PATRICK MALONE & ASSOCIATES

Better Healthcare Newsletter from Patrick Malone

The United States built a rigorous system over decades to protect patients from harm while receiving new types of medical treatment. New drugs and new vaccines, in particular, have been barred from widespread use until they have first been proven to work and be safe. Many therapies have flunked the test, and in the process experimental subjects, human lives, have been lost. That is the price of progress, a price we as a society have accepted. At least up to now.

But as the planet reels from the novel coronavirus pandemic, will haste lay waste to proven approaches to ensuring the quality and safety of medical therapies?

Finding ways to prevent Covid-19 with a vaccine or to treat it with drugs has become a cause beyond urgent as the disease inflicts a terrible toll on people's lives and livelihoods. But expediency — however compassionate — and magical thinking cannot carry this day. It may unleash unacceptable long-term consequences in the $3.5 trillion

IN THIS ISSUE

BY THE NUMBERS

1,000+

Estimated number of clinical trials already launched to test potential Covid-19 treatments.

1,558+

Estimated number of

health care system that is supposed to take care of us.

Those who neglect the past may not be doomed to repeat its errors exactly. With medical science, however, a harsh record exists to remind us why a rush for remedies can be calamitous in both the short and long term. We need to look to the past to protect ourselves in the days ahead, and to be savvy, skeptical patient-consumers, so we don't get infected with viral mis- or dis-information.

Photo: Researcher works with viral material at federal Centers for Disease Control and Prevention lab.

Race for Covid-19 therapies puts at risk scientific method for learning what works

Americans already have had a bitter taste of why anecdotes, stories, and weak evidence will be unhelpful — even harmful — as the nation battles a pandemic.

In mid-March, as public health officials and politicians were grasping the gravity of Covid-19 infections and launched strong measures to try to curtail the virus's spread, social media were lighting up with tales of how familiar anti-malarial drugs might be useful in treating the novel coronavirus.

The fast-spreading advocacy for chloroquine and its newer cousin, hydroxychloroquine (brand name Plaquenil), stemmed from conversations among American doctors and their Chinese counterparts, who had weeks more experience in treating Covid-19 patients. Proponents could search online and find that the federal Centers for Disease Control and Prevention in 2005 had done lab tests on primate cells in a petri dish, finding that anti-malarial drugs appeared to have preventative effects on the spread of another coronavirus, the severe acute respiratory syndrome known as SARS.

When French clinicians circulated a draft reporting on their use of anti-

experts' Covid-19-related papers uploaded by early April on two major online sites that make public "pre-print" versions —rough drafts — of medical-scientific studies.

7,500

Number of scientific papers actually published on Covid-19 since the pandemic started.

$19 million

Median cost to run a clinical trial — a sum that is less than 1% of $2 billion-$3 billion estimated price of developing a new drug. The top 10 best-selling drugs each produce annual revenue between $6.5 billion to $19.9 billion.

13.8%

Percentage of all drug development that goes through clinical trial phases, leading to FDA approval. To be sure, 90% of compounds studied do not make it to even Phase I, and the FDA recently has expedited and increased the numbers of drug approvals.

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The life you save

malarial and an anti-viral drug with a handful of patients, all in desperate condition with Covid-19, the trend zealots of Silicon Valley took notice. So, too, did political partisans who have powerful sway with no less than the leader of the free world.

And suddenly hydroxychloroquine — with scant fact to support its use in this way — became perceived as a wonder drug against Covid-19. The drug had neither been tested nor approved by the federal Food and Drug Administration (FDA) for this use. But doctors could prescribe it, off label, as they commonly do with many drugs approved by regulators for different treatments. As the New York Times reported of the effects of a White House mention on March 19:

"[F]irst-time prescriptions of the drugs — chloroquine and hydroxychloroquine — poured into retail pharmacies at more than 46 times the rate of the average weekday … And the nearly 32,000 prescriptions came from across the spectrum — rheumatologists, cardiologists, dermatologists, psychiatrists and even podiatrists ..."

Public health officials pushed back, trying to tamp down false hopes. The drugs needed careful testing in rigorous clinical trials — and those were launched, post haste, they said. Before the results of experiments came in, the public and clinicians should not use compassionate exigency as a reason to administer the anti-malarials, experts warned. That's because the drugs are powerful and had known side effects, including potentially serious harms to the heart and eyes.

Problems quickly emerged. An elderly couple in Arizona misinterpreted the highly publicized information and swallowed an aquarium-cleaning chemical with a name similar to chloroquine. The husband died, and the wife required critical hospital care. Pharmacists and their regulatory boards started to warn doctors, dentists, and physician assistants to stop hoarding the drugs — and to watch their ethics in prescribing them to themselves and their loved ones ahead of their patients. Those who needed the drugs for serious conditions like arthritis and lupus complained that they were finding it scarce.

