“Scoping Up” Dental Education to Address Scientific Uncertainty
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Effective Prevention of Oral Diseases

In contrast to medicine, dentistry places a major focus on just three diseases—dental caries, periodontal disease, and oral cancer. Most of these oral diseases are in large part preventable through the control of established risk factors, patient education, instruction in proper nutrition, and compliance with oral hygiene; and public health interventions such as water fluoridation. As with other population-based approaches, water fluoridation is a cost-effective way to deliver the benefits of fluoride to all residents of a community where the infrastructure is available to deliver its benefits. Dental prophylaxis can effectively remove local risk factors like plaque and calculus that contribute to the development of gingivitis and periodontal disease. Oral cancer has been traditionally related to tobacco use and/or excessive alcohol consumption. Dentists can counsel patients and prescribe medication for smoking cessation. Furthermore, unlike most forms of malignancy, certain lesions in the oral cavity can be readily detected because the mouth is easily accessible to clinical examination. In varying degrees, there has thus been significant progress in reducing the

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“How might dentistry make further progress in extending preventive benefits to underserved populations, especially in cases of scientific uncertainty?”
prevalence of oral diseases over time and across populations.

How might dentistry make further progress in extending preventive benefits to underserved populations, especially in cases of scientific uncertainty? To address that question, Ms. Michele Equinda, a senior dental student at the New York University College of Dentistry, and her faculty mentors focus on dental education and scientific uncertainty, and use the link between human papillomavirus (HPV) and oropharyngeal cancer as a case in point in this issue of the Journal of the Academy of Distinguished Educators (JADE).

HPV is related to the majority of oropharyngeal cancers in the United States, outpacing the numbers of cases related to the traditional risk factors of tobacco use and/or excessive alcohol consumption. The currently recommended screening process for oral cancer is examination of the oral cavity. However, detection of HPV-related oropharyngeal cancer is complicated by the hard-to-access location of these lesions. Note that screening for the virus per se is not recommended, since even if patients contract an oncogenic strain of HPV, most will eliminate the virus without any need for additional clinical intervention.

A promising approach is vaccination against HPV, but until recently advice regarding immunizations has not been a part of dental practice. Questions abound. Should dental clinicians counsel their patients about the prevention of HPV infection? Should dentists recommend the HPV vaccine to their adolescent and young-adult patients? Note that the Centers for Disease Control and Prevention (CDC) recommends HPV vaccination for both male and female adolescents and young adults to prevent genital lesions (warts) and anogenital and cervical cancers. Nonetheless, there remains scientific uncertainty about whether HPV vaccination will protect patients from oropharyngeal

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cancer, given the absence of scientific data from randomized clinical trials. The development of guidelines based upon the best available scientific evidence is thus urgently needed.

**Curricular Reform to Address Scientific Uncertainty**

A proposal for a revised curriculum at New York University College of Dentistry for each of the first three years (D1 through D3) that uses education about HPV infection as a working template is presented in this issue. This revised curriculum shows where critical thinking and scientific reasoning can be developed and successfully built into certain courses; e.g., Epidemiology and Critical Thinking; Health Promotion; Systemic Pathology; Ethics; Communication in Health Care; and Online Education and Assessment. Students may then “bridge the gaps” and develop new guidelines in the face of scientific uncertainty. These guidelines may include the clinical management of HPV infection in the dental setting, a protocol for counseling and referral, and potentially, recommendations to dental patients for HPV vaccination. An ethical framework for mandated HPV vaccination may include, for example, justice or the equitable distribution of an affordable vaccine; autonomy versus beneficence (the individual versus the public good); and nonmaleficence, or assurance that the vaccine is safe.

During my training in dental school at Case Western Reserve University (1970s), curricular reform generally did not include critical-thinking skills, evidence-based reasoning, study of the scientific and clinical literature, and risk-factor assessment for infectious diseases. This was perhaps not so unusual for most dental schools at that time. Instead, the emphasis was almost exclusively on the acquisition of a traditional skill set to restore and replace missing teeth; the emphasis now is on prevention of caries and periodontal disease and the preservation of natural teeth. Thirty years ago, dental clinicians were in a quandary about how best to
manage patients with what is now recognized as HIV/AIDS. The sobering reality is that dentistry can no longer afford to remain isolated as a profession.

