

JLGH

The Journal of Lancaster General Hospital

FALL 2026
Vol. 21 – No. 3

a record of
MEDICAL PROGRESS



Penn Medicine

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FEEDBACK AND THE GROWTH MINDSET

Corey D. Fogleman, MD, FAAFP
Editor in Chief



Recently, as I closed a clinical conversation with a patient and stepped to the door, she said, “Doctor, can I just ask you again whether or not I should begin taking a cholesterol medicine?” It was the word “again” that stopped me, having been over so many things with this patient; it became clear to me at that moment that I had not heard her real concerns. I took my hand off the doorknob and sat back down.

Feedback can come to us in many ways. Sometimes we ask for it. At other times, it’s glaringly obvious, but we’re not really prepared. And at yet other times, we know it’s coming, and we don’t feel prepared to receive it. You may know the feeling of working with a colleague you find clashes with your style or puts you on edge. Does your sense of dissonance suggest that colleague is actually a soothsayer?

On the advice of a physician friend, I recently picked up a copy of *Thanks for the Feedback: The Science and Art of Receiving Feedback Well*. This 2014 handbook — written by a pair of coaches and lecturers at the Harvard Law School, Douglas Stone and Sheila Heen — is full of amazing insights and real-life anecdotes highlighting what is often an innate distrust of feedback.

In truth, we tend to block out feedback for a variety of reasons. Notably, relationships may challenge our ability to hear what we need to, and of course, many of us have an aversion to perspectives that are different from our own. Each of the broad categories of feedback, including appreciation, coaching, and evaluation, can present their own challenges, especially if we are not prepared.

Most notably, these authors introduce the concept of — and discuss ways to develop — our growth mind-

set. The growth mindset is contrasted against the fixed mindset, which holds that we are at some point fully developed and unlikely to change. Social media stars have certainly embraced this idea and model for us that we’re all on the road to something better. And while I have to admit that I would relish the opportunity to be comfortable, as a family physician, in a world of quickly developing science, I am aware that there is always more I need to learn.

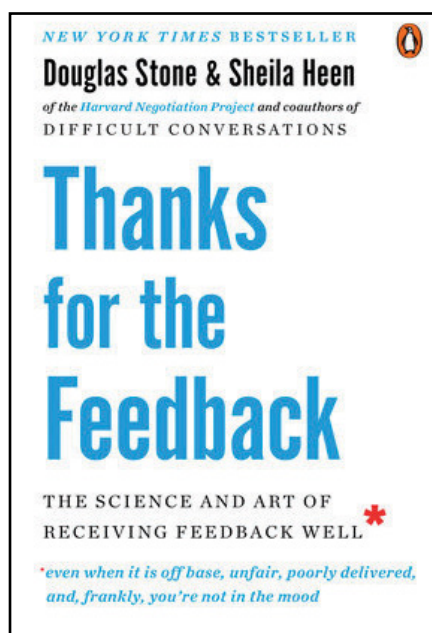
Just as burnout may represent a mismatch between expectations and reality, our capacity to grow may be limited by the mismatch between what we expect and what we are given in terms of feedback. Yet having a growth mindset, or trying to, can prepare us for the opportunities that will present themselves.

Laudably, Stone and Heen offer a well-researched and well-referenced understanding of psychology. Notably, while *we* tend to judge ourselves by our *intent*, those around us tend to judge our *impact*. Further, while *we* tend to *subtract* the impact our own emotions have on how others interpret our actions, those around us double the impact our own emotional behavior may have.

Emotional math is algebraic: while we tend to attribute our actions to any given situation, *others* tend to attribute our actions to our *character*. That is, as much as we

know we’d like to have a growth mindset, the default assumption is that everyone around us is fixed.

Many lessons in this book will ring familiar — that wellness serves as ballast for life’s storms, that we should plan for the worst and hope for the best, that things are rarely as bad as they seem. Yet it is worth the reminder that we should keep our family, friend,



Penguin Books, 2015, 368 p, 19.00 paperback
(original release: Viking, 2014)

community, and spiritual connections strong as they will help us at our worst. Devoting ourselves to something larger than ourselves can be buoying.

What sets these authors apart is their ability to condense the complicated relationships in our work and in our lives, to distill and find little nuggets of wisdom — we will make mistakes, we all have complex intentions, we all have some responsibility and culpability in every problem in our lives. More importantly, they return to the central theme of having a growth mindset, of role modeling a growth mindset for those around us and viewing every situation as an opportunity to improve. How we handle feedback — our so-called “second score” — likely will turn out to be more important than any singular piece of feedback we receive.

Aside from these takeaways, I was most impressed with the insight regarding so-called “super communi-

cators.” These are folks who can be within a conversation and outside the conversation at the same time, monitoring how their message is being received, monitoring how others within the conversation may need a moment or need further explanation. They understand that there’s also a time and a place to say no, that our ability to refuse feedback at times can help ensure we will appropriately listen when the time comes. We all know these individuals, and we all could afford to learn from them.

For anyone just starting out in their position, and for that matter, who serves as a leader, manager, or executive, this brief read is to be recommended. As the authors note, the most common reason that individuals leave an organization is not because of concerns regarding pay or because of lack of visionary alignment. The most common reason individuals sever relationships is a lack of high-quality feedback.

JLGH SUMMER 2026 RECAP

Q&A for Extended Learning

The Summer issue of The Journal of Lancaster General Hospital offered articles on Relative Energy Deficiency in Sport, injuries in frail patients, the concomitant use of GLP-1 RAs and DPP-4 inhibitors, and other practice recommendations. Review the questions and answers below to see how much you remember from the issue. Need a refresher? All issues of JLGH are available online at JLGH.org.

Q
A

How might athletes be affected by Relative Energy Deficiency in Sport (REDs)?

Athletes with REDs may experience hair loss and cold extremities, irritability and mood changes, fatigue, loss of strength, menstrual changes and decreased libido, among other changes.

Q
A

How does the National Institutes of Health define frailty, and what is the Dalhousie Clinical Frailty Scale?

Frailty is an “age-related increase in vulnerability due to worsened outcomes from everyday or acute stressors.” The Clinical Frailty Scale helps score a patient along a scale that spans from “very fit” — active, motivated, and energetic — to “terminally ill” — has less than six months of life expectancy.

Q
A

Why is it important to be conscientious about the simultaneous use of glucagon-like peptide-1 receptor agonists (GLP-1 RAs) and dipeptidyl peptidase-4 (DPP-4) inhibitors?

These two drug classes work along the same pathway, and simultaneous use is considered duplicative because there is minimal benefit to be gained versus monotherapy. Because they are more expensive than some other medications used to treat diabetes, their concomitant use can lead to excessive medication costs for both patients and our health care systems.

Q
A

What safeguards have been put in place to limit the negative repercussions to patients who interact with our health care systems and research communities?

The Nuremberg Code, Belmont Report, International Council for Harmonization of Technical Requirements for the Registration of Pharmaceuticals for Human Use, stipulations and guidance from the FDA, Institutional Review Boards, and the informed consent process are just a few of the attempts on our part to protect patients who interact with us.

Q
A

What electrolyte abnormalities are associated with use of ketogenic diets? What symptoms might patients manifest?

Ketogenic diets are associated with an increased risk for hypomagnesemia, hypokalemia, hyponatremia, hypocalcemia, and metabolic acidosis, particularly within the first four weeks of the diet. Hypomagnesemia is among the most common early-onset complications. Clinical manifestations might include dizziness, weakness, muscle cramps, tremors, neuromuscular irritability, and fatigue. Severe deficiency may lead to seizures and cardiac arrhythmias.

WHEN IDEOLOGY DICTATES SCIENCE POLICY

Modern-Day Lysenkoism at the U.S. Department of Health and Human Services

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The headline of an unsigned editorial in *The Lancet* assessing Secretary of Health and Human Services (HHS) Robert F. Kennedy, Jr.'s first year in office did not mince words: "1 Year of Failure." The editorial contrasted Kennedy's promises during his Senate confirmation hearings to promote transparency and "gold standard science" with his actions as the head of HHS: widespread layoffs, deletions of public health data sets, dismissals or wholesale replacements of scientific advisory panels, and tepid responses to pertussis and measles outbreaks. "The destruction that Kennedy has wrought in 1 year might take generations to repair," it concluded, "and there is little hope for U.S. health and science while he remains at the helm."¹

News reports have described the damage that Secretary Kennedy has wrought to the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and other scientific institutions that comprise the Department of HHS as unprecedented, which is true in the American context. However, there is an historic precedent for using ideology to dictate science policy and silence critics: Trofim Lysenko, a high-ranking official whose pseudoscientific

theories dominated Soviet agriculture from the mid-1930s to the 1960s.

LYSENKOISM IN THE SOVIET UNION

With only two years of formal grade school education, and despite not being able to read and write until age 13, Lysenko was an unlikely future agronomist who came of age during the Russian Revolution. Seeking to suppress political dissent after the Communist Party's violent seizure of power, Vladimir Lenin exiled more than 2,000 intellectuals, including scientists, and placed others under arrest. Party leaders sought suitable replacements from the working class — and Lysenko, the son of Ukrainian peasants, fit the profile.²

In the late 1920s, the USSR experienced widespread famines due to Joseph Stalin's policy of forced farm collectivization. Lysenko came to the attention of Communist leaders when he advanced a theory that treating soaked seeds at low temperatures ("vernalization") could change plant physiology and lead to abundant crop yields. Promising rapid results, he rejected Mendelian genetics as capitalist and "bourgeois" and instead posited that plants could inherit acquired



Trofim Lysenko (left) speaking at the Kremlin in 1935. He was a long-time favorite of Joseph Stalin (far right).

characteristics. Studies generally failed to support his theories, but Lysenko, who had only rudimentary statistical training, rose in the scientific hierarchy by making claims based on socialist ideology rather than verifiable knowledge: “He started with conclusions and cherry-picked the evidence, ignored contrary evidence to support it or made things up.”³

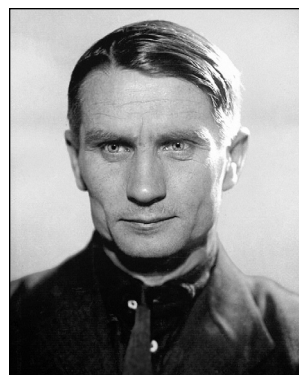
During the 1930s, dozens of prominent scientists who opposed Lysenko’s scientific arguments were targeted by political smear campaigns and were demoted, imprisoned, or executed. Nikolai Vavilov, an internationally renowned Russian plant geneticist who founded the first large-scale seed bank, was publicly denounced by Lysenko at several conferences, arrested in 1940 for “sabotage and espionage,” and starved to death in prison in 1943. It is worth noting that Vavilov and other politically persecuted scientists during this time period were posthumously “rehabilitated” decades later.

Although other biologists and agronomists were open to considering his ideas, by the mid-1940s much of the Soviet scientific community had turned against Lysenko’s totalitarian style, warning that suppression of genetic science in favor of unproven ideologically based theories was crippling Soviet agriculture. In response, Lysenko appealed to his patron, Stalin, for support. In July 1948, at Stalin’s request, the Politburo, the Communist Party’s executive governing body, passed a unanimous declaration that decisions based on genetics research should be prohibited in the Soviet Union.

At the August 1948 session of the Lenin All-Union Academy of Agricultural Science, Lysenko pushed through a similar decree that expressly forbade all genetic research and discussions of the subject. As a result, several thousand geneticists in the USSR were forced to recant their previous views under threat of dismissal from their positions and closure of their laboratories.⁴

How did Lysenko and his followers retain control of Soviet science for decades even though his theories had no empirical foundations? The historian Loren Graham observed:

The ideological fervor with which Lysenko surrounded his work, his constant declarations that he was transforming Soviet agriculture for the good of the Soviet state, meant that few people were willing to criticize his results; such criticism could easily be interpreted as a lack of enthusiasm for the goal of socialist agriculture. Lysenko frequently cast his critics in that light. This politi-



Trofim Lysenko



Sec. Robert F. Kennedy, Jr.



Sen. Bill Cassidy



Dr. Susan Monarez

cal atmosphere fostered the emergence of a circle of sycophants around Lysenko who enthusiastically claimed victory after victory for his methods.... He developed his various nostrums so rapidly that before the academic biologists could show that one was valueless or harmful, Lysenko was off announcing another technology.⁵

Eventually, despite Lysenko’s attempts to blame disappointing crop yields on peasant farmer recalcitrance or laziness — an ironic position, considering his origins — the failures of Soviet agriculture caused by abandoning genetics became too obvious for politicians to ignore. As the Soviet Union made strenuous efforts to catch up to and surpass the United States in scientific achievement after Stalin’s death in 1953, his successor, Nikita Khrushchev, relaxed censorship as part of a policy of de-Stalinization.