Still, the unfounded use of the anti-malarials continued, including the dubious prescribing of it to residents in a Texas nursing home. There, the patients' capacity to agree to taking the drug was in doubt and zero approval had been received from loved ones for them to participate in what critics saw as unacceptable human experimentation.

Time out for a reminder: Patients have a fundamental right to informed consent, especially in medical research. This means they are 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. If the patient cannot make an informed choice, then it's up to their designated family representative, not to doctors or a nursing home administrator.

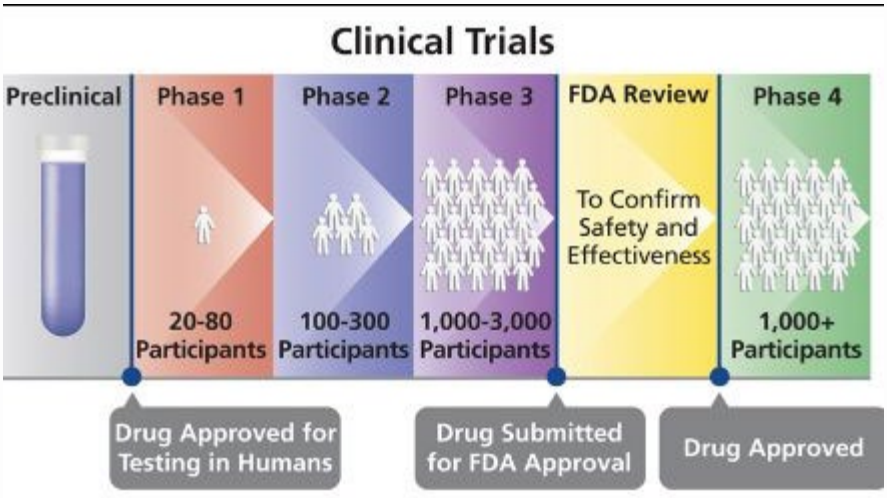
Hydroxychloroquine became a political flash point, with arguments raging about it leading to more heat than light for a central reason: The evidence about its effects on Covid-19 were sorely lacking.

The research is still coming in. But Brazilian experts halted their small test of the drug against Covid-19, citing safety reasons, with patients developing “irregular heart rates that increased their risk of a potentially fatal heart arrhythmia.” In the U.S, the Veterans Administration reported that its researchers scrutinized records on more than 300 patients and found that the drug “showed no benefit,” and there were “more deaths among those given hydroxychloroquine versus standard care.” Experts convened by the FDA warned against off-label prescribing of anti-malarial drugs due to increased heart risks to patients, and the National Institutes of Health underscored that no medications currently are federally approved for Covid-19.

Time — and rigorous study — will tell whether anti-malarials work well against the novel coronavirus. But the zeal for the drugs appears to have evaporated as fast as it rose. That's not science at work, just fickle celebrity endorsement.

Photo: FDA montage of varied viral therapies under study.

Sound treatments? Stringent tests matter



The nation’s experience with unfounded claims about anti-malarial drugs may be a needed inoculation against medical hype. It is unlikely to go away, because investigations are under way on a long line of drugs for Covid-19.

A medical journal recently conducted a high-level analysis of these many drugs now getting attention, including: azithromycin, remdesivir, ritonavir, lopinavair, Actemra, Oseltamivir, Ribavirin, Umifenovir, interferon, baricitinib, imatinib, dasatinib, nitazoxanide, camostat mesylate, tocilizumab, sarilumab, bevacizumab, fingolimod, and eculizumab.

No, the point in that list is not to put most of us in the unwanted role of pharmaceutical whizzes. But the abundance of options, growing by the day, may provide their own cautions: Remdesivir, for example, surfaced as a potential coronavirus therapy after an early meeting of a

cancer are down, but big reasons persist to breathe uneasy about respiratory health
A new year and new decade come into 20-20 focus: Resolve to eat better and move more.

You Can Eat This... But Why Would You?

Looking Ahead: Preparing for Long-Term Care

Managing Chronic Pain: It’s Complicated

Secure Health Records: A Matter of Privacy and Safety

Standing Tall Against a Fall

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presidential task force, although the drug had failed in tests as a treatment for the Ebola virus. Chinese clinicians experimented with it. Their just published study of it, comparing the drug against a placebo, was unenthusiastic and halted early when insufficient study participants could be found. But a U.S. trial, which compared the drug to a placebo and in which front-line researchers and participants did not know who was getting remdesivir and who was not, suggested the drug had modest effects in helping patients improve faster. That may provide key clues to even more effective drug treatments, experts said, adding that much more research is needed. Even a whiff of optimism boosted the Dow.

