Inoculation Frustration

Mel Melcon/Los Angeles Times-TNS
A vial containing the MMR vaccine is loaded into a syringe before being given to a baby at the Medical Arts Pediatric Med Group in Los Angeles.

The health officer for Clark County, Washington, the center of a measles outbreak that has spread to Oregon, is upset by misinformation about the safety and effectiveness of vaccines

By Molly Harbarger
The Oregonian

Alan Melnick is frustrated and open to new ideas. The Clark County, Washington, health officer and his staff are on the fourth week of a public health crisis that the state hasn't seen before, and he suspects that the measles outbreak that has infected 38 people, including two in Oregon, will only grow larger for the foreseeable future.

But what has him so frustrated he is seeking input is that the rapid-fire spread of the sometimes-fatal disease is preventable. But for years, the vaccination rates in the area have remained well below the threshold to stop a highly contagious disease like measles from ravaging a community.

"The bottom line is, there's no surprise we're seeing this right now," Melnick said. "If we don't get our immunization rates up, we're going to see more of it in the future."

On Jan. 25, health officials said a Multnomah County resident has been diagnosed with measles, marking the first reported case of an infection in the state linked to the recent outbreak centered just over the border in Vancouver. It's not clear where in the county the person lives. The Oregon Health Authority announced four new locations in Gresham, Wood Village and Troutdale where people may have been exposed to measles.

The misinformation that has fueled the decline in vaccination rates in the wider region — largely born from a debunked assertion that vaccines cause autism — seems to be as contagious as measles itself.

Clark County, like other health agencies and news organizations, is bombarded on social media with myths and "junk science" about the dangers of vaccination.

"If we don't get our immunization rates up, we're going to see more of it in the future."

— Alan Melnick, health officer, Clark County, Wash.

Melnick sees the links pop up on Facebook and spread because the articles seem well sourced and the websites look professional.

"That's garbage, but it's out there, and they're making it look good," Melnick said in an interview Wednesday.

By Thursday, the number of Clark County's confirmed measles cases had jumped to 38 since Jan. 1. The list of locations where people with measles might have spread it to others included nine health care facilities, nine schools, three churches, the Portland International Airport and a Portland Trail Blazers game.

Infected people shopped at Costco and high-end grocery store, Chuck's Produce. They went out to eat and met with their financial planners.

'Herd immunity'

If the Vancouver area met what is called "herd immunity," the number of people who need to be vaccinated to stop a contagious disease, those would be fine activities. But you need a vaccination rate of 93 percent to achieve herd immunity, and as of 2017, the Vancouver area's was at only 66. That means that people who have never received a vaccine, people who have weak immune systems, children too young to receive a vaccine or people who cannot for a medical reason, are in danger of the air itself when they leave the house.

Melnick has a store of immune globulin that can help stave off the disease, but he's rationing it out for the most dire cases, such as pregnant women, who run a much higher chance of miscarriage or stillbirth if infected with measles.

Measles outbreaks generally go in 21-day cycles. The virus radiates out from the original carriers to their personal community first, then to the broader community through central locations, then from people who were infected secondhand and then spread it to their communities.

Vaccine dates to 1963

Before the measles vaccine was widely available, between 400 and 500 people died every year, according to the U.S. Centers for Disease Control and Prevention. About 1,000 people every year dealt with one of the most serious consequences — swelling of the brain, which can cause lifelong problems.

Nearly every child under 15 in the U.S. got measles before 1963. But after vaccination became widespread, that number dropped so low that the Clark County outbreak is one of the largest nationally.

At the same time, New York has more than 160 cases of measles in an outbreak that took hold in an orthodox Jewish community, where many people are unvaccinated and spend most days working, socializing and worshipping together.

Melnick said that the Vancouver outbreak is not confined to any one religion or demographic population. But it has the potential to be as large and dangerous as New York's.

"It is what keeps me up at night," Melnick said. "This could be exponential. It's like taking gasoline and throwing a match into it."

Two states at risk

Clark County and Washington health officials say they don't know yet how the outbreak started. Usually, measles is brought back by someone who traveled abroad and then unknowingly introduces it into the U.S.