Extensive international travel has changed the scope of dental and medical practice dramatically and irreversibly. As events of the past year have sharpened into focus, Ebola virus infection has engendered a humanitarian crisis in West Africa, and a fear campaign in Western societies. Newman and Raffensperger proposed one framework for understanding emerging diseases such as Ebola virus, avian flu, SARS, and HIV/AIDS; namely, to think of them as the product of new connections—the interaction between previously separated species and concomitant transfer of pathogens into new hosts. Pathogens, their mutations, and people all frequently travel together across the globe. The Ebola virus skillfully made its way from bats to humans in West Africa, and then in a few isolated cases to Europe and the United States. How should the practice of dentistry react to these newly emerging infectious diseases? What guidelines need development when dental clinicians are again faced with scientific uncertainty? The education of future dental practitioners will require critical thinking and scientific reasoning, as dentists will need to interact with a much broader range of healthcare experts in medicine; e.g., infectious disease specialists, nurse practitioners, healthcare policymakers, scientists, and ethicists to develop treatment guidelines. This is the new normal.

**Addressing Future Needs**

At present, dentists are the gatekeepers in the detection and treatment of oral diseases and the advancement of oral public health. In the future, dentists will likely “scope up” to include a wider range of healthcare activities in their practices. These activities will almost certainly include primary care screening for
hypertension and diabetes, assessment of tobacco use and support for cessation, and a role in screening for and counseling around infectious diseases such as HIV/AIDS and HPV, including referrals to primary care providers for follow-up and treatment, if needed. At the same time, dentists will almost certainly “scope down” by delegating parts of their traditional skill set to allied dental healthcare professionals to perform needed services, such as dental prophylaxis, application of fluoride varnish and sealants, and the placement of uncomplicated restorations.

In this issue of JADE, Dr. Janice Lee argues that the future of dentistry and its specialties will rely on the science and research behind conditions that require treatment and an understanding about how to maintain health. Dental schools train future practitioners in evidence-based dentistry. Whether a practitioner is a general dentist, specialist, or formally trained clinician-scientist, the translation of scientific data into clinical treatment will require a dual-focused practitioner with clinical and scientific research skills. This will be the traditional skill set of future dental practitioners as gatekeepers in the detection and treatment of oral diseases and the advancement of oral public health. In that regard, Dr. Lee also discusses the launch of the National Institute of Dental and Craniofacial Research (NIDCR) Practice-Based Research Network (PBRN) in the United States, a program that has increased the number of participating dental practitioners who are trained to conduct research, as well as the number of dentists who are being trained to apply research in their clinical practices.

Also in this issue, Dr. Arthur Caplan points out that education and equipment are needed to prevent Ebola infection from getting a foothold in poor nations. For that matter, even in a highly developed country like the United States, not every hospital is adequately equipped to manage patients with Ebola infection. Physicians from the United States who travel to West Africa to treat Ebola patients
deserve immediate treatment and the best available medical resources if they, too, become ill. While physicians take on the role of helping the very ill, it is not ethically defensible that they should lose their lives in treating others. Because of the greater risk of contracting a lethal infection, physicians are still expected to use personal protective equipment to provide care. Quarantining those infected with Ebola is not an effective strategy, as was also evident during the Severe Acute Respiratory Syndrome (SARS) epidemic. Thus, the need for effective therapies such as vaccines cannot be overemphasized, and if therapies show promise, then these should be implemented even before randomized controlled trials (RCTs) are finalized. U.S. federal funding is desperately needed for education, research, and development of therapies against newly emerging infections.

In a recent *Time* magazine issue devoted exclusively to the science of epidemics, William Karesh, executive vice president for health and policy at Ecohealth, remarked, “There’s a lot of potential risk in saying the wrong thing. And then, of course, there’s a potential risk of not doing the right thing.” The emphasis ought to be on doing the right thing, even in the face of scientific uncertainty.

