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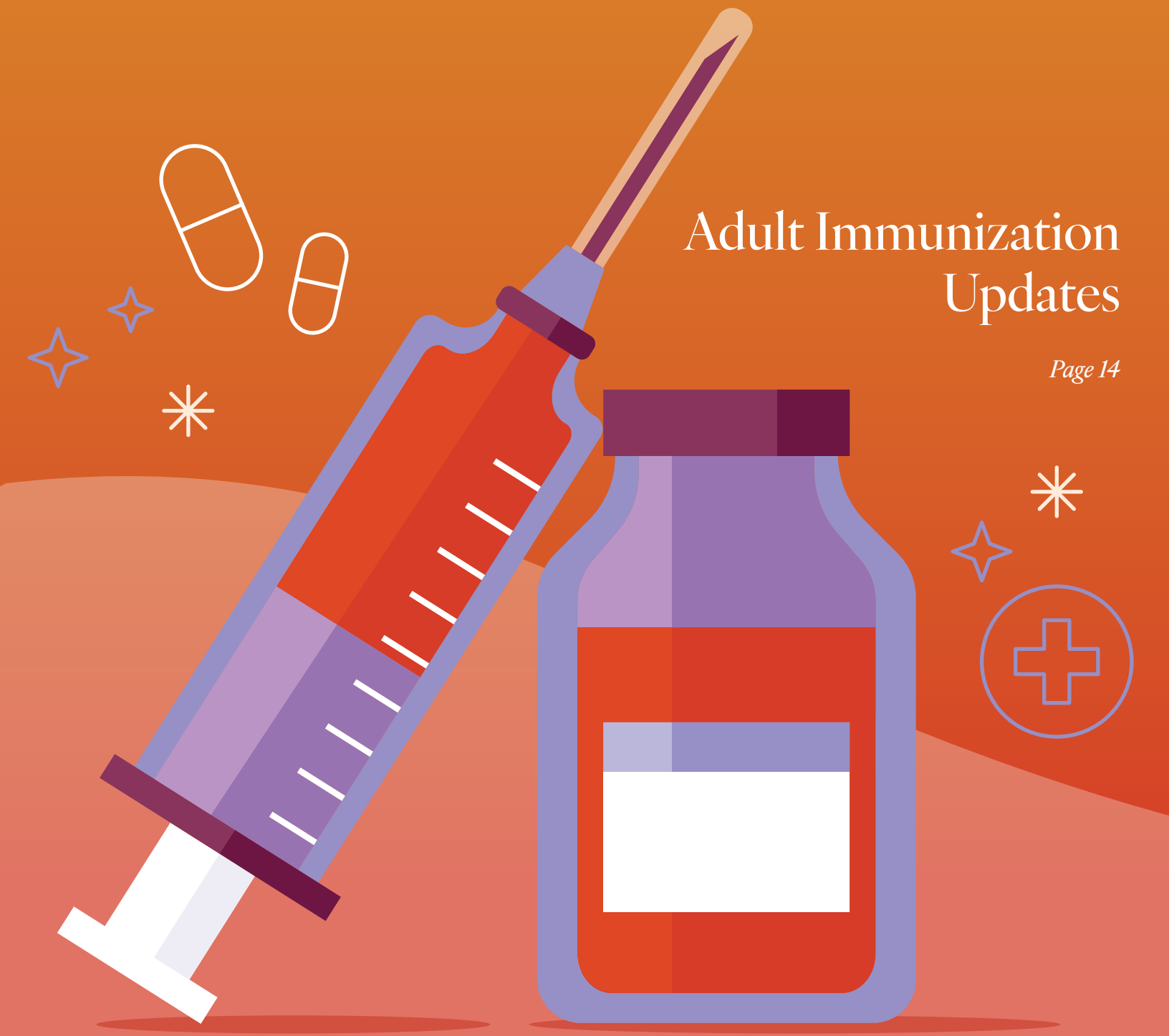

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Community Health: Health Forward Foundation, REACH Healthcare Foundation, and Missouri Foundation for Health

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Contributing Editor

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Achieve health equity and secure a fair and just region through leadership, advocacy, and resources.

Mission Statement of the Health Forward Foundation[1].

To advance health equity through coverage and care for underserved people in our region.

Mission Statement of the REACH Healthcare Foundation[2].

We are a resource for the region, working with communities and nonprofits to generate and accelerate positive changes in health.

Purpose Statement of the Missouri Foundation for Health[3].

Community health represents an increasingly vital component of comprehensive healthcare improvement. While physicians naturally view patients as individuals or family members—reflecting how we encounter and treat them—each person exists within a broader community ecosystem which shapes their well-being. These communities provide essential resources, support networks, and shape environmental factors which directly influence health outcomes.

When we conceptualize the health system as an integral part of society rather than an isolated entity, we emphasize the communities to which people belong. This perspective encompasses social determinants of health, social influences on health outcomes, community resources,

and cultural factors—all noteworthy aspects of community health. Perhaps the most comprehensive working definition of community health is anything that affects the social determinants of health.

While most physicians readily endorse the importance of community health, few are aware of the extensive resources available to support these efforts. Missouri is fortunate to have three major foundations dedicated to promoting community health and healthcare access.

Health Forward, based in Kansas City, Missouri, serves Kansas City along with Jackson, Cass, and Lafayette counties in Missouri, plus Johnson, Wyandotte, and Cass County in Kansas. REACH Foundation, headquartered in Overland Park, Kansas, covers the same geographic area. The Missouri Foundation for Health, based in St. Louis, extends its reach across 84 counties in the northeast, east, and south of the state.

