

# **Recommendation on the Proposal for the Construction of a New School of Medicine Building at VCU**

## **Background**

In its 2006-12 Six-Year Capital Outlay Plan, Virginia Commonwealth University proposed the construction of a 236,000 square foot School of Medicine for the 2008-10 Biennium. The project fund sources were \$70,000,000 general funds and \$30,000,000 9(d) debt. As is usually the case with out-year requests, the proposal consisted primarily of an outline of the project and did not include a significant level of detail.

In its 2008-14 Six-Year Plan, the university resubmitted the proposal with additional project detail and narrative justification. The following excerpt from the capital outlay request provides a brief description of the project:

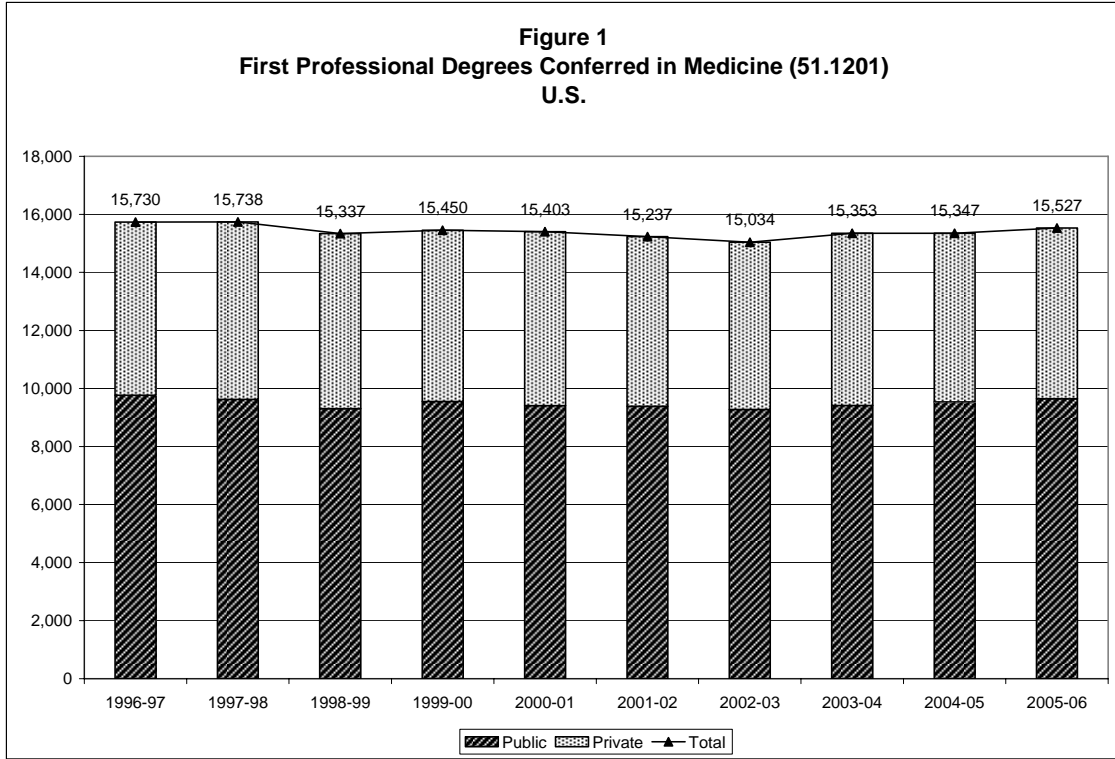
“... This is a request to provide funding to construct a multi-purpose facility, estimated at 200,000 square feet, that will allow VCU to address educational, training and research needs in medicine, pharmacy, and other health sciences. Once completed, the new facility will provide: educational space for the VCU Health System to respond rapidly to changing workforce needs; adequate space to accommodate growing research enterprise; and flexibility for the use, and timing, of on-going renovations needed in Sanger Hall...”

Furthermore, and perhaps most importantly, the new facility would allow the number of students enrolled in VCU’s Doctor of Medicine (M.D.) program to grow from 730 to 1,000. The request now calls for a 200,000 square foot facility funded with \$70,000,000 general funds, \$31,500,000 nongeneral funds and \$57,115,000 9(d) debt.

