*Isolating the two most networked individuals reduces the number of connections from 15 to 3. This cuts overall transmission risk by 80%. So if we had 50% **more** new cases a week, now we have 70% **fewer** new cases a week. It only takes about half of this network naming 2 acquaintances each to identify the correct people to isolate.*

How to End the Pandemic in 30 days

Acquaintance quarantine could prevent hundreds of thousands of COVID-19 deaths before vaccines become widely available, without economy-crushing shutdowns, while healing civic divides.

Background

A recent article in Wired magazine described a clever way to get the most out of vaccinations: ask everyone to name one or more acquaintances. Then start immunizing the most-named people. According to theoretical physicist Shlomo Havlin, acquaintance immunization only needs to inoculate something like 16% of the population to halt the pandemic.

Why? Because a small fraction of the population has far more social connections than the rest of us. These people are usually the social glue that holds our civic life together. But they are also unfortunately most at risk of becoming superspreaders during a pandemic.

The beauty of [acquaintance immunization theory](#) is that it should reliably identify the most networked individuals, even with low participation. This is ideal for the uniquely low-compliance public health environment that we have in the US today.

As a [design theorist](#), I was thrilled. Could the "name a friend" algorithm work as well with quarantine as it's predicted to work with vaccines?

Actually it should work better, because quarantine immediately halts the spread of the disease, while after vaccination, people can still catch and spread the disease during the weeks it takes to develop immunity.

With **acquaintance quarantine**, we can stop each wave of the pandemic in as little as 14 days with 92-98% less economic disruption than a complete lockdown.

Unlike acquaintance immunization, which poses the ethical problem of not prioritizing the most vulnerable, acquaintance quarantine is ethically clear: we're already experiencing shattering economic losses leading to widespread hunger, as well as the specter of more restrictions with enormous political opposition and unrest. In this milieu, acquaintance quarantine offers a politically unifying alternative because it saves more lives less intrusively at much lower cost.

It also can rally faith-based, civic and government organizations around our most cherished neighbors. This may begin to heal a divided nation.

The downside if it fails is no worse than we're seeing in places that have remained open despite a rise in cases. With so little to lose and so much to gain, we need to try this now.

The Plan

A plausible theory is not something you act on. It's something you test. That's why, as a national strategy, this plan has 2 phases: a 14-day test with about 100 counties throughout the country, and (if the test succeeds) a rollout to all [3,143 counties](#) (and equivalents) in the US.

Alternatively, states could take the initiative, rolling it out in 2 phases as above, but with fewer counties in Phase 1. Obviously this would change the staffing, but not the timing. If individual counties try this on their own, this becomes a 1-phase program. In either case, states and counties should stay as transparent as possible throughout the process, posting results online and sharing them with the CDC.

Step 1: Staff up

The first phase will require at least 17 staff roles: a Public Health Leader, a Statistician, a Technical Writer, an Illustrator, a quick-turnaround Web Developer, a Fiscal Coordinator with Federal emergency relief experience, an HR Recruiter, and one Coordinator for every 10 counties. Clearly these must be talented, high-capacity professionals with no competing commitments.

During the first phase, the HR Recruiter needs to recruit 350 additional staff, including 30 Translators, and 300 County Coordinators.

Step 2: Recruit counties and faith/civic leaders

A simple, illustrated web page goes up explaining the concept and the program. The Public Health Leader recruits national civic and faith leaders as well as state governments, and works with them to draft outreach language for step 6. County Coordinators supply program press kits to county leaders and health officials. Coordinators schedule a press conference to announce the test program.

Step 3: Recruit businesses

As counties join the test, County Coordinators provide them a template to reach out to restaurants and supermarkets to offer free delivery for program participants without household members who can run errands for them. Coordinators also provide templates for counties to recruit hotels for subsidized or free quarantine services for the small fraction of program participants who will need them. Coordinators track template distribution, completions, modifications by counties, and follow up as necessary to support the fullest participation possible.

Step 4: Robo-text everyone

Each county robo-texts and robo-calls all of its residents with a link to a page that explains the program, and asks them to reply with the name and contact information of at least one acquaintance who lives nearby.

Counties include an incentive to respond, such as a free food delivery or a flag-themed mask to be provided by local businesses, faith and civic groups, and relief agencies.

Counties use confirmation texts/calls as an education piece about why we should keep wearing masks and social distancing, and how, if everyone does their part, we can avoid lockdowns. Coordinators supply templates to start this process.

Step 5: Quarantine the first 16%

Counties provide those named with instructions for self-quarantine. The first 16% to agree to this are the program Participants. They are not to leave their house for 14 days. This is about three times the [serial interval](#) of 4.6 days, which should reduce the number of new cases by factors of tens to hundreds.

Families or domestic partners who share a residence with a Participant should avoid contact with the Participant and be ready to quarantine, too, if anyone in the household gets sick.

