high-grade serous carcinomas. Serous tubal intraepithelial carcinoma has been identified in the fallopian tube in 59% of women with high-grade serious carcinoma. Opportunistic salpingectomy is endorsed by the American College of Obstetricians and Gynecologists, Society of Gynecologic Oncology, and other societies.

The investigators from Austria undertake a novel approach of performing prophylactic salpingectomy at the time of elective laparoscopic cholecystectomy. This was a multicenter study of 105 patients. When proposed to patients, it was acceptable in 60% of patients and was actually accomplished in 93% at the time of surgery. It was notable that the median additional time to perform salpingectomy was minimal: 13 minutes (range, 4–45 minutes). The authors noted no intraoperative or postoperative complications, and only 7 patients failed to undergo salpingectomy because of adhesive disease or poor tubal visualization. No malignancies were diagnosed; however, there was no comment about whether STIC was found. In the majority of cases, no new trocars and no trocar repositioning were required. Of 105 patients, the general surgeon was able to perform the salpingectomy independently in 79 cases (75%); a gynecologist was called to perform the case in 19 cases, and in 7 cases, both physicians were present.

The authors, in a previous study, had determined that women would be amenable to prophylactic salpingectomy at the time of their cholecystectomy. In the current study, they report their experience with this approach and showed this to be feasible and safe. They outline a number of challenges including the need for the general surgeon to discuss this additional procedure, obtain informed consent, and potential billing issues such as approval of a secondary procedure outside of general surgery procedure. The benefit, however, is significant. In their abstract for the 2020 Society of Gynecologic Oncologists meeting, Drs Cook and Landen estimate that if salpingectomy was performed at the time of 3 benign procedures (cholecystectomy, ventral hernia repair, bariatric surgery) there would be a reduction in cases of ovarian cancer by 28% to 38%. While the current authors cite that this would be “an exercise in bridging surgical silos,” the larger benefit is to the patient. Performing opportunistic salpingectomy at the time of nongynecologic elective surgery may be a promising approach to decreasing the incidence of ovarian cancer.—LVL

41st Annual North American Meeting of the Society for Medical Decision Making; October 21, 2019; Portland, Oregon.
Keynote Address: The More Who Die, the Less We Care: Confronting the Deadly Arithmetic of Compassion

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ABSTRACT

Dr Slovic, a psychologist at the University of Oregon, has devoted his research career to this topic. He is a member of the National Academy of Arts and Sciences.
Valuing human lives: Dr Slovic discusses the psychology behind the valuing human lives in individuals and in mass populations faced with global catastrophic threats from violence, natural disasters, and other causes.

In the field of medicine, health care providers have difficult choices when treating individual patients at the end of their lives with expensive therapies that keep hope alive but are not cost-effective. Health care providers in every specialty are faced with difficult choices every day. Making lifesaving judgments and decisions is highly dependent on context and subject to many forms of response mode and framing effects and affective biases. These choices have major implications for communication of risk when counseling patients and for the concept of shared decision making.

**Fast and slow thinking:** Fast, intuitive thinking is based on feelings. In this fast mode of thinking, images, stories, and direct experiences are very much influential. The second mode of thinking is the slow, deliberate mode taught to us in school (thinking logically and using arguments, reasons, equations, mathematics). Both fast thinking and slow thinking are highly rational, with benefits and deficiencies, and are affected by biases. Some of the biases with fast, intuitive decisions may be reduced with slower, more introspective decision making. Slow thinking, however, can also introduce serious biases. A necessary first step toward valuing lives humanely and improving decision making is understanding the strengths and weaknesses of fast and slow thinking.

Although fast thinking is easy, feels right, and usually works, it can lead to serious mistakes. “The more who die, the less we care” is one of these mistakes. Slow thinking can also lead to serious biases and poor decisions when valuing lives. Our feelings value individual lives greatly. However, with increasing number of lives at risk or lost due to global catastrophe (genocide or natural disasters), we tend to be insensitive to any additional lives and never act or intervene. The importance of the first life is referred to as the singularity effect.

**Psychic numbing:** Opposite the singularity effect is psychic numbing and compassion fade or collapse. These are dramatically illustrated by the genocide in Rwanda where in 1994 about 800,000 people were murdered in 100 days. The world watched from afar while this genocide happened, but basically did nothing to stop it. This is one of many numerous episodes of genocide and mass atrocities that have occurred over the years where little was done to intervene and save lives. Numbing resulting from fast thinking is not the only challenge to valuing lives when many lives are at stake. Even slow, reasoned decision-making requiring tradeoffs can be severely biased, causing our actions to contradict our stated values.

**The prominence effect:** This asserts that choices or decisions value prominent dimensions extremely highly because of the need to justify or defend such actions. The United States and other countries say they have a responsibility to intervene in humanitarian crises such as genocides and mass atrocities and try to halt or prevent them. However, for governments where national security is the most prominent value, strongly held humanitarian values tend to decline or even collapse when they conflict with security objectives. Numerous examples of security prominence from our political world—indifference based on national security interests—are the continuing atrocities in Syria, Sudan, Yemen, and other parts of the world.

