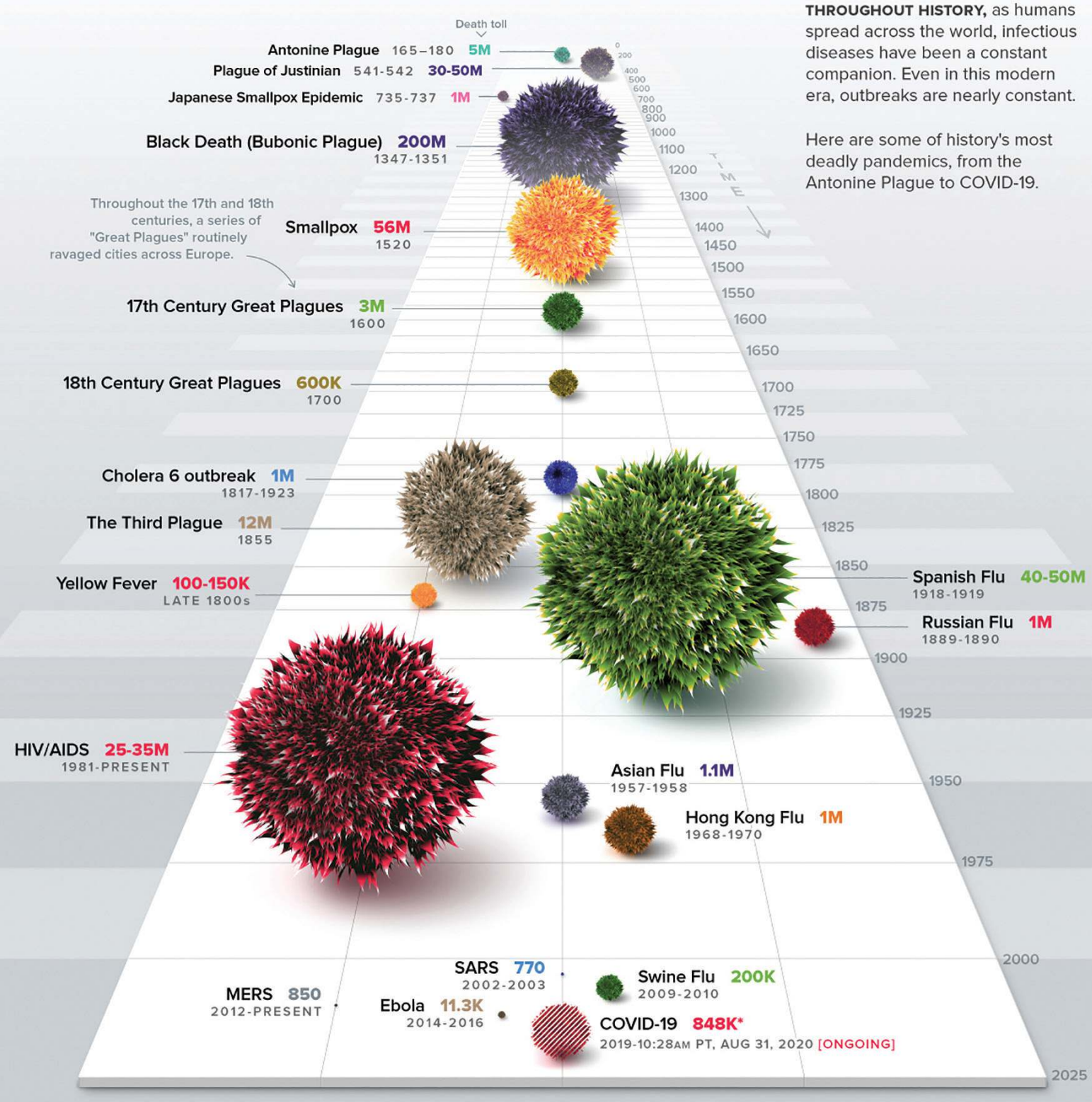
HISTORY OF **PANDEMICS**

PAN·DEM·IC (of a disease) prevalent over a whole country or the world.

