOTALS             |
|--|--|---|---|---|--------------------|
| 104,762  | 155,095  | 65,365  | 96,432  | 89,629                                    | 1,138,076          |
| 34,000   | 10,000   | 22,333  | 10,000  | -   | 130,573            |
| 41,927   | 16,021   | 2,142   | 11,515  | 14,864                                    | 222,407            |
| 18,670   | 8,498  | 1,759   | 4,460   | 3,435                                     | 111,689            |
| 23,900   | 24,950   | 20,000  | -   | 13,600                                    | 159,043            |
| 1,354  | -  | 1,709   | -   | -   | 13,615             |
| 1,000  | 2,210  | 8,000   | 1,050   | 1,800                                     | 63,689             |
| -  | -  | 1,000   | 16,500  | -   | 49,098             |
| -  | -  | -   | -   | -   | 10,474             |
| 5,100  | 462  | -   | -   | 1,967                                     | 50,801             |
| 43,361   | 33,695   | 7,654   | 6,185   | 23,034                                    | 270,807            |
| -  | -  | -   | -   | -   | 8,399              |
| 12,000   | 22,379   | 26,341  | 15,311  | -   | 178,748            |
| <b>\$286,074</b>                                     | <b>\$273,310</b>                                 | <b>\$156,303</b>                                | <b>\$161,453</b>  | <b>\$148,329</b>                          | <b>\$2,407,419</b> |

|                |                |          |                |                |                 |
|----------------|----------------|----------|----------------|----------------|-----------------|
| 2,565          | 3,185          | -        | 5,262          | 593            | 34,098          |
| 4,851          | -              | -        | -              | 4,521          | 30,752          |
| -              | -              | -        | -              | -              | -               |
| -              | -              | -        | -              | 3,700          | 12,845          |
| <b>\$7,416</b> | <b>\$3,185</b> | <b>-</b> | <b>\$5,262</b> | <b>\$8,814</b> | <b>\$77,695</b> |

|                  |                  |                  |                  |                  |                    |
|------------------|------------------|------------------|------------------|------------------|--------------------|
| <b>\$293,490</b> | <b>\$276,495</b> | <b>\$156,303</b> | <b>\$166,715</b> | <b>\$157,143</b> | <b>\$2,485,114</b> |
|------------------|------------------|------------------|------------------|------------------|--------------------|

|                  |                  |                  |                  |                  |                    |
|------------------|------------------|------------------|------------------|------------------|--------------------|
| -                | -                | -                | -                | -                | (2,331)            |
| -                | -                | -                | -                | -                | (12)               |
| (4,740)          | (3,024)          | -                | (4,122)          | (1,158)          | (32,772)           |
| (8,500)          | -                | -                | -                | (5,686)          | (44,414)           |
| -                | -                | -                | -                | (8,850)          | (18,430)           |
| -                | -                | -                | -                | -                | (3040)             |
| <b>\$280,250</b> | <b>\$273,471</b> | <b>\$156,303</b> | <b>\$162,593</b> | <b>\$141,449</b> | <b>\$2,384,115</b> |



Eastern  
 Gorge  
 Kanawha  
 Northern  
 Southeastern

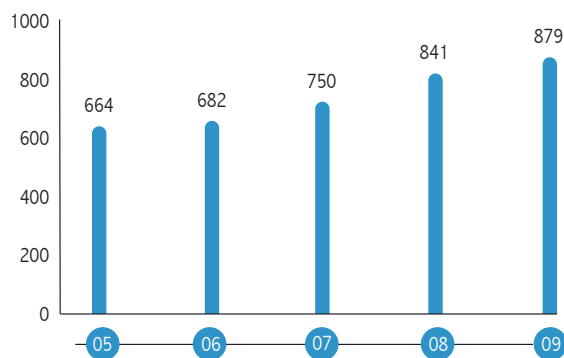
Southern  
 Western Valley - Ft. Gay  
 Western Valley - Pt Pleasant  
 Winding Roads

## RHEP STATE GRANT EXPENDITURES \$2,384,115

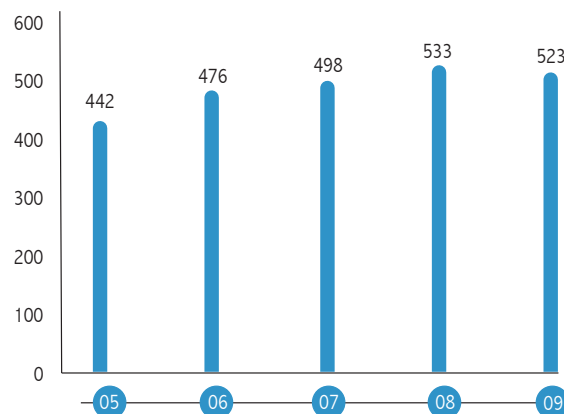
## TRAINING CONSORTIA

West Virginia RHEP field faculty are active rural practitioners who also teach students. In 2009, three regional faculty development sessions were held jointly with Area Health Education Centers to improve teaching skills. A total of 100 field faculty, institutional staff, and others attended these regional meetings.

