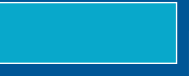




WEST VIRGINIA
HEALTH SCIENCES
and RURAL HEALTH

REPORT CARD 2012

West Virginia Higher Education Policy Commission





HEALTH SCIENCES

and RURAL HEALTH

REPORT CARD 2012

West Virginia Higher Education
Policy Commission

TABLE OF CONTENTS

INTRODUCTION	1
MEDICAL SCHOOL PROFILES	2
Marshall University School of Medicine	2
West Virginia School of Osteopathic Medicine	3
West Virginia University School of Medicine	3
MEDICAL LICENSURE EXAMINATIONS	4
MEDICAL SCHOOL INDEBTEDNESS	5
RESIDENCY TRAINING	6
Graduates Choosing Primary Care Residencies	6
Location of Primary Care Residency Programs	7
MEDICAL SCHOOL GRADUATE RETENTION	8
Graduates Retained by Institution	8
Number of Graduates Retained	8
Percentage of Graduates Retained	9
Graduates Practicing Primary Care or in Rural Areas	9
Distribution of Graduates by County	10
Retention of Graduates Completing Primary Care Residencies	11
OTHER HEALTH SCIENCES PROGRAM GRADUATES	12
West Virginia University School of Dentistry	12
West Virginia University School of Pharmacy	12
West Virginia University School of Nursing	12
Marshall University School of Nursing	12
LOANS AND INCENTIVES	13
Health Sciences Scholarship Program	13
Medical Student Loan Program	13
Other Programs	14
RURAL HEALTH INITIATIVE PROGRAM	16
Marshall University School of Medicine	16
West Virginia School of Osteopathic Medicine	18
West Virginia University School of Medicine	20



INTRODUCTION



The past four years have been a time of significant change in health sciences education in West Virginia. We have new top leadership at the state's three academic health centers: the Joan C. Edwards School of Medicine at Marshall University, the West Virginia School of Osteopathic Medicine, and the West Virginia University Health Sciences Center. These leadership changes provide us with new opportunities for collaboration and creativity, and the state is already benefiting from their commitment to innovation and quality in health sciences education.

Additionally, fiscal year 2012 was the first year in which the West Virginia Higher Education Policy Commission (Commission) distributed Rural Health Initiative funds directly to the three academic health centers. Overall programming continues to focus on training, recruitment, and retention of health professionals in the state's most underserved areas. Each institution possesses its own strengths and capabilities, and interaction among the three institutions has resulted in more cooperation and creativity. The Commission's Division of Health Sciences meets regularly with a committee of institutional representatives to monitor progress and discuss both successes and challenges. Later in this report, you will find a brief synopsis of each institution's Rural Health Initiative activities.

One of West Virginia's immediate healthcare needs is to collect accurate data on the healthcare workforce in order to project our workforce requirements and direct resources to areas of greatest concern. With funding from several sources, including the Division of Health Sciences, the West Virginia Rural Health Association is conducting a Rural Health Workforce project that will include an inventory of training programs and health professionals currently serving the state, supply and demand for these professions over the next decade, and the formation of a task force to determine areas for policy improvement.

To ensure state-funded incentive programs meet the evolving needs of students and health professionals, the Division of Health Sciences worked with its Recruitment and Retention Committee to evaluate the Health Sciences Scholarship program and identify areas in which the program could be improved. These changes, which will require the approval of the Legislature, include adding a part-time track for fulfilling the service obligation and increasing award amounts.

The Division of Health Sciences appreciates the assistance of representatives from the three academic health centers who are meeting regularly to improve consistency of data reported to the Commission. The committee also has identified areas of adjustment in this report in order to present data in the most clear and meaningful fashion.

Finally, the data in this report shows that graduates of West Virginia medical schools who remain in the state for their residencies (graduate medical education) are much more likely to practice in the state. In the upcoming year and through a collaborative process, the Division of Health Sciences will identify strategies for strengthening graduate medical education in West Virginia.

Robert B. Walker

Robert B. Walker, M.D.

Vice Chancellor for Health Sciences

MEDICAL SCHOOL PROFILES

The Marshall University School of Medicine and the West Virginia University School of Medicine are allopathic medical schools, and the West Virginia School of Osteopathic Medicine is an osteopathic medical school. The structure and content of allopathic and osteopathic medical education and training are similar in many ways, while different in others. For this report, where similarities exist, the three schools are discussed together, and where differences occur, the information for allopathic and osteopathic programs is broken out.

Both allopathic and osteopathic medical school applicants complete the Medical College Admission Test (MCAT) as part of the application process. The MCAT consists of three multiple choice sections each worth 15 points and a writing sample. For 2011-12 matriculants, the national combined mean MCAT score for students entering allopathic medical schools was 31.1; for students entering osteopathic medical schools the score was 26.5. The national mean grade point average (GPA) for these same allopathic students was 3.67 and for osteopathic students it was 3.48. (Association of American Medical Colleges and American Association of Colleges of Osteopathic Medicine)

MARSHALL UNIVERSITY SCHOOL OF MEDICINE

	2011-12	2010-11	2009-10	2008-09	2007-08
ENTERING CLASS DATA					
Acceptances/Applicants (Admission Rate)					
In-State	70/174 (40%)	78/191 (41%)	94/209 (45%)	94/209 (45%)	90/189 (48%)
Out-of-State	52/1,252 (4%)	46/1,157 (4%)	28/1,940 (1%)	33/1,107 (3%)	33/1,756 (2%)
Total	122/1,426 (9%)	124/1,348 (9%)	122/2,149 (6%)	127/1,316 (10%)	123/1,945 (6%)
Entering Class Mean GPA	3.52	3.54	3.52	3.51	3.60
Entering Class Mean MCAT	26.2	28.8	26.7	26.3	26.3
ACADEMIC YEAR DATA					
First Year New Enrollment					
In-State	40	48	58	57	51
Out-of-State	31	26	16	21	21
Total	71	74	74	78	72
Total Graduates	64	70	63	52	42
Total Medical Students	296	301	296	281	246
Tuition and Fees					
In-State	\$19,476	\$18,536	\$17,688	\$16,588	\$16,110
Out-of-State	\$46,266	\$45,326	\$44,478	\$42,178	\$40,930

