Medicine

Reaffirmation of the Declaration of Geneva

First promulgated in 1948 by the World Medical Association, the Declaration of Geneva has been revised several times. The most recent revision was approved by the general assembly of the WMA in October 2017 and published in *JAMA* the following month.[1] It has been called a modern Hippocratic Oath and, like most modern revisions, omits any mention of the inconvenient proscriptions against abortion, suicide, and euthanasia ("poisoning" in the original). Nevertheless, it is largely to the good. It begins with an invocation of the foundational (Catholic) bioethical principle of beneficence: "The health and well-being of my patient will be my first consideration." It pledges the physician to "maintain the utmost respect for human life" and "practice my profession with conscience," both of which are welcome in this era of increasing disrespect for human life and attacks on conscience rights.

For the first time, it explicitly recognizes autonomy, the overriding principle in much of modern secular bioethics. Dignity is invoked twice, to be both respected in patients and practiced by physicians. This is ostensibly salutary but also potentially troublesome, as radically different concepts of dignity are used to justify both opposition to and support for physician-assisted death in the current, heated medical debate. Perhaps by design, the Declaration of Geneva would allow for both. In a similar vein, the part of the pledge committing to act "in accordance with good medical practice" is seemingly anodyne but could become problematic if morally troublesome, anti-life policies and procedures become compulsory parts of modern medical practice—in which case, the Declaration of Geneva could become a pledge of coercion.

1. Ramin Walter Parsa-Parsi, "The Revised Declaration of Geneva: A Modern-Day Physician's Pledge," *JAMA* 318.20 (November 18, 2017): 1971–1972, doi: 10.1001/jama.2017.16230.

American College of Physicians Speaks Out against Physician-Assisted Suicide

For now, the position statements of major medical organizations stand as a bulwark against compulsory anti-life policies. In the matter of physician-assisted suicide, the American College of Physicians (ACP) has now joined the American Medical Association in opposing its legalization.[2]

Their case is strong and self-evident. Physician-assisted suicide is "problematic given the nature of the patient–physician relationship, affects trust in the relationship and in the profession and fundamentally alters the medical profession's role in society." It requires physicians to breach "the general duties of beneficence and nonmaleficence," which is "inconsistent with the physician's role as healer and comforter." While the ACP notes that patient autonomy is "critical and must be respected," it affirms that physicians have their own ethical responsibilities and are "not merely providers of services." The ACP states that it is not reasonable to expect medicine to relieve all human suffering, but that inability is not a justification to end suffering by ending the life of the sufferer.

The appendix goes on to list other problems with physician-assisted suicide. For example, states that allow physician-assisted suicide require the official cause of death to be the underlying illness, "not the new pathology caused by ingestion of a lethal dose of medicine, which seems inconsistent with the physician's duty of honesty." In addition, legalization has been associated with an increase in total suicides. Despite a well-established negative right to refuse treatment, the Supreme Court has never found a right to "secure assistance to kill oneself and control the manner and timing of death." Indeed, a sentence in the conclusion of the appendix could have been lifted straight from a textbook of Catholic bioethics: "Control over the manner and timing of a person's death has not been and should not be a goal of medicine." I would add that this is best left to God, with medicine providing the requisite care and comfort.

Oregon, Death, and "Dignity"

Despite the ACP's refusal to jump on the physician assisted–suicide bandwagon, Oregon continues to be its leader in the United States. The Oregon Health Authority recently published a report on the state's twenty years of experience with physician-assisted suicide.[3] Some of these data have been previously noted, but this current report adds another two years to the state's dismal ledger.

Sixty-four percent of patients ingested and died from the lethal medications they were prescribed. Deaths by physician-assisted suicide increased an average of 14 percent per year from 1998 through 2013, then increased by 36 percent annually for two years, before leveling off at the new high rate in 2016. Participation

2. Lois Snyder Sulmasy and Paul S. Mueller, "Ethics and the Legalization of Physician-Assisted Suicide: An American College of Physicians Position Paper," *Annals of Internal Medicine* 167.8 (October 17, 2017): 576–578, doi: 10.7326/M17-0938.

3. Katrina Hedberg and Craig New, "Oregon's Death with Dignity Act: 20 Years of Experience to Inform the Debate," *Annals of Internal Medicine* 167.8 (October 17, 2017): 579–583, doi: 10.7326/M17-2300.

in physician-assisted suicide was ten times greater among patients with postbaccalaureate education than among those who did not graduate from high school, suggesting that education is not an antidote to despair. Of the seven (0.6 percent) patients who ingested the lethal medications and regained consciousness, six died of their underlying diseases, and one is still alive. It would be of interest to know their recollections. The most prescriptions written by a single physician increased from seventy-one to eighty-five.

As has been reported previously in every jurisdiction where physician-assisted suicide is legal, most patients sought lethal medications for existential rather than medical reasons. Loss of autonomy was cited by 91 percent of patients, and decrease in ability to participate in enjoyable activities was cited by 89 percent. Concerns about pain were cited by 26 percent, but the proportion of patients actually suffering from chronic pain is strangely not reported. What should be shocking, but is standard practice in the world of physician-assisted suicide, is that the already low proportion of patients (11 percent) who had a formal psychiatric evaluation during the first decade dropped to only 3 percent in the second. Even the authors found this troubling, given the substantial rate of clinical depression in patients who request physician-assisted suicide. But such are the prerogatives granted to this project of death masquerading as treatment.

