TRENDS

Association of Schools Advancing Health Professions

MARCH 2021

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# HEALTH CARE COMPLEXITY AND UNCERTAINTY

Two distinguishing characteristics of the health care sphere are complexity and uncertainty. Last month's issue of this newsletter contained a discussion of a term known as the *prodrome*, a period in biomedical research wherein an individual experiences some symptoms of an illness before meeting formal diagnostic criteria. It ends once a patient meets such criteria and is diagnosed with a disorder. Diagnostic standards are consequential. Not only can they label and stigmatize, they have the power to confer or deny access to social resources. Related features include fluidity and malleability, with the boundaries between health and illness subject to redefinition and reorganization.

Neuroscientific research suggests the presence of prodromal phases for a growing list of conditions, including schizophrenia and autism. Another example of possible complexity and uncertainty is schizoaffective disorder (SAD), a controversial diagnosis. Debate continues over its conceptualization, with some experts viewing SAD as an independent disorder, while others see it as either a form of schizophrenia or a mood disorder. If the focus is on an episode (*DSM-IV, Diagnostic and Statistical Manual of Mental Disorders*) rather than on the longitudinal course of the illness *(DSM-V)*, this difference likely could lead to changed rates of diagnosis of SAD, but controversy remains over classification.

A paper appearing on February 16 of this year in the journal *Theoretical Medicine and Bioethics* indicates that which concept of disease is assumed has implications for what conditions count as diseases and, by extension, who may be regarded as having a disease (*disease judgements*) and who may be accorded the social privileges and personal responsibilities associated with being sick (*sickness judgements*). The authors consider an ideal diagnostic test for coronavirus disease (COVID-19) infection regarding four groups of individuals: (1) positive and asymptomatic, (2) positive and symptomatic, (3) negative, and (4) untested, showing how different concepts of disease have an impact on the disease and sickness judgements for these groups.

The third edition of the *DSM* in 1981 contained a definition of mental disorder that included a harm requirement (necessitating distress or disability to the individual) so that homosexuality could be coherently eliminated from the catalogue of diseases. This move changed the applicability of what is called *disease judgement*. Given that homosexuality does not cause harm and is therefore not a disease, according to the current definition of mental disorder, individuals who are homosexual cannot be regarded as having a disease. Concepts of disease also have implications for what are called *sickness judgements* about how the rights and restrictions associated with forms of sickness are attributed to individuals by virtue of their condition (e.g., entitlement to treatment and reimbursements, or the obligation to surrender one's driving license). Sickness is the social aspect of disease. While disease and sickness judgements do not always correspond, the concept of disease places constraints on what counts as sickness. Thus, attainment of greater clarity among these concepts has the potential to improve clinical care.

## AMERICAN RESCUE PLAN BECOMES LAW

The *American Rescue Plan Act* (P.L. 117-2) was signed into law by **President Joe Biden** on March 11, 2021. A $1.9 trillion COVID-19 relief package, a final version of this legislation (H.R. 1319) was passed by the House of Representatives on a 220-211 vote on March 10 after the Senate voted 50-49 to amend the House's initial version on March 6. No Republicans supported the legislation. Representative **Jared Golden** (D-ME) was the only Democrat to oppose it. A 1,149-page House Report of the Committee on the Budget, together with Minority Views, accompanied H.R. 1319. Among the key provisions of this law are the following in rounded numbers:

- $48 billion for COVID-19 testing and tracing
- $7.5 billion for the Centers for Disease Control and Prevention's (CDC) vaccine distribution effort
- $1.75 billion for the CDC to increase genome sequencing of SARS-CoV-2 for variant surveillance
- $7.7 billion in awards under the Department of Health and Human Services to state, local, and territorial health departments to establish, expand, and sustain the public health workforce
- $140 million in a one-time supplemental appropriation for HRSA training programs to address and prevent suicide, burnout, mental health conditions, and substance use disorders affecting the health workforce
- $40 billion for the Higher Education Emergency Relief Fund

The bill also expands access to health care by providing tax subsidies to a wider range of individuals and families who purchase health insurance on the markets established under the Affordable Care Act (ACA). Additionally, P.L. 117-2 temporarily covers the entire cost of COBRA premiums for individuals who lose their jobs and incentivizes additional states to expand Medicaid as allowed under the ACA.

According to a report issued by the Congressional Budget Office (CBO) in March 2021, by the end of fiscal year 2021 on September 30, federal debt held by the public is projected to equal 102% of gross domestic product (GDP). If current laws governing taxes and spending generally remain unchanged, debt would equal 107% of GDP in 2031, its highest level in the nation's history. Growth in outlays would outpace growth in revenues in subsequent decades, leading to growing budget deficits over the long term. As a result, federal debt would continue to increase, exceeding 200% of GDP by 2051.