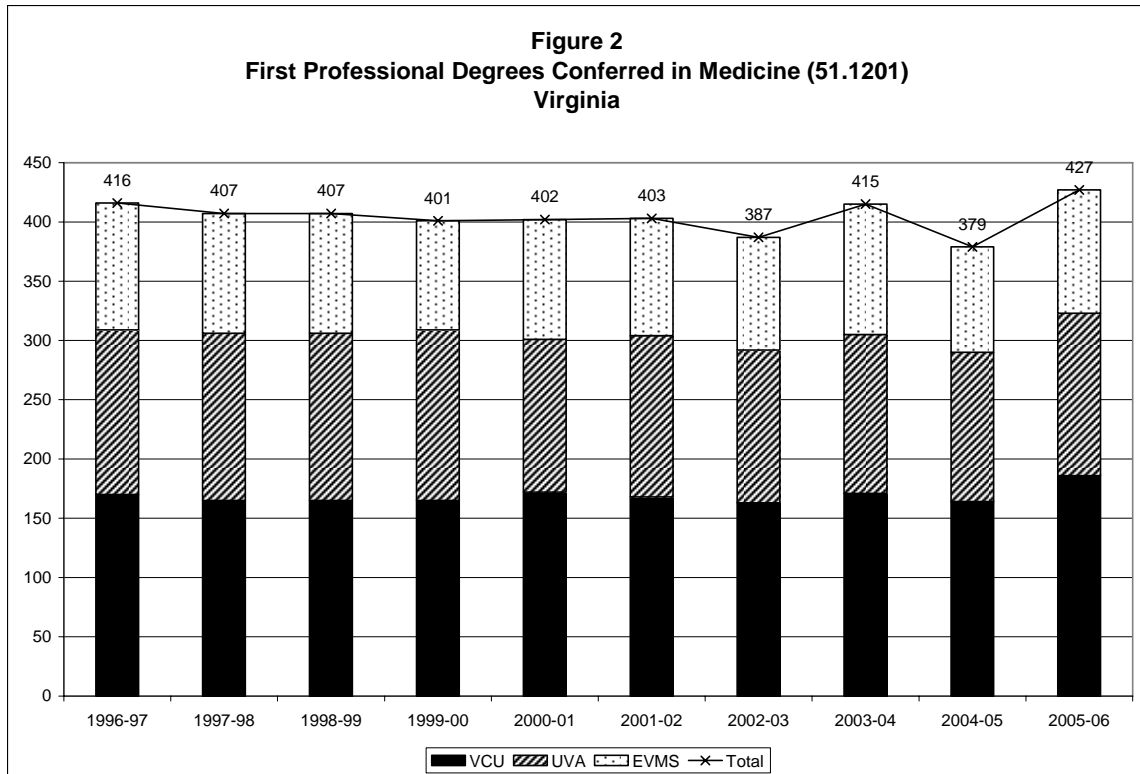
Traditionally, SCHEV’s capital outlay recommendations for higher education have fully supported maintaining and enhancing the Commonwealth’s portfolio of state-of-the-art instructional and research facilities in the programs of medicine, dentistry, pharmacy and other health sciences. Although the enrollment-driven space needs assessment benchmarks inherent in SCHEV’s fixed asset guidelines are not directly applicable to instructional activity in medicine and dentistry, there exists wide latitude on the part of the Council to establish statewide priorities, to address special needs and to prioritize projects which lie outside of the normal space planning parameters.