In rare cases where someone in a participating household needs to quarantine but can't, counties under this program should offer free or subsidized quarantine at a hotel or other housing provided by faith/civic groups, where available. Out-of-home quarantine is very much a last resort option because each 1% of Participants who need hotel rooms adds something like 10% to the hotel occupancy.

Step 6: Rally Community Support

Faith and civic groups now use their national organization's templates to rally their local communities. These Supporters work with lists of quarantine Participants provided by the county. Supporters help by phoning participants, mailing them thank you notes, dropping off food, taking out their trash, listening to them, and helping as needed. In some cases, this may include some financial support.

Counties and Coordinators encourage local relief agencies to assist Participants further with maintaining their jobs through telecommuting or negotiated leave, dealing with creditors, and applying for targeted Federal relief using procedures developed by the Fiscal Coordinator and published on the program website. Remember, the quarantine period is much shorter than most lockdowns, and involves far fewer people.

Step 7: Medical Support

State and county health boards test Participants at appropriate intervals for active infections and antibodies. They also prioritize treating Participants who report symptoms, and keeping them informed of their options throughout treatment. [In a](#)

[few cases](#), testing positive for infection during quarantine can shorten their isolation period, though this also starts a new quarantine period for family members who could not avoid contact with a Participant during the days just before the positive test.

Step 8: Celebrate!

When the quarantine is over, counties publicly thank all Participants, their families and their Supporters for their service. Counties use self-reported compliance and Support Group surveys to identify those who complied fully or went above and beyond in supporting them, and publicly recognize them. Recognition could include online or physical galleries, thank you notes, official certificates of recognition, coupons and freebies from businesses that were able to stay open during this time.

A very intense effort also could be made by the Public Health Leader and Fiscal Coordinator to obtain financial support and thank-you gifts from online retailers who have thrived during the pandemic.

Step 9: Monitor and learn

During this program, county health boards encourage Participants and Supporters to continue to limit gatherings, socially distance and wear masks. Participating counties may end all other restrictions, but should continue to provide business owners with detailed guidance about social distancing, sanitation, mask wearing and monitoring/improving ventilation (e.g. via [CO_2 levels](#)).

The Statistician monitors spread before, during and after the test program, compares results among counties, and works with County Coordinators to find ways to improve the process.

Step 10: Roll out big

If this procedure proves effective in the 100 test counties, the program rolls out in every county that reports increasing cases, with incentives for compliance.

In the more likely event of a mixed success, learn from it, adjust the procedures, expand the group of test counties, and try again until it works well. It will most likely still save quite a few lives and substantially reduce costs until vaccines are widely available.

In the unlikely event that the test program fails everywhere, we'll know this by the end of Phase 1, learn from it, and humbly move on to the next most likely strategy.

Results

- **Best case**: stops the spread nationwide in less than 30 days without general lockdowns, saving hundreds of thousands of lives and trillions of additional dollars.
- **Likely**: in some areas, the second phase may have to repeat through a second wave before vaccines become widespread.
- **Worst case**: it fails to stop the spread. But then, that's where we are now.

Advantages if it works

1. It costs 92-98% less than continuing the status quo because five-sixths of the economy stays open, intervention periods are half to a sixth as long as most lockdowns, and the private sector/civic groups shoulder as much as half of the remaining costs (which are really investments in marketing and social capital).
2. It builds participation, empathy and community.
3. It increases peer support for healthy habits during the pandemic.
4. It realigns and empowers the very same social networks that make some people superspreaders.
5. It establishes and tests the infrastructure for a vaccination roll-out that includes at least some element of acquaintance immunization. This could get us to herd immunity 80% faster, that is, when only 16% of the population is immunized, rather than the usual 80%. In some areas of the country where people are less likely to get immunized, we'll need that leveraged margin to stay healthy.

Disadvantages

1. It may not work for some unforeseen reason. (But we won't know until we try)
2. The true cost of taking up to 16% of the population out of the workforce for 14 days is up to a 0.4% hit in annual GDP for every wave of the pandemic (assuming 60% of the population is employed). However, that's still 75 times less than the [net 3% GDP loss](#) that's forecast over the next decade on the track we've followed thus far.
3. Non-compliance: Some selected for quarantine may feel singled out, isolated, or stigmatized (that's why we recognize their leadership and sacrifice, and rally neighbors, faith and civic groups to provide moral, financial and physical support).
4. It will seem indiscriminate and random. Those not quarantined may feel left out (so enroll them as Supporters!).

5. Compliance may vary widely from county to county (but if it works, this will quickly become apparent. Also, some of the money saved can be used for HUGE publicity and incentive campaigns to recruit holdouts).

I sincerely hope that something like this (or better!) is already in the works. If so, I hope I haven't annoyed the experts too much. But having seen nothing like this so far, I had to speak up.

Wishing everyone a safe and healthy New Year,
Kev Polk, December 1, 2020