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Dental education is undergoing a process of evolution. Whereas the traditional dental school curriculum has focused on a strictly defined role for the dentist in delivering services to patients, that role is changing as dental schools seek to give their students opportunities to learn with and from students in other health professions, with the ultimate goal of improving the quality of care.

The future dentist is widely expected to shift from a traditional “silo-like” or circumscribed model of dental practice toward one that includes dialogue with a wider range of colleagues, including but not necessarily limited to physicians, nurse practitioners, mental health providers, dental hygienists, and social workers. Dentistry is expected to align with medicine in new and different ways, not only to provide health care to patients, but also to play a
larger role in promoting population health. The core concept animating this expectation is that no single healthcare profession can optimize patient care, a concept that underpins both the federal movement to create “health homes,” in which all of an individual’s caregivers communicate with one another so that all of a patient’s needs are addressed in a comprehensive manner, and the integrated payment plans being tested under the Patient Protection and Affordable Care Act.

“Scoping Up” and “Scoping Down”

Michael Sparer has used the term “scope up” to describe the dentist’s changing role as new graduates incorporate a broader range of primary healthcare activities into their practices. These activities include primary care screening for hypertension, diabetes, and tobacco use, and patient education about issues such as nutrition. Dentists’ adoption of these activities comes in tandem with interaction and collaboration with a wider range of colleagues, significantly expanding the scope of dental practice beyond its traditional model of oral healthcare delivery.

Sparer has likewise coined the phrase “scope down” to describe a future dentist’s decision to design treatment plans and then delegate parts of the traditional dental skill set to allied dental healthcare professionals. These professionals would perform dental prophylaxis, apply fluoride varnish and sealants, and place uncomplicated restorations, while the dentist continued in the role of treatment leader and patient counselor.

Both of these scenarios envision the dentists of tomorrow as evidence-based decision makers and team leaders, in addition to clinicians. As new thinking upends the traditional model of care, there is understandable resistance within the profession to this new, albeit elevated, role of the dentist. Yet, within this context, the dental education curriculum must redefine the scope of care to enable future dentists to develop stronger critical-thinking skills.

“Dentistry is expected to align with medicine in new and different ways, not only to provide health care to patients, but also to play a larger role in promoting population health. The core concept animating this expectation is that no single healthcare profession can optimize patient care.”
and scientific reasoning. In order for the dental profession to embrace “scoping up,” dental students must be exposed to and participate in scientific debate and ethical decision making to a greater extent than is currently the case. It is particularly important for students to learn to use the professional ethical decision-making framework (first advanced by Ozar and Sokol) when clear scientific evidence to support a treatment decision is lacking—a situation that dentists may increasingly encounter when presented with emerging public health issues such as the Ebola virus.

In fact, a number of these issues under investigation today, involving oral health, are fraught with scientific uncertainty. Consider the case of pregnant women with periodontal disease who are at risk of passing infection to their babies. Because scaling of teeth has not been found to improve birth outcomes, it has been proposed that mothers with this condition be treated medically to help develop healthier flora in their mouths. But the dental community is not composed of infectious disease specialists, and the requisite clinical trials have not been conducted to test this approach. As the role of infection in periodontal disease is made clear, dentists must debate the risks and benefits of shifting from a surgical approach to a medical approach to improve the health of mothers and their babies.

**Promoting Scientific Thinking in Dental Education: The Case of HPV**

Few scientific controversies are more suited to engagement by the dental profession than the question of routine vaccination against human papillomavirus (HPV). The current effort to understand and address the rise in HPV-related oropharyngeal cancer is an ideal case in point for rethinking dental education and the dental profession’s scope of practice because it invokes issues not only of prevention, screening, and treatment, but also of analysis of available research, ethics, and public health policy—areas that go beyond the dentist’s current role.

The Centers for Disease Control and Prevention (CDC) estimates that there are...
79,100,000 HPV infections in the United States. Indeed, HPV is the most common sexually transmitted infection in the United States, with significant implications for the practice of dentistry. Oral HPV is predominately acquired through sexual behaviors, most commonly by oral sex. In recent years, public awareness of the HPV epidemic increased when the actor Michael Douglas told a British newspaper that his throat cancer had come from performing oral sex.

