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3 strategies for facing the ‘tripledemic’ of respiratory viruses

With the respiratory season in full swing, health systems find themselves on the front lines, preparing to face the formidable convergence of COVID-19, flu, and RSV (respiratory syncytial virus). This trifecta, known as the “tripledemic,” presents a daunting challenge that can overwhelm hospital emergency departments and strain healthcare resources.[1] In this article, learn about this season’s key challenges and explore how health systems can effectively prepare for its effects.

The challenges of a tripledemic

The 2022-2023 respiratory season was marked by a “tripledemic,” an intense influx of COVID-19, flu, and RSV.[2] These viruses impacted every age group with infants, the elderly, and immunocompromised individuals facing the most severe complications.[3] RSV cases were particularly concentrated among infants with surges in RSV cases alone sometimes overwhelming health systems.[4]

The collision of these three respiratory illnesses strains healthcare systems still dealing with the lasting effects of the COVID-19 pandemic. Large waves of sick patients stretch hospital resources and personnel, potentially leaving sick patients without the high-quality care they need.[5] Complicating matters further, the overlapping symptoms of these respiratory illnesses can make it difficult to identify the specific virus without diagnostic testing.[6]

According to the CDC, the 2023-2024 season is predicted to be similar to 2022-2023 – with a “moderate COVID-19 wave” and “typical” flu and RSV burden.[7] In fact, all three viruses have been surging.[8] However, outcomes of this respiratory virus season are still uncertain and could change due to several factors including new COVID-19 variants, simultaneous illness peaks, or a worse flu season than expected.

1. MacMillan C. "'Tripledemic:' What Happens When Flu, RSV, and COVID-19 Cases Collide?" Yale Medicine. January 12, 2023.
2. Moreno S. "The plan to dodge another tripledemic". Axios. July 6, 2023.
3. MacMillan C. "'Tripledemic:' What Happens When Flu, RSV, and COVID-19 Cases Collide?" Yale Medicine. January 12, 2023.
4. *Ibid.*
5. Carayon P, Gurses AP. Chapter 30: Nursing Workload and Patient Safety—A Human Factors Engineering Perspective. In: Hughes RG, editor. Patient Safety and Quality: An Evidence-Based Handbook for Nurses. Agency for Healthcare Research and Quality (US); 2008.
6. How to Tell the Difference between Flu, RSV, COVID-19, and the Common Cold. National Foundation for Infectious Diseases.
7. It's RSV, COVID-19, and flu season. Here's what CDC predicts. *Daily Briefing*. Advisory Board. 2023.
8. RESP-NET Interactive Dashboard.

Colliding with the healthcare workforce crisis

This year's tripledemic coincides with a continual healthcare workforce shortage which impacts a range of healthcare positions from nurses to physicians.[9] A key part of this deficit is clinician turnover driven by factors like burnout and workplace safety concerns. Both of these factors were intensified by the COVID-19 pandemic and may be similarly impacted by annual tripledemics. According to the American Hospital Association, high-quality care hinges on a robust healthcare workforce – particularly during periods of increased COVID-19, flu, and RSV hospitalizations.[10] Without ample staff, health outcomes are likely to falter.

How health systems can prepare for this respiratory virus season

Amid workforce shortages, health systems must plan carefully for this year's tripledemic. Health systems should focus on three key areas: implementing point-of-care testing (POCT), simplifying workflows to reduce provider burden, and embracing IT and AI to enhance provider efforts.

1. Implement point-of-care testing.

Incorporating POCT, particularly molecular testing, is crucial to preparing for the current respiratory virus season. Timely and accurate testing plays a significant role in managing respiratory illnesses. This enables providers to triage patients effectively, give appropriate treatment, and positively influence health behaviors.

First, POCT supports effective patient triage.[11] Rapid diagnostics results allow providers to redirect patients to proper sites of care if needed, determine which patients require the most pressing assistance, and assess how to prevent potential transmission within healthcare settings. Second, POCT supports proper treatment protocols; an early and accurate diagnosis is vital for appropriate treatment of respiratory illnesses.

