

Analysis of Health Workforce Pipelines

Physicians, Psychiatrists, Dentists,
Clinical Psychologists and Pharmacists

Joint Commission on Health Care
October 23, 2008

Stephen W. Bowman
Senior Staff Attorney/Methodologist

Agenda

- Study Background
- Health Profession Pipelines
 - Physicians
 - Psychiatrists
 - Dentists
 - Clinical Psychologists
 - Pharmacists
- Year Two Activities
- Policy Options

Study Background



A Workforce Analysis for Multiple Health Professions Allows for Better Assessments and Prioritizations

Past studies have
addressed individual
health professions

Past Studies which in part Addressed Virginia Health Workforce Shortages

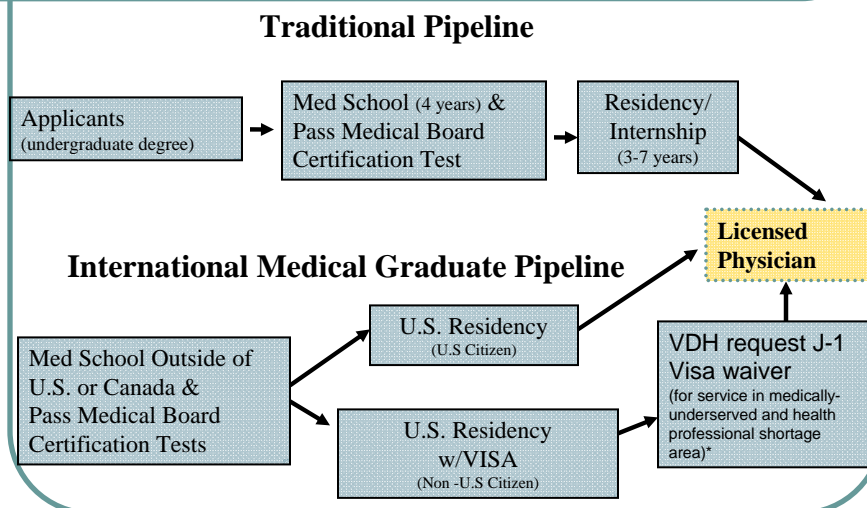
- Child Psychiatrists – JLARC 2007
- Dental Care Shortage Areas– VDH Annually
- Dentists – JCHC 2000
- Geriatricians – JCHC 2006
- Mental Health Shortage Areas - VDH Annually
- Nurses – SCHEV 2004
- Obstetricians/gynecologists – JCHC 2004
- Pharmacists – JCHC 2001
- Primary Care Physicians– JCHC 2000 & 2001
- Primary Care Shortage Areas– VDH Annually
- Psychiatrists – JLARC 2007

Comparisons of training requirements, duration of education, state funding, supply and demand for the different health profession areas provide the best insights for decision-making.

Physician Pipeline




Virginia's Two Physician Pipelines



* Limited to 30 per year per state.

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 Trainings*, John Boulett, Health Affairs Vol 25:2 p469.

2,425 Students Are Currently Enrolled in Virginia Medical Schools




	Total Enrollment (2008)	2008 entering class-size	% in-state 2008 entering class	2012 entering class-size (Estimated)	2008 Graduates
Eastern Virginia Medical School (Norfolk)	445	115	64%	135	107
University of Virginia School of Medicine (Charlottesville)	559	145	54%	160	130
Virginia Commonwealth University School of Medicine (Richmond)	741	192	58%	192	181
Edward Via Virginia College of Osteopathic Medicine - VCOM (Blacksburg)	680	191	30%	191	139
Virginia Tech Carilion School of Medicine (Roanoke) <i>[Opens August 2010]</i>	200 <i>(Expected)</i>	40 <i>(Expected)</i>			
Total (2008)	2,425	643	50%	678	557

Sources: JCHC email correspondence with each institution and SCHEV. Va. Medical School Takes Shape, Smith and Hardy, Richmond Times Dispatch, January 3, 2007 & WSLS video report, McNew, May 22, 2008 http://www.wsls.com/sls/news/local/article/roanoke_medical_school_has_a_name/11444/