An estimated 41,000 cases of oral and pharyngeal cancers are diagnosed in the United States
each year, more than 90 percent of which are oral squamous cell carcinomas (OSCC). Whereas the typical and familiar risk factors for HPV-negative OSCC include alcohol and tobacco use, the risk factors for HPV-related OSCC include genital wart history, practice of oral-genital sex, a younger age at first intercourse, and a greater number of sexual partners. Notably, there has been an overall reduction in HPV-negative OSCC over the last 30 years due to decreased tobacco use; yet, there has been a fourfold increase over the same period in HPV-related OSCC, almost exclusively involving the oropharynx, predominantly affecting white males, and particularly gay white males. The increase has been linked to the rise, beginning in the 1990s, of HIV infection, which may have reduced the percentage of those who engaged in sexual intercourse in favor of other types of sexual activity, such as oral sex, especially among adolescents.

More than 70 percent of these oropharyngeal cancers are associated with an oncogenic HPV subtype (almost exclusively HPV-16). Yet, despite strong evidence demonstrating a link between HPV and oropharyngeal cancer, systematic testing of patients for the presence of HPV is not a viable approach to prevention because of reports estimating a high prevalence of the virus throughout the population (approximately 1 percent). That is, most sexually active people acquire HPV at some point in their lives, and the body likely clears the virus within two years without medical intervention.

The only effective screening process for oral cancer is inspection of the oral cavity for early lesions and palpation of the neck, yet early detection of HPV-related oropharyngeal cancer via this method is not always effective. Dentists should conduct oral cancer screening as part of every regular checkup. Yet, there is another potential type of intervention...and that is to recommend the HPV vaccine to their adolescent and young-adult patients.

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dentists with a certain amount of scientific uncertainty.

The CDC recommends vaccination with Gardasil or Cervarix for girls and women between ages 11 or 12 and 26, and it recommends vaccination with Gardasil for boys and men up to age 21 and up to age 26 for men who have sex with men. The evidence has shown that the HPV vaccine is effective in preventing 70 percent of cervical cancers in women and anogenital cancer in men. Yet, there remains scientific uncertainty over whether the vaccine protects against oropharyngeal cancer.

According to the CDC, while it is possible that HPV vaccines now on the market that were developed to prevent cervical and other less common genital cancers might also prevent oropharyngeal cancers, studies have not yet been done to determine if HPV vaccines will prevent oropharyngeal cancer.

Moreover, given the long latency and relatively low incidence of oral cancer as compared to other major oral diseases (caries and periodontal disease) in the general population, the link may take decades to be substantiated through research, and to date, the American Dental Association has not issued recommendations on this subject. Moreover, no state in the nation mandates HPV vaccination for children to attend school. It is hoped that a general decline in the incidence of HPV in the population as a result of more widespread vaccination will result in less transmission of HPV to the oral cavity through sexual activity. Yet, there is reason to suspect that the vaccine will also protect against oropharyngeal cancer itself in the individual who has been vaccinated. Once this link is firmly established through scientific studies, the dentist’s role in prevention will become clearer. Until then, dentists must rely on an ethical decision-making framework to consider their options in terms of counseling and referral.

The Dentist’s Quandary in Dealing with HPV

When it comes to HPV, a dentist may elect to “scope up” by providing HPV consultation to his or her patients or “scope down” by delegating this responsibility to dental hygienists or dental assistants. But in either case, dentists are not accustomed to dealing with issues related to patient sexuality and may feel uncomfortable discussing HPV risk factors, modes of transmission, and prevention measures with their patients, especially given the uncertainty and lack of professional recommendations.
about how to advise them. Moreover, in counseling their patients, dentists must be aware of the barriers that patients (or their parents) may encounter in seeking the vaccine. It is expensive when compared to other vaccines and not covered by all health insurance plans; it requires three doses for maximum effectiveness; and there are concerns about the sexual route of transmission of the virus in adolescents. These barriers may account for the fact that vaccination coverage (with at least one of the three recommended doses) is low: among girls ages 13 to 17, it has barely topped 50 percent and among boys, it is only 35 percent.