Together, these foundations cover 87 of Missouri's 114 counties, representing a remarkable infrastructure for community health improvement. Their combined assets total an estimated $3 billion, providing substantial grant funding to a diverse array of community and healthcare organizations throughout the region.
The origin of this philanthropic infrastructure traces back to a significant healthcare transaction in the Kansas City area. Many physicians in the region once worked at Health Midwest, a health system that encompassed hospitals throughout eastern Kansas and western Missouri. When Hospital Corporation of America (HCA) acquired Health Midwest in 2003

Figure 1
Research Medical Center, now a part of Health Corporation of America

Figure 2
Dr. Bridget McCandless, shown with then-Governor Jay Nixon. Governor Nixon presided over the formation of the Missouri Foundation for Health Care, as well.

(Figure 1), the sale created a lasting legacy for Kansas City: two healthcare foundations that continue to champion community healthcare to this day.

The Health Forward Foundation[1] and the REACH Healthcare Foundation[2] emerged directly from HCA's acquisition of Health Midwest. Both operate as non-profit foundations dedicated to promoting healthcare for the general public, with particular emphasis on underserved populations. Because Health Midwest's operations spanned both sides of the state line, the buyout necessitated creating two separate foundations to serve the six-county region surrounding Kansas City.

The larger foundation, initially established in Missouri, evolved into today's Health Forward Foundation. Its Kansas counterpart became the REACH Foundation.[4] While smaller than Health Forward, REACH provides comparable grant support for community health initiatives across the same geographic area.

The early years of the Health Forward Foundation were shaped by two pivotal figures: Dr. Bridget McCandless (Figure 2) and Mark Flaherty. Their

leadership proved essential to securing the foundation's long-term viability and community impact.

Dr. McCandless, a University of Missouri, Columbia graduate who completed her internal medicine training at the University of Virginia and earned an MBA from Rockhurst University, served as the foundation's first President and CEO. Under her guidance during these critical formative years, the foundation established its mission and operational framework. Now retired from the foundation, she continues her public service on the Independence City Council.

Mark Flaherty joined the foundation board through appointment by Governor Jay Nixon (Figure 3). Serving as the foundation's general counsel, Flaherty made a crucial discovery: Hospital Corporation of America was failing to meet its contractual obligations, specifically the $300 million commitment to capital improvements and the maintenance of charitable care programs.

Recognizing the significance of HCA's breach, Flaherty enlisted the Seyferth Blumental & Harris law firm to pursue legal action. The Health Forward Foundation filed suit against HCA in 2009, though notably, the Kansas foundation (now REACH) chose not to join the litigation.

The legal battle proved both lengthy and ultimately successful. In January 2013, the trial team secured a $162 million award for the Health Forward Foundation, with the trial court also ordering a comprehensive accounting of HCA's obligations. Following additional proceedings and an appeal to the Missouri Court of Appeals, HCA reached a settlement agreement in February 2017, paying the Health Forward Foundation $203 million[4]—a sum that substantially enhanced the foundation's endowment.

This legal victory transformed the foundations' financial capacity. As of 2023, the Health Forward Foundation's assets totaled $960 million[5], while the REACH Foundation held $141 million as of 2022.[6] Together, these endowments generate substantial annual income dedicated to promoting community health initiatives.

Both foundations maintain their commitment to underserved populations and the pursuit of health equity. Their boards of directors reflect diverse community representation and are composed of physicians, lawyers, administrators, and community leaders (Figure 4). Each foundation maintains governmental accountability through state-appointed

Figure 3
The late Mark Flaherty, shown while speaking to the Kaufman Foundation He was general counsel for the Health Forward Foundation during the years of the lawsuit against HCA.

representatives—Kansas for REACH and Missouri for Health Forward—ensuring continued public oversight of these vital community resources. The Missouri foundation formally adopted the name Health Forward Foundation in 2018, reflecting its evolved mission and expanded scope. Over 21 years of operation, the foundation has dispensed $400 million in grants,[1] demonstrating remarkable commitment in addressing community health determinants. In 2024 alone, $24 million

Community Health: Health Forward Foundation, REACH Healthcare Foundation, and Missouri Foundation for Health

in grants supported initiatives ranging from civic engagement—including voter registration drives, Kansas City voters' guides, and support for Missouri Amendment 3 and Proposition A—to housing stability through down payment assistance, home repair support, and ownership counseling.

Healthcare access remains central to Health Forward's mission, with substantial funding directed toward organizations ensuring equitable access to medical, oral, and behavioral health care. The foundation's approach extends to emerging areas like nutritional health, exemplified by their Food as Medicine Summit exploring healthcare's nutritional components. This diverse portfolio illustrates how community health extends far beyond traditional medical care to encompass social determinants that fundamentally shape health outcomes.[1]

The REACH Healthcare Foundation pursues a similarly comprehensive approach through three strategic goals: bridging the coverage divide, closing the health equity gap, and strengthening the safety net. Their funding supports the Kansas Assistance Network, which helps individuals obtain insurance coverage, while also supporting community advocacy groups and direct healthcare delivery in primary care, mental health, and oral health.[2]

The Missouri Foundation for Health emerged through a different pathway—the conversion of Blue Cross Blue Shield of St. Louis (BCBSSL) from non-profit to for-profit status in 1996. This shift led to the foundation's establishment in 2000, coincidentally during Jay Nixon's gubernatorial tenure.

The foundation's service area reflects its BCBSSL origins, covering 84 counties in Missouri yet excluding 30 counties in the west and northwest (Figure 5). With an estimated 2024 endowment of $1.8 billion, the Missouri Foundation for Health operates as the largest of the three foundations, directing substantial resources toward comprehensive health initiatives.[3]
Their grant portfolio demonstrates comprehensive understanding of healthcare system needs. Programs like MoCAP assist Missouri-based nonprofits in grant application processes while also helping organizations develop fundraising capacity. The foundation addresses cultural barriers through translation and interpretation services, provides direct healthcare to underserved populations, and invests in healthcare workforce development, particularly in underserved areas. Specialized initiatives focus on women's healthcare and infant mortality reduction, reflecting targeted approaches to persistent disparities. This serves as an example of how foundations can address multiple levels of health system challenges simultaneously.[3]

Health Forward, the Missouri Foundation for Health, and REACH operate as broadly-based organizations with governance structures reflecting their community-wide mission. All three maintain boards of directors that include physicians, nurses, lawyers, administrators, and community representatives (Figure 4), ensuring diverse perspectives guide their strategic decisions.