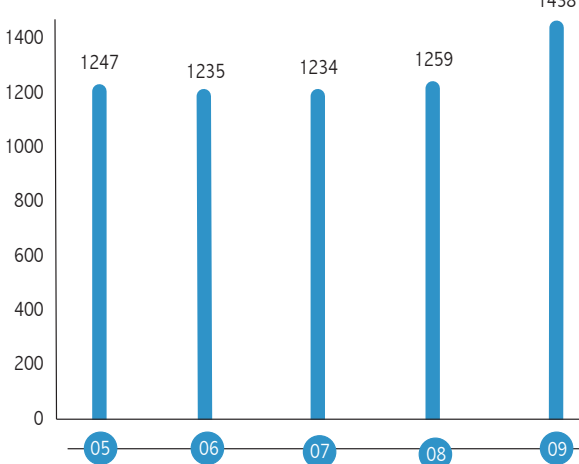
RHEP Field Faculty



RHEP Training Sites



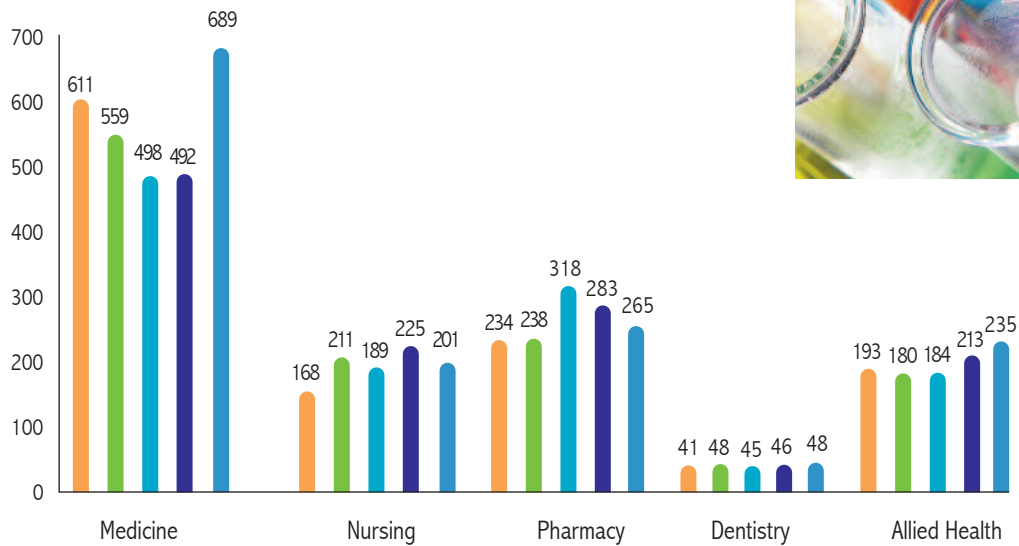
RHEP Student Rotations



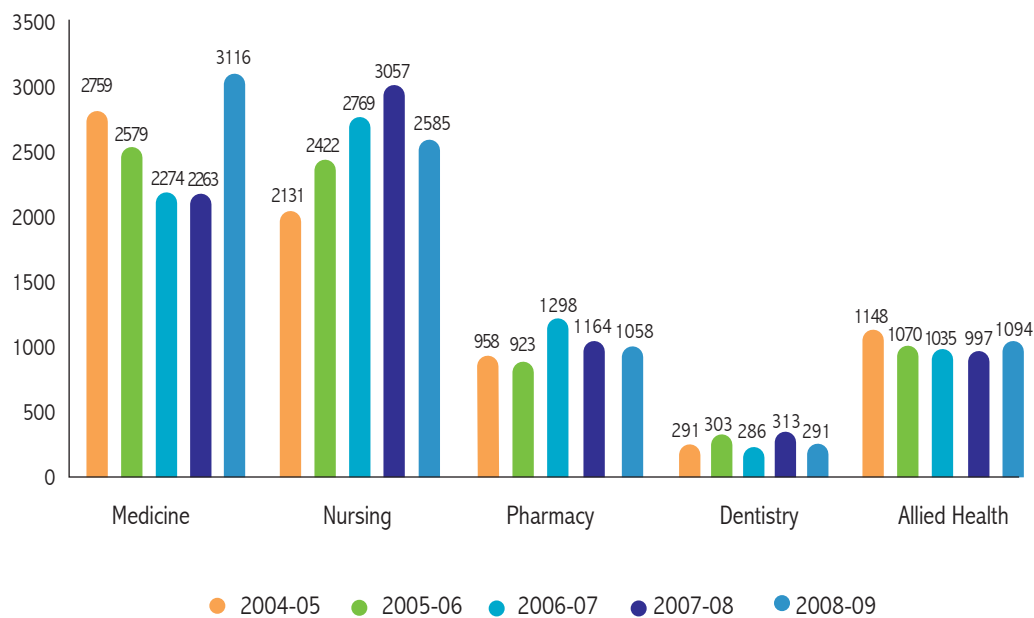
## STUDENT ROTATIONS

2005-2009

RHEP Rotations by Year/Discipline



RHEP Student Weeks by Year/Discipline



Rotations by School/Discipline:  
June 1, 2008- May 31, 2009

| School/Discipline  | RHEP              |               | Other Rural Sites |               |
|--|-------------------|---------------|-------------------|---------------|
|  | Student Rotations | Student Weeks | Student Rotations | Student Weeks |
| Alderson-Broadus College<br>Physician Assistant                | 79                | 249           | 11                | 33            |
| Mountain State University<br>Nurse Practitioner                | 0                 | 0             | 2                 | 34            |
| Physician Assistant  | 69                | 276           | 8                 | 32            |
| Marshall University<br>Medicine                                | 130               | 574           | 6                 | 24            |
| Medical Resident   | 0                 | 0             | 2                 | 104           |
| Nursing  | 18                | 229           | 19                | 87            |
| Speech Therapy   | 0                 | 0             | 2                 | 18            |
| West Liberty State University<br>Dental Hygiene                | 4                 | 12            | 0                 | 0             |
| WV School of Osteopathic Medicine<br>Medicine                  | 333               | 1,688         | 573               | 2,296         |
| Medical Resident   | 0                 | 0             | 34                | 149           |
| West Virginia University<br>Dental Hygiene                     | 24                | 144           | 0                 | 0             |
| Dentistry  | 48                | 291           | 0                 | 0             |
| Medical Resident   | 5                 | 20            | 2                 | 8             |
| Medical Technology   | 34                | 127           | 0                 | 0             |
| Medicine   |                   |               |                   |               |
| – Morgantown   | 120               | 450           | 9                 | 18            |
| – Charleston   | 70                | 277           | 0                 | 0             |
| – Eastern Panhandle  | 29                | 100           | 1                 | 4             |
| Nurse Practitioner   |                   |               |                   |               |
| – Morgantown   | 11                | 168           | 9                 | 130           |
| – Charleston   | 8                 | 127           | 9                 | 129           |
| Nursing  | 128               | 1,596         | 0                 | 0             |
| Pharmacy   | 265               | 1,058         | 17                | 42            |
| Physical Therapy   | 24                | 280           | 3                 | 16            |