Let's keep in mind, instead, this finding from the Journal of the American Medical Association: "*No proven effective therapies for this virus currently exist.*"

What does exist — and is at risk in too many ways — is a long-standing approach rooted in medical science. It tries to avoid raising false hopes and breaking the hearts of patients and their loved ones. It tries to assure the public that powerful substances prescribed to them will, indeed, benefit them. They need to know that drugs will not, due to unintended consequences, make them worse or even kill them.

Researchers, over decades, developed a multistage testing process to ensure the safety and effectiveness of drugs. In the first or preclinical phase, they might spend years in lab studies to understand the basic science needed to attack a condition. This starts with a scientific fundamental — a hypothesis to be torn down or built up: If viruses replicate by penetrating the cell wall and then taking over a cell to make it produces viral copies, why not use X or Y to fortify the cell wall or use A, B, or C to stop the process? In the second phase, with tens of individuals' help, they might test the safety of a study substance for humans. This would be expanded to larger numbers of patients, in the hundreds, involved in tests of drugs to ensure patient safety. It is only in the last stage, which can involve thousands of people and can take years, that medical scientists examine both the safety and effectiveness of a proposed remedy.

To be sure, research may be expedited with many of the therapies under consideration for Covid-19 treatment because they already have gone through these steps and won approval for other uses.
Still, researchers must proceed with caution, especially if they are combining drugs. They must use the best, strictest science to ensure randomization, controls, and blinding in their clinical trials.

Researchers cannot cherry-pick their subjects, swaying outcomes by seeing therapies' effects only on the sickest or healthiest subjects. They need to balance their study participants, as appropriate, for factors like age, gender, and race or ethnicity. They need to consider whether test subjects' income, geography, personal histories, or lifestyles affect results. Studies can take time to get under way — and burn through money and other resources — as experts build a group of research participants.

They likely will confront other important determinations, such as which participants might be part of a control group — patients who are like all the others but will not receive the therapy under study. The control provides a stiff test of whether a treatment works, but much consideration must be given to the ethics of withholding a potentially important treatment to patients. They, of course, give their informed consent to participate in the trial, aware that they may not know that the treatment will be withheld from them during the testing.

To eliminate another important bias, the experts who run a trial usually are blinded to important aspects of its operation, notably which participants are in the control group. Studies show that even the slightest favorable comment about a therapy in its administration can sway results. Patients also can have powerful placebo or nocebo responses, meaning their favorable or negative responses can be detrimental to determining whether a treatment works. Trial blinding is one way to reduce this, as is a script for researchers' comments and directions to study participants.

Even in this sketch of how stringent clinical trials operate, however, it is easy to see how medical scientists may be tempted by urgency, compassion, exigency — and by reputational or financial reasons — to skip parts of the proven approaches as they rush to provide Covid-19 care.

But how valid will findings about therapies be if they result, as has been occurring, from studies only on the sickest coronavirus patients? Because information is still building about the disease and how it works and issues like blood antibody testing, how certain can studies be about "healthy" or "recovered" research participants? How will researchers and institutions evaluate the ethical choices of control groups and of withholding potentially beneficial therapies in a time when a disease rages? And although all medical interventions carry some degree of risk, how will researchers and clinicians advise the public about them as well as about the potential rewards of Covid-19 therapies?

Big Pharma and overly eager medical scientists have pushed the bounds in defining research outcomes. Their studies may try to push off results with "surrogate endpoints," queasy-making metrics that may get products or procedures on the market but not be markedly effective against illness or injury. Studies, for example, may show that a drug shrinks a tumor for a given length of time, without addressing what really counts: does the drug improve or extend a patient's life. How enthusiastic can Americans be about a drug that reduces by a few days the serious illness of many Covid-19 patients but that neither kills the virus nor has big effects on how it kills people?

Doctors have written in the New England Journal of Medicine, cautioning colleagues not to abandon reason and prudence while dealing with this pandemic:

"In a time when the rational–emotional scale is tipping to the emotional side, we begin relying more heavily on anecdotes, particularly personal

experiences that may carry inordinate weight in our minds. Journalists use the power of stories to connect with readers and tug at their emotions. Physicians, trained as scientists, are expected to follow a hypothesis-driven, rational, evidence-based approach to clinical decision making, but we, too, can be swayed by stories under the pressures of a crisis.