7

\$50.6 Million General Funds Were Spent Toward Medical School Education in 2007-08



	Tuition in-state (2008-2009)	Tuition out-of-state (2008-2009)	2007-08 General funds* (in millions)	2007-08 Non-General funds* (in millions)	2007-08 General funds/per student*
Eastern Virginia Medical School (Norfolk)	\$ 23,980	\$ 44,328	\$ 15.1	\$ 0	\$ 33,786
University of Virginia School of Medicine (Charlottesville)	\$ 32,650	\$ 42,650	\$ 16.6	\$ 31.8	\$ 29,733
Virginia Commonwealth University School of Medicine (Richmond)	\$ 25,390	\$ 38,892	\$ 16.9	\$ 20.8	\$ 22,833
Edward Via Virginia College of Osteopathic Medicine - VCOM (Blacksburg)	\$ 32,900	\$ 32,900	\$ 0	\$ 0	\$ 0
Virginia Tech Carilion School of Medicine (Roanoke) <i>[Opens August 2010]</i>					
Total (2008)	\$ 28,794 (average)	\$ 39,740 (average)	\$ 50.6	\$ 52.8	

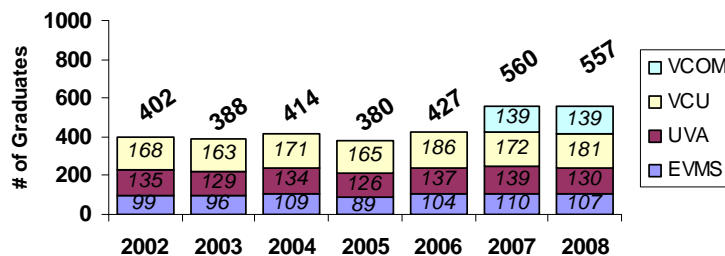
* Totals do not include Family Practice Program (residencies) and Area Health Center funding

Sources: JCHC email correspondence with each institution and SCHEV. Va. Medical School Takes Shape, Smith and Hardy, Richmond Times Dispatch, January 3, 2007 & WSLS video report, McNew, May 22, 2008 http://www.wsls.com/sls/news/local/article/roanoke_medical_school_has_a_name/11444/

8

557 Graduated from Virginia's Medical Schools in 2008

Virginia Medical Graduates 2002-2008



Sources: American Association of Medical Schools and email correspondence with institutions

9

Most Virginia Physicians Were Not Trained in the Commonwealth

- 25% of Virginia physicians were trained in the Commonwealth
 - Virginia educates the national average of medical students per population (~25 per 100,000 population)
- 36% of Virginia's medical school graduates practice in Virginia
 - Nationally 30% of active physicians attended an in-state medical school

Sources: Email correspondence with institutions and *Physician Supply and Requirements in Virginia, 2010 and 2015*, Mick, Nayar, and Caretta, July 2007

10

Virginia Generalist Initiative (VGI)

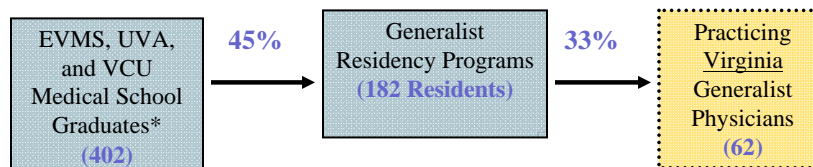
- **Generalist Specialties:**
 - Family Practice
 - Internal Medicine
 - Pediatrics
- **Situation:** In 1994, the number of new generalist physicians were declining
- **Result:** The Virginia Generalist Initiative was created to enhance generalist education in Virginia to increase the number of generalist physicians entering the field.
 - EVMS, UVA, and VCU participated

11

Annually, Virginia Adds 62 Practicing Generalists through Generalist Initiative Programs