## **Trends in M.D.s Awarded**

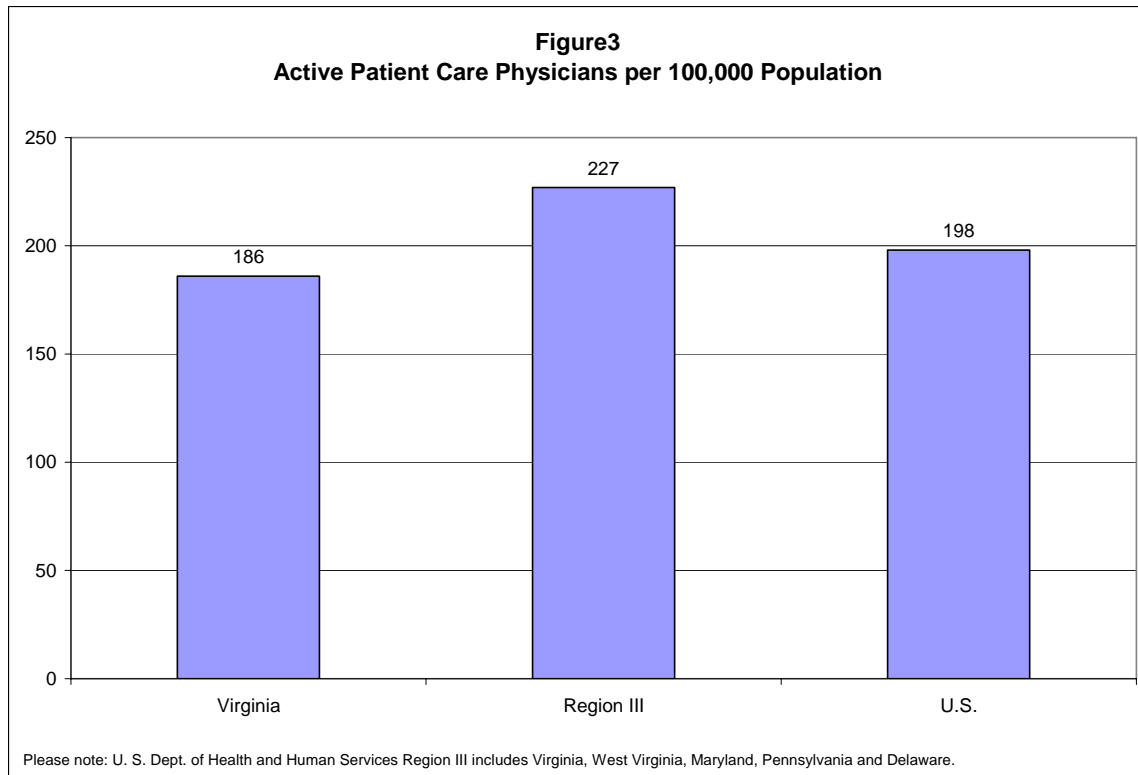
The number of medical degrees awarded in the U.S. has been essentially flat for the past decade. As shown in Figure 1 below, the combined production of M.D.s at the nation’s public and private universities has remained nearly constant at around 16,000 degrees annually. During this same time period, however, the resident population of the United States increased by 27,000,000, nearly 10%.



As can also be seen in Figure 2, that pattern is repeated in Virginia, at whose public and private medical schools degree production has remained essentially constant at around 400 annually. During this period the population increase in Virginia was over 12%.



In its December 2000 study, the U.S. Dept. of Health and Human Services reported that overall Virginia had 186 active patient care physicians per 100,000



population. The comparable figure for the U.S overall was 198 and for states in its Region III, including Pennsylvania, Maryland, West Virginia, Delaware and Virginia, the figure was 227. The national and regional figures are 7% and 22% higher than Virginia, respectively. Obviously, degree production and population trends are not the only determinants of the adequacy of the availability of health care services in a given state or region. Nevertheless, they are both major factors. The available data suggest that Virginia lags the region and the nation in this measure of physician service availability.

### **Population Growth Projections**

Figure 4 below shows the population growth projections for the U.S. and for Virginia published by the U.S. Census Bureau. The Bureau is projecting that between the years 2000 and 2020 the total resident population of the U.S. will increase by 54,000,000. This constitutes an estimated increase of over 19%. The projection is for Virginia's population to increase by 1,900,000, or nearly 26%.

The Bureau's report also includes projections for selected age cohorts. The U.S. population age 65 and over is expected to increase at a much more rapid rate than the general population. The projected increase for this cohort is 56%. For Virginia, the difference between the projected growth rates for the general population and the 65+ cohort is even more pronounced. As stated above, the increase in the general population is expected to be approximately 26% whereas the increase in the 65+ cohort is expected

to be 77%. This finding is particularly significant when evaluating the need for Virginia to expand its medical education capacity. As noted by the H.H.S.'s Bureau of Health Professions in its 2006 report on Physician Supply and Demand, "The elderly use much greater levels of physician services relative to the non-elderly, so the rapid growth of the elderly population portends a significant increase in demand for physician services."