However, Lysenko continued to serve as an official agricultural advisor until Khrushchev’s removal from power in 1964. Lysenko’s scientific allies held prominent positions in agricultural higher education into the early 1980s.

LYSENKOISM AT HHS

Unlike nearly all of his predecessors, Kennedy is not a scientist, former governor, or veteran adminis-

trator. The scion of a political dynasty, he was an environmental lawyer, 2024 Presidential candidate, and longtime antivaccine activist. He founded Children's Health Defense, a group that blames vaccines for increasing diagnoses of autism and other chronic childhood conditions. As chairman of Children's Health Defense, Kennedy spoke out against measles, mumps, and rubella (MMR) vaccination in American Samoa, causing vaccination rates to plummet and fueling a measles outbreak in 2019 that resulted in 5,700 cases and 83 deaths, mostly among young children.⁶

In 2021, the Center for Countering Digital Hate named him one of the "Disinformation Dozen," a group of 12 individuals or groups responsible for 65% of antivaccine disinformation online. When baseball legend Hank Aaron died in January 2021, two weeks after receiving a COVID-19 vaccine, Kennedy issued

a statement insinuating that the vaccine had caused Aaron's death.⁷

Louisiana senator Bill Cassidy, a gastroenterologist who chaired the Senate Health, Education, Labor and Pensions (HELP) Committee, announced in February 2025 that he would cast a critical vote to confirm Kennedy as HHS Secretary in exchange for promises to protect access to and not sow public fear about vaccines, maintain recommendations from the CDC's Advisory Committee on Immunization Practices (ACIP), and not remove statements on the CDC's website pointing out that vaccines do not cause autism.

Once in office, Secretary Kennedy began breaking each of his promises to Cassidy. On February 14, 2025, he directed the CDC to "pull out of circulation all campaign ad buys related to the flu or anything encouraging shots or vaccinations"⁸ (see Fig. 1).

On May 27, 2025, he unilaterally removed COVID-19 vaccine recommendations for healthy children and pregnant women from the CDC's immunization schedules.⁹ On June 9, 2025, he replaced the entire ACIP with a smaller panel that included a single pediatrician, no family physicians, and several people affiliated with antivaccine groups.

Meeting three times in 2025, the reconstituted ACIP repeatedly disregarded its established processes for assessing evidence to make questionable recommendations on thimerosal, MMR-varicella vaccine, and hepatitis B vaccine.¹⁰ In early August, the CDC barred medical societies, including the American Academy of Pediatrics (AAP) and the American Academy of Family Physicians, from participating in ACIP work groups, asserting that these societies were "biased" because their members took care of patients.¹¹ Later that month, Kennedy fired Dr. Susan Monarez, his recently confirmed CDC director, for resisting changes to vaccine recommendations.

On November 19, 2025, the CDC's webpage on autism and vaccines was altered to add an asterisk to the Cassidy-required headline "Vaccines Do Not Cause Autism," while the remainder of the page presented a list of misleading and spurious claims that suggest that vaccines do, indeed, cause autism.¹²

On January 5, 2026, HHS changed the CDC's immunization schedule, making six vaccines – rotavirus, COVID-19, influenza, menin-



Fig. 1. One of the ads included in the CDC's "Wild to Mild" flu vaccine campaign that was pulled from circulation on February 14, 2025.

gococcal disease ACWY and B, hepatitis A, and hepatitis B – optional after “shared clinical decision-making”; these were previously recommended for all children. In response to a lawsuit led by the AAP, a federal court in Massachusetts subsequently issued an injunction that blocked HHS from implementing the new schedule (see box on next page).

Under Kennedy, the CDC and FDA forced their scientists to withdraw studies that had been accepted to medical journals showing that updated COVID-19 vaccines were effective and safe,¹³ and the NIH terminated dozens of active research grants on vaccine hesitancy and promotion of underutilized vaccines.¹⁴ Nearly half of public health databases maintained by the CDC that had been updated at least monthly prior to Kennedy’s arrival had unexplained pauses in 2025; 87% of those paused databases reported information about vaccinations, most commonly influenza, COVID-19, and respiratory syncytial virus.¹⁵ On December 30, 2025, the Centers for Medicare and Medicaid Services notified state health officials that at Kennedy’s discretion, pediatric and prenatal immunization rates had been removed from the Core Sets that measure health care performance.¹⁶

Several other long-established HHS advisory groups were dissolved or had their operations suspended in 2025, most notably the U.S. Preventive Services Task Force (USPSTF). When news surfaced in July that Kennedy was considering dissolving the USPSTF as he had the ACIP – reportedly for being “too woke” in its focus on equity in preventive services – hundreds of medical organizations rallied to its defense. Instead of dissolving the panel, Kennedy canceled each of its past four meetings, attributing one cancellation to the federal government shutdown but offering no explanation for the others. Further, he has not appointed replacements for the five members whose terms expired on January 1, 2026.¹⁷

Summing up current threats to the integrity of scientific advisory groups in Kennedy’s HHS, Robert Lawrence, MD, and Steven Woolf, MD, employed language similar to that used to describe Lysenko’s reign over Soviet science:

“The full consequences of Kennedy’s actions to cast doubt on the safety of childhood vaccines may not be known for years, though 2025 and 2026 have seen the highest numbers of U.S. measles cases in the past three decades.”

What is happening to scientific advisory groups under the current administration poses a larger threat to evidence-based policy and could easily return health care and public health practice in the United States to the conditions of the early 1980s.... Once again, practice recommendations are being made without comprehensive examination of all relevant evidence. Study findings are being accepted at face value without attention to design flaws. Data are being cherry-picked to conform with biases, beliefs, or ideology.¹⁸

CONSEQUENCES OF IDEOLOGY DICTATING SCIENCE POLICY

Ideology is a powerful tool for marginalizing or silencing scientific opponents, but it cannot feed people or protect them against infectious diseases. During the height of Lysenko’s influence in the 1940s, the Soviet Union was repeatedly threatened by famines and needed to import massive quantities of grain from the United States to sustain its population. The full consequences of Kennedy’s actions to cast doubt on the

safety of childhood vaccines may not be known for years, though 2025 and 2026 have seen the highest numbers of U.S. measles cases in the past three decades.

A recent modeling study projected future numbers of cases and complications of measles and other vaccine-

preventable infections in scenarios of stagnant or declining vaccination rates. At current state-level MMR vaccination rates, which are below the 95% threshold recommended to achieve adequate herd immunity, there is an 83% chance that measles will again become endemic in the United States, with 850,000 cases and 2,550 deaths expected during the next 25 years. If MMR vaccination rates were to fall by 10%, 11.1 million cases and at least 11,000 deaths would be expected during that timeframe.¹⁹

CONCLUSION

The actions of Secretary Kennedy during his first year at HHS have many troubling similarities to those actions taken by Trofim Lysenko on Soviet agriculture. Fortunately, the United States is not the former Soviet

Recommended Vaccines for Young Children

Compiled from CDC website, accessed June 29, 2026.



For Everyone

JULY 2, 2025 • ESPAÑOL

Pursuant to the preliminary order issued on March 16, 2026, in American Academy of Pediatrics et al. v. Kennedy et al., No. 1:25-cv-11916 (D. Mass.), which stayed all votes taken by the ACIP during its June, September and December 2025 meetings, and further stayed the Acting CDC Director's January 5, 2026 Decision Memo revising the CDC's childhood immunization schedule, the July 2, 2025 immunization schedule posted here are the current CDC Childhood Immunization Schedules by Age for Consumers.

Recommended Immunizations for Birth Through 6 Years Old, United States, 2025

Key



ALL children should be immunized at this age



SOME children should get this dose of vaccine or preventive antibody at this age



Parents/caregivers should talk to their health care provider to decide if this vaccine is right for their child

Vaccine or Preventive Antibody	Birth	1 Month	2 Months	4 Months	6 Months	7 Months	8 Months	12 Months	15 Months	18 Months	19 Months	20-23 Months	2-3 Years	4-6 Years
RSV antibody	Depends on mother's RSV vaccine status						Depends on child's health status							
Hepatitis B	Dose 1	Dose 2			Dose 3									
Rotavirus			Dose 1	Dose 2	Dose 3									
DTaP			Dose 1	Dose 2	Dose 3				Dose 4					Dose 5
Hib			Dose 1	Dose 2	Dose 3			Dose 4						
Pneumococcal			Dose 1	Dose 2	Dose 3			Dose 4						
Polio			Dose 1	Dose 2	Dose 3								Dose 4	
COVID-19														
Influenza/Flu					Every year. Two doses for some children									
MMR								Dose 1						Dose 2
Chickenpox								Dose 1						Dose 2
Hepatitis A								2 doses separated by 6 months						

Union. Although thousands have been dismissed from positions at federal agencies or have lost their research funding, U.S. scientists cannot be imprisoned by the state for producing politically inconvenient results and writing or speaking about them in public forums. As the AAP's lawsuit illustrates, there may be viable legal remedies to the worst of Kennedy's abuses of public health institutions.

Primary care clinicians have mostly chosen to disregard the CDC's modified vaccine schedules in favor

of evidence-based recommendations from the AAP that have been widely endorsed by major medical societies.^{20,21} Many states have acted to preserve access to vaccines that are no longer routinely recommended by HHS.²²

I encourage readers of this article to join their respective professional societies and state health departments in resisting attacks on national infectious disease and prevention guidelines to protect our patients and the public's health.

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Need more help with vaccine hesitancy?

Want to understand clinical recommendations better?



← Scan for practical talking points from two LG Health pediatricians.



← Scan to read the 2025 JLGH article on vaccine hesitancy with case example.

SAFE MOBILITY FOR LIFE

The Driving Edition

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Mercier



Hilal

In most areas of the country, driving is paramount for access to basic necessities, such as food and medical care, as well as independence and socialization. These are critical for health maintenance and quality of life. In fact, those who retire from driving are at risk for social isolation, depression, and functional decline.¹

Driving is a complex task requiring skills across many domains of function including vision, mobility, hearing, and cognition. These functions are likely to change as we age, in part due to the physiologic aging process. The number of older adult drivers — defined as adults above the age of 65 years — has increased by 24% over the past 10 years in Pennsylvania.

This is one of the only segments of the population that saw an increase in the number of fatal crashes from 2024 to 2025. Nationally, motor vehicle injuries are the leading cause of injury-related deaths in older adults aged 65 to 74 years and the second leading cause in patients aged 75 to 84 years.²

There are many challenging aspects when evaluating older adult driving safety in the context of a time-limited outpatient appointment. Primary care clinicians are well poised to help older adults maintain driving safety and/or plan for driving retirement due to their longitudinal relationships with their patients.

Clinicians must recognize warning signs to prompt a thorough assessment of risk and how urgently evaluations should take place. To make this possible, clinicians should use validated tools that predict driving safety while maintaining therapeutic rapport.

Given that driving is a link to community and fosters independence, clinicians must carefully consider driving cessation, balancing benefit to the individual with risk to self and others. This article aims to review objective tools that are predictive of poor driving safety. These tools may improve identification of drivers who are at risk for serious driving-related events and increase driving safety while helping drivers transition to driving retirement.

SCREENING

While there are no specific guidelines to recommend screening for driving safety, we can normalize the conversation by suggesting annual screening. This can allow for routine review of warning signs for unsafe driving and help patients plan for driving retirement.

Screening patients for driving preparedness can also cue the patient to look into their auto insurance policy to ensure they are paying for the appropriate coverage. Further, Mature Driver Improvement courses are available through the Pennsylvania Department of Transportation (PennDOT) for people aged 55 years and older; patients may be eligible for a 5% discount on vehicle insurance once the course is completed. These courses may require a small fee, and a refresher course must be completed every three years to maintain the discount.

The American Geriatric Society (AGS) recommends a brief outpatient screening tool — the “4 Cs” — for assessing and counseling the older adult driver; portions of the tool can be completed prior to the office visit. This tool uses direct observation and clinical history to determine driving safety concerns. It evaluates four domains that reliably predict crash risk, including: Crash history, family Concerns, Clinical status, and Cognition. Overall, a score of 9 or more points has been shown to identify 84% of participants who are at risk for poor road test performance³ (see Table 1 on page 75).