"Despite the temptation to provide hope by using untested remedies, we should instead push for studies designed to meet the standards necessary to reach reasonable conclusions about efficacy — an admittedly difficult task during a crisis. ...

“We are living through an unprecedented biopsychosocial crisis; physicians must be the voice of reason and lead by example. We must reason critically and reflect on the biases that may influence our thinking processes, critically appraise evidence in deciding how to treat patients, and use anecdotal observations only to generate hypotheses for trials that can be conducted with clinical equipoise. We must act swiftly but carefully, with caution and reason.”

Graphic: NIH depiction of clinical trials pathway.

History can be a painful teacher

During difficult times like the Covid-19 pandemic, hope is a vital commodity for a citizenry that otherwise can sink into despair. But medical haste and hype can be deadly.

As the New York Times reported of Dr. Andre Kalil, 54, a principal investigator in the federal government’s clinical trial of drugs that may treat the coronavirus, he has “decades of experience grappling with questions about the use — and misuse — of experimental drugs, [and] has rarely been more frustrated.”

“He has seen what happens when desperation drives treatment decisions. ‘Many drugs we believed were fantastic ended up killing people.’ …. ‘It is so hard to keep explaining that.’ Dr. Kalil is haunted by

memories of the Ebola outbreak that ravaged Africa from 2014 to 2016. Then, too, doctors said they could not wait for scientific evidence, and untested drugs were given to suffering Ebola patients by optimistic physicians with noble intentions. In the long run, none of the drugs was ever approved in the United States for treatment of the disease."

Americans have a collective memory that can be terrifying in its brevity. They may be too inclined to forget medical nightmares that helped spur tough drug-testing regimens. As the New York Times recounted:

"Thalidomide, a sedative sold by a German drug maker, was said to relieve everything from anxiety to morning sickness, but it led to perhaps the greatest pharmaceutical scandal of all time. About 10,000 babies, many in Germany, Britain and Australia, were born with severe defects in the 1950s and 1960s after their mothers took it. Some babies had no arms or legs. Others had no ears or malformed kidneys. The scandal briefly flared in the United States, where the drug was given to about 20,000 Americans in loosely run clinical trials sponsored by two American drug makers. The crisis led to passage of modern drug safety laws in the United States that required pharmaceutical companies to prove their medicines worked through rigorous clinical trials."

As the newspaper also noted:

"Historians say the lesson of thalidomide is one that society is still learning the hard way. Hundreds of thousands of Americans have died in an opioid epidemic that has its roots in the Food and Drug Administration's approval of the painkiller OxyContin and dishonest, aggressive marketing of the drug by its maker, Purdue Pharma. Today, as the coronavirus circles the globe — claiming thousands of lives — there is a renewed push to rush potential cures to market, even if it means bypassing the checks and balances that were thalidomide's legacy."

There is another dark chapter in medical science, often ignored, with great pertinence to hurried efforts to deal with the Covid-19 pandemic. It dates to researchers' rush to respond to a global outbreak of the paralyzing illness polio, controlled and near elimination now. But as a medical journal recalled:

"In April 1955, more than 200, 000 children in five Western and mid-Western USA states received a polio vaccine in which the process of inactivating the live virus proved to be defective. Within days there were reports of paralysis and within a month the first mass vaccination program against polio had to be abandoned. Subsequent investigations revealed that the vaccine, manufactured by the California-based family firm of Cutter Laboratories, had caused 40 000 cases of polio, leaving 200 children with varying degrees of paralysis and killing 10."

As for doctors' too readily prescribing exisiting drugs for conditions for which they have neither been tested nor approved, millions of American women can testify to this practice's harms. This traces to the menace of the excesses with hormone replacement therapy and medications like

Premarin, an estrogen product made from pregnant mares' urine, and Prempro, a drug that combined the estrogen in Premarin with another hormone, progestin.

Just after World War II's end, medical scientists found that some women could get relief from the post-menopausal problem of hot flashes by taking estrogen, with progestin added later as a possible way to reduce the risk of uterine cancer from the use of estrogen. Based on observation and theory, however, clinicians vastly expanded their use of the drugs that had been approved only for hot flashes, creating the popular use of hormone replacement therapy for women.

Advocates blithely asserted that HRT might help with heart disease. They also urged hormone drugs on women to "prevent and treat an increasingly broad range of ailments and experiences associated with aging, from wrinkles and general aches and pains to Alzheimer's disease, depression, and heart attack."

But as concerns grew about HRT, heart risks, and the absence of reliable data on women's health, landmark studies showed how wrong medicine had gone by failing to be rigorous in its science: Two large and important research efforts — the Women's Health Initiative (WHI) and Heart and Estrogen/ Progestin Replacement Study (HERS) — revealed the myths of the benefits of HRT.