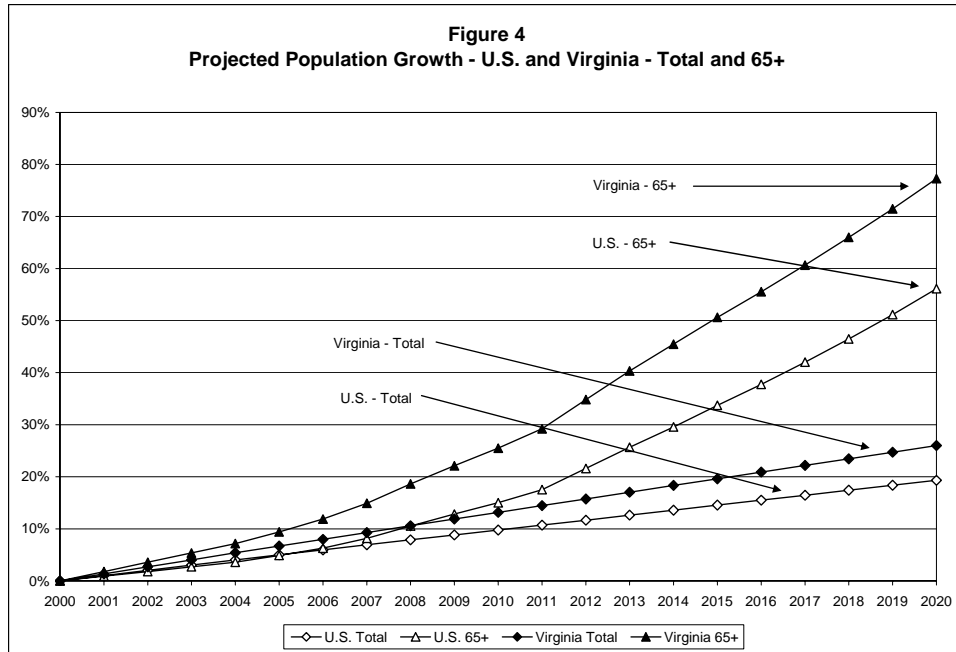
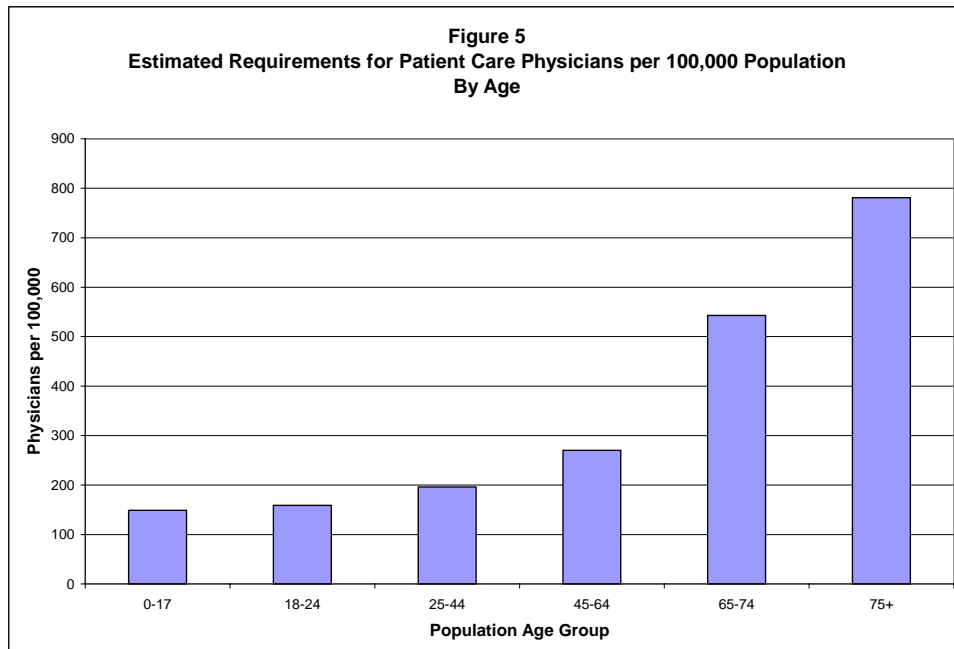


Figure 5 displays a component of the Physician Requirements Model (PRM) developed by the Bureau of Health Professions to assist in determining the minimum level of health care services appropriate for varying populations. This clearly supports the notion that the elderly require a much higher level of physician services than other age cohorts.