WEST VIRGINIA SCHOOL OF OSTEOPATHIC MEDICINE

	2011-12	2010-11	2009-10	2008-09	2007-08
ENTERING CLASS DATA					
Acceptances/Applicants (Admission Rate)					
In-State	108/178 (61%)	60/154 (39%)	62/132 (47%)	78/164 (48%)	62/136 (46%)
Out-of-State	377/3,342 (11%)	453/3,298 (14%)	487/3,151 (15%)	442/2,715 (16%)	456/2,634 (17%)
Total	485/3,520 (14%)	513/3,452 (15%)	549/3,283 (17%)	520/2,879 (18%)	518/2,770 (19%)
Entering Class Mean GPA	3.45	3.47	3.44	3.42	3.44
Entering Class Mean MCAT	24.0	24.2	24.1	23.9	23.5
ACADEMIC YEAR DATA					
First Year New Enrollment					
In-State	84	37	51	63	56
Out-of-State	126	165	142	140	155
Total	210	202	193	203	211
Total Graduates	160	197	162	101	94
Total Medical Students	817	806	778	710	598
Tuition and Fees					
In-State	\$20,950	\$19,950	\$19,950	\$20,426	\$19,830
Out-of-State	\$50,950	\$49,950	\$49,950	\$50,546	\$49,073

WEST VIRGINIA UNIVERSITY SCHOOL OF MEDICINE

	2011-12	2010-11	2009-10	2008-09	2007-08
ENTERING CLASS DATA					
Acceptances/Applicants (Admission Rate)					
In-State	78/180 (43%)	88/196 (45%)	78/212 (37%)	82/219 (37%)	92/212 (43%)
Out-of-State	94/2,491 (4%)	91/2,382 (4%)	81/2,424 (3%)	96/2,760 (3%)	62/2,666 (2%)
Total	172/2,671 (6%)	179/2,578 (7%)	159/2,636 (6%)	178/2,979 (6%)	154/2,878 (5%)
Entering Class Mean GPA	3.71	3.75	3.73	3.74	3.69
Entering Class Mean MCAT	28.4	28.4	29.0	28.5	28.6
ACADEMIC YEAR DATA					
First Year New Enrollment					
In-State	61	64	69	63	82
Out-of-State	43	40	41	46	26
Total	104	104	110	109	108
Total Graduates	100	94	103	98	88
Total Medical Students	430	424	432	432	421
Tuition and Fees					
In-State	\$23,118	\$22,122	\$21,270	\$20,164	\$19,204
Out-of-State	\$49,728	\$47,884	\$46,018	\$43,960	\$41,866

MEDICAL LICENSURE EXAMINATIONS

Both allopathic and osteopathic medical students must complete a series of licensing exams in order to become licensed physicians. The allopathic test is the United States Medical Licensing Exam (USMLE) and the osteopathic test is the Comprehensive Osteopathic Medical Licensing Examination (COMLEX)-USA.

Students typically take the final USMLE or COMLEX soon after graduating from medical school. The data reported below is for first-time test takers who took their respective licensing exam within two years of graduation. In evaluating the data presented below, it is important to consider some of its limitations:

- The data is for first-time test takers.
- Graduates can elect not to report their results to their medical schools.
- The data does not reflect graduates who sit for the exam more than two years after graduation.
- Not all graduates enter residency programs and therefore do not sit for these exams.



Allopathic Medical School Graduates

The USMLE, Step 3 is the final of three tests completed by allopathic medical students. Graduates typically take USMLE, Step 3 at the end of their first year of residency. The data in the table is grouped by graduating class and is for first-time test takers only. The national average passage rate for first-time test takers for the graduating class of 2009 is 96 percent.

Number Passing/Number of Examinees, USMLE, Step 3, by Graduating Class

	2009	2008	2007	2006	2005
Marshall University	45/49 (92%)	34/38 (89%)	45/46 (98%)	38/38 (100%)	38/38 (100%)
West Virginia University	89/91 (98%)	77/79 (97%)	93/95 (98%)	88/88 (100%)	74/77 (96%)

Osteopathic Medical School Graduates

The COMLEX is the primary pathway by which osteopathic physicians apply for licensure. Osteopathic graduates take the final COMLEX examination, Level 3, as early as six months into residency training, but must complete Level 3 before starting their third year of residency training. The data in the table is grouped by graduating class and is for first-time test takers only. The national average is not available.

Number Passing/Number of Examinees, COMLEX, Level 3, by Graduating Class

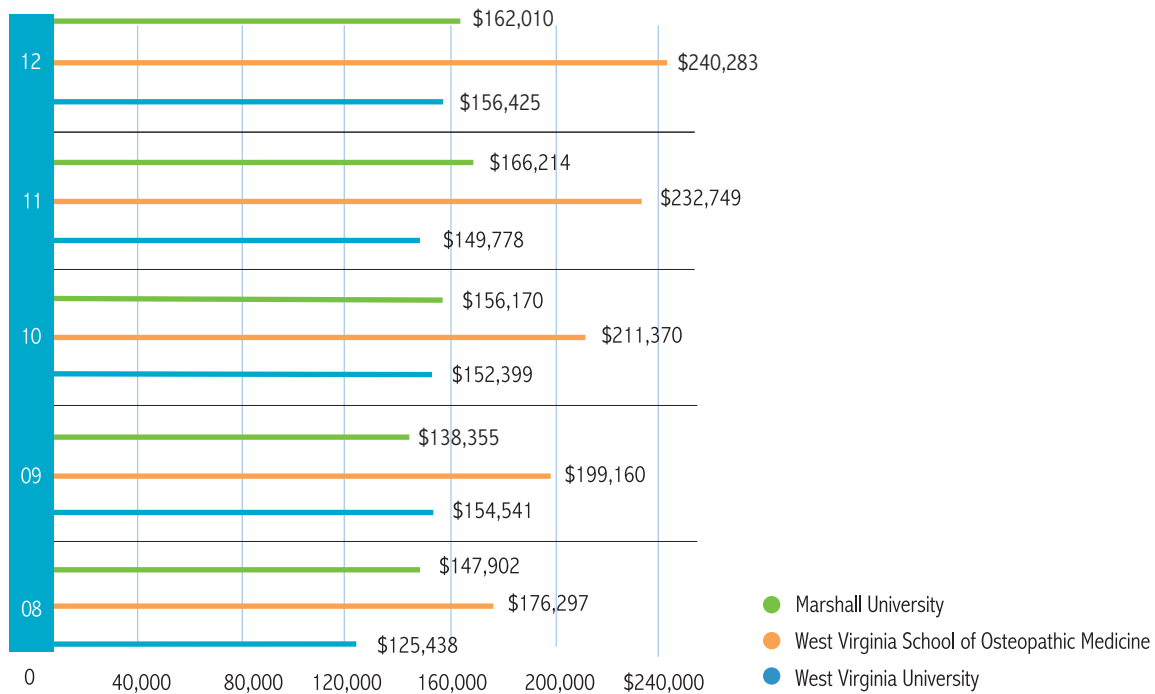
	2009	2008	2007	2006	2005
West Virginia School of Osteopathic Medicine	91/99 (92%)	85/94 (90%)	83/93 (89%)	70/82 (85%)	59/68 (87%)

MEDICAL SCHOOL INDEBTEDNESS

The average indebtedness of graduating medical students includes all loans, whether through the government or from private lenders, accumulated while pursuing their medical degrees. Average loan debt is calculated only from students who have loans and does not include pre-medical school debt. The difference in graduate indebtedness among the schools can be attributed in part to differences in the proportion of students paying non-resident tuition and fees.