Dentists who counsel their patients (or their parents) about vaccination need to explain these potential obstacles and be prepared to refer to a treatment center where the vaccines are available affordably. Will patients at low risk of contracting HPV feel obligated to seek an expensive vaccination? Will dentists’ offices need to send their patients reminders to get the booster doses? Could dentists compromise their relationships with their patients by over-stepping cultural boundaries in discussing sensitive topics? Do they understand the legalities of confidentiality and informed consent?

These are the ethical and practical quandaries that might arise if dentists actively address this public health issue. Yet, the epidemic presents dentists with an opportunity and a professional—perhaps even lifesaving—obligation to “scope up,” that is, to push the limits of their professional boundaries and play a greater role in their patients’ systemic health. It also provides a chance to contribute to policymaking within the healthcare community, with the goal of minimizing the spread of HPV infection.

**The Need for Curricular Development to Promote Critical Thinking**

Dentists are expert in performing risk-factor assessments and comprehensive head and neck examinations to identify patients at particular risk for cancer and to detect potentially malignant oral lesions. Developing this expertise is a central focus of dental education, but historically, mastering complicated dental procedures
has allowed little time in the curriculum for scientific debate. Yet dental students must become more comfortable with a rapidly evolving professional mandate and uncertainty and know where to go to find the best scientific evidence available. Moreover, it is essential that students acquire a professional ethical decision-making framework, which is invaluable in thinking through the potential harms and benefits to patients of an intervention (or lack thereof) in the absence of professional guidelines.

As dental schools adapt to a changing overall healthcare environment, they have an excellent opportunity to shift their curricula to enable students to have this critical experience as well as to be exposed to the professional and ethical decision-making process that must ensue when there is no clear answer to an emerging public health question.

### Proposed Curricular Changes to Foster Critical Thinking

To address dentists’ potential role in helping to guide both their own patients and public policy on public health issues involving dentistry, such as HPV-related oropharyngeal cancer, an interdisciplinary, evidence-based expansion of the curriculum is needed. Such an approach would incorporate epidemiology, critical thinking, health promotion, pathology, microbiology, oral diagnosis, ethics, and health policy in the classroom, clinical, and community settings.

New York University College of Dentistry (NYUCD) already follows an evidence-based model that can provide the basis for revision of the current curriculum to include disciplines and topics related to HPV and other public health questions that dentists must
address in the face of scientific uncertainty. We propose a twofold framework for curriculum development to address these issues:

1. Provide students with the tools, critical-thinking skills, and knowledge to become scientist-practitioners who are on the leading edge of oral public health policy and provide the best possible care for their patients.

2. Offer a replicable model for other institutions to use as a template for addressing emerging topics and incorporating new findings into the education of future dentists.

Many of the courses in NYUCD’s curriculum, including an honors course in the special patient care clinic during the fourth year and clinical rotations throughout the curriculum, lend themselves to a greater emphasis on critical thinking. The following examples illustrate ways in which current courses might be adapted to include additional consideration of emerging public health issues, ethical decision making, and greater scientific debate.

D1 Health Promotion, in which students learn the signs and symptoms of oral cancer, can be enhanced to address the role and limitations of the dentist as counselor, incorporating the concepts of “scoping up” and “scoping down.” Students would learn to educate patients on HPV transmission. Timely case studies, in which current health topics are debated, should include the ethical obligation to confidentiality and privacy and related legal considerations.

D2 Systemic Pathology, in which students learn about the effects of HPV on the female reproductive system, presents an opportunity to include the effects that HPV may have on males and the link with oropharyngeal cancer.

D3 Ethics provides students with a framework for articulating ethical concerns, clarifying the relevant facts, applying the relevant ethical concepts, formulating reasonable options, and justifying a course of action. Recommended enhancements include the ethical framework for recommending vaccines to patients (or their parents) to prevent disease and the moral imperative to care for patients with emerging health concerns such as Ebola.

D3 Communication in Health Care, in which students learn communication skills by working with standardized patients (actors) who present a variety of scenarios and social histories, offers an excellent opportunity for them
to learn how to educate patients about the HPV vaccine and overcome discomfort about the sensitive nature of the discussion.

