Who Delivers Health Care In Hampton Roads Today? The Rise Of Nonphysician Professionals



WHO DELIVERS HEALTH CARE IN HAMPTON ROADS TODAY? THE RISE OF NONPHYSICIAN PROFESSIONALS

The most effective way to maximize the complementary skill sets of all health care professionals is to work as a team. Depending on the specific practice needs, a team-based approach can include various combinations of physicians, nurses, physician assistants, pharmacists, social workers, case managers and other health care professionals. The unique strengths and perspectives of each clinician are an asset when providing the safest, best possible care to patients. – American Medical Association, 2017

ong gone are the days when family doctors carrying little black bags and stethoscopes made house calls. Not only have home visits by physicians become a rarity, but also health care increasingly has become more of a "team sport" that involves a variety of players in addition to physicians.

More and more, medical care is being provided by nonphysician, non-M.D. health care professionals such as physician assistants, nurses and medical technicians. Why? First, the absolute number of elderly people has been growing and they are demanding more health care services. Second, the rising cost of physician-only health care has stimulated health care customers to shop for alternatives. Third, medical schools are not producing enough physicians to maintain a physician-only health care delivery model.

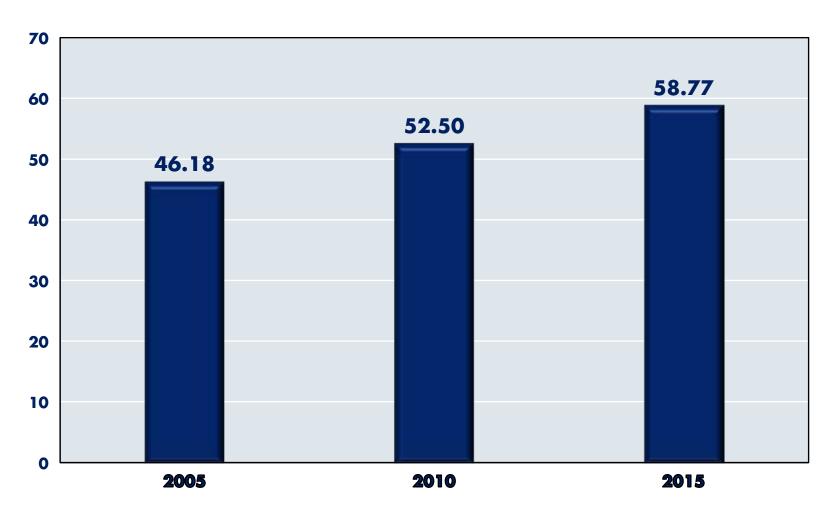
In this chapter, we document the shifts that have been occurring in the personnel who now deliver health care and compare Hampton Roads to other regions in this regard. These shifts are further magnified when evaluating the impact from demographics, health care expenditures, reimbursement methodologies, technological advancements and policy implications. Whether or not you believe that a team is truly necessary to deliver health care services, it is safe to assume that the American Medical Association's (AMA) recommendation is mildly conservative, given the growing complexities in the system and need for a diverse set of skills to survive.

We'll also look at the prescient efforts of Eastern Virginia Medical School (EVMS) to anticipate these changes and supply the differentiated health care personnel that have become staples of this new model.

The Rise Of Nonphysician Health Care Professionals

The Bureau of Labor Statistics (BLS) keeps track of where Americans work and how much they are paid. In health care, the BLS keeps tabs on more than 60 specific occupations that range from surgeons to pharmacy aides. Graph 1 reveals that the relative importance of the practitioners and technical health care providers grew from 46.18 per 1,000 workers in Hampton Roads in 2005 to 58.77 in 2015. Clearly, health care workers now account for a considerably larger slice of our workforce than they did a decade ago.

In absolute numbers, there were 42,900 health care practitioners and technical workers in our region in 2015. They earned an average annual salary of \$73,460 – which was 61.6 percent higher than the regional average of \$45,460 for all workers.