| West Virginia University Institute<br>of Technology<br>Nursing | 36                | 465           | 0                 | 0             |
| Out-of-State Programs<br>Medical Resident                      | 2                 | 7             | 2                 | 8             |
| Physician Assistant  | 1                 | 6             | 0                 | 0             |
| <b>Total Rotations</b>   | <b>1,438</b>      | <b>8,144</b>  | <b>709</b>        | <b>3,132</b>  |

## COMMUNITY SERVICE CONTACTS

JUNE 1, 2008- MAY 31, 2009

| Consortium                                   | Prevention and Education<br>for General Public | Prevention and Education<br>for Adults | Prevention and Education<br>for Children | Total         |
|--|--|--|--|---------------|
| Eastern WV Rural Health Education Consortium |  |  |  |               |
| Martinsburg                                  | 603  | 1,128                                  | 9,340                                    | 11,071        |
| Petersburg                                   | 857  | 1,069                                  | 4,997                                    | 6,923         |
| The Gorge Connection                         | 0  | 2,555                                  | 4,980                                    | 7,535         |
| Kanawha Valley Health Consortium             | 430  | 318                                    | 2,518                                    | 3,266         |
| Northern WV Rural Health Education Center    |  |  |  |               |
| Region 1                                     | 264  | 781                                    | 5,455                                    | 6,500         |
| Region 2                                     | 60   | 751                                    | 2,182                                    | 2,993         |
| Region 3                                     | 649  | 2,447                                  | 6,800                                    | 9,896         |
| Region 4                                     | 1,602  | 3,415                                  | 5,849                                    | 10,866        |
| Southern Counties Consortium                 | 881  | 986                                    | 3,452                                    | 5,319         |
| Southeastern Education Consortium            | 585  | 668                                    | 2,091                                    | 3,344         |
| Western Valley Health Education Consortium   |  |  |  |               |
| Fort Gay                                     | 0  | 322                                    | 434                                      | 756           |
| Point Pleasant                               | 844  | 634                                    | 2,691                                    | 4,169         |
| Winding Roads Health Consortium              | 0  | 981                                    | 1,673                                    | 2,654         |
| <b>Total Community Service Contacts</b>      | <b>6,775</b>                                   | <b>16,055</b>                          | <b>52,462</b>                            | <b>75,292</b> |

