

proach to the epidemic. This challenge was addressed in part by holding regular meetings of the cross-jurisdictional Australian Health Protection Committee. Public messages regarding the public health response used the names of the phases of the pandemic plan, including "Delay," "Contain," and "Protect," which may have helped the public to take appropriate personal action and reduce the impact of the virus on our population.

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From the Department of Health and Ageing, Canberra, ACT, Australia.

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The Emotional Epidemiology of H1N1 Influenza Vaccination

Danielle Ofri, M.D., Ph.D.

Last spring, when 2009 H1N1 influenza first came to our attention, my patients were in a panic. Our clinic was flooded with calls and walk-in patients, all with the same question: "When will there be a vaccine?"

It was all so new then, and we didn't have an answer. That lack of answer seemed to fuel anxiety to a fever pitch. A substantial cohort of my patients continued calling, almost on a weekly basis, to ask about the vaccine.

These, of course, were the same patients who routinely refused the seasonal flu vaccine. Each year we'd go through the same drill: I'd offer them the flu shot. I'd explain the clinical reasoning behind this recommendation. I'd strongly encourage vaccination.

"No, thanks," they'd say. "The vaccine makes me sick." Or "My brother had a bad reaction." Or, simply, "I don't do flu shots."

The irony was painful. No matter how often I trotted out the statistics of 30,000 to 40,000 annual deaths from influenza, the patients would not be moved. So

when they demanded the H1N1 vaccine last spring, I reminded them of their reluctance over the seasonal flu shot. "Oh, that's different," they said.

Six months have passed. Flu season is now here. After repeated delays, H1N1 vaccine finally arrived in our clinic earlier this month to the uniform relief of the medical staff. But my formerly desperate patients were now leery. "It's not tested," they said. "Everyone knows there are problems with the vaccine." "I'm not putting that in my body."

I was unprepared for this response, but maybe I shouldn't have been. For weeks now, in the schoolyard of my children's elementary school, other parents had been sidling up to me, seemingly in need of validation. "You're not giving your kids that swine flu shot, are you?" they'd say, their tone nervous, if a bit derisive.

How to explain this dramatic shift in 6 short months? It certainly isn't related to logic or facts, since few new medical data became available during this peri-

od. It seems to reflect a sort of psychological contagion of myth and suspicion.

Just as there are patterns of infection, there seem to be patterns of emotional reaction ("emotional epidemiology") associated with new illnesses. When 2009 H1N1 influenza was first detected, it fit a classic pattern that Priscilla Wald recently outlined in her book *Contagious*¹: It was novel and mysterious; it emerged from a teeming third-world city, and it was now making its insidious — and seemingly unstoppable — way toward the "civilized" world.

This is the story line for most headline-grabbing illnesses — HIV, Ebola virus, SARS, typhoid. These diseases capture our imagination and ignite our fears in ways that more prosaic illnesses do not. These dramatic stakes lend themselves quite naturally to thriller books and movies; Dustin Hoffman hasn't starred in any blockbusters about emphysema or dysentery.

When the inoculum of dramatic illness is first introduced

into society, the public psyche rapidly becomes infected. Almost like an IgE-mediated histamine release, there is an immediate flooding of fear, even if the illness — like Ebola — is infinitely less likely to cause death than, say, a run-in with the Second Avenue bus. This immediate fear of the unknown was what had all my patients demanding the as-yet-unproduced H1N1 vaccine last spring.

As the novel disease establishes itself within society, a certain amount of emotional tolerance is created. H1N1 infection waxed and waned over the summer, and my patients grew less anxious. There was, of course, no medical basis for this decreased vigilance. Unusual risk groups and atypical seasonality should, in fact, have raised concern. By late summer, the perceived mysteriousness of H1N1 had receded, and the number of messages on my clinic phone followed suit.

But emotional epidemiology does not remain static. As autumn rolled around, I sensed a peeved expectation from my patients that this swine flu problem should have been solved already. The fact that it wasn't "solved," that the medical profession seemed somehow to be dithering, created an uneasy void. Not knowing wheth-

er to succumb to panic or to indifference, patients instead grew suspicious.

No amount of rational explanation — about the natural variety of influenza strains, about the simple issue of outbreak timing that necessitated a separate H1N1 vaccine — could allay this wariness.

Similarly, reassuring fellow parents that I was indeed vaccinating my own children did little to ease their apprehension. When the New York City public school system offered free vaccinations for both students and families, there was an abysmally poor turnout. Less than one quarter of the consent forms sent home in kids' backpacks were returned.

The dramatic shift in public sentiment over the course of this H1N1 epidemic is both fascinating and frustrating. It is clear that there is a distinct emotional epidemiology and that it bears only a faint connection to the actual disease epidemiology of the virus.

We cannot combat H1N1 influenza merely by ensuring adequate supplies of vaccine and oseltamivir. Unless the medical profession confronts the emotional epidemiology of H1N1 with a full-court press, we run the risk of an uncontrollable epidemic.

There is no doubt that we are

far behind the curve in terms of public relations. Our science has not been dithering at all, but our articulation of that science has often seemed that way, from the unfortunate initial appellation of swine flu to our inability to clarify distinctions between vaccine-production issues and clinical-risk issues. Suspicion has its own contagion, and we have not been aggressive enough in countering it.

Every practicing clinician is, to some degree, an armchair epidemiologist. We register patterns of disease as they play out among our patients. We are also keen detectives of emotional epidemiology, though we often aren't aware of this as such. Keeping tabs on the emotional epidemiology as well as the disease epidemiology, and treating both with equal urgency, are the essential clinical tools for this influenza season.

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From New York University School of Medicine and Bellevue Hospital, New York.

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Industry Influence on Comparative-Effectiveness Research Funded through Health Care Reform

Harry P. Selker, M.D., M.S.P.H., and Alastair J.J. Wood, M.D.

Much attention has been focused on the ongoing efforts in Washington to pass a health care reform bill. Comprehensive health care should reduce the use of ineffective and

suboptimal medical interventions and investigations in order to improve medical care and reduce wasted expense. To do that effectively, we need data on the comparative effectiveness of thera-

pies and medical tests, which unfortunately we currently lack.

Recognition of this lack of data has resulted in the inclusion of increased funding for comparative-effectiveness research (CER)