THE INCREASING NUMBER OF HEALTH CARE PROFESSIONALS PER 1,000 EMPLOYEES IN THE LABOR FORCE OF HAMPTON ROADS

Source: Bureau of Labor Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wages Estimates, 2005, 2010 and 2015, www.bls.gov

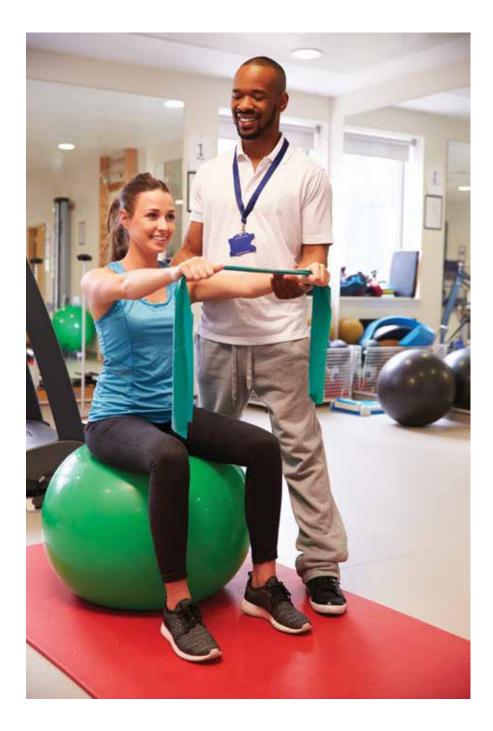
Health Care Occupational Trends

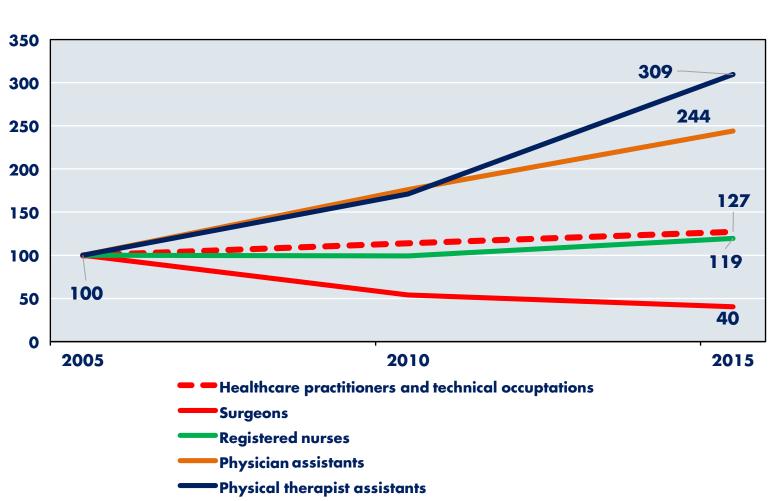
Though they are reluctant to discuss such matters, the health care providers who hire health care professionals in Hampton Roads increasingly have exhibited a bias in favor of employing less-expensive nonphysician employees. Graph 2 indexes at 100 the relative employment level of a variety of health care professionals to illustrate longer-term trends. The dotted red line reflects the overall employment of health care professionals and related technical personnel in Hampton Roads between 2005 and 2015.

One can see that the most rapid employment growth occurred among physical therapist assistants (who often implement the work of physical therapists) and physician assistants (who often directly substitute for physicians). While the number of physicians working in Hampton Roads has increased over time, note that there has been a decline in the relative importance of surgeons.

In general, the employment of physicians has lagged that of less-expensive health care professionals. The less-expensive health care professionals can be divided into two groups – those who occupy positions that require earned degrees and substantial training (such as physician assistants and radiological technicians) and those who usually assist these professionals (nursing and pharmacy aides, and medical and physical therapist assistants). Therefore, in effect, the world of health care personnel has trifurcated into physicians, health care professionals other than physicians, and those who assist physicians and health care professionals.

Rising health care costs have provided ample incentive for health care providers such as hospitals to substitute less-expensive health care professionals and their assistants for physicians. By no means does this suggest that physicians no longer occupy the central role in the provision of medical care. They continue to do so. Nevertheless, an increasing amount of physicians' time now is devoted to managing and supervising other health professionals and their assistants.





COMPARATIVE CHANGE IN EMPLOYMENT OF HEALTH CARE PROFESSIONALS: HAMPTON ROADS, 2005-2015

Source: Bureau of Labor Statistics, Metropolitan and Nonmetropolitan Area Occupational Employment and Wages Estimates, 2005, 2010 and 2015, www.bls.gov

Rising Costs

Rising costs are the primary driver of the health care employment trends just noted. Between 1960 and 2015, per capita health care expenditures in the United States grew from \$152 to \$9,973 a stratospheric 6,464 percent. Meanwhile, the consumer price index (CPI) grew 727 percent. Per capita health care expenditures grew more than 100 percent per decade, an enormous increase by any standard. Between 1980 and 1990, for example, expenditures on health care rose 157 percent. Graph 3 summarizes this evolution.