EVMS, UVA, VCU Generalist Pipeline for Virginia

Average 2005-2007



Note: Nationally 40% of medical school graduates enter generalist programs

Note: 53% (99) of EVMS, UVA, VCU medical school graduates that completed a generalist residency entered generalist practice (whether in-state or out-of-state)

900 Virginia general practitioners have been through the Generalist Initiative programs since 1996.

* Does not include VCOM as its first graduating class was 2007. Source: 2007 Progress Report of the Virginia Generalist Initiative Program

12

50% of Offered Residency Slots Are for Generalist Positions

Virginia Residencies - National Residency Match Program	# of Offered Positions	# of Positions Filled	% Filled
Total Open Virginia Residency Positions (2008)	460	428	93%
Internal Medicine	101	94	93%
Family Medicine	65	56	86%
Pediatrics	53	53	100%
Internal Medicine/Family	3	3	100%
Internal Medicine/Pediatrics	6	1	17%
Surgery-General	51	40	78%
Emergency Medicine	28	28	100%
Psychiatry	24	24	100%

Green Highlight denotes Generalist Residencies

Source: Results and Data, 2008 Main Residency Match, Nation Resident Matching Program, April 2008

13

Only Generalist and General Surgery Residencies Were Not 100% Filled

Virginia Residencies - National Residency Match Program	# of Positions Offered	# of Positions Filled	% Filled
Radiology-Diagnostic	23	23	100%
Anesthesiology	22	22	100%
Obstetrics and Gynecology	20	20	100%
Neurology	12	12	100%
Physical Medicine and Rehabilitation	12	12	100%
Orthopedic Surgery	10	10	100%
Pathology-Anatomic and Clinical	10	10	100%
Otolaryngology	8	8	100%
Dermatology	6	6	100%
Radiation Oncology	4	4	100%
Plastic Surgery	2	2	100%

Source: Results and Data, 2008 Main Residency Match, Nation Resident Matching Program, April 2008

14

Virginia Has 36 First-Year Psychiatry Residents

Virginia Psychiatry Residents

(4 year duration)

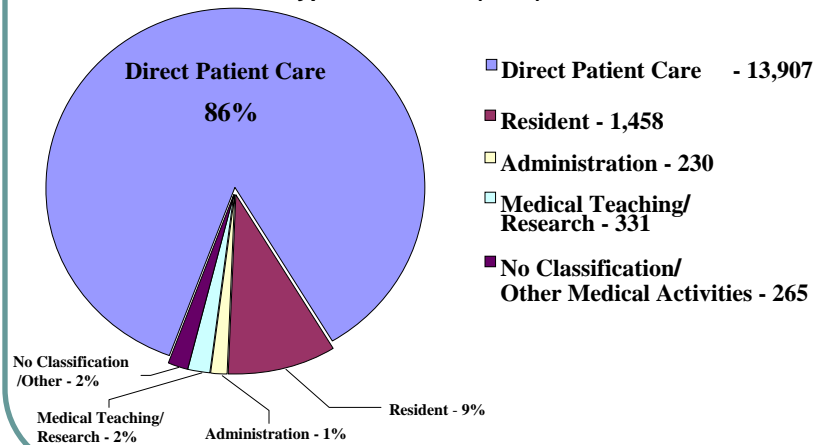
	# 1 st Year Residents	# Total Residents
UVA (Charlottesville)	10	40
VCU (Richmond)	9	38
Carilion Clinic (Roanoke)	9	32
Naval Medical Center (Portsmouth)	4	20
EVMS (Norfolk)	4	15
Virginia Residents	36*	145

*Total Virginia 1st Year Residents (36) are greater than slide 11 2008 Psychiatry residency slots because residency programs can accept certain individuals outside the residency match.
Sources: JCHC email correspondence with each institution's psychiatry residency coordinator.