## **American Association of Medical Colleges Recommendation**

Based on the foregoing types of data, the American Association of Medical Colleges has made the following workforce recommendation: “Enrollment in LCME-accredited medical schools should be increased by 30% from the 2002 level over the next decade.” In its June 2006 “Statement on the Physician Workforce,” the AAMC goes on to say,

“The AAMC believes that sufficient evidence is at hand to recommend that entry level positions in both U.S. medical schools and graduate medical education programs should be increased over the coming decade. This conclusion is bolstered by the realization that a shortage of physicians would undeniably make access to care more problematic for all citizens. Such shortages would increase the delays individuals encounter in scheduling appointments and the distances they will need to travel for various types of healthcare services. Shortages would be especially problematic for the disadvantaged who already encounter substantial barriers to healthcare services. It is further recognized that, given the extended time required to increase U.S. medical school capacity, and to educate and train additional physicians, the nation must begin to increase medical school and GME capacity now to meet the needs of the nation in 2015 and beyond.”

The production of M.D. degrees in Virginia has followed the same no-growth pattern as the national production of M.D. degrees over the past ten years, despite significant population increases. Further, the population growth projections for Virginia for both total and 65+ cohorts exceed those for the U.S. overall. Finally, it can be shown that Virginia already lags regionally and nationally in the current number of active patient care physicians per 100,000 of population. Therefore, it is reasonable to assume that the AAMC’s physician workforce recommendations are applicable to Virginia and that, at a minimum, action should be taken to increase enrollment at its accredited medical schools by 30% over the 2002 level.

## **Current Enrollment in Virginia’s Medical Schools**

Total enrollment in Virginia’s medical schools in the Fall semester of 2002 was 1,668. These enrollments are distributed as follows: VCU – 699, UVa – 547 and EVMS – 422. Consistent with the AAMC recommendation, an increase of 30% would require enrollment increases of 209, 164, and 127, respectively. The total required increase would be 500 students. The proposal currently under consideration is VCU’s plan to increase its medical school enrollment to 1,000. This represents an increase of 301, or 38%, over its Fall 2002 level. Although this exceeds the AAMC recommendation of 30% for this institution, it is well below the state-wide recommended increase of 500 students. At this time SCHEV has not received any other proposals to expand medical school enrollments nor to establish a new medical school. Thus, the proposed expansion

of VCU's medical school to 1,000 students lies well within the targeted increase recommended by the AAMC.

### **Facility Condition Index**

VCU's proposal calls for the demolition of the existing A.D. Williams Building and the construction of the new facility at that site. The A.D. Williams Building is a 98,000 square foot facility constructed in 1938. The Facility Condition Index (FCI) of A.D. Williams, as reported by VCU in January 2007, is 53.5%. The FCI is the dollar amount of deferred maintenance expressed as a percent of replacement value. An FCI of 5% or less indicates a building is in "good" condition, between 6% and 10% indicates "fair," and an FCI greater than 10% indicates that the facility is in "poor" condition. As VCU noted in its proposal, "... The cost per square foot to renovate A.D. Williams is 77% of the cost per square foot to construct a new facility." The Auditor of Public Accounts, in its 2004 Review of Deferred Maintenance in the Commonwealth, discussed the factors management should consider in determining whether to either renovate or replace existing facilities,

"Every building and component has a finite useful life. As the age of the building or component approaches that stage, management should begin making decisions relating to the amount of maintenance to perform on the building. As noted above, management should not replace failing systems in a building reaching the end of its useful life. Management should perform analysis to determine the benefits of repairing versus replacing component parts.... Management should also analyze buildings to determine whether it is beneficial to repair, improve, renovate, or replace the building. This analysis should include considerations of whether the building meets the agency's current and future mission. This analysis should include complete life cycle costs including functional and operational costs. If the analysis determines that it is more economical to demolish an old building and construct a new one, management must be willing to do this. If management determines that the current building can no longer meet the needs of the agency or is not economical to renovate, management must decide either to sell or demolish the old building."

VCU's proposal, based on the reported condition of the facility, is consistent with the APA's recommendation to replace obsolete and unsuitable facilities.