Medical Cannabis:
Some Benefit for Pain, Otherwise Limited Gain

The ongoing sociomedical experiment known as marijuana legalization continues its spread across the country. While eight states have legalized its recreational use, twenty-nine states have legalized it for medical purposes. Yet data showing its clinical efficacy have been in short supply and are often of poor quality. A systematic review published in *Annals of Internal Medicine* examines the data for both smoked and ingested cannabis treatment of chronic pain in adults—and finds them wanting.[4]

The review of seventy-five publications found "low strength evidence that cannabis may alleviate neuropathic pain in some patients," but insufficient evidence exists for other types of chronic pain. So much for the benefit. On the risk side, the authors found consistent evidence of an association between cannabis use and psychotic symptoms, exacerbation of manic symptoms in patients with bipolar disorder (contrary to its "good vibe"), decreased cognition, and significantly increased odds of suicide. Cannabis intoxication is associated with a moderate increase in vehicle collision risk. Additional noted harms include adverse pulmonary effects with extended daily use and an increased risk of serious pulmonary infections, including aspergillosis and tuberculosis. It is worth nothing that no new pharmaceutical that uses smoke as its delivery system would be taken seriously by the FDA.

In an accompanying editorial, Sachin Patel of Vanderbilt Psychiatric Hospital generally supports the findings while acknowledging the absence of much high-quality

4. Shannon M. Nugent et al., "The Effects of Cannabis among Adults with Chronic Pain and an Overview of General Harms: A Systematic Review," *Annals of Internal Medicine* 167.5 (September 5, 2017): 319–331, doi: 10.7326/M17-0155.

evidence.[5] He states that the conclusions of this systematic review echo the recent findings of the National Academies of Sciences, Engineering, and Medicine, "suggesting a growing consensus in the field." Although more and, I hope, better studies are under way, he laments that "to some degree the horse is out of the barn—and unlikely to return. Even if future studies reveal a clear lack of substantial benefit of cannabis for pain … legislation is unlikely to remove these conditions from the lists of indications for medical cannabis."

For the medically and ethically problematic practices of medical marijuana and physician-assisted suicide, intractable pain was the Trojan horse that led to wider acceptance.

Finding Hidden Function in Patients with Brain Injuries

Patients with severe traumatic brain injury can present significant bioethical conundrums for clinicians. The sudden nature of the injury can make it difficult for families to accept the often profound change in a patient's neurological status and usually means that advance directives have not been adopted. The markedly bimodal distribution of patients between children, adolescents, and young adults on the one hand and the elderly on the other means that there are only limited commonalities of prognosis and decision making. Besides limiting secondary injury, no ready therapies have proved to be consistently effective.

Until now, clinicians have been reasonably sure about the classification of the resulting neurological outcomes—death, coma, persistent vegetative state, minimally conscious state, and functional recovery. But what if these diagnoses are wrong and thus obscure the true prognoses of these patients? There have been several recent reports of late recovery from the putative permanent vegetative state. Now a new report in *Brain* shows that "early detection of covert consciousness and cortical responses in the intensive care unit could alter time-sensitive decisions about withholding life-sustaining therapies."[6]

The authors used task-based functional magnetic resonance imaging (fMRI) and electroencephalography (EEG), previously used only in chronic care settings, on sixteen patients in the intensive care unit within an average of nine days post-injury. They found cognitive motor dissociation in four patients, including three deemed to be vegetative, with higher-order cortex motor dissociation in two other patients. All but one of these patients recovered beyond a confusional state within six months. "Complete absence of response to language, music and motor imagery" was seen only in comatose patients. The authors conclude that fMRI and EEG "can detect command-following and higher-order cortical function in patients with acute severe traumatic brain injury."

5. Sachin Patel, "Cannabis for Pain and Posttraumatic Stress Disorder: More Consensus Than Controversy or Vice Versa," *Annals of Internal Medicine* 167.5 (September 5, 2017): 355–356, doi: 10.7326/M17-1713.

6. Brian L. Edlow et al., "Early Detection of Consciousness in Patients with Acute Severe Traumatic Brain Injury," *Brain* 140.9 (September 2017): 2399, doi: 10.1093/brain/awx176.

If supported by additional studies, these significant but preliminary findings might change our approach to these patients who, while lacking behavioral evidence of language expression and comprehension, retain subclinical responses to cortical stimuli. These individuals may deserve a higher level of care, and these findings should chasten us, so that possibly inaccurate prognoses do not become self-fulfilling prophecies by the early withdrawal of life support or nutrition.

Decreasing Hospital Readmissions, Increasing Patient Mortality?

While much time, effort, and money are spent on testing the safety and efficacy of drugs and medical devices before they are approved for patient use, changes in health care finance policies are usually considered to be payment issues and therefore are not subject to the same scrutiny. A new study published in *JAMA Cardiology* suggests that perhaps they should be.[7]

The study examines the Hospital Readmissions Reduction Program, an element of the Affordable Care Act which financially penalizes hospitals with higher-than-expected readmission rates. It found that "among [115,000] fee-for-service Medicare beneficiaries discharged after heart failure hospitalizations, implementation of the HRRP was temporally associated with a reduction in 30-day and 1-year readmissions but an increase in 30-day and 1-year mortality."

Within two weeks, an editorial in the *Wall Street Journal* commented specifically on this study, noting that the thirty-day mortality difference alone represents an additional 5,400 deaths per year.[8] It summarizes the program as effectively enrolling "Medicare patients and hospitals without their consent in a mandatory policy experiment—you'll be better off, trust us—but then neglect[ing] to evaluate the adverse effects." The researchers' quite reasonable conclusion is that "public health policies should be tested in a rigorous fashion—most preferably in randomized trials—before their widespread adoption."