A positive screening test with the 4Cs should prompt clinicians to conduct a comprehensive evaluation to identify and correct reversible factors for driving safety. Other triggers to prompt driving evaluation are evidence of cognitive impairment, change in health condition, or decline in functional status.

Behavioral modifications or self-regulation while driving — such as avoiding night or winter driving, driving to familiar places, and/or avoiding busy highways — can be early signs of driving safety concerns. In fact, those who have reduced their mileage are at

an increased risk for crashes.⁴ PennDOT maintains a list of medical conditions that require reporting, which are detailed later in this article.

Many adults assume they will continue driving in perpetuity; recommending that patients complete a driver safety evaluation can come as a surprise. People who are questioned regarding their capacity to drive may become emotional or defensive; they may feel mistrusted, as if they have failed in some way or as if questioning suggests they will be punished. Normalizing the conversation, using objective tools, engaging family and friends, validating emotions, and planning for transitions can preserve dignity and help maintain the therapeutic relationship during this process.

CLINICAL ASSESSMENT

Once risk factors have been identified, further evaluation can be incorporated into a clinic visit using a standardized clinical framework. Clinical Assessment of Driving Related Skills (CADReS) is a comprehensive tool to categorize driving safety deficits and can be tailored to an individual patient.⁵ The tool considers general assessment, vision, cognition, and motor/sensory deficits. Some of these questions may be redundant if the 4Cs screening has been completed.

For the general assessment, clinicians should establish a patient's baseline functional status, including all activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Difficulty with two or more IADLs is a strong predictor of poor driving safety.⁶ If the 4Cs screening has not been completed, it is important to obtain a thorough driving history.

Reviewing recent medication changes, as well as currently prescribed and over-the-counter medications, can help clinicians identify Potentially Inappropriate Medications (PIMs), as defined by the 2023 AGS Beers Criteria.⁷ Older adults are more susceptible to medication side effects because pharmacokinetics change with age. Finding ways to decrease the use of PIMs — including medications that can be sedating and those with high anticholinergic burden — can help preserve the domains of function necessary for safe driving. Some helpful resources to identify PIMs and guide deprescribing include online anticholinergic calculators such as [acbcalc.com](https://www.acbcalc.com), and online deprescribing websites such as [deprescribing.org](https://www.deprescribing.org) and [medstopper.com](https://www.medstopper.com).

Vision can be more difficult to assess in the outpatient setting, and partnering with a local ophthalmologist can be valuable if there are underlying comor-

bidities or concerns for significant visual impairment. Visual evaluation should include acuity testing via the Snellen chart, confrontation testing and examination of visual fields, as well as evaluating contrast with a Pelli Robson chart.

Per Pennsylvania regulations, visual acuity should be at least 20/40 to maintain safe driving. Patients can still drive in daylight hours as long as their combined vision is 20/60 or better. Vision of 20/100 or worse should be evaluated by an ophthalmologist before a patient can obtain a restricted driver's license.

Memory changes should prompt evaluation for driving risk. Objective cognitive assessment via the St. Louis University Mental Status (SLUMS) examination or the Montreal Cognitive Assessment (MoCA) test should be completed annually for those with cognitive concerns to trend strengths and weaknesses across multiple cognitive domains. Deficits in the visuospatial cognitive domain — often evaluated with trailmaking B and clock drawing tests — are the highest predictors of driving capabilities and should be used to inform driving cessation.⁸

There is no definitive cut-off score on a SLUMS exam or a MoCA test to automatically revoke a license. Further evaluation should be completed if a patient scores 18 or less on a MoCA test, especially if deficits are noted in the visuospatial or executive function domain.⁹ A diagnosis of mild cognitive impairment or early dementia doesn't automatically imply driving risk. In fact, a recent study found that 76% of people with mild dementia were found fit to drive.¹⁰

However, interval cognitive testing and driving history every six months to a year is appropriate to monitor for changes that impact the ability to drive. For more complex cases of memory loss, a referral to local specialists — such as LG Health Physicians Alzheimer's and Memory Care or LG Health Physicians Geriatrics — may help provide appropriate guidance.

Finally, a thorough motor and sensory evaluation can help identify areas that may make driving more difficult. This could include Timed Up and Go (TUG) testing, proprioceptive testing, evaluation of gait abnormalities, and assessment of upper and lower extremity range of motion and strength, especially feet, arms, and neck. A 13.5-second or longer TUG indicates an increased risk of fall and/or mobility impairment.¹¹

ANALYSIS AND INTERVENTION

CADReS can be time consuming. If an at-risk driver is identified after completing a medication review

Table 1. The 4Cs Screening Tool

Points	Crash/Citation (past two years)	Concern (Family Report)	Clinical Status (Medical History)	Cognition (Family Report and Clinical Impression)
0	No crashes/ citations.	No driving concerns.	Overall good health.	Intact cognition.
1	One or more fender benders.	Mild concerns; family has talked with patient about driving safety.	Medical condition/mild impact on vision, attention, motor (e.g., frailty, arthritis, neuropathy).	Mild cognitive decline/ intact daily function.
2	Citation for dangerous violation.	Moderate concerns: family restricts patient from driving with passengers.	Medical issues/moderate impact on vision, attention, motor (e.g., stroke, early stage Alzheimer's disease, Parkinson's disease, multiple sclerosis).	Moderate cognitive decline/ decline in daily functions.
3	Crash or crashes.	Extreme concerns: family wants patient to stop driving.	Medical issues/severe impact on vision, attention, motor (e.g., advanced Alzheimer's disease, Parkinson's disease, multiple sclerosis).	Severe cognitive decline/ dependence on others for daily functions.

Scores of 2 or more should prompt further assessment.

and functional assessment, it is appropriate to collaborate with local occupational therapists (OTs) for an Advanced Life Skills Assessment (ALSA). Furthermore, OTs can provide additional objective driving safety evaluations to complement or augment clinician assessments. At Lancaster General Hospital (LGH), OTs perform a comprehensive assessment including, but not limited to:

- Falls-risk assessment.
- Cognitive assessment with the MoCA.
- Basic symbolic language assessment, for which patients may be asked to identify and respond to 10 traffic signs.
- A motor visual association test, including a visual memory test, an evaluation of processing length of time, and an eye-foot reaction.
- Visual acuity and visual field testing.

Clinical recommendations are made based on the aggregate assessment score and specific performance on these assessments. Recommendations can range from retirement from driving to a behind-the-wheel assessment, suggestions to optimize medical comorbidities/sensory domains, or a clearance to drive.

In the Lancaster area, some private companies offer out-of-pocket behind-the-wheel driving assessments. Not all driving centers will allow for the use of a personal vehicle, and most incur a fee to complete the evaluation. Once a behind-the-wheel examination is completed and a patient is found to be fit to drive,

reassessment at routine intervals, as noted above, is important.

Specialists in audiology or ophthalmology may help to optimize hearing and vision, specialists in mental health care may assist with managing otherwise inadequately treated depression, and primary care clinicians may need to help stabilize medical comorbidities.

Occasionally, patients can be referred for further therapy to work on reversible deficits that may otherwise impair their ability to drive safely. Additionally, if motor performance is compromised, a referral to a vehicle adaptation center can make the car more functional. Adaptations may entail adding a handle mechanism to help with transfers, a leg lifter, or hand controls, among other upgrades. These can come at a cost but may be worthwhile to help individuals remain independent and connected to the community.

Typically, all these recommendations will be communicated to the referring clinician, who has the ultimate responsibility for reevaluation and next steps, including reporting to PennDOT as indicated. If no driving deficits are identified, the patient should be designated fit to drive.

Continued conversations about potential driving retirement, as well as annual screens for driving fitness, should remain a part of routine health care maintenance. See "Reporting to PennDOT" on the next page for specifics on mandatory reporting based on medical comorbidities.

LIFE AFTER DRIVING CESSATION

Even if the clinician requests that the patient stop driving, it is important to help each patient retain as much independence as possible. Patients may still want a photo identification and can obtain their Pennsylvania State ID free of charge at the Department of Motor Vehicles (DMV); the application can be completed online. To help maintain access to the Lancaster community, patients can leverage the services of the Ambulatory Collaborative Care Team or social work team to create a plan that prioritizes transportation to places a patient goes, e.g., place of worship, grocery stores, pharmacies, and doctors' offices.

REPORTING TO PENNDOT

As mandated by Pennsylvania law, clinicians are required to report health conditions that impact driving safety. PennDOT now has an online portal to make reports utilizing their General Medical Initial Reporting

Form.¹² The form offers multiple options, including the suggestion that further driving evaluation is required.

It is worth noting that making that suggestion does not necessarily imply the patient must immediately cease driving. PennDOT has made available a list of medical comorbidities that, if unmanaged, would require immediate cessation of driving. Table 2 provides a general summary of PennDOT's Medical Criteria and Chapter 83/71 regulations pages.

Reporting is confidential, though clinicians should inform their patients of the process to help them understand and cope with next steps (see Fig. 1). Once a report is made, PennDOT will often request more information about the patient's health from their primary care clinician.

It is not uncommon for PennDOT to also order their own driver's test. If a clinician has indicated that a patient must immediately cease driving, the patient will be notified by PennDOT with a letter in the mail.

Fig. 1. Medical Reporting and PennDOT Review Process.¹³

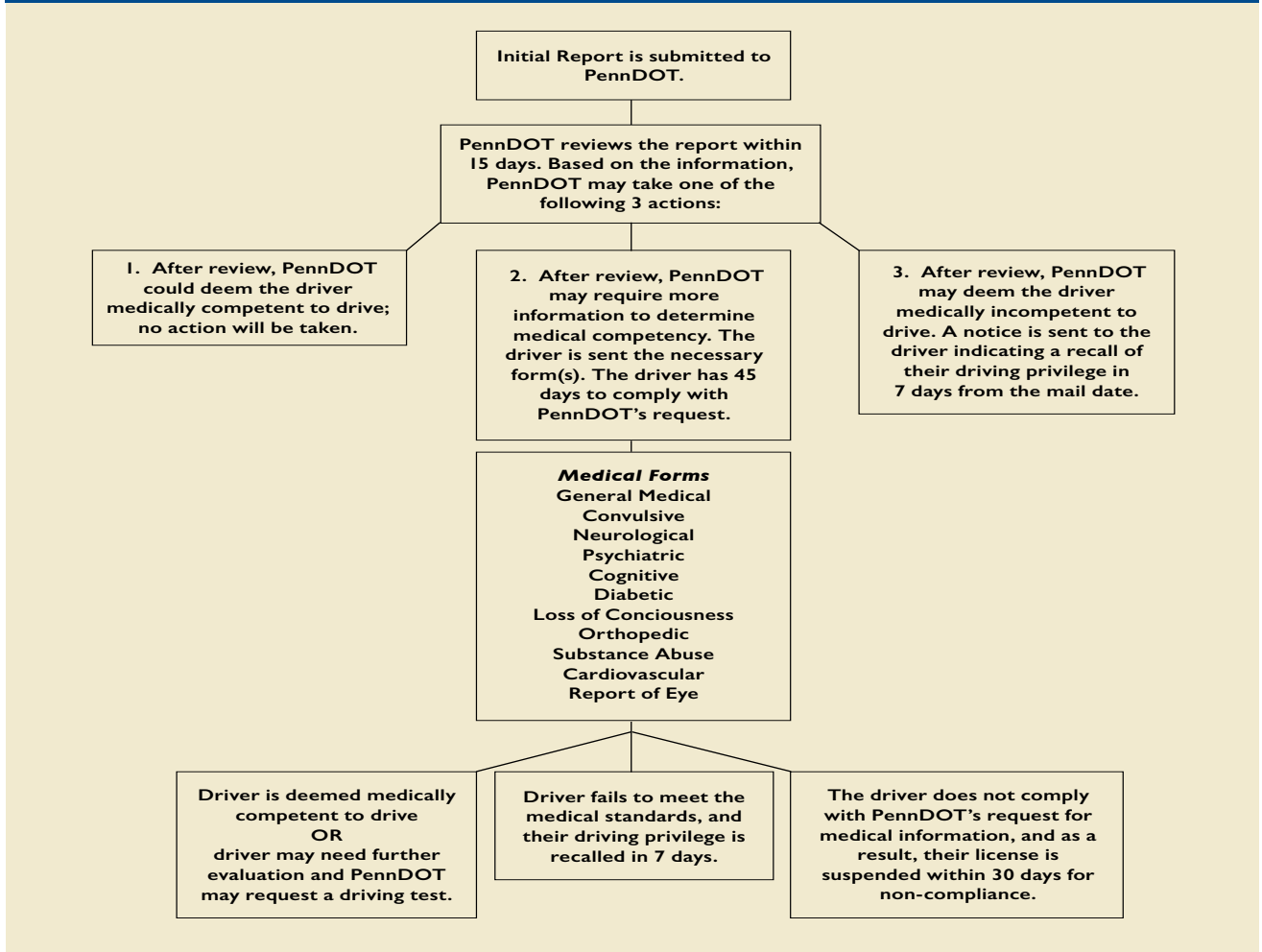


Table 2. Pennsylvania Medical Reporting: Conditions, Forms, and License Impact for Older Drivers

