



Better Healthcare Newsletter from Patrick Malone



Dear Jessica,

They teem in a sub-microscopic world that has flourished almost since the dawn of time. They're barely a life form of their own — stripped-down flecks of genetic material encased in protein. These particles are so minuscule that 100 million of them might fit on the head of pin — and that tiny mess itself could be contagious enough to infect and sicken 1,000 of us.

The largest virus is smaller than the tiniest bacteria, so tiny they cannot even be seen with a regular light microscope. (The photo here was snapped with an electron microscope.) And unlike bacteria, viruses, as far as we know, are never good for you.

Welcome to the all-too-close but little-known world of viruses.

A punishing outbreak of one — a coronavirus now named Covid-19 — exploded out of the city of Wuhan in central China. It has killed thousands, sickened tens of thousands, spread to dozens of nations, and brought the global power of China to a medieval standstill due to

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Antibiotics? Not for viruses!

BY THE NUMBERS

~18,000

Estimated U.S. deaths as of late February in 2020 flu season, including 105 children. Experts estimate flu has sickened 29 million, with 280,000 hospitalized.

harsh quarantines that have halted school, work, business, and socializing for tens of millions of Chinese. The disease has rattled markets around the world, and President Trump has appointed Vice President Mike Pence, who has a long history as a science denier, to head up the American response.

Public health officials have not only had to battle this raging infection but also a rising tide of misinformation and disinformation that has led to unnecessary panic, racism, and xenophobia.

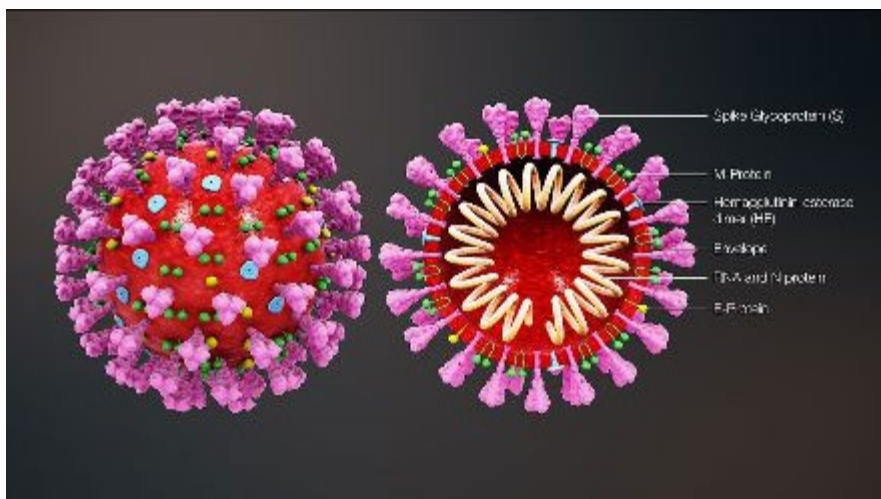
Viruses can be scary and never should be taken lightly. They can **savage humans from head to toe**, causing such infections as: the common cold, flu, pneumonia, measles, mumps, chicken pox, smallpox, Hepatitis (A,B,C, D and E), polio, rabies, herpes, shingles, dengue fever, yellow fever, meningitis, encephalitis, HIV-AIDS, and Ebola.

Viral ills, for now, are hard to treat, although medical science has made progress in detecting and preventing infections and reducing their harms. But this also has increased the importance of patients knowing some basics about viruses, so they can better protect themselves against them.

So, here's a virus briefing as a prescription for your health and well-being

Photo credit, Covid-19 coronavirus, shown above: National Institute of Allergy and Infectious Diseases' Rocky Mountain Laboratories

Viruses: Planet plagued for eons by parasitic particles' relentless replication



Medical scientists cannot agree whether **viruses should be considered to be "alive,"** and they are unsure how long they have existed, particularly because they haven't left evidence in fossils or elsewhere about their existence in times long ago. Experts are unsure whether they sprang up out of the **earliest ooze in a form much like they have**

37,000

Number of reported new diagnoses in U.S. in 2018 of patients with HIV

\$29 billion

Estimated loss in airline industry due to coronavirus curtailed 2020 travel.

