

**OCTOBER  
2020**

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Trends is the official newsletter of the Association of Schools Advancing Health Professions (122 C St. NW, Suite 200, Washington, D.C., 20001. Tel: 202-237-6481) Trends is published 10 times each year and is available on the Association's website at [www.asahp.org](http://www.asahp.org). For more information, contact the editor, Thomas W. Elwood, Dr.PH.

## IN SEARCH OF CONNECTIONS

Epidemiologists serve as detectives in rooting out the causes of disease. Not only are they often successful in identifying the multifactorial origins of specific causes of morbidity and mortality, they also can show how all aspects of a given condition are connected. A death certificate may contain the singular label cardiovascular disease, but a more accurate descriptor involves connections among several factors in the form of social determinants, such as inadequate nutrition, residence in unsafe neighborhoods, unemployment/underemployment, and exposure to pollution.

A vivid illustration from the public health realm of the importance of establishing connections is an epidemiological study of a deadly cholera outbreak in London in 1854. John Snow was convinced that the disease was caused by a contagious agent. He conducted interviews with residents of the area about their water sources, while meticulously recording the time, person, and place of disease events. He integrated the interview data with disease-event information and concluded that cholera was occurring mostly in victims who were drawing their water from the Broad Street water pump. He convinced skeptical authorities to remove the pump handle and the outbreak was brought to a halt.

As described in a paper appearing in the October 5, 2020 issue of the journal *Current Biology*, it wasn't until 30 years later when the renowned microbe hunter, Robert Koch, independently discovered *V. cholerae* that its responsibility for cholera became common knowledge. Koch and his contemporaries were part of the golden age of microbe hunting during which microscopes were trained onto many disease states and linked with their causative pathogens, leading to the widespread acceptance of the germ theory of disease underpinned by his famous four postulates. Snow's pioneering epidemiological methods for tracing disease now could be coupled with microbiological methods that identify causative pathogens. Connecting disease and infection proved to be pivotal for the management of infectious agents.

Rolling ahead to the current pandemic, weekly reports from the CDC indicate that for only 6% of deaths, COVID-19 is the only cause mentioned. Other underlying conditions or comorbidities, such as influenza/pneumonia, respiratory failure, hypertension, diabetes, and cardiac arrest account for the remaining 94% of mortality. Another important connection pertains to perceived collateral damage from social lockdown policies that are associated with lower childhood vaccination rates, fewer cancer screenings, and deteriorating mental health that can lead to greater excess mortality.

Moreover, a steady growth in the size of the human population has led to increased encroachment on forests that previously were inhabited only by animals. Greater exposure to zoonotic diseases that jump from other species (e.g., bats) to humans can result in more infectious disease epidemics and pandemics. Successful virus mutations in humans then can be transmitted from human to human. Hence, it is likely our species is in it for the long haul regarding infectious disease outbreaks.



## DUELING COVID-19 AID PACKAGES

Prior to reaching agreement on the size of another package of financial aid in response to COVID-19, a more immediate test for Congress was to reach agreement on legislation to provide funding to prevent a federal government shutdown at the start of a new fiscal year on October 1, 2020. Legislators were able to pass that test by producing a \$1.4 trillion stopgap spending measure to fund the federal government at current levels through December 11 of this year. Still pending is the necessity of completing work on the 12 annual appropriations bills for fiscal year 2021 during the lame duck session of Congress that will follow the elections on November 3.

An effort to agree on the size of an aid package to address a wide range of problems stemming from the coronavirus has proved, however, to be much more challenging and nettlesome. Last May, the House of Representatives passed a \$3.4 trillion stimulus bill (H.R.6800, the Health and Economic Recovery Omnibus Emergency Solutions Act or the HEROES Act) that included aid for state and local governments; rent and mortgage relief; expanded unemployment benefits and food assistance; another round of direct cash payments of up to \$1,200 to individuals; and a two-year federal backstop of subsidies to support health plans and coverage of job-based insurance premiums between March and next January for workers who have been laid off or furloughed. Senate Republicans responded by indicating that among many other objections, they would not approve an extension and were in no hurry to pass more relief. Instead, they were in favor of gauging the impact of previously passed stimulus packages before considering additional legislation.

By early July, Republicans expressed interest in having coronavirus legislation that would prioritize COVID-19 testing and vaccine research, and address expanded unemployment benefits that were scheduled to expire at the end of July. By the middle of that month, White House officials and Senate Republicans agreed that relief legislation should cost \$1 trillion or less. By the end of July, GOP members favored having another round of loans for the Paycheck Protection Program (PPP), stimulus checks for individual Americans, and provisions to protect seniors from a potential increase in their health insurance premiums. White House officials were less enthusiastic about including stimulus check eligibility and a possible payroll tax cut. By early August, congressional Republicans favored a \$1.1 trillion stimulus package. Unable to overcome an impasse on Capitol Hill, as reported in the July/August 2020 issue of this newsletter, **President Trump** released a series of executive orders in August to address several current needs.

