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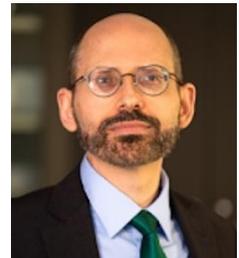
Whenever possible, treat the cause: Shut down the flu factories

Commentary on [Wiebers & Feigin](#) on *Covid Crisis*

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Abstract: Over the last few decades -- and at a historically unprecedented rate -- hundreds of human pathogens have emerged, mostly from animals. The United Nations' "[Preventing the Next Pandemic](#)" report blames increasing demand for animal protein and unsustainable agricultural intensification as two key drivers of the emergence of zoonotic threats. Animal agribusiness has become a viral disease incubator, but there is a clear path towards preventing the next pandemic as well as protecting planetary health: to reform the practice of raising domestic animals for food and to adopt eating habits that not only protect our health, but address the climate crisis—and the next pandemic.

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1. When Animal Viruses Attack. Novel diseases have emerged at a pace unheard of in the annals of medicine (Epstein et al., 2003)—more than thirty new diseases in thirty years (Woolhouse, 2002). *Emerged from where?* Nearly all of the emergent disease episodes in recent years have come to us from the animal world (Murphy, 1998).

In July 2020, the United Nations released a report entitled "[Preventing the Next Pandemic: Zoonotic Diseases and How to Break the Chain of Transmission](#)" (UNEP 2020). Seven major drivers of zoonotic disease emergence were identified. The first: "Increasing demand for animal protein." The second: "Unsustainable agricultural intensification." Factory farms harbor "ideal conditions for infectious diseases" (Ferrari 1997). As the Food and Agriculture Organization put it, "[t]he critical issue is the keeping [of] more and more animals in smaller and smaller spaces" (Delgado et al., 2003).

Even industry groups, like the American Association of Swine Veterinarians, have blamed "[e]merging livestock production systems, particularly where they involve increased intensification." Global meat production has risen more than 500 percent over recent decades (FAO 2006), which has led to an explosion in massive animal agriculture operations now key to the Third Age of emerging human disease (McMichael 2004).

Although most new zoonoses have been a result of how we raise animals for food (Rohr et al, 2019), along with human culpability comes hope. If changes in human behavior can cause new plagues, changes in human behavior may prevent them in the future (Schrag et al., 1995).

2. Shutting Down the Flu Factories. How can we stop the emergence of pandemic viruses? *Whenever possible, treat the cause.* The world’s largest association of public health professionals, the American Public Health Association, has called for a moratorium on new and expanding factory farms (AMPH 2003; AMPH 2019), and an editorial in its *American Journal of Public Health* questioned the very idea of raising so many animals for food in the first place:

“It is curious, therefore, that changing the way humans treat animals, most basically ceasing to eat them, or at the very least, radically limiting the quantity of them that are eaten—is largely off the radar as a significant preventive measure. Such a change, if sufficiently adopted or imposed, could still reduce the chances of the much-feared influenza epidemic. It would be even more likely to prevent unknown future diseases that, in the absence of this change, may result from farming animals intensively and killing them for food” (Benatar, 2006).

3. Eating for Our Future. We have a path forward. The authors of the target article write:

“Intensive confinement of animals in factory farm operations should be discontinued worldwide for the sake of animals, humans, and the environment, and we should rapidly evolve to eating other forms of protein that are safer for humans, including plant-based meat alternatives and cultured meat (produced by culturing animal cells)” (Wiebers & Feigin, 2020).

As consensus grows that reduced meat consumption is critical to addressing the climate crisis and our burgeoning lifestyle disease epidemics, interest in diversified protein sources has surged. Eating less meat may help save the world—and ten million human lives annually (Willett et al., 2019). Indeed, a plant-based diet might save \$30 trillion from lowered rates of cancer, heart disease, type 2 diabetes, and other chronic diseases (Springmann et al., 2016).

Major meat producers now blend in vegetable proteins to make hybrid products like Tyson’s “Whole Blends” sausage links and Perdue’s “next generation” chicken nuggets (Walla, 2019). Smithfield, the world’s largest pork producer, recently debuted a line of plant-based products (Shanker, 2019); and [Quorn](#), a brand of meat-free meat made from the mushroom kingdom, opened a facility that can produce the equivalent of around twelve million chickens per year (Duewer et al., 1993).

In 1932, Winston Churchill predicted: “We shall escape the absurdity of growing a whole chicken in order to eat the breast or wing, by growing these parts separately under a suitable medium.” (In terms of efficiency, growing meat from muscle cells could reduce greenhouse gas emissions and water use by as much as 96 percent and lower land use by up to 99 percent (Tuomisto et al., 2011). Factoring in pandemic risk, the benefits to human health could arguably rival those to the planet.

How we treat animals can have global public health implications. Factory farms are a public health menace. We don’t tend to shore up the levees until after disaster strikes, but it’s not worth risking the lives of millions of people for the sake of cheaper meat.

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