THROUGHOUT HISTORY, as humans spread across the world, infectious diseases have been a constant companion. Even in this modern era, outbreaks are nearly constant.

Here are some of history's most deadly pandemics, from the Antonine Plague to COVID-19.



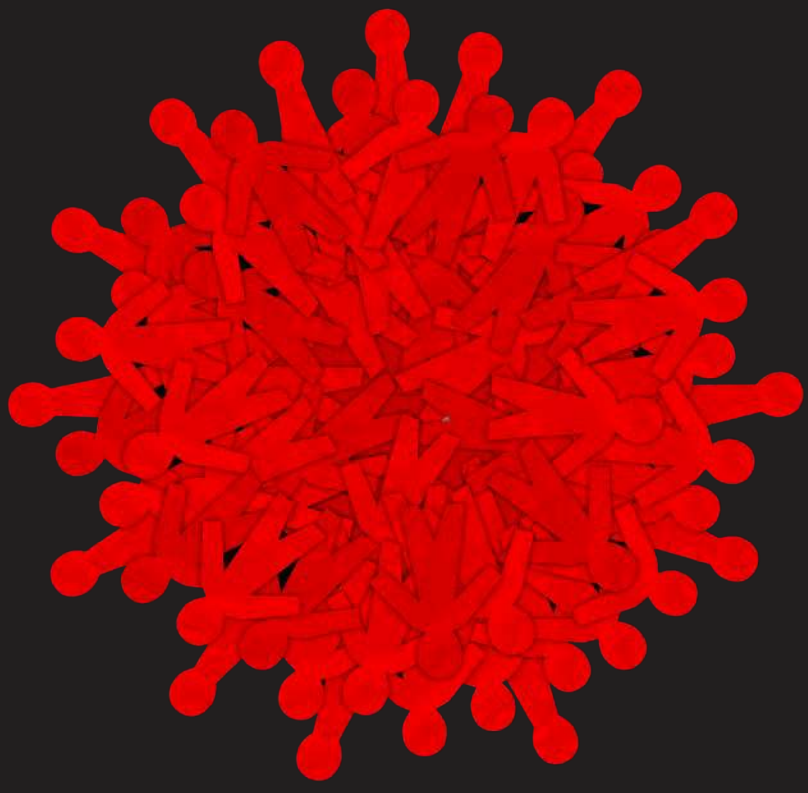
These numbers are current as of press time.

Courtesy of Visual Capitalist.https://www.visualcapitalist.com/history-of-pandemics-deadliest/

WHO officially declared COVID-19 a pandemic on Mar 11, 2020.

It is hard to calculate and forecast the impact of COVID-19 because the disease is new to medicine, and data is still coming in.

*Johns Hopkins University estimates



All things considered… The future of the U.S. health care "system"

Richard L. Byyny, MD, FACP

"Never let a good crisis go to waste."
—Winston Churchill

Since its inception in 1902, the mission of the Alpha Omega Alpha Honor Medical Society—dedicated to education, teaching, professionalism, leadership, and community service—has led us as a society and as a nation through pandemics, wars, and assaults on our country and profession. Through it all, we have stood strong, resilient, and resolute in our devotion to serve the suffering.

Leaders are often forged from unexpected crises. During crises such as the global COVID-19 pandemic, physician leaders are being called on to inspire people, patients, teams, and each other. It is during these difficult and challenging times that resilience is predominant. By keeping the ΑΩΑ mission in mind, leading from the trenches and demonstrating understanding, we profess compassion and caring with candor and consistency. We answer the call to duty responsibly and with clarity, and encouragement. Dr. Anthony Fauci (ΑΩΑ, Weill Cornell Medical College, 1965), and Dr. Deborah Birx, have been our Pharos lighthouse in this storm, speaking truth to power and leading with dignity, respect, knowledge, and a commitment to their fellow Americans.

