SOCIAL ASSISTIVE TECHNOLOGY AND ETHICS

Rapid growth in the oldest age portions of the U.S. population is accompanied by advances in technology that stimulate efforts to create more health care assistive devices. Robotics is an example of a quickly developing field that holds significant promise of changing the relationship between patients and their caregivers in fundamental ways to the degree that machine-based services become capable of replacing what some allied health practitioners and members of other health professions furnish. Depending upon the type of robot and how it is employed, ethical issues are associated with any changes of this nature.

Wearable assistive devices, such as a soft-robotic glove, may have more widespread applicability in supporting hand function after a patient experiences a stroke. Although the amount of time spent with a therapist might be reduced by the availability of this technology, the social and ethical impact will be less than what might be anticipated if robots are used to assist in performing a patient’s activities of daily living (ADL). Also, if an adequate supply of allied health therapists is unavailable to treat patients who live alone, it would appear to be beneficial to employ robots to assist in needed tasks, such as lifting them from chairs and beds, and by issuing reminders about medication usage and adherence to a sensible diet.

Other situations could be more problematic ethically. Frail individuals may be at higher risk of sustaining falls. A robot capable of monitoring and conveying information of the occurrence of a fall to health and emergency personnel would be an asset. Nevertheless, allowing the presence of this device in the bathroom, where toilet use and bathing take place, raises the issue of ensuring that dignity and intimacy are respected.

Similarly, robotic care may be applicable in treating children with autism. The kinds of ethical matters deserving attention are: the acceptability of replacing therapists with robots, possible negative effects of having children become too emotionally attached to a machine, and how any robot-generated data that are collected will be transmitted and to whom. Related questions pertaining both to children and adults are: (1) How favorably does the quality of care by a robot compare to a human caregiver? (2) What safeguards are needed to offset the possible devaluation of the social aspects of health care?

As stated in an article published May 23, 2017 online in the journal *Frontiers in Neurorobotics*, taking into account safety, functionality, effectiveness, and acceptance of human-robot interactions requires the collaboration of disciplines, such as mechatronics, computer science, biomechanics, neuroscience, and psychology. Assistive devices have enormous potential to enhance health status. A critical ingredient will be to conduct research to examine the ethical implications of the use of machine-based technology on humans.
Dear Colleagues,

Most of our universities and colleges have already started their academic years welcoming back faculty, staff, and students with the typical excitement that each new year affords. It is important to pause and recognize that several institutions in Texas have been prevented from the excitement of starting their school year. At the time of this writing, the southeast coastal area of Texas has experienced Hurricane Harvey, continuing rain, and catastrophic flooding.

The storm has brought many of the areas to a standstill as they focus on safety and recovery from much damage. In particular, our institutions in Houston and surrounding area have challenges that have delayed or stalled the start of their academic year until they can assure safety.

On behalf of the entire ASAHP Board, and I know our membership, I extend our deepest concerns to our colleagues in Texas. Please know that our thoughts are with you, your families, students and university colleagues.

Best to all,
Linda

NEXT 20 YEARS OF EDUCATION TECHNOLOGY

Blackboard Inc., an education technology company for teaching, learning and student engagement, released a new white paper exploring the future of higher education. Based on in-depth interviews with 13 American higher education thought leaders, the white paper “Future Forward: The Next Twenty Years of Higher Education” is being released in conjunction with Blackboard’s 20th anniversary. The following key themes emerged from the interviews and are detailed in the white paper:

- The current higher education system is unsustainable and ill-suited for a globally connected world that is constantly changing.

- Colleges and universities will have to change their current business model to continue to thrive, boost revenue, and drive enrollment.

- New technologies will allow faculty to shift their focus to the application of learning rather than the acquisition of knowledge.

- Data and the ability to transform that data into action will be the new lifeblood of the institution.

- The heart and soul of any institution are its people. Adopting new technologies is only a small piece of the puzzle; institutions must also work with faculty and staff to change institutional culture.