DEMOGRAPHIC CHANGES DRIVE COSTS

Rising health care costs are sensitive to demographics. Between 1940 and 2015, the Census Bureau tells us that the percentage of Americans 65 years or older rose from 6.8 percent to 14.7 percent (13.8 percent in Hampton Roads). Here's the connection: Elderly people account for a disproportionate amount of expenditures on health care. The Center for Medicare and Medicaid Services reported that in 2012, 34.5 percent of all health care expenditures were made by or for individuals age 65 or older. Approximately one-third to two-fifths of the dramatic increase in health care expenditures that we have observed over the past half-century can be attributed to increased health care provided to this population.

The "graying" of Hampton Roads (see Graph 4) carries with it one additional implication. The optimal individuals to address the health care needs of our elderly citizens may not be physicians, but instead nonphysician professionals and their assistants. This reflects the higher cost of utilizing physicians, which in turn is indicative of the reality that the supply of physicians has not been keeping pace with population growth.

DISAGGREGATING THE COST INCREASES

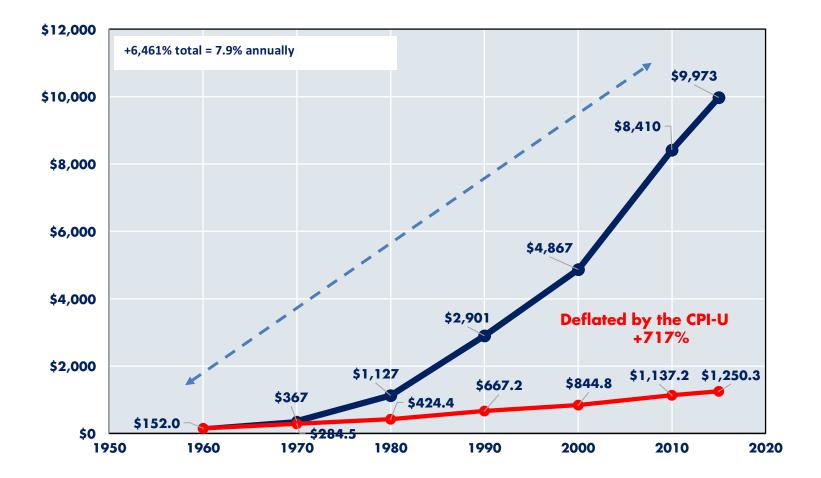
Graph 5 provides internal details concerning our increased expenditures on health care. Hospitals account for about half of health care expenditures, followed by physicians and clinical experiences at 30.5 percent. Home health care and prescription drugs together account for the remaining 20 percent of expenditures. Home health care, while still accounting for only 4.3 percent of total health care expenditures, has become relatively more important over time, while expenditures for physicians became somewhat less important.

Since 2010, the upward surge of health care expenditures in the United States has moderated and price increases in all of the four expenditure segments identified in Graph 5 have ranged around 25 percent. Many observers credit the Affordable Care Act (the ACA, or "Obamacare" to some) for some of this deceleration. The ACA invoked cost-inhibiting procedures and regulations on providers and insurers. In addition, ACA or not, there has been more emphasis upon employee wellness by employers that some believe has reduced health care costs. Further, there now are more "pay for performance" reimbursement arrangements that attempt to provide financial awards to effective health care providers.

If current price trends continue through the remainder of this decade, then the total increase in health care expenditures between 2010 and 2020 will be approximately 50 percent higher – still substantial, but far below the price inflation of previous decades, though still well above the anticipated increase in the consumer price index.

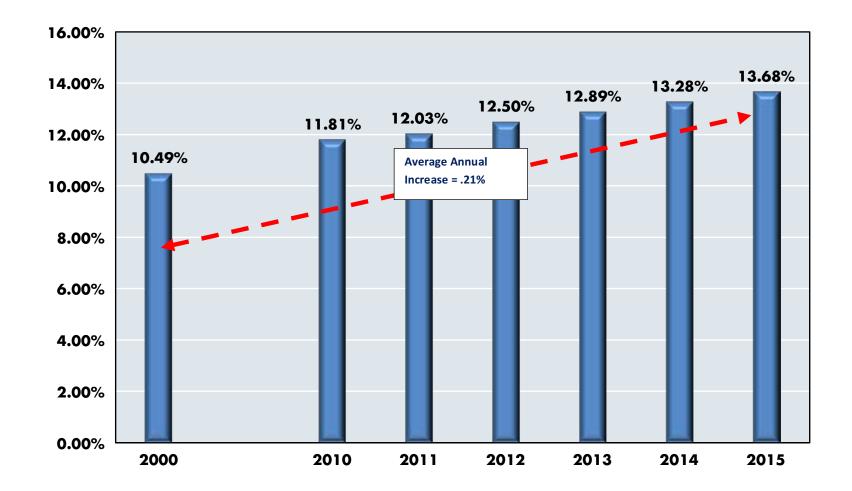
Virginians spent \$6,286 per person on health care in 2009, while the national average was \$6,815 (according to the Kaiser Family Foundation). Virginians spend less for health care than the national average even though Virginia's overall cost of living is about 5 percent above the national average.