RHEP provides community services and education on topics such as oral hygiene, skin care, asthma, nutrition/fitness, oral hygiene, and osteoporosis. The program links its prevention and education programs to the West Virginia Healthy People 2010 objectives to ascertain where student efforts are being directed across the state. RHEP strives to provide students with service-learning opportunities that are linked to their clinical and educational learning objectives.

CARDIAC is a research project that provides cardiovascular screening, intervention, and healthy lifestyles education statewide. The project is carried out locally through RHEP and the public school system. RHEP site coordinators provide local coordination and testing supplies for the screening, and RHEP students, under local preceptor supervision, provide the manpower. Since 1998, CARDIAC has screened almost 61,000 fifth graders for cardiovascular risk factors. In recent years, CARDIAC has expanded screening to younger children. To date, more than 14,000 kindergarten and 10,000 second graders have been screened for cardiovascular risk factors.

In 2008-09, RHEP dental and dental hygiene students provided 10,417 clinical procedures. Students and faculty participated in 323 outreach activities. RHEP dental sites, including dentists and students, provided over \$3.9 million in uncompensated care.



## RECRUITMENT

### Health Professionals with RHEP Rotations Practicing in Rural Areas of the State

| Discipline                          | Number in Rural Practice | Number who Received Financial Incentives |
|-------------------------------------|--------------------------|--|
| Physicians (1991-2006 graduates)    | 300                      | 114 (38%)                                |
| Nurse Practitioners/Nurse Educators | 124                      | 53 (43%)                                 |
| Nurse-Midwife                       | 1                        | -  |
| Physician Assistants                | 184                      | 53 (29%)                                 |
| Nurses                              | 154                      | -  |
| Dentists                            | 115                      | 2 (2%)                                   |
| Dental Hygienists                   | 30                       | -  |
| Pharmacists                         | 216                      | -  |
| Physical Therapists                 | 62                       | 3 (5%)                                   |
| Occupational Therapist              | 1                        | -  |
| Medical Technologists               | 12                       | -  |
| Masters in Public Health            | 1                        | -  |
| Social Worker                       | 1                        | -  |
| <b>TOTAL</b>                        | <b>1,201</b>             | <b>225 (19%)</b>                         |

Data on physicians include graduates from 1991-2006 who have completed residency training.  
Data on all other disciplines include graduates from 1991-2009.