The white paper can be obtained at http://www.blackboard.com/resources/pdf/future_forward_the_next_20_years_higher_ed_rev.pdf.
FISCAL YEAR 2018 FUNDING

When Congress returns to the capital at the end of its August recess, there will be only 12 days in September when both the House and Senate will be in session to work on producing appropriations legislation for Fiscal Year 2018, which begins on October 1. Another key objective to achieve in that relatively short timeframe will be to raise the debt limit or risk a default on U.S. debt obligations. Also, unless reauthorized by the end of September, the Children’s Health Insurance Program (CHIP) is set to expire. In the event lawmakers are unable to send spending bills to President Trump that he agrees to sign into law, an alternative is to pass a short-term measure to enable the government to continue to operate over the short term.

The budget submitted to Congress by the President last May 23 differs in some important respects from what presently is unfolding on Capitol Hill. Whereas President Trump would reduce funding for the National Institutes of Health by $7.5 billion, the House Appropriations Committee on July 19 recommended a nearly $1 billion increase for the NIH and it also blocked the Administration’s proposal to reduce NIH support for facilities and administrative (F&A) expenses.

Nevertheless, other accounts face cuts. The Agency for Healthcare Research and Quality (AHRQ) would experience a 7.4% reduction of $24 million and Title VII health professions and Title VIII nursing workforce programs in the Health Resources and Services Administration (HRSA) would undergo a reduction of $91 million (16.8% cut). For Title VII, the measure includes $237 million, representing a 72.2 million (23.3%) cut below FY 2017, achieved by eliminating the Health Careers Opportunity Program, the Public Health and Preventive Medicine Program, and substantial reductions for Centers of Excellence, Behavioral Health Workforce Education, and Geriatrics programs.

Some opposition to the Administration’s budget for the coming fiscal year also has been expressed in the Senate. Roy Blunt (R-MO), Chairman of the Senate Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies (Labor-HHS), led a subcommittee hearing on June 15 to review the budget request for the U.S. Department of Health and Human Services (HHS). Department Secretary Tom Price testified on behalf of the administration’s budget plan, which recommends significant reductions for HHS in FY 2018. His Department of Health would take a $15.1 billion cut or a reduction of about one-fifth from the Department’s current funding level. Among other comments, Senator Blunt stated that he will not write a bill this year that reduces funding for the National Institutes of Health.

Ultimately, members in each chamber will decide how much spending to approve for 12 different appropriations bills. Differences between the House and Senate will be resolved by a conference committee. President Trump then has to sign them into law for funding to become effective.

2017-2019 ASSOCIATION CALENDAR OF EVENTS

September 2017—ASAHP Election Results Announced

October 18-20, 2017—ASAHP Annual Conference in San Antonio, TX

November 5-11, 2017—National Allied Health Week

October 10-12, 2018—ASAHP Annual Conference in St. Petersburg, FL

TBA 2019—ASAHP Annual Conference in Charlotte, NC
AFFORDABLE CARE ACT DEVELOPMENTS

Every four years, a U.S. presidential election occurs. Typically, it is characterized by candidates’ lofty claims, such as “On Day One of my Administration, I will (fill in the blanks).” That brand of rhetoric usually proves to be quite exciting in ways that captivate the imagination of a great many voters.

The truth is that for proposals of this nature, except for the issuance of an Executive Order or revoking an Order issued by a previous holder of that office, little of importance tends to occur on Day One or by Day 100 or even by Day 200 of a new Administration. A case in point is repeated assertions by Republicans in elections since 2012 that they would repeal and replace the Affordable Care Act once they assumed control of both chambers of Congress and the White House. The dream of that party came true with the outcome of the elections in 2016. They now are empowered to run the federal government, but as of the end of August 2017, repeal and replace continue to be exceptionally difficult objectives to achieve. Apart from any opposition by Democrats, a persistent obstacle confronting Republicans is an inability to overcome serious divisions within their own party concerning how much of the ACA to repeal and the nature of any replacement features.