PER CAPITA EXPENDITURES ON HEALTH CARE DEFLATED BY THE CONSUMER PRICE INDEX: UNITED STATES, 1960-2015



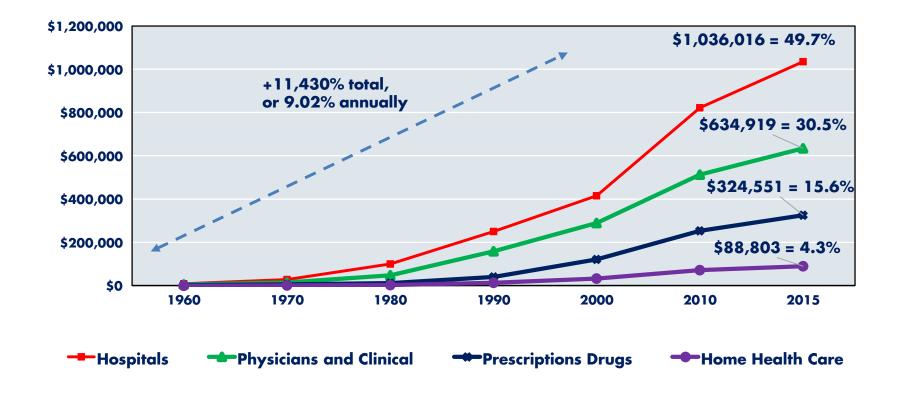
Sources: Bureau of Labor Statistics, CUUR0000A0, www.bls.gov; U.S. Census Bureau; Center for Medicare and Medicaid Services, www.cms.gov

PERCENTAGE OF HAMPTON ROADS RESIDENTS AGE 65 OR OLDER, 2000-2015



Source: U.S. Census Bureau





Sources: U.S. Census Bureau and Center for Medicare and Medicaid Services, www.cms.gov

THE INFLUENCE OF THE AFFORDABLE CARE ACT

In addition to demographic changes, the demand for health care services has been influenced by the Affordable Care Act. The ACA expanded health care insurance to millions of additional people, attempted to control health care costs and sought to improve the health care delivery system.

In net terms, the ACA increased the demand for, and use of, health care in the United States. It has become clear that the available supply of physicians is insufficient to handle this new surge of health care users. This has stimulated, perhaps required, health care providers to turn to nonphysician professionals to deliver many aspects of health care.

The Physician Supply Bottleneck

In thoroughly competitive markets, extended periods of rising prices like those we have observed in health care attract new competitors who seek to profit from the rising prices. New firms enter such markets and existing firms expand their output because it is profitable. This phenomenon usually is accompanied by increasing flows of people into the occupations connected to these profitable markets. Witness the flow of personnel into "hot" economic activities such as cybersecurity, or into the oil industry when oil was \$100 per barrel. Rising real wages attract workers.

Why hasn't this happened for physicians, who are the traditional centerpiece of medical care in the United States? The supply of physicians has not been, and is not likely to become, very responsive to income signals. Already in 2015, the Association of American Medical Colleges (AAMC) asserted that there was a shortage of between 46,100 and 90,400 physicians and predicted that this shortage would expand to between 61,700 and 125,200 by 2025.¹ These shortages exist despite the fact that the national average income for a physician in May 2015 was \$202,450, more than quadruple the national average of \$48,320 for all occupations. As just noted, the usual economic reaction in such an environment is a flow of people into the higherearning occupations. This has not occurred in the case of physicians, nor is it likely to occur.

The primary reason why we are not producing more physicians is that the number of residencies for prospective physicians is limited. Graduates of medical schools must successfully complete a residency to practice. This is the major bottleneck.

The U.S. government's Medicare system funds much of the costs that teaching hospitals incur for physician residencies. Further, the Balanced Budget Act of 1997 capped the number of residencies that the federal government funds. Any residencies established beyond this level must be paid for by hospitals, which already face significant financial burdens that flow from the unfunded medical care they provide many people who appear in their emergency rooms and from those who do not pay their bills. Hence, the total number of residencies has increased only modestly in recent years. This has curtailed production of physicians in the United States.