By the start of October, House Democrats were willing to trim their aid package to \$2.2 trillion, but Senate Republicans showed little interest in providing funds at that level. House Speaker **Nancy Pelosi (D-CA)** and Treasury Secretary **Steven Mnuchin** met to negotiate on several occasions, but could not finalize an agreement. Next, Republicans agreed to increase their proposal to \$1.6 trillion, but Democrats insisted a larger amount is needed. By October 9, President Trump was willing to go as high as \$1.88 trillion, but as of the time this issue of the newsletter is being distributed, final results still are pending.

### 2021-2022 ASSOCIATION CALENDAR OF EVENTS

**May 13-14, 2021**—Leadership Development Program in Columbus, OH

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

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

## HEALTH REFORM DEVELOPMENTS

A decade has passed since the *Patient Protection and Affordable Care Act (ACA)* became law. This legislation continues to be controversial, however, as evidenced by a series of exchanges between members of the U.S. Senate Judiciary Committee and Judge **Amy Coney Barrett**, a nominee to the Supreme Court to fill a vacancy resulting from the death of Judge **Ruth Bader Ginsburg**. Democrats on the committee pressed her on her views regarding how she might vote on the case *California v. Texas*, which is scheduled for oral argument at the Supreme Court on November 10. These individuals are expected to vote against her confirmation because of a fear that she will be instrumental in overturning the ACA.

Apart from several attempts by Congressional Republicans over the past 10 years to repeal the ACA, this latest manifestation of opposition stems from a case, *NFIB v. Sebelius*, in which the deciding vote cast by Chief Justice **John Roberts** found that the individual mandate could not be justified under the constitution's Commerce or Necessary and Proper clauses, but it could be upheld as an exercise of Congress' taxing power. Since then, the *2017 Tax Cuts and Jobs Act* set the mandate penalty at zero beginning in 2019. Subsequently, Attorneys General in 17 states argued in court that since the mandate no longer produces revenue and is not a tax, not only the mandate, but the entire law is unconstitutional. A district court agreed, indicating that the mandate was an essential part of the law, was not severable, thereby rendering the entire law as being unconstitutional. Next, the Fifth U.S. Circuit Court of Appeals allowed the Democrat-controlled House of Representatives to intervene to defend the ACA on appeal. That step led to a decision by the Supreme Court to accept a petition to conduct an immediate review.

### Policies To Achieve Near-Universal Health Insurance Coverage

A report from the Congressional Budget Office (CBO) in October 2020 examines policy approaches to achieve near-universal health insurance coverage using some form of automatic coverage through a default plan. As defined by CBO, a proposal would achieve near-universal coverage if close to 99% of citizens and noncitizens who are lawfully present in this country were insured either by enrolling in a comprehensive major medical plan or government program or by receiving automatic coverage through a default plan. Proposals to achieve near-universal coverage would have two primary features. At a minimum, if they required premiums, those premiums would be subsidized for low- and moderate-income individuals, and would include a mandatory component that would not allow them to forgo coverage or that would provide such coverage automatically.

CBO organized existing proposals into four general approaches, ranging from one that would retain existing sources of coverage to one that would almost entirely replace the current system with a government-run program. All four approaches would provide automatic coverage to individuals who did not enroll in a plan on their own. Two approaches would fully subsidize coverage for lower-income people and partially subsidize coverage for middle-income and some higher-income people while retaining employment-based coverage. Another two approaches would fully subsidize coverage for individuals at all income levels.

### Nationwide Evaluation Of Health Care Prices Paid By Private Health Plans

A new analysis from the RAND Corporation indicates that private health plans in the U.S. pay hospitals an average of 247% percent of what Medicare would pay for the same services at the same facilities. Wide variation exists in pricing among states (e.g., Michigan under 200% and Florida more than 325%). Addressing prices paid by employer-sponsored and other private insurance plans represents a tangible way to reduce health care spending. Where quality and convenience are comparable, employers can use network and benefit design approaches to move patient volume away from higher-priced, lower-value hospitals and hospital systems and toward lower-priced, higher-value providers. Employers also can use this information to reformulate how contracts are negotiated on their behalf. Various changes are not possible without price transparency information. Price transparency by itself will not be sufficient, however, if employers do not act on price information. In some cases, employers may need state or federal policy interventions to rebalance negotiating leverage between hospitals and their health plans.