1.9 million

Estimated, annual number of U.S. outpatient visits for treatment of norovirus, the leading cause of vomiting and diarrhea from acute inflammation of stomach and intestines among people of all ages.

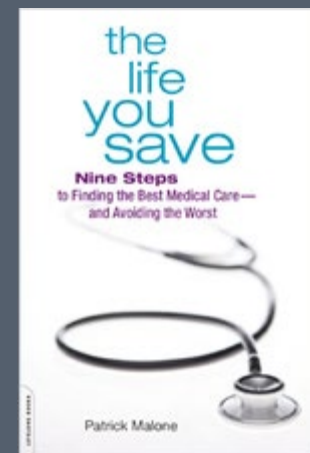
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now, or whether they originated in cellular forms that broke down or evolved into the streamlined microscopic particles now ubiquitous on the planet.

Viruses, as experts know them now, consist of little more than strings of their own genetic information (DNA or RNA) housed in a protein shell. Their singular function seems to be to survive and to spread. They do this by seizing cells, forcing their own genetic coding into them, and taking them over to use as factories for their replication.

These parasites can be brutally efficient, with many not only debilitating their hosts but also ensuring they don't become so virulent as to wipe out their sources of sustenance. Some may kill off their prey in vast numbers. But many viruses can exist in species for a long time and burgeon before they display another of their jaw-dropping attributes: mutation.

When viruses replicate in giant numbers, as they do, they also may undergo fundamental changes, notably in their DNA genetic code. DNA is the genetic blueprint for all of life, including humans. DNA contains long strings of the chemical building blocks of adenine, thymine, cytosine, and guanine. They appear in the genetic double-helix in patterns, captured in scientific terms by letter chains like A-T-C-G. Scientists have learned to map or sequence these, giving them [important new ways to detect and protect against viruses](#). Mother Nature, in a miracle of her own, copies and repeats these sequences countless times to create and order cells and their functions.

When the genetic copying process isn't perfect, errors in the A-T-C-G sequence can creep in: extra letters, missing letters, scrambled order of letters. That's where it gets interesting. Sometimes these genetic mutations prove beneficial for survival. That's the basis for evolution: in plants, animals, humans, and, yes, viruses. Sometimes mutations can allow viruses to make a dramatic leap from one species to another, particularly if they are close by and have close contact with the original host.

[Insects like mosquitos](#) and ticks, of course, host and transmit many kinds of viral infections, including yellow fever, dengue, and encephalitis. For eons, humans also have made themselves targets for novel viruses and their infections by hunting and eating wild animals and by domesticating and living with them. Experts have traced the HIV-AIDS epidemic to [hunters' contacts with primates in Africa](#). Ebola, a deadly hemorrhagic disease, also was thought to be [linked to primates, though bats](#) now are suspected as an animal host. The rise of [flu variants](#) has led to [large-scale culling of chicken flocks](#). A part of the battle against Covid-19 includes determining where this outbreak began, with early attention zeroing in on a jump [from bats to pangolins](#) — [scaly, endangered mammalian ant eaters](#) native to Asia and Africa — [and other species seen in China's "wet markets,"](#) where many [different types of exotic live animals](#) are sold for eating and other human uses.

The ease with which viruses change -- called mutability -- creates

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PAST ISSUES

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Some surprises about the lifetime burdens of serious diseases

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another notable nightmare for public health officials: these mutations can occur rapidly — within a single season. This explains why makers must whip up a different flu vaccine each year. Multiple strains of a virus also commonly exist side by side with each other, explaining why the seasonal vaccine targets not just one but several types of flu.

Viruses may seem simple. But protecting humans from them can be a complex ordeal, particularly because each of these tiny menaces differs in key characteristics, such as how it spreads, how fast it spreads, and how lethal it can be. The differences can be vital, as the Atlantic magazine reported:

"Coronaviruses are similar to influenza viruses ... Four coronaviruses commonly infect humans, causing colds. These are believed to have evolved in humans to maximize their own spread — which means sickening, but not killing, people. By contrast, the two prior novel coronavirus outbreaks — SARS (severe acute respiratory syndrome) and MERS (Middle East respiratory syndrome, named for where the first outbreak occurred) — were picked up from animals, as was H5N1. These diseases were highly fatal to humans. If there were mild or asymptomatic cases, they were extremely few. Had there been more of them, the disease would have spread widely. Ultimately, SARS and MERS each killed fewer than 1,000 people. Covid-19 is already reported to have killed more than twice that number. With its potent mix of characteristics, this virus is unlike most that capture popular attention: It is deadly, but not too deadly."