Medical Diagnosis	Reporting Form	Basic Restriction Criteria	Reinstating Timeline
General Initial Reporting Form	DL-13	Initial reporting form used when a provider doesn't have the patient's full history or isn't sure which specific form applies.	No discrete timeline.
Cardiovascular disease, cerebrovascular insufficiency, or neurologic conditions	DL-120 DL-124	Disqualifying if, in the past 6 months, the condition has caused syncope, loss of consciousness, vertigo, paralysis, or loss of visual fields. Can also recommend recall for symptoms like confusion, lack of coordination, or dyspnea with mild activity.	6-month symptom-free window.
Cognitive impairment	DL-131	Provider may disqualify someone whose condition causes decreased safety awareness, inattentiveness, hallucinations, delusions, suicidal ideation, or excessive aggression that creates a danger while driving.	No discrete timeline.
Diabetes mellitus	DL-122	Unstable diabetes causing severe low or high blood sugar episodes disqualifies a driver unless they've had 6 continuous symptom-free months. <i>PennDOT does not give guidance on absolute HbA1c or BG values.</i>	HbA1c and vision screening at 6, 12, 24, and 48 months after restoration. A waiver may apply if the episode happened under medical supervision or during a temporary illness with preceding 6 months free from symptomatic hypoglycemia or hyperglycemia.
Loss of consciousness or awareness (unknown cause)	DL-129	Disqualifying if episodes are of unknown cause, unless the person has gone a full year without an episode.	12 months symptom-free.
Orthopedic/musculoskeletal conditions	DL-126	Functional defect as a result of a loss or impairment of a joint or limb, or a muscular/vascular/neuromuscular condition, is disqualifying if it has lasted (or is expected to last) more than 90 days.	No discrete timeline.
Psychiatric condition	DL-104	Disqualifying if a mental disorder causes inattentiveness, hallucinations/delusions, suicidal ideation, or dangerous aggression.	No discrete timeline.
Seizure disorder/epilepsy	DL-121	Disqualifying unless a clinician confirms the person has been seizure-free for at least 3 months (auras alone don't count against this). An added 3-month restriction may apply if the clinician believes the risk of impairment extends longer.	Minimum 3 months seizure-free; possible extension to 6 months. Waivers exist for strictly nocturnal seizure patterns, seizures tied to a documented medication change, or seizures during a one-time illness. Each requires at least 2 years of established history.
Substance use (including alcohol)	DL-128	Disqualifying if use of a drug or substance (prescribed or not) is likely to impair safe driving ability.	No discrete timeline.
Vision deficiencies	DL-102	Must meet the minimum vision standards set in state regulations. Some include combined field of vision at least 120 degrees in the horizontal meridian and passing visual acuity testing guidelines (see Chapter 83 of PA Code). One-eyed drivers can qualify, but license is restricted to vehicles with mirrors positioned to show at least 200 feet of road behind them.	No discrete timeline.
Other conditions affecting safe driving (catch-all)	DL-123	Disqualifying if a clinician believes any condition not otherwise categorized is likely to impair safe driving.	No discrete timeline.

It can be helpful to discuss that PennDOT will make the final determination about whether a license is recalled or restricted. It is not uncommon for patients to transfer practices or develop symptoms consistent with depression after a license has been revoked; therefore, routine mental health screening remains important during this period.

Completion of the ALSA or behind-the-wheel exam may be difficult; it may be important to identify and address barriers to completion, such as lack of transportation to the testing center or not being able to pay the cost of testing. If no barriers are found and the evaluation has not been completed in a timely

manner despite clinician concern for driving safety, a PennDOT report should be completed.

CONCLUSION

It is important to help patients maintain safe mobility as they age. Integrating routine driving safety screening and evaluation into clinical workflow using tools such as the 4Cs and CADReS provides a framework to achieve this. Maintaining therapeutic rapport, understanding local resources and reporting laws, and planning for life after driving cessation can help with the conversation and ease this challenging transition.

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STUDENT ABSENTEEISM

How Health Care Providers Can Partner with Schools

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School absences are often more than a missed day of learning. By the time students get to middle school, it is very difficult to replace the time missed in the elementary learning environment. Chronic absenteeism has been linked to academic struggles, social-emotional issues, and long-term health disparities.¹ The causes of chronic absenteeism are often multifactorial and can include child-specific issues including chronic illness, parenting-specific challenges including economic barriers, and school-specific challenges including a lack of perceived protections. The School Refusal Assessment Scale – Revised, as well as screening tools to identify social barriers to health, may help the family and care team identify what needs to be addressed.

With regard to chronic illness, there should be clear expectations about school attendance and collaboration on the part of the health care team and family with school personnel. Cognitive behavioral therapy is often as helpful as pharmacotherapy to treat anxiety. Regarding school-specific challenges, clinicians should assess for bullying at school and whether there are any other potential safety concerns. Bright Futures questionnaires and an inventory of the home and environment, education and employment, eating and exercise, activities, drugs/substances, sexuality, suicide/depression, safety – otherwise known as the HEEDSSS psychosocial inventory – can be useful screening tools. Health care clinicians are in a unique position to identify patterns, support families, and collaborate with schools to reduce student absences, particularly those driven by chronic illness and/or family challenges.

CASE EXAMPLE

A 14-year-old female with a history of migraine headaches, anxiety, and depression presents to the

primary care office in early November because she has an upper respiratory infection without fever and headache. She has missed the last few days of school, and her mother asks for a medical excuse for the days missed. The school has been requesting a medical excuse for every absence. The mother indicates that her daughter has missed eight days of school so far this year for various reasons.

This patient was recently referred to a headache program; her appointment is in a few weeks. She received counseling for anxiety in the past but indicates it was not helpful. She is otherwise healthy. Her parents are divorced and share custody. She is in ninth grade and used to play soccer but no longer participates in any extracurricular activities.

Regarding her history of headaches, the patient reports she experiences about one per week and describes migraine features but denies they cause vomiting. Headaches usually occur later in the day and are often relieved by rest or ibuprofen; however, she indicates the headaches are getting worse and interfere with her ability to accomplish activities. About half of her absences this school year have been headache-related.

Both the mother and patient indicate that the patient's anxiety seems to be the most prominent and troublesome symptom for her. She has a difficult time sleeping at night because her mind is filled with thoughts, and she subsequently oversleeps, resulting in being late for school or staying home. Her mother has tried to awaken the patient and take her to school. When she is with her father, however, she is allowed to sleep in and seems to miss more school days while in his care.

The patient indicates that she does not enjoy school very much but is interested in attending college.

The mother indicates that her daughter endured bullying in sixth grade, but it has stopped. The individuals who did the bullying remain at the same school and in her grade. Most of the office visit is spent discussing her school attendance and anxiety.

Along with supportive care regarding her upper respiratory symptoms, she is provided a referral to counseling for the anxiety. She is encouraged to keep the appointment with the headache program. Detailed school excuses are given for the recent missed days of school, indicating she could return to school tomorrow without restrictions. The primary care clinician has the mother sign a consent form allowing communication with the school while providing the family with information about the link between school absenteeism, school performance, and future wellness.



The mother is given helpful information, including a link to family education materials regarding absences (scan QR code at left).

EPIDEMIOLOGY AND DEFINITIONS

Chronic absenteeism is defined as missing 10% or more of school days, regardless of reason, whereas truancy refers to willful absenteeism for which an absence is unexcused^{2,3} (see Fig. 1).

A subset of chronically absent students is absent due to symptoms of anxiety, resulting in significant difficulty functioning relative to their given developmental level.⁴ These students may be referred to as experiencing “school refusal” or “school avoidance” and may require different interventions than students who are truant.

Regardless of reason for absences, utilizing a 10% absences threshold can allow for identification and intervention for students with poor attendance.³ Attendance habits established in September appear to persist over the whole year.⁵ Students who in September missed fewer than two days continue to average fewer than two days absent each month over the year.⁵

Federal data show a chronic absenteeism rate of 28% during the 2022-2023 school year, a significant change from the rate of 14.8% recorded during the 2018-2019 school year.⁶ Nationally, rates for males and females are similar, although the reasons for being absent may differ.⁶ In Pennsylvania, compulsory school attendance laws require children aged 6-18 years to attend school regularly.⁷

Being truant is defined as three or more unexcused absences, while six or more unexcused absences is designated as “habitually truant.”⁷ Schools must notify

parents in writing after three unexcused absences, and a school attendance improvement plan meeting is required for students with habitual truancy. Illness, family emergencies, funerals, and religious observances are valid reasons and can account for excused absences. A clinician’s note may be required after multiple illness-related absences.⁷

THE NEGATIVE IMPACT OF CHRONIC ABSENTEEISM

School attendance issues have been shown to be related to long- and short-term negative outcomes.⁸ School absenteeism can affect student performances in the short term which can influence social, economic, and health outcomes in the long term.⁹ These negative outcomes are noted regardless of whether the absences are excused or unexcused.²

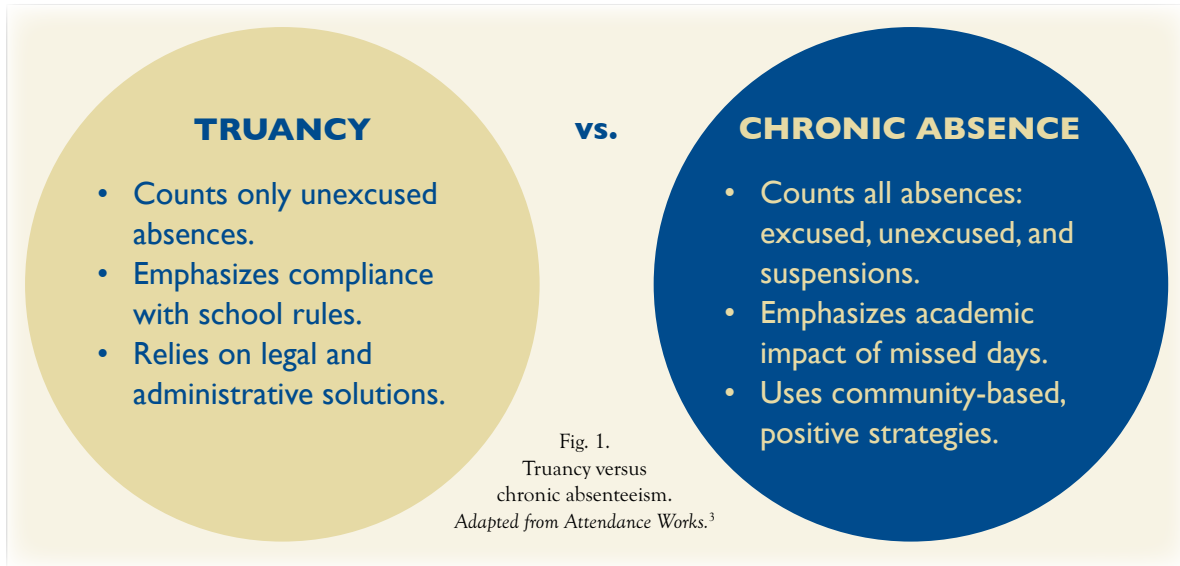
Children and adolescents who frequently miss school for any reason are at risk for future chronic absenteeism, grade retention, and low academic achievement, particularly in the domains of social skills development and reading.^{10,11} Chronic absenteeism can be a better predictor of school failure than test scores.² Students with high test scores who miss at least two weeks of school during the semester are more likely to have failing grades than students with low test scores who regularly attend school.¹² Chronic absenteeism correlates with a risk of dropping out of school.¹³

Students with frequent school absences are at increased risk of engaging in health-risk behaviors, such as using tobacco, alcohol, and other drugs, as well as engaging in risky sexual behaviors.¹⁴ Suicide attempts, unintentional injury, and violence are all associated with chronic absenteeism,¹⁵ as is teenage pregnancy, which is the leading cause of school dropout for adolescent females.¹⁶ Students with chronic absenteeism are also more likely to engage in criminal behavior.¹⁷

CAUSES OF SCHOOL ABSENTEEISM

The reasons students are absent from school can be divided into three broad categories, but school absenteeism is often multifactorial^{18,19}:

1. Students may have illness, family responsibilities, housing instability, the need to work, or involvement with the juvenile justice system.
2. The environment may present the student with risks associated with bullying, unsafe conditions, harassment, and embarrassment.
3. The students and/or their parents may not see the value of school, may have something else they would rather do, or may harbor the belief that nothing can stop them from skipping school.



