Graph B: Vaccine Supply Increase, Public

Precautions and No Variants

If the pace immediately increases to 3 million shots per day, we could reach the herd immunity

threshold by May . In that time, 90,000 people could die from the virus

#### A5

## When will the pandemic end?

### MOUNTAIN MEDICINE Ron Polk



Current pace About 1.7 million

ion shots per day

**6 C** There's this attitude that public health measures are getting in the way of opening up the country. It's exactly the opposite...the public health measures are the pathway to opening the country. That's the point that gets lost. "— Dr. Anthony Fauci.

A former university colleague was known for asking challenging questions in his classroom. The appropriate answer often required the student to qualify their response by saying, "It all depends," and then identify the conditions that make their answer true.

"When will the pandemic end?" The short answer is, "It all depends." The longer answer is the subject of this column.

Person-to-person transmission of the SARS-CoV-2 virus, and therefore the incidence rate of COVID-19 infections, depends on these conditions:

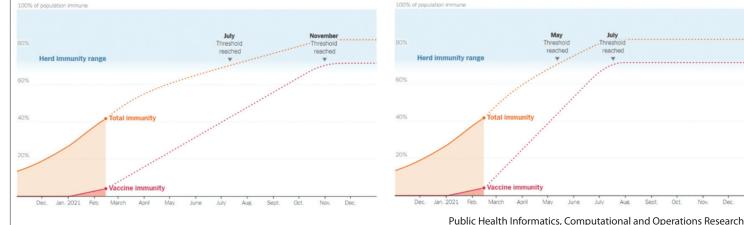
• The proportion of the population adhering to behaviors that reduce transmission, including masks, physical distancing and personal hygiene such as handwashing.

• The proportion of the population already infected who are therefore immune, currently 25-40%.

• The proportion of the population who are immunized, currently 21%.

Achieving herd immunity is the goal of vaccination. Herd immunity means the virus has too few new people to readily infect so the pandemic dies out. The proportion of the immune population required to achieve herd immunity is 70-85%. The sum of current U.S. immunity (above) is short of 70%. Rapid immunization of the remaining vulnerable population is why we have been waiting for our age groups to be Graph A: Current Vaccine Supply, Public Precautions and No Variants

If we continue at our current pace, we could reach the herd immunity threshold by **July**. In that time, **100,000** people could die from the virus.



summoned to Cloverleaf Hall. Scientists at Public Health Informatics, Computational and Operations Research (PHICOR) have modeled these complex relationships.

Graph A illustrates that under conditions at the time of the analysis (Feb. 16), including 1.7 million immunizations per day, the rise in the proportion of the US populations with infection plus vaccine induced immunity (top dotted line) will reach 70% in July. If only vaccine-induced immunity is considered (lower dotted line) then 70% will not be reached until November.

Graph B illustrates increasing immunization to 3 million per day (beginning Feb. 16), herd immunity will occur in May, two months earlier. There are also 10,000 fewer predicted deaths.

Additional scenarios, including the effects of loosening social restrictions and the impact of variants can be viewed online (www.nytimes.com/2021/03/04/ learning/whats-going-on-in-this-graph-march-10-2021.html). The strength of these models is that it is easier to understand the reasons why we have altered our lives for

the past year, and the goal that we all have — to return to a semblance of normality.

Supply increase

There are additional issues that need to be considered as our society tries to achieve herd immunity:

• Vaccine hesitancy. The U.S. is currently vaccinating an average of 2 million persons per day. Some say 3-4 million doses per day are achievable. A Pugh survey reported March 5 found that 30% remain reluctant or opposed to vaccination. This will delay achieving herd immunity.

• What's normal? "How long to get back to normal?" depends on how you define normal. Dr. Fauci recently said, "If normality means exactly the way things were before we had this happen to us, I can't predict that." President Biden has said, "we'll be approaching normalcy by the end of this year."

Few scientists believe the SARS-CoV-2 virus will be eradicated. Instead it will likely become endemic, perhaps like annual influenza. The unvaccinated will continue to be vulnerable to infection. There will be a new normal.

