

UPDATE: VIRGINIA PHYSICIAN WORKFORCE SHORTAGE

Joint Commission on Health Care

September 17, 2013

Stephen W. Bowman
Senior Staff Attorney/Methodologist

Revised April 29, 2014

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House Joint Resolution 689 (Del. Purkey)

1. Determine whether a shortage of medical doctors exists in the Commonwealth, by specialty and by geographical region
2. Project the future need for medical doctors in Virginia over the next 10 years by field of specialty
3. Identify and assess factors that contribute to the shortage of medical doctors
4. Identify the medical specialty fields primarily affected by the shortage of doctors
5. Recommend ways to alleviate shortages

Agenda

- Physician Supply, Shortages, and Maldistribution
- Medical School Graduates, Residencies, and Geriatric Training
- Recent Impacts and State Policies
- Policy Options

PHYSICIAN SUPPLY, SHORTAGES, AND MALDISTRIBUTION

Virginia Has Over 16,000 Practicing Physicians and 48% Are Primary Care Providers

| Specialty | Number | Percentage |
|---------------------------|---------------|-------------|
| Family Medicine | 2782 | 17% |
| General Internal Medicine | 2008 | 12% |
| Pediatric | 1744 | 11% |
| Radiology | 1255 | 8% |
| Obstetrics and Gynecology | 1236 | 8% |
| Psychiatry | 1209 | 7% |
| Other* | 6151 | 38% |
| Total Physicians | 16,385 | 100% |

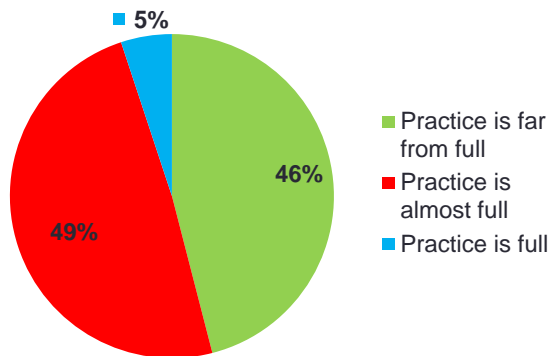
*See Appendix for additional breakout of physician specialty counts

 Primary care specialties are highlighted

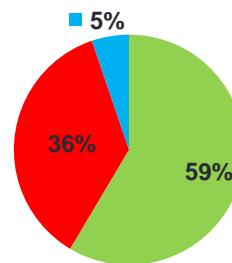
Source: Virginia Health Chart Book at <http://www.vahealthchartbook.org/> and email correspondence with GeoHealth Innovations.

46% of Physicians that Manage Patient Load Primary Work Practices Are “Far from Full”

Primary Work Location
(n= 11,621)



Secondary Work Location
(n=2,602)



Note: Number and percentage are weighted estimates of physicians that manage patient load from Department of Health Professions Physician Survey

Source: Virginia Department of Health Professions, Healthcare Workforce Data Center, *Virginia's Physician Workforce: 2012*, July 2013.

Multiple Factors Impact Specialty Choices

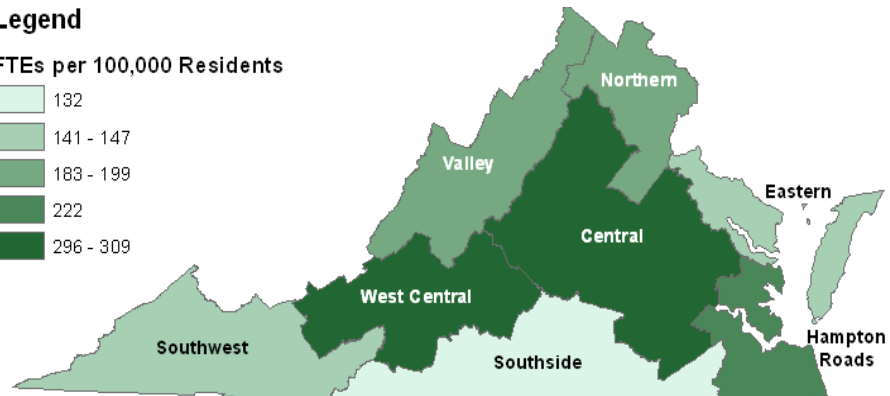
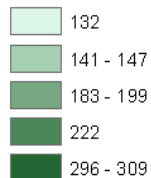
- Income gap between primary care physicians and specialists
 - “Physicians in the primary care specialties can expect to earn about \$50,000 less per year than physicians in non-primary care specialties.”
 - Virginia's Physician Workforce: 2012
- Likelihood of students choosing primary care, rural and underserved careers significantly increased by:
 - Rural birth
 - Interest in serving underserved or minority populations
 - Exposure to Title VII in medical school
 - Rural or inner-city training experiences
- Primary care physicians have uncompensated care coordination duties and other administrative burdens that specialists do not have (e.g. in managed care gatekeeper function)

Sources: The Robert Graham Center: Policy Studies in Family Medicine and Primary Care, *Specialty and Geographic Distribution of the Physician Workforce: What Influences Medical Student and Resident Choices?* 2009; Virginia Department of Health Professions, Healthcare Workforce Data Center, *Virginia's Physician Workforce: 2012*, July 2013; and Congressional Research Service, *Physician Supply and the Affordable Care Act*, January 15, 2013.

Physicians Per Person Ratios Vary by Region

Legend

FTEs per 100,000 Residents

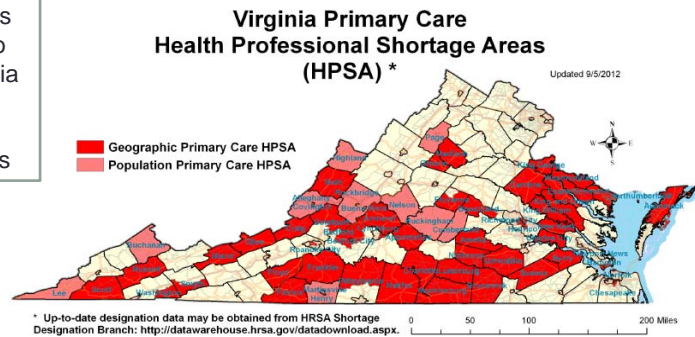


Note: Council on Virginia's Future regions are used

Source: Virginia Department of Health Professions, Healthcare Workforce Data Center, *Virginia's Physician Workforce: 2012*, July 2013.

Primary Care Shortage Areas

126 Primary Care Physician FTEs are required to eliminate Virginia Health Professional Shortage Areas



Note: Health Resources & Services Adm. (HRSA) Primary Care Health Professional Shortage designation uses full-time equivalent primary care physician to population ratios

Sources: Virginia Department of Health website at <http://www.vdh.virginia.gov/OMHHE/primarycare/shortagedesignations> and U.S. Department of Health and Human Services, Health Resources and Services Administration website at <http://bhpr.hrsa.gov/shortage/index.html>.