War, Triage, and Medical Rules of Eligibility

In wartime, are medical necessity and military necessity antagonists or allies? The amount, ethics, and practicalities of medical care provided by coalition forces—primarily the United States and Great Britain—to Iraqi and Afghan nationals are considered in a lengthy commentary by Michael Gross in the October issue of the *American Journal of Bioethics*.[9] Medical rules of engagement are akin to military rules of engagement in that they are intended to quickly and clearly guide how

7. Ankur Gupta et al., "Association of the Hospital Readmissions Reduction Program Implementation with Readmission and Mortality Outcomes in Heart Failure," *JAMA Cardiology* 3.1 (January 2018): 44–53, doi: 10.1001/jamacardio.2017.4265.

8. Editorial Board, "ObamaCare's Death Payments," *Wall Street Journal*, November 23, 2017, https://www.wsj.com/.

9. Michael L. Gross, "Saving Life, Limb, and Eyesight: Assessing the Medical Rules of Eligibility during Armed Conflict," *American Journal of Bioethics* 17.10 (October 2017): 40–52, doi: 10.1080/15265161.2017.1365186.

military medical personnel engage local nationals in a theater of war: local nationals facing an imminent threat to life, limb, or eyesight qualify for treatment only if (1) bed space is available, that is, not needed to treat coalition forces, and (2) their injuries are the direct result of coalition action.

The author notes that they "are not triage rules; they are pre-triage rules." "Coalition forces have absolute priority regardless of the severity of their injuries." This seems to contravene conventional bioethical principles that prohibit discrimination on the basis of anything but medical need. Although it may be prudent to treat only injuries that directly result from the actions of coalition forces, the current law of war permits collateral harm and does not require those responsible to compensate the injured party.

Gross then introduces two additional ethical principles to strengthen what seems like a weak case that the medical rules of eligibility represent appropriate distributive justice. He invokes "associative" moral obligations to justify the preferential treatment of compatriots and cites moral rather than legal obligations to justify the requirement of direct causality.

Associative obligations recognize the "importance of intense, interpersonal relations among members of a small, tightly-knit, and interdependent family or community and demand preferential care for those who are close." Gross posits that by their training and shared experience of war, comrades in arms are such a community, and that, beginning with the medics embedded in each unit, military medical care providers are an intrinsic part of, not merely ancillary to, that community: "Associative obligations augment the principles of military and medical necessity and [help] explain why it is permissible to treat a more severely injured Coalition soldier before less severely injured host-nation soldiers when military necessity suggests otherwise. And they explain why it is permissible to treat any Coalition soldier before any host-nation soldier or civilian when treatment might prove more efficacious for the latter." Thus, the principle of associative obligations may help inform the other principles of distributive justice—military necessity, medical necessity, liability, and cost—that usually inform military bioethical decision making.

Eugenicists Awarding Eugenicists

The Lasker Awards are among the most prestigious biomedical honors short of the Nobel Prize. The 2016 Lasker–Bloomburg Public Service Award was presented to—wait for it—Planned Parenthood. In seeming celebration and unseemly coordination, *JAMA* published Planned Parenthood president Cecile Richards's acceptance piece days before the award was announced.[10]

Of course, the piece does not mention what should be the politically incorrect and awkward situation of an award named after two eugenics enthusiasts being given to an organization founded by Margaret Sanger, who was a practicing eugenicist.

10. Cecile Richards, "A Century of Progressing and Advancing Reproductive Health Care: The 2017 Lasker–Bloomberg Public Service Award," *JAMA* 318.10 (September 12, 2017): 903–904, doi: 10.1001/jama.2017.11957.

Richards recites a litany of services that Planned Parenthood provides but never mentions that the organization performs more than 300,000 abortions each year.[11]

The stated aim of the Lasker Awards is to "recognize the contributions of researchers, clinician scientists, and public servants who have made major advances in the understanding, diagnosis, treatment, cure, or prevention of human disease."[12] This makes it clear that the foundation shares Planned Parenthood's heinous view that pregnancy is a disease. The millions of children missing from the public thanks to Planned Parenthood could not be reached for their comments on this "public service" award.

John S. Sullivan, MD

11. Debra Goldschmidt and Ashley Strickland, "Planned Parenthood: Fast Facts and Revealing Numbers," *CNN*, August 1, 2017, http://www.cnn.com/.

12. "The Lasker Awards," Albert and Mary Lasker Foundation, accessed January 3, 2018, http://www.laskerfoundation.org/.

Medicine Abstracts

American Journal of Bioethics

Michael L. Gross, **Saving life, limb, and eyesight: assessing the medical rules of eligibility during armed conflict**, *Am J Bioeth* 17.10 (October 2017): 40–52, doi: 10.1080/15265161.2017.1365186 • Medical rules of eligibility permit severely injured Iraqi and Afghan nationals to receive care in Coalition medical facilities only if bed space is available and their injuries result directly from Coalition fire. The first rule favors Coalition soldiers over host-nation nationals and contradicts the principle of impartial, needs-based medical care. To justify preferential care for compatriots, wartime medicine invokes associative obligations of care that favor friends, family, and comrades-in-arms. Associative obligations have little place in peacetime medical care but significantly affect wartime medicine. The second rule suggests liability for collateral harm that is unsupported by international law and military ethics. Absent liability, there are pragmatic reasons to offer medical care to injured local civilians if it quells resentment and cements support for Coalition forces. In contrast to peacetime medicine, military necessity and associative obligations outweigh distributive principles based on medical need during war.