15

86% of Virginia's Practicing Physicians Are Involved in Direct Patient Care

Type of Practice (2005)

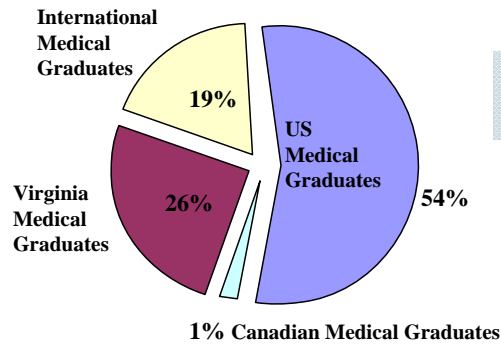


Source: Physician Supply and Requirements in Virginia, 2010 and 2015, Mick, Nayar, and Caretta, July 2007

16

26% of Physicians in Direct Patient Care Graduated from a Medical School in Virginia

% of Virginia's Clinically Active Physicians by Country of Medical Education (2005)



Note: Many IMGs provide medical care in Virginia's underserved areas

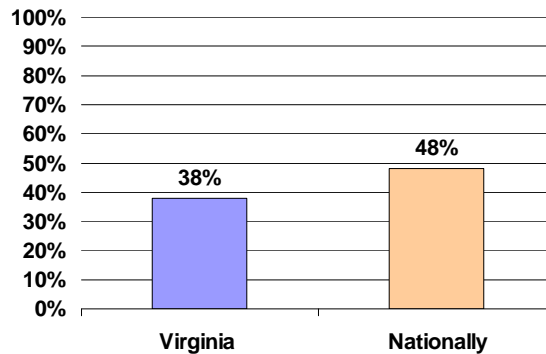
Note: Virginia ranks 13th nationally in the percentage of IMGs used

Source: *Physician Supply and Requirements in Virginia, 2010 and 2015*, Mick, Nayar, and Caretta, July 2007

17

38% of Virginia's Physicians Completed Their Residencies in the Commonwealth

Active Physicians that Completed a Residency in the State of Practice (2005)



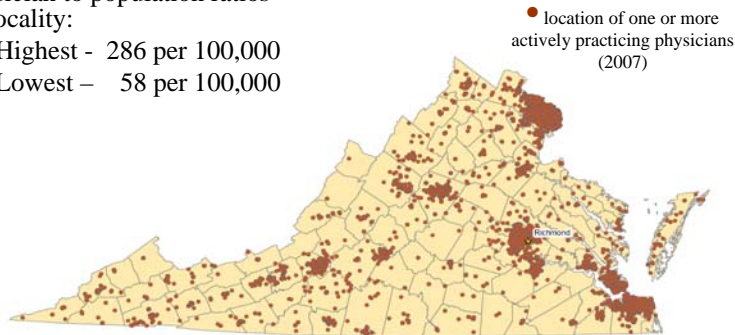
Note: 64% of VCU's family physician residents stayed in Virginia to practice

Source: *Physician Supply and Requirements in Virginia, 2010 and 2015*, Mick, Nayar, and Caretta, July 2007. JCHC email correspondence with Dr. Anton Kuzel, VCU Department of Family Medicine.

18

Majority of Physicians Are Located in the More Urban Localities

- Physician distribution is an issue
- Physician to population ratios by locality:
 - Highest - 286 per 100,000
 - Lowest - 58 per 100,000



Data source: **NCAHD**
Edward Via Virginia
College of Osteopathic Medicine
National Center for the
Analysis of Healthcare Data (2008)

19

More Physicians Will Be Needed in the Coming Years as Virginians Age

- Between 2000 and 2020 Virginia is expected to have
 - 17% general population growth
 - 65% growth in population over 65 years of age
 - 53% growth for the United States

Policy Option Note: Virginia's Board of Medicine has not saved an annual archive of its Doctor's Profile Database to allow for adequate physician projections

Source: Physician Supply and Requirements in Virginia, 2010 and 2015, Mick, Nayar, and Caretta, July 2007