Illustration credit. Coronavirus cutaway, shown above: @Creative Commons, Scientific Animations

History chronicles toll of a ruthless killer



Viruses can be ruthless killers.

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[Ebola](#), a fever that can cause spontaneous and uncontrolled bleeding from patients' eyes, nose, gums, internal organs, and body openings, isn't as contagious as some infections. But health officials have moved with haste to contain its outbreaks because it has a [fatality rate as high as 90%](#).

The World Health Organization estimates that 74.9 million people have been infected with HIV-AIDS, and [32 million](#) died from the viral disease and its related complications between 1990 and 2018.

Here's how the federal Centers for Disease Control and Prevention describes a [20th century pandemic involving the H1N1 strain of influenza](#):

"The 1918 influenza pandemic was the most severe ... in recent history. It was caused by an H1N1 virus with genes of avian origin. Although there is not universal consensus regarding where the virus originated, it spread worldwide during 1918-1919. In the United States, it was first identified in military personnel in spring 1918. It is estimated that about 500 million people, or one-third of the world's population, became infected with this virus. The number of deaths was estimated to be at least 50 million worldwide, with about 675,000 occurring in the United States."

The [pandemic may not have altered significantly the course](#) of the planet's first and bloody "great war" of the 20th century. But coming on the heels of a carnage unprecedented at the time, the flu's full effects on history still may not be fully known, as a [British science blog](#) has reported:

"[A] mystery is why the 1918 pandemic had so little apparent cultural impact at the time. The most famous deaths from the virus were the poet Guillaume Apollinaire, the artist Egon Schiele (along with his wife Edith, who was pregnant with their first child), and John McCrae, author of one of the most famous poems of WWI remembrance, 'In Flanders Fields.' It also had a wider historical impact. Some military historians argue that the last major German offensive in 1918 failed only because of flu among the soldiers. The British prime minister David Lloyd George nearly died, although this was covered up at the time. The Versailles Treaty might potentially have been less harsh on Germany, reducing the chances of WWII, if the U.S. President, Woodrow Wilson, had not been incapacitated with the flu during the latter part of the negotiations. And the death of the leading USSR politician and administrator Yakov Sverdlov has been said to have opened up an opportunity for Josef Stalin to begin his rise to power."

Historians believe that [smallpox outbreaks ravaged ancient Greece and may have hastened the decline of the Roman Empire](#), with one 25-year epidemic, the Antonine Plague, killing as many as 7 million. [Explorer-spread pox and other infections](#) may have wiped out as much as 90% of the people living in North and South America before Europeans' arrival.

In today's high-tech and scientific times, it's hard to appreciate the courage, audacity — and desperation — of medical investigators who have battled viral diseases. They watched, mostly helpless, as children suffered and died. They were pained that few of their patients lived long, succumbing to an array of diseases. But they persevered, and by the 18th century their sleuthing led them to breakthrough thinking about human illnesses: They deduced that tiny, invisible bugs likely were the cause.