**Virtuous violence:** Social, cultural, and political attitudes drive policies and decisions devaluing and harming human lives. Virtuous violence, which is a form of slow thinking, leads us to decide that certain lives are deserving of punishment rather than protection. Using a hypothetical scenario of ground war between the United States and Iran that was not going well, respondents in surveys approved use of a nuclear strike to end the war and protect our troops, even when told that 100,000 and up to 2 million Iranian civilians would be killed. More Republicans than Democrats supported the use of a nuclear weapon, the death penalty, harsh anti-immigration policies, and opposed gun control. The survey data showed that Republicans, conservatives, Trump voters, and people who supported these punitive policies were more likely to approve the use of nuclear weapons. There is incoherence between the singular importance of protecting individual lives and the acceptability of mass killing in warfare such as use of nuclear weapons.

These data indicate that nonrelevant political and sociocultural biases (combined with psychic numbing and security prominence) support decisions and policies that devalue the lives of millions.

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**EDITORIAL COMMENT**

(I was intrigued to read the abstracted Society for Medical Decision Making keynote address by Paul Slovic from October 2019. It is a compelling speech that focuses on how we think about a single death, multiple deaths, and astronomical numbers of deaths. Although Slovic’s analysis looked backward in time to explain our response to humanitarian crises, it resonates even more now during the COVID-19 (coronavirus disease 2019) pandemic.

After describing a series of heuristics and biases he helped discover, Slovic explains why our cognitive biases diminish the value of each additional life lost, which is the opposite of what our survival instinct would predict. Because larger losses of life threaten the viability of the group or society, each additional death should be valued at least as much as the prior one, motivating action against the existential threat. Instead, each loss of life beyond the first has a diminishing value. As compassion
declines, so does our capacity to feel good or bad, and the resulting lack of feeling (value) leads to increasing inaction when large losses of life occur.

Next, Slovic discusses the societal consequences of these phenomena using examples of the Rwandan genocide and other humanitarian crises and atrocities. He juxtaposes humanitarian lifesaving and national security and explains why security concerns predominate. When I interpret Slovic's analysis using a pandemic lens, the psychic numbing we currently see with high losses of life is juxtaposed with economic and political security concerns that seem to predominate. Our inherent compassion fatigue and resulting devaluation of the increasing death toll increase our vulnerability to the interests of leaders who regard economic and political outcomes as most important. In addition to the affect heuristic and framing effects described in Slovic's essay, other cognitive biases contribute to beliefs and health behaviors that defy science-based public health recommendations.

Members of communities with few COVID-19 deaths are ignoring publicly mandated safety behaviors. For individuals prone to "fast thinking," the availability heuristic overestimates the importance of information most available to them ("no one I know has COVID") and gives that information more power than a more complete "slow thinking" analysis would ("maybe we are seeing less COVID in our community because people are being so careful, and I should be too"). Consequently, the immediate inconveniences of physical distancing, mask wearing, and hand-washing fail to bring a reward that gets the mind's attention.

Optimism bias can interact with the availability heuristic by making distant negative consequence (serious illness from COVID-19) seem even less likely. And if a handful of cases occur, the actor-observer bias supports the conclusion that the people who became seriously ill must have done something incredibly irresponsible instead of falling victim to a virus that can infect anyone who does not consistently follow the recommended precautions.

We are also victim to a polarized 24-hour news cycle that fans the flames of confirmation bias by allowing easy access to information that reinforces, rather than challenges, beliefs based on erroneous assumptions. Individuals who believe the pandemic is a hoax perpetrated by a politically motivated conspiracy can easily find support for that point of view, which can feel more affirming and reassuring than the existential threat of a true pandemic.

The inconsistent personal use of scientifically grounded public health measures to minimize COVID-19 transmission, serious illness, and death seems irresponsible and frustrating. Inconsistent messaging by leaders who prioritize economic and political agendas explains only one part of the problem. Cognitive biases and heuristics are also responsible. On a hopeful note, a systematic review found that the majority of debiasing intervention studies (60 of 87) were at least partially successful in improving health-related judgments and decision making *(Med Decis Making* 2018;38(1):3–13).

The Society for Medical Decision Making is an international organization of decision scientists. The Society for Medical Decision Making describes medical decision science as a multifaceted field that proposes standards for ideal decision making; seeks to explain how patients and physicians routinely make decisions; identifies facilitators of, and barriers to, effective decision making; and develops tools to help optimize decision making (https://smdm.org/hub/page-definition-of-medical-decision-making/about, accessed July 31, 2020). We urgently need medical decision scientists to propose interventions that will improve the decision-making of our population with respect to the COVID-19 pandemic.—LAL)