Average Medical School Student Debt by Graduating Class

	Marshall University	West Virginia School of Osteopathic Medicine	West Virginia University
2012	\$162,010	\$240,283	\$156,425
2011	\$166,214	\$232,749	\$149,778
2010	\$156,170	\$211,370	\$152,399
2009	\$138,355	\$199,160	\$154,541
2008	\$147,902	\$176,297	\$125,438



RESIDENCY TRAINING

Upon graduation from medical school, physicians complete residency training (also referred to as graduate medical education) in a specialty before beginning practice. Residency training typically takes three to five years to complete. Federal Medicare funding is the major funding source for residency programs. In West Virginia, the state also contributes to residency programs through the Medicaid program.



Key indicators related to residency choice impacting the supply of physicians across West Virginia are:

- Location: graduates who complete residencies in West Virginia are much more likely to remain in the state.
- Specialty: primary care fields are generally most needed in rural West Virginia.

In West Virginia, a primary care residency includes any residency program in:

- family medicine
- internal medicine
- internal medicine/pediatrics
- obstetrics/gynecology
- pediatrics

All three West Virginia medical schools frequently place graduates in primary care residency programs at a rate above the national average for these same programs. For the 2012 residency match, the national average was 47 percent. (National Resident Matching Program).

However, completing a primary residency program does not always translate to practicing primary care. A growing trend exists for individuals entering internal medicine residencies to forego a general internal medicine track, and instead, subspecialize in fields not traditionally viewed as primary care, such as cardiovascular disease, gastroenterology, and infectious diseases. Thus, some of the graduates counted below ultimately may not practice in a primary care setting.

Number and Percentage of Graduates Choosing Primary Care Residencies, by Graduating Class

	2012	2011	2010	2009	2008
Marshall University	41 (64%)	37 (54%)	37 (60%)	27 (52%)	24 (57%)
West Virginia School of Osteopathic Medicine	110 (70%)	130 (66%)	113 (71%)	69 (68%)	59 (64%)
West Virginia University	43 (43%)	38 (41%)	51 (50%)	49 (50%)	43 (49%)

Location of Primary Care Residencies

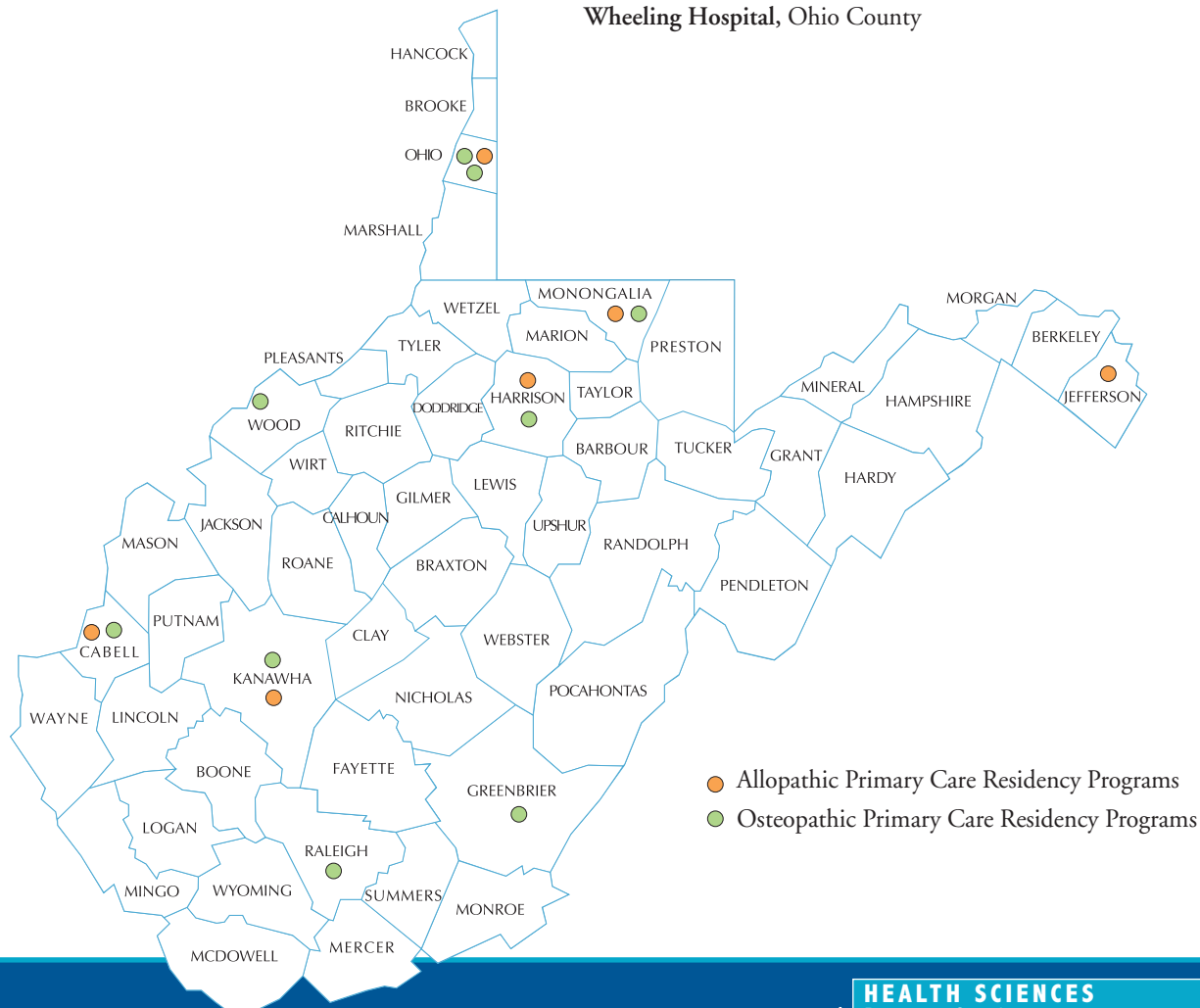
Primary care residency programs are offered across West Virginia, however, these sites predominantly are hospital-based and located in more urban areas. Unique programs like the West Virginia University Rural Residency Program, the Marshall University-Lincoln Primary Care Center Program, and the state’s first “teaching health center” at AccessHealth allow residents to spend all or a significant portion of their residency in a rural or underserved area. As part of more traditional programs, residents may spend a small percentage of their time practicing away from the main residency site such as in a rural health clinic or a community health center.