Annals of Internal Medicine

Katrina Hedberg and Craig New, **Oregon's Death with Dignity Act: 20 years of experience to inform the debate**, *Ann Intern Med* 167.8 (October 17, 2017): 579–583, doi: 10.7326/M17-2300 • Twenty years ago, Oregon voters approved the Death With Dignity Act, making Oregon the first state in the United States to allow physicians to prescribe medications to be self-administered by terminally ill patients to hasten their death. This report summarizes the experience in Oregon, including the numbers and types of participating patients and providers. These data should inform the ongoing policy debate as additional jurisdictions consider such legislation.

Shannon M. Nugent et al., **The effects of cannabis among adults with chronic pain and an overview of general harms: a systematic review**, *Ann Intern Med* 167.5 (September 5, 2017): 319–331, doi: 10.7326/M17-0155 • *Background:* Cannabis is increasingly available for the treatment of chronic pain, yet its efficacy remains uncertain. *Purpose:* To review the benefits of plant-based cannabis preparations for treating chronic pain in adults and the harms of cannabis use in chronic pain and general adult populations. *Data sources:* MEDLINE, Cochrane Database of Systematic Reviews, and several other sources from database inception to March 2017. *Study selection:* Intervention trials and observational studies, published in English, involving adults using plant-based cannabis preparations that reported pain, quality of life, or adverse effect outcomes. *Data extraction:* Two investigators independently abstracted study characteristics and assessed study quality, and the investigator group graded the overall strength of evidence using standard criteria. *Data synthesis:* From 27 chronic pain trials, there is low-strength evidence that cannabis alleviates neuropathic pain but insufficient evidence in other pain populations. According to 11 systematic reviews and 32 primary studies, harms in general population studies include increased risk for motor vehicle accidents, psychotic symptoms, and short-term cognitive impairment. Although adverse pulmonary effects were not seen in younger populations, evidence on most other long-term physical harms, in heavy or long-term cannabis users, or in older populations is insufficient. *Limitation:* Few methodologically rigorous trials; the cannabis formulations studied may not reflect commercially available products; and

limited applicability to older, chronically ill populations and patients who use cannabis heavily. *Conclusion:* Limited evidence suggests that cannabis may alleviate neuropathic pain in some patients, but insufficient evidence exists for other types of chronic pain. Among general populations, limited evidence suggests that cannabis is associated with an increased risk for adverse mental health effects.

Lois Snyder Sulmasy and Paul S. Mueller, **Ethics and the legalization of physician-assisted suicide: an American College of Physicians position paper**, *Ann Intern Med* 167.8 (October 17, 2017): 576–578, doi: 10.7326/M17-0938 • Calls to legalize physician-assisted suicide have increased and public interest in the subject has grown in recent years despite ethical prohibitions. Many people have concerns about how they will die and the emphasis by medicine and society on intervention and cure has sometimes come at the expense of good end-of-life care. Some have advocated strongly, on the basis of autonomy, that physician-assisted suicide should be a legal option at the end of life. As a proponent of patient-centered care, the American College of Physicians (ACP) is attentive to all voices, including those who speak of the desire to control when and how life will end. However, the ACP believes that the ethical arguments against legalizing physician-assisted suicide remain the most compelling. On the basis of substantive ethics, clinical practice, policy, and other concerns articulated in this position paper, the ACP does not support legalization of physician-assisted suicide. It is problematic given the nature of the patient–physician relationship, affects trust in the relationship and in the profession, and fundamentally alters the medical profession's role in society. Furthermore, the principles at stake in this debate also underlie medicine's responsibilities regarding other issues and the physician's duties to provide care based on clinical judgment, evidence, and ethics. Society's focus at the end of life should be on efforts to address suffering and the needs of patients and families, including improving access to effective hospice and palliative care. The ACP remains committed to improving care for patients throughout and at the end of life.

Steffie Woolhandler and David U. Himmelstein, **The relationship of health insurance and mortality: is lack of insurance deadly?**, *Ann Intern Med* 167.6 (September 19, 2017): 424–431, doi: 10.7326/M17-1043 • About 28 million Americans are currently uninsured, and millions more could lose coverage under policy reforms proposed in Congress. At the same time, a growing number of policy leaders have called for going beyond the Patient Protection and Affordable Care Act to a single-payer national health insurance system that would cover every American. These policy debates lend particular salience to studies evaluating the health effects of insurance coverage. In 2002, an Institute of Medicine review concluded that lack of insurance increases mortality, but several relevant studies have appeared since that time. This article summarizes current evidence concerning the relationship of insurance and mortality. The evidence strengthens confidence in the Institute of Medicine's conclusion that health insurance saves lives: The odds of dying among the insured relative to the uninsured is 0.71 to 0.97.