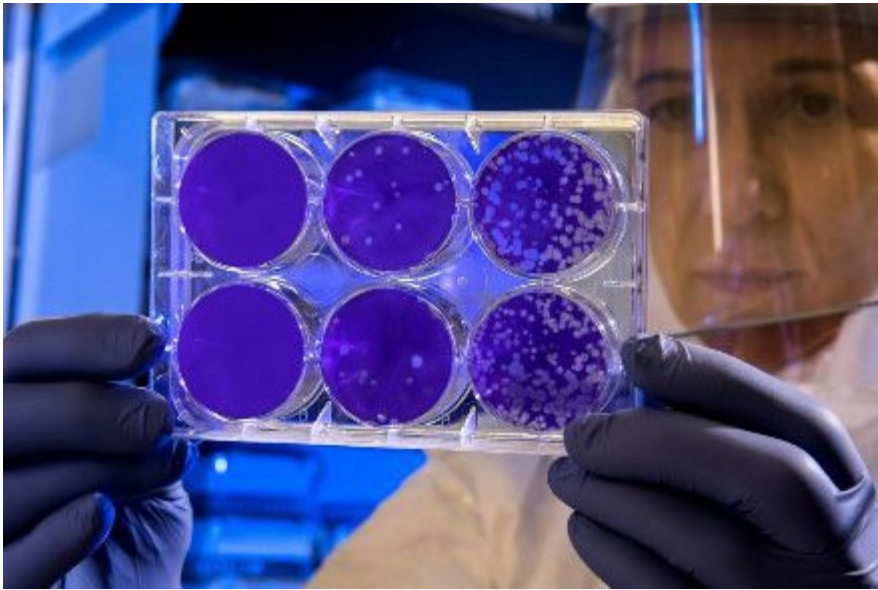
The [history of virology](#) includes names familiar to the lay public, including the microscope genius Antoine van Leeuwenhoek, physician Edward Jenner, and Louis Pasteur, the legendary biologist, microbiologist, and chemist, respectively. Less known may be scientists like Dmitry Ivanovsky, Martinus Beijerinck, Frierich A.J. Loeffler, and Paul Frosch. These researchers showed that something smaller than bacteria passed through new filters developed in their day and caused diseases in plants and animals. They are credited with identifying viruses.

Jenner, a noted 18th- and 19th-century doctor and medical scientist, didn't know that his [pathbreaking procedure — vaccinating against smallpox](#) — provides a crucial protection against viral infections. He didn't know exactly what viruses were. But his fundamental approach of taking dead or inert viral material, in his case scrapings from a dairy maid's cowpox arm lesions and injecting them into another person in small doses, created the amazing safeguard of vaccination.

Vacca, by the way, is Latin for cow, while *vaccinia* is the ancient term for cowpox. Jenner dubbed his new treatments vaccinations, and the word stuck.

Photo credit, mask-wearing Seattle police in 1918 flu pandemic, shown above: National Archives

Medical science knows a lot about preventing viral infections, but treatment lags



In the years after Jenner, medical researchers — including disease-fighting legends like Walter Reed and Jonas Salk — have [developed vaccines](#) for many different bacterial and viral infections, including the flu, measles, mumps, chicken pox, rabies, yellow fever, polio, and, more recently, human papilloma virus (HPV) and Ebola.

As with all medical interventions, inoculations carry risks. But they are far outweighed by the giant benefits they bring, especially if high numbers of individuals in a population get inoculated. This brings about even more health protection, or “herd immunity,” a marked decrease in the risk that infections will enter and spread in vaccinated groups.

In recent times, however, charlatans, the ignorant, and the terribly misinformed have created a cloud of counterfactual nonsense about vaccines, sadly leading too many people to skip recommended shots for themselves or their loved ones. This has been costly and disastrous, with diseases that had been nearly wiped out making comebacks that sicken and kill too many people. The World Health Organization recently reacted to both anti-vaccination fervor that led to a measles resurgence and lethal opposition to a new vaccine that could help put down killer Ebola outbreaks. The global health agency has [declared vaccination opposition one of its major global health concerns](#).

Vaccination and other preventive steps play a major role in modern medicine’s campaigns against viral infections. That’s because, even now, the science about these life forms is still building. It’s complex and costly for researchers to delve into the workings of a world so small, elemental, and mutable.

[Big steps have occurred with the development](#), particularly due to the nightmare of HIV-AIDS, of anti-viral treatments. Researchers have made major strides not only with the virus-disrupting HIV cocktail, consisting of multiple medications, but also in therapies for herpes, the flu, and hepatitis C.

With powerful modern science at the world’s beck and call, what’s the

holdup in finding more-ways to attack viral diseases?

Researchers note that they [must proceed with caution](#), because any [drugs potent enough to knock out viruses also might harm crucial cells](#). Painstaking processes, including analyses of viral genetic materials, have allowed researchers to figure how to block crucial steps in the way viruses replicate. With HIV, experts made their breakthrough when they determined that this infection required multiple assaults by different drugs combined to suppress the amount of virus in the body.