Eventually, the federal government will have to create a means of paying for benefits flowing from the American Rescue Plan Act, along with pandemic-related expenditures from legislation enacted in 2020. Three ways of doing so are to: increase borrowing, raise taxes, and reduce other kinds of federal spending. Both near and distant future actions by Congress will determine what steps will be taken.

## 2021-2022 ASSOCIATION CALENDAR OF EVENTS

**October 18-19, 2021—**Leadership Development Program—Session I in Long Beach, CA

**October 20-22, 2021**—ASAHP Annual Conference in Long Beach, CA

**May 12-13, 2022—**Leadership Development Program—Session II in Columbus, OH

**October 19-21, 2022**—ASAHP Annual Conference in Long Beach, CA

# HEALTH REFORM DEVELOPMENTS

Congress represents a fascinating portion of American life. Elected officials in both chambers find themselves on every major issue needing to decide whether their vote will advance the interests of their supporters in congressional districts and states back home, who made it possible for them to be elected, or have it enhance the welfare of the nation as a whole. Conflicts of this nature arise all the time. For example, improving the environment would seem to be a goal with widespread appeal, but if it means seriously damaging the fossil fuel industry in a state that is heavily dependent on jobs and revenues from oil, coal, and gas economic activities, it becomes less easy for officials from there to cast votes that favor the nation over the locale. Doing so usually will result in a rapid, undesired exit from political office following the next election.

Despite several decades of efforts on Capitol Hill to ensure that all inhabitants of the U.S. have adequate health insurance coverage, many individuals continue to lack that form of protection. Congress is balanced evenly in the number of Democrats and Republicans in the Senate while the House tilts slightly in favor of the Democrats numerically. As reported on March 5, 2021 in the *New England Journal of Medicine*, on the issue of universal health insurance coverage, the two parties' constituents appear to be sharply divided. Nearly nine in 10 Democrats (87%) reported that they believe it is the responsibility of the government to ensure all individuals in the U.S. have health insurance coverage, a view shared by fewer than one in four Republicans (23%). Among Democrats, 75% reported that they prefer a health insurance system mostly run by the government, whereas 79% of Republicans reported that they prefer a system based mostly on private health insurance.

Regarding specific coverage proposals, Democrats expressed support for the following: building on the Affordable Care Act (ACA) [93%], Medicare-for-All (85%), and a Medicare buy-in to the ACA referred to as "the public option" (82%). In contrast, only 30% of Republicans expressed support for building on the ACA and 28% supported Medicare-for-All. While 62% of Republicans reported that they support a Medicare buy-in to the ACA, that support does not represent an endorsement of the notion that government should ensure universal coverage. Also, 64% of Republicans reported that they support replacing the ACA with a state-based private health insurance alternative compared with 36% of Democrats. These substantial differences do not bode well for implementing major changes any time soon in how health insurance is provided in this nation.

**Medicare Payment Advisory Commission (MedPAC)**

Apart from highly trained staff members in Congress, elected officials often profit from advice provided by other sources, one of which is MedPAC. The Commission is an independent congressional agency established by the Balanced Budget Act of 1997 (P.L. 105–33) to advise the Congress on issues affecting the Medicare program. Besides advising that body on payments to health plans participating in the Medicare Advantage program and providers in Medicare's traditional fee-for-service program, MedPAC has additional responsibilities that involve analyzing access to care, quality of care, and other issues affecting the Medicare program. Its 17 members can seek to influence the work of Congress in several ways, one of which is the issuance of reports in March and June each year that contain various Commission recommendations.

The report sent on March 15, 2021 consists of 14 chapters that deal with such matters as: the near-term consequences of the coronavirus pandemic and the longer-term effects of Medicare spending on the federal budget and the program's financial sustainability, and an option for Medicare's coverage of telehealth services after the coronavirus public health emergency. Both the short- and long-term contexts for the Medicare program are sobering. Because of the pandemic, in the short term, beneficiaries are at particular risk. Patients over 65 are more likely to suffer severe COVID-19 cases and complications and die than those who are younger and have fewer comorbidities. Long-term, the financial future of the Medicare program was already problematic, but as a result of job losses, in 2020 the Congressional Budget Office projected that Medicare's Hospital Insurance Trust Fund will become insolvent by 2024, two years earlier than previously expected.