Is everyone on board? Although new infections are decreasing, a return to "nor-

mal" social behavior too early is concerning. Governors of Mississippi and Texas reversed mask mandates for residents on March 2, decisions that were widely criticized by public health officials. On March 5, the federal Center for Disease Control and Prevention (CDC) reported new data confirming the importance of masking.

• Variants. Scientists are monitoring COVID-19 "variants of concern" that have lower sensitivity to current vaccines. Vaccinations will reduce variants that may threaten us all. Updated vaccines that target variants may become part of routine vaccinations for SARS-CoV-2 in the future.

• The bubble. This review has focused on the U.S., but we don't live in a bubble. One estimate is that it could take 7 years to achieve herd immunity for the rest of the world.

• The bottom line. "When will things return to normal?" It all depends...on us.

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## Act will protect more Oregon rivers and streams



regon is special for many reasons. But two attributes are near and dear to my heart: our state's unmatched natural treasures and our firm commitment to democracy that I call the "Oregon Way." clean drinking water. This bill represents, for example, nominations for Tumalo Creek from a science class at the Pacific Crest Middle School in Bend, for Rough and Ready Creek from river guides in Southern Oregon, and for the Umatilla River and Middle Fork John Day by the Confederated Tribes of the Umatilla Indian Reservation.

In addition to reflecting Oregonians' desire to protect our spectacular rivers for generations to come, the bill would continue to rev up our state's outdoor recreation economy — which, according to the Outdoor Recreation Industry, supports 224,000 jobs statewide and generates \$15.6 billion in consumer spending. The legislation was crafted with the input of small businesses across Oregon who know these protections support hunting, fishing, and outdoor recreation, and will help them as they fight to recover from the pandemic as more and more Oregonians find refuge and safety in the outdoors. And we did this the "Oregon Way." We solicited nominations from the people who interact with these rivers every single day. And we listened to concerns these folks were having in real time by taking a 21st century conservation approach that considers the climate emergency, and the sobering risks that wildfire poses to Oregon families and small businesses.

toric infernos that ripped through Oregon communities in fall 2020, I made sure the River Democracy Act takes multiple, necessary steps to protect homes, businesses, and our state's special places from wildfires.

Those steps include the requirement that federal land management agencies assess the risks of wildfire in Wild and Scenic River corridors, as well as near homes and businesses, and develop a risk reduction plan that must be implemented immediately.

The bill also allows federal land man-

affects private property rights."

And finally, the bill includes language that explicitly makes it clear that valid or vested water rights will not be affected; and the state of Oregon can still administer water rights in accordance with state laws and regulations.

Since becoming Oregon's senator, I have hosted nearly 1,000 in-person town halls in every nook and cranny of our state. We have temporarily moved meetings online during the pandemic. But whether online or in person, these town halls are built on the "Oregon Way. come together as Oregonians to dig into the issues that matter. We may not agree on everything, but at the end of the day, we are all still committed to improving outcomes for each other. That's what we do in Oregon. Working together to find solutions that work for everyone is as integral to our DNA as voting by mail or public beaches.

With those attributes in mind, I was proud last month, along with Sen. Jeff Merkley, to introduce the River Democracy Act.

The legislation proposes to protect our natural treasures by adding nearly 4,700 miles of rivers and streams in Oregon to the national Wild and Scenic Rivers system — the largest Wild and Scenic Rivers effort in U.S. history.

And the bill takes its name from the fact that the proposed rivers and stream additions came directly from more than 15,000 nominations submitted by Oregonians statewide.

That open public process encouraged Oregonians to nominate rivers that are outstanding for their recreation, fish and wildlife habitat, or because they provide

In the devastating aftermath of the his-

agement agencies to enter into cooperative wildfire-fighting agreements with states and local governments and establishes a federal grant program for states and local governments to help repair drinking water quality, watersheds, and infrastructure.

The River Democracy Act even spells out that nothing in the legislation precludes the ability to fight fires in wild and scenic corridors, including the construction of temporary roads when necessary for public safety.

