

The H1N1 Influenza

An Injection of Reason

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I think the time has come to panic. But not about catching the H1N1 “swine flu.” And not about the alleged risks of the vaccine that can protect against it. For the vast majority of people, the flu will mean no more than a week or so of misery, not different from previous versions. As far as the risk of the vaccine goes, it’s minimal. However, there is something to panic about: the stunning and spectacular amount of misinformation being bandied about, ranging from cherry-picked data and the promotion of quack remedies to outlandish conspiracy theories about culling the world’s population.

I freely admit to not having expertise in this complex area, but I think I do have expertise in judging who does. And that would be the scientists at Centers for Disease Control in Atlanta, the World Health Organization, Health Canada and major universities. These immunologists, virologists, toxicologists and epidemiologists spend their lives researching and evaluating vaccines. I trust their opinion, which is based on experimental evidence, over that of naturopaths, homeopaths, chiropractors and various graduates of the University of Google, for whom evidence-based medicine is a foreign concept.

No rational person with a plumbing or electrical problem would seek help from a former Playboy centerfold, a comedian who specializes in facial contortions, or a retired neurosurgeon. We would seek out a licensed plumber or an electrician. Yet when it comes to immunology, a field more complex than plumbing or wiring, many see no conundrum in being swayed by the rhetoric of Jenny McCarthy, Jim Carrey or Dr. Russell Blaylock, none of whom have training in this field. Of course, not all anti vaccine advocates are wackos, some do raise legitimate questions about vaccine components and possible subtle effects. Indeed, there are two sides to the vaccination debate, it’s just that they are not equal sides.

Unfortunately, the lay press, in its attempt to be “fair,” often presents the pro and con arguments as if these had equal weight. They do not. The vast majority of knowledgeable scientists are in the vaccine corner, recognizing vaccination as one of the greatest advances in the history of public health, at the same time being fully aware that as with any medical intervention, there are some risks. The point, though, is that they judge these risks to be significantly outweighed by the benefits. On the other hand, the very loud and often verbally abusive anti-vaccine minority greatly exaggerates the risks and minimizes the benefits. Science, though, is not on their side. But unfortunately emotion often trumps science. And conspiracy theories can be seductive.

One of the most convoluted tales is spun by Australian “investigative journalist” Jane Burgermeister. She contends that the H1N1 virus was genetically engineered and released by pharmaceutical companies so that they could then reap the profits from marketing vaccines. That claim almost sounds sane when compared with her other allegation that there is “evidence that an international corporate syndicate, which has annexed high government office inside the United States, is intent on carrying out a mass genocide using an artificial (genetic) flu pandemic virus and a forced vaccination program.” What possible reason can there be for decimating the public in this fashion? This mental maven has the answer: “To transfer control of the United States to the World Health Organization, the U.N., and affiliated security forces.” What can one say? Sometimes you run across comments that are so outrageous, so mindless and so contemptible that they do not merit rebuttal.

No, the H1N1 virus was not engineered by Big Pharma for financial gain. Neither is there any attempt to “cull” the population by the American government, and there is no callous disregard for public health by releasing an untested vaccine. Furthermore, it is not true that swine flu is simply another version of flu and is not unusually dangerous, as some allege. This flu affects young people, sometimes severely. Last summer, not considered to be flu season, 1 in every 20,000 children under four years old who contracted the flu ended up in hospital. The number of diagnosed cases is increasing and so are hospitalizations. The possibility of a serious pandemic is real and vaccination is a viable way to reduce the risk of this happening.

Of course when it comes to a new vaccine, there can be no guarantee of 100% safety. In science you have to learn to expect the unexpected. But there has been extensive testing of this vaccine, which is produced the exact same way that seasonal flu vaccines have been produced for decades. Over ten million doses of the 2009 H1N1 vaccine

have already been administered with no more than the usual minor side effects, nothing more than a sore arm or headache. Of course as more people get vaccinated there will be claims of all sorts of adverse reactions as people will link health problems that would have arisen anyway with the vaccine. “After it, therefore because of it,” is a mental trap into which many fall.

One of the noisiest anti-vaccinationists is former neurosurgeon, Dr. Russell Blaylock. I can tell that his scary message about the horrors of vaccination is making the rounds very effectively because I’ve been deluged by emails asking me about his reliability. Well, to be charitable, I think his mental machinery is in severe need of a little lubrication. I’ve long been aware of the good doctor’s outlandish views on food additives, particularly aspartame and MSG. So I’m not at all surprised by his anti-vaccine rant. Some of his allegations about vaccines can be instantly shown to be wrong. For example, there never has been any squalene adjuvant in any U.S. vaccine. Adjuvants are added to increase the efficiency of the body’s reaction to the active ingredients in a vaccine, so that a smaller amount of vaccine goes a longer way. Squalene has been used in Europe and Canada for years without any problems being reported. That isn’t surprising given that this compound is actually produced in the human body, it is on the metabolic path to cholesterol. The amounts present in the body at any time are greater than that added to vaccines. Curiously, squalene is sold in health food stores as a dietary supplement to increase immunity, and is often guzzled by the same people who are worried about its presence in vaccines. More on the iconic and eclectic Blaylock later.