The political and economic issues related to the restrictions on the number of residencies are fascinating and ultimately involve considerable fingerpointing between and among the AMA, the federal government, hospitals and, of course, physicians. We will not delve into those arguments here, but instead simply note that **the number of physicians has not and will not keep pace with future growth in demand for health care services. This means that the United States will need to rely increasingly upon nonphysician health care professionals to deliver health care services.**

¹ IHS Inc., "The Complexities of Physician Supply and Demand: Projections from 2014 to 2025," prepared for the Association of American Medical Colleges (2016).

A Conundrum: Health Care Salaries In Hampton Roads

Between 2005 and 2015, the salaries of health care professionals in Hampton Roads grew 2.21 percent annually. This was higher than the national average for all workers (about 1.7 percent), but somewhat below the regional average growth rate (2.47 percent) for all workers.

Here is the puzzler: If there is a shortage of health care professionals in Hampton Roads (as many health care providers contend), why haven't the incomes of health care professionals been rising more rapidly? This is an odd economic circumstance – the number of health care jobs has been expanding, but the incomes of those workers have been increasing less rapidly than those of other workers. Meanwhile, in the non-health care segments of our regional economy, there has been precious little job creation, but more generous growth in salaries.

How do we explain the lethargic growth of the salaries of health care professionals in our region? It could reflect a changing mix of jobs in the nonhealth care sector. Perhaps we now have an increasing proportion of higherpaying STEM-related jobs in fields such as computer science and information technology. If true, this would drive up average incomes in non-health care occupations, especially if they replace jobs that compensate relatively poorly. However, evidence of this is limited.

Or, lagging health care salaries might tell us that despite the complaints of major health care providers such as hospitals and medical practices, they are not, after all, having great difficulty attracting and retaining the health care professionals they need. Hence, they simply don't need to pay more to meet their employment needs. The expanding supply of health care professionals in our region, coupled with modest population growth, could contribute to this condition. We will see below that Eastern Virginia Medical School, among other providers, clearly has increased the size of most of its programs that produce individuals who complement or substitute for physicians.

The relevant point is that in the last decade, it does not appear to have been necessary for health care employers in Hampton Roads to change this situation by significantly increasing the salaries they offer prospective workers. Apparently, they have been able to attract the personnel they desire without doing so.

Changing Payment Criteria Influence Care

A variety of ways exist for physicians, hospitals and other health care practitioners to be paid for the services they provide. *Fee-for-Service (FFS)* has been the traditional mode of payment used by private health insurers and government programs such as Medicare and Medicaid. Under FFS, which is one of the founding elements of managed care, private or public health insurers pay practitioners for services rendered. These payments were typically pre-negotiated within certain guidelines or contractual agreements with providers within a network.

The actual economic value of preventive health care is not always clear. Several reputable studies have found only small long-term differences in health costs among individuals when preventive measures are actively pursued. See Joshua Cohen, The New England Journal of Medicine (Feb. 14, 2008); Maciosek et al., Health Affairs (September 2010); and Sharon Begley for Reuters (Jan. 20, 2013). Much seems to depend upon which preventive measures are utilized and the economic value one places on lives. Child immunizations appear to be highly cost effective, but annual physical examinations for adults and certain cancer screenings are not. Things have changed. Enter *Capitation, Pay-for-Performance* and *Value-Based Arrangements*. Each of these arrangements attempts to tie payments to providers to the performance of those providers. This may involve flat monthly fees paid to health care providers by employers or managed care organizations with the expectation that the provider assumes the responsibility and risk for all aspects of a patient's health care needs and services. Ideally, such an approach stimulates the provider to undertake preventive health care measures that not only help the patient, but also enable the provider to incur continuously rising costs. In theory, such arrangements also supply the provider with a large pool of members so that high-end and low-end users balance each other.

Preventive care usually involves activities such as annual eye screenings, mammograms, hemoglobin A1c testing, primary care checkups and immunizations. Many employers mandate such health-related activities and some, such as Caterpillar, assess financial penalties upon employees who fail to take part. Further, these employers encourage or require their employees to rely less on physicians and more on other health care professionals to deliver preventive services.

Both carrots and sticks can be effective in stimulating preventive care, especially when they are part of an employer/employee situation. A recurring problem is that some health care users are not easily tracked and perhaps are transients. Consequently, many health care providers now employ staff whose primary duty is to locate, track and engage those they serve.