As one history reported:

"The estrogen plus progestin [part of the] study was halted in July of 2002, three years before its scheduled conclusion, because investigators found increases in breast cancers, heart disease, strokes, and blood clots in the women who took the pills. Continuation of the study was considered unethical because of these effects, even though the same women had less colon cancer and fewer fractures. Additional analysis of the data showed that the estrogen-progestin combination did not help with depression, sexual function, vitality, or cognition, and doubled the risk of developing dementia. The combination did reduce the risk of fractures and colon cancer. The estrogen-alone study was stopped in March 2004. It also showed an increase in blood clots and stroke, while fractures were prevented. No significant increase in breast cancer was shown for estrogen alone, and there was no difference in colorectal cancer risk. Women 65 and older taking [hormone replacement therapy] had no protection against mild cognitive impairment, and there was a small increased risk of dementia."

The warnings about women and hormone therapies have only risen as the years have gone on.

As public health officials hurry now to explain why the coronavirus has taken such a disproportionate and awful toll in communities of color, medical historians have reminded that African Americans not only have higher poverty, more lower-paying jobs, and suffer with more underlying conditions, they also long have struggled with problems in accessing health care. Scientific research run amok has been partly blamed for generations of African Americans' suspicion of U.S.

medicine and reluctance to seek care. But who could forget the notorious, 40-year abuse of hundreds of black men in the Tuskegee study, in which experts withheld care they knew would work and instead allowed ill-informed study participants to be ravaged by and die from syphilis — even after researchers knew that penicillin could be used to care for the once untreatable venereal disease.

Researchers at Johns Hopkins Hospital will forever carry the shame of how they exploited an African American patient with cervical cancer, taking tissues from her without her knowledge, consent, or compensation that would enable decades of lab studies on "toxins, drugs, hormones and viruses on the growth of cancer cells."

So, what to make of where the nation and world may be with the rush to deal with Covid-19?

We, as individuals, will have a lot to say about the pandemic's course — especially if we listen with skepticism to trustworthy experts, not political partisans or celebrities peddling bunk. Before we take in guidance or comments from anyone on public health matters, we need to weigh their credentials, accomplishments, and experience with situations like the one we are now confronting.

The stay-at-home orders, the distancing recommendations, the hand-washing advice — they all make sense and they have not always been easy to follow. But Americans, for the most part, have done so, in surprising fashion and with improving outcomes, so far.

It will be tempting, though, to declare a fast and premature victory and suffer worse defeats. The 1918 flu pandemic proved deadlier in its later waves, and nation states (like Singapore) that have been stricken earlier by Covid-19 are learning, painfully, that they may need to clamp down anew when the disease bounces back.

As drug makers or doctors promote coronavirus therapies with Pollyannaish bluster — and with their own financial or reputations likely to gain — let us all be wary. Their colleagues are putting forward some important cautions, calling on medical scientists to hold to their best, not lowest, standards in tough times. As two experts in scientific ethics wrote in the journal "Science":

"[A] palpable sense of urgency and a lingering concern that 'in critical situations, large randomized controlled trials are not always feasible or ethical' perpetuate the perception that, when it comes to the rigors of science, crisis situations demand exceptions to high standards for quality. Early phase studies have been launched before completion of investigations that would normally be required to warrant further development of the intervention, and treatment trials have used research strategies that are easy to implement but unlikely to yield unbiased effect estimates. Numerous trials investigating similar hypotheses risk duplication of effort, and droves of research papers have been rushed to preprint servers, essentially outsourcing peer review to practicing physicians and journalists.

"Although crises present major logistical and practical challenges, the moral mission of research remains the same: to reduce uncertainty and enable care givers, health systems, and policymakers to better address individual and public health. Rather than generating permission to carry out low-quality investigations, the urgency and scarcity of pandemics heighten the responsibility of key actors in the research enterprise to coordinate their activities to uphold the standards necessary to advance this mission. Rigorous research practices can't eliminate all uncertainty from medicine, but they represent the most efficient way to clarify the causal relationships clinicians hope to exploit in decisions with momentous consequences for patients and health systems."

For us non-experts, we can hope and pray, without becoming delusional. The hard, careful scientific work will take time, and miracles should not be expected. Doctors, nurses, and hospitals will get better at treating patients with the novel coronavirus because they will have seen a flood of cases. But intensive, ground-breaking research on HIV required a decade before it yielded a multi-drug remedy. There is still no HIV vaccine. The mumps vaccine — considered the fastest ever approved — took four years to go from the collection of viral samples to the licensing of the inoculation in 1967, the often cheery National Geographic has reported. The intensity of the anti-Covid-19 campaign may yield favorable outcomes faster. Or it may not.

