

## Special Communication | PRESIDENTIAL ADDRESS

# The Role of the Head and Neck Surgeon in the New World of Health Care Reform

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The landscape of health care delivery in the United States is in the midst of irreversible and progressive changes that present tremendous opportunities to do maximal good for patients. Clinicians must embrace this opportunity to ensure this redesign is done properly and to the benefit of patients—not the bottom line of the health system. This sweeping change in health care will also align the benefits of preventive care and public health with the economic health of health systems for the first time. Clinicians will be incentivized to ensure that legislative environment fully supports efforts to create a healthier population—which for the American Head and Neck Society means a reduction or elimination of tobacco use and widespread HPV vaccination of children.

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In the current environment of challenging health care economics and a rapidly evolving practice landscape, we, as head and neck surgeons and as cancer care providers, must redefine our role in the new world order. The continued growth of health care expenditures and resulting suboptimal health outcomes in the United States are driving much of this change toward new models of health care delivery. As will be discussed, expenditures on cancer care are expanding at an even more alarming rate, and yet the data do not exist to clearly define optimal cost-effective cancer care in many instances. We must embrace efforts to define optimal care for our patients while elevating our advocacy in the public health arena to reduce the burden of head and neck cancer on society.

## US Health Care Economics

We find ourselves in a time of rapid and sweeping changes in health care within the United States. With a Baby Boom generation that is larger than any we have seen before and rapidly becoming older, the demand for health care services has never been stronger. This, combined with the rapid expansion of medical knowledge, has resulted in the growth of total cost of health care in the United States from 7% of the US gross domestic product (GDP) in 1980 to a projected 20% of the GDP by 2020.<sup>1</sup> While the rate of growth in health care expenditures slowed significantly following the great recession of 2008, it is widely held that the cost curve must be modified for our health care system to remain sustainable.

The United States currently spends 2.5 times more on health care per citizen than the average spent by the other 34 countries monitored by the Organization for Economic Cooperation and Development, and yet our health outcomes as measured by life expectancy (we are ranked 27th of 34 countries) and infant mortality (we are ranked 32rd of 34 countries) lag significantly behind those measures in other developed countries.<sup>2</sup> Thus, the value proposition for our current health care model has been widely called into question

by economists and health care strategists. Policy makers likewise are looking for solutions as governmental programs fund a rapidly increasing portion of health care in the United States (34.3% in 2013).<sup>3</sup>

## Health Care Funding in the United States

Funding for the current health care system in the United States is based on individual episodes of care, with payment for volume of services provided by individual health care providers (ie, physician practices, imaging centers, hospitals, ambulatory surgery centers). Quality is just starting to be defined and reported, mostly in economic terms (eg, hospital length of stay, cost per episode, and readmission rates), but is minimally rewarded, if at all. Thus, our systems are designed to maximize volume and revenue at the provider level with little if any incentive to invest in preventive care, smoking cessation, routine screening, and wellness programs, or to optimize transitions of care between levels of service to be more efficient and cost-effective. The system has developed to maximize utilization of health care services, not health and wellness. This certainly accounts for much of the high cost and suboptimal outcomes of our health care system relative to those of most other developed countries, despite continuing to be the leaders in the development of new discoveries and therapies to enhance life.

## Cost of Cancer Care

In 2010, the cost of cancer care in the United States made up 5% (\$125 billion) of the total US health care expenditures of \$2.6 trillion.<sup>4</sup> The total health care expenditure is expected to grow by 11% by 2020 to make up 20% of the GDP. Based on population growth and aging alone (holding cost stable), cancer care is expected to grow at an even faster rate—27%.<sup>4</sup> If the cost of cancer care grows even 2% per patient per year, the growth rate will reach 39%, and if cost grows

by 5% per patient per year the rate of growth will reach a staggering 66%, or \$205 billion, by 2020. And yet, these estimates may be conservative given recent trends. Between 1995 and 2004, cancer care cost increased by 75%, and from 2004 to 2010 it increased by another 74%. This amounts to a 10% annual increase in cancer care cost over recent years, a much faster rate than the rate of growth in health care expenditures overall.<sup>4</sup>