Current and Future Geriatrician Shortages Mean Other Providers Will Fill the Gap

- Between 2005 and 2030, the number of adults aged 65 and older in the United States will almost double (37 million to 70 million)
- Older adults use a disproportionate amount of medical services. By population, individuals over 65 years of age make up only about 12% of the U.S. population, they account for:
 - 26% of all physician office visits,
 - 47% of all hospital outpatient visits with nurse practitioners,
 - 35% of all hospital stays,
 - 34% of all prescriptions,
 - 38% of all emergency medical service responses, and
 - 90% of all nursing-home use.
- 7,356 certified geriatricians were practicing in the U.S. in 2012 and 30,000 will be needed by 2030 (American Geriatrics Society)
- Fewer than 3 percent of students in medical schools choose to take geriatric electives.

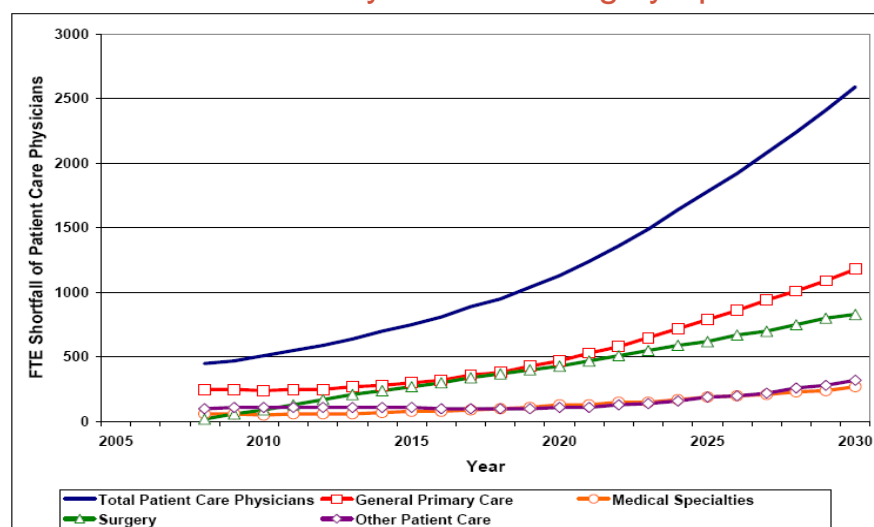
Sources: American Geriatrics Society, Projected Future Need for Geriatricians at http://www.americangeriatrics.org/files/documents/Adv_Resources/GerShortageProjected2012.pdf and, Institute of Medicine, Retooling for an Aging America: Building the Health Care Workforce at 2008, http://www.elderworkforce.org/files/documents/research/IOM_Report.pdf.

Forecasts of Specialty Physician Shortage or Surplus Should Be Considered with Caution

- The health care workforce (entry, retention, exit and re-entry) can be subject to unpredictable and variable supply-side influences.
 - Labor market factors: licensure requirements and skills portability
 - Structural workforce issues: participation levels, workforce aging, lifestyle factors and gender.
- Demand-side variables can be unpredictable as well.
 - Shifting utilization patterns of reflecting changes in consumer expectations of health care
 - Policy changes that impact pricing and payment systems
 - Number of insured and evolving service delivery models.

Source: Bipartisan Policy Center, *The Complexities of National Health Care Workforce Planning*, February 2013 at <http://bipartisanpolicy.org/sites/default/files/BPC%20DCHS%20Workforce%20Supply%20Paper%20Feb%202013%20final.pdf>.

2010 DHP Report: Projected Future Shortages Would Be Most Prevalent in Primary Care and Surgery Specialties



Source: Virginia Department of Health Professions, Healthcare Workforce Data Center, *Physician Forecasting in Virginia 2008-2030*, September 2010.

Team-Based Health Care Is More Accepted and Can Be Used to Address Shortages

Health Affairs

WORKFORCE

By Michael J. Dill, Stacie Pankow, Cese Erikson, and Scott Shipman

Survey Shows Consumers Open To A Greater Role For Physician Assistants And Nurse Practitioners

June 2013

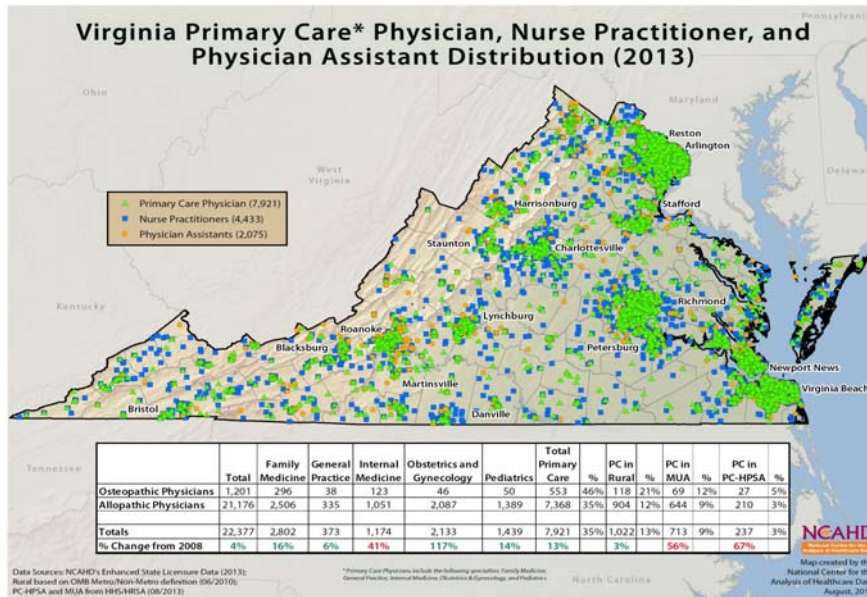
CARE TRANSFORMATION

By Linda V. Green, Sergei Savin, and Yina Lu

Primary Care Physician Shortages Could Be Eliminated Through Use Of Teams, Nonphysicians, And Electronic Communication

January 2013

Virginia Primary Care* Physician, Nurse Practitioner, and Physician Assistant Distribution (2013)



Note: Workforce-provider counts vary depending on source data and methodology. As a result, data trends are more informative than specific provider counts.

Path to Practice in the United States Is Challenging and Time-Consuming for Foreign Doctors

- To become a U.S. licensed physician an immigrant physician who has already practiced medicine in a foreign country must:
 - Pass prerequisite exams in order to apply for a residency
 - Be selected for a U.S. medical residency slot
 - Complete U.S. residency

Note: The process can take more than a decade

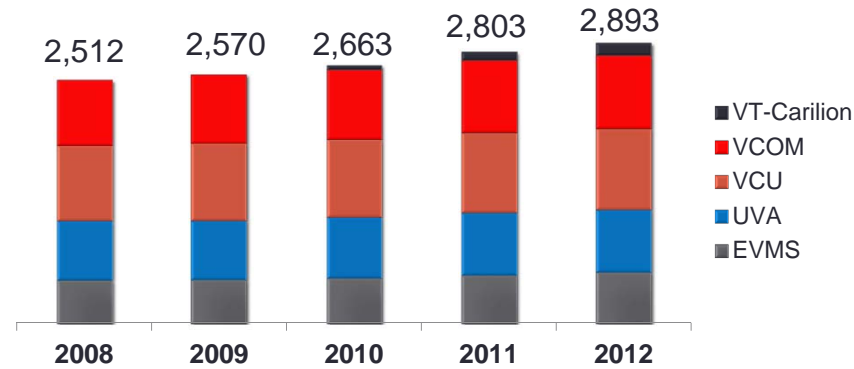
New York Times Profile: Sajith Abeyawickrama

- At age 37 came to U.S. in 2010 to marry
- Anesthesiologist in home country, Sri Lanka.
- Instead of working as a doctor, he has held a series of jobs in the medical industry, including:
 - Entering patient data into a hospital's electronic medical records system,
 - Teaching a test prep course for students trying to become licensed doctors themselves.