These foundations were intentionally designed to support a comprehensive range of activities under the expansive umbrella of community

Figure 4
Board of Directors of the REACH Healthcare Foundation. Like the other two foundations, there are physicians, other health care professionals, lawyers, administrators, and representatives of the public and of the state.

health. Critically, they function primarily as funding organizations rather than direct service providers, offering grants to organizations that implement specific programs and initiatives. This approach allows them to serve dual roles: providing essential funding and support while functioning as reliable sources of information and expertise for the broader community.

The foundations' commitment to community health extends far beyond traditional healthcare delivery—a strategy that, while evidence-based, can prove challenging to navigate. Community health depends on an interconnected matrix of factors: adequate nutrition, stable housing, healthcare access, insurance coverage, and sufficient income. Addressing these elements sometimes requires engaging with politically sensitive issues.

Consider, for example, the relationship between income and health outcomes. Supporting initiatives like Proposition A to increase minimum wage may demonstrably improve community health, yet such positions tend to generate controversy. While few would question providing primary care to underserved populations, many might argue that wage regulation exceeds a health foundation's appropriate scope. This tension is further complicated by the politicization of traditionally accepted public health measures. Even childhood vaccinations against infectious diseases have become contentious despite their well-established benefits.

The debate over community health's appropriate scope has intensified over the past two decades. Healthcare organizations increasingly recognize that factors outside traditional medical care significantly influence health outcomes. This expanded understanding has justified foundation support for policies addressing gun violence prevention, transgender healthcare access, and healthcare for undocumented immigrants—all politically sensitive areas that nonetheless impact community health.

It is essential to recognize that these foundations extend beyond physician organizations to encompass broader healthcare and community service entities. Their governance structures reflect this comprehensive mission, emphasizing improved care for underserved populations while acknowledging that effective community health requires addressing systemic challenges that extend into social, economic, and policy realms.

Our area is fortunate to have these three foundations, each representing a legacy of healthcare system transformations—conversions from non-profit to for-profit entities. Together, they continue to fulfill their mission to enhance community health in our region

Acknowledgement

Thanks to Dr. Bridget McCandless for her insight into the history of these foundations. She was the founding director of what is now Health Forward and provided great insight into the foundations in Missouri and Kansas which support community health.

Figure 5
Service area of the Missouri Foundation for Health. Based in St. Louis, it covers the former coverage area of Blue Cross Blue Shield of St. Louis.

Community Health: Health Forward Foundation, REACH Healthcare Foundation, and Missouri Foundation for Health

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MSMA – Your Oxygen Mask

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Author

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Dr. Lancer G. Gates, DO, FACOI, was the President of the Missouri State Medical Association from 2023–2024. A board-certified internist, educator, and advocate for independent practice, he founded Gates Hospitalists. He is widely recognized as a regional and state healthcare leader.

High Flyers

Whiteman Air Force Base, located in Knob Noster, Missouri, is home to the Northrop Grumman B-2 Spirit, also known as the Stealth bomber. Each day, these bombers fly sorties around the globe. B-2 Stealth bomber pilots don't take off for high-altitude flights without a co-pilot, and although they may refuel in-flight, they need to land intermittently for plane maintenance and restorative sleep.

The medical profession has also flown to new heights. We now have immediate access to the latest medical research, cutting-edge technology, and instantaneous communication with our peers. Despite these advances, we cannot stay up in this rarefied air perpetually. We, the high-flying physicians, should take a lesson from high-flying pilots, intermittently grounding ourselves for maintenance and rest.

Put on Your Own Oxygen Mask First

Before every passenger airline flight departs, flight attendants provide passengers with safety information to be utilized in the event of an in-flight emergency. You are always instructed to "first, put on your own oxygen mask before trying to assist others."

The airline industry's approach of encouraging passengers to help themselves first is honest, practical, and a breath of fresh air. You might compare this candid approach with the altruistic approach taken by many public health officials throughout the recent pandemic. It often mandated individuals wear masks primarily to protect other members of the public rather than to protect themselves first.

Most medical students are blessed with an abundance of altruism. Following training, many physicians take their altruism to the next level, aptly referred to as "the nurture effect." The nurture effect is

the observation that people who take care of others regularly are generally less likely to take care of themselves.[1]

It is time to acknowledge that we are not superhuman, and we cannot take care of others if we don't take care of ourselves. We need to put on our own oxygen masks first. Think of our oxygen mask as our MSMA.

The air in airplane oxygen masks contains a mixture of gases, including oxygen, nitrogen, water vapor, argon, and carbon dioxide. The air in MSMA's oxygen mask includes a mixture of advocacy and networking, which when inhaled together, provide wellness benefits.

Securely Fasten Your Seatbelt

Flight attendants also request that you securely fasten your seatbelt. If we are going to free ourselves from "the nurture effect," then we need to strap ourselves into a balanced self-care routine which incorporates elements of physical activity, stretching, spirituality, meditation, and good nutrition. We can incorporate a few of these habits, such as taking the stairs and eating nutritious meals, into our daily routine both at work and at home with our families. If we have extra time on our hands, we might even cultivate other pursuits.

