


Time for the mainstream media to face the factory farm-swine flu link

By [Tom Philpott \(https://grist.org/author/tom-philpott/\)](https://grist.org/author/tom-philpott/) on Nov 11, 2009

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“Since last spring and the onset of the 2009 pandemic H1N1 influenza outbreak in humans, USDA has consistently asked that the media stop calling this “novel” pandemic virus “swine flu.” By continuing to mislabel the 2009 pandemic H1N1 influenza virus that is affecting human populations around the world, the media is causing undue and undeserved harm to America’s agriculture industry, especially to pork producers.”

— From the USDA Website ([http://www.usda.gov/wps/portal/!ut/p/_s.7_o_A/7_o_1OB?](http://www.usda.gov/wps/portal/!ut/p/_s.7_o_A/7_o_1OB?utm_medium=only=true&contentid=2009/09/0433.xml)



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Novelist-turned-anti-meat-pamphleteer Jonathan Safran Foer made a stark claim about swine flu on *The Ellen DeGeneres Show* recently:



(http://ellen.warnerbros.com/2009/11/jonathan_safran_foer_reveals_s.php)

This swine flu that's now an epidemic, they've been able to trace it back to a farm in North Carolina... A hog farm. Nobody knows this. Nobody talks about it. We've been told this lie that it came from Mexico.

Well, the situation is even worse than Foer suggests. Authorities aren't actually saying the novel strain of swine flu "came from Mexico." That would be uncomfortable, because it first cropped up there a few miles from vast hog operations run by U.S. pork giant Smithfield. (</article/2009-04-28-more-smithfield-swine/>)

But they are insisting that "pork is safe" –and doing little or nothing to monitor hog confinements for evidence of infection.

For years before the current outbreak, scientists openly worried that CAFOs (concentrated animal feedlot operations) provided excellent arenas for the generation and spread of dangerous new flu varieties.

Yet another bit of evidence on this score crossed my desk this week: a "News Focus" piece that ran in *Science* back in 2003 called "Chasing the Fickle Swine Flu." (https://grist.files.wordpress.com/2009/11/2003_science_swineflu.pdf) (PDF) It's jumping-off point is the very incident Foer pointed to on Ellen –the outbreak of a novel strain of flu, genetically related to the current strain, on a North Carolina farm in 1998. The opening is worth quoting at length:

One of the first signs of trouble was a barking cough that resounded through a North Carolina farm in August 1998. Every pig in an operation of 2400 animals sickened, with symptoms similar to those caused by the human flu: high fever, poor appetite, and lethargy. Pregnant sows were hit hardest, and almost 10% aborted their litters, says veterinary virologist Gene Erickson of the Rollins Animal Disease Diagnostic Laboratory in Raleigh. Many piglets that survived in utero were later born small and weak, and some 50 sows died.

The culprit, a new strain of swine influenza to which the animals had little immunity, left veterinarians and virologists alike puzzled. **Although related flu strains in birds, humans, and pigs outside North America constantly evolve, only one influenza subtype had sickened North American pigs since 1930. That spell was suddenly broken about 4 years ago, and a quick succession of new flu viruses has been sweeping through North America's 100 million pigs ever since.** This winter, for example, up to 15% of the 4- to 7-week-old piglets on a large Minnesota farm died, even though their mothers had been vaccinated against swine flu, says veterinary pathologist Kurt Rossow of the University of Minnesota, Twin Cities. [Emphasis added.]

Here we have a phenomenon I've written about before: the flu strains circulating through the U.S. swine herd didn't mutate much after 1930—until 1998. The novel strain that emerged in a North Carolina CAFO then was devastating for pigs, whose immune systems did not recognize it; but luckily, it didn't have the genetic chops to jump to humans.

By 2003, scientists were actively worried that would soon change, the *Science* article reveals.

“Within the swine population, we now have a mammalian-adapted virus that is extremely promiscuous,” one researcher told the magazine. “We could end up with a dangerous virus,” i.e., a mutation that jumps to humans.

And researchers were looking to the CAFO as the site where such a thing could rear up. In the 1990s, hog farming underwent an unprecedented process of intensification and consolidation. As *Science* put it:

In the past decade, big swine producers have gotten bigger, and many small producers have gone out of business. The percentage of farms with 5000 or more animals surged from 18% in 1993 to 53% in 2002, according to Rodger Ott, an agricultural statistician at the National Agricultural Statistics Service in Washington, D.C.

Back in 2003, there was no taboo about stating the obvious:

“With a group of 5000 animals, if a novel virus shows up, it will have more opportunity to replicate and potentially spread than in a group of 100 pigs on a small farm,” [University of Minnesota veterinary pathologist Kurt] Rossow says.