Brain

Brian L. Edlow et al., **Early detection of consciousness in patients with acute severe traumatic brain injury**, *Brain* 140.9 (September 2017): 2399–2414, doi: 10.1093/brain/awx176 • Patients with acute severe traumatic brain injury may recover consciousness before self-expression. Without behavioural evidence of consciousness at the bedside, clinicians may render an inaccurate prognosis, increasing the likelihood of withholding life-sustaining therapies or denying rehabilitative services. Task-based functional magnetic resonance imaging and electroencephalography techniques have not been tested in the intensive care unit. We prospectively enrolled 16 patients admitted to the intensive care unit for acute severe traumatic brain injury to test two hypotheses: (1) in patients who lack behavioural evidence of language expression and comprehension, functional magnetic resonance imaging and

electroencephalography detect command-following during a motor imagery task (i.e. cognitive motor dissociation) and association cortex responses during language and music stimuli (i.e. higher-order cortex motor dissociation); and (2) early responses to these paradigms are associated with better 6-month outcomes on the Glasgow Outcome Scale-Extended. Patients underwent functional magnetic resonance imaging on post-injury day 9.2 +/- 5.0 and electroencephalography on day 9.8 +/- 4.6. At the time of imaging, behavioural evaluation with the Coma Recovery Scale-Revised indicated coma (n = 2), vegetative state (n = 3), minimally conscious state without language (n = 3), minimally conscious state with language (n = 4) or post-traumatic confusional state (n = 4). Cognitive motor dissociation was identified in four patients, including three whose behavioural diagnosis suggested a vegetative state. Higher-order cortex motor dissociation was identified in two additional patients. Complete absence of responses to language, music and motor imagery was only observed in coma patients. In patients with behavioural evidence of language function, responses to language and music were more frequently observed than response to motor imagery (62.5–80% versus 33.3–42.9%). Similarly, in 16 matched healthy subjects, responses to language and music were more frequently observed than responses to motor imagery (87.5–100% versus 68.8–75%). Except for one patient who died in the intensive care unit, all patients with cognitive motor dissociation and higher-order cortex motor dissociation recovered beyond a confusional state by 6 months. However, 6-month outcomes were not associated with early functional magnetic resonance imaging and electroencephalography responses for the entire cohort. These observations suggest that functional magnetic resonance imaging and electroencephalography can detect command-following and higher-order cortical function in patients with acute severe traumatic brain injury. Early detection of covert consciousness and cortical responses in the intensive care unit could alter time-sensitive decisions about without withholding life-sustaining therapies.

British Medical Journal

Christopher J.D. Wallis et al., **Comparison of postoperative outcomes among patients treated by male and female surgeons: a population-based matched cohort study**, *BMJ* 359 (October 10, 2017): j4366, doi: 10.1136/bmj.j4366 • *Objective:* To examine the effect of surgeon sex on postoperative outcomes of patients undergoing common surgical procedures. *Design:* Population-based, retrospective, matched cohort study from 2007 to 2015. *Setting:* Population-based cohort of all patients treated in Ontario, Canada. *Participants:* Patients undergoing one of 25 surgical procedures performed by a female surgeon were matched by patient age, patient sex, comorbidity, surgeon volume, surgeon age, and hospital to patients undergoing the same operation by a male surgeon. *Interventions:* Sex of treating surgeon. *Main outcome measure:* The primary outcome was a composite of death, readmission, and complications. We compared outcomes between groups using generalised estimating equations. *Results:* 104 630 patients were treated by 3314 surgeons, 774 female and 2540 male. Before matching, patients treated by female doctors were more likely to be female and younger but had similar comorbidity, income, rurality, and year of surgery. After matching, the groups were comparable. Fewer patients treated by female surgeons died, were readmitted to hospital, or had complications within 30 days (5810 of 52 315, 11.1%, 95% confidence interval 10.9% to 11.4%) than those treated by male surgeons (6046 of 52 315, 11.6%, 11.3% to 11.8%; adjusted odds ratio 0.96, 0.92 to 0.99, P = 0.02). Patients treated by female surgeons were less likely to die within 30 days (adjusted odds ratio 0.88; 0.79 to 0.99, P = 0.04), but there was no significant difference in readmissions or complications. Stratified analyses by patient, physician, and hospital characteristics did not significant modify the effect of surgeon sex on outcome. A retrospective analysis showed no difference in outcomes by surgeon sex in patients who had emergency surgery, where patients do not usually choose their surgeon. *Conclusions:* After accounting for patient, surgeon, and hospital characteristics, patients

treated by female surgeons had a small but statistically significant decrease in 30 day mortality and similar surgical outcomes (length of stay, complications, and readmission), compared with those treated by male surgeons. These findings support the need for further examination of the surgical outcomes and mechanisms related to physicians and the underlying processes and patterns of care to improve mortality, complications, and readmissions for all patients.