The COVID-19 pandemic and its effect on public health, medical services and care, the economy, physicians, nurses, health professionals, all people worldwide, and myriad social norms is incredibly distressing. However, there is a silver lining of opportunity. We can collectively learn from this health and social crisis and use it as an opportunity for change, working together to improve systems and responses to better serve society. By embracing the opportunities afforded by this crisis, Americans are compelled to come together in support of each other, colleagues, patients, the uninsured and underinsured, and everyone who is affected by this crisis locally, nationally, and globally.

A defining time

The COVID-19 pandemic is the defining global health crisis of our time, and the greatest challenge since World War II. The pandemic began in China, but rapidly spread around the globe and into the United States. It is highly contagious, debilitating, and often fatal. Globally, there have been nearly 26 million cases and more than 800,000 deaths.[1] In the U.S., there have been more than 6 million cases and more than 183,000 deaths, and it's only been seven months since the first case was identified in America.[1]

The COVID-19 pandemic is an unprecedented socio-economic crisis that has affected nearly everyone in the U.S., and most in the world. Every day, people are losing jobs and income, and facing uncertainty in nearly every aspect of life. It is estimated that more than five million people lost their health insurance this past spring because they lost their jobs due to the COVID shut down.[2]

The medical community has known about, and been preparing for, a possible infectious pandemic for decades. The Spanish flu pandemic of 1918 provided information and understanding of the risks and possible responses to a viral infectious disease without treatment or vaccination. Historically, cholera, plague, and other epidemics and pandemics have taught researchers, epidemiologists, virologists, public health experts, and medical care providers about potential responses to infectious agents.

Pandemics, epidemics, and outbreaks in recent history such as Lassa fever, Ebola, HIV, MERS, SARS, and influenza virus mutations compelled the medical community to prepare and respond with as few lives lost as possible. Each time a public health event occurred, we learned lessons about the need for better disease-surveillance; adequate universal laboratory testing and capacity; training for frontline workers; preparedness for epidemiologists and public health systems; quarantine and protective personal equipment (PPE) protocols and supplies; response teams; and the need for national leadership. These past experiences demonstrated the importance of primary health care systems and providers, and taught the relevance of the wearing masks, social distancing, hand washing, personal hygiene, stay at home orders, and suppressing large public gatherings and travel, and even schooling. They informed us on the need to be mindful of personal protective equipment (PPE), ventilators, ICU beds, and medical staffing. Preparedness was key and as a nation we needed to prepare for the inevitable.

Exposed

The COVID-19 pandemic has revealed weaknesses in the U.S. federalist system of health care and public health. The federal response to the pandemic has provided almost no national leadership and has been too slow and inadequate in its response and mobilization. The President delegated responsibility to 50 governors to respond in 50 different and independent ways. States were left to fend for themselves, often bidding against each other for equipment, supplies, and tests. This resulted in a patchwork response to the pandemic. With federal government leadership, states could have been more successful relying on state and national public health experts, and scientific data and evidence. COVID-19 presented a clear and considerable challenge to a federalism response to a major health issue affecting the entire country.

States and localities were granted the ability to decide to implement aggressive, well established disease-mitigation measures, but were not required to do so. The federal government did not promote or order a unified response employing widely accepted public health measures through the Centers for Disease Control (CDC) and/or the Federal Emergency Management Agency (FEMA), agencies that have a proven record of collaborating on previous public health onslaughts. It is now clear that the "federalism" response to a pandemic, health care, and the profession of medicine is not working optimally in the U.S., and needs to change.

The COVID-19 pandemic is illustrative as to how U.S. health care programs and systems function, or fail to function optimally, and how they are not representative of a democratic society. A serious societal and public review and plan of action and change is needed with regard to why and how the U.S. must improve overall health care and the health care system for our citizens.

Improved leadership and necessitated change should result from every crisis, and the COVID-19 pandemic is a vital agent for change for health care in the U.S.

One of the most important outcomes of the COVID-19 pandemic is that it has exposed that the U.S. does not truly have a "health care system." The U.S. health care system, as Winston Churchill described about another nation, is "a riddle, wrapped in a mystery, inside an enigma."[3] The U.S. is the only developed country in the world that has not determined that health care is a fundamental human right. Universal health care should be considered by all as a social good and a national priority. The current system is based on a capitalist system in which health care is considered an economic good where patients are analogous to commodities, and services are provided based primarily on an individual's purchasing power. However, illness and injury are not subject to market decision-making as are other commodities.

