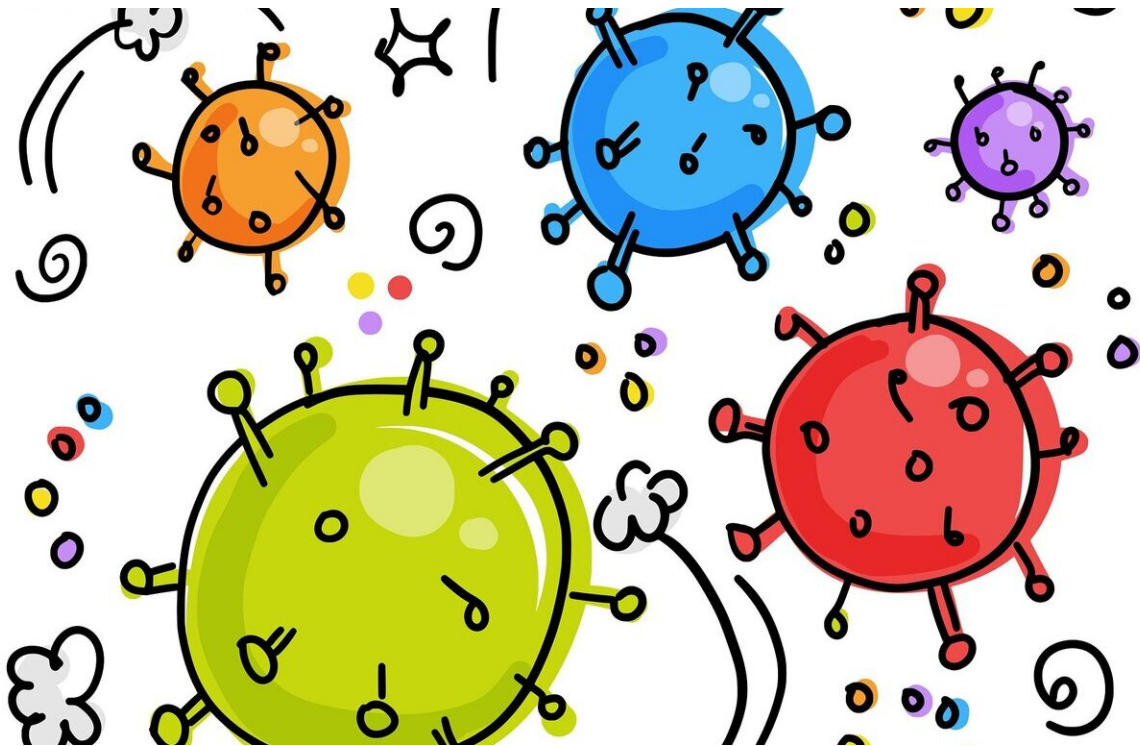# Quarantine bubbles—when done right—limit coronavirus risk and help fight loneliness

June 18 2020, by Melissa Hawkins

Credit: Pixabay/CC0 Public Domain

After three months of lockdowns, many people in the U.S. and around the world are turning to quarantine bubbles, pandemic pods or quaranteams in an effort to balance the risks of the pandemic with the emotional and social needs of life.

[I am an epidemiologist](#) and a mother of four, three of whom are teenagers in the throes of their risk-taking years. As the country grapples with how to navigate new [risks](#) in the world, my kids and I are doing the same.

When done carefully, the research shows that quarantine bubbles can effectively limit the risk of contracting SARS-CoV-2 while allowing people to have much needed social interactions with their friends and family.

Reduce risk if you can't eliminate it

A quaranteam is a small group of people who form their own social circle to quarantine together—and a perfect example of a harm reduction strategy.

Harm reduction is a pragmatic public health concept that explicitly acknowledges that all risk cannot be eliminated, so it encourages the [reduction of risk](#). Harm reduction approaches also take into consideration the intersection of biological, psychological and [social factors](#) that influence both health and behavior.

For example, abstinence-only education [doesn't work all that well](#). Safe-sex education, on the other hand, seeks to [limit risk, not eliminate it](#), and is better at reducing teen pregnancy and sexually transmitted infection.

Quarantine bubbles are a way to limit the risk of getting or transmitting SARS-CoV-2 while expanding [social interaction](#).

Mental health matters too

Staying indoors, avoiding all contact with friends or family and having food and groceries delivered would be the best way to limit your risk of

catching SARS-CoV-2. But the risks of the pandemic extend beyond the harm from infection. Health encompasses [mental as well as physical well-being](link).