> *It is time to acknowledge that we are not superhuman, and we cannot take care of others if we don't take care of ourselves.*

Shut Off All Personal Electronic Devices

During takeoffs and landings—the most critical phases of flight—passengers accept that the airline industry doesn't tolerate electronic interference. Airlines require this focused environment to ensure safe operations during these high-stakes moments.

Similarly, physicians need protected time during our most critical work phases. Many primary care physicians experience a workday "layover" as they spend time each night documenting their patients' electronic medical records (aptly called "pajama time"). Just as pilots need interference-free environments during critical flight phases, we need interruption-free time during our workday to complete documentation efficiently. With fewer disruptions from phones, messages, and non-urgent requests, we will be better positioned to finish our medical records before leaving work, before the weekend, and before our vacations.

During our vacations and time away from work—our "off duty" time—we need to unplug completely. Patients, colleagues, and administrators should accept that we deserve interrupted time away.

Take Care of Your Co-Pilots

Pilots look out for the welfare of their Co-pilots. We need to apply the "Golden Rule"2 and treat our fellow physicians the way that we would like to be treated.

Complete documentation promptly. Following each patient encounter, while the details are fresh in our minds, documentation should be finished immediately. This practice enhances quality and provides colleagues with timely access to our assessments and recommendations.

Respect boundaries and time off. Avoid consulting fellow physicians on weekends and holidays for non-emergent medical issues. Before contacting colleagues on their personal devices, call their office or check their schedule first. Address as many patient issues as possible before signing out for the weekend or leaving for vacation, and plan ahead to minimize patient handoffs.

Embrace scheduling equity. Shared experiences foster camaraderie. Experienced physicians must resist the temptation of legacy scheduling, opting out

of night and weekend calls simply because they have "paid their dues." Conversely, younger physicians shouldn't assume work-life balance is exclusively their privilege, leaving older colleagues to shoulder disproportionate shifts. Compensation formulas which address scheduling inequities can significantly reduce animosity within physician groups.

Reduce administrative burden. Hospital and medical practice administrators must limit bureaucratic demands on their physicians. The Joint Commission and CMS recently approved extending physician hospital re-credentialing from every two years to every three years—a welcome change.

Advocate for systemic improvements. The MSMA champions a sustainable physician practice environment in Missouri. Recent victories include successfully lobbying the Missouri Board of Healing Arts to extend physician license renewals from annual to biennial. However, inconsistencies remain: while the DEA requires re-credentialing only every three years, the Missouri BNDD still demands annual renewal. Extending BNDD re-credentialing to match the DEA's three-year cycle would reduce the board's workload by two-thirds, freeing resources to expedite licensure for new physicians and providing relief for overwhelmed Missouri practitioners. MSMA effectively tackles Missouri solutions to federal problems, from securing state funding for Graduate Medical Education programs to expanding primary care residency positions throughout the state.

Rely on Your Co-Pilots & Ground Crew

Pilots entrust the lives of their passengers to their co-pilots. We entrust the care of our patients to our physician colleagues. Primary care physicians rely on emergency medicine physicians to triage, evaluate, and stabilize their patients who are unstable. Emergency medicine physicians rely on hospitalists to assume the care of patients who require hospital admission. Hospitalists rely on primary care physicians to provide outpatient care for their patients following hospitalization. All primary care physicians, emergency medicine physicians, and hospitalists rely on the expertise of highly-trained consultants.

If we can entrust the care of our patients to our physician colleagues, then we can surely share our professional and non-patient-related practice responsibilities with them. It's time to move on from the days of assigning more and more duties to the same physicians, as they possess the requisite knowledge and experience. Professional and non-clinical responsibilities are like a glass brimming with water. If we add a drop of water to this glass, then some will surely spill over. Whenever we take on a new professional role or responsibility, we should give up one of our other roles or responsibilities. For example, if we take on a new committee assignment, then we should hand over one of our other committee assignments to a physician who is new to practice. As younger physicians assume more roles and responsibilities, they will also gain knowledge and experience, ultimately growing professionally.

We also need to rely on our ground crew—our families. One of my former physician partners likened weekend hospital-rounding to mowing the yard. We can't mow our yard at home if we're mowing the yard at the hospital, so we are tasked with handing off the duty to a family member or contracting it out. We should also consider outsourcing some of our domestic responsibilities to family members. There will be a learning curve, and we will need to give grace as our family members adjust.

Know Where the Exits Are Located

Flight attendants also point out the locations of all the exits. All MSMA members are provided with a "parachute" if they are facing a personal or professional crisis. The University of Missouri Health Care's Physician and Health Professional Wellness

Program provides professional and confidential services for our colleagues who are facing an emergency landing.

Ground Control is Clear for Take-Off

Pilots are required to log their flight hours, and the Federal Aviation Administration limits these hours to prevent fatigue and ensure safety. Similarly, practice administrators must establish protective protocols for physician well-being and patient safety.

Implement shift limitations. Duration of our shifts needs clear boundaries, and post-call responsibilities must be limited. Just as pilots have mandatory rest periods, physicians require protected recovery time.

Prioritize equitable scheduling. All physicians in our groups deserve consideration for time-off requests, which should be incorporated into practice schedules fairly. Holiday coverage, in particular, requires equal distribution among physicians over the years rather than burdening the same individuals repeatedly.

> *Pilots entrust the lives of their passengers to their co-pilots. We entrust the care of our patients to our physician colleagues.*

Establish backup protocols. High patient census or physician illness demands contingency planning. Administrators must proactively develop coverage protocols before crises occur rather than reactively scramble for solutions.

Minimize meeting burden. Virtual meetings should be utilized whenever possible to keep physicians from having to undertake unnecessary travel and/or take time away from patient care.

Maintain staffing standards. When physician colleagues retire or transition to other opportunities, administrators must replace them with physicians, not physician extenders. The passenger airline industry doesn't replace experienced pilots with flight attendants. We shouldn't compromise our standards either.