An instrument such as the School Refusal Assessment Scale – Revised, which includes both parent and child rating forms, can assist with determining why a student may be staying home from school.²⁰ Screening for social determinants of health with tools such as the Accountable Health Communities Health-Related Social Needs Screening Tool may help identify barriers. Interventions should then focus on those reasons that have been identified.

Health Conditions and Social Challenges

Occasional absences related to health conditions, such as a viral infection, can be expected, but absences due to chronic health conditions can quickly add up.² For a student with a chronic health condition that is not adequately managed, the risks of developing chronic absenteeism increase.

Behavioral Health Disorders

School absenteeism has been associated with behavioral health disorders.²¹ Absences due to anxiety may be increased by one or more of the following^{18,19,21,22}:

A desire to avoid stimuli that provoke a negative affect.

A need to escape aversive social or evaluative conditions.

A hope to pursue attention from important caregivers.

An obligation to pursue tangible reinforcement outside of the school setting.

Yet missing school may exacerbate anxiety. When schoolwork is missed and overdue responsibilities mount, students may become overwhelmed and feel unable to catch up, further fueling anxiety and school avoidance.

Conduct disorders and depressive symptoms can lead to frequent school absences, and frequent absences can also lead to conduct disorders and depressive symptoms.²³ Additionally, students may feel unsafe, either because they are bullied or have a history of being bullied, or may identify with a socially vulnerable group.¹⁸

Parenting and Family Challenges

Parenting problems, including parental depression, are associated with an increase in school absences in their children.²⁴ Family discord, including witnessing domestic violence, can also lead to increased school absenteeism.²⁵ Students living in poverty as compared to those from higher-income families are more likely to be absent from school,²⁶ and unstable housing and transportation challenges can lead to reduced school attendance.²⁷ Again, it may be worthwhile for the primary care team to explore social barriers that can exacerbate attendance problems. Screening tools for the social determinants of health may help identify opportunities for interventions. The Accountable Health Communities Health-Related Social Needs Screening Tool is one of many validated tools to help clinicians assess such barriers.

SCHOOL INTERVENTIONS TO IMPROVE ATTENDANCE

School-based interventions to improve attendance can be most effective when they are organized within

a tiered framework and adapted to the specific needs of each student, family, and school. One widely used framework is the Multi-Tiered Systems of Support (MTSS), which integrates academic, behavioral, and social-emotional supports to promote student success (see Fig. 2).²⁸ The MTSS framework has several essential components: screening, progress-monitoring, multi-level prevention and intervention systems, and data-based decision-making.

Tier 1

At the Tier 1 level, schools typically focus on universal practices to help all students maximize daily attendance. This includes clear school-wide expectations, consistent routines, and instruction that encourages students to come to school regularly.

Tier 1 supports aim to prevent attendance problems before they develop by creating a welcoming environment where students feel connected and motivated to attend school regularly. Tier 1 interventions are meant to raise awareness regarding the positive outcomes attendance has on academic achievement and student well-being.²⁹

Family and community engagement are also key components, so schools should provide regular communication, culturally responsive outreach, and accessible resources to support attendance.

When many students experience high levels of chronic absence, it often signals a need for a stronger investment in

Tier 1 supports. This could mean the school needs to evaluate any barriers that could limit these aspects.

Tier 2

Tier 2 interventions are designed for students who begin to show patterns of absenteeism – those students who have missed between 10% to 19% of school days – and often involve more targeted support, including regular check-ins with a trusted adult, small-group mentoring, or increased communication directed toward the families to identify and reduce barriers to attendance.

Common Tier 2 support includes regular check-ins with a trusted adult to build accountability and connection. As patterns often continue, it is suggested to provide Tier 2 support to students who missed 10% or more of school from the previous year in the beginning of the year to promote proactive measures for the upcoming school year.

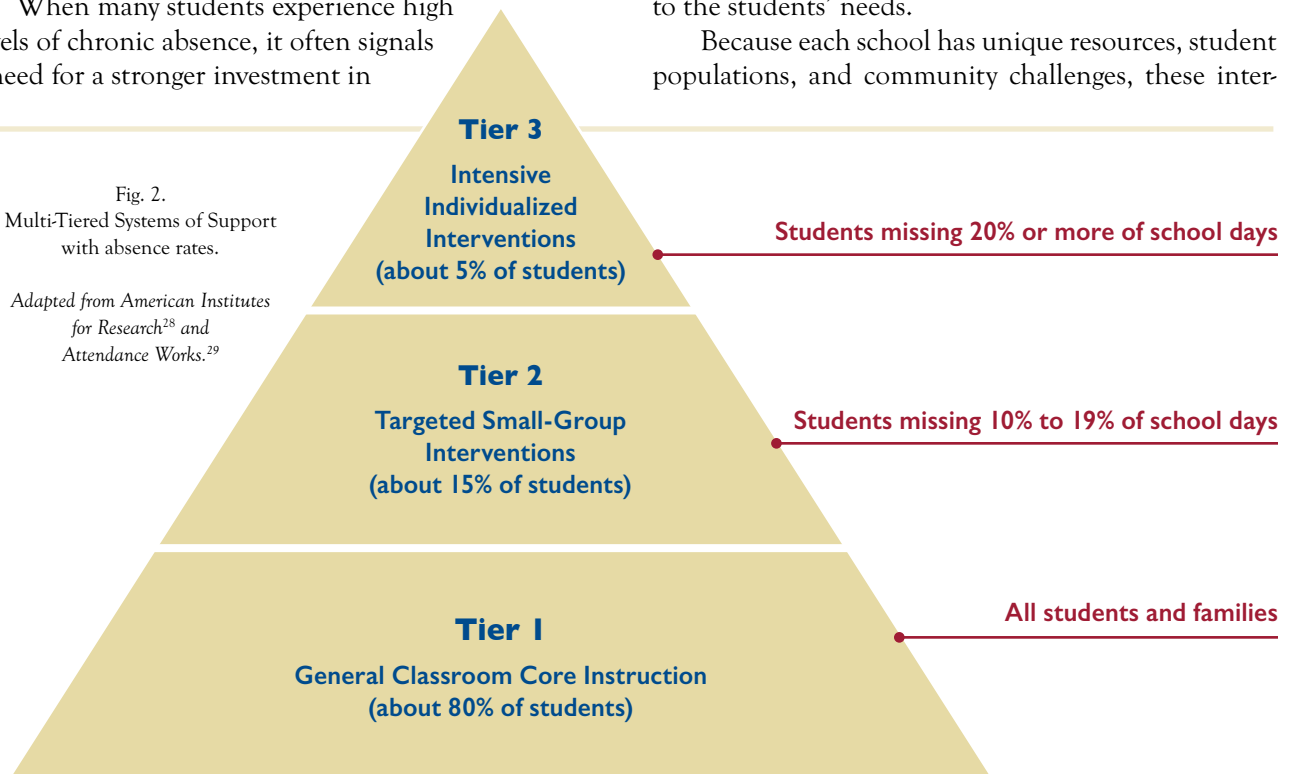
Tier 3

Tier 3 interventions provide individualized and intensive support for students with chronic or severe attendance concerns, which equates to an absence rate of 20% or more. This may include personalized attendance plans, as well as collaboration with community agencies, counseling services, or other support tailored to the students' needs.

Because each school has unique resources, student populations, and community challenges, these inter-

Fig. 2.
Multi-Tiered Systems of Support
with absence rates.

Adapted from American Institutes
for Research²⁸ and
Attendance Works.²⁹



ventions can look different from one setting to another. Tier 3 supports aim to re-engage students who are substantially disconnected from school.²⁹

OFFICE-BASED RECOMMENDATIONS

In its policy statement, “The Link Between School Attendance and Good Health,” the American Academy of Pediatrics provides recommendations for office-based interventions addressing school attendance.² For all patients, clinicians should:

- Routinely ask at preventive care visits and sick visits about the number of absences a student has experienced.
- Educate parents and patients about the effects of school absences on school performance and future wellness.
- Support parents in addressing barriers to attendance.
- Ask families of children with chronic health issues, such as asthma, allergies, migraines, and seizures, if they have an action plan at school.
- Assist families in documenting and interpreting their children’s medical needs or disability for an Individualized Education Program or 504 plan.
- Provide firm guidance regarding when a child should stay home if sick and how to avoid absences due to minor illness or anxiety.
- Routinely ask whether patients have experienced out-of-school suspension or expulsion so they may assist patients and families who are affected by these.

For patients that are missing two or three days of school per month, clinicians should:

- Prevent, identify, and treat physical and mental health conditions that are contributing to school absences.
- When possible, identify psychosocial risk factors and health factors among a patient’s caregivers that may be contributing to the patient’s school absenteeism, and refer the caregiver to appropriate resources in the community.
- Avoid writing excuses for school absences when the absence was not appropriate, and avoid backdating to justify absences.
- Strongly encourage patients who are well enough to attend school to return to school immediately after their medical appointments, so they do not miss the entire day.
- Avoid contributing to school absences. Consider offering extended office hours and encouraging

families to make preventive care and follow-up appointments for times outside of regular school hours.

- After parental consent, communicate and collaborate with school professionals and community partners to manage the health conditions of patients with chronic absenteeism.
- Encourage parents of students with excessive absences to try arranging a formal school team meeting to discuss how the school and family can collaborate.

For patients that are missing four or more days of school per month (approximately 15% of total school time), clinicians should:

- Encourage the school or district to provide services such as intensive case management and mentorship.
- Communicate and collaborate with professionals providing support services in school, and serve as a patient’s advocate and medical expert.

COGNITIVE BEHAVIORAL THERAPY

Many children struggling with school absenteeism have unhelpful thoughts. These negative thoughts often lead to missed days of school. For example, children with chronic migraine might worry about getting a headache while at school, or those that have been bullied in the past may feel unsafe at school. For those that struggle, cognitive behavioral therapy (CBT) may help. It is the most extensively studied and widely implemented evidence-based approach for addressing school absenteeism and plays a role in well-established programs such as *When Children Refuse School*.^{30,31}

CBT targets absenteeism by helping students identify and reframe unhelpful thoughts, build strategies for managing anxiety, and gradually re-engage in school settings through exposure therapy. The purpose is to interrupt patterns of avoidance and build skills for managing emotions and situations related to school. Assessing the underlying factors in anxiety-based school avoidance is key to treatment planning.³²

The efficacy of CBT-based approaches is supported by multiple systematic reviews. Two reviews of primarily CBT-based interventions targeting school refusal and truancy demonstrated improved school attendance.^{20,33} More recently, a systematic review of interventions to reduce school attendance problems identified 29 programs with evidence of effectiveness, 23 of which were CBT based.³⁴

A defining feature of successful CBT-based interventions is coordinated care across the student's social ecology, particularly between home and school.³⁵ Communication between treating clinicians, school personnel, mental health providers, and the family is key to addressing antecedent conditions; scaffolding school experiences so that exposure is gradual can provide opportunities to celebrate treatment success.

PREVENTION

There is some evidence that simply letting parents know that attendance is tied to academic success can help reduce absences.¹⁸ For example, some kindergartens have improved attendance rates by sending families postcards that highlight this connection and show the number of days each child has already missed.³⁶

Clinicians can reinforce the message of attendance and academic success in small but meaningful ways. Materials in the waiting room or conversations during pre-K well-child visits can help parents understand early on that consistent school attendance improves long-term academic outcomes.