Even before a shot or shots can be worked up, we all need to deal with the counter-factual peddlers of anti-vaccination falsehoods, along with their allies, pushers of other knobby-headed nonsense. If we get a Covid-19 vaccine, it will have risks, and it is unlikely that it will provide 100% protection — that is not the way inoculations work. In the meantime, do responsible adults and most children really need to be cautioned not to drink, inhale, or shoot up bleach or other disinfectant cleaners, or to try to toast themselves with powerful light sources? Maybe this debunking is needed. And, no, Covid-19 will not disappear just because it is warm, sunnier, and more humid outdoors for the summer. If it had such seasonal or climate weaknesses, why has the coronavirus ravaged Singapore or Australia? The virus, as with all its microscopic parasitic kin, keeps mutating. Experts say it is doing so slowly, and they have not seen signs that a less virulent type is emerging or dominating.

Testing will be crucial for all of us to know who has the virus and who had it and may be safer from it. But, for now, colossal blunders have slowed the ramp-up of desperately needed testing, so it may be awhile before Americans have better measures by which to steer their pandemic response.

New testing initiatives — plus autopsies of patients who died before the pandemic seemed to sweep this country — have brought forth important findings that experts still are puzzling through: A large-scale regimen of blood antibody tests in Los Angeles County, the nation's largest such government at its level, showed that hundreds of thousands of Angelenos have markers indicating they had Covid-19 or significant exposure to it. The tests do not indicate that this big number of people now may be protected from the disease.

Officials also have raced to emphasize that this high number of infected individuals does not get anywhere close to suggesting that Los Angeles — and by extension, too many spots globally — may have achieved “herd immunity.” That is the condition in which so many individuals in a group have immunity that the whole bunch is protected because infections find it so hard to take root and spread.

And, no, there’s too little science, frankly, to give credence to the ill-supported idea that Covid-19 infections could be controlled and spread in growing numbers of people in the hopes of creating herd immunity.

Here is my wish that everyone who reads this newsletter stays skeptical, well-informed, well, and safe — during the pandemic, throughout 2020, and beyond!

Photo: Elaine Mercer, a Briton born without arms and legs due to thalidomide, carried Olympic torch on behalf of her country in 2012 @Creative Commons, Karen Braysher

We're all struggling with a raging 'infodemic'

The imperative to “publish or perish” is not just an occupational hazard for those who dwell in Ivory towers. The avalanche of medical-scientific studies, and the new ways that experts issue them, creating an intellectual smog that has become a challenge of the Covid-19 pandemic.

The World Health Organization has sounded the alarms about "a massive ‘infodemic’ an over-abundance of information — some accurate and some not — that makes it hard for people to find trustworthy sources and reliable guidance when they need it."

Even the respected New York Times has choked on this hazard, with doctors, readers, and the savvy experts at the HealthNewsReview.org site

Front-line care will be key in winning fight against virus

It will be a red-letter day, indeed, when — and if — experts can announce definitively that they have a Covid-19 vaccine or that they can treat the disease effectively with drugs. In the meantime, those looking for optimism about treatment for the novel coronavirus may wish to focus on the important hard work by front-line caregivers.

Public health officials have emphasized that the stringent measures imposed in this country, starting in mid-March, would help to “bend the curve” of the pandemic. The steps included keeping people at home and getting them to scrub their hands, stay appropriate distances from each other, and wear face masks. The goal was to reduce the rate of infections and buy time for doctors, nurses, hospitals, and others so they would not be overwhelmed by Covid-19 cases, possibly causing the U.S. health system’s collapse. In many areas of the nation, these tough steps have produced beneficial outcomes. At least

blasting the “paper of record” for reporting in its “Well” news feature about a sketchy “study” on joggers and people’s distancing to protect themselves.

Critics found, as has occurred before, far too many failings in the study for it to merit the wide attention it received, thanks to the newspaper’s coverage. It was not a peer-reviewed, formally submitted example of research published in a respected medical journal but rather a work in progress shared in the evolving form of a “pre-print.” (More on that in a second).

Alas, by clicking online and passing around the article, audiences may have reinforced many unhappy realities about lifestyle articles in even big news organizations. They thrive by responding to readers’ perceived needs and anxieties, offering at times simplistic, how-to advice but also fodder for water-cooler chats.

Now that online revenues can be driven by “click bait,” and with 24/7 news organizations eager for not only scoops but also short and catchy items, features like “Well” can feed on distressing changes in academic and research institutions.