JAMA

David Hui et al., **Effect of lorazepam with haloperidol vs haloperidol alone on agitated delirium in patients with advanced cancer receiving palliative care: a randomized clinical trial**, *JAMA* 318.11 (September 19, 2017): 1047–1056, doi: 10.1001/jama.2017.11468 • I*mportance:* The use of benzodiazepines to control agitation in delirium in the last days of life is controversial. *Objective:* To compare the effect of lorazepam vs placebo as an adjuvant to haloperidol for persistent agitation in patients with delirium in the setting of advanced cancer. *Design, setting, and participants:* Single-center, double-blind, parallel-group, randomized clinical trial conducted at an acute palliative care unit at MD Anderson Cancer Center, Texas, enrolling 93 patients with advanced cancer and agitated delirium despite scheduled haloperidol from February 11, 2014, to June 30, 2016, with data collection completed in October 2016. *Interventions:* Lorazepam (3 mg) intravenously (n = 47) or placebo (n = 43) in addition to haloperidol (2 mg) intravenously upon the onset of an agitation episode. *Main outcomes and measures:* The primary outcome was change in Richmond Agitation-Sedation Scale (RASS) score (range, -5 [unarousable] to 4 [very agitated or combative]) from baseline to 8 hours after treatment administration. Secondary end points were rescue neuroleptic use, delirium recall, comfort (perceived by caregivers and nurses), communication capacity, delirium severity, adverse effects, discharge outcomes, and overall survival. *Results:* Among 90 randomized patients (mean age, 62 years; women, 42 [47%]), 58 (64%) received the study medication and 52 (90%) completed the trial. Lorazepam + haloperidol resulted in a significantly greater reduction of RASS score at 8 hours (-4.1 points) than placebo + haloperidol (-2.3 points) (mean difference, -1.9 points [95% CI, -2.8 to -0.9]; P < .001). The lorazepam + haloperidol group required less median rescue neuroleptics (2.0 mg) than the placebo + haloperidol group (4.0 mg) (median difference, -1.0 mg [95% CI, -2.0 to 0]; P = .009) and was perceived to be more comfortable by both blinded caregivers and nurses (caregivers: 84% for the lorazepam + haloperidol group vs 37% for the placebo + haloperidol group; mean difference, 47% [95% CI, 14% to 73%], P = .007; nurses: 77% for the lorazepam + haloperidol group vs 30% for the placebo + haloperidol group; mean difference, 47% [95% CI, 17% to 71%], P = .005). No significant between-group differences were found in delirium-related distress and survival. The most common adverse effect was hypokinesia (3 patients in the lorazepam + haloperidol group [19%] and 4 patients in the placebo + haloperidol group [27%]). *Conclusions and relevance:* In this preliminary trial of hospitalized patients with agitated delirium in the setting of advanced cancer, the addition of lorazepam to haloperidol compared with haloperidol alone resulted in a significantly greater reduction in agitation at 8 hours. Further research is needed to assess generalizability and adverse effects.

Christopher J. Yarnell et al., **Association between immigrant status and end-of-life care in Ontario, Canada**, *JAMA* 318.15 (October 17, 2017): 1479–1488, doi: 10.1001/jama.2017.14418 • *Importance:* People who immigrate face unique health literacy, communication, and system navigation challenges, and they may have diverse preferences that influence end-of-life care. *Objective:* To examine end-of-life care provided to immigrants to Canada in the last 6 months of their life. *Design, setting, and participants:* This population-based cohort study (April 1, 2004, to March 31, 2015) included 967 013 decedents in Ontario, Canada, using validated linkages between health and immigration databases to identify immigrant (since 1985) and long-standing resident cohorts.

Exposures: All decedents who immigrated to Canada between 1985 and 2015 were classified as recent immigrants, with subgroup analyses assessing the association of time since immigration, and region of birth, with end-of-life care. *Main outcomes and measures:* Location of death and intensity of care received in the last 6 months of life. Analysis included modified Poisson regression with generalized estimating equations, adjusting for age, sex, socioeconomic position, causes of death, urban and rural residence, and preexisting comorbidities. *Results:* Among 967 013 decedents of whom 47 514 (5%) immigrated since 1985, sex, socioeconomic status, urban (vs. rural) residence, and causes of death were similar, while long-standing residents were older than immigrant decedents (median [interquartile range] age, 75 [58–84] vs. 80 [68–87] years). Recent immigrant decedents were overall more likely to die in intensive care (15.6% vs. 10.0%; difference, 5.6%; 95% CI, 5.2%–5.9%) after adjusting for differences in age, sex, income, geography, and cause of death (relative risk, 1.30; 95% CI, 1.27–1.32). In their last 6 months of life, recent immigrant decedents experienced more intensive care admissions (24.9% vs. 19.2%; difference, 5.7%; 95% CI, 5.3%–6.1%), hospital admissions (72.1% vs. 68.2%; difference, 3.9%; 95% CI, 3.5%–4.3%), mechanical ventilation (21.5% vs. 13.6%; difference, 7.9%; 95% CI, 7.5%–8.3%), dialysis (5.5% vs. 3.4%; difference, 2.1%; 95% CI, 1.9%–2.3%), percutaneous feeding tube placement (5.5% vs. 3.0%; difference, 2.5%; 95% CI, 2.3%–2.8%), and tracheostomy (2.3% vs. 1.1%; difference, 1.2%; 95% CI, 1.1%–1.4%). Relative risk of dying in intensive care for recent immigrants compared with long-standing residents varied according to recent immigrant region of birth from 0.84 (95% CI, 0.74–0.95) among those born in Northern and Western Europe to 1.96 (95% CI, 1.89–2.05) among those born in South Asia. *Conclusions and relevance:* Among decedents in Ontario, Canada, recent immigrants were significantly more likely to receive aggressive care and to die in an intensive care unit compared with other residents. Further research is needed to understand the mechanisms behind this association.

JAMA Cardiology

Ankur Gupta et al., **Association of the Hospital Readmissions Reduction Program implementation with readmission and mortality outcomes in heart failure**, *JAMA Cardiol*, e-pub November 12, 2017, doi: 10.1001/jamacardio.2017.4265 • *Importance*: Public reporting of hospitals' 30-day risk-standardized readmission rates following heart failure hospitalization and the financial penalization of hospitals with higher rates have been associated with a reduction in 30-day readmissions but have raised concerns regarding the potential for unintended consequences. *Objective:* To examine the association of the Hospital Readmissions Reduction Program (HRRP) with readmission and mortality outcomes among patients hospitalized with heart failure within a prospective clinical registry that allows for detailed risk adjustment. *Design, setting, and participants:* Interrupted time-series and survival analyses of index heart failure hospitalizations were conducted from January 1, 2006, to December 31, 2014. This study included 115 245 fee-for-service Medicare beneficiaries across 416 US hospital sites participating in the American Heart Association Get with the Guidelines-Heart Failure registry. Data analysis took place from January 1, 2017, to June 8, 2017. *Exposures:* Time intervals related to the HRRP were before the HRRP implementation (January 1, 2006, to March 31, 2010), during the HRRP implementation (April 1, 2010, to September 30, 2012), and after the HRRP penalties went into effect (October 1, 2012, to December 31, 2014). *Main outcomes and measures:* Risk-adjusted 30-day and 1-year all-cause readmission and mortality rates. *Results:* The mean (SD) age of the study population (n = 115 245) was 80.5 (8.4) years, 62 927 (54.6%) were women, and 91 996 (81.3%) were white and 11 037 (9.7%) were black. The 30-day risk-adjusted readmission rate declined from 20.0% before the HRRP implementation to 18.4% in the HRRP

