

Contact Tracing

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What is contact tracing, and why is it important?

- Contact tracing is a *vital public health process* in which individuals who may have been exposed to an illness are identified and then notified of their exposure so that they can take necessary precautionary measures (such as testing and self-isolation) to prevent exposing other people.
- **This is essential to curbing and preventing outbreaks of *infectious diseases*.** E.g. illnesses that can be passed from person-to-person.
 - If people who have been exposed are informed EARLY, then transmission of the virus to other people can be prevented.



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How does contact tracing work?

- Contact tracing is conducted for every disease/illness that health departments have defined as **reportable illnesses**.
 - **Reportable illness** are those that are of importance for public health due to their abilities to spread throughout the community and potentially cause significant harm.
- When laboratories, physicians, and other healthcare providers identify a person as being positive for a reportable illness, they are **required by law to report that information to the health department**.
 - At this point, someone from the health department contacts (usually via phone call) you so that they can identify possible exposures that led to your illness and so that you can identify people you were in contact with that could have been exposed due to you also being sick.
- **This is all done to prevent others from getting sick!**



How contact tracing works for COVID-19

- **For COVID-19 contact tracing**, health departments are performing contact tracing for each person who is classified as a **case**.
- **How are you classified as a case?**
 - Cases are divided into two different categories: Confirmed cases and probable cases.
 - Confirmed cases as people who have **Confirmed Laboratory Evidence** of a COVID-19 infection.
 - Probable cases are people who meet either **Clinical Criteria AND Epidemiologic Evidence** or who meet **Presumptive Laboratory Evidence AND either Clinical Criteria OR Epidemiologic Evidence**.



Laboratory and Clinical Criteria for Cases

- **Laboratory Criteria**

- Confirmatory Laboratory Evidence = *a positive PCR (the swab) or antigen test*
- Presumptive Laboratory Evidence = *a positive serology (the blood sample) test*

- **Clinical Criteria**

At least 2 of the following:

- Fever
- Chills
- Rigors (shivering)
- Myalgia
- Headache
- Sore throat
- Loss of smell/taste

OR

At least one of the following:

- Cough
- Shortness of breath
- Difficulty breathing

OR

Severe respiratory illness with at least one of the following:

- Clinical or radiographic evidence of pneumonia
- Acute Respiratory distress syndrome

AND

No alternative more likely diagnosis



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Criteria used to determine if someone is a “contact”

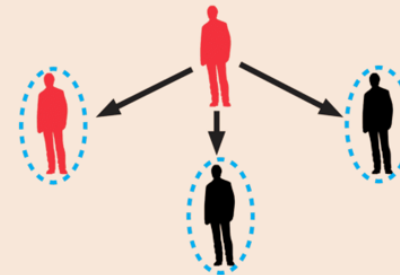
- If you receive a phone call from the health department but have not been tested for COVID-19, you were likely identified as a **contact**.
- **Contacts** are those who have had some sort of interaction or contact (physical and non-physical) with an someone who has tested positive for COVID-19.
 - **Generally**, includes those who have been **within 6 feet of a person for at least 15 mins in total within a 24-hour period**
 - 15 minutes is a **general guideline**; may be more or less depending on the situation
 - **i.e. Those in the same room as an infectious person for an extended period, even if more than 6 feet away, should be treated as a contact**
 - **Physical contact with droplets (i.e., touched used tissues of someone with COVID-19, touched the same surfaces as an infectious person, etc.)**



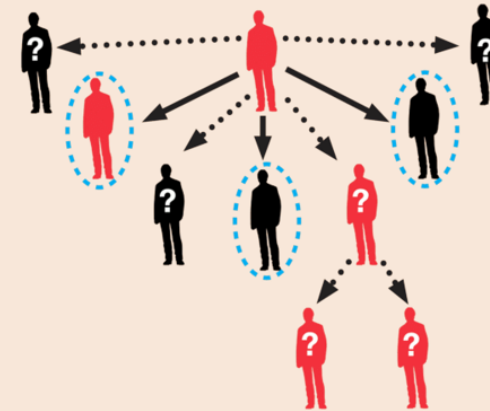
Contact tracing

- Contact tracing is different than community monitoring.
- In contact tracing, people who may have been exposed are identified by someone who has tested positive for the virus. These people are informed that they may have been exposed (**without disclosing the person who tested positive to maintain confidentiality**)
- In community monitoring, all individuals in a community are under constant surveillance to identify and isolate people who become sick right away.

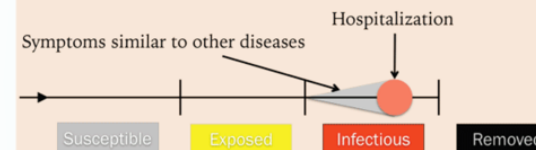
Contact tracing



Sick individuals asked to identify contacts. Authorities attempt to find and isolate contacts.