Allopathic Primary Care Residency Programs, 2011-12:

- Charleston Area Medical Center, Kanawha County
- Marshall University School of Medicine, Cabell County
- United Hospital Center, Harrison County
- West Virginia University Hospital, Monongalia County
- West Virginia University Rural, Jefferson County
- Wheeling Hospital, Ohio County

Osteopathic Primary Care Residency Programs, 2011-12:

- AccessHealth, Raleigh County
- Cabell Huntington Hospital, Cabell County
- Camden-Clark Memorial Hospital, Wood County
- Charleston Area Medical Center, Kanawha County
- Greenbrier Valley Medical Center, Greenbrier County
- Ohio Valley Medical Center, Ohio
- United Hospital Center, Harrison County
- West Virginia University Hospital, Monongalia County
- Wheeling Hospital, Ohio County



MEDICAL SCHOOL GRADUATE RETENTION

Retention denotes the number or percentage of West Virginia medical school graduates who remain in the state to practice. Retention is tracked annually for a 6-year cohort of medical school graduates who have completed residency training.

The data in this section focuses on retention of West Virginia medical school graduates in primary care and/or rural practice.

- Primary Care is defined as family medicine, internal medicine, internal medicine/pediatrics, obstetrics/gynecology, and pediatrics.
- Rural areas include all areas of the state except: Beckley, Charleston (including South Charleston, Dunbar, Nitro, Institute, etc.), Clarksburg, Fairmont, Huntington, Hurricane (including Barboursville), Martinsburg, Morgantown (including Star City and Westover), Parkersburg (including Vienna), Weirton, and Wheeling.
- Data is provided only for graduates who have completed their residency training.

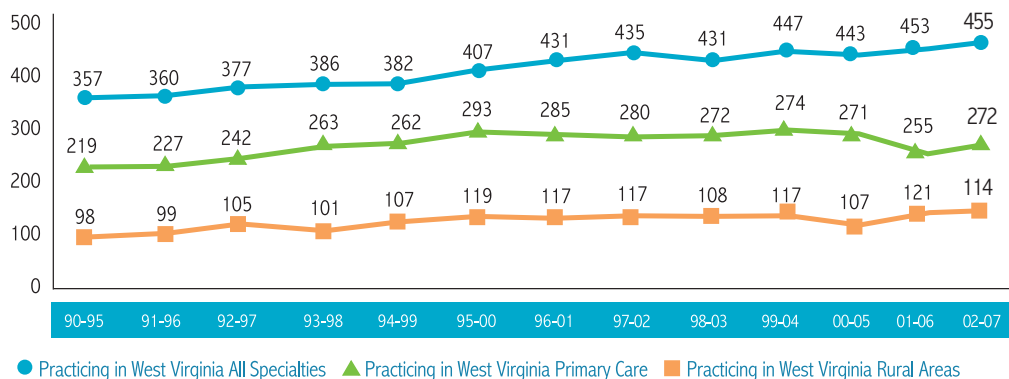
Between 2002 and 2007, 1,174 graduates of the state’s three medical schools completed residency training, either in West Virginia or another state, and 39 percent of these graduates are now practicing in West Virginia. Ten percent of the graduates in this cohort are practicing in rural West Virginia and 22 percent are practicing primary care in the state (either in a rural or urban location). These percentages are very similar to numbers reported over the last 25 years for West Virginia. Although the percentages have remained rather flat, the actual number of graduates retained has increased respectably. This increase is due largely to the growth in medical school class size at all three medical schools.

Medical School Graduates Retained by Institution, Graduating Classes of 2002-2007

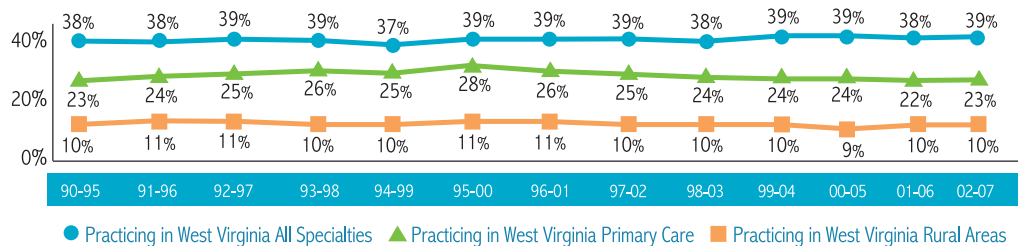
	Total Number of Graduates	Number in Practice in WV	Number in Primary Care in WV	Number in Practice in Rural Areas in WV
Marshall University	263	108 (41%)	59 (22%)	17 (6%)
West Virginia School of Osteopathic Medicine*	424	169 (40%)	111 (26%)	63 (15%)
West Virginia University	487	178 (37%)	102 (21%)	34 (7%)
TOTAL	1,174	455 (39%)	272 (23%)	114 (10%)

*All numbers provided exclude Southern Regional Education Board contract students from the West Virginia School of Osteopathic Medicine with a contractual obligation to return to their home states following graduation.

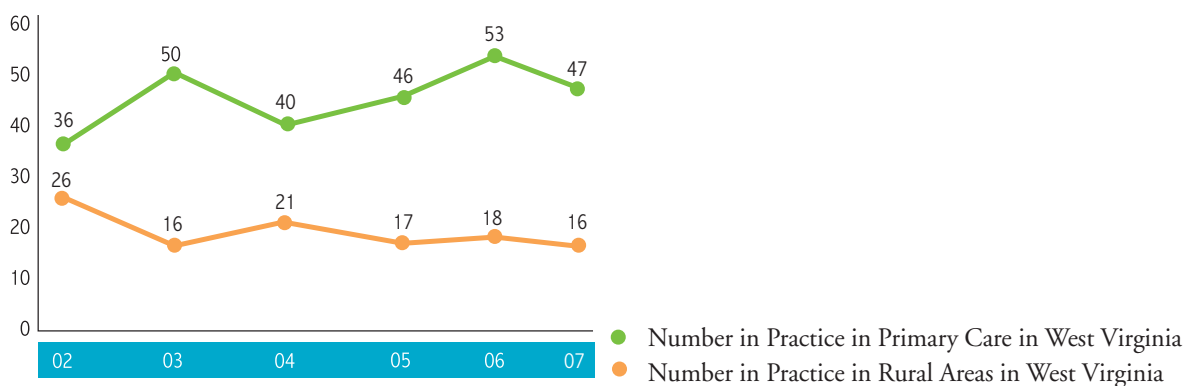
Number of West Virginia Medical School Graduates Retained, Graduating Classes of 1990-2007



Percentage of West Virginia Medical School Graduates Retained, Graduating Classes of 1990-2007



Number of West Virginia Medical School Graduates Practicing Primary Care or in Rural Areas, Graduating Classes of 2002-2007



Medical School Graduate Retention Continued

West Virginia continues to focus on recruiting more primary care physicians to the state, especially to its rural areas. The presence of physicians practicing primary care and in rural areas is critical to ensuring communities across the state can access quality care.