## DEVELOPMENTS IN HIGHER EDUCATION

The beginning of the fall semester each year is highlighted by the return of college football. Due to COVID-19, many teams have decided to play fewer games this season compared to previous years. Some major conferences originally decided to postpone competition until 2021, but subsequently agreed to play a limited number of games later this year. Depending on the team, some players, coaches, and other personnel have tested positive for the virus, which led to decisions to postpone some contests to later dates. A common feature has been either to have no fans present in stadiums or to reduce the usual attendance drastically. Meanwhile, the non-football side of academic institution life also displays a considerable amount of variation regarding the volume of disease testing that occurs and whether to send students home who test positive or just quarantine them for different periods of time. Schools also vary on the proportion of students who decided to enroll for the fall semester. Each college and university is affected differently by reductions in revenue derived from tuition, housing, meals provision, and activity fees.

### **Fostering Research Integrity And The Responsible Conduct Of Research**

As posted on October 19, 2020 in the *Federal Register* on pages 66341-66342, the Department of Health and Human Services (HHS), Office of Research Integrity (ORI) seeks information and comments from entities and individuals regarding activities that foster research integrity and promote the responsible conduct of research. In particular, ORI is interested in learning about best practices, challenges, and needs related to teaching the responsible conduct of research, promoting research integrity, and preventing research misconduct. ORI will use this information to support the goal of conducting outreach and developing educational resources that best support the Public Health Service (PHS) funded research community. Responses to the RFI must be received electronically no later than **5:00 p.m. ET on the 60th day** following the date of publication of this announcement in the *Federal Register*.

The following three categories are of interest:

*Using Training and Education To Foster Research Integrity* (ORI seeks to understand key challenges to using training and educational efforts to foster a climate that encourages research integrity and the responsible conduct of research.)

*Research Integrity/Responsible Conduct of Research Program Administration and Facilitation of Training* (ORI requests answers to 10 questions.)

*Research Integrity/Responsible Conduct of Research Training Sessions* (ORI seeks information on institutional experiences, practices, and needs.)

### **U.S. Department Of Education Launches 2021-2022 FAFSA Cycle**

The U.S. Department of Education on October 1, 2020 released the 2021–22 *Free Application for Federal Student Aid* (FAFSA) form as a means of providing information, tools, and resources to help students make informed decisions about their education options. This year, enhanced help topics provide even more guidance through the form. As a result of user feedback, many financial help topics on [fafsa.gov](https://fafsa.gov) feature images of the forms with relevant line numbers visually highlighted to help applicants navigate the FAFSA form. Additionally, skip-logic functionality means applicants see only the questions that pertain to them. The Department also furnishes other tools and resources designed to help students complete and submit the FAFSA form and make informed choices.

The Annual Student Loan Acknowledgment provides links to *College Scoreboard* where students can estimate their post-completion starting salary based on the school they plan to attend and the program in which they will enroll. For borrowers with existing loans, the Annual Student Loan Acknowledgment outlines how much they owe and how much more they can borrow, and grant recipients can see how much they have received and their remaining eligibility. Starting with the 2021–22 award year, the Annual Student Loan Acknowledgment will be required before borrowers can receive a financial aid disbursement.

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

### **American Adolescents And Mental Illness Treatment Variation**

A new national investigation finds that many youth do not receive appropriate follow-up care soon after an initial insurance claim for a mental health condition. The study included data from more than two million children covered by Blue Cross Blue Shield. Of the more than 200,000 children in the study with at least one mental health claim, nearly 30% did not obtain any follow-up treatment in the three months after an initial claim. Published on September 29, 2020 in *Proceedings of the National Academy of Sciences of the USA*, the study examined insurance claims from children between the ages of 10 and 17 covered by Blue Cross Blue Shield. Of the more than two million children included in the study, nearly one in 10 had a claim related to mental illness between 2012 and 2018. Of those who were prescribed medication, 45% were given drugs that could be addictive or that were not FDA-approved for use in children. Having more psychiatrists in each child's zip code increased the likelihood of medication treatment, while more therapists in the area increased the chances of therapy alone.