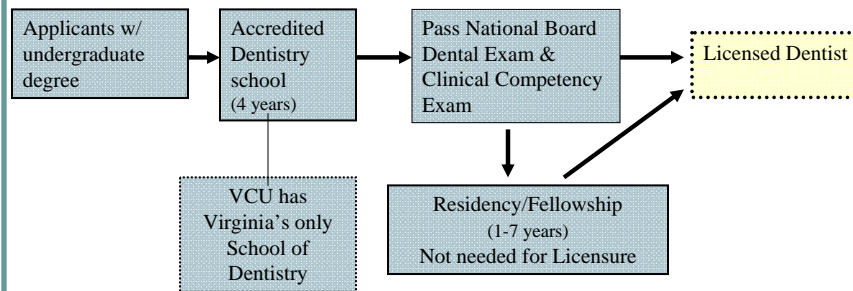
20

Dentist Pipeline



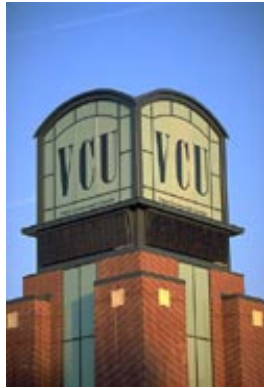
Dentists May Begin Practicing After Completing the 4 – Year Dentistry Program and Passing 2 Exams

Virginia Dentist Pipeline



Source: *Dental Study Pursuant to HJR 644*, House Document No. 86, 2000, and conversations with VCU School of Dentistry and Virginia Board of Dentistry.

Virginia Commonwealth University School of Dentistry



Location: Richmond

- Enrollment (2008 - 09)
 - 374 students
 - 1st year class – 90
 - In-state – 61%
 - Expected 2012 1st year class - 100
- Tuition (2007- 08)
 - In-state – \$17,518
 - Out-of-state - \$36,659
- State Funding
 - General funds - \$6.6 million
 - Non-general funds – \$7.9 million
 - \$38,970 Total state funds/student

Source: JCHC email correspondence with Institution and SCHEV

23

4,995 Dentists Practice in Virginia

- 4,995 dentists in Virginia
 - 80% are general dentists
 - 5% are orthodontists
- 43% of practicing Virginia dentists did not train at VCU
- 67% of VCU graduates stay in-state
 - 67% national in-state average



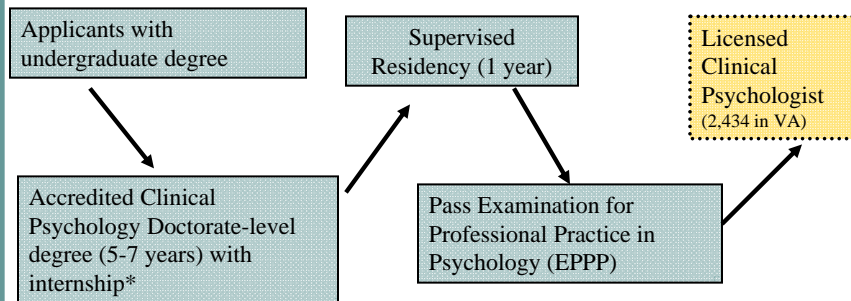
Sources: *Number of Dentists by Specialty Field 2007*, Statehealthfacts.org, <http://www.statehealthfacts.org/comparemaptable.jsp?ind=442&cat=8> & *In-State Graduate Retention for U.S. Dental Schools*, Lin, Rowland, and Field, *Journal of Dental Education*, Vol. 70:12, 1320-1327.

24

Clinical Psychologists



2,434 Clinical Psychologists Are Licensed in Virginia



Note: Practicing out-of-state Psychologist must meet the same criteria for licensure



*International applicants must meet the same requirements but previous coursework may be allowed if coursework and internship meets standards of an accredited clinical psychology doctoral degree.

Sources: Discussions with Virginia Board of Psychology and information on Virginia Department of Health Professions website, *End of Quarter Licenses in Effect* (Q4, 2008).