Source: Catherine Rampell, Path to United States Practice Is Long Slog to Foreign Doctors, New York Times, August 11, 2013.

MEDICAL SCHOOL GRADUATES, RESIDENCIES, AND GERIATRIC TRAINING

Medical School Enrollment in Virginia Has Increased 15% since 2008



Note: Liberty College of Osteopathic Medicine inaugural class is expected to begin fall 2014 and enroll 150 students each year.

Sources: American Association of Medical Colleges, Table 26: Total Enrollment by U.S. Medical School and Sex, 2008-2012 at <https://www.aamc.org/download/321526/data/2012facttable26-2.pdf>; American Association of Colleges of Osteopathic Medicine, Applications, First-Year Enrollment, Total Enrollment and Graduates by Osteopathic Medical School at http://www.aacom.org/data/studentenrollment/Documents/2008-2013_AppEnrollGrad.pdf; Liberty Journal, New dean lays groundwork for Liberty's medical school at <http://www.liberty.edu/libertyjournal/?PID=24995&MID=56751>; and College of Osteopathic Medicine receives provisional accreditation, at <http://www.liberty.edu/lucom/index.cfm?PID=28248&MID=96875>.

Resident Position Increases Are Not Expected to Keep Pace with Medical School Graduates

U.S. Medical School Enrollment

(%) increase of 2002 enrollment

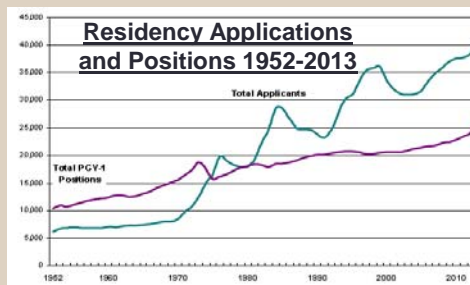
| | 2002 Enrollment | 2012 Enrollment | 2017 Projected Enrollment |
|--------------|-----------------|-----------------|---------------------------|
| M.D. | 16,488 | 19,517 (18%) | 21,434 (30%) |
| D.O. | 2,968 | 5,804 (96%) | 6,675 (125%) |
| Total | 19,456 | 25,321 (30%) | 28,109 (44%) |

U.S. RESIDENCIES (2013): 26,392 positions (PGY-1)

Applicant type matches

- 16,390 U.S. seniors
- 2,706 U.S. IMGs
- 3,601 Non-U.S. IMGs

International medical school graduates (IMGs) and students who are U.S. citizens and non-U.S. citizens apply to U.S. residencies



Sources: Inglehart, John, *The Residency Mismatch*, New England Journal of Medicine, July 25, 2013 and National Resident Matching Program, Results and Data: 2013 Main Residency Match®, National Resident Matching Program, Washington, DC. 2013.

Medicare Residency Funding Remains at 1996 Levels

Traditional Funding

1. U.S. Federal government
 - Largest supporter of graduate medical education
 - Program examples:
 - \$9.5 billion in Medicare funds
 - Funding remains at 1996 levels
 - \$2 billion in Medicaid funds
 - Department of Veterans Affairs
 - Department of Defense
2. Individual States
 - 40 states paid \$3.8 billion through Medicaid programs in 2009
3. Private insurers
 - Insurer payments to teaching hospitals are typically higher than what they pay other hospitals

Virginia Funding

- Medicaid provides funding to residencies
 - FY09 - \$36 million in Direct and Indirect Medical Education funding to private hospitals
- Virginia provides general funds for family practice residencies and medical student programs
 - 2013 allotments:
 - EVMS \$ 722,146
 - UVA \$1,349,795
 - VCU \$4,217,317

64% of physicians that completed VCU's Family Practice Residency programs will practice in Virginia

Sources: Health Affairs Policy Brief, Graduate Medical Education, August 16, 2012; Virginia Acts of Assembly Chapter 806, 2013 Session; Department of Medical Assistance Services report to JCHC, *Enhancing Direct Medical Education and Indirect Medical Education Payments*, August 30, 2011; and correspondence with representative from Virginia Department of Planning and Budget as well as Dr. Anton Kuzel, VCU Department of Family Medicine.

PPACA Residency Changes and Virginia Residency Enhancement

PPACA

Patient Protection and Affordable Care Act (PPACA) encourages the development or expansion of teaching health centers - community-based, ambulatory, patient care centers that operate a primary care residency program.

- Examples: grants and provisions allowing providers to count teaching time toward their National Health Service Corps service requirement.

New Activities

- Medical colleges are working with hospitals to develop new residencies. Examples include:
 - VCOM has collaborated with Lewis Gale Montgomery Regional Hospital (54 positions) and Danville Regional Health System (79 positions)
 - VCU and Patient First
 - Pilot to allow third-party payer reimbursement for 3rd year residents who work at Patient First sites, which may lead to hybrid private practice/residency program model.

Source: Congressional Research Service, Physician Supply and the Affordable Care Act, January 15, 2013 and email correspondence with representatives from Via College of Osteopathic Medicine and the Medical Society of Virginia.

Geriatric and Team-Based Training Has Improved in Virginia

Virginia Geriatric Education Center

- VCU, UVA, and EVMS Collaboration
- Established in 2010
- Funded by \$2.1 million HRSA grant for 5 years

Goals

- **Geriatric Faculty:** Support training and retraining of faculty
- **Students:** Provide clinical training in geriatrics in diverse health care settings
- **Active Practitioners:** Support continuing education of health professionals who provide geriatric care
- **Curricula:** Develop, evaluate, and disseminate information relating to geriatric care

VCU Medical School Training

- New requirement: Unfolding geriatric case of "Mattie Johnson", virtual patient
- 7-9 person teams composed of senior professional students in medicine, nursing, pharmacy, and social work
- 11 week training
- Training platform allows for virtual collaboration
- Case focuses on 26 core geriatric competencies
- Measures individual and group performance, as well as collaborative behaviors

Sources: Virginia Center on Aging, Director's Editorial, Filling the Gap, Edward F. Ansello, Ph.D, Fall 2010 at <http://www.sahp.vcu.edu/vcoa/editorials/pdfs/fall10.pdf> and JCHC staff email correspondence with Dr. Peter Boling, VCU Medical School professor.