Flying First Class

Fly "First Class" with MSMA and your complimentary MSMA oxygen mask. Your membership in this exclusive club costs only $450 per year for active members, $300 for physicians in their second year in practice, and $75 for retired physicians. You may elect for auto-renewal to avoid annual dues statements. Physicians in their first year of practice, fellows, residents, and students fly for free.

Upgrades

I encourage you to upgrade your MSMA experience by contributing to the Missouri Medicine Political Action Committee (MMPAC), which enhances your advocacy efforts. You may also contribute to the annual MSMA Alliance Holiday Greeting Card, a fundraiser for the Missouri State Medical Foundation, which provides scholarships to students attending medical school in Missouri. Finally, you can upgrade your spouse's experience with a membership in the MSMA Alliance, a venue where they can share their experiences and find community amongst other physician spouses.

Enjoy Flights to Your Preferred MSMA Destinations!

Each year, the MSMA holds events for its members. Please consider booking your reservations for these upcoming annual events: the Advocacy Training Workshop, the Physician Advocacy Day in Jefferson City, and the MSMA Annual Convention. If you prefer not to travel, feel free to tune in to the MSMA virtual meetings.

Adult Immunization Updates

Dr. Branstitter is board certified in both Internal Medicine and Infectious Disease. She graduated medical school from Oklahoma State University College of Osteopathic Medicine, served her Internal Medicine residency at OSU Medical Center (formerly Tulsa Regional Medical Center), and went on to complete her Infectious Disease Fellowship at the University of Missouri. She currently practices at Liberty Hospital, serving as a hospital epidemiologist.

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The contribution of vaccines to improving global public health cannot be overstated. Vaccines prevent an estimated 2 to 3 million deaths each year from pertussis, tetanus, influenza, and measles.[1] As our world evolves, vaccine recommendations are continuously evaluated and adapted to keep pace. International travel, shifting weather patterns, and human exploration into previously uninhabited regions of the planet are just a few of the many factors which can lead to exposure to new pathogens. Consequently, vaccine guidance undergoes continuous updates as new vaccines and technologies are developed. These updates serve multiple purposes: addressing emerging infectious threats, incorporating improvements to existing vaccines, and responding when familiar diseases resurface. Additionally, recommendations are refined when research reveals new benefits of vaccination beyond infection prevention.

New and Improved Vaccines

In November 2023, the Food and Drug Administration (FDA) approved the first vaccine for Chikungunya virus, bringing the total number of vaccine-preventable infections to thirty-two.[2,3] Two approved vaccines are now available for Chikungunya virus: IXCHIQ, a live attenuated vaccine, and Vimkunya, a virus-like particle vaccine. Both vaccines are intended for patients

traveling to areas where active Chikungunya cases are reported. The Vimkunya vaccine can be given to patients ages 12 and older, while the IXCHIQ vaccine is approved for patients 18 to 60 years old. Use of IXCHIQ has been restricted for patients older than 60 following five reports of hospitalizations for cardiac and neurologic events after vaccination.[4] Further investigation is ongoing.

Earlier that same year, in May 2023, the FDA approved vaccines for Respiratory Syncytial Virus (RSV).[5] Three RSV vaccines—Arexvy, mRESVIA, and Abrysvo—are approved for patients aged 60 and older. Patients ages 50 and older who are at higher risk for severe RSV infection and hospitalization are also eligible for vaccination.[5] In addition to older adults, the Abrysov vaccine has been approved for use during pregnancy. Pregnant patients between 32 and 36 weeks gestation during RSV season (September to January) are eligible for vaccination.[6] Antibodies pass through the placenta to provide protection to the child during their first RSV season. Currently, repeat RSV vaccination during subsequent pregnancies is not recommended.

The most recent pneumococcal vaccine recommendations have lowered the age range for vaccination from 65 to 50 years and older. Patients aged 19 to 49 who are immunocompromised or have chronic medical conditions are also eligible for vaccination.[7] While the multiple pneumococcal vaccines allow for enhanced protection against pneumonia, they complicate decisions about who needs which vaccine and when. Figure 1 provides an algorithm to help navigate pneumococcal vaccine decision-making based on age, medical conditions, and previous vaccination status.

New Vaccine Technology

The recent SARS-CoV-2 pandemic reminded the world of the devastation an infection can cause. However, it also demonstrated the ingenuity of the scientific community and led to the development of mRNA COVID-19 vaccines. The COVID-19 vaccines were developed in less than one year but built upon three decades of research into nanotechnology.[1] The Pfizer-BioNTech COVID-19 vaccine and the Moderna COVID-19 vaccine received Emergency Use Authorization (EUA) from the Food and Drug Administration (FDA) in December 2020.[8] These vaccines, along with other treatment options, helped turn the tide in the fight against SARS-CoV-2. The mRNA vaccine technology has brought the future of vaccine development into the present. The versatility, rapid and targeted development capabilities, and expedited production make mRNA nanotechnology an attractive platform for new vaccine creation.[8] Clinical trials are currently underway for mRNA vaccines to prevent other infections, including influenza and avian influenza, Zika, cytomegalovirus (CMV), and rabies.[9,10] Personalized cancer vaccines using mRNA platforms for pancreatic cancer, melanoma, and non-small cell lung cancer are also in development.[9,10,11]

Importance of Routine Vaccination

Unfortunately, sometimes what's old becomes new again. Since 2000, measles has been considered an