Controversial Financial Elements Of The Affordable Care Act
The health reform law enacted in 2010 had as a major objective a reduction in the number of uninsured Americans. Significant gains have been made in achieving that outcome, but financing the expansion of coverage has been controversial. One source of revenues is the imposition of taxes. In the 2010 reconciliation bill that enacted portions of the ACA, Democratic lawmakers delayed the onset of a so-called “Cadillac tax” on high income persons from 2013 to 2018. Later, the effective date was postponed until 2020. In this year’s House Republican American Healthcare Act bill to repeal and replace the ACA, the proposed legislation would delay the tax to 2025, while the Senate version of that bill would hold it off until 2026. Equally despised is a Medical Device Tax, which a great many Democrats and Republicans vow to repeal.

A mechanism called cost-sharing reduction (CSR) requires insurance companies under the ACA to reduce deductibles, co-payments, and other out-of-pocket expenses for low-income beneficiaries enrolled in the exchanges. In response to legislation proposed by Republicans in 2017, the Congressional Budget Office (CBO) projected that insurance premiums for silver-tiered health plans sold in the exchanges would rise 20% in 2018. In some areas, there would not be any exchange offerings if CSR payments expire after December 2017. The CBO also projected that eliminating CSR payments, which President Trump favors doing, would increase the deficit by $194 billion over 10 years because of increased spending on premium subsidies. During the Obama Administration, the U.S. House of Representatives filed a lawsuit challenging the CSR payments, arguing that they are unconstitutional because Congress never appropriated the funds. A federal judge approved the lawsuit, but the appeal is in abeyance pending resolution or legislative action.

Upcoming Deliberations And Prospects for Repealing And Replacing The ACA
Leaders of both the Senate Finance Committee and Senate Health, Education, Labor, and Pensions (HELP) Committee plan to conduct hearings on health reform when Congress reconvenes in September. The HELP Committee hearings will begin the week of September 4 with a focus on stabilizing the insurance market. A broad array of witnesses representing state insurance commissioners, consumers, governors, and insurance companies will testify. Chairman Lamar Alexander (R-TN) has indicated that he supports the continuation of cost-sharing reduction payments through September, followed by a yearlong appropriation by Congress.

The ACA became law without the support of a single Congressional Republican, which accounts for the sustained level of opposition by the G.O.P. Their solo attempts thus far to abolish that law are not successful. Historically, major social welfare legislation in the U.S. has depended on bipartisan cooperation. A hopeful sign is that the formation of a bipartisan group of 40 House members in the “Problem Solvers Caucus” aims to fund CSR payments for low-income Americans, create a “dedicated stability fund” that states could use to reduce premiums, repeal the medical device tax, and among other provisions, remove the requirement for employers with fewer than 500 employees to provide health insurance to their workers.
DEVELOPMENTS IN HIGHER EDUCATION

Page three of this newsletter describes funding recommended by the House Appropriations Committee for health. In an accompanying report, the Committee also recommended $22,475,352,000 for the Pell Grant program, which is the same as the fiscal year 2017 enacted level and $42,726,000 above the fiscal year 2018 budget request. These funds will support Pell grants to students for the 2018–2019 academic year. The Pell Grant program costs have come in below estimates for the past few years, resulting in a surplus of funding for the program. Because of this surplus, the Congressional Budget Office estimates that the budget authority provided in this bill is sufficient to maintain the discretionary portion of the maximum Pell Grant award at $4,860. Combined with mandatory funding streams, the maximum Pell Grant in 2018–2019 will be maintained at $5,920.

Inviting A Dialogue About Accreditation And Higher Education
The Council for Higher Education Accreditation (CHEA) commissioned a series of op-ed commentaries on issues related to accreditation and quality assurance. As part of the offerings, John Bassett, President of Heritage University, expressed his thoughts on a discussion regarding higher education and accreditation with Betsy DeVos, Secretary of the U.S. Department of Education. He noted that during the Obama Administration, despite large increases in Pell Grant funding, the values of peer-review accreditation were threatened by a Department of Education oriented toward turning justifiable accountability to taxpayers into federal policies on higher education. Those policies were full of regulations that increasingly seemed to replace accreditation for continuous improvement of colleges, based on their individual missions, into a strategy of compliance and uniformity. It seemed only a matter of months before American colleges and universities would be overseen by a true Ministry of Higher Education, like those in Europe, and would lose that special value of having great diversity in the very kinds of our institutions.