Current therapies also rely on the body's own defense mechanisms to rise up and clear out viruses, or to suppress them to undetectable, non-transmissible levels. In many cases, specialized human cells can put down viral attacks. It's awful, though, to suffer through, say, a week of flu-caused fevers and chills, aches and pains, and sluggishness. It can be worse: Common viral infections like the [mumps](#) and [measles](#) can leave patients with blindness, hearing loss, and sterility. A global push is under way to inoculate young men and women against the papilloma virus because of ever-increasing evidence that it can cause cancers of the cervix, throat, anus, and female reproductive organs.

Does this virologic briefing sound like a giant public service announcement about getting all the medically recommended vaccinations? It should. To underscore the point: Many harmful viral infections are preventable. This is crucial for the most vulnerable, such as the aged and the very young, and individuals already struggling with chronic conditions, including compromised immune systems. It also should matter in households where finances can run tight and all the adults must go out and be breadwinners. Who can take a week or two or three to provide care if a viral illness sweeps a family? Vaccinations also may be urgent precautions because of newer research on a worrisome effect of the resurgent and common virus-caused disease of measles. Researchers now think that it can [erase body systems' memory of how to fight other infections, leaving patients more vulnerable with "immune amnesia."](#)

Because they are such a stripped-down life form, [many viruses fare poorly in the open air](#). They may not survive [more than a few hours or days](#) on stainless steel, plastic, or fabric. They can be killed on surfaces, for example, with heat and disinfecting agents. That's why hygiene and hand washing can be an important way to block their transmission.

The recommended way to do this, by the way, is to use lots of soap and water, scrubbing with vigor while singing the "Happy birthday" song twice for the required hygiene time.

Other viruses, like those that cause hemorrhagic fevers (Ebola), are more resilient and may blow up in such numbers that extreme safeguards may be required.

In general — excepting, for example, gastrointestinal bugs that are spread by lack of hygiene — viruses aren't spread by objects or products but by people. This is why it is important for those who are ill

to cover up when sneezing or coughing. Masks can help, but they don't provide the protections that too many magically ascribe to them. Those who are ill should stay away from others and stay at home when they have a fever and are sneezing and coughing. Parents, please, keep the sick kids home! If you have a cough or a fever, don't try to visit others in the hospital. If you're starting to feel poorly, call your doctor and discuss options. You may not want to stall until you're in a crisis and need to seek emergency care at a site where you not only may have to wait but also may infect others.

When viral and other infections become widespread, public health authorities also may seek lockdowns or quarantines. In authoritarian China, officials have shut schools, halted public transportation, and ordered businesses to close. They have canceled public gatherings, including government meetings, sporting events, concerts, and plays. Japanese officials have shut their nation's schools for a time as a virus response. In this country, we may need to ready ourselves for the possibility of curtailed public activities, including school and business closures or other ways to reduce people's gathering together.

Containment tactics can be helpful. They can slow the spread of viruses. They can convey officials' seriousness about outbreaks, allowing them to find and assist the ill. Many patients get care for their viral symptoms, not the diseases themselves. Loved ones, doctors, and nurses can keep them warm, nourished, and hydrated. Medical staff can support them if they suffer additional conditions and can try to keep them from contracting other, opportunistic ills, including bacterial infections. Locking down an area and a group of sick people may result in some infections weakening and running a course. This approach has its limits: Those who are ill and even those who are infected but may not show symptoms can migrate; quarantine locales can become viral hothouses, as occurred with a luxury cruise ship that Japanese authorities locked down in Yokohama; isolation measures and testing can fall short, as apparently occurred with another cruise vessel in Cambodia.

Here's what also can be unhelpful, big time, as viruses spread: fear-mongering, racism, and xenophobia. Prudence may pay when it comes to planning and going overseas. But in this country, it will be important for people to stay informed, heed public health officials and reputable medical authorities, and avoid stigmatizing or discriminating against individuals because of race or national origin, and silly stuff like no longer eating Chinese food.

It can be daunting to sort through the fury of information in the 24/7 news day, compounded by social media and old-fashioned gossip. Too many of us struggle not only with common biases as we try to assess our risks from diseases (see sidebar) but also with how to make the best decisions about medical treatments. It would help [all of us to become more savvy consumers of medical and scientific information](#). And, as discussed above, there are individual steps we can take.