One major driver of this rapid rate of increase is the incredible cost of newly approved oncologic medications. From 2000 to 2004, greater than 90% of the antineoplastic drugs approved cost over \$20 000 for a 12-week course of therapy.<sup>5</sup> In 2007, oncologic drugs were the second largest category of all drugs sold in the United States, with an average growth rate of 14%,<sup>6</sup> and more than 70% of oncologic drug sales were for drugs introduced in the previous 10 years, with 30% approved in the previous 5 years.<sup>7</sup>

With an aging population driving a growing prevalence of cancer in the United States, combined with a rapid escalation of cancer care and therapeutic costs, it is predictable that this represents a major concern for the insurance payers, including Medicare. As a result, there have been progressive efforts to manage the cost curve of cancer care (and other medical expenses). In the 1990s, Medicare began revising the compensation for cancer drugs to physicians providing chemotherapy in the office setting. This ultimately resulted in the Medicare Modernization Act of 2003, which was estimated to have saved Medicare \$500 million for oncology services in 2004.<sup>8</sup> However, the persistent fee-for-service payment methodology continued to reward the use of more expensive drug options.

Consequently, other managed care strategies were attempted, such as capitation, preauthorization requirements, and limitations of "off-label" use of drugs. More recent strategies have moved from reduced physician reimbursement and patient access to newer, more collaborative methods, such as clinical pathways, disease management programs, and pay-for-performance programs.<sup>9</sup> Each of these approaches has attempted to control cost while improving the quality of patient care. While there have been some successes, they still provide payment based on episodes (and volume) of care.<sup>9</sup>

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## Health Care Reform

The current version of the health care reform movement is now more than 20 years old, having been the object of significant public debate and angst over how to redesign our health care system. In the meantime, efforts have largely focused on how to reduce cost by reducing reimbursement (to physicians at a more rapid pace than hospitals), on limiting covered services and medications, and on an increasing extent shifting costs to the patient. The increased cost shift to patients is thought to ensure that they are more careful in their health care decisions, resulting in decreased utilization. Of course, this also serves to limit the cost exposure of employers, insurers, and governmental programs.

The most sweeping health care reform effort since the creation of Medicare under the Social Security Act in 1965 was the Patient Protection and Affordable Care Act (PPACA or ACA) passed by the Democratically controlled Congress and White House in 2010. The ACA is designed to drive new, accountable care models in the public and private markets. It is also designed to inform consumers and engage them in improving their health care and making better

choices in health care–related spending. All this is intended to improve overall health and reduce the rate of growth in national health spending.<sup>10</sup>

While some would say this effort is best described as health care *payment* reform and not health care *delivery* reform, it has started the country on a path of expanded coverage to the majority of the uninsured through a combination of health care exchanges and Medicaid expansion. This expansion of coverage is largely funded through reduced federal government support to hospitals and progressive reductions in Medicare reimbursement. We have already seen reductions in the uninsured rate as a result of the health care exchanges (despite the initial issues with the rollout of HealthCare.gov), with even greater reductions seen in states that have also expanded the Medicaid programs as provided by the ACA. To date, only 22 states and the District of Columbia have chosen to expand Medicaid (an additional 6 states are working to expand using an alternative model).<sup>11</sup>

Prior attempts to slow the rapid increase in health care cost in the United States met with limited success. Earlier models, such as capitation, management guidelines, disease management programs, and pay for performance, still provided compensation based on episodes of care rather than outcomes. More recent discussions and a stated goal of the ACA indicate a movement toward models of health care delivery designed for the management of entire populations of people across the full spectrum of health care and the entire span of a lifetime—from cradle to grave and from wellness to hospice care. This approach is designed to incentivize a systems approach to health care—focusing on wellness and prevention and on keeping people out of the hospital. When patients must be hospitalized, the focus will be on shorter hospital stays with robust transitions to lower acuity care environments with lower cost—essentially, proving that the right care in the right place at the right time maximizes health and minimizes cost. For this approach to health care delivery to work, all elements of the health care system must be linked together with shared incentives to maximize health and minimize the need for health care services (accountable care organizations or ACOs). When health care treatment is required, it should be evidence-based, with minimal variability, and provided in the most expeditious fashion possible; that is, the lowest cost with best outcomes. If this occurs, the health system (or ACO) will benefit financially.