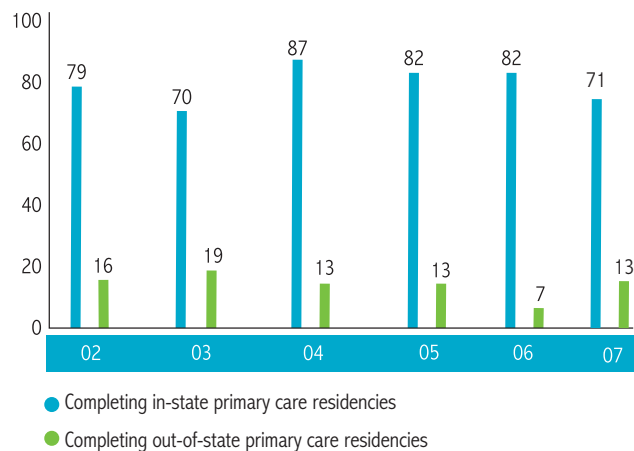


The table below illustrates recruitment of the most recent six-year cohort of West Virginia medical school graduates to all 55 counties of West Virginia. This information must be interpreted carefully, however. It is a snapshot of the placement of the most recent West Virginia medical school graduates only and does not include graduates of out-of-state medical schools or physicians of long-standing who are practicing in these counties. Thus, a zero listed in any column does not necessarily indicate that a county is underserved. At the same time, tracking this type of information over an extended period can help inform health and primary care education and training program activities and physician recruitment priorities.

West Virginia Medical School Graduates Practicing in West Virginia, by County, Graduating Classes of 2002-2007

County	Number in Practice	Number Practicing in Rural Areas	Number Practicing Primary Care	County	Number in Practice	Number Practicing in Rural Areas	Number Practicing Primary Care
Barbour	1	1	1	Mineral	2	2	2
Berkeley	8	0	3	Mingo	2	2	1
Boone	7	7	6	Monongalia	78	1	31
Braxton	0	0	0	Monroe	2	2	2
Brooke	1	0	1	Morgan	0	0	0
Cabell	72	1	42	Nicholas	5	5	2
Calhoun	0	0	0	Ohio	28	0	11
Clay	1	1	1	Pendleton	1	1	1
Doddridge	1	1	1	Pleasants	0	0	0
Fayette	6	6	6	Pocahontas	3	3	2
Gilmer	2	2	2	Preston	4	4	4
Grant	3	3	2	Putnam	9	1	8
Greenbrier	15	15	12	Raleigh	16	3	12
Hampshire	0	0	0	Randolph	2	2	2
Hancock	2	0	1	Ritchie	0	0	0
Hardy	0	0	0	Roane	1	1	1
Harrison	23	7	13	Summers	1	1	1
Jackson	3	3	2	Taylor	0	0	0
Jefferson	4	4	4	Tucker	0	0	0
Kanawha	97	2	54	Tyler	0	0	0
Lewis	2	2	2	Upshur	3	3	3
Lincoln	2	2	2	Wayne	3	3	2
Logan	1	1	0	Webster	1	1	1
Marion	7	1	5	Wetzel	0	0	0
Marshall	0	0	0	Wirt	1	1	1
Mason	3	3	3	Wood	17	1	13
McDowell	0	0	0	Wyoming	1	1	1
Mercer	14	14	8	TOTAL	455	114	272

Percentage of West Virginia Medical School Graduates Completing Primary Care Residencies Retained, Graduating Classes of 2002-2007



The location of a medical school graduate's residency program frequently predicts whether that graduate will practice in West Virginia. For the 2007 graduating class of West Virginia medical school graduates, 119 graduates went on to complete primary care residency programs (52 in-state and 67 out-of-state). Upon completing residency, 71 percent of the graduates who completed in-state primary care residencies were retained in West Virginia to practice, while only 13 percent of graduates who completed out-of-state primary care residencies returned to West Virginia to practice.



OTHER HEALTH SCIENCES PROGRAM GRADUATES

Medical school education is only one track of graduate-level health sciences education occurring in West Virginia. Dental, Advanced practice nursing, Pharmacy, and Physician Assistant programs among others are offered by various public and private institutions in the state. The data below provides an overview of some of these programs at public institutions.

DENTISTRY: West Virginia University

Upon completion of their education, some dental graduates enter practice immediately, while others pursue dental residencies. Due to the logistics involved in establishing a practice, it often may take a dentist several months to establish a practice. Typically, the number of dentistry graduates practicing in West Virginia increases over time as more graduates establish practices and/or complete residency.

Dentistry Graduates Retained, by Graduating Class

	2011	2010	2009	2008	2007
Graduates	48	47	50	45	45
Practicing in West Virginia	25 (52%)	22 (47%)	32 (64%)	23 (51%)	18 (40%)

PHARMACY: West Virginia University

This report highlights a potentially emerging workforce issue in pharmacy. A decline has occurred in the number of West Virginia pharmacy graduates remaining in state to practice. This result may be due to two convergent factors: an increasing number of graduates both nationally and in West Virginia, coinciding with a decline in the number of employment opportunities for pharmacists in West Virginia. Consequently, more graduates are leaving the state in search of employment or to secure postgraduate residencies.

Pharmacy Graduates Retained, by Graduating Class

	2011	2010	2009	2008	2007
Graduates	83	84	73	76	81
Practicing in West Virginia	40 (48%)	56 (67%)	54 (74%)	46 (61%)	47 (58%)

NURSE PRACTITIONER:

West Virginia University

Family Nurse Practitioner Graduates Retained, by Graduating Class

	2011	2010	2009	2008	2007
Graduates	42	48	27	31	20
Practicing in West Virginia	33 (79%)	42 (88%)	22 (81%)	19 (61%)	14 (70%)

Marshall University

Family Nurse Practitioner Graduates Retained, by Graduating Class

	2011	2010	2009	2008	2007
Graduates	28	26	16	23	18
Practicing in West Virginia*	-	-	-	-	-

*Data on retention were not available for this report.

LOANS AND INCENTIVES

Health Sciences Scholarship Program

The Health Sciences Scholarship Program is a state-funded incentive program and is administered by the West Virginia Higher Education Policy Commission. The program provides financial awards to health professionals who agree to practice in primary care settings in underserved areas of the state upon completion of their education and training. Medical students receive a \$20,000 award for a two-year service commitment. Doctoral clinical psychologists, licensed independent clinical social workers, nurse educators, nurse practitioners, physical therapists, and physician assistants receive a \$10,000 award for a two-year service commitment.