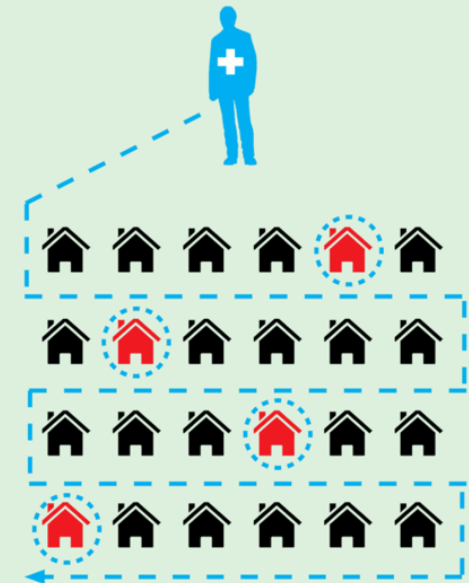


Hard in urban environments because of unknown contacts.

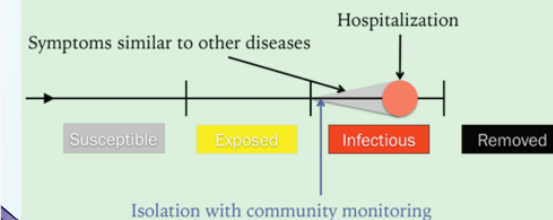


Sick individuals have a long time to infect others before being hospitalized.

Community monitoring



Communities with infected individuals monitored daily. Effective due to early identification of infections.



Sick individuals are isolated before they have a chance to infect others.

Contact tracing and testing

- **Both robust contact tracing efforts and robust testing are needed in order to wholly understand the outbreak and to prevent surges in cases**
 - Contact tracing is effective, but if there isn't enough testing than we aren't able to identify everyone who is sick and figure out who they may have exposed.
 - Testing is effective, but if there isn't a way to contact people who may have been exposed by infected individuals then those who were exposed may go on to develop the infection and continue to expose others.
 - **BOTH are needed to identify who is infected and to prevent further transmission**



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What happens in Arizona

- When you provide a **swab or spit sample** for a PCR test OR **a rapid test** for COVID-19 in Arizona, **those results are automatically reported to the state health department if you test positive for the virus.**
 - *This is a requirement for all healthcare facilities because COVID-19 is classified as a reportable illness.*
- Once the health department receives information of your positive test result, **contact tracers working for the health department will contact you** to ask you questions about your illness and ask you to identify and provide ways of contacting people you were in contact with prior to getting tested.
- They will then use this information to **contact those people you identify and notify them they have been exposed to someone (without mentioning your name) who has tested positive for COVID-19 and that they should get tested and self isolate.**