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## Changing Practice Environment

It could be argued that many of the changes dictated by the Centers for Medicare and Medicaid Services (CMS, Medicare) and the ACA have had the result of forcing health care providers of all types into large health care systems. It is almost impossible to monitor quality, utilization, compliance, and best practices across tens of thousands of individual physician practices and free-standing hospitals. Thus, recent efforts of compliance monitoring have largely been focused on hospitals (although large physician practices, such as those at academic medical centers, have also been easier to target owing to their large size) for punitive financial audits and increasing regulatory and compliance demands.

Yet the pressure on physician practices continues to ratchet up, threatening to make them a nonviable business option. Reduc-

tions in professional service reimbursement, elimination of consultation codes, increasingly complex billing requirements, increased demands for documentation to justify reimbursement (with no data to show this improves care), subjecting care to audits with demands for repayment despite provision of services, and, most recently, the requirement for use of an electronic health record (EHR). The current major EHR systems were developed well before the release of “meaningful use” requirements as dictated by CMS. The result has been very expensive EHR systems that were not designed to meet the new standards. This has required expensive upgrades and time-consuming workarounds that significantly slow the workflow process and have largely eliminated any efficiency benefits ever envisioned by the EHR.

The result of dropping reimbursement, increasing regulation, and the requirement for prohibitively expensive EHR systems on physician practices has had a profoundly negative impact on physician income. Physician practices are by definition small (or even large) businesses, and all the expenses must be covered before the owners (physicians) are paid. According to the Medical Group Management Association 2014 Cost Survey, more than 4 support staff employees are needed to support the practice of 1 surgeon in a single specialty practice environment.<sup>12</sup> Ultimately, many of these small businesses are no longer economically viable—and the result is the migration of physician practices into hospital systems. There they can be monitored, controlled, and regulated to a much higher extent.

In 2004, 75% of physician practices were physician owned. In 2014, only 10 years later, a full 75% of physician practices are hospital owned.<sup>13</sup> In a single decade, the entire landscape of physician employment and practice has shifted to hospital-based systems. Thus, the first stage of migration of our health care delivery system from individual providers and hospitals into major health care systems is well under way.

The next phase of evolution is starting to unfold and involves reimbursement models to support the care of patient populations for all levels of care: population-based management. For ACOs and hospital systems to accomplish this, they need not only the physician practices but also need to acquire or affiliate with other levels of care (ie, home health, rehabilitation centers, hospice units, skilled nursing facilities) to allow seamless transition of care across the system in a way that benefits (profits) the system while taking care of a population.

Embedded in all of this is the necessity to design the actual delivery of health care within a large system that remains patient focused and delivers the highest level of care as defined by the evidence (and not more or less than this) to produce the best outcomes. Outcomes will not always be defined by length of stay, patient survival, or readmission rates but will likely be defined by quality-of-life measures and cost benefit analyses.

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## Implications for Cancer Care

Prior efforts at limiting the cost of health care overall and cancer care in particular have had limited success. As previously discussed, this is in part due to an aging population with a higher prevalence of cancer and the staggering cost of new oncologic drugs that may cost in excess of \$120 000 per single round of treatment for advanced melanoma.<sup>9</sup> As we move into population-based health care management, it is likely that new tools will help dictate the cancer care of the future.

Comparative effectiveness research (CER) evaluates the safety and effectiveness of a clinical intervention as used in a typical “real-world” setting and in direct comparison with established alternatives. At the policy level, CER evidence can be used to identify programs that yield optimal quality, safety, and efficiency outcomes.<sup>9</sup> But one must also look at the cost-effectiveness analysis (CEA), which seeks to compare the benefits of therapies with their costs, in terms of both dollars and quality of life. Some treatments are not only expensive but also toxic and offer only days to weeks in survival benefit. Thus, the cost can be looked at in terms of the quality-adjusted life year, which takes into account the survival benefit and quality of life in addition to price. The combination of evidence-based medicine, CER, and CEA will yield clinical pathways that achieve a balance between quality, efficiency, and value in the delivery of cancer care. This may also provide a logical basis for coverage limits in the future that are more readily palatable to the general public.<sup>9</sup>

One example of this approach is recognition of the benefit of shifting away from aggressive chemotherapy at the end of life. Cost-effectiveness analysis shows that the introduction of palliative care earlier for patients near the end of life has great benefit. It not only costs less than life-extending treatments but has been associated with fewer hospitalizations, better quality of life, improved mood, and longer survival times.<sup>14</sup> These findings have already started to have an impact on the National Comprehensive Cancer Network guidelines.