He believes that Secretary DeVos, like the President, is dedicated to reducing regulations on industry, and there is no reason that policy might not include higher education, especially since much of the work to plan reductions has been done by a bipartisan task force commissioned by Senators Lamar Alexander (R-TN) and Patty Murray (D-WA). More importantly, she may be amenable to changes that reaffirm the value of peer review within a context that encourages innovation in education, reduces some of the burdens of the accreditation process, and recognizes the varied kinds of excellence, traditional and entrepreneurial, throughout both the public and private sectors.

Expansion of Veterans’ Higher Education Benefits
On August 6, President Trump signed into law the Harry W. Colmery Veterans Educational Assistance Act of 2017 (H.R. 3218), also known as the “Forever GI Bill,” which will bring significant changes to veterans education benefits. The law is named after the American Legion national commander who wrote the original GI Bill language in 1944, and will allow more veterans to use the GI Bill and more time to use it. Some of the changes will go into effect immediately while some are written to go into effect shortly afterward.

Although its primary goal is to help more veterans obtain college degrees by covering most of their tuition and fees, the law also reveals the federal government’s growing interest in encouraging non-college education providers, with a five-year "high-technology" pilot program that will pay unaccredited providers to train veterans for careers in technology sectors. The pilot is scheduled to run for five years, with access to $15 million in federal funds per fiscal year -- a total of $75 million. Moreover, service members and honorably discharged Veterans who were awarded a Purple Heart on or after September 11, 2001 will be entitled to Post-9/11 GI Bill benefits at the 100% benefit level for up to 36 months.
QUICK STAT (SHORT, TIMELY, AND TOPICAL)

Estimates Of Mental Illness From National Surveys On Drug Use And Health
An estimated 43.7 million U.S. adults (18.4%) aged 18 or older reported experiencing mental illness in the past year when surveyed between 2012 and 2014, according to a new report from the Substance Abuse and Mental Health Services Administration. Any mental illness (AMI) among adults is defined as the presence of a mental, behavioral, or emotional disorder in the past year based on diagnostic criteria in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders. Across the census regions, estimates of past year AMI were 19.00% in the West, 18.54% in the Midwest, 18.14% in the South, and 17.95% in the Northeast. State estimates ranged from 15.8% in New Jersey to 22.7% in Oregon, with increases reported in four states: California, Maine, North Carolina, and Rhode Island. Overall treatment levels remain low and addressing the mental health of U.S. adults remains a concern for state and national public health officials.

Medicare Spending And Financing
An Issue Brief in July 2017 from the Henry J. Kaiser Family Foundation indicates that Medicare spending was 15% of total federal spending in 2016 and is projected to rise to 17.5% by 2027. The Medicare Hospital Insurance (Part A) trust fund is projected to be depleted in 2029, one year later than the 2016 projection. Medicare’s actuaries project that the Independent Payment Advisory Board (IPAB) process will be triggered for the first time in 2021, four years later than their 2016 forecast. The share of Medicare benefit spending on hospital inpatient services fell by one-third between 2006 and 2016, while spending on Medicare Advantage private health plans doubled. Average annual growth in Medicare per capita spending growth was 1.3% between 2010 and 2016, down from 7.4% between 2000 and 2010. Medicare per capita spending is projected to grow at an average annual rate of 4.5% over the next ten years, slightly lower than the growth rate for private insurance.