Since 1995, 183 participants have completed their service obligation. In 2011-12, 14 awards totaling \$190,000 were given to:

- Five medical students
- Six nurse practitioners
- Two physical therapists
- One doctoral psychologist

Medical Student Loan Program

The Medical Student Loan Program, which is funded from student fees, is a need-based program for students at West Virginia medical schools and administered by the Commission. Institutions award loans of up to \$10,000 each year per eligible student, and a student may receive a loan in more than one year of medical school.

Upon graduation and once in practice, borrowers either must repay the loan or seek loan forgiveness. Borrowers are eligible for loan forgiveness of up to \$10,000 per year for each year they practice in West Virginia in an underserved area or in a medical shortage field. Borrowers are permitted to reapply for loan forgiveness in subsequent years.



Medical Student Loan Program Activity, by Program Year

	2011-12	2010-11	2009-10	2008-09	2007-08
Loans Awarded	256	224	289	312	296
Total Amount Awarded	\$1,379,420	\$1,350,194	\$2,033,237	\$1,881,843	\$1,861,456
Amount of Unexpended Funds*	\$1,983,043	\$1,944,894	\$1,877,002	\$2,642,508	\$3,145,311
Loan Postponement**	16	14	23	22	12
Loan Forgiveness ***	36	44	49	47	40
Default Rate on Previous Awards	2.2%	2.6%	2.7%	2.5%	2.8%

* Amount of unexpended funds includes loan repayments.

** Loan postponement is the number of borrowers who applied for the first time in a given year to begin practicing toward earning loan forgiveness. If these borrowers complete one year of service, they receive up to \$10,000 in loan forgiveness at the end of the year, and then, are included in the subsequent year's loan forgiveness count.

*** Loan forgiveness is the number of borrowers who received up to \$10,000 in loan forgiveness in a given year.

Other Programs

The West Virginia Bureau for Public Health administers several innovative loan and incentive programs directed at recruiting and retaining a variety of primary care providers in rural areas of the state.

- The state-funded Recruitment and Retention Community Project provides up to \$10,000 to medically underserved communities to use for recruitment and retention of primary care providers. Communities must supply at least a 50 percent match.
- The State Loan Repayment Program is supported by state and federal funds, and offers repayment of up to \$40,000 for educational loans to primary care providers in return for an obligation to practice for at least two years in a rural, underserved area.

The Bureau for Public Health works in conjunction with the federal government to administer the federal National Health Service Corps (NHSC). The NHSC

offers several programs including a loan repayment program that in 2011-12 provided up to \$60,000 in loan repayment for an initial two-year commitment. In return, participants must practice at least full-time for two years or half-time for four years at an NHSC-approved site in a Health Professional Shortage Area (HPSA). Eligible sites exist across West Virginia and the rest of the country.



RURAL HEALTH INITIATIVE

MARSHALL UNIVERSITY

The Marshall University Joan C. Edwards School of Medicine (JCESOM) has focused on an intensive rural educational model that identifies students with a commitment to rural health care, and provides them with a valuable, interdisciplinary, high quality experience. The first program year of the Rural Health Initiative has provided the opportunity to formalize goals and objectives, which are essential to evaluate program performance.

1. Develop pipeline programs to enhance student interest in rural healthcare careers.

The Center for Rural Health at Marshall University and the JCESOM are expanding the school's award-winning pipeline programs with high schools and colleges in the region. These programs raise awareness of healthcare careers and assist in removing perceived or actual barriers for students in pursuing these careers.

Pipeline efforts involved:

- Nearly 1,100 high school students from 13 rural counties, with some events in collaboration with Health Occupations Students of America (HOSA), Health Sciences and Technology Academy (HSTA), Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP), and Upward Bound.
- Expansion into many colleges across the state meeting with 50 college students and faculty.

2. Increase the recruitment of healthcare providers in rural areas.

One of the objectives of the initiative is to encourage medical students to select primary care residencies in West Virginia. Research shows that state medical school graduates who complete in-state primary care residency training are much more likely to practice in West Virginia. This past year:

- Sixty-four percent of graduating Marshall University medical students selected primary care residencies.
- Twenty-two percent of graduating Marshall University medical students selected primary care residencies in West Virginia.

Financial Incentives

Many medical students are concerned about the burden of debt they may face as new physicians, and as a result may choose higher paying subspecialties rather than primary care. The initiative is therefore providing information on financial incentives for primary care and rural practice.

Forums

This year 134 (95 percent) of first and second year medical students attended a Financial Future forum to learn about incentives for primary care and rural practice, including scholarships and loan repayment programs.

Representatives from multiple state agencies and organizations discussed their programs.

3. Increase the retention rate of healthcare providers in rural areas.

The initiative is focused on two areas: (1) retention of medical residents in rural practice by providing rural training and community experiences; and (2) retention of rural physicians practicing in the state by providing support, continuing medical education, access to specialty services, and opportunities for research.

Medical Residents in Rural Areas

- Medical residents participated in the pipeline program activities.
- Multiple 1-2 month rotations in rural medicine were made available to resident physicians. Sites included West Virginia community health centers and private practices with established records for teaching excellence.

Medical Research in Rural Communities

Medical residents and students participated in research projects in rural communities.

Rural Residency Program

Marshall University's Rural Family Practice Residency program in Lincoln County provides interested medical residents with a base for longitudinal care in a rural area.

- **Mingo County Specialty Clinic:** The Internal Medicine and Cardiology departments started a monthly endocrinology and cardiology clinic in Mingo County, with medical resident participation.
- **Obstetrical/Gynecology Program:** Medical residents and faculty conducted a women's health clinic in Logan County.
- **Mobile Medical Unit Outreach:** Medical students and medical residents participated in outreach activities of the Pediatric Mobile Clinic and the Robert C. Byrd Mobile Medical Unit. This year, eight of 15 Pediatric medical residents chose to use the mobile clinic as part of their continuity clinic.
- **Chief Resident Immersion Training (CRIT):** Given West Virginia's large older adult population, it is critical that all residents know how to care for older adults. The CRIT program trains medical residents who will care for the rural elderly and is open to chief medical residents from all three state medical schools.
- **Practice Coverage and Support:** Family Medicine faculty and medical residents provide practice coverage and support to assist rural physicians and to provide medical residents exposure to rural practice. Two faculty and three medical residents participated this year.

4. Increase involvement of rural areas of the state in the health education process.

By utilizing rural communities as a part of the educational process, the initiative seeks to improve retention of healthcare providers by supporting recruitment opportunities for medical residents and students as well as support to rural physicians.