### **Alcohol-Induced Deaths Among Adults Aged 25 And Over: United States, 2000–2018**

As reported in an October 2020 *Data Brief* from the National Center for Health Statistics, excessive alcohol consumption is a well-known risk factor for mortality and has been causally linked to many diseases, conditions, and injuries, including alcohol-attributable cancer, liver cirrhosis, and alcohol poisonings. Age-adjusted rates of alcohol-induced deaths among adults aged 25 and over were stable from 2000 to 2006, then increased 43% from 10.7 per 100,000 in 2006 to 15.3 in 2018. For both males and females, alcohol-induced death rates increased at a greater rate between 2000 and 2018 in rural compared with urban areas. Among males, the rate of alcohol-induced deaths was highest in large central metro areas in 2000 (21.3); by 2018, rates in medium (25.1) and small metro (25.9), micropolitan (26.7), and noncore (25.3) areas were highest. Among females, the rate of alcohol-induced deaths in noncore areas (4.4) was among the lowest in 2000; by 2018, rates in noncore areas had more than doubled (9.9).

## HEALTH TECHNOLOGY CORNER

### **Use Of Holographic Imaging To Detect Viruses And Antibodies**

A team of New York University scientists has developed a method using holographic imaging to detect both viruses and antibodies. This approach has the potential to aid in medical diagnoses and, specifically, those related to the COVID-19 pandemic. Holographic immunassays can be targeted for specific diseases by replacing protein A as a surface binding group with appropriate specific antigens, including peptides, proteins, or other biomolecules. Holographic analysis yields results faster and at lower cost by eliminating reagents, processing steps, and expertise needed to apply fluorescent labels while yielding quantitative results for antibody concentration without requiring extensive calibration. According to an article published on October 8, 2020 in the journal *Soft Matter*, if fully realized, this proposed test could be done in under 30 minutes, is highly accurate, and can be performed by minimally trained personnel. Moreover, the method can test for either the virus (current infection) or antibodies (immunity).

### **Cell Revival Following A Heart Attack**

Extracellular vesicles (EVs), small membrane-bound particles released from cells, have been shown to have cardioprotective effects and are promising tools for the next generation of therapies for everything from autoimmune and neurodegenerative diseases to cancer and tissue injury. EVs derived from stem cells help heart cells recover after a heart attack. Exactly how they help and whether the beneficial effect is specific to EVs derived from stem cells has remained a mystery. Now, according to a study reported in the October 14, 2020 issue of the journal *Science Translational Medicine*, investigators from Harvard University have unraveled potential mechanisms behind the healing power of EVs and demonstrated their capacity not only to revive cells after a heart attack, but keep them functioning while deprived of oxygen during a heart attack. This functionality in human tissue was demonstrated using a heart-on-a-chip with embedded sensors that continuously tracked tissue contractions.

## AVAILABLE RESOURCES ACCESSIBLE ELECTRONICALLY

### U.S. Women Living In Areas Devoid Of Proper Maternity Care

Maternity care deserts are characterized as being areas without hospitals that offer obstetric care, birth centers, or a specialized provider. According to a new report from the March of Dimes, these areas continue to be a problem in the U.S. as women die of pregnancy complications at rates higher than women in other high-income nations. More than 2.2 million women of childbearing age live in such deserts and an additional 4.8 million live in areas with limited access to maternity care. Women in the rural U.S. are especially at risk of giving birth without proper access to care. Also, there are more than four times as many rural counties that are maternity care deserts than urban counties, and only 8% of obstetrics providers report working in rural areas. At the same time, 1 in 3 women of childbearing age in a maternity care desert lives in an urban setting. The report can be obtained at [https://www.marchofdimes.org/materials/2020-Maternity-Care-Report-eng.pdf?utm\\_source=STAT+Newsletters&utm\\_campaign=a67d95b43c-MR\\_COPY\\_01&utm\\_medium=email&utm\\_term=0\\_8cab1d7961-a67d95b43c-149940042](https://www.marchofdimes.org/materials/2020-Maternity-Care-Report-eng.pdf?utm_source=STAT+Newsletters&utm_campaign=a67d95b43c-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-a67d95b43c-149940042).

### Mental Health Of U.S. Adults

Three new data briefs from the CDC outline the state of mental health among U.S. adults in 2019. More than 1 in 7 of these individuals experienced some level of anxiety during 2019, before the pandemic, while nearly 1 in 5 reported depression. Additional information is as follows:

**Anxiety:** When asked about their anxiety symptoms in the two weeks prior to being surveyed, nearly 10% of adults reported mild anxiety, while around 3% reported severe forms of anxiety. Women and those aged 18-29 were most likely to report being anxious. The data brief can be obtained at <https://www.cdc.gov/nchs/data/databriefs/db378-H.pdf>.

**Depression:** Nearly 12% of respondents reported mild depression symptoms in the two weeks prior to being surveyed, while nearly 3% reported severe depression. White and Black adults were most likely to report depression than other racial groups. The data brief can be obtained at <https://www.cdc.gov/nchs/data/databriefs/db379-H.pdf>.