The U.S. health care system emphasizes individual responsibility, free choice, and pluralism. Health care is a privilege paid for by the individual through private insurance; through employer health insurance; by government socialized insurance (Medicare and Medicaid); by the military; through congressional insurance for members of congress only; through the Veterans Administration; or by the Indian Health Service. Unfortunately, there are millions of U.S. citizens who don't fit into one of these categories. Health care in the U.S. is inequitable with gaps in accessibility, insurance, and quality of care. This is especially true for the underserved in rural America and underrepresented minorities.

The U.S. has thousands of mostly unregulated, competitive, for-profit businesses selling health care services, goods, and hospitalization. However, the commitment of physicians, health care providers, hospitals, and health-related organizations is to care for people, and serve the suffering and the public's health without regard to their ability to pay, and without a profit. Medicine and health care are a public and social good that require stewardship, leadership, and effective management. If organized properly, the outcomes are excellent services and high quality care for patients, and service to the community, all for the public good. The morality of making more money or profit from illness, injuries, or other causes of human suffering should be questionable for all.

Over the last four decades, health care costs have risen dramatically. Today, health care spending in the U.S. is 17.7 percent of the gross domestic product, which is significantly more than 44 other developed countries.[4] National studies report that the total cost of health care insurance and out-of-pocket costs for a family of four is now more than $28,000 annually. That's the equivalent of buying a new car for virtually every family in America—every year.[5]

Life expectancy in the U.S. is 78.8 years, compared to 81.2 years in the other developed countries; infant mortality in the U.S. is 6.1 deaths per 1,000 live births, compared to 3.5 deaths in other countries.[6] In the U. S., 68 percent of those age 65 years and older have two or more chronic conditions compared to less than 50 percent in other developed countries.[6]

Medical advances have developed exponentially over the last several decades with new diagnostics, procedures, pharmaceuticals, medical devices, and more intensive hospital care coming to market every day. These are positive outcomes of our current system, and advance human health. However, with each new advancement there has come the escalation of the cost of health care in America. As a result, employers and for-profit insurance companies have frequently limited or eliminated health insurance benefits. Health care market consolidation, physicians becoming employees of large health care organizations, and "free market" competition has led to exponentially increasing health care costs.

Collectively, the U.S. must determine whether its health care is a universal social good, or a privilege for those who can afford it. It is the responsibility of every American, through our national and state governments to promote the general welfare of our nation, including health care as a critical social good and responsibility.

Historically speaking

The U.S. health care system is a relic of the establishment of its democracy. In 1789, there were 13 colonies (states) with nearly four million people to govern. One of the primary goals of a constitutional form of government was to prevent a monarchy, having just fought the Revolutionary War to separate from the British monarchy. Federalism was partially designed to prevent an autocracy or monarchy from occurring in this new country.

Under the U.S. Constitution, each citizen is a citizen of two governments–national and state. The federal form operates under a written constitution that deals with the responsibilities of the central and regional governments as a way to protect against central tyranny. There are two separate governments that regulate and serve citizens, federal and state. The federal government has limited power over all 50 states.

The U.S. has increased in size and complexity now comprising 50 states and 331 million people to be governed by this arrangement. The power of the federal government to

regulate and make laws is limited by the U.S. Constitution which provides it the authority to regulate money, the post office, and the military. The federal government also has "the power to make all laws that are necessary and proper for executing any of the stated powers" which are often implied powers.

To maintain balance, the Constitution grants numerous powers to Congress, including the power to:

- Levy and collect taxes;
- Coin money and regulate its value;
- Provide punishment for counterfeiting;
- Establish post offices and roads;
- Promote progress of science by issuing patents;
- Create federal courts inferior to the Supreme Court;
- Combat piracies and felonies;
- Declare war;
- Raise and support armies;
- Provide and maintain a navy;
- Make rules for the regulation of land and naval forces;
- Exercise exclusive legislation in the District of Columbia;
- Make laws necessary to properly execute powers, and
- Regulate interstate commerce (Commercial Clause—Supreme Court).