RECENT IMPACTS AND STATE POLICIES

Health Care Workforce Regulation, Coordination, and Information Efforts

- Department of Health Professions
 - Workforce Data Center
 - Surveys of many DHP professions including physicians, nurse practitioners, physician assistants, and pharmacists.
 - HB 1535 (2011): Allow Boards of Medicine and Nursing to consider and accept relevant military training in lieu of education requirements
 - Military Credentials Review
- Virginia Health Workforce Development Authority
 - HB 1304 (2010): Facilitates “the development of a statewide health professions pipeline that identifies, educates, recruits, and retains a diverse, geographically distributed and culturally competent quality workforce.”
 - In 2010, received a federal Health Resources and Services Administration (HRSA) grant of \$1.9 million

Telemedicine

- Telemedicine coverage is mandated for reimbursement in state-regulated private market
 - Senate Bill 675 (Wampler-2010): Requires insurers to reimburse for the cost of such health care services provided through telemedicine services.
- Virginia’s Medicaid program reimburses statewide for telemedicine services since 2003.
- Certified Telemedicine Technologist training is being developed at New College Institute
 - Program begins in early 2014
 - 250 initial enrollment (*estimate*)
 - Training geared toward medical professionals, including doctors, nurses, emergency medical technicians, and home health aides
 - Partially grant-funded by Virginia Workforce Health Development Authority.

Sources: Jeff Nelson, *Reimbursement Panel*, Mid-Atlantic Telehealth Resource Summit on March 15, 2012 at http://matrc.org/docs/ThursdayTh_ReimbursementPanel-Nelson.pdf, Martinsville Bulletin, NCI plans new telemedicine program, February 28, 2013, at <http://www.martinsvillebulletin.com/article.cfm?id=36767> and phone conversation with an academic affairs representative from New College Institute on August 23, 2013.

Federal-State Provider Placement Programs

Federal Virginia State Loan Repayment Program (SLRP)

- HRSA provides 1:1 match rate from state or community up to \$400,000
- Repayment provided to certain health care practitioners to serve in HPSA
- No currently dedicated State General Funds

Conrad 30 J-1 Waiver Program

- VDH can request a J-1 visa waiver for non-U.S. citizen IMG physicians who have completed their residency that agree to practice in an underserved area
 - Maximum of 30 per year
 - *Note:* VDH also participates in the Appalachian Regional Commission (ARC) J-1 Visa Waiver Program, which can request additional J-1 visas waivers in a health care professional shortage areas.

| Federal Fiscal Year | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
|-----------------------|------|------|------|------|------|------|
| Loan Repayment (SLRP) | 16 | 7 | 0 | 6 | 1 | 5 |
| Conrad J-1 Waiver | 21 | 13 | 20 | 24 | 30 | 30 |

Source: Document provided to JCHC staff by representatives of the Virginia Department of Health's Office of Minority Health and Health Equity.

Legislative Changes on Collaborative Practice Allow for More Team-Based Care

| | Nurse Practitioner | Physician Assistant | Pharmacist |
|--------------------------|---|---|--|
| # Practicing in Virginia | 6,056 | 1,891 | 5,554 |
| Legislation | HB 346 (O'Bannon-2012) | SB 106 (Edwards-2013) | HB 1501 (O'Bannon-2013) |
| Legislative Impact* | <ul style="list-style-type: none"> • Physician to NP ratio changed from 1:4 to 1:6 • No in-person requirement | Physician to PA ratio changed from 1:2 to 1:6 | Pharmacist may collaborate with NP or PA |

* See appendix for additional elements of legislation

Sources: Virginia Department of Health Professions, Healthcare Workforce Data Center Publications: *Virginia's Physician Assistant Workforce: 2010-2011*; March 2013; *Virginia's Pharmacist Workforce: 2011*, June 2011; and *Virginia's Nurse Practitioner Workforce: 2011-2013*, August 2013.

Approved Physician-Related Options from the JCHC 2009 Workforce Pipelines Study

Approved Policy Options for “When State revenue allows”

| | |
|---|---|
| Restore funding for the Federal Virginia State Loan Repayment Program (SLRP) & Virginia Loan Repayment Program (VLRP). | <i>See Option 2</i> |
| Increase funding for the UVA, VCU, and EVMS Family Practice Residency Programs. | <i>See Option 4B</i> |
| Increase Medicaid reimbursement rates to match the level of Medicare reimbursement rates for primary care physicians | <i>PPACA increased rate in CY2013 and CY2014</i> |
| Fund a Continuing Medical Education course focusing on medication issues of geriatric patients and targeted for primary care physicians to take at no cost to them. | <i>Virginia Geriatric Education Center provides such training</i> |

POLICY OPTIONS

Policy Options

Option 1: Take no action.

Option 2: Introduce a budget amendment of \$400,000 GFs for the Federal Virginia State Loan Repayment Program (SLRP) in order to:

- Restore funding to the maximum amount that is eligible for the 1:1 federal match rate
- Note: The SLRP eligibility is limited to physicians, nurse practitioners, and physician assistants who are practicing/working in family medicine, internal medicine, geriatrics, pediatrics, obstetrics/gynecology, or general psychiatry.

Option 3: Request, by letter of the JCHC Chair, the Department of Health Professions present to JCHC in 2014 regarding efforts to accept applicable military training and education toward credentialing and licensure requirements for certain selected professions. The presentation should include an update on the work of the Joint Task Force on Veterans Employment Outreach and the DHP review of health-related professions that is underway.

Option 4: Request, by letter of the JCHC Chair, that the Virginia Health Workforce Development Authority convene a workgroup to consider and report back to JCHC in 2015 regarding the advisability of, and if advisable, develop recommendations regarding:

- A. The need for a training program for graduate medical educators to teach residents requisite medical skills and ensure that medical residents in Virginia are adequately trained. If recommended, provide a training-program framework and funding requirements.
- B. A funding model for *new* State-supported family medicine residencies that could be used *if* the State increases appropriations for graduate medical education training. The model should include:
 - Consideration of whether funding would be used exclusively for resident training, where residencies would be located, and what the community or medical facility match-rates would be.
- C. The workgroup should include, at a minimum, representatives of:

| | |
|-------------------------------------|---|
| Board of Medicine | Virginia Association of Free and Charitable Clinics |
| Medical schools located in Virginia | Virginia Community Health Center Association |
| Medical Society of Virginia | Virginia Department of Health |
| Other relevant organizations | Virginia Hospital and Healthcare Association |
| | Virginia Rural Health Association |

Note: Options 4 A and 4 B maybe approved individually or in combination.

Option 5: Request, by letter of the JCHC Chair, that the Department of Health Professions convene a workgroup to consider and report back to JCHC in 2015 regarding the advisability of, and if advisable, the additional education or training requirements and next steps to:

- A. Establish a mid-level provider license and thereby define the requirements for individuals, who are licensed to practice medicine in another country, to be licensed to practice under the supervision of a physician licensed in Virginia.
- B. Establish a mid-level provider license and thereby define the requirements to allow medical school graduates who have not completed a residency to be licensed to practice under the supervision of a physician licensed in Virginia.
- C. The workgroup should include, at a minimum, representatives of:

| | |
|-------------------------------------|---|
| Board of Medicine | Virginia Association of Free and Charitable Clinics |
| Medical schools located in Virginia | Virginia Community Health Center Association |
| Medical Society of Virginia | Virginia Department of Health |
| Other relevant organizations | Virginia Hospital and Healthcare Association |
| | Virginia Rural Health Association |

Note: Options 5A and 5B maybe approved individually or in combination.