The negative mental health impacts of the pandemic are already starting to become evident. A recent [survey of U.S. adults](link) found that 13.6% reported symptoms of serious psychological distress, up from 3.9% in 2018. A quarter of people 18 to 29 years old reported serious psychological distress, the highest levels of all ages groups. Many people are experiencing [anxiety and depression](link) due to the pandemic or were already living with these challenges. Loneliness certainly [doesn't help](link).

Loneliness and social isolation increase the risk for [depression and anxiety](link) and can also lead to increases in the risk for serious physical diseases like [coronary heart disease, stroke](link) and premature death.

Quaranteams, therefore, are not simply a convenient idea because they let people see their friends and family. Isolation poses serious health risks—both physically and mentally—that social bubbles can help alleviate while improving social well-being and quality of life.

Social network theory shows that quaranteams work

Social relationships enhance well-being and mental health but they also act as a vehicle for infection transmission. As people around the world emerge from lockdowns, this is the conundrum: How do we increase social interaction while limiting the risk of spread?

A recent study used [social network theory](link) – how information spreads among groups of people—and infectious disease models to see if quaranteams would work in this pandemic.

To do that, the researchers built computer models of social interactions

to measure how the virus spread. They built a model of typical behavior, of typical behavior but with only half the number of interactions and of three different social distancing approaches that also had half the number of interactions as normal.

The first social distancing scenario grouped people by characteristics—people would only see people of a similar age, for example. The second scenario grouped people by local communities and limited inter-community interaction. The last scenario limited interactions to small social groups of mixed characteristics from various locations—i.e. quarantine bubbles. These bubbles could have people of all ages and from various neighborhoods, but those people would only interact with each other.

All of the social distancing measures reduced the severity of the pandemic and were also better than simply reducing interactions at random, but the quaranteam approach was the most effective at flattening the curve. Compared to no social distancing, quarantine bubbles would delay the peak of infections by 37%, decrease the height of the peak by 60% and result in 30% fewer infected individuals overall.

Other countries are starting to incorporate quaranteams in their prevention guidelines now that infection rates are low and contact tracing programs are in place. England is the latest country to announce quaranteam guidance with their support bubble policy.

New Zealand implemented a quarantine bubble strategy in early May and it seems to have worked. Additionally, a recent survey of 2,500 adults in England and New Zealand found a high degree of support for the policies and high degree of motivation to comply.

How to build a quarantine bubble

To make an effective quaranteam, here's what you need to do.

First, everyone must agree to follow the rules and be honest and open about their actions. Individual behavior can put the whole team at risk and the foundation of a quaranteam is trust. Teams should also talk in advance about what to do if someone breaks the rules or is exposed to an infected person. If someone starts to show symptoms, everyone should agree to self-isolate for 14 days.

Second, everyone must decide how much risk is acceptable and establish rules that reflect this decision. For example, some people might feel OK about having a close family member visit but others may not. Our family has agreed that we only visit with friends outside, not inside, and that everyone must wear masks at all times.

Finally, people need to actually follow the rules, comply with physical distancing outside of the quaranteam and be forthcoming if they think they may have been exposed.

Additionally, communication should be ongoing and dynamic. The realities of the pandemic are changing at a rapid pace and what may be OK one day might be too risky for some the next.

The risks of joining a quaranteam

Any increase in social contact is inherently more risky right now. There are two important ideas in particular that a person should consider when thinking about how much risk they're willing to take.

The first is [asymptomatic spread]. Current data suggests that at any given time, anywhere between 20% and [45% of people infected with SARS-CoV-2 are asymptomatic or pre-symptomatic] and able to transmit the virus to others. The best way to know if someone is infected or not is to

get tested, so some people might consider requiring testing before agreeing to join a quaranteam.

The second thing to consider is that consequences of getting sick are not the same for everyone. If you or someone you live with has another health condition—like asthma, diabetes, a heart condition or a compromised immune system—the assessment of risk and reward from a quaranteam should change. The consequences of a high-risk person developing COVID-19 are much more serious.

One of the greatest difficulties facing both scientists and the public alike is the uncertainty about this virus and what lies ahead. But some things are known. If individuals are informed and sincere in their quaranteam efforts and follow the regular guidance of social distancing, mask wearing and enthusiastic hand-washing, quaranteams can offer a robust and structured middle ground approach to manage risk while experiencing the joy and benefits of friends and family. These are things we could all benefit from these days, and for now, quaranteams may be the best step forward as we emerge from this pandemic together.

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