NONMEDICAL EMPLOYEES HAVE PROLIFERATED AT HEALTH CARE PROVIDERS

Health care providers now employ numerous assistants, nurses, technologists and individuals who take care of the business, accounting and legal aspects of being a health care provider. Increasingly complicated laws have virtually required the employment of a set of new, nonphysician employees in medical practices. A typical physician today would be severely disadvantaged without staff who understand electronic medical record systems and how to code and bill for services. Add to this those employees who schedule and interact with health care users. They may not at first glance seem to be health care providers, but very little health care would be provided without them.

Ultimately, physicians use nonphysician health care professionals to stretch their coverage and allow them to see more patients. Exemplary is a registered nurse taking the vitals (height, weight, blood pressure) of a patient and sharing that information with the physician in advance of an appointment with a patient so that the physician is fully informed and can focus on administering care.

Patient-Centered Medical Homes

One of the most well-known and practiced models of care is a *Patient-Centered Medical Home (PCMH).* "Home" is a somewhat deceptive label because hardly ever does a PCMH operate in a residential home. PCMHs represent a comprehensive approach to improving health care by transforming how primary care is organized and delivered. The Agency for Healthcare Research and Quality (AHRQ) says a medical home is more than a place, "but a model of the organization of primary care that delivers the core functions of primary health care." At the center of the medical home may be a primary care physician, but a bevy of other professionals personalize care and coordinate efforts to meet patient needs more effectively and efficiently.

The essence of the medical home is a team approach to serving users. The team of care providers may include physicians, advanced practice nurses, physician assistants, nurses, pharmacists, nutritionists, social workers, educators and care coordinators. "Although some medical home practices may bring together large and diverse teams of care providers to meet the needs of their patients, many others, including smaller practices, will build virtual teams linking themselves and their patients to providers and services in their communities" (the Patient Centered Medical Home, https://pcmh.ahrq.gov/page/defining-pcmh).

PCMH demonstration projects are also supported by legislative measures such as the Affordable Care Act. Through the ACA, nationwide medical home demonstration projects are administered by the Center for Medicare and Medicaid Innovation (CMMI) because of the value they bring to the patient and overall system through cost savings, effectiveness and efficiencies.

The Influence Of Technology

Waves of technological change have been splashing over medical care for some time. These changes have transformed health care in terms of how it is delivered and who is delivering the care. In addition to new drugs and treatments, examples of medically based technological change include the accessing of patient medical records by clicking a button, using robots to perform surgeries, telemedicine visits by means of smartphones or iPads, and monitoring blood pressure and heart rhythms through use of an app that alerts a nurse when there are dangerous spikes.

The digitalization of communication has influenced the way physicians share information with patients. Appointments can be scheduled online and reminders sent via text to smartphones, though this requires medical practices to establish and maintain information technology systems and digitized records. Physicians and other medical professionals now must provide different communication techniques such as texting, use of an app, live video chat or more traditionally by phone. The hallmark is flexibility.

The Health Information Technology for Economic and Clinical Health (HITECH) Act of 2009 provided the U.S. Department of Health and Human Services with the authority to establish programs to improve health care quality, safety and efficiency through the promotion of health information technology, including electronic health records and private and secure electronic health information exchange. The act included mandates that placed significant pressure on physicians and other health care practitioners to re-evaluate the way in which medical records are managed, documented, protected, accessed by patients, accessed by other health care providers and for administrative needs, and ultimately digitized. It mandates that virtually every physician employ staff to support the act's administrative requirements. Once again, this has added to the number of nonphysician personnel who are involved in providing health care.

Who Are The Nonphysician Health Care Professionals?

Table 1 presents May 2015 Virginia numbers for the "Big Three" of nonphysician health care professionals: nurse practitioners, registered nurses and physician assistants. Their percentage presence in the population is included in parentheses, though we caution that these density numbers should only be taken as approximations because the residences and work locations of individuals may differ and they may work at multiple locations. Not surprisingly, Hampton Roads, which has the largest population in the sample, has the lowest densities of these individuals.

Nurse practitioners, registered nurses and physician assistants can complement or support physicians by performing certain procedures on their behalf, or by assuming some of the physicians' responsibilities. These include the preexamination of patients, review of medical histories, prescribing of certain medications, the recommending of certain medication regimens and the like.

Physicians and medical associations often argue that nonphysician health care professionals are not perfect substitutes for physicians. However, for a wide range of medical tasks, including routine evaluations and preventive care, it is not clear that physicians are cost-effective in comparison to the individuals in these three occupations. Nor is it apparent that the quality of care patients receive declines in most situations when the nonphysician health care professionals are the ones providing the care.