Anytime vaccination is mentioned, the issue of thimerosal, a mercury-containing preservative used in some vaccines, rears its head. Numerous studies have investigated the allegation that mercury in vaccines is linked to developmental problems such as autism. No such connection has been found. One of the best studies was carried out by McGill researchers who surveyed almost 28,000 children born between 1987 and 1998, a period when thimerosal was widely used. There was no link with autism or any other developmental disorder. Another study at the University of California looked at 452 children aged 2 to 5 who were either developing normally, or had developmental problems such as autism spectrum disorder. There were no differences in blood mercury levels between autistic children and children with normal development.

Vitamin D, promoted as a weapon against the flu by those self-appointed saviours of humanity, Russell Blaylock, Joseph Mercola (an osteopath who maintains a popular website) and Gary Null (who is wooed by every type of woo out there) does play a role in immune function. But catching the flu is not a sign of immune deficiency. And the most recent double blind study, carried out with 162 adults taking 2000 IU of vitamin D3 daily during the flu season, showed no benefit in decreasing the incidence or severity of upper respiratory tract infections. Of course good nutrition is important for bolstering immune function, and taking a vitamin D supplement (1000 IU is the current consensus) is a good idea for various reasons, even if it doesn’t play a critical role in protection against viral diseases. However, suggesting, as Blaylock does, that fish oil or antioxidants help with H1N1 has no evidential basis, and recommending homeopathic remedies against the flu is just plain silly. The basic tenets of homeopathy, namely that a substance that causes symptoms in a healthy person will cure a sick person experiencing those symptoms, and that the remedy becomes more powerful with greater dilution, are absurd. Non-existent molecules do not have a physiological effect. They do, however, increase the coffers of the purveyors of these products, who incidentally, are often the same people who criticize Big Pharma for bilking the public. Nonsensical folkloric remedies such as placing bowls of onion around the house to “absorb” the virus are also making the rounds of the web.

The anti-vaccine crowd commonly brings up the possible link to Guillain-Barre syndrome, a rare but potentially dangerous neurological disease. A possible connection to vaccines arose in 1976 when 48 million Americans were inoculated against the swine flu and 532 developed Guillain-Barre. That means roughly 10 cases per million vaccinated. No such relationship has been found with any vaccine since that time, suggesting that there was a problem with that specific vaccine, perhaps bacterial contamination. But here is the important statistic. The flu itself can cause Guillain-Barre, the risk being somewhere between 40 and 70 cases for every million people who get come down with it. Of course Guillain-Barre can be acquired by other means as well, with infection with the bacterium *Campylobacter jejuni* being a prime cause. Incidence, though, has been steadily falling, probably due to improved meat hygiene. Given that flu vaccines are produced in chicken eggs, the 1976 link between vaccination and Guillain-Barre may have been due to contamination of the vaccine by *Campylobacter* proteins. The 2009 H1N1 vaccine is produced the same way as the seasonal flu vaccine, which has been given for years with an impressive

risk-benefit profile and no significant link to Guillain-Barre. Bottom line is that the risk of getting Guillain-Barre from the flu is 40 times greater than getting it from the vaccine.

People like Blaylock, Mercola and Null, with their scientifically unsupportable inane comments are a public menace. Having a background in neurosurgery or dentistry does not make you an expert in immunology or toxicology. For this we should look to the real experts at Centers for Disease Control in Atlanta, the World Health Organization and Health Canada. Or listen to the likes of Dr. Paul Offit of the University of Pennsylvania who has spent decades carrying out research in immunology, including the development of a vaccine against rotavirus that has saved thousands of children from death. Of course Blaylock and his simple-minded confreres will claim that these organizations, as well as Dr. Offit are in cahoots with Big Pharma to sell more vaccine. Not only that, these evil organizations have even managed to convince the Deans of all major medical schools, who of course support vaccination, to collude with them in a nefarious scheme to defraud the public. What poppycock!

And then there is Dr. Rauni Kilde, a former provincial medical officer in Finland, whose video interview is all over the web. She sings the common song that the H1N1 vaccine was designed to diminish world population and put billions into the coffers of pharmaceutical companies. Children and pregnant women are to be vaccinated first, because this is the quickest way to eliminate the next generation. This mental giant is reported to believe that the Nazis visited the moon in the 1940s, that the U.S. government has inserted microchips into babies for future mind control, and that extraterrestrials saved her life three times, once by using a force field to deflect an elk that jumped in front of her car. Gee, if only there were a vaccination against lunacy.

Life offers us no guarantees...except death. Everything comes down to a risk-benefit analysis. I've scrutinized this issue very carefully, listening to all opinions, but obviously relying more on real experts than on contrarians who have forged opinions based on flim-flam or on questionable political or social agendas. I don't pay much attention to Dr. Blaylock. He's weird. He denies global warming. He states that the Soviets had a plan to drown the country in illegal drugs to destroy the moral foundation of western society and weaken its ability to resist a Soviet military invasion. These drugs were to be pushed especially to high school students to create a future dysfunctional leadership. And you know what else? According to Blaylock the Soviets developed crack cocaine and managed to spread it in the U.S. to create a drug culture and diminish the religious underpinnings of the nation. He believes that President Obama, who is merely a puppet of his "Elite" backers (whoever these may be) is trying to establish a "New World Order" that is based on eliminating the old and the disabled. Blaylock is an ultraconservative defender of "American values" who appears regularly on extreme right wing radio shows plugging his outrageous agenda. He has the gall (and mental decrepitude) to liken the Obama administration to the Nazis. I don't think this is the kind of character from whom we should be taking scientific advice. Rather, I will take the path that has been forged by evidence-based science. I will roll up my sleeves for the H1N1 vaccine, as will my wife, children and grand children.