penalties phase (hazard ratio [HR] after vs before the HRRP implementation, 0.91; 95% CI, 0.87–0.95; P < .001). In contrast, the 30-day risk-adjusted mortality rate increased from 7.2% before the HRRP implementation to 8.6% in the HRRP penalties phase (HR after vs before the HRRP implementation, 1.18; 95% CI, 1.10–1.27; P < .001). The 1-year risk-adjusted readmission and mortality rates followed a similar pattern as the 30-day outcomes. The 1-year risk-adjusted readmission rate declined from 57.2% to 56.3% (HR, 0.92; 95% CI, 0.89–0.96; P < .001), and the 1-year risk-adjusted mortality rate increased from 31.3% to 36.3% (HR, 1.10; 95% CI, 1.06–1.14; P < .001) after vs before the HRRP implementation. *Conclusions and relevance*: Among fee-for-service Medicare beneficiaries discharged after heart failure hospitalizations, implementation of the HRRP was temporally associated with a reduction in 30-day and 1-year readmissions but an increase in 30-day and 1-year mortality. If confirmed, this finding may require reconsideration of the HRRP in heart failure.

Journal of Pediatrics

Sunah S. Hwang et al., **Maternal substance use disorders and infant outcomes in the first year of life among Massachusetts singletons, 2003–2010**, *J Pediatr* 191 (December 2017): 69–75, doi: 10.1016/j.jpeds.2017.08.045 • *Objective:* To determine the association of maternal substance use disorders (SUDs) during pregnancy with adverse neonatal outcomes and infant hospital re-admissions, observational stays, and emergency department utilization in the first year of life. *Study design:* We analyzed 2 linked statewide datasets from 2002 to 2010: the Massachusetts Pregnancy to Early Life Longitudinal data system and the Massachusetts Bureau of Substance Abuse Services Management Information System. Generalized estimating equations were used to assess the association of maternal SUDs and neonatal outcomes and infant hospital-based care in the first year of life, controlling for maternal and infant characteristics. *Results:* Maternal SUDs increased from 19.4 per 1000 live births in 2003 to 31.1 per 1000 live births in 2009. In the adjusted analysis, exposed neonates were more likely to be born preterm (aOR 1.85; 95% CI, 1.75–1.96) and low birthweight (aOR 1.94; 95% CI, 1.80–2.09). After controlling for maternal characteristics and preterm birth, SUD-exposed neonates were more likely to have intrauterine growth restriction, cardiac, respiratory, neurologic, infectious, hmeatologic, and feeding/nutrition problems, prolonged hospital stay, and higher mortality (aOR range 1.26–3.80). Exposed infants were more likely to be rehospitalized (aOR 1.10; 95% CI, 1.04–1.17) but less likely to have an observational stay (aOR 0.90; 95% CI, 0.82–0.99) or use the emergency department (aOR 0.87; 95% CI, 0.83–0.90) in the first year of life. *Conclusions:* Infants born to mothers with SUD are at higher risk for adverse health outcomes in the perinatal period and are also more likely to be rehospitalized in the first year of life.

Lancet

Karl Blanchet et al., **Evidence on public health interventions in humanitarian crises**, *Lancet* 390.10109 (November 18, 2017): 2287–2296, doi: 10.1016/S0140-6736(16)30768-1 • Recognition of the need for evidence-based interventions to help to improve the effectiveness and efficiency of humanitarian responses has been increasing. However, little is known about the breadth and quality of evidence on health interventions in humanitarian crises. We describe the findings of a systematic review with the aim of examining the quantity and quality of evidence on public health interventions in humanitarian crises to identify key research gaps. We identified 345 studies published between 1980 and 2014 that met our inclusion criteria. The quantity of evidence varied substantially by health topic, from communicable diseases (n = 131), nutrition (n = 77), to non-communicable diseases (n = 8), and water, sanitation, and hygiene (n = 6). We observed common study design and weaknesses in the methods, which substantially reduced the ability to determine causation and attribution of the interventions. Considering the major

increase in health-related humanitarian activities in the past three decades and calls for a stronger evidence base, this paper highlights the limited quantity and quality of health intervention research in humanitarian contexts and supports calls to scale up this research.