But giant hog confinements weren't the only sites of concern: Another vet-science expert warned *Science* of the concern that small-scale, pasture-based operations are even more menacing than CAFOs, because “pigs in outside pens, as is common on small farms, can be exposed to the droppings of migratory waterfowl, which may contain infectious viruses; large-scale confinement agriculture may prevent such exposure.”

Right. But that particular expert happened to be the “director of veterinary science at the National Pork Board in Clive, Iowa.” Now, there may be risk associated with keeping pigs outdoors where they can come into contact with birds. But the small size of outdoor herds means much less opportunity for the kind of mixing and reassortment to create a high probability for jumping to humans. Can anyone name a vet-science expert seriously concerned about this factor—that is, who doesn't draw a salary from the industry?

In addition to sheer numbers, the *Science* piece points to another factor linking CAFOs to the generation of new strains: an explosion in vaccinations.

In 1995, swine flu vaccination was so new that the National Swine Survey conducted by the United States Department of Agriculture didn't bother to assess its extent. ... Today [i.e, back in 2003], more than half of all sows are vaccinated against both H1N1 and H3N2 viruses, says Robyn Fleck, a veterinarian at Schering-Plough, one of the nation's three producers of swine influenza vaccine.

All those vaccines created concerns of a treadmill effect—when all the pigs in a building are vaccinated, only vaccine-resistant flu mutations can survive, creating a constant need for new vaccines. Already in 2003, *Science* reported, researchers were finding flu in vaccinated pigs. “Flu is also showing up in piglets thought to be protected by maternal antibodies passed on from vaccinated sows,” the article states. Here's a choice bit:

Widespread vaccination may actually be selecting for new viral types. If vaccination develops populations with uniform immunity to certain virus genotypes, say H1N1 and H3N2, then other viral mutants would be favored. [Molecular virologist Richard] Webby suggests that the combination of avian polymerase genes generating errors in the genetic sequence and immunologic pressure from vaccination may be selecting for unique variants.

Now, that same virologist, Richard Webby, goes on argue that mass vaccination is important, drawbacks aside. The “benefits of vaccination outweigh this side effect,” Webby told *Science*, because “If you can decrease the amount of virus, you can reduce the chances of interspecies transmission.”

To me, this statement illuminates a gaping dilemma presented by industrial-scale hog farming: we're forced to choose between a vaccination treadmill, which reduces the incidence level of flu in CAFOs but predictably generates novel, vaccine-resistant strains; or not vaccinating at all, which would allow flu to run rampant among millions of hogs.

Even a veterinary expert for Schering-Plough, the pharmaceutical giant (now owned by Merck) with a large position in the swine-vaccine market, seemed a little concerned about the situation—not just the vaccine treadmill, but the whole game

of factory hog farming.

Schering-Plough veterinarian Terri Wasmoen acknowledges that vaccines “may be pressuring change.” But she also notes that larger hog confinement operations and more shipping from state to state may play a role. **“We need epidemiological work to understand these issues, and there is no funding now,” she says.** [Emphasis added.]

That last bit is jaw-dropping for several reasons. Here are two: 1) With a known and obvious public-health threat brewing, public-health authorities had zero political will to even muster funding to study it; and 2) a multi-billion-dollar pharmaceutical company was minting profits from a growing market it knew contained a serious public-health risk, yet could itself find “no funding” to research it.

Well, here we are, six years later. The scenario that scientists feared and predicted would unfold has unfolded: a novel strain of H1N1 has jumped to humans, and is now spreading rapidly. Scientists are now hoping the strain won't mutate into one that's more difficult to shake off. But as we know now, hope doesn't do much to stop the evolution of flu strains. There remains no large-scale effort to investigate CAFOs as engines of new swine flu strains—or even monitor them for infections.

“[T]here is no systematic monitoring of [human] populations where there may be interspecies transmission between humans, birds, and pigs,” a CDC epidemiologist complained to *Science* six years ago, referring to the lack of monitoring of CAFO workers for infection. Amazingly, that remains true today.

Our political culture has proven itself incapable of challenging the multibillion-dollar pork industry. But what about our media culture—the watchdogs who keep democratic society safe from unaccountable power?

As Foer says, nobody—besides him, me, and a few others—is talking about this link. The *Washington Post* made a game try a few weeks ago, but not before ludicrously taking pains to stress the “pathogen-free” nature of CAFOs.

(<http://www.washingtonpost.com/wp-dyn/content/story/2009/10/25/ST2009102500523.html?sid=ST2009102500523>)

Who will be the first mainstream journalist to train a sharp eye—and stake the prestige of big-name publication—on this question? Perhaps the *New Yorker* staff writer Michael Specter, who recently published a book on scientific “denialism,” (</article/2009-10-31-michael-specter-denialism-organic-GMO/>) will raise his voice against the systematic denial of evidence that CAFOs generate dangerous flu strains.

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