Matters that are not within the express or implied powers of the federal government are left to the states to regulate. This includes health care, which results in 50 versions or systems of health care within the federal democracy.

Sates have general police powers and can make laws that provide for the general health, welfare, and safety of its citizens within the state boundaries, but which do not conflict with federal laws.

With regard to health care, under this system, states have intruded in health care and health care markets creating a costly, confused, and dysfunctional non-system. Allowing all states to do their own thing and experiment with health care policies and funding in the absence of important policy provisions in federal legislation, has proven to be chaotic and debilitating.

The federalism approach—with no plan, setup, or organization—to manage the global and national COVID-19 pandemic has not worked well leaving our country's response disjointed and confusing. In this case, federalism has been a barrier to issues that are impacting every U.S. citizen, regardless of where they reside. It has been slow to respond to the challenges of the pandemic, it has created inequities in the treatment of citizens from different states or regions, and it has created the perception of a cumbersome decision-making process with the inability to collaboratively implementation processes and achieve outcomes for the greater good.

The toll of the pandemic in the U.S. has further exposed the need for universal health care to meet the needs of patients, physicians, health care providers, the public's health, and to serve society as a public good. Other shortcomings exposed by the pandemic include education, childcare, housing, nutrition, transportation, unemployment, food assistance, and other important social support programs—basically, the social determinants of health.

In today's health care system, governments, especially state governments, license physicians and health professionals and regulate the profession setting quality and safety standards. State governments either operate public health care delivery systems or pay private organizations directly or through insurance programs to provide health care in their states. This creates a fragmented system that has been illuminated throughout this pandemic.

Transitioning

The American College of Physicians (ACP) in January 2020 published the societies' Health and Policy Committee and Board of Regents recommendations to transition to a system of universal health coverage in the U.S.[7]

The ACP's Vision of a Better Health Care System for All includes, a health care system with universal health care for all:

- Where everyone has coverage for, and access to, the care they need, at a cost they and the country can afford.
- Where the payment and delivery systems put the interests of the patients first, by supporting physicians and their care teams in delivering high-value and patient-centered care.
- Where spending is redirected from unnecessary administrative costs to funding health care coverage and research, public health, and interventions to address social determinants of health.
- Where clinicians and hospitals deliver high-value and evidence based care within available resources, as determined through a process that prioritizes and allocates funding and resources with the engagement of the public and physicians.

- Where primary care is supported.
- Where financial incentives are aligned to achieve better patient outcomes, lower costs, and reduce inequities in health care.
- Where patients and physicians are freed of inefficient administrative and billing tasks, documentation requirements are simplified, payments, and charges are more transparent and predictable, and delivery systems are redesigned to make it easier for patients to navigate and receive care conveniently and effectively.
- Where value-based payment programs incentivize collaboration among clinical care teams.
- Where health information technologies enhance the physician-patient relationship, facilitate communication across the care continuum, and support improvements in patient care.
- Where social factors/determinants of health that contribute to poor and inequitable health are ameliorated, and where all people receive unbiased, equitable, and excellent health care and services.

A National Health Reserve System

The one organization that has been most effective in rapidly responding to the financial and economic crisis created by the pandemic has been The Federal Reserve System. This national organization and system facilitated a rapid, and so far, effective response to the economic impact of the pandemic crisis. The creation of a National Health Reserve System (NHRS) modeled after the Federal Reserve System would provide a quasi-independent centralized national governance, policy, and regulatory organization that is evidence- and data-driven for health care and public health in the U.S.