There's also strong evidence supporting early childhood programs. A longitudinal study following more than 14,000 children found that, even after accounting for socioeconomic factors, kids who attended center-based pre-K — that is, programs that are not based in a private home — were less likely to be chronically absent the next year.³⁷ Pre-K gives families a chance to ease into school routines and expectations, which can pay off later.

Clinicians can encourage families, especially those with risk factors for chronic absenteeism, to consider center-based preschool. These programs don't just support attendance; they also help identify developmental or behavioral concerns early, before they contribute to future absenteeism.³⁸

SOCIAL WORK AND FAMILY SUPPORT

Social work interventions with children and caregivers focus on building skills in emotional regulation, coping, communication, problem-solving, and safe discipline. The goals are aimed at improving child well-being, strengthening family relationships, enhancing safety, reducing conflict, and promoting stable and secure home environments.³⁹

Social workers can help students, families, and school staff identify and address barriers. They can help students face challenging mental health concerns, medical concerns, or family problems, providing interventions to support academic and social success.³⁹

Social workers also use a range of strategies, including advocacy, counseling, collaboration with community resources, school accommodations, team meetings, gradual re-entry plans, personalized attendance plans, and referrals to educational advocates — the most commonly used are the Parent Education and Advocacy Leadership Center and the Statewide Parent Advocacy Network.³⁹

Early intervention helps prevent long-term negative outcomes, keeps students academically on track, and promotes overall well-being.

A treatment strategy sometimes used by social workers and therapists to support families is Alternatives for Families: A Cognitive Behavioral Therapy. This trauma-informed, evidence-based family treatment supports children aged 5-17 years and their caregivers who have experienced family conflict, coercive parenting, physical discipline, abuse, or related behavior problems. It focuses on improving caregiver-child relationships, reducing the effects of trauma including post-traumatic stress disorder, and lowering the risk of ongoing conflict or aggression.⁴⁰

CASE DISCUSSION

Regarding the patient presented earlier who is missing three to four days of school per month, her absenteeism necessitates a Tier 2 level of intervention. Without intervention, this pattern of absenteeism will most likely continue.

The primary care physician has already started some treatment strategies that should help. The patient has an appointment with the headache program to assist with headache treatment, and a referral has been made for counseling. A detailed note is provided with the expectation that she can return to school the following day without restrictions. The office also obtains consent from the mother for the office to be able to communicate with the school.

The mother indicates a note will be needed for any absences in the future, evidence that the school has started to intervene as well. The school counselor is now meeting with the student on a regular basis to implement self-regulation strategies at school.

At the appointment with the headache program, an extensive assessment of school absenteeism is conducted. Additional treatments are starting to control the headaches, and a school treatment plan is put in place to help the child while at school.

Because she is struggling with severe anxiety, counseling and possibly medication are recommended. The patient's mother indicates an appointment is sched-

uled for next month with a psychologist to start CBT, and the patient indicates that meeting with the school counselor has been helpful. The patient's mother schedules a follow-up appointment with the primary care clinician in a month to discuss the anxiety. At that time, a selective serotonin reuptake inhibitor (SSRI) is started.

In addition, the social worker for the headache program contacts the father and reviews the school absenteeism with him. He reveals to her that he has been struggling with depression, and she provides some community resources. The social worker reaches out to the school counselor and provides an update.

During follow-up with the headache program three months later, it is noted her headaches are improved and she is sleeping better. The headache plan at school is being followed, and she is able to go to the school nurse when she develops a headache. She has only missed one day of school over the past month due to a migraine.

During a follow-up appointment with the primary care team two months later, she indicates her anxiety has improved. CBT has helped her with negative thoughts regarding bullying, and her father has made efforts to help her in the mornings. Importantly, she has not missed any school over the past month.

CONCLUSION

School absenteeism is a common problem and can have negative consequences for the students and families involved. Causes are often multifactorial and include individual, family, school, and community variables.

With early intervention and collaboration, the health care team and school personnel can make a positive impact on attendance and future success.

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RESOURCES FOR HEALTH CARE CLINICIANS

- ▶ The AHC Health-Related Social Needs Screening Tool
- ▶ Attendance Works
- ▶ Lancaster-Lebanon Intermediate Unit (IU) 13 — ATTEND Program
- ▶ PA Department of Education Attendance Toolkit
- ▶ Parent Education and Advocacy Leadership Center
- ▶ School Refusal Assessment Scale — Revised
- ▶ Statewide Parent Advocacy Network



← Scan for links to the resources above.

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MUCOCUTANEOUS CHANGES IN A NINE-YEAR-OLD BOY

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PRESENTATION

A 9-year-old boy presents to a community hospital with mucocutaneous changes following a lower respiratory tract illness. One week prior, he developed a fever, cough and congestion, and was diagnosed with left lower-lobe community-acquired pneumonia. He began empiric treatment with amoxicillin at the onset of symptoms, but after five doses, the patient developed episodes of circumoral edema and mucosal ulceration of the mouth and lips.

Concerned for a possible allergic reaction, the patient's primary care physician transitioned him from amoxicillin to azithromycin and started a course of oral corticosteroids four days ago. His parents report that he had previously tolerated amoxicillin without any adverse effects. His fever initially resolved, and his cough and congestion improved on antibiotics. However, his fever returned today accompanied by worsening mucocutaneous involvement (see Fig. 1 on page 88) and new onset bilateral periorbital edema. He reports intermittent blurred vision but denies pain with eye movements. His oral intake is poor, and he speaks sparingly due to pain.

On examination, the boy is ill-appearing but non-toxic and in no acute distress. His temperature is 100.1°F, pulse 90 bpm, respiratory rate 20 breaths/min, and blood pressure 105/60 mmHg. His pulse oximetry on room air is 100%. His mucous membranes are dry. He exhibits circumoral edema, labial mucosal skin sloughing, and ulcerations of the gingival and buccal mucosa. Bilateral periorbital erythema and edema are present, with crusted, purulent ocular discharge. Bilateral sub-centimeter anterior cervical lymph nodes are palpable. His capillary refill time is 2 to 3 seconds. There is no genital involvement.

A complete blood count shows no leukocytosis or neutrophilic predominance. A comprehensive meta-

bolic panel reveals normal electrolytes, transaminases, and kidney function. Diagnostic testing on admission includes a negative respiratory viral panel, negative mononucleosis screening, and negative *Streptococcus pyogenes* (group A) test. A repeat chest radiograph shows improvement in the recent left lower-lobe pneumonia. Physical exam findings and additional laboratory testing confirm the diagnosis.

DISCUSSION

Differential Diagnosis

The differential diagnosis for mucocutaneous changes in a child following an upper respiratory infection treated with antibiotics includes Stevens-Johnson syndrome (SJS); toxic epidermal necrolysis (TEN); erythema multiforme; reactive infectious mucocutaneous eruption (RIME); Kawasaki disease; herpes-simplex gingivostomatitis; paraneoplastic pemphigus; aphthous stomatitis; and hand, foot, and mouth disease (HFMD).

Actual Diagnosis

Serum *Mycoplasma pneumoniae* titers demonstrate an IgG >5.00 U/L, indicative of a recent infection when correlated with chest X-ray findings and clinical presentation. The patient's lesions are most prominent on the mucosal surfaces of the mouth, and the lack of cutaneous findings means that the diagnosis of SJS, TEN, or erythema multiforme are unlikely.

While both herpes-simplex gingivostomatitis and HFMD can cause oral ulcers in children, these diseases do not typically produce the extensive, bilateral periorbital erythema and edema seen in this child. In HFMD, additional vesicular lesions of the extremities would be expected as well. Given the presence of oral mucosa ulceration, conjunctivitis, and minimal cutaneous involvement in the setting of a *M. pneumoniae* infection, a diagnosis of RIME is established.

The Condition

RIME is an immune-mediated mucocutaneous disorder primarily affecting children and adolescents following a bacterial or viral respiratory infection, most commonly *M. pneumoniae*.¹ Although the exact pathogenesis remains unclear, RIME is thought to arise either indirectly from immune complex formation against infectious antigens² or directly from local inflammatory cytokine release.³

It is characterized by prominent mucositis, often involving the oral, ocular, and genital mucosa, with minimal or absent cutaneous involvement.⁴ Patients typically present with a prodromal illness, including fever, cough, and malaise, followed by the development of painful mucosal ulcerations and conjunctivitis.

Until 2015, RIME was thought to be a viral-induced SJS but has since been differentiated.² In comparison to SJS or TEN, RIME has more prominent mucosal involvement and lacks extensive cutaneous findings.⁵ If cutaneous lesions are present, they often present as scattered, atypical targetoid lesions.⁴

Diagnosis is clinical, supported by confirmatory laboratory testing for suspected infectious agents. Most cases of RIME will resolve completely with supportive care; however, recurrent episodes have been reported.⁶ Early recognition and management are crucial to preventing complications, particularly those involving the eyes.

Treatment/Management

The management of RIME is primarily supportive, including symptom relief, mucosal healing, and prevention of complications. Mucositis can be painful

and severely impact oral intake; therefore, it is crucial to provide adequate pain control, intravenous fluids, and, in severe cases, nasogastric feeding. Pain control regimens often include acetaminophen and nonsteroidal anti-inflammatory drugs (NSAIDs), with opioids reserved for severe cases. Topical therapies such as petroleum jelly for the lips and anesthetic mouthwashes can provide additional relief.

Systemic corticosteroids should be considered in severe cases with extensive mucosal involvement. Prednisone and intravenous methylprednisolone are frequently used to reduce inflammation and expedite symptom resolution.⁴ Other immunomodulatory agents, such as cyclosporine, intravenous immunoglobulin, or tumor necrosis factor inhibitors (e.g., etanercept), have been explored in refractory cases, with some evidence suggesting potential benefit.⁷⁻⁹

Antimicrobial therapy for community-acquired pneumonia commonly includes macrolides, fluoroquinolones, beta-lactams, or tetracyclines (for children over 8 years old) depending on the identified pathogen. In cases of suspected *M. pneumoniae* infection, empiric treatment with antibiotics is recommended, although there is not sufficient evidence to support that treatment will shorten the course of RIME.¹⁰

Ophthalmology consultation should be obtained for any patient with ocular symptoms. To prevent long-term ophthalmologic complications, patients often receive frequent saline rinses, artificial tears, and topical corticosteroids (e.g., prednisolone ophthalmic drops); however, additional interventions may be required in cases of severe ocular disease.¹¹



Fig. 1 (left). Oral mucosal involvement on admission.

Fig. 2 (right). Worsening oral mucosal involvement noted two days after photo in Fig. 1 was taken.

PATIENT COURSE

By the time of admission, the patient had completed a five-day course of azithromycin and a four-day course of oral corticosteroids without improvement. Due to reduced oral intake, he receives maintenance intravenous fluids with 5% dextrose in 0.9% normal saline. Supportive care includes petroleum jelly for lip protection and scheduled intravenous acetaminophen with as-needed ketorolac for pain management.

On the second day of admission, he begins experiencing worsening mucosal lesions of the lips (see Fig. 2), increased pain, and decreased visual acuity. Pediatric dermatology and ophthalmology are consulted by telephone, recommending subcutaneous etanercept and tobramycin/dexamethasone ophthalmic ointment. Due to etanercept unavailability at the community hospital, he is transferred to a facility with pediatric subspecialists available for further management.

At the receiving hospital, ophthalmologic examination reveals mucus discharge with crusting of the lashes in both eyes. The conjunctivae are white and quiet, with no staining on the cornea and no evidence of epithelial sloughing or pseudo-membranes. Given that the patient lacks severe eye involvement and has already been symptomatic for a few days, etanercept is not initiated. Instead, he is given a three-day course of intravenous methylprednisolone, along with prednisolone ophthalmic drops and artificial tears. Morphine is made available for severe pain.

The patient's condition improves with this treatment. He is able to demonstrate consistent oral fluid intake and therefore is deemed appropriate for discharge. At this time, all ophthalmic drops are discontinued, and supportive care with petroleum jelly and anesthetic mouthwashes are recommended for persistent mouth pain.

He continues to experience pain due to oral mucosal ulcerations while at home for another week before he improves enough to eat solid foods. At his ophthalmology follow-up appointment two weeks later, his symptoms have resolved.