Sandro Colombo and Enrico Pavignani, **Recurrent failings of medical humanitarianism: intractable, ignored, or just exaggerated?**, *Lancet* 390.10109 (November 18, 2017): 2314–2324, doi: 10.1016/S0140-6736(17)31277-1 • Humanitarian health workers operate in dangerous and uncertain contexts, in which mistakes and failures are common, often have severe consequences, and are regularly repeated, despite being documented by many reviews. This Series paper aims to discuss the failures of medical humanitarianism. We describe why some of these recurrent failings, which are often not identified until much later, seem intractable: they are so entrenched in humanitarian action that they cannot be addressed by simple technical fixes. We argue that relief health-care interventions should be contextualised. Perhaps medical humanitarianism deserves a better reputation than the one at times tarnished by unfair criticism, resulting from inapplicable guiding principles and unrealistic expectations. The present situation is not conducive to radical reforms of humanitarian medicine; complex crises multiply and no political, diplomatic, or military solutions are in sight. Relief agencies have to compete for financial resources that do not increase at the same pace as health needs. Avoiding the repetition of failures requires recognising previous mistakes and addressing them through different policies by donors, stronger documentation and analysis of humanitarian programmes and interventions, increased professionalisation, improved, opportunistic relationships with the media, and better ways of working together with local health stakeholders and through indigenous institutions.

Pediatrics

Ryan M. Antiel et al., **Weighing the social and ethical considerations of maternal–fetal surgery**, *Pediatrics* 140.6 (December 2017), e20170608, doi: 10.1542/peds.2017-0608 • *Objectives:* The ethics of maternal–fetal surgery involves weighing the importance of potential benefits, risks, and other consequences involving the pregnant woman, fetus, and other family members. We assessed clinicians' ratings of the importance of 9 considerations relevant to maternal–fetal surgery. *Methods:* This study was a discrete choice experiment contained within a 2015 national mail-based survey of 1200 neonatologists, pediatric surgeons, and maternal–fetal medicine physicians, with latent class analysis subsequently used to identify groups of physicians with similar ratings. *Results:* Of 1176 eligible participants, 660 (56%) completed the discrete choice experiment. The highest-ranked consideration was of neonatal benefits, which was followed by consideration of the risk of maternal complications. By using latent class analysis, we identified 4 attitudinal groups with similar patterns of prioritization: "fetocentric" (n = 232), risk-sensitive (n = 197), maternal autonomy (n = 167), and family impact and social support (n = 64). Neonatologists were more likely to be in the fetocentric group, whereas surgeons were more likely to be in the risk-sensitive group, and maternal–fetal medicine physicians made up the largest percentage of the family impact and social support group. *Conclusions:* Physicians vary in how they weigh the importance of social and ethical considerations regarding maternal–fetal surgery. Understanding these differences may help prevent or mitigate disagreements or tensions that may arise in the management of these patients.

Delesha Carpenter et al., **Methodological and ethical issues in pediatric medication safety research**, *Pediatrics* 140.3 (September 2017), e20170195, doi: 10.1542/peds.2017.0195 • In May 2016, the Eshelman School of Pharmacy at The University of North Carolina at Chapel Hill convened the PharmSci conference to address the topic of "methodological and ethical issues in pediatric medication safety research." A multidisciplinary group of experts representing a diverse array of perspectives, including those of the US Food and Drug Administration,

children's hospitals, and academia, identified important considerations for pediatric medication safety research and opportunities to advance the field. This executive summary describes current challenges that clinicians and researchers encounter related to pediatric medication safety research and identifies innovative and ethically sound methodologies to address these challenges to improve children's health. This article addresses 5 areas: (1) pediatric drug development and drug trials; (2) conducting comparative effectiveness research in pediatric populations; (3) child and parent engagement on study teams; (4) improving communication with children and parents; and (5) assessing child-reported outcomes and adverse drug events.

Emily E. Johnston et al., **Disparities in the intensity of end-of-life care for children with cancer**, *Pediatrics* 140.4 (October 2017), e20170671, doi: 10.1542/peds.2017-6071 • *Background:* Many adult patients with cancer who know they are dying choose less intense care; additionally, high-intensity care is associated with worse caregiver outcomes. Little is known about intensity of end-of-life care in children with cancer. *Methods:* By using the California Office of Statewide Health Planning and Development administrative database, we performed a population-based analysis of patients with cancer aged 0 to 21 who died between 2000 and 2011. Rates of and sociodemographic and clinical factors associated with previously-defined end-of-life intensity indicators were determined. The intensity indicators included an intense medical intervention (cardiopulmonary resuscitation, intubation, ICU admission, or hemodialysis) within 30 days of death, intravenous chemotherapy within 14 days of death, and hospital death. *Results:* The 3732 patients were 34% non-Hispanic white, and 41% had hematologic malignancies. The most prevalent intensity indicators were hospital death (63%) and ICU admission (20%). Sixty-five percent had ≥ 1 intensity indicator, 23% ≥ 2, and 22% ≥ 1 intense medical intervention. There was a bimodal association between age and intensity: ages < 5 years and 15 to 21 years were associated with intense care. Patients with hematologic malignancies were more likely to have high-intensity end-of-life care, as were patients from underrepresented minorities, those who lived closer to the hospital, those who received care at a nonspecialty center (neither Children's Oncology Group nor National Cancer Institute Designated Cancer Center), and those receiving care after 2008. *Conclusions:* Nearly two-thirds of children who died of cancer experienced intense end-of-life care. Further research needs to determine if these rates and disparities are consistent with patient and/or family goals.

Cécile Rousseau, B. Heidi Ellis, and John D. Lantos, **The dilemma of predicting violent radicalization**, *Pediatrics* 140.4 (September 18, 2017), e20170685, doi: 10.1542/peds.2017-0685 • Parents, educators, law enforcement officials, and health professionals are all concerned about the violent radicalization of adolescents. Health professionals may be called on to assess teenagers regarding the risk that they will become dangerous. We present a case in which a psychiatrist is asked to do a forensic evaluation of a young adolescent who said troubling things and had some concerning posts on his Facebook page. The evaluation reveals things about both the young boy and his community.