Alexander Hamilton established the first Central Bank in Philadelphia in 1791. It was not renewed because of resistance to centralized power and control by the federal government. After a long hiatus, the current Federal Reserve System was established by Congress in 1913 and signed into law by President Woodrow Wilson. Prior to the creation of the Federal Reserve the U.S. economy was plagued by frequent episodes of panic, financial crises, bank failures, and limited national ability to respond effectively. Many of the difficulties with financial systems in the U.S. seemed to be related to our federalist system. A central bank to oversee the U.S. money supply and provide a currency that could expand and contract in response to fluctuations in the economy's demand for money and credit was created as the Federal Reserve System.

The Federal Reserve System was founded to provide the nation with a safer, more flexible, and more stable monetary and financial system and role in banking and the economy. It was charged with the responsibility for maintaining a sound banking system and healthy economy. It was created using a quasi-independent organizational structure to provide governance, policy, approval, supervision, regulation, and operational oversight of U.S. federal financial systems.

The Federal Reserve was designed to provide a broad perspective on the economy and on economic activity across the nation. The Federal Reserve's decisions do not need approval by the President or either legislative branch of government. Its power and authority are granted by the U.S. Congress, which allows for it to operate independently within the government, and within the framework of the country's overall objectives of economic and financial priority.

The Federal Reserve model includes:

- A Board of Governors provides broad supervisory control over state chartered institutions/member banks, and bank holding companies to ensure they operate responsibly and comply with federal legislation. It insures banking system operations and oversees banking activities.
  The Board of Governors is a federal government agency consisting of seven governors appointed by the U.S. President, and confirmed by the U.S. Senate, each serving a 14-year term with no option for reappointment; this maintains political independence. The chair and vice-chair are appointed by the President from the existing Board of Directors, confirmed by the Senate, serve a four-year term, and can be reappointed for multiple terms.
- The Federal Open Market Committee (FOMC) is the policy and operational component of the Federal Reserve System. It is comprised of seven members of the Board of Governors, the president of the Federal Reserve Bank of New York, and presidents of four other Federal Reserve Banks, all of whom serve on a rotating basis.
  The FOMC is charged with overseeing market operations and national monetary policy. Its divisions are organized around policy function, supervision and regulatory functions, system policy direction, and efficiency and integrity of the system. Its values are a commitment to public interest, quality, excellence, independence, and analysis.

The FOMC meets every six weeks to conduct financial monetary policy-making on behalf of the Board of Governors.

- There are 12 regional banks that provide input and participate in policy decision-making, supervision, regulation, inspection, and approval of bank charters. Each regional bank has 24 branches based on centers of activity.
  Each regional bank has a nine member board of directors comprised of one-third professionals, one-third public members elected from various sectors, and one-third members with industry expertise, community standing, and access to community and industry experts. Each member of this regional bank board is appointed to a three year term, for a maximum of two terms. These boards and their executive committees meet frequently and provide a public statement on the outcomes of each meeting issued immediately after the meeting.

The Federal Reserve Board consists of two ex officio members—the secretary of the treasury and comptroller of the currency—and five members appointed by the president of the U.S. All national banks are required to become members of their regional Reserve Bank. The Federal Reserve Board establishes financial policy and processes. It played a major role in helping finance two World Wars, a depression, numerous recessions, and myriad public health crises.

Finance and health are vastly different. However, creating a new high-functioning, quasi-independent national organization to provide governance, policy, regulation oversight, research and discovery, and public health and social good in support and operation of the U.S. health care system must be a priority for our country and all Americans. This is where the Federal Reserve System provides a useful and successful prototype for the development of a NHRS.

To begin to solve the U.S.' national health care crisis, a new independent and accountable NHRS should be developed to oversee providing health care for all. It would assume responsibility for the direction of the U.S. national health care system, providing access, quality, and cost-effective health care policies and strategies. It would secure resources, monitor performance, and set national standards. Its primary objective would be to improve the health and well-being of patients, communities, and the entire U.S. through professionalism, innovation, and excellence in doing what is best for Americans. The NHRS should be implemented to provide leadership, governance, policy, and management of the U.S.' complex health care operations, forging a collaborative, responsible, organized federal and state health care system.

Health care must focus on creating social good to fulfill its promise to society. It must emphasize excellent care and care processes that are accessible to all, effective, safe, coordinated, patient-oriented, and delivered with care, compassion, courage, commitment, and competence. This would be the mission of the NHRS.