There is, of course, an important way that we can deal well with collective challenges to our health: We can [support and engage with](#)

public health programs at the local, state, federal, and global levels. Too often these are ignored until crises arrive, starved of funding and resources — and that's just wrong. Globalization means that our neighbors no longer are confined to the nice folks next door. We're in regular and necessary contact now with people around the globe. We share not only medical advances but also illnesses. We need to figure out how to safeguard all of us from viruses — minuscule assassins that don't give a whit about human obsessions like national borders, race, ethnicity, religion, or economic standing. Viruses are all around us, and they're not going away. So, we need to take lessons from every outbreak and learn how to respond better.

Here's hoping, of course, that you stay not just illness-free in the days ahead but as healthy as possible in 2020 and beyond!

Photo credit, researcher examines a type of viral testing, shown above: CDC

A lesson in numbers, and why you need to understand how they work



Let's talk numbers for a minute, because numeracy — like its counterpart literacy — is an essential part of becoming a knowledgeable consumer of health care.

Here's a thought experiment: A ship with 600 passengers, just off American shores, sends out a distress signal during a terrible storm. Authorities devise a plan that would save 200 people with 100% assurance. They make another plan that has a 33% chance of saving all 600 but a 67% chance of saving none.

What's your choice?

How about if it went this way: In the first option, only 400 people would die, with the alternative being a 33% chance that nobody would perish and

Antibiotics? Not for viruses!



With the Covid-19 infection exploding out of central China, the seasonal flu peaking in the United States — with roughly 16,000 deaths and hundreds of thousands of hospitalizations, and many Americans felled by common colds — too many patients may be thronging doctors' offices and demanding a trusted treatment.

But it should be said, over and over: **Antibiotics don't work on viruses.** They kill bacteria, the cause of many terrible illnesses. The prescribing of antibiotics for viral ills like common colds, the flu, and many types of ear and sinus infections — especially in cranky kids — is unwise on many counts. It's a waste of money and time. More important, it makes bacteria stronger and more resistant to drugs. We have now nothing less than a global menace of antibiotic overuse and abuse. This has plunged the planet into what the head of the federal Centers for Disease Control and Prevention has described as a “post antibiotic

a 67% chance that all 600 would die.

Time's up. Have you grappled with the irrationality of your decision-making? You've probably noticed that all of these options are statistically the same, yet they feel very different.

As David DeSteno, a social psychologist, has written in a New York Times Op-Ed, this puzzle is an adaptation of questions posed by [Amos Tversky and Daniel Kahneman](#), legendary Israeli psychologists and one (Kahneman) a Nobel Prize winner - and author of the terrific book, *Thinking, Fast and Slow*. Here's DeSteno's answer to the scenario posed, citing Tversky and Kahneman:

"In both cases, choosing the first option means accepting the certainty that 200 people live, and choosing the second means embracing a one-third chance that all could be saved with an accompanying two-thirds chance that all will die. Yet in our minds, Profs. Tversky and Kahneman explained, losses loom larger than gains, and so when the options are framed in terms of deaths rather than [lives saved], we'll accept more risks to try to avoid deaths."

Moral of the exercise, as DeSteno argues, based on research: "[O]ur emotions can bias our decisions in ways that don't accurately reflect the dangers around us."

[People, in general, are poorly suited to assess risk](#), and this only gets worse in fraught situations in which fear rules. Public health officials must struggle with this reality in big crises like disease outbreaks. But doctors also know it all too well because they see it daily when patients and their loved ones must make tough calls about their medical care.

Public understanding of the Covid-19 outbreak has been further complicated, of course, by officials' dealing with [key infection numbers](#). How many people have been infected? How many have died? How long does it take to get infected, and how long does the sickness typically run?

This data not only changes almost by the instant, but it has been subject to big shifts, for example, when the Chinese altered their criteria for what counts as a coronavirus infection. In the frenzy to get the latest news about the disease, members of the general public not only may get

era."

Antibiotics and vaccinations both have been [hailed as modern miracles in human health](#), all but eradicating many diseases that long took a terrible toll. But over time, important bug-killing drugs have been shoveled out in wrong-headed fashion to people, animals, and plants — and too often in wasteful ways. The CDC estimates that [a third of U.S. antibiotic prescriptions are unnecessary](#).