D3 Online Education and Assessment, a proposed interactive course designed to assess students’ knowledge at the time of graduation, should include a student assessment of the prevention, diagnosis, and treatment of oropharyngeal cancer and its links to HPV.

Going Forward

As recent dental graduates begin to influence professional thinking, the ideas of “scoping up” and “scoping down” are likely to redefine the dentist’s traditional role in the provision of health care. In either context, it will be essential for dental education to provide broader instruction in critical-thinking skills and assessment of evidence to address scientific uncertainty. On an individual level, dentists must consider how they will approach new public health questions as they arise, particularly in anticipating both patients’ and dental staffs’ questions about HPV and other infectious diseases. It is predictable that future dentists will “scope up” to refer more patients to other members of the healthcare team and to interact with a wider range of medical specialists in immunology, dermatology, oncology, and infectious diseases. On a societal level, these behaviors will provide opportunities for dentists’ voices to be heard in ethical debates about developing a national HPV vaccination policy.

“As dental schools adapt to a changing overall healthcare environment, they have an excellent opportunity . . . to enable students . . . to be exposed to the professional and ethical decision-making process that must ensue when there is no clear answer to an emerging public health question.”
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Preparing Future Clinician-Scientists For the Dental Profession

The future of dentistry and dental specialties relies on the science and research behind the conditions that require treatment and on understanding how to maintain health. There are 65 dental schools in the United States. Nearly all note in their mission statement either research, evidence-based dentistry, or both, and many are structuring their curricula with interactive teaching methods to incorporate interdisciplinary, case-based, problem-solving training—a framework that prepares the student for individual and group investigation. This is particularly important in clinical scenarios that are controversial or where treatment is experimental and emerging. The role of the dental school in educating its trainees to conduct research or to evaluate the evidence and then practically apply it is paramount. While not everyone conducts basic research or large clinical trials, the appreciation for research is central to the education of all dentists. Through research, it is possible to develop clinical guidelines and mechanism-based target therapies and to determine the etiology of disease; these findings are then disseminated in the literature or lay

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press. Staying current with the biomedical literature and critically examining the evidence for treatment are skills learned in dental school, honed in practice, and applied in the day-to-day encounters with patients who seek care.

The National Institute of Dental and Craniofacial Research (NIDCR) supports research education in communities that are both extramural (outside the National Institutes of Health [NIH]) and intramural (at the NIH in Bethesda, Maryland). This is articulated in its mission statement and fourth strategic goal to “ensure that a strong research workforce is dedicated to improving dental, oral, and craniofacial health.” (1) This mission requires addressing two major cohorts: those who are being trained to do the research and those who are being trained to apply the research in their clinical practices. How is the NIDCR developing these two cohorts? On the extramural side, greater than 70 percent of NIDCR training and career development extramural funding goes to dental schools, and the launch of the National Dental Practice-Based Research Network (PBRN) in six regions across the United States has increased the number of participating
practitioners. (2) In a domino effect, this has increased the value of evidence-based practice in the eyes of the practicing community. Some examples of this include studying HPV screening for the risk of oral cancer and assessing the efficacy of a dentist-delivered smoking cessation program. Dental specialties also realize the power of engaging those at the front lines, such as the American Association of Oral and Maxillofacial Surgeons (AAOMS), which has involved its membership in previous nationwide clinical studies and now the AAOMS PBRN. The American Association of Orthodontists is also proposing research studies for consideration by the National Dental PBRN. Research at the bench is not, and should not be, exclusive of research at the chairside.