LESSONS FOR THE CLINICIAN

- ▶ RIME causes mucositis in children most commonly following an infection with *M. pneumoniae*.
- ▶ RIME should be included in the differential diagnosis when a child presents with mucosal ulceration, conjunctival involvement, and a recent upper respiratory illness, particularly in the absence of widespread cutaneous involvement.
- ▶ Unlike Stevens-Johnson syndrome or toxic epidermal necrolysis, RIME is strongly associated with infectious triggers rather than medication exposure and typically lacks extensive skin involvement.
- ▶ Pain control, hydration, and nutritional support are key aspects of management, as oral mucosa involvement can significantly impair intake.
- ▶ Early consultation with ophthalmology is critical to prevent long-term complications such as scarring and vision loss.
- ▶ Systemic corticosteroids may be useful in treating the mucosal lesions of the disease. Immunomodulatory agents may be considered for severe or refractory cases when standard therapies fail to adequately control worsening mucosal lesions.

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THE POETRY OF MEDICINE

Does my father dream?

My father was a poet.

Is a poet.

*In the final years when he could still speak, he recorded videos of him reading his poetry,
Filming dozens of takes to get a reading without the stutter and stumbles of his slipping language.*

After,

He would sit for hours with his pen,

Chasing the dancing and running letters of English, his second language.

Now,

he is in bed.

I do know he still yearns.

He takes the pen, tries to write an M, but the cursive of his handwriting loops and loops until it is reduced to a cut rope,

The wish running loose and elusive.

Does he dream?

I picture wordless scenes of drama,

like a silent film,

of love, fear, wanting.

When he dreams a memory, are the words from the past stolen and muted like his?

The conversations reduced to the feelings,

A loving look,

A sinking stomach.

I can only hope that these dreams,

These memories,

Of sitting in the sun in Italy,

Of eating a fragrant curry,

Before waking in bed

With his dinner hanging from the IV pole

Are a kindness.

— Submitted by Lavinia Wainwright, MD
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The Medical Families of Lancaster County

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Editor's note: This series of articles by Dr. Zervanos focuses on the circumstances, institutions, and people who built the medical community now recognized as Penn Medicine Lancaster General Health. Much of the information comes from manuscripts he authored and donated to the American Academy of Family Physicians Foundation. This installment discusses the medical families of Lancaster County.

THE NEFFS

The first physician to establish his practice in Lancaster County was Dr. Hans Heinrich Neff, a Swiss Mennonite, who arrived with his brother, Francis, sometime before 1715. The brothers were among a group of Mennonites who had endured religious persecution in Switzerland and left their homeland in the early 18th century to take up residence in Alsace, France, before immigrating to the British American colony of Pennsylvania.

Dr. Neff bought land from William Penn along the Conestoga River; the land came to be called Hardwicke. When boundaries were established in 1729, the border for Manheim Township was drawn along his property line, which was described as "the Old Doctor's Ford."¹ He settled near the stream that came to be known as Neff's Run, which emptied into the west branch of the Little Conestoga River.

Many of Dr. Neff's descendants became apprenticed as physicians, including his sons, Abraham and Christian, and two nephews, Dr. Abraham Brennehan, who also operated a drug store, and Dr. John Neff, known as the "water doctor." The therapeutic use of water – hydrotherapy, as it came to be known – included the various ways to administer hot and cold water to manage fever and other manifestations of illness.

THE ATLEES

Among the most prominent physicians in Lancaster County were the Atlees. The first of the Atlees to come to the Americas was William (1696-1744), from Middlesex, England. He arrived in 1733 to serve as the secretary to the governor of Barbados. He immigrated to Philadelphia with his wife Jane Alcock Atlee. After he died in 1744, she settled in Lancaster with one of her sons, the Honorable William Augustus Atlee (1735-1793).²

One of William Augustus's and his wife Esther's sons, Edwin (1776-1852), was the first Dr. Atlee. He studied and apprenticed under General Edward Hand, MD, cofounder of Lancaster County's first hospital. Edwin graduated from the University of Pennsylvania in 1804 and settled in Philadelphia, where he became known for his skills in obstetrics. Dr. Atlee was also a gifted musician and writer.³

Beginning with William's great-grandson and Edwin's nephew, there were five generations of doctors with the name John Light Atlee. The first, born in 1799, was followed by a succession of Johns, respectively born in 1830, 1875, 1903, and 1933. The father of the third Dr. John L. Atlee, born in 1875, was not a physician but rather John's (1830) brother, William Atlee, Esq., a lawyer.

The third and fourth Dr. John L. Atlees played a decisive role in the development of surgery at St. Joseph's Hospital, where they also established a residency program in surgery. The fourth Dr. John L. Atlee also had a brother William, who became a surgeon. The fifth Dr. John L. Atlee, born in 1933, was a professor of anesthesiology in the School of Medicine at the University of Wisconsin-Madison.

The most famous Dr. Atlee was the first John L. Atlee, MD (1799-1885). He left an indelible mark on Lancaster County medicine. He and his brother, Washington Lemuel Atlee, MD (1808-1878), became well known for their surgical skills. They became nationally and internationally renowned for developing the operative technique for the relatively safe removal of ovarian tumors. The brothers performed the first such operation in 1843 in the patient's home on her dining room table, using opium for analgesia; despite not using antiseptics, the patient recovered without complications.

Dr. John Atlee is credited with performing 78 ovariectomies – and 62 of these patients had complete recovery, a notable success rate for the pre-antiseptic era – while his brother performed nearly 400 operations.⁴ Although the doctors were never harmed or persecuted, both were threatened with arrest for performing such a high-risk operation, and Dr. Washington

Atlee was branded as “a dangerous man, even a murderer.” Facing such criticism, the brothers demonstrated courage and self-confidence, saving many lives.³

Both brothers played prominent roles in local medical politics, promoting higher standards of medical practice. Dr. John Atlee became president of the Lancaster City & County Medical Society and the Pennsylvania Medical Society, and in 1882, at the age of 83, the president of the American Medical Association, the same year the *Journal of the American Medical Association (JAMA)* was founded.³ He also played a prominent role in the history of the Almshouse, known as the Lancaster County Hospital; in public health as a member of the Sanitary Committee; and in mentoring medical students through apprenticeships and externships.

During the 1854 cholera epidemic, in his role as attending physician of the Lancaster Almshouse and Hospital, the first Dr. Atlee ordered the cleaning and whitewashing of the buildings from attic to basement, the removal of all dead matter, the cleaning of the sewers, and the treatment of the outhouses with lime. He treated cholera patients by prescribing copious amounts of cold water, quinine, and opium. He accepted the theory that cholera was caused by contagion and observed correctly that the disease was spread by contact with a “specific poison” from the excreta of the sick, predating the 1884 identification by German microbiologist Robert Koch that the source of so many tragic deaths is the bacterium *vibrio cholera*.⁵

In 1878, in recognition of Dr. Atlee’s teaching of anatomy and physiology, he was awarded an honorary doctorate at Franklin & Marshall College.³ The photo below shows Dr. Atlee surrounded by five of his students, circa the late 1850s.

Dr. Atlee’s son, the second Dr. John L. Atlee, served as an “examining surgeon” during the Civil War. While his role during the war is unknown, he returned to Lan-



caster in 1882 to practice with his father. Both father and son died in 1885; the younger was only 55 years old at the time of his death.⁶

THE MUHLENBERGS

The Muhlenbergs of Lancaster County are descendants of the itinerant priest physician of America’s colonial period, the Reverend Heinrich Melchior Muhlenberg (1711-1787).



Pictured at left, Frederick Augustus Muhlenberg, MD (1795-1867), was the youngest child of Dr. Henry Ernst Muhlenberg. He apprenticed with Benjamin Rush, MD, at age 16 and graduated from the University of Pennsylvania School of Medicine in 1814. Highly respected as a clinician, he did do surgery, but in comparison to the Atlees, performed relatively few operations.¹

He was one of the original members of the Lancaster City & County Medical Society and was elected in 1844 as one of its first two vice presidents. He was recognized for his leadership and sense of duty to his community, and served as prothonotary of Lancaster County, as well as Register of Wills. He was active in the Democratic Party and a strong supporter of President James Buchanan.⁷

THE MUSSERS

John Musser and his family immigrated to America in 1727 from Switzerland and settled in southeast Lancaster County. He apprenticed with another physician to study medicine. As was the case with many other physicians, he was also a farmer.

He acquired land in what is today part of Manor Township and contiguous to Conestoga Manor, where the Conestoga tribes resided. This section of land was known as “Indiantown,” and it is where the colonial powers came to negotiate trades and treaties. Later, in 1763, this property became infamous when the “Paxtang Gang” massacred 20 unarmed Conestoga Indians there. The Mussers were thought to be opposed to this gang and their despicable actions.

John Musser died in 1752, and his son, Jacob, who learned medicine from his father, inherited the property and built the homestead. One of Jacob’s sons, Benjamin Musser, born in 1749, was a farmer who also learned medicine from his father.

Benjamin Musser fathered 18 children with two wives. He built a very large house to accommodate his family, and in time, the doctor provided a room for

an apothecary, as well as rooms for overnight stays for some of his sickest patients.

Benjamin Musser is credited with developing “white salve,” which was used to treat venous ulcers of the lower extremities. The white salve is white petrolatum with rectified turpentine oil, white wax, and perfume. The mixture provides soothing relief for dry skin and minor burns, including sunburn. It is used to this day.

Two of Benjamin’s sons studied with their father without further formal medical education. Joseph Musser practiced in Marietta for a while before he left for Ohio; Martin Musser practiced in Lampeter. Martin’s son Benjamin became a physician and was the first of the Mussers to acquire a medical degree. Four of Benjamin’s grandsons and five of his great-grandsons also acquired degrees in medicine.

Among the most notable was John H. Musser, MD (1856-1912). He was a grandson to Martin, grew up in southern Lancaster County, and was educated in the Strasburg schools and Millersville State Normal School. He acquired his medical degree from the University of Pennsylvania in 1877. He practiced in Philadelphia, joined the faculty at his alma mater, and grew to national prominence as a result of his more than 200 scientific papers and his highly authoritative dissertations on managing gallbladder disease.

His medical text, *Medical Diagnosis*, was popular and widely used by medical students and practicing physicians. His concern for accessible health care for the poor led him to help establish the social service department at the Hospital of the University of Pennsylvania. He also became active in medical politics, serving as president of the AMA beginning in 1904, during the time of the major medical education reforms pioneered by Abraham Flexner, MD.⁶

John Musser, MD, born in 1936, and grandson of John H. Musser, was a classmate of this article’s author at the Perelman School of Medicine of the University of Pennsylvania. He practiced internal medicine in the Philadelphia area.

THE FAHNESTOCKS

The Fahnestocks, as they were known, came from a long line of physicians beginning with Johann Deidrich Fahnestock, born in Amwell, New Jersey, in 1733. It is not known how he acquired his medical education, but it is known that he served in the Revolutionary War. He settled and practiced in Ephrata, where he spent most of his life.

One of the more colorful Fahnestocks was William Baker Fahnestock, MD (1804-1886), an 1825 graduate of the University of Pennsylvania who practiced in Lancaster for 30 years, became a charter mem-

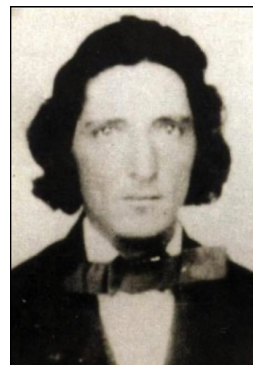
ber of the Lancaster City & County Medical Society, and owned a drug store on West King Street. He was known for his investigative work in animal magnetism, spiritualism, and clairvoyance.

He also endorsed the theory of statuvolism or self-hypnosis. His treatise on the latter gained him an international reputation. He was a pioneer in daguerreotype photography (photographs produced on silver-covered plates) and was known for producing excellent images.

He engaged in politics and supported the candidacy of James Buchanan. He and his father-in-law, Henry M. Reigert, rode out to Wheatland, beyond the city’s western perimeter, to be the first to notify Mr. Buchanan that he had been elected to the presidency in 1856.⁸

THE RAUBS

The first member of the Raub family to become a physician was John K. Raub, MD, who was born in 1828 in Strasburg Township in southern Lancaster County. With only a high school education, he became a teacher, studied medicine with Benjamin Musser, MD, and acquired a medical degree from the University of Pennsylvania. He first established his practice in Quarryville, then moved his practice to the nearby village of New Providence. He served in the Civil War as a surgeon and died in 1867.



John’s cousin, Michael, born in 1838, was known as a nature lover and bird collector, graduated from Jefferson Medical College in 1865, practiced in Lancaster, and served as the museum curator for the North Museum during his retirement.