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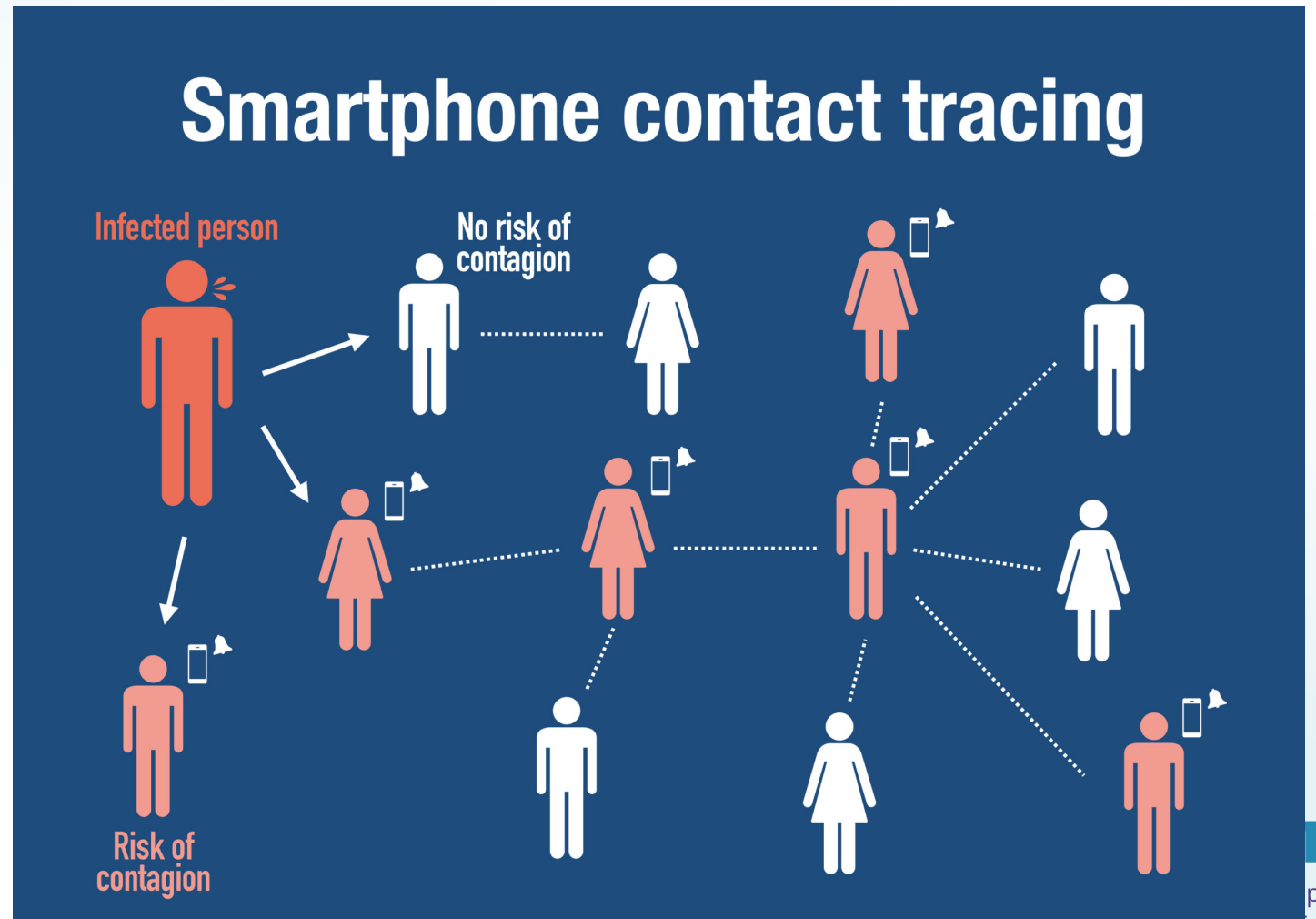
COVID-19 contact tracing faces unique challenges

- Traditional contact tracing relies on contact tracers interviewing you via phone call to identify possible contacts who you may have unintentionally exposed.
 - If you don't know everyone you may have been around before you received your test result, all contacts aren't able to be identified and notified.
- With COVID-19, there is significant lag time that occurs in each step of the process.
 - Because it is so similar to other respiratory illnesses (and because some people experience only a couple symptoms if any at all), **people who are sick with the virus often do not seek out testing right away.**
 - Then, **because of less than optimal testing capacity**, once someone gets tested **there is often an additional 2-7 days before that person receives their test results** and during that time **people may not be self-isolating** (even though it is explicitly recommended).
 - To top it all off, **there are not enough contact tracers** so that each positive case is followed up when they receive notification of someone testing positive.



Contact tracing apps

- Traditional contact tracing is usually conducted via a phone call from the health department.
- However, other methods (such as smartphone apps) have been developed to overcome these challenges that the COVID-19 pandemic has brought to traditional contact tracing.



Contact tracing apps

- Currently, there are apps that have been developed that aid traditional contact tracing.
 - None of these are mandatory but are “opt-in” and greatly increase your chances of finding out whether you have been exposed EARLY so that you can take necessary precautions to keep your family, friends, and others from also developing the infection.
- **These apps use GPS** information (or other self-reported location information) from your phone and other people who also use the apps **to identify everyone that would have been a contact** of yours before you received a positive test result.
 - This **shortens the time between you receiving a positive test result and contacts being notified** of their exposure
 - It also **identifies and notifies people** who have been exposed **that you wouldn’t normally be able to identify** through a phone interview with the health department.



Examples of contact tracing apps

- An example of this is the TraceTogether App used by the Ministry of Health in Singapore.
- Resident's phones that have the TraceTogether app installed communicate with each other by exchanging proximity information with each other when they come into close contact.
- This information is then stored on your phone and is only shared with the Ministry of Health when a user who was in close contact with you tests positive for COVID-19.
 - The Ministry of Health would then contact you to schedule testing to determine if you have acquired the infection.
 - Proximity information is deleted after 25 days so that you are only notified about recent contacts, and not ones that test positive months after being in contact.





Examples of contact tracing apps

- A local example of this is the Covid Watch Exposure Notification App used at The University of Arizona.
 - This app is completely anonymous, does NOT collect any personally identifying information or location tracking data, and does NOT share any of this information with other app users.
 - Instead, the app registers the secure, anonymous Bluetooth signals that are sent out from other users of the app.
 - When you get tested, you are able to add your positive test result to the app and it will send a notification to other users of the app that you were in contact with that they have been exposed to someone who has tested positive.
- You can learn more about Covid Watch here <https://covid19.arizona.edu/covidwatch>



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