Educating Clinician-Scientists

The NIDCR intramural research program (IRP) focuses on rare conditions, but research in these conditions begins to uncover the etiology of common problems. The application of emerging technologies in genomics, transcriptomics, oral microbiome analysis, imaging, bioinformatics, and “big data” brings to the forefront new possibilities in personalized and precision dentistry and medicine. The NIDCR Clinical Research Fellowship (intramural) does its part to train the dual-focused clinician and translational scientist in a two- to four-year fellowship program that facilitates a research project in the rich collaborative environment of the NIH Clinical Center. (3) An example of such a clinician-scientist is Dr. Jacqueline Mays, a fellow who studies the biology of oral chronic graft-versus-host disease (GVHD) in post-transplant cancer patients. She has taken the lead on a randomized double-blind pilot study for a potential therapy of the oral manifestations of GVHD and is examining the possible biomarkers in salivary proteins at the onset of disease. At the completion of their projects, fellows are prepared to transition to academic
institutions around the country and world. This emphasis on bidirectional research and the growing partnership between basic scientists and active clinicians is required to address the full spectrum of disease, from mechanisms to clinical application—and ultimately, to lead to the improvement of the health of the American population.

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Lessons from the Ebola Crisis

Do you remember Ebola? You could not turn on a TV news show in September 2014 without seeing a story on the disease. Americans were in a tizzy about Ebola running wild in the United States. Then, as quickly as it had shot to the forefront of public concern, other issues pushed it away. Ebola still was a huge public health issue in Africa, but as long as it was not going to spread to the United States, few in the American media or in politics or medicine seemed to care. So what would an “ethics autopsy” reveal about what lessons ought be learned from the world’s and the United States’ response to this disease?

Here are my top eight.

1. The best way to respond to Ebola now and in the future is to stamp out the epidemic early. Without education and equipment, the disease can get a foothold and overwhelm healthcare systems in poor nations. So we need to train populations at greatest risk on what to do if they fear an outbreak of Ebola.

2. Ebola needs to be treated in the United States with an expert, regional response. The notion that every hospital can deal with Ebola was shown to be wrong by the events at Texas Health Presbyterian Hospital in Dallas. Every hospital cannot deal with Ebola. But some can. They have the training, the equipment, the experience with other infectious diseases, and the skilled personnel to engage Ebola safely. Pride about
what any hospital wants to try to do must yield to the reality that having a moon-suit does not mean everyone is trained properly in how to put it on and take it off. We should designate the national 100 hospitals that can take Ebola patients, figure out how to get those suspected of being infected to one of them safely, and retire any illusion that every hospital should be prepared to deal with an Ebola patient.

3. We need to figure out what quarantine means in the United States. Does it mean you try to stay home until an urge for soup or a movie overpowers your willpower? Can you be kept in a tent with no running water and no television for weeks, or must the state doing the quarantining do better than that? Does it mean if you come out the door, the cops Taser you and you lie there until a HAZMAT team comes to drag you back inside? Does it mean your pets are quarantined, too, or must they be euthanized at a shelter if there is no way to keep them from putting others at risk when they go outside? The recent experience with quarantine was unnervingly bad, and that had better be fixed.

4. Americans come first in terms of treatment. We are sending troops and healthcare workers overseas. If they get sick, they come home. This is not discrimination; it is moral common sense—we take care of our own citizens first. Others may get to come here for care, but those who go to fight an epidemic or get caught up in one have first claim on healthcare resources.

5. We must use experimental drugs, vaccines, and treatments in a compassionate
manner. Normally, we wait for randomized controlled trials (RCTs) to show safety and efficacy. For interventions that are shown safe in animals and people and have some reasonable basis in science for being possibly efficacious, and in the face of an infectious disease with an over 70 percent death rate, those treatments are going to be given outside RCTs. Some are and will be tried as last-ditch therapies. Some may be tried in West Africa as first-line preventive agents. Science should not go out the window, but the ethics of testing and regulating need to bend a bit in the context of a lethal epidemic.

6. Officials need to spend much more time debunking nonsense. There were plenty of charlatans waiting to make a buck off of the Ebola panic. They should be called out; if possible, they could be arrested or fined. Panic flourishes in the social media, and it must be stamped out fast.

7. We must spend more money on infectious diseases. There is a lobby for getting money for cancer, heart disease, asthma, and ALS, but there is no group pressing for funds for Ebola, pandemic flu, or West Nile virus. The government needs to do better in making sure these scourges get research funding, too.

8. A rapid-response medical force should be created to deal with epidemics. It can be all volunteers, but it needs funding, training, and a lot of positive PR.

Ebola may have disappeared from the media, but the lessons it has to teach must not be forgotten so quickly.