Option 6: Introduce legislation to amend Titles 32.1 (Health) and 54.1 (Professions and Occupations) of the *Code of Virginia* to allow certain providers working within an approved facility to be exempt from Virginia's scope of practice laws when established conditions have been met.

The providers, who would be eligible for scope of practice exemptions and therefore be allowed to perform activities that would otherwise require a license from the Boards of Medicine, Nursing, Pharmacy, or Physical Therapy (hereafter referred to as "permitted providers") would include one or more of the following:

- A. **Military-trained Personnel:** Applies only to individuals performing activities substantially similar to health care training and experiences that they received in the military.
- B. **Individuals Licensed in Other States:** Applies only to individuals, licensed by a health professionals' regulatory body in another state, who perform activities within their level of training but will not perform activities that exceed those approved for a similarly-trained professional licensed in Virginia.
- C. **Non-specific Grouping:** Applies only to individuals that have the requisite education or training to perform the designated activities. Practice activities may be limited by the hospital or hospital governing body for individuals practicing under this exemption within its facility. Furthermore, additional limitations may be set by the provider's supervising physician through the practice agreement.

See next 2 slides for additional requirements in order for supervising physicians, permitted providers, and hospitals to participate.

Option 6: Additional Requirements

Requirements of the supervising physician:

- To affirm that the permitted provider has the requisite education or training to perform the designated activities.
- To ensure that the permitted provider does not practice outside of the agreement limitations.
- To supervise no more than one permitted provider while supervising no more than two additional physician assistants or while participating in a collaborative practice agreement with no more than two nurse practitioners.
- To report to the State, any instance of a permitted provider performing an activity outside of the limitations allowed in the practice agreement.

Permitted providers are not allowed to:

- Possess or administer Schedules 1-5 controlled substances.
- Engage in activities they are not adequately trained to perform.
- Engage in activities that are not documented within a practice agreement maintained by the Department of Health Professions.

Permitted providers are required to meet continuing education requirements.

Option 6: Additional Requirements

Requirements of the hospital or hospital's governing body:

- Must receive a new type of State facility license that provides for scope of practice exemptions for that specific hospital or hospital's governing body.
- Must ensure a practice agreement is in place and is adhered to by any permitted provider who will be performing activities that would otherwise require a professional license to practice in Virginia.
- Must obtain a criminal background check for each permitted provider.
- Must provide the Department of Health Professions with the practice agreement for each permitted provider.
- Must report to the State all instances of a permitted provider performing an activity outside of the limitations allowed in the practice agreement.
- Must notify patients of all permitted providers who are providing medical care at the facility.

Public Comment

- Written public comments on the proposed options may be submitted to JCHC by close of business on October 8, 2013.
- Comments may be submitted via:
 - E-mail: sreid@jchc.virginia.gov
 - Fax: 804-786-5538
 - Mail: Joint Commission on Health Care
P.O. Box 1322
Richmond, Virginia 23218
- Comments will be summarized and presented during JCHC's October 22nd meeting.

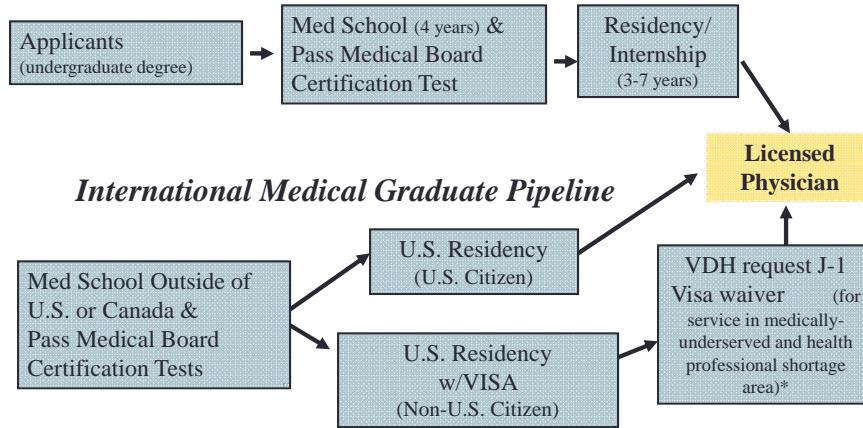
APPENDIX

- Training to Become a Physician
- Health Care Practitioner Supply
- PPACA Health Care Insured Increases
- Health Care Practitioner Shortages
- Collaborative Practice Legislation
- Health Care Workforce Resources

Appendix: Training to Become a Physician

Virginia's Two Physician Pipelines

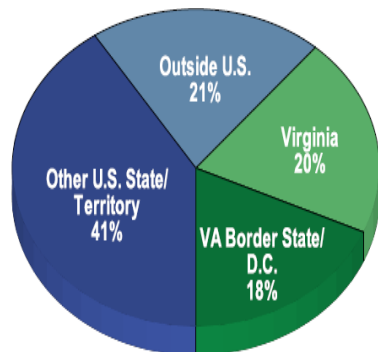
Traditional Pipeline



Sources: Annual report on the Primary Care Workforce and Health Access Initiatives – VDH (2006). Discussion with Virginia Board of Medicine representatives, *The International Medical Graduate Pipeline: Recent Trends in Certification and Residency Training*, John Boulett, *Health Affairs* Vol 25:2 p469.

Appendix: Training to Become a Physician

20% of Virginia's Physicians Attended a Medical School In Virginia



35% of Virginia's medical school graduates locate in Virginia
 – American Association of Medical Colleges

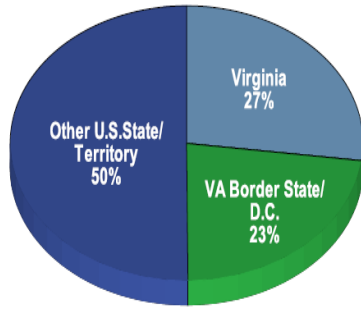
| State | Weighted Estimate | % |
|---------------------|-------------------|-------------|
| Virginia | 3,915 | 20% |
| Outside U.S./Canada | 3,842 | 21% |
| Pennsylvania | 1,309 | 7% |
| Washington, D.C. | 1,220 | 6% |
| New York | 1,170 | 6% |
| Maryland | 781 | 4% |
| North Carolina | 655 | 3% |
| All Other Locations | 6,369 | 33% |
| Total | 19,260 | 100% |

| Institution | Weighted Estimate | % |
|----------------------------------|-------------------|-----|
| Virginia Commonwealth University | 1,879 | 10% |
| University of Virginia | 1,275 | 7% |
| Eastern Virginia Medical School | 779 | 4% |

Source: Virginia Department of Health Professions, Healthcare Workforce Data Center, *Virginia's Physician Workforce: 2012*, July 2013.