Formed analogous to the Federal Reserve, the NHRS would ensure that the U.S. health care system:

- Provides a comprehensive range of services;
- Adapts to the needs and preferences of individual patients, their families, and their careers;
- Responds to the different needs of different populations;
- Improves the quality of services;
- Minimizes errors;
- Supports and values the health care profession, providers, and support staff;
- Uses public funds efficiently, effectively, and judiciously;
- Ensures seamless access to services for patients, regardless of their income, socioeconomic status, geographic location, or gender;
- Reduces/eliminates health inequalities;
- Respects the confidentiality of individual patients while providing open access to information about services, treatment, and performance; and
- Promotes scientific and practice-based research to improve patient health and clinical care.

The NHRS' quintessential role should be to vanquish inequities in access and care, less than optimal quality, and high and escalating costs. It would oversee the nationwide system of health insurance—private and governmental.

In 2008, Ben S. Bernanke, chair of the Federal Reserve, reported to the U.S. Senate on "Challenges for health care reform." He noted:

> Improving the performance of our health-care system is without a doubt one of the most important challenges our nation faces. Improvements in medical knowledge, standards of care, new medical technologies, and treatments have allowed some people to live healthier and longer more productive lives. But health care is not only a scien-

tific and social issue; it is an economic issue as well. We must remember that, for all its problems, the U.S. health care system has many strengths that we must consider when improving the system.[8]

Bernanke pointed out that U.S. health care services accounted for more than 15 percent of the nation's gross domestic product (GDP), and was the single largest component of personal consumption, making it one of the fastest growing sectors of the economy, and a continuously growing sector of the U.S. budget. (This continues today, but has increased to 17.7 percent of GDP).[9]

In emphasizing the challenges for health care reform, Bernanke stressed access to health care, improving quality of care, and controlling costs. He was definitive in stating that good decisions will depend on having good information and evidence to produce the best system possible.[8]

He cited the challenges for health care reform as access, quality, and cost, and said the, "cost of health care in the U.S. is greater than necessary to allow us to achieve the levels of health and longevity we now enjoy."[8]

He explained that the U.S. health care system is complex, has diverse challenges, and that our knowledge is incomplete. He hypothesized that the types of reforms chosen would depend on value judgments and tradeoffs made among social objectives likely to yield high social returns. When considering if Americans are getting their money's worth from their health care system, he noted that good information and appropriate incentives are necessary to allocate resources efficiently.[8]

The nuts and bolts

Like the Federal Reserve, the NHRS would have 12 geographic districts with representation of states in the district included in each regional district. It would have a national Board representative of the 12 districts, and would include six members appointed by the president of the U.S. and approved by Congress. The Chair of the Board would be appointed by the president and serve a four-year term. No member of the Board would serve for more than nine years, to ensure full national representation while preserving continuity.

The 12 district boards would have a predominant membership of physicians and nurses, other health professionals, hospital representatives, private practices, clinics, government and private insurance carriers, health care finance professionals, state and local representatives, and those who receive health care services in that region/district.

All government and non-governmental health organizations would be components of the NHRS, including physicians, the NIH, FDA, CDC, FEMA, National Health service, academic health centers and other educational and research entities, hospitals, medical associations, and allied health professions.

The NHRS would:

- Establish uniform charges for medical care, procedures, and pharmaceuticals based on the actual cost of the service, not allowing for cost shifting, and minimizing administrative and overhead costs. Rural and Urban hospitals and providers would be evaluated in their cohort.
- Oversee all governmental and non-governmental insurance entities.
- Coordinate medical, residency, and fellowship training and utilize manpower need data for allocating positions in specialties.
- Control costs, approve of resource allocation decisions and stockpiling.
- Support academic health centers and teaching hospitals to promote excellent clinical care, health professional education, research and scholarship, and public policy.
- Oversee construction and expansion of medical facilities.
- Ensure the availability of a private health insurance option, a public national insurance option, as well as options for the uninsured and underinsured.
- Manage the development and disbursement of existing and new pharmaceuticals, including installation of a national formulary based on efficacy, safety, benefits, and cost.
- Develop a centralized electronic health record (EHR) for all including a billing and collection repository with all patients issued a health card to be utilized for clinical record management, billing and collection. Utilize this centralized EHR to provide health information nationally for utilization by the NHRS' geographic boards and health policy scholars.
- Oversee interstate health care organizations and integration.
- Assume responsibility for telemedicine and telehealth at an interstate level and function.
- Oversee and manage ambulance and other patient transport services.