I intend this bill to protect federal public land, and believe strongly that private property rights must be upheld. This includes farming and ranching, which are vital to many local economies around the state. The legislation takes great care to state in plain English that "Nothing in this Act or an amendment made by this act So it's in the true spirit of the "Oregon Way" that the proposed River Democracy Act now opens a new round of conversation among us as Oregonians.

I very much look forward to continuing that conversation to preserve and protect rivers and streams, safeguard private property rights as well as water rights, and strengthen wildfire protections in river corridors across the state.

Ron Wyden is Oregon's senior senator.

# Pumping iron became my armor

### WRITERS ON THE RANGE

Crista Worthy

hen I was young, I was so pretty. Leggy, with long, blonde hair. I hated guys whistling at me. There must have been something about that 115pound girl that looked like an easy mark, so passive.

The summer I turned 20, I waitressed at a small, family-owned pizza place by the beach in San Diego, near my university. One morning at work the owner's son, a big strong guy, was the only other person there. He grabbed me, and threw me up on the stainless-steel counter where they assembled the pizzas.

I didn't scream, or hit him. I yelled "No!" and tried pushing him away, but it didn't do any good. Afterwards, I slid off the table, went in the bathroom, proceeded with work, and avoided him the rest of the day. I quit a couple of days later and never told anyone why. I felt embarrassed. I moved on.

The following summer, I turned 21 and took a cocktail waitress job at an upscale restaurant near the university, working 6 p.m. to 2 a.m. I made \$100-\$120 a night in tips — good money for 1980. One evening my boss asked me to help him carry wine glasses out of the storeroom.

Up in that little dark room, he suddenly turned and exposed himself. I backed away and he offered me cocaine, as if that would change my mind. I kept backing up, right out of the room. I was sure he would fire me, but he didn't. I never said anything about it.

The San Diego Chargers' training camp was just up the street and the players came in every afternoon. They were kind, fun and always respectful.

But at night, some other customers were not. As I took their order, some men tried to put their hands up my skirt. I'd immediately step back, but sometimes when I turned around to get their drinks, they'd slap me on the butt.

When I returned with their orders, I'd stand across the table so they couldn't reach me. Sometimes they'd "accidentally" drop

my tip on the floor, so I'd have to bend over and pick it up, and they'd laugh. Who was I supposed to tell — my boss? This is how things were four decades ago.

A creepy older guy always hung around my station, where I picked up the drinks. He was relentless. One night he must have slipped something in my drink because I remember waking up at his place as he stood over me and said, "You weren't that good anyway." I was so embarrassed. I don't remember how I got home. I left the job.

I took a job at another restaurant and soon another man was hanging around me every night. One night at 2 a.m., I caught him following me home.

I quit the next day and took a job as a veterinary surgical assistant: \$3.35 an hour.

At age 25 I was teaching aerobics at night and noticed that one girl looked better than everyone else. She told me she lifted weights and I asked her to show me. From day one, I was strong — 25-pound dumbbell presses! I was hooked. I read up on it and started lifting two hours a day.

Within two months I was getting muscles. I have never been harassed since. A year later, I weighed 140 (still do) and used 60-pound dumbbells (still do). Women in the gym wanted to know how they could do it, too, and I helped them. I won a world championship. Athletes respected me. I married one of them.

I finally told a friend what happened to me when I was in my early 20s. I finally acknowledged what had happened after she said: "You were raped."

Of course, it explains why I grew muscles like armor, and why I loved having control and a strong body. Even today at 61, if I want to, I know I can back a man off just by body language.

I don't feel vulnerable anymore. I'm just glad that nowadays, it's getting easier for women to speak up about harassment and rape, particularly when it involves powerful men.

Women have learned so much since I was young, and many are tough and brave in ways I wish I'd been. And some men, certainly not all, are being held accountable. At last.

Crista Worthy is a contributor to Writers on the Range, writersontherange.org, a nonprofit dedicated to lively conversation about the West. She writes about aviation, travel and wildlife from her home in Idaho.