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## Role of the Head and Neck Surgeon

This new world of population-based cancer treatment offers tremendous opportunity for us, as head and neck cancer surgeons and clinicians, to take leadership roles to define these care pathways and mechanisms. Cancer care has become increasingly multidisciplinary and team-based with the recognition that the regular incorporation of ancillary services (such as social and financial services, patient navigation, and psychological services) and rehabilitative services (such as speech and language pathology, physical therapy and lymphedema therapy) are critical to improved patient outcomes. In many institutions, cancer care has moved away from a department-based model to a service line structure to facilitate this comprehensive, multidisciplinary care approach.

It is imperative that we, as leaders of the head and neck cancer team, assume the role of defining what this care system should look like for our patients. Particularly for patients with head and neck cancer, there is no one who better understands the pathophysiology of the disease and the impact of functional impairments resulting from both disease and therapy. We have often served as the primary care physician for our patients with cancer, and this mandates that we step up and provide this leadership—to the betterment of our patients but also to ensure our voice will not be lost in the systems of the new world. This is not something we should fear or resist but rather embrace wholeheartedly and with enthusiasm. The alternative is to allow others less informed to dictate the care of our patients in the future.

We must embrace efforts at CEA as applied to surgical therapy as well as radiation and chemotherapy. While several quality-of-life studies have shown that surgical organ preservation therapy for laryngeal cancer is superior to chemoradiation therapy, the full analysis, including cost and survival benefit, must be completed. We

should be active in these analyses to ensure their validity, but we must also accept the outcomes of the studies if they are not favorable toward surgery as an appropriate option.

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## The Head and Neck Surgeon and Public Health

Just as our changing landscape of health care delivery dictates that we must take a broader view of and responsibility for the care of our patients and influence elements of care beyond our usual boundaries, so to must we expand that view and influence into the public health domain.

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## Tobacco Use

Tobacco use has been one of the most deadly public health issues over the past century. In 2014 we celebrated the 50th anniversary of the highly controversial Surgeon General's Report on Smoking and Health, which reviewed more than 7000 documents and in which the relationship of smoking to lung cancer was defined publicly and officially for the first time.<sup>15</sup> More than 31 subsequent reports have outlined the relationship of smoking and tobacco use to multiple other cancers (including head and neck cancer), cardiovascular disease, emphysema, peripheral vascular disease, premature infant delivery, and other problems. These reports have resulted in a major public health effort that has seen successes through mandatory product labeling, laws limiting tobacco advertising, increased tobacco taxes, and clean indoor air laws in 26 states in the United States.<sup>16</sup> These efforts have fortunately resulted in a dramatic decrease in smoking rates in the US population, from over 40% in the 1964 to less than 18% in 2014. Over that same period, approximately 17 million Americans died prematurely from tobacco-related causes. It is estimated that tobacco control efforts saved over 8 million American lives from 1964 to 2012.<sup>17</sup>

And yet there remains a persistent population of 44 million smokers in the United States who have a negative economic impact of almost \$200 billion in health care costs and lost productivity and result in approximately 500 000 deaths from tobacco-related causes every year. Fully one-third of US nonsmokers are still exposed to second-hand smoke in the workplace.<sup>16</sup> Thus, tobacco remains one of the most serious public health issues of our time. Tobacco companies continue to look for new ways to reach the youth of our country, who are armed with data that show that people who start smoking in youth are likely to be lifetime smokers. Every year, the tobacco industry spends more than \$8 billion in advertising with ongoing success.<sup>18</sup> Every day, 3800 adolescents in the United States try smoking for the first time, and 1000 of them will become lifetime smokers.<sup>16</sup>

It behooves those of us on the front lines of head and neck cancer treatment to enter the public realm and stand up to support efforts to continue to lower the rates of tobacco use. One of the most effective methodologies for lowering smoking rates is an increase in tobacco excise taxes. This is a very challenging proposition with the current antitax sentiment at all levels of our society, and yet is a critical piece of the solution. There is strong evidence that a 10% increase in the tobacco tax in a state will result in a 4% decrease in adult smoking and a 7% decrease in youth smoking.<sup>19</sup> And yet tobacco tax

rates in our country vary from a high of \$4.35 per pack of cigarettes in New York to a low of \$0.17 per pack in Missouri. The smoking rate in a state correlates well with these variations in tobacco tax, with a range of 10.3% of the population in Utah who are smokers to 26.5% of the population in Kentucky.<sup>20</sup>