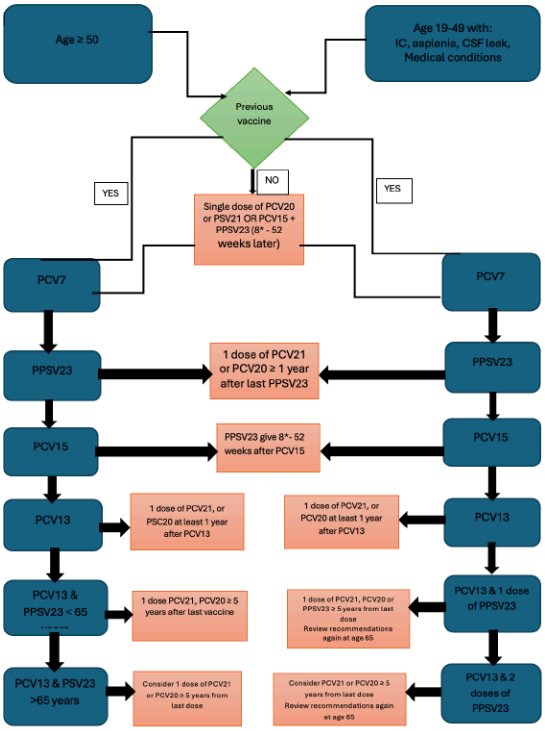

Figure 1 Pneumococcal Vaccine Recommendations.[7]
Medical conditions = Diabetes mellitus, chronic disease of the lung, heart and liver, cochlear implant, tobacco use, alcohol use disorder; PPSV = pneumococcal polysaccharide vaccine; PCV = pneumococcal conjugate vaccine

infection of the past, as it was declared eliminated in the United States of America. Since that time, rates of vaccination for Measles, Mumps, and Rubella (MMR) have declined nationwide. Several regions of the country have MMR vaccination rates below 95%, the goal threshold to provide herd immunity. Consequently, a measles outbreak marked the beginning of the year 2025. As of May 29, 2025, there are 1,088 confirmed measles cases in 33 different states and three reported deaths.[12] The largest outbreak originated in west Texas, with 742 confirmed cases.[13] All three reported deaths have come from the Texas outbreak.

The most effective method to protect against measles infection is to stay current on vaccination. The MMR vaccine is 93% effective after one dose, and 97% effective after two doses.[14] Adults born prior to 1957 are presumed to have immunity from measles infection and do not need an MMR booster. Adults who received their routine childhood immunizations are also presumed immune and do not need a booster, with a few exceptions. Adults born between 1963 and 1967 received the inactivated MMR vaccine instead of the more effective live virus MMR vaccine and may benefit from a booster with the current MMR vaccine.14 Persons born prior to 1989 likely only received one dose of MMR and may also benefit from a booster.[14] Measles antibody titers can be measured to check immunity status, and an MMR booster administered if they are undetectable. However, if a patient requests an MMR booster, there is minimal risk in administering the vaccine to immunocompetent adults.

While pertussis has not garnered much media attention compared to the current measles outbreak, cases are also on the rise. In 2024, there were 35, 435 cases of pertussis reported—a six-fold increase from cases reported in 2023.15 Pertussis cases in 2024 were double the average number of cases in the pre-COVID-19 pandemic era.[15] This uptick in cases has continued into 2025. Again, the best defense against pertussis is through vaccination. Tetanus and diphtheria vaccines are recommended every ten years, with the inclusion of acellular pertussis (Tdap) recommended at least once in adulthood.[16] A Tdap booster is also recommended with each pregnancy to protect the infant.[16] It is prudent for parents, grandparents, and anyone else often surrounding an infant to receive a Tdap booster. Infants and young children are at greatest risk of severe pertussis disease and even death.

Vaccine Benefits Beyond Infection Prevention

Vaccine benefits can extend beyond the infection they were designed to prevent. Recent data has demonstrated that the Neisseria meningitidis, or meningococcal serotype B vaccine, specifically the MenB-4C (Bexsero) vaccine, provides protection against gonorrhea in addition to meningitis.[17] In fact, the United Kingdom now includes the MenB-4C as part of their routine childhood immunization recommendations. MenB-4C can be given in addition to the Meningococcal serotypes ACWY vaccine.

Additionally, shingles vaccination has demonstrated protection against cardiovascular disease and dementia in addition to providing protection against shingles. The current vaccine for herpes zoster, Shingrix, is approved for adults aged 50 years and older. Shingrix is 96.6% effective at preventing shingles and 91.2% effective at preventing post-herpetic neuralgia.18 Research has demonstrated a 1.9-fold higher risk of stroke within the first 30 days following a shingles outbreak.[19] The increased risk of stroke declines over time but persists up to one year. Activation of prothrombotic HZ-exosomes by the herpes zoster virus was identified as the cause for the increased stroke risk.[20] The HZ-exosomes activate platelets and promote formation of platelet-leukocyte aggregates. The prothrombotic effects can be mitigated by aspirin therapy.[20] The increased risk of stroke can be avoided altogether by vaccination. Another study, published this April, demonstrated a 20% decrease in the rate of dementia for patients

who received the shingles vaccine compared to those who were not vaccinated.[21] Risk reduction for dementia and stroke is a promising additional benefit of vaccination. Further research into the link between herpes zoster and dementia could lead to a better understanding of the pathophysiology of dementia and new treatment options for this devastating disease.

While public opposition to vaccination has increased over the years, vaccines remain an important tool in the fight against infectious disease. Vaccines against new pathogens such as malaria and human immunodeficiency virus (HIV) are in development. The new mRNA vaccine technology has opened the door to rapid development of new vaccines. Beyond infectious disease, vaccines are being explored as treatment options for cancer. The human papillomavirus vaccine (HPV) has already demonstrated the success of this approach. Rates of cervical cancer have dramatically decreased since HPV's addition to the routine immunization schedule. Hopefully, vaccine research will continue to push forward to improve the health of the global community.