# DEVELOPMENTS IN HIGHER EDUCATION

Another section of this newsletter indicates that the $1.9 trillion COVID-19 relief legislation called the *American Rescue Plan Act* (P.L. 117-2) was signed into law by **President Joe Biden** on March 11, 2021. One of its provisions is Section 2003, Higher Education Emergency Relief Fund. The amount of $39,584,570,000 will be made available through September 30, 2023, for making allocations for colleges and college students. Institutions receiving aid must dedicate at least half of the funding for emergency financial aid grants to prevent hunger, homelessness, and other hardships that students are facing because of the pandemic. Funds also can be used for general expenditures for institutions of higher education to cover those expenses associated with a disruption in services or operations related to coronavirus, including defraying expenses caused by lost revenue and reimbursing expenses already incurred.

The public health workforce consists of a great many different kinds of health professionals. Section 2501, Funding For Public Health Workforce will furnish $7,660,000,000, to remain available until expended, to carry out activities related to establishing, expanding, and sustaining a public health workforce, including by making awards to State, local, and territorial public health departments. The money shall be used for costs, including wages and benefits, related to the recruiting, hiring, and training of individuals to serve as case investigators, contact tracers, social support specialists, community health workers, public health nurses, disease intervention specialists, epidemiologists, program managers, laboratory personnel, informaticians, communication and policy experts, and any other positions as may be required to prevent, prepare for, and respond to COVID–19. This financial support is aimed at personnel who are employed by governmental public health departments and nonprofit private or public organizations with demonstrated expertise in implementing public health programs, particularly in medically underserved areas.

**Counting U.S. Postsecondary And Secondary Credentials**

The organization *Credential Engine* since 2017 has been engaged in laying bare an increasingly complex and confusing landscape of U.S. credentials, and to create the building blocks to make reliable and useful credential information more accessible for students, workers, and the employers who hire them. Part of the effort has consisted in creating a common taxonomy, or schema, through the Credential Transparency Description Language (CTDL) that allows individuals to make "apples-to-apples" comparisons between and among credentials, making it possible to map connecting points between credentials, competencies, jobs, education, and training opportunities. The driving force has been a lack of clarity about what exactly is available in education and training, the value of credentials in the labor market, and what enables certain individuals to benefit from those opportunities more than others. The CTDL is regarded as the standard language through which these million unique credentials and their competencies can be connected, compared, and contrasted, from evaluating whether a credential leads to a specific career and higher wages or if it leads to a higher-level credential, enhancing economic momentum and mobility.

**Some Impacts Of COVID-19 On Higher Education**

- New international student enrollment in the United States and online outside the United States decreased by 43% in Fall 2020. Many international students studying at U.S. institutions took advantage of opportunities to begin their studies remotely. Ninety percent of institutions reported international student deferrals in Fall 2020. Respondents indicated that nearly 40,000 students had deferred enrollment to a future term. (Source: Institute of International Education)

- The drop in the number of undergraduates enrolled in the fall of 2020 was 3.6% or a decrease of 360,000 students from a year earlier. (Source: National Student Clearinghouse Research Center)

- Colleges and universities closed out 2020 with continued job losses, resulting in a 13% drop of 650,000 workers since February of that year. (Source: Bureau of Labor Statistics)

## QUICK STAT (SHORT, TIMELY, AND TOPICAL)

**U.S. State Life Tables, 2018**

A new report from the National Center for Health Statistics presents the first set of annual complete period life tables for each of the 50 states and the District of Columbia (D.C.) for the year 2018. The period life table does not represent the mortality experience of an actual birth cohort. Rather, it presents what would happen to a hypothetical cohort if it experienced throughout its entire life the mortality conditions of a particular period in time. Life tables were produced for the total, male, and female populations of each state and D.C. based on age-specific death rates for that year. Among the 50 states and the District of Columbia, Hawaii had the highest life expectancy at birth, 81.0 years in 2018, and West Virginia had the lowest, 74.4 years. Life expectancy at age 65 ranged from 17.5 years in Kentucky to 21.1 years in Hawaii. Life expectancy at birth was higher for females in all states and D.C. The difference in life expectancy between females and males ranged from 3.8 years in Utah to 6.2 years in New Mexico.

**Prescription Drugs For Older Adults And The Risk Of Falling**

Published on February 3, 2021 in *Pharmacoepidemiology and Drug Safety*, a study reported from the University at Buffalo examined data on deaths due to falls and prescription fills among patients 65 and older from the National Vital Statistics System and the Medical Expenditure Panel Survey. Age-adjusted mortality due to falls increased from 29.40 per 100,000 in 1999 to 63.27 per 100,000 in 2017. The percent of individuals who received at least one prescription for a fall risk increasing drug, including antidepressants, anticonvulsants, antipsychotics, antihypertensives (for high blood pressure), opioids, sedative hypnotics, and benzodiazepines (tranquilizers such as Valium and Xanax) increased from 57% in 1999 to 94% in 2017. Fall risk increasing drugs may partially explain the increase in mortality due to falls, but cannot be firmly concluded from the current study. Future research involving nationally representative person-level data are needed.