### **Research Space Needs Assessment**

In its October 2007 Capital Outlay Recommendations for Higher Education, SCHEV identified the rapidly increasing unmet need for Research Space at Virginia's public universities as a critical issue for the 2008-10 Biennium. Further, in its recently released statewide strategic plan for higher education, SCHEV identified the enhancement of research through investment in infrastructure as one of twelve primary goals for the Commonwealth's system of higher education.

The VCU proposal for a new medical school includes 50,000 square feet of research space. This represents one quarter of the total project size. Under SCHEV's space planning guidelines, this component of the request is fully justified. Further, SCHEV's funding policy for Research Space would require VCU to contribute \$39.65 million to match an equal amount of general funds for the research component of this request. In fact, VCU's proposal includes \$88.6 million in institutional funds, over twice the required amount.

### **Operating Costs**

The cost of medical education is extremely high and it is, therefore, an important consideration in the development of the recommendation for this capital outlay project. The VCU proposal contains the following provision related to operating costs associated with the proposed new medical school and the planned expansion of the M.D. program: "The School would be able to accommodate related operating costs without any additional support beyond the projected increases in tuition revenue and the anticipated support for medical education provided through base adequacy."

Under the Joint Subcommittee's funding model, generally referred to as the Base Adequacy Model, each new medical student at VCU increases its resource need by \$116,689. Thus, the incremental costs associated with an additional 270 medical students, as is called for in the proposal, is approximately \$31,500,000 annually. For in-state students, the model provides general fund support equal to 67% of the total cost with the remainder to be funded through tuition. The model does not provide any general fund support for out-of-state students.

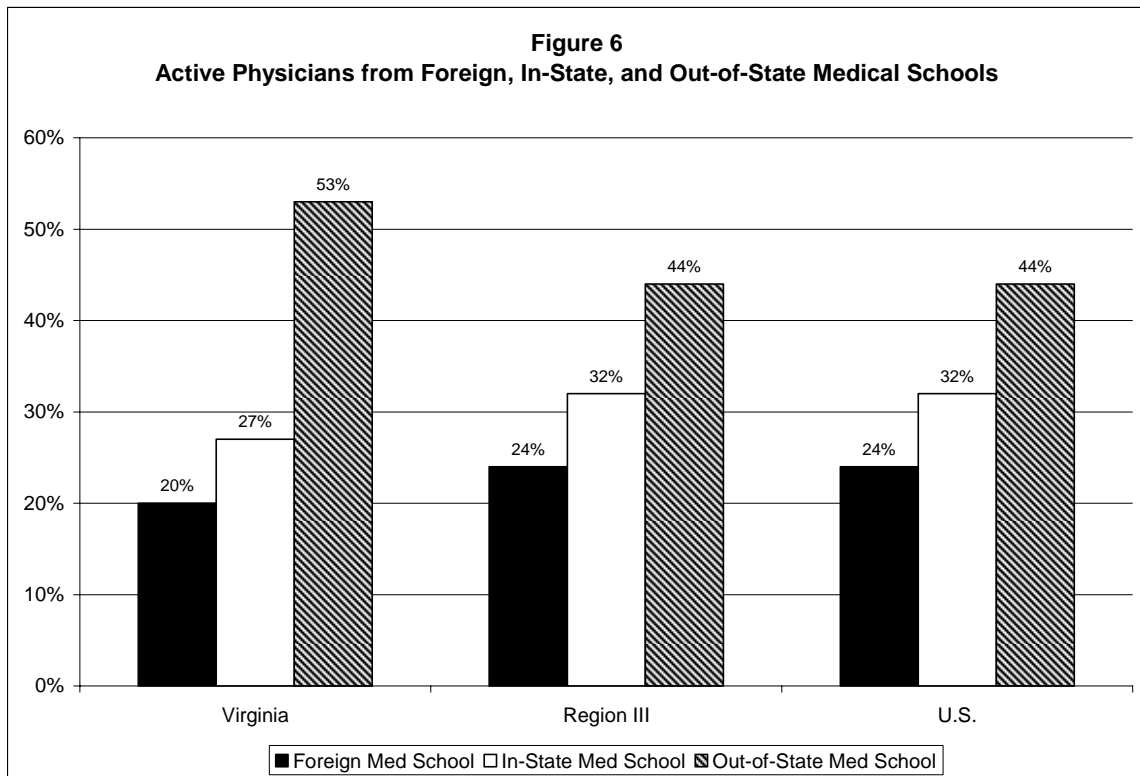
In-state tuition and mandatory E&G fees for VCU's medical school for 2007-08 are \$25,628. Out-of-state tuition and mandatory E&G fees are \$37,411. Therefore, under the existing cost structure and at current tuition levels, each new in-state student creates an unfunded tuition "gap" of approximately \$12,879 and each new out-of-state student creates an unfunded tuition "gap" of \$77,394. To the extent that these "gaps" were not subsidized with tuition from other students they would appear in SCHEV's base adequacy report as a "Funding Shortfall" and would reduce VCU's "percent of guidelines" calculation.