HEALTH TECHNOLOGY CORNER

Self-Powered, Paper-Based Diagnostic Tools
A new medical-diagnostic device made of paper can detect biomarkers and identify diseases by performing electrochemical analyses powered only by the user's touch and read out the color-coded test results, making it easy for non-experts to understand. The self-powered, paper-based electrochemical devices, or SPEDs, are designed for sensitive diagnostics when care is delivered to patients in regions where the public has limited access to resources or sophisticated medical equipment. Research findings are described in a paper appearing on August 22, 2017 in the journal Advanced Materials Technologies. The test is initiated by placing a pinprick of blood in a circular feature on the device, which is less than two-inches square. SPEDs also contain "self-pipetting test zones" that can be dipped into a sample instead of using a finger-prick test. Researchers also designed an inexpensive handheld device called a potentiostat, which easily is plugged into the SPED to automate the diagnostic tests so that they can be performed by untrained users.

Wellness Study Using Personal, Dense, Dynamic Data Clouds
A study reported in the August 2017 issue of the journal Nature Biotechnology involved personal data for 108 individuals collected during a nine-month period, including whole genome sequences; clinical tests, metabolomes, proteomes, and microbiomes at three time points; and daily activity tracking. Researchers generated a correlation network that revealed communities of related analytes associated with physiology and disease. Connectivity within analyte communities enabled the identification of known and candidate biomarkers. Polygenic scores from genome-wide association studies were calculated for 127 traits and diseases, and used to discover molecular correlates of polygenic risk. Behavioral coaching informed by personal data helped participants to improve clinical biomarkers. The results show that measurement of these data clouds over time can improve an understanding of health and disease.
AVAILABLE RESOURCES ACCESSIBLE ELECTRONICALLY

Integrating The Patient And Caregiver Voice Into Serious Illness Care

Millions of infants, children, adults, and their families currently are coping with serious illness in the United States. Efforts are intensifying to improve overall care quality through the delivery of person-centered and family-oriented services, for patients of all ages and across disease stages, care settings, and specialties. While aging Baby Boomers are increasing the proportion of patients in the Medicare population over time, the sickest and most vulnerable patients needing health system support and other services to meet their complex needs can be found across the age spectrum and in a broad range of care settings, from perinatal care to geriatric care. Recognizing the need to consider and address the challenges and opportunities in efforts to improve care quality and value thoughtfully, the Roundtable on Quality Care for People with Serious Illness of the National Academies of Sciences, Engineering, and Medicine held the public workshop Integrating the Patient and Caregiver Voice into Serious Illness Care in Washington, DC. A copy of the Workshop Proceedings can be obtained at https://www.nap.edu/read/24802/chapter/1.

Advances In Improving Patient Safety And Reducing Medical Liability

Since the Institute of Medicine report “To Err is Human” was issued in 2000, the Agency for Healthcare Research and Quality (AHRQ) has served as the lead federal agency to fund research and the development of tools and resources to improve patient safety. While great strides have been made, patients continue to be harmed by the health care system. To address the need to improve patient safety and the medical liability system, the AHRQ Patient Safety and Medical Liability (PSML) Initiative was established in October 2009. Planning and demonstration grants were funded. A report, Advances in Patient Safety and Medical Liability, presents contributions and findings from several of these projects. Topics include the role of the patient and family in supporting improved care and patient safety; shared decision-making initiatives; the use of reporting systems; the harmful impact of institutional silence when patient harm occurs; safety culture and disclosure culture surveys; and medication safety initiatives. The report can be obtained at https://www.ahrq.gov/sites/default/files/publications/files/advances-complete_2.pdf.

Resources For The Provision Of Nutrition Support To Children In Educational Environments

The American Society for Parenteral and Enteral Nutrition (ASPEN) has released a special report to aid educators and healthcare professionals involved in the oversight of nutritional support in the classroom setting. The report can be obtained at http://journals.sagepub.com/doi/pdf/10.1177/0884533617718471.