Appendix: Training to Become a Physician

50% of Virginia's Physicians First Residency Location Was in Virginia or a Bordering State

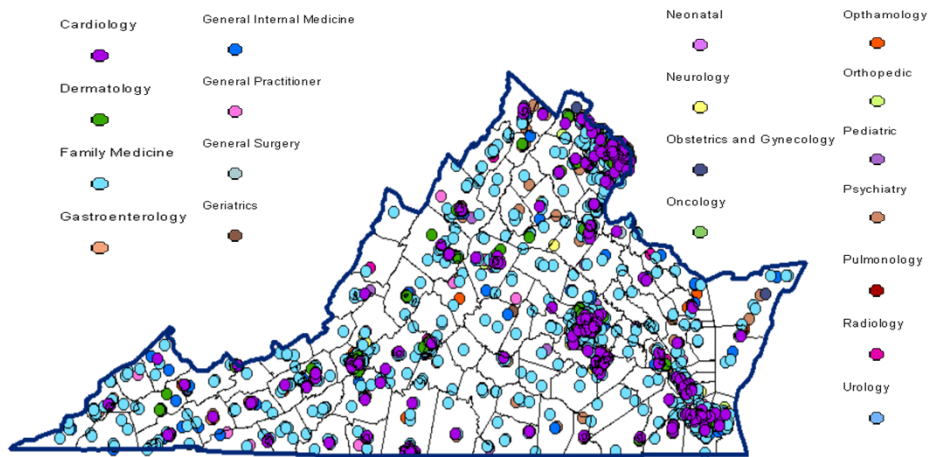


| State | Weighted Estimate | % |
|---------------------|-------------------|-------------|
| Virginia | 5,057 | 27% |
| Washington, D.C. | 1,817 | 10% |
| New York | 1,790 | 10% |
| Pennsylvania | 1,292 | 7% |
| Maryland | 1,068 | 6% |
| North Carolina | 795 | 4% |
| Ohio | 653 | 4% |
| California | 629 | 3% |
| All Other Locations | 5,450 | 29% |
| Total | 18,552 | 100% |

39% of Virginia's residency graduates locate in Virginia
 – American Association of Medical Colleges

Source: Virginia Department of Health Professions, Healthcare Workforce Data Center, *Virginia's Physician Workforce: 2012*, July 2013.

Appendix: Health Care Practitioner Supply



Virginia Physician Specialty Supply Map

Source: Virginia Health Chart Book at <http://www.vahealthchartbook.org/>.

Appendix: Health Care Practitioner Supply

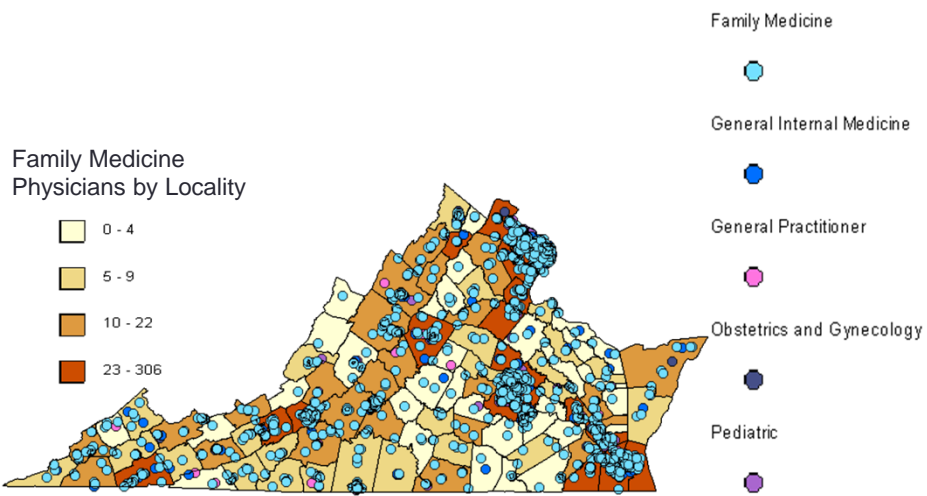
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| Radiology | 1255 | 8% |
| Obstetrics and Gynecology | 1236 | 8% |
| Psychiatry | 1209 | 7% |
| Cardiology | 1011 | 6% |
| General Surgery | 790 | 5% |
| Orthopedic | 760 | 5% |
| Ophthalmology | 707 | 4% |
| Neurology | 630 | 4% |
| Gastroenterology | 534 | 3% |
| Dermatology | 374 | 2% |
| Pulmonology | 335 | 2% |
| Urology | 335 | 2% |
| Oncology | 286 | 2% |
| Neonatal | 140 | 1% |
| General Practitioner | 135 | 1% |
| Geriatrics | 99 | 1% |
| Oral Surgery | 15 | 0% |
| Total | 16385 | 100% |

Source: Virginia Health Chart Book at <http://www.vahealthchartbook.org/> and email correspondence with GeoHealth Innovations.

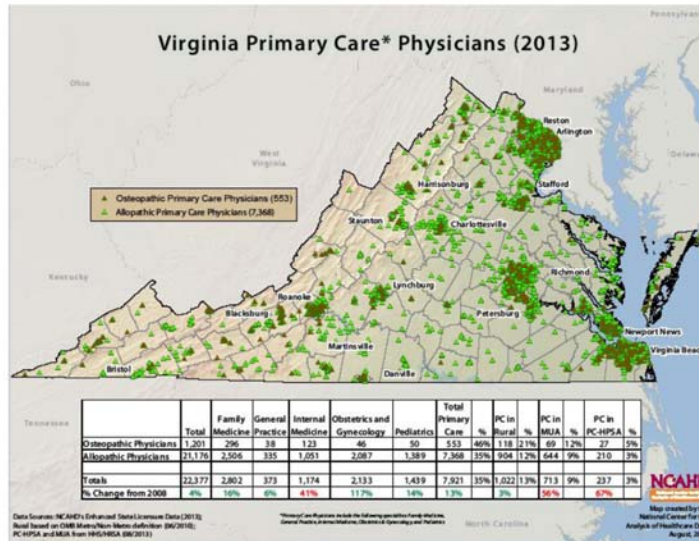
Appendix: Health Care Practitioner Supply

Virginia Primary Care Physician Supply

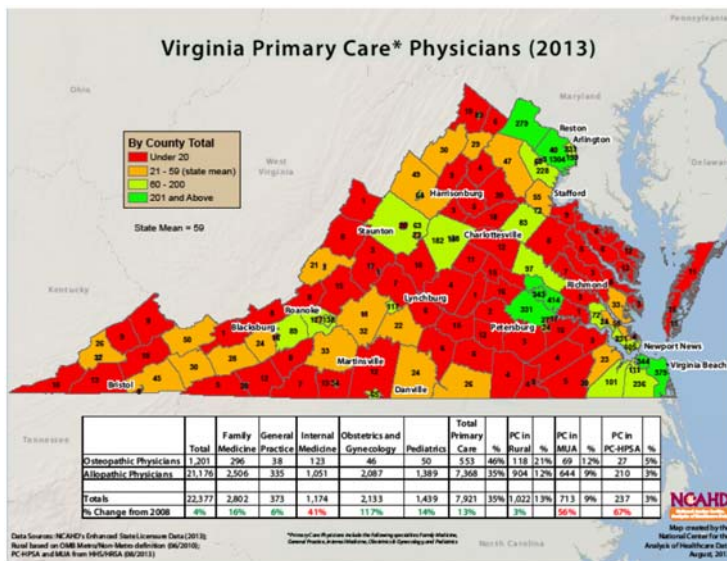


Source: Virginia Health Chart Book at <http://www.vahealthchartbook.org/>.