- Ensure all aspects of care are available to all who need it including preventive services, screenings, immunizations, vaccination programs, inpatient and outpatient hospital care, maternity care, dental care, eye care, mental health care, palliative care, long-term care, rehabilitation and physiotherapy, home health care and community-based nursing care, wheelchairs, hearing aids, and other assistive devices for those assessed as needing them.
- Oversee the interstate collaboration and cooperation necessary to provide universally accessible health care.
- Develop policies and make decisions based on experience and extensive use of data and evidence.

Funding for the NHRS would be through the federal government and would include an annual fee paid by states to cover the costs related to their state needs based on population, geography, and need; fees paid by hospitals; and fees paid for licensing of health professionals nationally, and other sources.

The overall goal of the NHRS would be to improve the health of the nation and to remove obstacles that interfere with patient care through creation of a new, contemporary, governing and management organization.

A time for change

Obviously, the formation of a NHRS would be far more extensive operationally than the Federal Reserve. It would require vast amounts of data and evidence, but with a concerted effort could be achievable.

The U.S., its health care providers, and anyone who plays a role in the business of health care, cannot let this COVID-19 pandemic go to waste. As we've seen and experienced firsthand, the U.S. health care system must be improved upon, changed for the better of all, and expanded to cover everyone who needs care, regardless of their job status, health status, or ability to pay.

"It always seems impossible until it's done."
—Nelson Mandela[10]

References

1. Johns Hopkins University of Medicine. Coronavirus Resource Center. https://coronavirus.jhu.edu. Accessed August 31, 2020.

2. Stolberg SG. Millions Have Lost Health Insurance in Pandemic-Driven Recession. The New York Times. July 13, 2020. https://www.nytimes.com/2020/07/13/us/politics/coronavirus-health-insurance-trump.html.

3. The Churchill Society London. The Russian Enigma. Broadcast, 1st October, 1939. http://www.churchill-society-london.org.uk/RusnEnig.html.

4. Statista.com. Health expenditure as a percentage of gross domestic product in selected countries in 2018 (the most current year). https://www.statista.com/statistics/268826/health-expenditure-as-gdp-percentage-in-oecd-countries/

5. Marks L. The landscape of academic medicine and health care in the United States. The Pharos Alpha Omega Alpha Honor Medical Soc. 2020; 83(2): 2—8.

6. Kurani N, McDermott D, Shanosky N. How does the quality of the U.S. healthcare system compare to other countries? Peterson-KFF Health System Tracker. August 20, 2020. https://www.healthsystemtracker.org/chart-collection/quality-u-s-healthcare-system-compare-countries/#item-age-adjusted-mortality-rate-of-neoplasms-per-100000-population-1980-2017.

7. American College of Physicians. ACP Outlines Plan for Universal Health Care. February 7, 2020. https://www.acponline.org/advocacy/acp-advocate/archive/february-7-2020/acp-outlines-plan-for-universal-health-care.

8. Bernacke B. Challenges for Health-Care Reform. Board of Governors of the Federal Reserve System. June 16, 2008. https://www.federalreserve.gov/newsevents/speech/bernanke20080616a.htm.

9. Centers for Medicaid and Medicare Services. National Health Expenditure Data. December 17, 2019. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.

10. Economy P. 17 Wise Nelson Mandela Quotes That Will Inspire Your Success. Inc. https://www.inc.com/peter-economy/17-wise-nelson-mandela-quotes-that-will-inspire-your-success.html.