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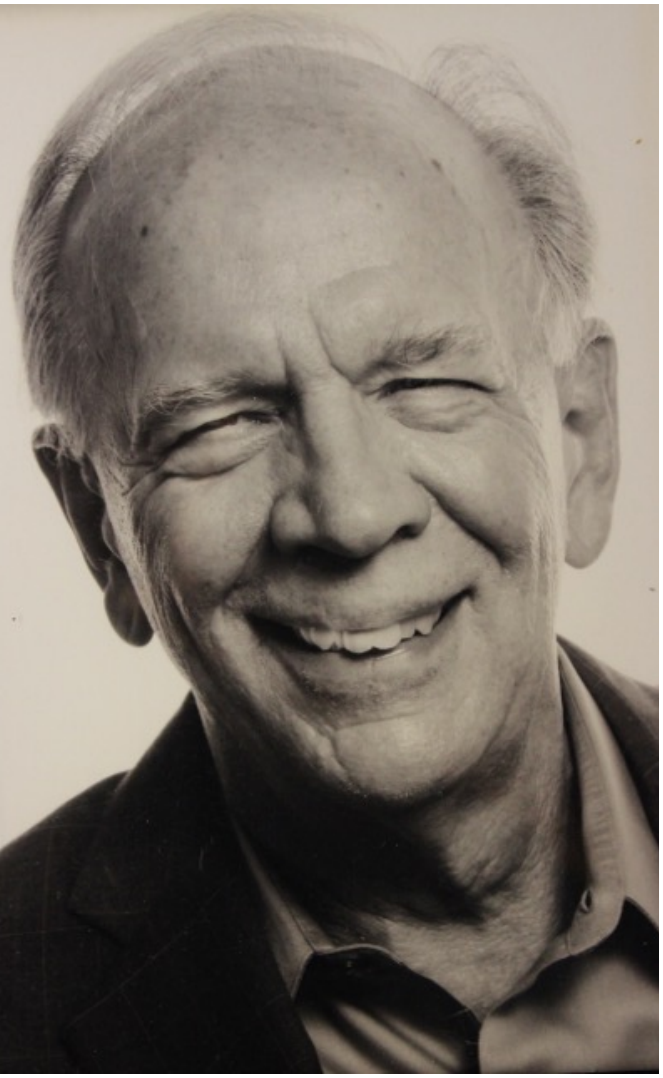
"The Doctor" A 19th Century Painting That Still Applies Today



By Keith Jantz, MD

The origin of Sir Luke Fildes' painting entitled "The Doctor", completed in 1891, remains a matter of controversy. Some art historians believe the painter created his deference to his son, who died of typhoid fever at age one. Others contend that Fildes was commissioned to paint the scene as homage to Queen Victoria, who also lost a son during her reign over England. Reports suggest Henry Tate commissioned Fildes to create a work of "social realism," though the painting's Victorian setting does not accurately reflect the medical expertise available in late 19th-century England—notably absent are the instruments familiar to physicians of that era. The true inspiration behind Fildes' tribute to the physician and medical empathy may never be fully known.

Yet the artwork's celebration of physicians and their compassionate care for the suffering continues to resonate across generations, symbolizing the dignity and altruism inherent in the medical profession. As spoken by surgeon W. Mitchell Banks: "What do we not owe to Mr. Fildes for showing to the world the typical doctor as we would all like him to be shown – an honest man and a gentle man, doing his best to relieve suffering?" In 1947, the US Postal Service issued a stamp commemorating the 100th anniversary of the American Medical Association, depicting Sir Fildes' painting of The Doctor. His iconic painting continues to reside in the Tate Modern Gallery in London.

Although Sir Luke Fildes painted "The Doctor" in the 19th century, its profound messages about human nature in medicine remain strikingly relevant in today's 21st-century healthcare landscape. Despite substantial technological advances that have transformed diagnostic capabilities and treatment options, the fundamental depiction of interactions between physician, patient, and family remain unchanged from 130 years ago. Fildes' masterwork captures these emotions and the complexities of medical encounters with such eloquence that they continue to reflect contemporary

healthcare realities in our advanced Western society. Examining individual elements of the painting reveals remarkable parallels between 19th-century medical dilemmas and the challenges facing today's physicians.

At the painting's center lies the primary figure of any medical encounter: the patient—a helpless, critically ill little girl. The girl appears listless, her left arm trailing from the pillows, completely vulnerable to whatever ailment has overcome her. Such appearance symbolizes the helplessness that patients present to their medical provider as they present troubling symptoms that raise concerns about serious or potentially fatal diseases. Uncertainty creeps into the mind, generating fear that the worst may be imminent, while patients simultaneously hope for clarity from their medical provider. Today, patients may be armed with information from the media, the internet, family members, or well-meaning relatives pushing for self-diagnosis. However, even with that partial reassurance of knowing what's going on, doubt inevitably evolves into fear or even helplessness, compelling patients to open up and seek professional assistance for their illness.