## HEALTH TECHNOLOGY CORNER

**Sex Differences In Neurodegenerative Diseases**

Many neurodegenerative diseases, including Alzheimer's disease, Parkinson's disease, multiple sclerosis, and motor neuron disease, demonstrate clear sexual dimorphisms. While sex as a biological variable must now be included in animal studies, sex rarely is included in *in vitro* models of human neurodegenerative disease. A review published on March 16, 2021 online in *APL Bioengineering* describes these sex-related differences in neurodegenerative diseases and the blood–brain barrier (BBB), whose dysfunction is linked to neurodegenerative disease development and progression. The authors from the University of Maryland highlight a growing body of research suggesting sex differences play roles in how patients respond to these ailments. The authors note that some research suggests the barrier can be stronger in women than men, and the barriers in men and women are built and behave differently. They hope their article will serve as a reminder across the sciences, that accounting for sex differences leads to better results.

**Female College Athletes And Traumatic Brain Injury**

Female athletes are under-studied in the field of concussion research, despite evidence of higher injury prevalence and longer recovery time. Hormonal fluctuations caused by the natural menstrual cycle (MC) or hormonal contraceptive (HC) use have an impact on both post-injury symptoms and neuroimaging findings, but the relationships among hormone, symptoms, and brain-based measures have not been jointly considered in concussion studies. A preliminary investigation from the Northwestern University Feinberg School of Medicine published on February 24, 2021 in the *Journal of Neurotrauma* compared cerebral blood flow (CBF) measured with arterial spin labeling between concussed female club athletes 3–10 days after mild traumatic brain injury (mTBI) and demographic, HC/MC matched controls (CON). Researchers tested whether CBF statistically mediates the relationship between progesterone serum levels and post-injury symptoms, which may support a hypothesis for that hormone's role in neuroprotection. The findings support a hypothesis for its having a neuroprotective role after concussion and highlight the importance of controlling for the effects of sex hormones in future concussion studies.

# OBTAINABLE RESOURCES

## Academic Incentives And Research Impact

The road to tenure can be viewed as paved with measures of peer-reviewed publications, first authorships, citations, journal impact, grant funding, and national or international reputation. According to the author of a paper that was prepared for the organization *AcademyHealth*, a proposition is offered that for the most part, measures of research impact on societal problems are missing in action from performance evaluation criteria within academic disciplines. So, the paper aims to encourage creative thinking around academic incentives and research impact by challenging existing orthodoxies, generating new insights, and stimulating a productive debate within the discipline. As a means of accomplishing these objectives, cases are presented to explore efforts challenging the status quo of academic research incentives and realigning them to focus more on societal impact. The cases are organized around a system-, institutional-, and individual-level framework. Examples are furnished that highlight the range of efforts explored more fully in the paper to align academic incentives with societal impact. The paper can be obtained at https://academyhealth.org/sites/default/files/publication/%5Bfield_date%3Acustom%3AY%5D-%5Bfield_date%3Acustom%3Am%5D/academicincentivesresearchimpact_feb2021.pdf.

## Student Debt And Its Impact On Black Americans

As more students take out more loans at higher amounts, the issue of student debt and proposals to mitigate it has taken greater prominence in national policy debates. According to a report from the *Brookings Institution*, the problem especially is pertinent for Black households, for whom a lack of generational wealth risks making student debt a long-term financial burden. After graduation, loans quickly balloon, delaying or even preventing Black Americans from building wealth. Based on the *2018 Survey of Income and Program Participation (SIPP)*, the authors indicate that because student debt disproportionately harms the wealth-poor, and the Black wealth-poor in particular, student debt cancellation could be a powerful tool in dismantling institutional discrimination and shrinking racial wealth disparities if implemented correctly. They center the Black experience in their consideration of student loan debt and draw from their own analysis to argue for debt cancellation that is *not* means-tested (predicated upon household income) as an important mechanism for closing the racial wealth gap. They compare the effects of cancelling debt against the status quo, and at three different levels of intervention: 1) $10,000 cancelled for all (as **President Joe Biden** has proposed); 2) up to $50,000 cancelled based on means-testing for households earning under $100,000 and a sliding scale cancellation for households earning up to $250,000 (as Senator **Elizabeth Warren** [D-MA] has proposed); and 3) total debt cancellation (as Senator **Bernie Sanders** [I-Vt.] has proposed). They find that the more student debt that is cancelled, the greater the effect increasing Black wealth, particularly for households below the wealth median. The report can be obtained at https://www.brookings.edu/essay/student-debt-cancellation-should-consider-wealth-not-income/.