853 Students Are Enrolled in Doctoral Programs that Lead to Licensure of Clinical Psychologist

Doctoral Programs Leading to Clinical Psychologist Licensure


Schools of Education &
Dept. of Psychology





Clinical and
Counseling
Psychology
Programs

	State Institutions	Private Institutions*	Virginia Total*
Total enrollment	317	536	853
2008 entering class	59	110	169
Instate %	32%	**	**
# of Clinical Psychology Graduates (2008)	38	75	113













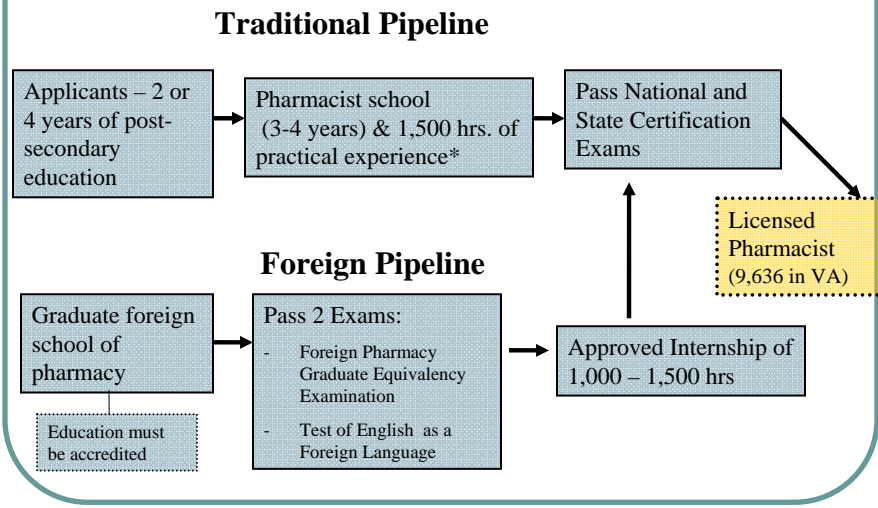
Note: * The Institute of Psychological Sciences did not provide respond to the survey. ** Argosy University did not provide data for instate %, therefore no instate % was computed. Source: JCHC email correspondence with Institution and SCHEV

27

Pharmacists



9,636 Pharmacists Are Licensed in Virginia



* 300 hours of practical experience must be outside of school related internship
 Sources: Virginia Board of Pharmacy website, http://www.dhp.state.va.us/pharmacy/pharmacy_faq.htm#Pharmacist%20Licensing and discussion with Virginia Board of Pharmacy representative, Virginia Department of Health Professions website, *End of Quarter Licenses in Effect* (Q4, 2008).

Virginia Has 4 Pharmacy Schools with 1,257 Pharm. D Students Enrolled



- Combined enrollments (2008-09)
 - 1,257 students
 - 1st year class – 334
 - In-state – 54%
 - VCU is the only publicly supported school



- Average annual tuition (2007-08)
 - In-state – \$25,274
 - VCU in-state tuition - \$18,622
 - Out-of-state - \$26,963
 - The 3 private schools do not have a tuition differential for in-state or out-of-state status



- VCU is the only state funded school (512 students)
 - General funds - \$4.1 million
 - Non-general funds – \$8.7 million
 - \$25,047 Total state funds/student

* State funding based on funding formula as appropriations are made to University as a whole not individual schools within
 Source: JCHC email correspondence with all Hampton University, Shenandoah University, University of Appalachia, VCU and SCHEV.

Year Two Activities

- Study workforce issues including:
 - Current supply and demand by region
 - Health care professional trends regarding:
 - Current effects on supply and demand of services
 - Future supply and demand of services
 - Identifying strategies to meet Virginia's future health care needs

Edward Via Virginia College of Osteopathic Medicine's (VCOM) National Center for the Analysis of Healthcare Data has offered to conduct joint-research with JHC regarding health care workforce issues

31

Policy Options

Policy Options

Option 1: Take no action.

Option 2: Request by letter of the Chairman that the Virginia Board of Medicine save an electronic archive copy of the Doctor's Profile Database annually.

Option 3: JCHC staff conduct joint research with VCOM's National Center for the Analysis of Healthcare Data regarding JCHC health workforce pipeline study and report to JCHC by November 2009.