Chapmanville Hub (Logan County)

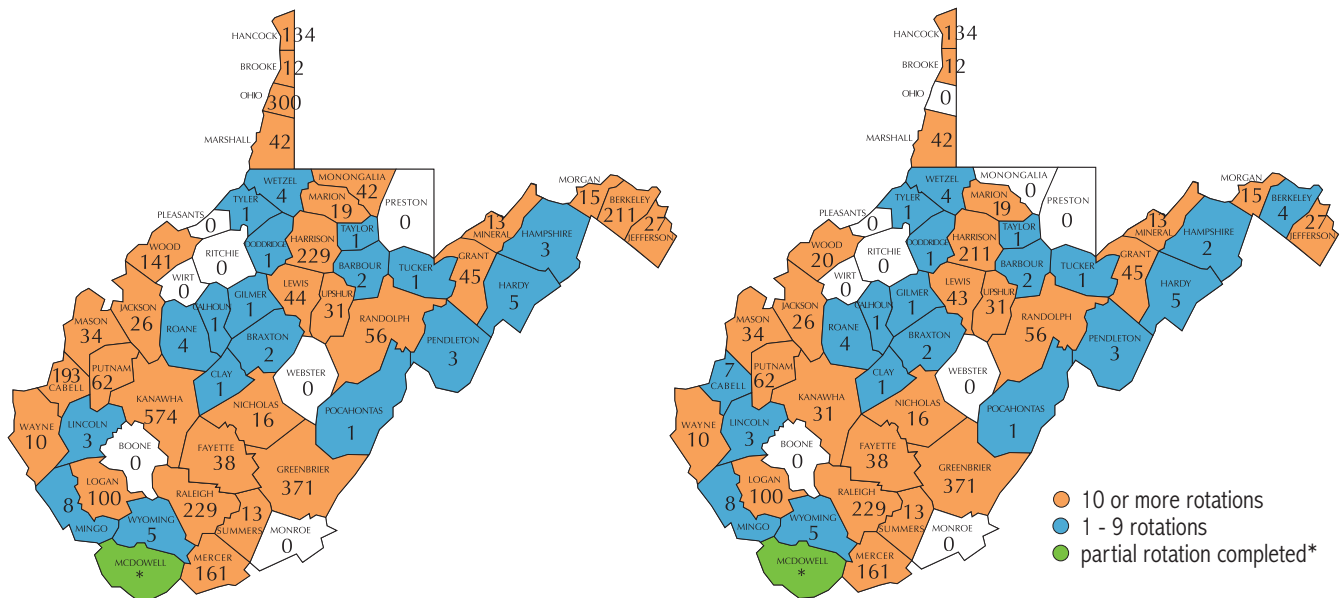
The "living laboratory" created at the Coalfield Health Center (the Center) brings together a variety of technological and human resources to address serious healthcare problems in the region while meeting educational objectives. By training students and residents, the Center will improve recruitment and retention in the area. It also has become a focal point for pipeline programs.

- **Health Policy Fellowship:** This program is designed to develop leadership and interest in health policy, with emphasis on rural health. Fellows actively participated in the 2012 legislative session through research, drafting legislation, and making presentations to legislative committees.
- **Southern West Virginia Community and Technical College:** Forty nursing students and eight dental hygiene students from Southern West Virginia Community and Technical College rotated at the Center.
- **Diabetes focus:** The diabetes educator from JCESOM expanded clinical and educational services offered at the Center. New technology, such as digital retinopathy, allows for remote diagnosis and early treatment of conditions caused by diabetes. Medical, nursing, and dental hygiene students now have training and experience around this disease that they can take into their practices.

WEST VIRGINIA SCHOOL OF OSTEOPATHIC MEDICINE

The Rural Health Initiative mission at the West Virginia School of Osteopathic Medicine (WVSOM) is to enhance the institution's rural primary care curriculum in order to produce graduates uniquely qualified to practice medicine in underserved communities of West Virginia.

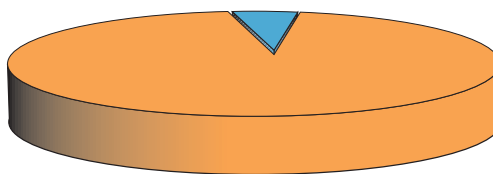
- WVSOM 3rd and 4th year students completed 1,816 rural rotations in 45** of 55 counties during the academic year 2011-2012.



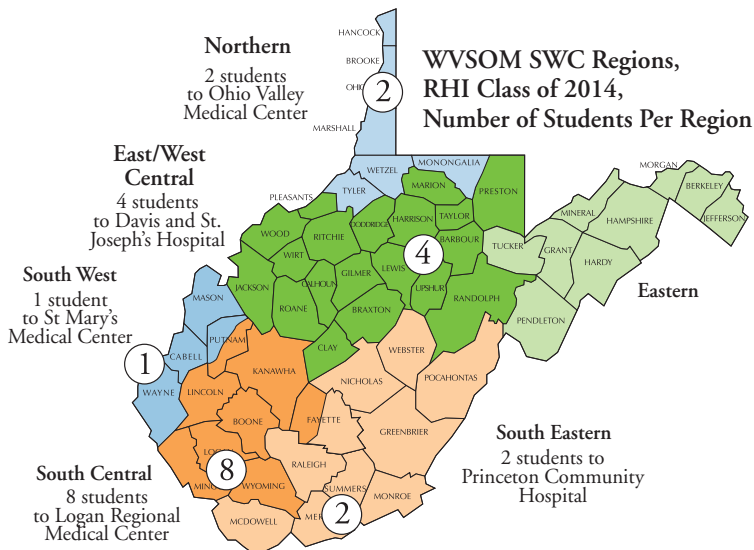
Housing

- Out of 8,060 weeks of rotations in rural West Virginia, WVSOM students utilized shared housing for 357 weeks, most often when rotating more than 45 miles from their Statewide Campus (SWC) base site.

Percent of Rural Rotations Requiring Housing Funds



- Weeks of Rural Rotations in which Housing Funds were Required
- Weeks of Rural Rotations in which Housing Funds were not Required



RHI Student Placements

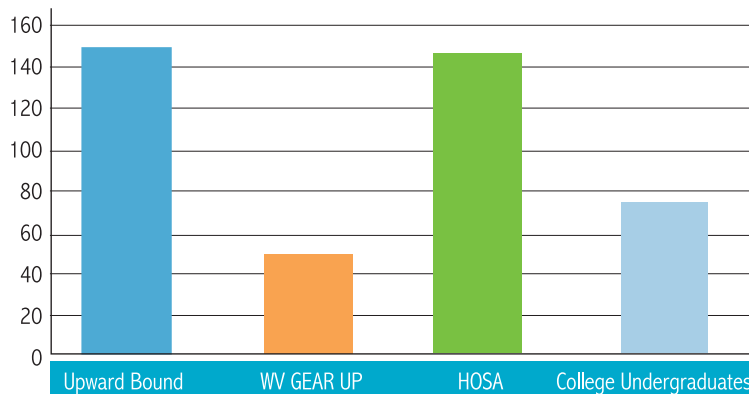
- Four students from the Class of 2013 and 17 students from the Class of 2014 have been selected to participate in the RHI program. Thirteen students from the Class of 2015 are in the process of applying to participate in the RHI program.
- Student participants are chosen through a competitive process by the RHI Selection Committee. Benefits include: advanced placement in specifically chosen rural rotations; mentorship by practicing osteopathic physicians; participation in unique rural enhancing field experiences in coal mining, timber, poultry, chemical, threat/disaster preparedness, wilderness medicine, etc.; guidance and assistance in residency placement; and, financial incentives/stipends for rural experiences to assist with medical schools expenses.