#### Recruitment Incentives for Rural Practice

##### West Virginia Higher Education Policy Commission

Health Sciences Scholarship Program - 103

##### WV Rural Health Education Partnerships

SEARCH Training Stipends - 41

Community Scholarship Program - 6

##### Bureau for Public Health, Division of Rural Health & Recruitment

Recruitment & Retention Community Project - 105

State Loan Repayment Program - 36

NHSC Loan Repayment Program - 12

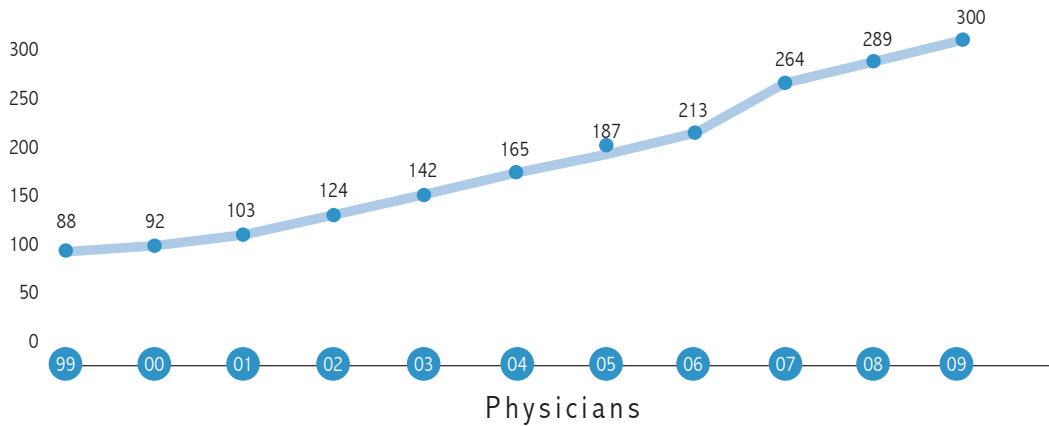
**TOTAL 303 Awards**



State scholarships and loan repayment are coordinated by the RHEP Recruitment and Retention Committee to target financial incentives to students and physician residents with rural training. Some practitioners have received awards from two or more programs. As of 2009, 225 rural practitioners have received a total of 303 awards. The agencies and programs shown above provided these awards. The National Health Service Corps (NHSC) Loan Repayment Program is included because the Bureau for Public Health assists physicians in applying to this program.



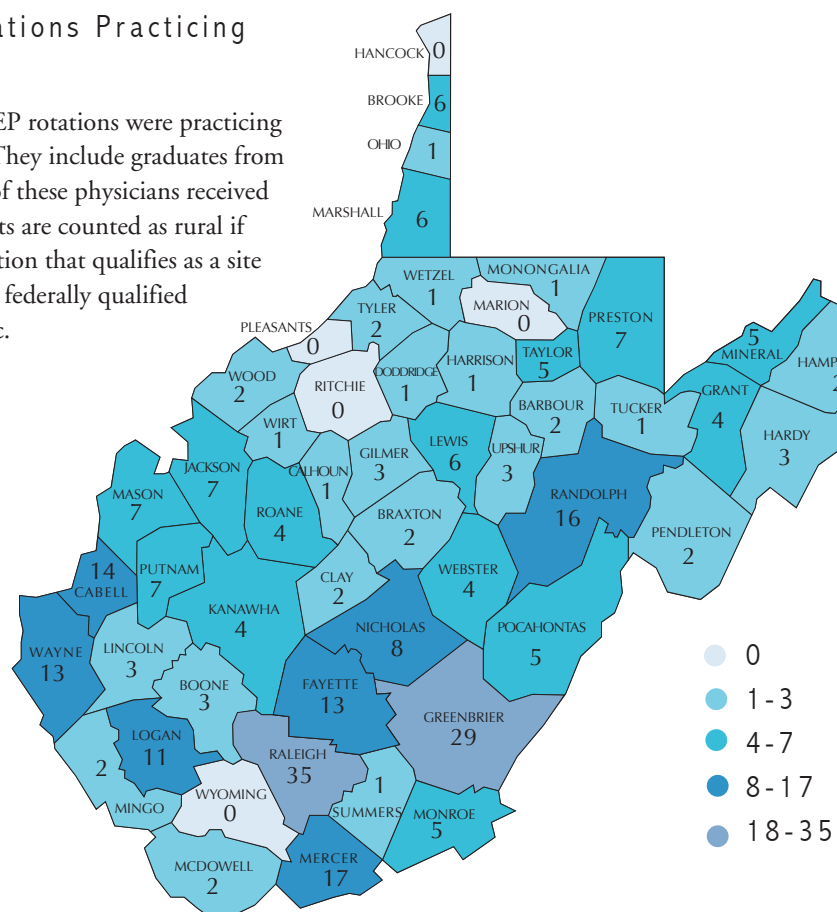
### Physicians with RHEP Rotations Practicing in Rural Areas of West Virginia, 1999-2009



From 1999 to 2009, the number of physicians who completed RHEP rural rotations and are currently practicing in rural areas has increased steadily. These numbers include physicians who completed rural rotations under RHEP and the federally funded Area Health Education Program. Each of the medical (DO & MD) graduates is re-verified annually so the count each year reflects the loss of some rural practitioners to urban and out-of-state practice. Despite this expected loss, the number of state medical graduates in rural practice has increased in the past 11 years at an annual rate of 13.0%.

### Physicians with RHEP Rotations Practicing in Rural Areas in 2009

A total of 300 physicians with RHEP rotations were practicing in rural areas of the state in 2009. They include graduates from 1991-2006. A total of 114 (38%) of these physicians received state financial incentives. Placements are counted as rural if the physician is practicing in a location that qualifies as a site for a rural rotation or if the site is a federally qualified health center (FQHC) or free clinic.



**West Virginia Higher Education Policy Commission**

**HEALTH SCIENCES**

1018 Kanawha Blvd E  
Charleston, WV 25301