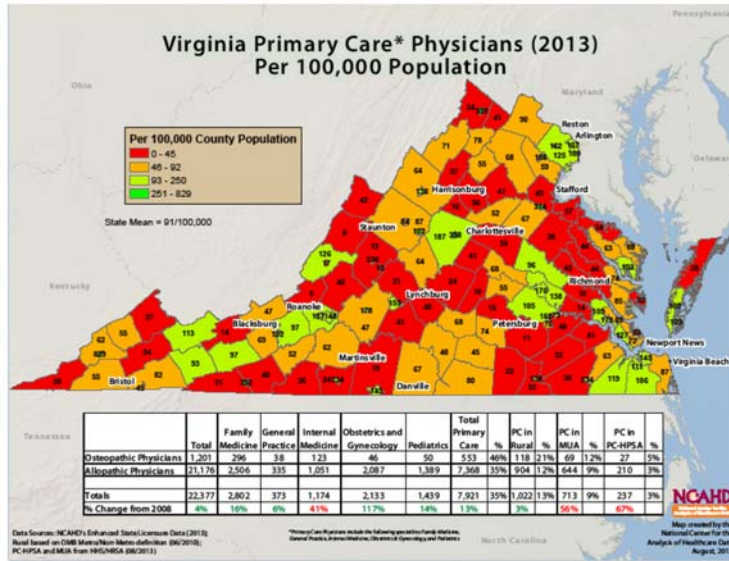
Appendix: Health Care Practitioner Supply



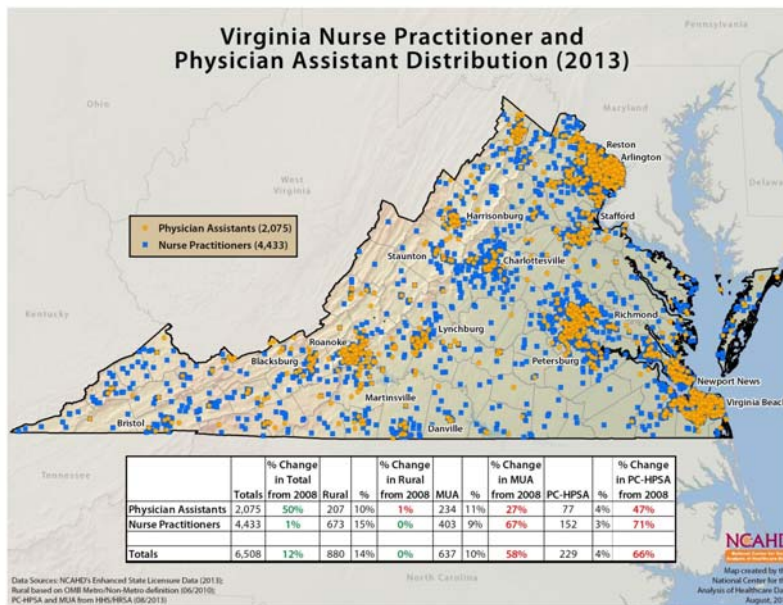
Appendix: Health Care Practitioner Supply



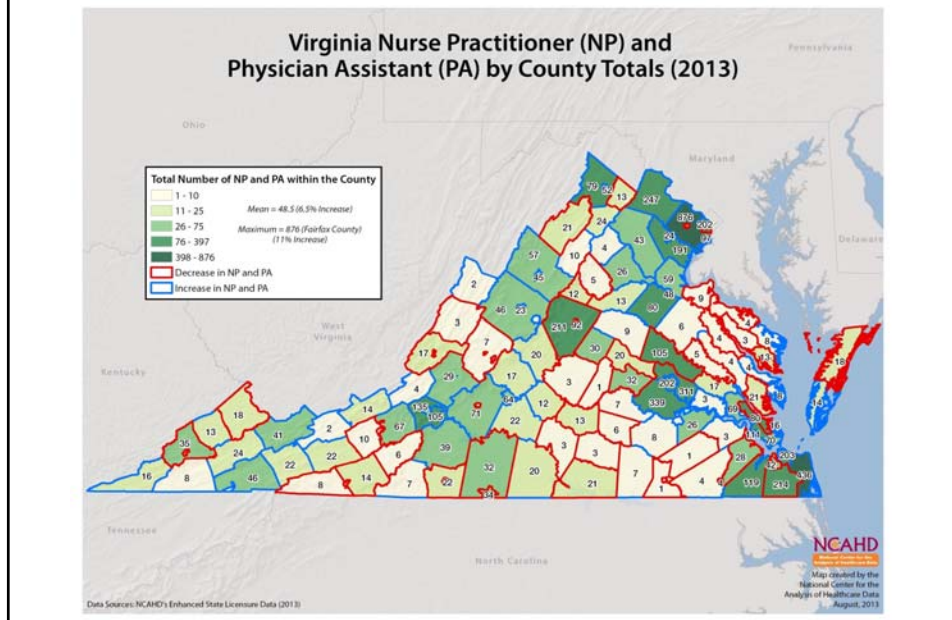
Appendix: Health Care Practitioner Supply



Appendix: Health Care Practitioner Supply



Appendix: Health Care Practitioner Supply



Appendix: PPACA Health Care Insured Increases

PPACA Impacts Commercially Insured and Medicaid Providers

Newly Insured

- Private-market newly-insured through Health Benefits Exchange
 - Estimated 775,000 eligible
- Potential Medicaid expansion
 - Estimated 247,000 individuals if expansion occurs

Medicaid Providers

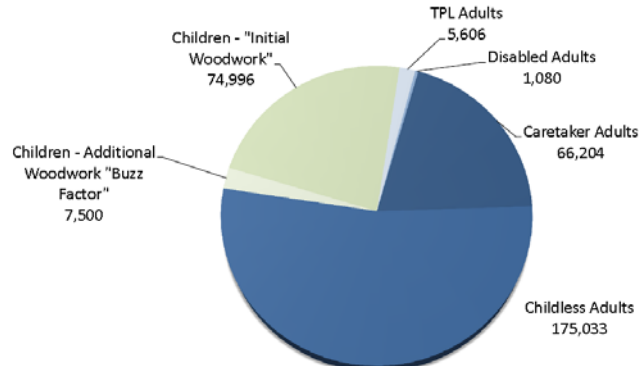
- 61% of Virginia physicians participate in the Medicaid program
- 53% of Virginia physicians are accepting new Medicaid payments
- Medicaid primary care providers will receive a rate increase to Medicare rate level for calendar years 2013 and 2014