Increasing tobacco taxes alone will not solve the problem. We must help those who already smoke to successfully quit. The combination of increased tobacco taxes with an aggressive smoking cessation program doubles the effectiveness of lowering smoking rates. The Centers for Disease Control and Prevention (CDC) has surveyed the evidence on tobacco control programs and modeled ideal programs for each state in the form of expenditures. For an example, the CDC suggests that the state of Kansas should be expending approximately \$28 million per year on tobacco control programs, and yet the current expenditure in Kansas is only \$0.9 million.<sup>20</sup>

We must also work to ensure there are clean indoor air laws in all 50 states, restrict youth access to tobacco products, and expand media campaigns to enhance prevention and cessation. E-cigarettes need to be adequately studied for impact and controlled as appropriate, and health care coverage for tobacco cessation programs must be expanded.

No one group of citizens is more informed or well positioned to speak to the elected officials of our country on the plague of tobacco use and the economic burden imposed on the private and public sector to deal with the negative health implications. We must elevate our efforts to become those advocates and lobbyists to change the legislative landscape in order to protect our families, friends, and patients.

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## Human Papillomavirus-Related Cancer

Over the past few decades we have also witnessed a rapid increase in human papillomavirus (HPV)-related cancers. This was first recognized as having an association with cervical cancer in women. This relationship was striking enough to encourage the development of HPV vaccines for the highest-risk viral subtypes and a fairly well publicized campaign to vaccinate young girls to prevent this cancer in the future. The Advisory Committee on Immunization Practices (ACIP) recommends that all preteens (ages 11 and 12 years) receive the first dose of HPV vaccine at the same time as other vaccinations.<sup>21</sup> Only 57% of young girls are receiving at least 1 dose of HPV vaccine by ages 13 to 17 years, yet 91% would have received a dose if they had received it at the same time as other recommended vaccinations (Tdap and Meningococcal).<sup>22</sup> Only 31.6% of girls were reported to receive all 3 doses of HPV vaccination by age 17 years in 2013.

With the rapidly growing incidence of HPV-related oropharyngeal cancers in young men in the United States, we face a similar challenge in boys. HPV vaccination of preteen boys is also recommended by the ACIP and the American Academy of Pediatrics. Despite this, the immunization rate for boys is much lower than for girls, with only 34.6% receiving at least 1 dose by ages 13 to 17 years and only 13.9% receiving all 3 recommended doses by age 17 years in 2013.<sup>22</sup> One major challenge is the lack of insurance coverage of HPV vaccinations, which varies by state and on average is less likely to cover boys than girls.<sup>22</sup> We are not effectively preventing the oropharyngeal cancers of the future.



As with tobacco use, the head and neck surgeon is the best advocate for changes in public health policy to encourage, if not require, the HPV vaccination of our children if we are to be successful in improving the wellness of the population of the future.

## Conclusion

The landscape of health care delivery in the United States is in the midst of widespread and sweeping change. These shifts are irreversible and progressive, irrespective of what happens politically with the ACA legislation—the private sector and CMS are “driving the bus” at this juncture, and the investments already made by health systems combined with the demise of the physician private practice model have pushed beyond the point of turning back.

And yet, these changes present us with tremendous opportunities to do maximal good for our patients. We are being handed an opportunity to shape the future of health care delivery for our patients with head and neck cancer that has never previously oc-

curred and likely will not occur again. We must embrace this opportunity to ensure this redesign is done properly and to the benefit of our patients—not to the bottom line of the health system. If done properly, both the patient and the health system will benefit from these changes. Only we, however, have the full perspective to define the future for success.

This sweeping change in health care will also align the benefits of preventive care and public health with the economic health of our health systems for the first time. No longer will the operating margins of our hospital systems be driven by performing more procedures and delivering more acute care in hospital beds. The future state will reward a healthier patient population that does not require as many procedures or days in the hospital by sharing the risk for the health of these patients with the insurance carriers. We will be incentivized to ensure our legislative environment fully supports our efforts to create a healthier population—which for us in the American Head and Neck Society means a reduction or elimination of tobacco use and the widespread HPV vaccination of our children. It is up to us to ensure this happens.

### ARTICLE INFORMATION

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