The microbes these crucial meds were meant to kill have responded by developing resistance, leading to the [rise of scary "superbugs"](#) that can't be treated in routine fashion and may require intensive, expensive care with uncertain outcomes. These include: Candida Auris, a drug-resistant fungus spreading among hospital and nursing-home patients; carbapenem-resistant Acinetobacter; carbapenem-resistant Enterobacteriaceae (CRE); drug-resistant Neisseria gonorrhoeae; and Clostridioides difficile, or C. diff. As the CDC noted in a recent report:

"More than 2.8 million antibiotic-resistant infections occur in the United States each year, and more than 35,000 people die as a result. In addition, nearly 223,900 people in the United States required hospital care for C. difficile and at least 12,800 people died in 2017. Germs continue to spread and develop new types of resistance, and progress may be undermined by some community-associated infections that are on the rise. More action is needed to address antibiotic resistance. While the development of new treatments is one of these key actions, such investments must be coupled with dedicated efforts toward preventing infections in the first place, slowing the development of resistance through better antibiotic use, and stopping the spread of resistance when it does develop to protect American lives now and in the future."

The independent, nonprofit RAND Corporation has estimated that [antimicrobial resistance could reduce the global population by as much as 444 million by 2050 and result in cumulative losses around the world of as much as \\$124.5 trillion](#).

With the seasonal flu, the CDC recommends that some patients, particularly the vulnerable (children, seniors, and those with chronic and serious illness) may benefit from prescription anti-

misimpressions about the virus (including its long trend lines and its severity), they also may be affected by what experts dub [innumeracy](#) — an inability to rationally look at and compare data, as illustrated in the Tversky and Kahneman quiz. [This is a big challenge in health care.](#)

In decision-making and with risk assessment, individual biases come into play. [The New York Times has detailed](#) how the Covid-19 outbreak, as one expert explained, “hits all the hot buttons that lead to heightened risk perception.” The article highlights two inherent biases: availability and salience. In other words, because so much information is available about the disease, we think it more representative than it may be. We may think the thousands of deaths due to this virus are more severe than reality (compare its fatalities, say, to the annual toll of the seasonal flu in this country — tens of thousands). The prominence of the coverage Covid-19 has received, including many stories about the suffering it has caused, also blurs thinking about the disease (the salience bias). A financial-services company recently posted a conversation-provoking graphic [describing 50 \(!\) common cognitive biases](#) that can cloud decision-making.

Communicating about difficult choices is a daily challenge, as mentioned, for doctors with their patients. How do we understand the risks and benefits of drugs we are prescribed or costly and invasive treatments that might be recommended for us? Doctors may throw at us unhelpful expressions of probabilities or percentages about outcomes, which may violate patients’ [fundamental right of informed consent](#). This means that patients must be told clearly and fully all the important facts they need to make an intelligent decision about what treatments to have, where to get them, and from whom.

The [NNT](#), or [number needed to treat](#), can be a clarifying way to evaluate drugs and therapies. This valuable metric asks the question: How many people need to get this particular drug/test/treatment for one person to benefit? The lower the number, the better. If [the NNT](#) of a treatment is one, that means everyone treated is helped. One person treated equals one person’s life made better. But that’s true only for imminently life-threatening conditions when everyone dies who is not treated: an appendix about to burst or a

virals: oseltamivir phosphate (available as a generic version or under the trade name Tamiflu), zanamivir (Relenza) peramivir (trade name Rapivab), and [baloxavir marboxil \(Xofluza\)](#). The agency says this:

“Anti-viral treatment works best when started soon after flu illness begins. When treatment is started within two days of becoming sick with flu symptoms, anti-viral drugs can lessen fever and flu symptoms, and shorten the time you are sick by about one day. They also may reduce the risk of complications such as ear infections in children, respiratory complications requiring antibiotics, and hospitalization in adults.”

The anti-virals can be important for those at high-risk of flu complications and can reduce risk of death for adults hospitalized for flu care, agency experts say.

The CDC also notes that: “The most common side effects for oseltamivir are nausea and vomiting. Zanamivir can cause bronchospasm, and peramivir can cause diarrhea. Other less common side effects also have been reported.”