Those universities, agencies, and centers have not even tried to match the number of Ph.Ds. and other highly credentialed researchers with the constrained demand for their services. So, for experts in too many fields — including medical science — getting jobs, tenure, and grants has become a more cutthroat pursuit than ever. This has put huge pressures on them to get noticed, perhaps however they can. Just look at what has happened with “experts” on diet, nutrition, and exercise and their “research” to see how light, fast studies with “buzz” can boost individuals’ reputations (and their finances).

At the same time, the number of prestige places for publication has not risen a lot. Instead, they are inundated with submissions and can madden researchers with long delays for peer reviews and slow publication. The number of potential places to publish overall has increased, but all the spots share common problems with a scholarly glut.

The pandemic has created such a crush that the Journal of the American Medical Association posted this notice, in red, on its page for online submissions of prospective articles:

for now.

And based on news reports, this phase of the coronavirus response may — combined with significantly more testing, contact tracing, and desperately needed protective equipment for appropriate personnel — lead to a more direct salutary effect.

If health care workers are not overwhelmed and stressed to the max, they are likely to begin improving front-line care for coronavirus patients, giving the sick the major benefit of what medicine has learned in treating a flood of people sick with an infection not seen before.

Doctors, nurses, and medical specialists now know that Covid-19 attacks more than just the respiratory tract, with a growing body of clinical experience showing the disease also afflicts the heart, kidneys, and circulatory systems. It may have cognitive effects, especially in seniors, and diagnosticians have added a key symptom — besides fever, dry cough, racking muscle pain and headaches — that suggests harm to the brain and nervous system: patients’ loss of smell.
Medical teams have grown much more savvy about Covid-19 treatment, starting with the monitoring of symptoms and getting a better handle on when patients may be able to isolate and care for themselves at home versus when they need hospital care.

Clinicians now may keep much closer watch on patients’ blood oxygen, tracking them with, familiar, simple, and relatively inexpensive finger-tip monitors that can warn of crashing levels that demand fast action. They may try to keep hospitalized patients upright or get them into positions to maximize their lung capacity and make breathing as easy as possible. This may put some face-down, with blocks to prop them up. They may give them oxygen through the nose earlier than they had before. These steps and others may give the body more time to battle the virus on its own — and keep more patients off ventilators. Patients who are intubated and put on ventilators require exponentially more intensive care, experts say, explaining why it pays to prevent them from needing it. Patient who are older and who have underlying conditions generally have not fared well on the devices.

Evidence is building that patients can be tested for

"Due to the high volume of manuscripts related to the Covid-19 pandemic, we encourage authors to only submit manuscripts related to Covid-19 that have major public health importance, could change clinical practice, or provide important and novel information for clinicians. We will give priority to studies of interventions and large cohort or controlled studies. Please do not submit case reports or small case series. Any Viewpoints must include new and important information that addresses the above description. Also, while we will make every effort to evaluate manuscripts promptly, we must be very selective with which manuscripts we can review on an expedited basis."

In more normal times, under rising pressure, the publication process has shown signs of buckling, with cases of fraudulent work or papers rife with researchers' conflicts of interest and other failings. The site retractionwatch.org stays more than busy as individuals and institutions are forced to fess up to such problems.

Younger and more tech-savvy researchers have jumped online to try to improve and hasten dissemination of their work. This has led to a dark industry, with cyber trolls working in online mills creating fictional scientific sites and journals.

Researchers also have pushed for a new world of pre-publication, or "pre-print," sharing of work, posting drafts of their studies online. This is what the authors of the jogging study did. The pre-prints typically carry many caveats, and the experts try to clarify that revisions may be likely and significant before articles are peer-reviewed and published by traditional journals.

Despite the espoused good intentions of the providers of this innovative pipeline of information, entrepreneurs (especially of the tech kind), journalists, and politicians have scoured pre-prints, social media, and other online sources to try to get ahead of developments in important areas — like therapies for Covid-19.

Caveat emptor. If audiences had cause to be cautious with findings in time-tested, big-name medical journals, they should be wary of works in progress described in pre-prints, on Facebook or Twitter, or in other cyber sources. Be skeptical. Dig in if you are so inclined. Consider with care, signs their bodies may be triggering an immune system overreaction, particularly in sensitive lung tissues — a harsh reaction known as a "cytokine storm." This can be as deadly as the coronavirus infection itself. Existing drugs can help suppress the damage if administered at the right time and in the right dose — decision-making that experts are getting more data on by the day.