## Adult Family Care As An Alternative To Nursing Homes

A report from AARP that was written for consumers, advocates, and state policy staff, summarizes some key features of Adult Family Care (AFC), along with ideas for expanding its availability. Individuals who need long-term services and supports want alternatives to nursing homes as living options. AFC, which is not as well known among consumers as home care and assisted living, gives older adults and persons with disabilities a viable alternative. In AFC, sometimes called adult foster care or adult family homes, residents live full-time in a house or other small residential setting where they receive assistance with activities of daily living, personal care, and help with medications and other health care tasks, in collaboration with health care professionals. More than 40 years ago, Oregon and Washington were the first states to establish AFCs as an option for both private pay residents and those receiving public funds. Many jurisdictions have had difficulty recruiting providers and consumers since then. The report can be obtained at https://www.aarp.org/content/dam/aarp/ppi/2021/adult-family-care.doi.10.26419-2Fppi.00128.001.pdf.

## EMERGING CLINICAL ROLE OF WEARABLES

Wearable technology, also known as “wearable devices” or simply “wearables,” generally refers to any miniaturized electronic device that easily can be donned on and off the body, or incorporated into clothing or other body-worn accessories. While wearables have established utility in the fitness, gaming, and entertainment industries, their role in the healthcare environment remains less clear. According to a manuscript published on March 10, 2021 online in the journal *npj Digital Medicine,* to date most commercially available wearables are limited in scope, tracking one or two health-related variables, and have yet to produce accurate measurement of many markers of health status that they attempt to assess such as heart rate variability, nutrition, and mood. To the extent that wearables overcome these limitations, they hold much promise towards expanding the clinical repertoire of patient-specific measures. They are considered an important tool for the future of precision health. For example, physical activity is a well-established marker of current health status and future health risks, it is a useful estimate of real-life functional performance, and it has been tracked in health research using body-worn sensors for many decades. Given the ubiquity of physical activity monitors, it is surprising their effective incorporation into clinical care remains a challenge, especially in face of the multiple known health benefits of physical activity and the many healthcare scenarios where physical activity information has a clinical use.

Two of the NIH’s *Big Data to Knowledge Centers of Excellence* organized a workshop on potential clinical applications of wearables to address various challenges. A workgroup from diverse backgrounds (hospital administration, clinical medicine, academia, insurance, and the commercial device industry) discussed two successful digital health interventions that involve wearables to identify common features responsible for their success. Seven features were identified including: a clearly defined problem, integration into a system of healthcare delivery, technology support, personalized experience, focus on end-user experience, alignment with reimbursement models, and inclusion of clinician champions. For each feature, problems are outlined within the patient domain that are addressed per feature and specific representative examples of solutions are provided for these problems by the two sample digital health programs. Health providers and systems eager to establish new models of care inclusive of wearables may consider these features during program design. A better understanding of these features is necessary to guide future clinical applications of wearable technology.

## FUTURE TIME PERSPECTIVE IN MID–TO-LATER LIFE

*Future time perspective* (FTP), or the way individuals orient to and consider their futures, is considered fundamental to motivation and well-being. Given FTP’s relevance to healthy adaptation, recent work has described its contributing factors, especially age, health, and personality. Yet, the extant literature is plagued by inconsistent FTP conceptualizations and sample characteristics. Specifically, although relationships between FTP and its contributors seem dependent on both FTP conceptualization and sample life-span stage, much existing literature emphasizes differing FTP conceptualizations and young adult samples, complicating cross-study conclusions. As reported in the March 2021 issue of *The Journals of Gerontology: Series B*, *Psychological Sciences and Social Sciences*, a study was conducted that explored the ways in which age, health, and personality simultaneously contribute to FTP in mid-to-later life with machine-learning techniques.

Until now, no studies regarding how these factors jointly contribute to FTP have been conducted and it is unclear as to whether complex interactions exist among these predictors in their relation to FTP. Personality, especially neuroticism, extraversion, conscientiousness, and agreeableness, had the most influence on FTP. Age and health were not among the most salient FTP contributors in mid-to-later life. Furthermore, decision tree analyses uncovered interactive effects of personality. Several profiles of neuroticism, extraversion, and conscientiousness were linked with differing FTP levels. Although current literature has indicated that FTP, age, and health are inextricably tied, these results indicate that there is more variability to be explained in FTP, perhaps especially when looking within specific age groups.