In 2006-07, among all national public medical schools, VCU's in-state tuition is at the 83<sup>rd</sup> percentile. Among all medical schools nationally, it is at the 55<sup>th</sup> percentile. Similarly, among all national public medical schools, VCU's out-of-state tuition is at the 64<sup>th</sup> percentile and among all medical schools nationally, it is at the 60<sup>th</sup> percentile. From this information it can be concluded that both in-state and out-of-state tuition at VCU is high relative to national medical schools, but it is not unreasonably so. Further, it does indicate that competitive pressure will keep tuition policy from reducing the tuition "gap" noted above.

It is estimated that an additional 270 new medical students, whose distribution with respect to domicile is the same as the current population, would increase VCU's funding need under the Base Adequacy Model by \$12.4 million General Fund and \$19.1 million Nongeneral Fund. Even in the event that the entire General Fund amount was appropriated, at the current tuition levels, a \$10.6 million Nongeneral Fund "gap" would be created and would need to be filled from other tuition sources in order for VCU to achieve 100% of its Base Adequacy Total.

### Achieving State Goals

Clearly this project is consistent, in principle, with the achievement of the Commonwealth's goal of providing an adequate supply of physicians to promote the health of Virginia's rapidly expanding, and rapidly aging, population. However, as Figure 6 shows, only 27% of active physicians practicing in Virginia were educated at in-state



medical schools, somewhat less than regional and national averages. This figure illustrates the fact that the market for physician services is a national and a global market. Therefore, educating more physicians in the Commonwealth is no guarantee of the achievement of the goal of ensuring the supply of physician services. Other strategies, in addition to the expansion of the educational infrastructure, need to be developed to provide incentives for physicians educated in Virginia to practice in Virginia. Additionally, the development of incentives designed to attract physicians educated outside of Virginia to practice here should also be considered.



## **Recommendation**

There is compelling evidence that the demand for physician services in the Commonwealth will grow markedly by the year 2020 and beyond. Virginia Commonwealth University's proposal to construct a new school of medicine in order to expand enrollment in its M.D. program to 1,000 students could be an important component in a statewide strategy to meet that demand.

Furthermore, the advanced state of deterioration of the facility which the new medical school is designed to replace makes VCU's proposal a sensible, cost-effective alternative to renovation.

Finally, VCU's demonstrated need for additional research space under SCHEV's fixed asset guidelines and its inclusion of \$88.6 million of institutional resources to finance the project validate the research component of the proposal.

Therefore, SCHEV recommends the adoption of VCU's proposal to build a new school of medicine and to expand the size of its Doctor of Medicine program to 1,000 students.

While acknowledging the Commonwealth's need to expand its capacity to educate physicians, SCHEV notes that the benefits of the State's significant investment in medical education may largely be lost unless graduates of this program remain in Virginia to practice. Therefore, SCHEV urges the leadership of Virginia Commonwealth University to develop policies and programs which will provide incentives for its graduates to establish themselves in practice in Virginia.

Further, SCHEV notes that the Commonwealth's higher education funding policies as they relate to medical education, in conjunction with VCU's tuition policy, will almost inevitably lead to the creation of a significant funding shortfall associated with the expansion of the M.D. program. Therefore, SCHEV recommends that VCU commit to partial subsidization of the incremental cost of additional medical students from sources other than tuition revenue from non-medical students.

Finally, the recommendation made here is made in the absence of any other formal proposals received by SCHEV to meet the Commonwealth's need to address the anticipated growth in demand for physician services. Such proposals as may be received in the future will be evaluated in a coordinated manner designed to achieve the Commonwealth's goals in the most rational and cost-effective way.

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