Health officials in Washington have not pinpointed a source and say that they are too busy trying to mitigate the reach of the outbreak to dedicate more resources to the investigation.

And officials say they need more resources. On Jan. 25, Gov. Jay Inslee declared a state of emergency to access medical help from other states and deploy all available Washington state agencies to assist the response to the outbreak.

State data and national research does show that there trends in who is vaccinated and who is not. The demographics are varied and make it hard to point to who might be a likely culprit.

The resistance to vaccination often falls across political divides. Christian and Waldorf schools in Oregon report some of the lowest vaccination rates, though the parents who send their kids to each might vote for opposing political parties. Among the Vancouver-area churches with infected parishioners, many are evangelical.

People resistant to vaccines also span the socioeconomic spectrum. While some outbreaks have been linked to more wealthy enclaves, rural parts of Washington show some of the lowest immunization rates.

But despite knowing which schools and regions of Oregon and Washington have low immunization rates, there is a growing sense that public health agencies are losing the battle to "anti-vaxxers" — the label attached to those most fervently against vaccines.

Koenig pointed out that Washington's vaccination rates have held relatively stable for the past decade — but that level is below what health officials want it to be. Oregon, too, suffers from chronically low vaccination rates.

Exemptions are easy

Washington and Oregon laws require public school students to be vaccinated in order to receive an education — mostly.

Both states allow significant leeway for parents to obtain an exemption.

Oregon and Washington, among many states, allow parents to enroll their children in school without vaccines by claiming a philosophical objection, as well as religious and medical ones.

To balance that leniency, a parent must meet with a health care provider first. The intent was that perhaps a doctor could explain the serious risks in the choice not to vaccinate.

But in Washington, parents can also opt out of that meeting if they claim they have a religious objection to any form of health care intervention. In Oregon, they can choose to watch a state-produced video instead.

'It is a big deal'

At the county health office, Melnick is ready for a "cultural shift" on attitudes about vaccination.

He expects outbreaks to get worse before they get better. The last confirmed measles case in Clark County was 2011 — two children had the disease. In 2015, the first person to die of measles in 12 years was in Washington.

Multnomah County had a measles case last summer, and Clark County had a suspected case that could not be confirmed.

Meanwhile, mumps and chickenpox — which children often get vaccinated for at the same time as measles — have become more regular occurrences.

Vaccination opponents point to the low number of people hospitalized or dying of measles as a sign that the risk is overblown. Only one person has been hospitalized so far in the outbreak. But Melnick argues that one out of 38 is higher than it should be.

Especially when the hospitalization comes from a disease that was declared eliminated from the U.S. in 2000 and is expected to affect no people every year.

"If the airline industry was crashing two jumbo jets each year, I think people would be afraid to fly," Melnick said. "It is a big deal."

Bedtime snack might not pack on extra pounds: Study

By Najja Parker
The Atlanta Journal-Constitution

Do you avoid eating a meal right before bed to maintain your health? You may not need to do that, according to a new report.

Researchers from the Graduate School of Health Sciences at Okayama University in Japan recently conducted a study, published in BMJ Nutrition, Prevention and Health, to explore whether leaving a two-hour gap between the last meal of the day and bedtime increases your blood glucose level. High blood glucose is associated with weight gain, diabetes and heart disease.

For the assessment, the team examined 1,573 healthy middle-aged and older adults from western Japan. They then assessed the subjects' diets as well as other lifestyle factors such as their physical activity; weight; and smoking and drinking habits.

The scientists also monitored the participants' HbA1c levels, which indicate the blood glucose levels of individuals over the long-term.

After analyzing the results, they found HbA1c levels did not change significantly over the course of the three-year study. In fact, the numbers remained normal.

Furthermore, they also could not attribute the slight rise to eating before bed.

"Weight, blood pressure, blood fats, physical activity levels, smoking and drinking seemed to be more strongly associated with changes in HbA1c levels rather than the interval between eating and sleeping," the authors wrote in a statement.

The analysts did acknowledge their trial was observational. Therefore, they could not establish causation.

Despite the limitations, they do believe their findings are significant. They concluded that "more attention should be paid to healthy portions and food components, getting adequate sleep and avoiding smoking, alcohol consumption, and overweight, as these variables had a more profound influence on the metabolic process.