There exists something economists label "the market test." As applied to medical care, it asks this question: When free to choose, whom do medical customers and providers decide to utilize? Increasingly, the answer is – individuals trained in these three nonphysician specialties. Just as most drivers may prefer a Mercedes sedan to a Honda Civic, those seeking medical care may well prefer physicians to nonphysician health care professionals. Nevertheless, relatively few individuals end up driving Mercedes automobiles and decreasing proportions of those seeking medical care are being served by physicians. Rhetoric aside, the market has spoken.

TABLE 1

NUMBER AND DENSITY IN THE LABOR FORCE OF SELECTED NONPHYSICIAN PROFESSIONALS IN THE LABOR FORCE IN VIRGINIA METROPOLITAN REGIONS, 2015

	Nurse Practitioners	Registered Nurses	Physician Assistants	Totals
Hampton	920	13,700	480	15,100
Roads	(.05%)	(.79 %)	(.03%)	(.87 %)
Lynchburg	120	2,250	70	2,440
	(.05%)	(.87%)	(.03%)	(.94%)
Richmond	760	14,220	360	15,340
	(.06%)	(1.13%)	(.03%)	(1.22%)
Roanoke	170	4,090	210	4,470
	(.06 %)	(1.32%)	(.07%)	(1.45%)

Source: https://www.bls.gov/oes/current/oes_47260.htm#31-0000 for May 2015

"Nurse practitioners and physician assistants have skill sets similar to those of physicians. Nurse practitioners can perform approximately 85 percent of the tasks that primary care physicians do, while physician assistants can replicate around 80 percent of a physician's tasks."

- Victoria Garment, "Nurse Practitioners and Physician Assistants: Why You Should Hire One (or the Other)," The Profitable Practice (May 31, 2013). However, we should note there is some evidence that physicians perform the same tasks better.

Eastern Virginia Medical School Anticipates And Reacts

Eastern Virginia Medical School (EVMS) not only has adapted to the increased use of nonphysician health care professionals, but also believes this trend will continue. EVMS offers a growing number of nonphysician programs via its School of Medicine and its School of Health Professions, often in collaboration with other community partners.

The current stable of EVMS programs includes:

Medical Programs (M.D.+)

- Doctor of Medicine
- Dual M.D. and M.B.A. Program
- Dual M.D. and M.P.H. Program

Doctoral Programs (Ph.D.)

- Biomedical Sciences
- Clinical Psychology (joint consortium with ODU and NSU)
- Doctor of Health Sciences
- Reproductive Clinical Sciences

Master's Programs

- Art Therapy and Counseling
- Biomedical Sciences Research
- Biotechnology
- Clinical Embryology and Andrology
- Contemporary Human Anatomy
- Healthcare Delivery Science
- Laboratory Animal Science
- Medical and Health Professions Education
- Medical Master's
- Pathologists' Assistant
- Physician Assistant
- Graduate Program in Public Health
- Surgical Assisting (the only master's program in the country)

Table 2 describes the 2014-15 enrollment in each of these programs, as well as related information. Applications to EVMS overall increased 17.8 percent between 2013-14 and 2015-16, with particularly notable increases in the medical doctor (M.D.), medical master's and physician assistant programs

(which also are the medical school's three largest programs). The physician assistant program now receives more than 1,800 applications annually, but has only 80 available slots.

TABLE 2

NEW STUDENTS AND TOTAL ENROLLMENT: EVMS, 2015-16 AND PERCENTAGE CHANGES FROM 2013-14 TO 2015-16

Program	New Student GPA	Applicants	New Students	Total Students	2015-16 Graduates
Art Therapy and Counseling, M.S.	3.29	42	13	30	12
Biomedical Sciences Research, M.S.	3.52	18	4	10	6
Biomedical Sciences, Ph.D.	3.26	15	3	12	1
Biotechnology, M.S.	3.22	7	4	9	5
Clinical Psychology, Ph.D. (joint program with ODU and NSU)	3.46	101	6	37	0
Contemporary Human Anatomy	3.21	17	10	10	0
Medical Doctor, M.D.	3.60	7,319 (+11.1%)	151 (. 7 %)	584 (+5.2%)	133 (9.9%)
Medical Master's, M.S. (1- and 2-Year)	3.24	467 (+50.2%)	67 (+28.8.7%)	105 (+59.1%)	59 (-6.3%)
Medical and Health Prof. Educ.	3.34	21	17	17	0
Laboratory Animal Science, M.S.	3.26	18	6	19	9
P.A. Fellowship in Emergency Medicine	3.42	10	3	3	3
Physician Assistant, M.P.A.	3.64	1 <i>,</i> 848 (+5 0.9 %)	80 (-5.9%)	255 (+8.5%)	86 (+34.4%)
Public Health, M.P.H. (joint program with ODU)	3.12	135	53	105	45
Reproductive Clinical Science, M.S.	3.18	40	24	53	
Surgical Assisting, M.S.A.	3.17	32	20	41	18
Surgical Assisting, Bridge Program	3.59	3	2	2	0
Totals		10,093 (+1 7.8 %)	481 (+ 3.4 %)	1,292 (+ 7.2 %)	417 (+3.1%)

Enrollment growth at EVMS has generated at least three beneficial effects for the medical school. First, it is clear there is a demand for the graduates. EVMS has been meeting the market test (noted earlier) in impressive fashion.