The options are worth discussing with your doctor. They’re a lot better than demanding antibiotics. Your doctor also may help you figure out whether you have the flu or a cold (for which anti-virals may not be appropriate). As the CDC advises about distinguishing between the illnesses:

“Flu and the common cold are both respiratory illnesses, but they are caused by different viruses. Because these two types of illnesses have similar symptoms, it can be difficult to tell the difference between them based on symptoms alone. In general, flu is worse than the common cold, and symptoms are more intense. Colds are usually milder than flu. People with colds are more likely to have a runny or stuffy nose. Colds generally do not result in serious health problems, such as pneumonia, bacterial infections, or hospitalizations. Flu can have very serious [associated complications](#).”

“Because colds and flu share many symptoms, it can be difficult (or even impossible) to tell the difference between them based on symptoms alone. Special tests that usually must be done within the first few days of illness can tell if a person has the flu. The [symptoms of flu](#) can

heart that has stopped beating and needs to be shocked back into rhythm. For every other medical condition, the NNT is higher than one, sometimes a lot higher. Researchers also are [adapting the NNT to provide visual representations](#) to make this tool even more helpful.

include fever or feeling feverish/chills, cough, sore throat, runny or stuffy nose, muscle or body aches, headaches and fatigue (tiredness). Cold symptoms are usually milder than the symptoms of flu. People with colds are more likely to have a runny or stuffy nose. Colds generally do not result in serious health problems.”

If you get seasonal flu or a cold, stay home, please. Keep warm, drink plenty of liquids, and get lots of rest.

Recent Health Care Blog Posts

Here are some recent posts on our patient safety blog that might interest you:

- For tens of thousands of patients anxiously awaiting lifesaving transplants, a new media investigation has provided what must be heart-breaking news on the [laxity with which dozens of donated organs get transported, causing them to be lost or delayed “cargo” and rendered unusable](#). The nonprofit, independent Kaiser Health News Service and the Center for Investigative Reporting deserve kudos for following up on the jaw-dropping story of how a human heart got left behind in 2018 on a Southwest Airlines flight. Medical specialists involved at the time downplayed the incident, noting that surgeons had not planned a direct transplantation of that heart in a patient in dire shape, taking various of its valves and tissues, instead. Still, when reporter JoNel Allecia dug [Although Americans may have particular wishes as to how their lives might close out, they aren't getting these optimal outcomes for themselves and their loved ones](#).
- [Although Americans may have particular wishes as to how their lives might close out, they aren't getting these optimal outcomes for themselves and their loved ones](#). Instead, the [much-desired option of dying at home](#) is proving to be stressful and draining to the extreme for families, and, when it comes to the dreaded loss of control involved with Alzheimer's disease and dementia, drug therapies seem elusive in a concerning and crushing way. Older workers' health is becoming a startling concern, too, for many more employers as seniors stay on the job longer than they have before — leading to more workplace injuries and deaths.
- The University of Michigan is [investigating allegations that Robert E. Anderson, former head of the university health service and physician to UM football teams coached by Bo Schembechler and Lloyd Carr, sexually assaulted youthful patients across decades](#). Anderson worked for the university for more than 30 years and died in 2008.
- Highly educated and rigorously trained doctors may be just as susceptible to a [built-in bias that](#)

bargain-seeking consumers yield to when they hit stores seeking 99 cent goods, buy into TV hype for \$19.99 wares, or fall for a salesman's pitch for a used car priced at \$17,999. Ivy League researchers call the cognitive flaw "left digit bias." They warn that this common irrationality can have consequences with doctors and patient care.

- Federal regulators may be on the brink of not only protecting but also advancing patients access and use of a key component of their care: their electronic health records. Or will bureaucrats fold up in the face of a muscle campaign by corporate interests and hospitals? To its credit, the giant Health and Human Services agency has emphasized that it is moving forward in its announced plans to prepare new regulations on so-called EHRs, pressing patients' rights and newer, and potentially more nimble tech firms' abilities to make the information in the records more accessible and helpful. But Epic, the giant software company that has installed electronic systems in hospitals and health systems nationwide — often for billions of dollars — is leading resistance to the new rules. It has convinced dozens of institutions and groups, some sizable, to lobby officials to oppose this federal intervention.

HERE'S TO A HEALTHY 2020!

Sincerely,

A handwritten signature in black ink that reads "Patrick Malone". The signature is fluid and cursive, with the first name being more prominent.

Patrick Malone

Patrick Malone & Associates

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