

Protecting the Santa Cruz County 'herd' through immunization

Fortunately, much of my medical experience with deadly childhood diseases comes from textbooks instead of the tens of thousands of young patients who died or were harmed by diseases common just a few decades ago: measles, mumps, polio, rubella, tetanus, Haemophilus influenzae type b (Hib disease), diphtheria and smallpox.

Although rare today, within my lifetime these diseases were serious killers in the United States. Even when they did not kill, they caused paralysis, brain damage, deafness and other serious outcomes. I had high school friends with polio, my best friend's sister died from diphtheria, and my daughter's preschool friend lost her hearing from Hib disease. These diseases are rare or nonexistent today because immunizations protect children against them. That's good news. But in a way, our success against these diseases has made us forget how truly serious and harmful they were - and how devastating they could become again if we let our guard down. That's why the Health Improvement Partnership (HIP) -- a local countywide collaborative of health, foundation, government and community leaders, joins other national health groups in supporting childhood immunizations as safe and effective.

The success of immunizations is due to two things: the amazing effectiveness of most vaccines in preventing serious and often fatal diseases (like meningitis and pneumonia), and a concept called "herd immunity," which works by breaking the chain of infection that diseases need to spread within a population. If most people are immunized and protected against a contagious disease, then the disease cannot spread beyond its initial victims.

Herd immunity protects everyone - those who are immunized as well as those who cannot benefit from immunization (e.g. because they are in the very small percentage of the population who do not develop immunity, are immunosuppressed, or are allergic to a vaccine).

The risk of vaccine-related harm is not zero (as is true of any medication or intervention), but it is very small. Vaccines are used in millions of people every year, so even a rare complication would be amplified. The benefits to society and to individual children far outweigh any risk. In the past, failing to immunize a child may have seemed a small, acceptable risk for individual parents, but as more and more people do the same thing, the risk of disease will rise quickly, eclipsing the amazing risk of harm from a vaccine. In countries whose immunization rates have faltered due to war or chaos, diseases formerly held at bay have returned. Because many of these diseases are extremely contagious, they are very hard to stop once they are unleashed among unimmunized and mobile people. Indeed, outbreaks of measles, mumps, pertussis and other victims, diseases are on the rise. US measles cases this year are already tripple the number for all of 2007. Santa Cruz County has experienced outbreaks of pertussis and

mumps and a measles outbreak was as close as San Diego.

I fear we will see more outbreaks locally as more people claim "Personal Belief Exemptions" to opt out of childhood immunizations. These exemptions are well-intentioned and motivated by a fear of unnecessary harm coming to a child. Yet in my opinion, as both a parent and a doctor, the exemptions are reaching dangerous levels. They affected 7.59 percent of the county's kindergarten population in 2006 (compared to 1.41 percent in California overall). In North County, the exemption rates are in the double digits and are evident in the number of school outbreaks that are increasing each year.

Nature is wily; many of our medical successes are fragile or uneven. Measles, for example, while rare here, still infects 23 million people worldwide and causes 480,000 deaths a year. Thanks to our increasingly small world, travel to and from other countries can bring measles or other diseases here quickly, easily and unknowingly - and we and our children also can be exposed when we gather at airports, sports events or other venues.

Our best chance of protecting all of Santa Cruz County from these diseases, especially our babies and our immunosuppressed neighbors, is to protect our "herd." Please discuss immunizing your children with your health care provider.

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