Insurance Coverage For Patients With Chronic Conditions

Data from the Household Component of the Medical Expenditure Panel Survey (MEPS-HC) show that in 2013, 22.6% of non-elderly adults without any chronic conditions were uninsured compared to 15.5% of those with at least one chronic condition. Uninsured rates declined for both groups in 2014 and 2015. From 2013 to 2015, the uninsured rate decreased from 22.6% to 14.9% among those with no chronic conditions and from 15.5% to 8.7% among those with at least one chronic condition. The declines for those with and without chronic conditions were of similar magnitude (6.8 and 7.7 percentage points, respectively), so that there was no significant change in the percentage point gap in the uninsured rates for adults with and without chronic conditions between 2013 and 2015. The report can be obtained at https://meps.ahrq.gov/data_files/publications/rf36/rf36.pdf.
FROM UTILITAS TO VENUSTAS: THE INTERSECTION OF ARCHITECTURE AND NEUROSCIENCE

A recurring theme in this newsletter over the years is how the health domain can benefit from the infusion of ideas from other realms, such as nanoengineering, mathematics, oceanography, and semiotics. Recent developments involving a growing relationship between the fields of neuroscience and architecture represent an extension of this line of thinking. An article in the September 2017 issue of the *Journal of Cognitive Neuroscience* traces the intersection of neuroscience and architecture beginning two thousand years ago when the Roman architect Vitruvius highlighted beauty as one of three core dimensions of architectural design. His seminal Vitruvian triad illustrated that a building must be strong and structurally stable (*firmitas*), meet the functional needs of its occupants (*utilitas*), and appeal to their aesthetic sensibilities (*venustas*).

Dating back millennia, ancient Eastern construction practices—the Indian vaastu shastra and the Chinese feng shui—offered concrete guides to creating spatial harmony and aesthetic coherence in the built environment. Aesthetics also attracted serious inquiry in the European intellectual tradition as well, generating attention from philosophers, such as Goethe and Ruskin. By the 20th century, however, the aesthetic dimension of the built environment was de-emphasized. Modern building science generally focused on improving utilitarian measures, such as fire safety, construction costs, and efficient uses of space. This perspective moved the study of aesthetic experience to the periphery of architectural investigation. Vitruvian-wise, *venustas* was subsumed by *utilitas*.

A shift is underway. Some individuals spend upwards of 90% of their lives in buildings, helping to generate a surge of interest in the experience of the built environment. Evidence indicates that aesthetic qualities of architecture have an impact on mood, cognitive functioning, behavior, and even mental health. The design of the built environment is viewed as modulating positive aspects of psychological functioning such as learning, social behavior, and emotional wellness. For example, immersion in red environments may improve performance on detail-oriented cognitive tasks whereas blue spaces might be associated with enhanced creative thinking. Likewise, greenery and other natural features in the built environment may improve mood, enhance working memory, and accelerate recovery from stress and surgery. Monotonous interior architectural composition can make patients with Alzheimer's disease more likely to get lost, whereas incorporating frequent visual reference points and exterior views can improve their navigation. Studies of this nature represent just a few examples of how aesthetics and design of the built environment can have an impact on mental and physiological health. Much work remains to be done, but the hope is to improve human experience and well-being by optimizing built structures that surround much of human life.

CROSS-FERTILIZATION OF IDEAS IN HEALTH PROFESSIONS EDUCATION

As described in the preceding article about neuroscience and architecture, just as health may stand to benefit from developments in other fields, allied health education might profit from what is occurring in different health professions. For example, as science and medicine continually change, there has been a growing recognition that studying the arts and humanities may help learners develop qualities such as professionalism, self-awareness, and communication skills that are increasingly important for physicians. A forum conducted on July 12, 2017 that was hosted by the Association of American Medical Colleges (AAMC) in partnership with the National Endowment for the Humanities provided an opportunity to discuss a strategic path forward to integrating arts and humanities into medical education curricula. Bringing the humanities and arts into medical education is viewed as one way to help students form deeper connections with patients, maintain joy in medicine, and develop empathy and resiliency. Leaders at the AAMC are looking to build a case to convince medical educators that this approach is integral to what should be done to enhance the patient-physician connection.