RHI Pipeline for High School/Undergraduate Students

The following RHI pipeline examples include presentations by the SWC Assistant Deans and Directors alongside the WVSOM Admissions Counselor to promote Osteopathic medicine and the RHI program at various places throughout Southern West Virginia:

- One hundred and fifty Upward Bound students from Boone, Fayette, Kanawha, Lincoln, Logan, Mingo, Putnam and Wyoming counties (South Central Region: March 24, 2012).
- Twenty-six students from Southern West Virginia Community and Technical College. This event encouraged students to “move up” into a 4-year degree program (South Central Region: March 27, 2012).
- Twenty-five biology students from New River Community and Technical College in Nicholas County. This event encouraged students to consider becoming a D.O. (South East Region: April 2, 2012).

***Students Impacted by WVSOM RHI**
March 19, 2012 - May 25, 2012



WEST VIRGINIA UNIVERSITY

Improved Support for Students with Rural Health Interests

The West Virginia University Institute for Community and Rural Health (WVU ICRH) was established in fiscal year 2012 to assist in the development and oversight of rural health efforts for WVU health science students and collaborate with the West Virginia Area Health Education Centers (AHEC) to provide rural health resources for health profession students and residents in rural experience rotations.

In May 2012, ICRH awarded five health profession students with substantial scholarships in exchange for their commitment to practice in the state after graduation. Recipients are required to practice in a part of West Virginia that is considered either medically underserved or a health professional shortage area (HPSA). Two graduating seniors from the School of Dentistry – Amy Isble of Kanawha County and Emily Mayhew of Jefferson County and three students from the WVU School of Medicine – Stephanie Sisler of Preston County, Sky Gwinn of Summers County, and Garrett Butler of Mineral County – received scholarships.

The Department of Family Medicine also launched its Rural Track program. Participating students begin the rural track with 4-5 weeks at a rural site the summer before they begin medical school and then again the summer between their first and second year of medical school. Additionally, they spend 12 weeks in a rural community in their third year of medical school and eight weeks in their fourth year. The Department has signed on five Rural Track medical students and awarded four summer stipends to medical students who completed rotations in Clay, Fayette, Jackson, and Upshur counties.

The Institute for Community and Rural Health awarded an additional six stipends for medical students in the Family Medicine Extern Program. In this program, students with an interest in rural health who are between their first and second year of medical school complete a summer rotation with a rural physician. In addition to spending time in the office of the rural physician, these students complete a health needs assessment of their preceptor's rural community. These six rotations were completed in Brooke, Jefferson, Mercer, Mingo, Monongalia, and Tyler counties.

Student/Resident Community-based Clinical Activity, July 1, 2011-June 30, 2012

School or Program	Number of students/ residents participating in community-based rotations	Number of students/ residents participating in rural* rotations	Number of student/resident weeks at rural* sites	Number of student/resident-weeks in a primary care medical or dental HPSA**	Number of rural/community-based Adjunct Faculty serving as preceptors
Dental	46	36	235	75	39
Dental Hygiene	21	16	140	49	
Family Medicine Residents	5	5	20	20	77
Medicine	193	172	633	365	
Medical Lab Science	3	3	13	N/A	5
Nursing	147	62	811	N/A	73
Nurse Practitioner	46	34	318	176	139
Pharmacy	50	38	263	N/A	43
Physical Therapist	35	29	288	N/A	36
TOTAL	546	395	2,721	685	412

* Rural areas include all areas of the state, except: Beckley, Charleston (including South Charleston, Dunbar, Nitro, Institute, etc.), Clarksburg, Fairmont, Huntington, Hurricane (including Barboursville), Martinsburg, Morgantown (including Star City and Westover), Parkersburg (including Vienna), Weirton, and Wheeling.

** Primary care and Dental HPSA designations by county can be found at <http://hpsafind.hrsa.gov/>.

Participation in Community-Based Clinical Activities

Honoraria and Services for Community-Based Preceptors

Efforts to keep quality rural medical preceptors involved in teaching and mentoring are vital, and ICRH has executed affiliation agreements with 181 rural medical facilities and/or individuals to train students. Under these agreements, physicians who precept medical students are eligible for honorarium payments and all preceptors receive online access to West Virginia University libraries. Eleven preceptors chose to donate their honorarium to a scholarship fund for students with intent to practice in underserved areas of the state. **In FY 2012, these preceptors donated \$15,000 to the fund.**

WVU also established a new **Preceptor Advisory Board** to offer input and advice regarding the community-based education of students.

Uncompensated Care Provided by Dental and Dental Hygiene Students

The rural dental sites reported **providing \$4,122,750 in uncompensated care** from July 1, 2011 – June 30, 2012. Students treated 6,714 patients and provided 15,780 procedures. They conducted 197 service learning activities impacting 6,317 citizens while on their community experiences.

Interprofessional Student Rural Health Interest Group

The new interprofessional Rural Health Interest Group held six meetings during the 2011-12 academic year. Students came together to discuss topics that impact rural health care and delivery in the state. **Project R.E.A.C.H (Rural Education Alliance for Community Health)**, a student-led service project, provided multiple screening services to over 300 rural West Virginians in seven counties (Calhoun, Jefferson, McDowell, Mingo, Monongalia, Pocahontas, and Preston).

Facilitating Rural Education and Services Through Subcontracts With Four AHEC Centers

WVU has been the recipient of an AHEC grant since 2000. In June 2011, WVU initiated contracts with four of the five West Virginia AHECs for the following services: the scheduling of rotations with medical preceptors and the management of 19 houses across the state used by students on their rural rotations.

Rotations and Housing Scheduled by AHEC, July 1, 2011-June 30, 2012

	Number of completed clinical rotations scheduled	Number of rotations utilizing housing	Number of weeks of housing utilization
West Virginia University	436	129	665
Other Institutions*	487	158	676

*AHEC scheduled at least one rotation or housing request for students from: Alderson-Broadus physician assistant program, Joan C. Edwards School of Medicine at Marshall University, Mountain State University physician assistant program, University of Charleston pharmacy program, the West Virginia School of Osteopathic Medicine, and 16 out-of-state students. [NOTE: Out-of-state students are only allowed to use housing if it is not needed by in-state students.]



Health Sciences Report Card 2012

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

1018 Kanawha Boulevard, East, Suite 700
Charleston, West Virginia 25301

www.hepc.wvnet.edu