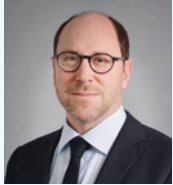




# Chasing Flu: Predictably Unpredictable



I have managed urgent cares for nearly 20 years and can officially say that predicting flu is for fools! Perhaps I should have known—after all, the CDC, WHO, ACIP and even Google all get it wrong, with spectacular consistency. Despite all the research, public and private money, and sophisticated analytics, we just can't seem to find a way to predict the behavior of a fairly banal collection of viral RNA wrapped in a host membrane and coated with docking proteins. Perhaps Bezos and Musk will put humans on Mars before we solve this riddle.

The flu season of 2017-18 was one for the ages, with its record-setting climb to its precipitous fall and downright disappearing act. Urgent care centers around the country scrambled to serve the flood of ill patients while our emergency medicine colleagues were popping up tents in parking lots. The understandable hysteria in response to healthy children dying and the media attention that followed added to the mess.

To make matters worse, our extraordinary efforts to get everyone vaccinated was punished with a paltry level of vaccine efficacy. Undoubtedly, this will fuel a public rejection of flu vaccine for next season. Our urgent care staff was stretched, stressed, and ultimately sick themselves, further burdening our effort to be open and available for our patients.

Meanwhile, the scientific community worked overtime to understand the virulence, persistence, and likelihood of a sustained season. The message they delivered was clear: H3N2 was the predominant strain of flu A in the early part of the season and contributed to a trifecta of early holiday peak, virulence, and poor vaccine coverage (this same strain was responsible for the last holiday flu crisis in 2014-15.) It was then predicted that the 2017-18 season would continue at high levels as flu B strains started to circulate in March and April (as is their routine). Only it didn't. In fact, flu just disappeared entirely, almost overnight, and there is no indication that it will peak again this season.

How is it that such an effective virus with little vaccine protection could disappear so quickly? I am no virologist, but this behavior is neither uncommon nor unique to influenza. In fact, it seems like all of the recent pandemic viral scares have exhibited similar behaviors, with one common theme: The

more virulent, deadly, and dramatic, the more rapidly and inexplicably these viruses disappear.

Ebola comes to mind. A terrifyingly effective killer with no treatment and hundreds of millions of vulnerable hosts living in conditions ripe for transmission. And then one day, it just disappeared. Rest assured it will come back, and there are still some burning embers in parts of Africa, but as dramatically as Ebola came on the scene, it seemed to just "burn out" in the end.

*"Ebola was a terrifyingly effective killer with no treatment and millions of vulnerable hosts. Then, one day, it just disappeared."*

There's limited research in this area, with the most accepted theory being that highly virulent viruses are so effective that they quickly run out of healthy hosts to infect. While this argument sounds plausible on the surface, you would think that the disappearance would occur more gradually. Yet, a nonscientific look at flu seasons since 2014 shows a surprisingly similar trend; 2014 and 2017 flu rose rapidly, peaked at dramatic levels, and then fell off the charts within a matter of days. Flu seasons in between had less dramatic entrances, peaked lower, lasted longer, and disappeared more gradually.

It's a fascinating storyline for an armchair epidemiologist to follow. One that seems destined to repeat itself for years to come. Until then, urgent care providers will plan and prepare in vain. ■

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