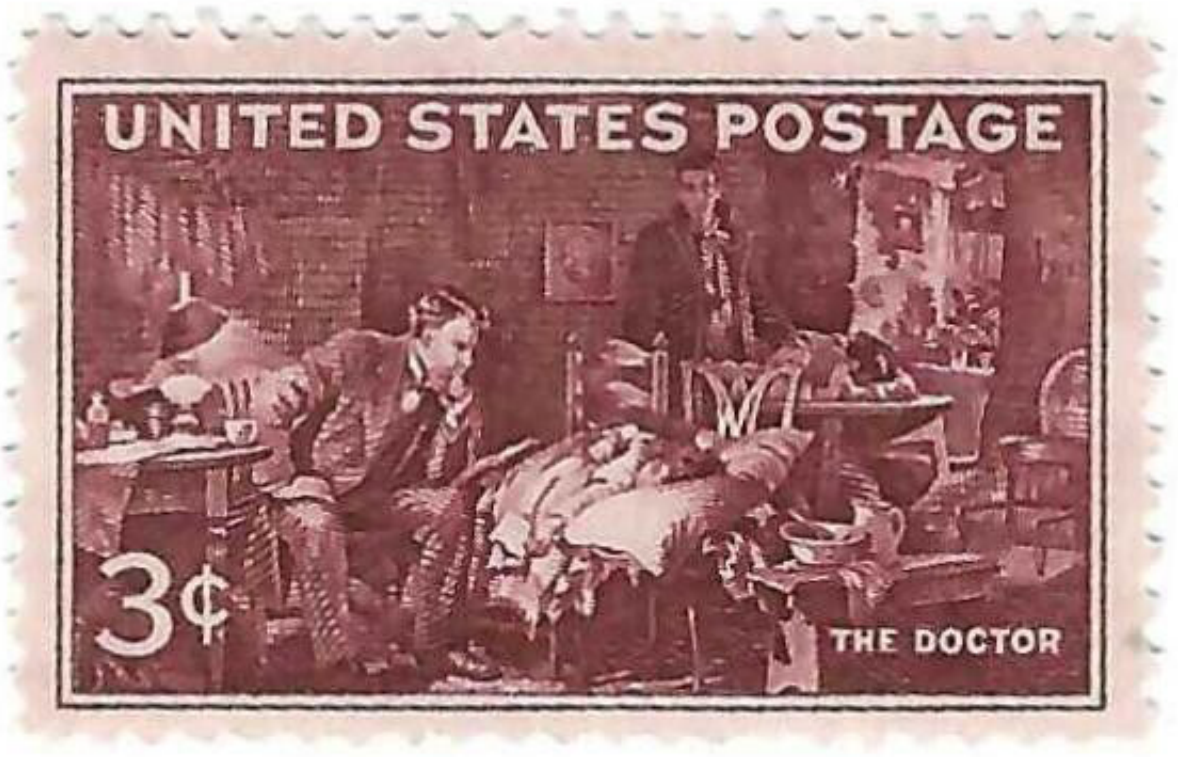
To the painting's right sits a grieving mother, face buried in her hands at the table, hands clasped in fear or prayer, while the father offers a comforting hand on her shoulder. Though the viewer cannot know whether the child will survive, the mother has already assumed the worst possible outcome. She embodies the ultimate worrier, the perpetual pessimist, the "glass half empty" person now pushed to unprecedented emotional distress by her beloved daughter's illness. Any contemporary primary care physician treating seriously ill patients recognizes this archetype of the distraught relative. Emotions run high during severe medical encounters, and stressful situations sometimes bring out the worst in people.

"The Doctor" A 19th Century Painting That Still Applies Today

Standing in the background, the father fixes his gaze directly on the doctor with a demanding, almost threatening expression while simultaneously comforting his wife. His facial expression implies the doctor must save his daughter, or anger will ensue. He justifies this stance by relying on the doctor's wisdom and medical expertise to provide answers beyond a layman's capability. Today's physicians constantly face similar demands from patients and families to produce positive results, even when the odds are insurmountable, and the prognoses are particularly grim. Family anger generated by poor outcomes from severe or terminal illnesses can manifest in threats, financial disputes, and legal challenges through malpractice lawsuits. While attempting to support his wife emotionally, the father maintains the stoic paternal behavior characteristic of demanding a positive outcome.

The painting's setting tells its own compelling story while remaining applicable to contemporary societal challenges. The family inhabits a home of limited resources, characterized by poverty. Their precious daughter must endure her illness on a makeshift bed of pillows and chairs. Scattered laundry and dishes suggest a less-than-sanitary environment for managing a medical crisis. The minimal illumination from a single tilted lampshade—while creating beautiful artistic effect—severely limits the physician's ability to examine the patient properly. This scene epitomizes the resource limitations that impoverished people navigate today, constraints that hamper physicians' ability to diagnose and treat effectively, ultimately resulting in poorer outcomes. Numerous contemporary studies confirm the association between low income and higher mortality rates, validating what Fildes observed over a century ago.

At the center of the scene stands the physician, deep in thought, his attention focused solely on the patient, seemingly oblivious to the drama unfolding around him. His puzzled, contemplative posture reveals that despite his medical expertise and years



of training, his diagnostic acumen has failed him, yielding no precise diagnosis or effective treatment plan. The patient's disease is prevailing, and he remains constrained by ineffective medical resources—evidenced by a single bottle of medicine, a cup, and a spoon.

Similarly, today's physicians frequently experience personal frustration when confronting the progression of a disease despite inadequate medical resources. Technological advances aside, contemporary medicine continues to suffer from limitations in delivering optimal treatments to the most vulnerable patients.. Medication shortages, restricted access to diagnostic equipment, government regulations, excessive documentation requirements, and insurance company interference in medical decision-making are all symbolized by that small lamp providing meager light for examining the critically ill child and the solitary elixir representing available therapy. When combined with the intense emotional atmosphere created by the parents, one begins to appreciate the immense stress on the physician while marveling at his ability to remain intently focused on the distressed child. All these elements converge dramatically in Sir Luke Fildes' portrayal of the doctor's plight in the 19th century. Unfortunately, despite 160 years of technological advancement, pharmacological breakthroughs, healthcare system organization, and governmental and corporate efforts to support medical needs, fundamental aspects of the physician-patient encounter remain unchanged from the era of the horse-and-buggy doctor.

Added comment:
Dr. Richard Free JULY 4, 2019

The practice of medicine itself serves as a metaphor for adaptation to perpetually incomplete information—accepting, defining, and ranking probabilities while moving forward despite risk and suffering, both for ourselves and our patients. We strive always to make the best calculated decisions based on available evidence, understanding that while we may not always make the objectively "right" choice, we must always make the right choice in real time with the information available to us.

Thank You

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