For example, when a patient has the flu, Tamiflu is most effective when taken within 48 hours of symptom onset.[12] Similarly, a patient with COVID-19 should start Paxlovid within five days of developing symptoms.[13] Finally, correct and prompt diagnosis can also influence health behaviors. For instance, if a parent or grandparent is aware of having RSV, they can take proactive measures to safeguard infant children in the house. Here, timing is also key. A delay in test results means an individual won't know to engage in health behaviors – like isolation – which would limit transmission.

9. Popowitz A. Addressing the healthcare staffing shortage. Definitive Healthcare. 2023.
10. Data Brief: Health Care Workforce Challenges Threaten Hospitals' Ability to Care for Patients. American Hospital Association. 2021.
11. Future of Point of Care & Rapid Testing: a global study among GPs, hospital doctors & pharmacists. Ipsos. 2022.
12. Oseltamivir (Oral Route). Mayo Clinic. 2024.
13. How and when to take Paxlovid. NHS. 2022.

1. Implement point-of-care testing. (cont.)

Many healthcare systems already successfully implemented POCT strategies during the pandemic, primarily for COVID-19 testing. In the words of Cue Health Senior National Strategic Health Care Executive Jared Elliott, hospitals can't revert to old ways – sending respiratory diagnostics to a central laboratory.

He says, "The pandemic generated added creativity in healthcare delivery workflows that supports clinical optimization while also having positive impact on staff in and outside the labs. It's important to keep that momentum going moving forward. Healthcare systems should reflect and recognize, 'Hey, we've got a great point-of-care solution we implemented during [the] COVID-19 [pandemic]. This has staying power. In fact, we want to add flu and RSV [diagnostics] to that.'"

Building and increasing capacity for POCT will not only help health systems manage current respiratory viruses but also prepare health systems for future viral mutations and pandemics.

2. Simplify workflows to reduce provider burden.

While provider shortages and burnout plague health systems, extra steps must be taken to simplify workflows. These efficiencies will prove essential to reduce provider burden, optimize available resources, and therefore, promote the best health outcomes throughout the tripledemic. Health systems should implement a complete test-to-treat workflow which streamlines provider actions. POCT can act as one way to simplify this test-to-treat workflow. POCT enables providers to act immediately – eliminating the need for follow-up messages in the electronic health record (EHR) or additional visits to review results with a patient.

This allows staff to practice at the top of their license and reduces their documentation time – a heavy burden for providers that can lead to burnout, human error, and a lack of capacity during high volume periods.[14] Streamlining processes and eliminating unnecessary steps will allow providers to focus on delivering timely and effective care, especially in the face of workforce shortages, stressors, and burnout.

3. Embrace IT and AI to support provider efforts.

Finally, health systems can best prepare for the tripledemic by embracing IT and AI to support provider efforts – especially when their workforce is stretched thin. Incorporating IT solutions ensures seamless integration of POCT results into the EHR. This integration equips health systems to take full advantage of the benefits of POCT by eliminating manual data entry and providing real-time access to test results and facilitating timely decision-making and treatment.

3. Embrace IT and AI to support provider efforts. (cont.)

Health systems can take a step farther by harnessing AI for patient risk stratification, allowing providers to identify and respond to high-risk individuals promptly and hopefully limit contraction and transmission of respiratory viruses among higher-risk populations.[15] AI algorithms can analyze patient data, such as demographics, medical history, and symptoms to assist with patient risk stratification.[16] Similarly, AI can help health systems focus their preventative efforts. For example, AI could help determine which patients would most benefit from a reminder call regarding available vaccinations or respiratory virus testing options.

Final thoughts

As health systems address the 2023-2024 tripledemic and prepare for future years, it is crucial to recognize these challenges will persist beyond the current season. Quick fixes are not enough; health systems need to adopt long-term strategies that can address future challenges and unexpected events, such as new pandemics or significant variants of COVID-19.

By taking a proactive and forward-thinking approach, health systems can establish a resilient foundation that enables them to navigate ongoing challenges and protect public health year after year. By implementing effective diagnostic strategies like point-of-care testing, optimizing workflows, and embracing technology, health systems can help reduce provider burnout while ensuring access to high-quality care.

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