Sources: Department of Medical Assistance Services, DMAS Estimates of ACA Costs and Savings, at Medicaid Innovation and Reform Commission, August 19, 2013, at http://dmire.virginia.gov/documents/08-19-13/Costs_of_Medicaid_Expansion.pdf; Virginia Department of Health Professions, Healthcare Workforce Data Center, *Virginia's Physician Workforce: 2012*, July 2013, and Richmond Times Dispatch, Va. OKs health plans for new exchange, Aug. 23, 2013 at http://www.timesdispatch.com/news/state-regional/va-oks-health-plans-for-new-exchange/article_f54b3af4-fb3d-546b-b5f8-e35f37ba68ed.html

Appendix: PPACA Health Care Insured Increases

Medicaid Expansion Population and "Woodwork" Effect

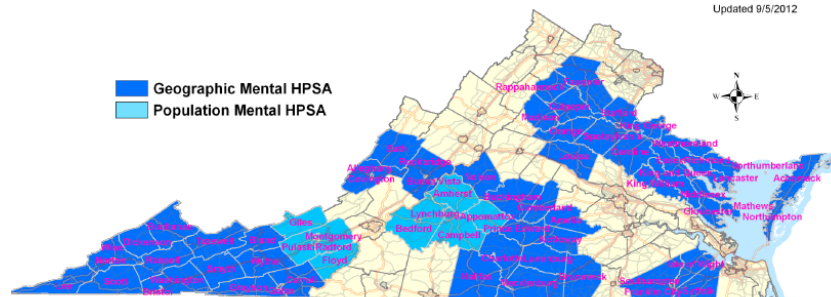
As a result of the ACA, Virginia estimates **74,996** currently eligible children will enroll in Medicaid ("woodwork"). If Virginia chooses to expand Medicaid, an estimated **7,500** additional currently eligible children would be expected to enroll in Medicaid and **247,923** newly-eligible individuals would be likely to take up Medicaid coverage



Sources: Department of Medical Assistance Services, DMAS Estimates of ACA Costs and Savings, at Medicaid Innovation and Reform Commission, August 19, 2013, at http://mirc.virginia.gov/documents/08-19-13/Costs_of_Medicaid_Expansion.pdf.

Appendix: Health Care Practitioner Shortages

Virginia Mental Health Professional Shortage Areas (HPSA) *



* Up-to-date designation data may be obtained from HRSA Shortage Designation Branch: <http://datawarehouse.hrsa.gov/datadownload.aspx>.

Note: HPSA Mental Health Professional Shortage Area designation uses different provider to population ratios depending on whether a psychiatrist or core mental health professional (psychiatrist, clinical psychologist, clinical social worker, psychiatric nurse specialist, family and marriage therapist).

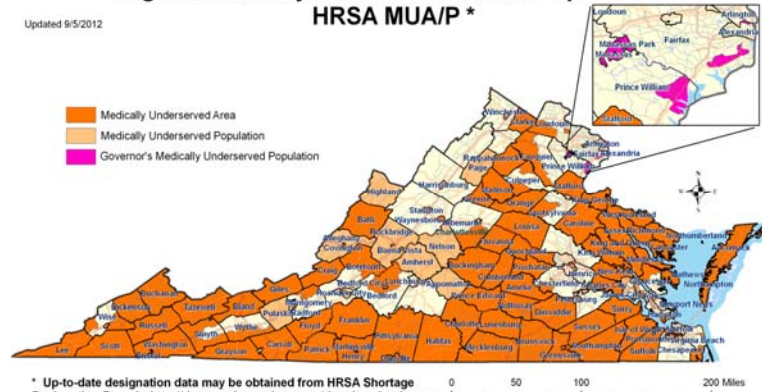
Sources: Virginia Department of Health website at <http://www.vdh.virginia.gov/OMHHE/primarycare/shortagedesignations> and U.S. Department of Health and Human Services, Health Resources and Services Administration website at <http://bhpr.hrsa.gov/shortage/index.html>.

Appendix: Health Care Practitioner Shortages

Virginia Medically Underserved Areas/Populations

HRSA MUA/P *

Updated 9/5/2012



* Up-to-date designation data may be obtained from HRSA Shortage Designation Branch: <http://datawarehouse.hrsa.gov/datadownload.aspx>.

Note: HPSA's Medically Underserved Area/Population designation uses four variables: 1) ratio of primary medical care physicians per 1,000 population, 2) infant mortality rate, 3) percent of the population with incomes below the poverty level, and 4) percent of population age 65 or over.

Sources: Virginia Department of Health website at <http://www.vdh.virginia.gov/OMHHE/primarycare/shortagedesignations> and U.S. Department of Health and Human Services, Health Resources and Services Administration website at <http://bhpr.hrsa.gov/shortage/index.html>.

Appendix: Collaborative Practice Legislation

HB 346 (2012) Nurse Practitioner Collaborative Practice Legislation

- “Patient Care Team Physician” means a physician who is actively licensed to practice medicine in the Commonwealth, who regularly practices medicine in the Commonwealth, and who provides management and leadership in the care of patients as part of patient care team
- No requirement for MD to regularly practice at the same location
- Collaboration and consultation may be via telemedicine
- Ratios increased from 4:1 to 6:1
- Periodic review of patient records, no requirements for site visits

Appendix: Collaborative Practice Legislation

HB 1501 (2013) Pharmacist Collaborative Practice Legislation

- Clarifies with whom pharmacist may enter into agreement (adds nurse practitioners, PAs, and physician's office)
- Patient must notify prescriber to opt out
- Prescriber may elect for patient to not participate by contacting pharmacist or documenting on prescription
- Clarifies agreement may be in writing or electronic
- Authorizes pharmacist to implement drug therapy following diagnosis by prescriber

Appendix: Health Care Workforce Resources

- Virginia Atlas
<http://www.atlasva.com/>
- Virginia Chartbook
<http://www.vahealthchartbook.org/>
- Department of Health Professions: Health Workforce Data Center
<http://www.dhp.virginia.gov/hwdc/default.htm>
- Virginia Rural Health Resource Center
<http://www.vrhrc.org/>
- National Center for the Analysis of Healthcare Data
<http://www.ncahd.org/>

Appendix: Health Care Workforce Resources

DHP Healthcare Workforce Data Center Current Surveys

- Assisted Living Facility Administrators
- Audiologists
- Certified Nurse Aides
- Clinical Psychologists
- Dental Hygienists
- Dentists
- Doctors of Osteopathy
- Licensed Clinical Social Workers
- Licensed Practical Nurses
- Licensed Professional Counselors
- Medical Doctors
- Nurse Practitioners
- Nursing Home Administrators
- Pharmacists
- Pharmacy Technicians
- Physical Therapists
- Physical Therapy Assistants
- Physician Assistants
- Registered Nurses
- Speech-Language Pathologists