John’s brother, Henry E. Raub, MD (pictured above), born in 1830, also became a teacher after graduating from high school and apprenticed with his brother. He acquired his medical degree from the University of Pennsylvania and joined his brother in practice in Quarryville. He became one of its leading citizens, serving as a school director, burgess, director of the Southern Mutual Insurance Company of Lancaster County, and a founder of the Quarryville National Bank. He played a major role in the development of the Pennsylvania Railroad between Quarryville and Lancaster.

Henry’s son, Richard Vaux Raub, MD, was born in 1872, worked in Dr. T. M. Rohrer’s drugstore, studied medicine with his father, and graduated from Jefferson Medical College in 1893. Using the letterhead of

the “Office of Southern Mutual Insurance Company of Lancaster County, Pa.,” dated November 1, 1893, Henry wrote to advise Richard after hearing news of Richard’s illness:

Dear Son, We are sorry to hear that you are not well. If you are not well enough to go and see Dr. Chapman send your chum after him. That is the way we used to do it. I send you some tablets of antikamnia [an analgesic] for your head. Take one occasionally every three or four hours if it does relieve your headache. I would take four or five capsules of quinine every day for several days until you feel better.

You will also find some antiemetic tablets which you take for a sick stomach. I have written for Uncle Seal to go up and see you.

I mailed you a capsule box with some medicine in it today. Will send you some more in a box. If you can’t get out, get your chum to get you what you need in the diet line. Don’t starve yourself.

The boys have two foxes, Larry and Ege is about the same. The pheasant was dead and came from Monroe Co. The boys got four rabbits, two apiece, and John got three, dad none. Going to send you tripe, cheese, bread, butter, jelly, etc. Dress warm. If bowels are costive I would take some of the anticonstipation tablets to loosen them. Then I would take camphor, Opium & Lead tablets one at a time according as you stand in need of each. But I would take a portion of Quinine for several days or weeks until you feel better.

Write as soon as you get this.

*Your Affectionate Father,
H. Raub⁹*

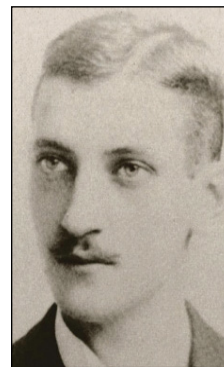
Richard practiced in the village of Homeville but returned to Quarryville to take over his father’s practice when Henry died. The following eulogy of his father appeared in the *Quarryville Sun* on July 26, 1901:

Hence, he is a figure sadly missing on the roads of the lower end, the gaunt figure of an old-time physician, in an old-fashioned and never new gig or sulky, seen in storms and sunshine, in rain and sleet, in blizzards

and fair skies, fearing nothing, caring for nothing save duty in response to a call to relieve the ailing, or sooth the last hours of the dying.

Sadly, Richard died at the early age of 42. He was inspired by his father and was every bit as dedicated and devoted to his patients. At his funeral, many people mourned who had mourned his father before him. At the time of his death in 1914, the Quarryville newspaper printed the following commentary about Richard (pictured below):

His funeral and the manifestations of heartfelt grief and personal loss by the hundreds in attendance ... strikingly illustrate the affectionate relations that exist in the rural district between the man who ministers



to their physical wants and the people to whom he ministers. The life of a country doctor is a sacrifice. His fees are small and his hours long. No night is too dark, no storm too tempestuous for him to brave. He catches sleep, as he climbs the steepest hills, and the faithful horse neighs at the stable door to tell him he’s at home. He knows no luxury of office hours, nor specializes on any one disease. He reduces the fractured limb and

ofttimes soothes the broken heart. He responds to the call of the poor, and he never takes advantage of the well to do. In his laborious work, he is seldom seen in a house of worship but in the love of his profession and nobility of his practice, he seems to walk with God.... If St. Peter honors a pass, it is when the weary country doctor knocks for admission and begs for rest.¹⁰

AUTHOR’S NOTE

Unfortunately, there is not room to discuss the many important contributions by countless members of other medical families. Notably, Henry Wentz, MD, had quite an impact on the new specialty of Family Medicine and the residency program at Lancaster General Hospital. He will be featured in the final installment of this series in early 2027. Read more about his family at lancastermedicalheritagemuseum.org/wp-content/uploads/2018/10/History-of-the-Dr-Wentzes.pdf.

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Giant Cell Arteritis, Safe Drinking Water, Mastitis, Flu Vaccine

Alan S. Peterson, MD

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GIANT CELL ARTERITIS IN PRIMARY CARE

Years ago, my father came to visit me on a holiday and described symptoms of giant cell arteritis (GCA). With the help of friend and colleague David Newcomer, MD, we quickly made the diagnosis and got my father started with treatment even before results of his temporal artery biopsy were reported.

While vasculitis remains rare, GCA can be an urgent priority for clinicians who practice in the primary care setting. Vision loss can occur in about 20% of untreated cases, so early detection is vital.¹

Clinical manifestations of the condition include headaches, jaw pain, fatigue, and scalp tenderness. Patients may also present with symptoms of polymyalgia rheumatica that include pain and stiffness in the shoulders and hip girdle. An estimated 10 cases per 100,000 occur in people older than age 50 years, but rates are higher among patients with Scandinavian ancestry.

Early identification is important to prevent serious complications such as vision loss, blood clots, and aneurysms. The vision loss can become permanent if left untreated.

A workup of potential GCA should rule out malignancy, infection, or stroke. About 5% of patients with the condition have normal erythrocyte sedimentation rate and C-reactive protein, as was the case with my dad.

Imaging may show characteristic vascular inflammation, especially in the temporal, axillary, and carotid arteries, which can have a distinctive dark halo sign on ultrasound. A positive temporal artery biopsy is definitive for diagnosis, but a negative one does not rule out disease.

Patients are usually best served with close management by a rheumatologist, followed by monitoring by a primary care clinician, depending on the course of the illness. Patients with the condition are immunosuppressed, so primary care clinicians should monitor for infection and ensure that patients have received their recommended vaccines.

Patients should start treatment with glucocorticoids immediately to avoid vision loss. Long-term treatment of the condition with glucocorticoids calls

for monitoring of a range of clinical factors including blood pressure, glycemic control, bone density, and gastrointestinal concerns.

Two newer agents are available, and use of these can lead to quicker tapers and a significant reduction in total steroid exposure. One is tocilizumab, an interleukin-6 receptor alpha inhibitor, which can be delivered by a weekly injection or a monthly infusion. It reduces acute phase reactants, so these lab values cannot be used to monitor disease activity.

The second agent is upadacitinib, an oral JAK inhibitor. The only oral targeted therapy approved as of last year, it was superior to placebo with regard to sustaining glucocorticoid-free disease remission after one year. It does have a black box warning because it can result in an increased risk for major cardiovascular events such as myocardial infarction and cerebrovascular accident. Use of this drug has also been associated with a high risk of herpes zoster, so patients should receive the shingles vaccine prior to starting the drug.

INTEGRATING DRINKING WATER SAFETY INTO ROUTINE PRACTICE

Asking about sources of drinking water during prenatal visits, well-child checks, and wellness examinations can uncover hazards that patients might not expect.

“Safe drinking water is essential to human health yet is often overlooked in routine clinical care,” writes the Mayo Clinic’s Dominika Jegen, MD, in *American Family Physician*.² Per the article:

Approximately 85% of the U.S. population receives drinking water from regulated public water systems, whereas about 15% rely on private wells ... [which] receive no federal oversight; this lack of regulation affects 43 million people in the United States who rely on well water. Unless homeowners test their own water supply, no monitoring occurs.³

There are many health risks linked with unsafe drinking water, including risks of arsenic and nitrates to pregnant patients and infants. Guidance for how

clinicians can discuss drinking water with patients can be found by scanning the QR code at right.



Related Resource

The National Sanitation Foundation certifies drinking water filters for removal of specific contaminants. Visit [nsf.org](https://www.nsf.org) for more information.

BREAST INFECTION GUIDELINES: MANAGING MASTITIS AND BREAST ABSCESES

Clinicians should distinguish between infectious and noninfectious lactational mastitis (LM), as the former often requires interventions whereas the latter requires only supportive care.⁴

Patients with infectious LM often have thick fluid collections that are not amenable to aspiration and usually require a stab incision and drain placement — but no packing — to resolve the infection. Operative drainage is only required if the patient cannot tolerate an office-based procedure.

If phlegmon is present, antibiotics should be prescribed for at least 10 days. A diagnosis of granulomatous mastitis (GM) requires pathological confirmation of characteristic findings that can be seen on core biopsy.

Cystic neutrophilic granulomatous mastitis is a specific form of GM associated with a granulomatous reaction to *Corynebacterium* infection and should be empirically treated with doxycycline. For patients without characteristic findings of cystic neutrophilic granulomatous mastitis and no other associated bacterium identified, there is no role for empiric antibiotic use.

Granulomatous mastitis cases often recur and can take up to 18 months to resolve. Patients who have GM cases with worsening symptoms should be treated with repeated intralesional steroid injections; surgical

excision or repeated aspirations should be avoided. Cases refractory to intralesional steroid injection may require oral steroids or even advanced biologic agents such as methotrexate or azathioprine.

Periductal mastitis with squamous metaplasia of lactiferous ducts (PDM-SMOLD) is a distinct entity from other periductal mastitis cases that can present with recurrent abscesses and should be treated with antibiotics and aspiration of fluid collections. Operative excision of PDM-SMOLD is required for those patients who present with a fistula or recurrent episodes, typically using a radical incision to remove the diseased ducts within and below the nipple.

HIGH-DOSE INACTIVATED FLU VACCINE LOWERS DEMENTIA RISK IN OLDER ADULTS

For people aged 65 years and older, the risk for incident Alzheimer dementia (AD) is lower among those who received a high dose versus a standard dose of inactivated influenza vaccine (IIV), according to a study published online in *Neurology*.⁵

The authors conducted a retrospective cohort study using data from 2014 to 2019 from the IQVIA PharMetrics Plus for Academics database to examine the risk for AD among adults aged 65 years and older after high-dose IIV versus standard-dose IIV. The researchers observed an association between receipt of high-dose IIV and decreased risk of developing AD during months 1 to 25 post-vaccination (minimum number needed to treat, 185.2 at 25 months). The risk reduction persisted longer in women than men after six stratifications.

Understanding the mechanisms through which influenza vaccines and immunogenic enhancements influence AD pathology and presentation could inform the targeted interventions and public health strategies to mitigate the growing population burden of AD.

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THE JOURNAL OF
LANCASTER GENERAL HOSPITAL

Owned and published by
Penn Medicine Lancaster General Health

The *Journal of Lancaster General Hospital* is published quarterly by Lancaster General Hospital, a nonprofit, community hospital in Lancaster, PA. The hospital and its parent, Lancaster General Health, are members of the University of Pennsylvania Health System (Penn Medicine). The journal is sent to the medical staff of Lancaster General Hospital, to physicians and others involved in delivery of health care in our service area, and to the administrative and medical leadership of Penn Medicine.

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ISSN 1940-2813



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The following is a summary of the general guidelines for submitting an article to *The Journal of Lancaster General Hospital*. Details are located online at [JLGH.org](https://www.jlghe.org).

- Scientific manuscripts are typically between 2,500 to 4,500 words. Narrative medicine articles are usually shorter, and photo quizzes average about 725 words plus illustrations.
- Medical articles should report research, introduce new diagnostic or therapeutic modalities, describe innovations in health care delivery, or review complex or controversial clinical issues in patient care.
- Reports of research involving human subjects must include a statement that the subjects gave informed consent to participate in the study and that the study has been approved by the Institutional Review Board (IRB).
- Patient confidentiality must be protected according to the U.S. Health Insurance Portability and Accountability Act (HIPAA).
- The Journal of Lancaster General Hospital *does not allow chatbot tools such as ChatGPT to be listed as authors*. JLGH editors warn authors that the use of these tools poses a risk for plagiarism with inappropriate use of citations, and we require that use of such tools be disclosed.

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American Medical Association Category 2 activities consist of self-directed learning or courses that have not been through a formal approval process. According to the Pennsylvania State Board of Medicine, this includes “learning experiences that have improved the care [physicians] provide their patients.” Reading authoritative medical literature – like medical journals – is one such activity.

For Pennsylvania physicians, more information and the Pennsylvania Board of Medicine CME Reporting Form are available from the Pennsylvania Department of State. For advanced practice providers, information is available from credentialing organizations.

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