They also are learning to look for signs that the patient's body, in another virus response, may release substances into the blood that can cause dangerous clotting. If untreated, the clotting can result in lethal strokes, particularly in younger and seemingly healthy patients. Doctors and nurses have learned to be more watchful with patients with a history of cardiovascular disease to be wary of Covid-19 patients suffering heart attacks and other heart issues. With patients with a history of renal disease, especially diabetes, the experts have learned they need to be prepared with dialysis equipment to deal with failing kidneys. And with seniors, health care workers have learned that they may need Covid-19 care even without fever or cough but with other symptoms — feeling off, fuzzy, unable to focus, suffering memory lapses, and falling.

The rising information about Covid-19 and its treatment may prompt some health care workers to push boundaries and apply therapies that they think might be helpful, federal officials have said. But they have been cautioned about this, with doctors writing in the New England Journal of Medicine:

"[T]he intense desire to try new, unproven remedies may distract health care providers from offering patients the best-quality supportive care possible ... Recent survival rates among U.S. patients with respiratory failure due to Covid-19 appear better than those in early reports, possibly because we are paying greater attention to the basics of care for acute respiratory distress syndrome. Only recently have randomized, controlled trials of therapeutic interventions for Covid-19 been launched. The 'what do you have to lose?' approach, a common plea of desperate families, must be balanced by the dictum of the Hippocratic Oath: first, do no harm … "

too, before you share “facts” or “evidence” or “studies” found online. Not everything in cyber world is real and true. Having Microsoft Excel on your computer doesn’t mean your regression analyses or dissections of epidemiological statistics will win you cheers from your bowling buddies, much less a Nobel — or is it Noble — Prize, right?

Recent Health Care Blog Posts

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

- When hundreds of thousands of Americans are getting infected with Covid-19 and tens of thousands of die from it, regulatory incrementalism in protecting some of the most vulnerable is simply unacceptable: The latest halting measures by the Centers for Medicare and Medicaid Services do a disservice to the elderly, injured, and sick residents nationwide in nursing homes, long-term care centers, and skilled nursing facilities. Seema Verma, the agency’s director, has told these institutions that they now must inform residents and their loved ones about Covid-19 infections and deaths in the care facilities, whether the affected individuals are staff members or others housed in the centers. She only started, however, to respond to coast-to-coast wails about the official silence that has enshrouded the novel coronavirus’ toll on institutional care, with facilities condemned in increasing fashion by critics as infection petri dishes, or as one politician deemed them, “death pits.”

- The pandemic has exposed millions of Americans to huge problems in one of the most basic elements of their health and well-being — their food supply. It’s past time for all of us to demand changes, and we may want to ask why, in the midst of a global economic calamity, that politicians persist in pursuing policies that will mean men, women, and children across this land will go hungry. As the jobless numbers skyrocket toward Depression era figures, people in need — from coast to coast — have queued up in sometimes miles-long lines to get donated staples. Schools, including those throughout the Washington, D.C., area, have put together giant programs to sustain student meal plans, providing myriad youngsters what may be their only reliable nutrition. Social service agencies have launched targeted efforts to ensure that seniors, especially shut-ins, get fed.

- With millions of Americans suddenly jobless, a smack in the face may be coming to partisans who have spent a decade assailing the Affordable Care Act, the landmark measure that offers people help with their health insurance. Obamacare, studies have shown, already has helped to reduce the ranks of the uninsured by 20 million. It may play a significant role now in helping the unemployed, too many of whom not only lost their steady income but also their employer-provided health insurance. The preponderance of Americans — more than 150 million of us — get our

health coverage through our workplaces.

- Historian Doris Kearns Goodwin highlighted a crucial strength of the 16th U.S. president as he led the nation through one of its most divisive times: Abraham Lincoln encouraged dissent and welcomed opposing points of view, going so far as to appoint three better-known political rivals to top positions in his administration. That extraordinary lesson in crisis leadership seems to be getting lost in the nation's battle with the novel coronavirus. Too many doctors, nurses, and experts in science and medicine have been censored, disciplined, and dismissed for speaking truth to power, warning, for example, about unacceptable conditions for health workers treating Covid-19 infections, news organizations have reported.

- Covid-19 is forcing many Americans to think and act on tough issues they otherwise might wish to avoid, and they're getting thoughtful reminders on ways they may want to proceed with advanced or end-of-life medical planning and decisions on whether to keep elderly loved ones in nursing homes and other long-term care facilities or to bring them into their residences. These are hard topics to deal with in the best of times. But failing to do so can leave families with not only a lifetime of regrets but also possibly significant financial consequences.

HERE'S TO A HEALTHY 2020!

Sincerely,

Patrick Malone
Patrick Malone & Associates