Second, the programs listed in Table 2 have become a profit center for EVMS, a notable and important achievement for an institution that in the past has encountered financial struggles. Table 3 reports the net financial contribution of the School of Health Professions to the bottom line of EVMS in recent years. This does, however, raise an interesting question. Should some educational programs (and students) at EVMS be used to subsidize other programs and students? This is commonplace, though sometimes controversial, behavior at colleges and universities.

Third, these programs have tied EVMS more closely to the community because most involve interactive activities and placements with the region's health care professionals and providers.

President Richard V. Homan, Dean C. Donald Combs and EVMS were swifter to the mark in recognizing the fundamental changes that were occurring in the provision of medical care than were the leaders of many other medical schools. Theirs was not a casual decision because the financial resources, space, equipment and administrative attention required to mount these programs were quite significant in the context of a smaller medical school such as EVMS. While they may not have been gambling the medical school's future, they nonetheless were making a rather large wager. If their analyses did not prove to be on target, then it would likely lead to the beginning of very difficult times for EVMS.

TABLE 3

NET FINANCIAL CONTRIBUTION OF THE EVMS SCHOOL OF HEALTH PROFESSIONS TO THE INSTITUTION'S BOTTOM LINE

Fiscal Year	SHP Net Contribution (Millions of \$)
2013	\$.8
2014	\$1.9
2015	\$3.0
Source: 2014-2015 EVMS School of H	ealth Professions Annual Report: created by Kelly Brown

One of the gratifying results of the School of Health Professions programs at EVMS has been the substantial proportion of Virginians (61 percent) enrolled. Table 4 reports these data. Noteworthy as well for Hampton Roads is that 37.5 percent of the programs' graduates currently practice in Hampton Roads.

TABLE 4

PROPORTIONS OF VIRGINIANS IN SELECTED EVMS ACADEMIC PROGRAMS, 2014-15

Program	Virginia	Out-of- State	Total
Art Therapy and Counseling, M.S.	468	186	654
Biomedical Sciences, Ph.D.	63	33	96
Biomedical Sciences Research, M.S.	36	22	58
Biotechnology, M.S.	5	0	5
Clinical Embryology and Andrology, M.S.	8	149	157
Clinical Psychology, Ph.D.	87	116	203
Medical Master's, M.S.	183	157	340
Ophthalmic Technology	34	11	45
PA Fellowship in Emergency Medicine	11	4	15
Physician Assistant, M.P.A.	394	277	671
Public Health, M.P.H.	352	127	479
Surgical Assisting, M.S.A.	163 75		238
Totals	1 <i>,</i> 804 (61%)	1,157 (39%)	2,904

Final Thoughts

Physicians historically have dominated the provision of health care in the United States and appropriately so because of their training. Nevertheless, a powerful mixture of demographic changes, new health care laws such as the Affordable Care Act, restrictions on the number of medical residencies that have constrained the growth in the supply of doctors, and newly deployed technologies and medicines have pushed up health care prices significantly.

Consequently, physicians have become increasingly scarce, expensive inputs, relatively speaking, and this has provided the impetus for many health care providers to move in the direction of substituting less-expensive, more available nonphysician health care professionals for physicians. One can debate whether this trend has affected the quality of health care, but it appears that those who purchase health care and employ those who provide health care have moved beyond this consideration. Nonphysician health care professionals such as physician assistants, nurse practitioners, registered nurses, technologists and their assistants increasingly are the individuals who actually administer health care. Teams of individuals, many of whom are not medical professionals per se because they deal with the business aspects of health care, now serve patients. Physicians are only one part of that team, albeit they remain the central part.

Eastern Virginia Medical School has made a major commitment to supplying the burgeoning demand for nonphysician health care personnel. EVMS committed early to addressing the need for nonphysician health care professionals and this was an auspicious decision both for Hampton Roads and the medical school itself. This has directly contributed to the well-being of our region's citizenry.

