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Risks of being risk-averse

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Knocked Up is a movie about taking risks.

Ben Stone meets Allison Scott at a bar. They get drunk and have sex, and Allison gets pregnant. In a somewhat surprising twist, Allison, young and unmarried, risks bringing a baby into her life. Now she must decide whether she wants to risk marrying Ben, a well-meaning, good-hearted man with a frat-house mentality. And Ben must decide whether he wants to risk marrying Allison, knowing that he will be forced to grow up.

The movie also involves Allison's sister, Debbie, who is skeptical of Ben as a husband and is herself consumed by daily risks, such as neighborhoods with sex offenders and vaccines with mercury.

Debbie reflects today's risk-averse culture. But like most of us, she's really not risk averse at all. Because we don't know where the real risks lie, we're actually risk takers.

For example, for four years we have been besieged by the notion that a bird flu pandemic is around the corner. Media stories focus on our lack of preparedness, who would be immunized first, and preliminary studies of a bird flu vaccine. Books such as John Barry's *The Great Influenza* underline just how devastating flu pandemics can be. But bird flu hasn't caused a pandemic.

Although two or three influenza pandemics will occur in this century, many more Americans will be killed by epidemic influenza - about 35,000 to 40,000 every year. Despite these grim statistics, elderly adults - those most likely to die of flu - are fairly casual about getting their yearly flu shot.

In March 2003, when the United States invaded Iraq, the Department of Defense feared a biological counterattack with smallpox. So it inoculated soldiers with smallpox vaccine; 40,000 health-care workers also were immunized. Since December 2002, about 1.2 million people have been immunized with a vaccine to prevent a disease that was eliminated from

the Earth in 1979. Unlike the prevention of many infectious diseases, smallpox vaccine works even when it is given 48 hours after exposure to someone with smallpox, a disease whose symptoms aren't subtle. We could have distributed the vaccine, made sure that systems were in place to give it quickly and efficiently, and waited.

But we didn't. As a consequence, about 140 people were harmed when the vaccine virus caused inflammation of their heart muscle. In this case, getting vaccine was riskier than waiting.

As for the movie character Debbie's fear of mercury in vaccines, the only vaccine that might include a mercury-containing preservative is the influenza vaccine, now recommended for all children between 6 months and 5 years of age. The quantity of mercury in that vaccine, about 12 micrograms of ethylmercury, is dwarfed by the amount of mercury that one typically encounters in the environment.

Further, several studies have clearly demonstrated that vaccines containing mercury as a preservative don't cause neurological problems, including autism. (Since mercury as a preservative was removed from vaccines given to infants in 2001, the incidence of autism has actually increased.) Influenza virus, on the other hand, causes the hospitalization of more than 100,000 children every year and the deaths of about a hundred; most of these children were previously healthy. Debbie's choice to avoid mercury in vaccines wasn't risk-free; it was a choice to take a greater risk.


Media don't do a very good job of educating about risk. We're scared of anthrax, botulism, tsunamis, and serial killers when we should be scared of things like french fries (strokes and heart attacks are the most common causes of death). We're scared of pandemic flu when we should be scared of seasonal flu.

And we're relatively unconcerned about the greatest threat from vaccines - driving to get them.

Paul A. Offit is co-inventor of a rotavirus vaccine and author of "Vaccinated: One Man's Quest to Defeat the World's Deadliest Diseases."

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