**Treatment:** Around 1 in 5 U.S. adults reported having any mental health treatment last year. Around 16% said they had taken some medication, while around 10% reported obtaining counseling. The data brief can be obtained at <https://www.cdc.gov/nchs/data/databriefs/db380-H.pdf>.

### Integrating Systems And Sectors Toward Obesity Solutions

The Roundtable on Obesity Solutions of the Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine held a virtual public workshop, *Integrating Systems and Sectors Toward Obesity Solutions*, on April 6, 2020 (Part I), and June 30, 2020 (Part II). The event explored complex systems and contributing factors that can influence obesity, and shared real-life examples of applying systems thinking and systems science approaches to addressing obesity and population health and well-being. In Part I, speakers provided an overview of systems science theories and approaches and their application. In Part II, speakers discussed complex systems in society that have the potential to shape the public's health and considered opportunities for systems change with regard to obesity solutions. Specifically, the workshop explored how factors such as power dynamics, structural racism, relationships, resources, place-based issues, policy, and political will affect systems that can influence obesity, as well as how these factors can have an impact on communications and cross-sector collaboration to address obesity. The Proceedings of the Workshop can be obtained at <https://www.nap.edu/read/25936/chapter/1>.

## BIG DATA, RESEARCH, AND ETHICS CHALLENGES FOR IRBs

The increased use of big data has shifted the way in which biomedical research is designed and implemented. This kind of research has begun to pursue opportunities afforded by big data by relying on large-scale databases, multiplication of data sources, advanced storage capacity, and novel computational tools that allow for high-velocity data analytics. Big data also enable researchers to draw health insights from data sources that are not strictly medical, such as data from wearable trackers, social media, and Internet searches that open new prospects to accelerate health-related research and potentially elicit breakthroughs that will benefit patients. Currently, a large portion of health-related research depends on big data, while the novelty of techniques and methods brought by big data research brings new challenges to institutional review boards (IRBs). It is unclear, however, if those entities should be the responsible oversight bodies for big data research and, if so, which criteria they should use.

According to a manuscript published in the September-October 2020 issue of the journal *Ethics & Human Research*, big data investigations shift the way biomedical researchers design and carry out their studies because their work departs from the traditional research model since it is largely exploratory rather than hypothesis driven. The methodological novelty of big data research models brings new challenges and questions to IRBs, including whether they are the bodies responsible for assessing these projects. Given current technologies, analytic methods, and regulations, IRBs cannot take their traditional review frameworks as given since big data research models might not fit within the traditional national review policies for the protection of human subjects. Health-related big data research also challenges IRBs in referring to existing safeguards for ethics research, such as informed consent, privacy, confidentiality, and minimal risk. A threefold consideration is involved. *First*, individuals whose data are used in research often are not sufficiently informed concerning the use of their data. *Second*, breaches in data privacy and confidentiality represent a major source of risk stemming from the informational richness of large data repositories, which makes them a primary target for actors outside the research domain. *Third*, correlations arising from health-related big data analytics can be abused by various actors for unethical purposes, such as discriminating against applicants to health insurance services or jobs based on health risk indicators.

## HISPANIC GENDER DIFFERENCES IN HOSPITALIZED HEART PATIENTS

More than 3,000,000 women in the U.S. die of heart failure (HF) annually. Women significantly are underrepresented in studies that inform practice guidelines, especially women hospitalized for HF despite associated negative outcomes. HF is common in Hispanic individuals, the largest ethnic minority group in this nation, who are mostly of Mexican origin. Since there were no studies of gender differences in Mexican-Hispanic persons hospitalized for HF, as reported in the September-October 2020 issue of the periodical *Women's Health Issues*, researchers sought to describe gender differences in demographic and clinical characteristics, clinical presentation, treatment, in-hospital outcomes, and discharge status in Mexican-Hispanic patients hospitalized for HF.

Compared with men, women were equally affected by obesity, on average six years older ( $p < .01$ ), and more likely to be widowed (31% vs 6%;  $p < .001$ ). Women had significantly higher ejection fractions, more total comorbid conditions, more hyperlipidemia, more arthritis, more anxiety, and were less likely to be treated with digoxin and more likely to be treated with calcium channel blockers. At discharge, women were significantly less likely to receive an angiotensin-converting enzyme inhibitor or an aldosterone receptor blocker and had a higher systolic blood pressure. A conclusion reached from this investigation is that key gender differences in chronic illness burden, treatment, and discharge status were found, highlighting the heterogeneity of women with HF and the need for further gender-specific research to develop care strategies specific to women of all races and ethnicities.