The Race to Trace: Scaling contact tracing in California

Mike Reid, MD
UCSF
I have no disclosures
Overview

Purpose & principles of Case Investigation & Contact Tracing

Key Questions

Impact to date

What does success look like
WHEN
Is It Safe to come out again?

CASES NO LONGER SPREADING WIDELY
Fewer unlinked cases, falling case rates, contact tracing keeping up with case reports

STRONGER HEALTH CARE SYSTEM
Able to withstand blip of cases without risking health care worker and patient lives

PUBLIC HEALTH CAPACITY
Test patients and trace contacts immediately, isolate the ill, quarantine contacts

HOW
Do we lift physical distancing restrictions?

MEDICALLY VULNERABLE CONTINUE TO SHELTER
Potentially, those with prior illness will be protected – but we don’t know this yet

PRIORITIZE SOCIETAL BENEFIT
Day care, maybe schools (protecting the vulnerable), infrastructure, partial safe re-opening, sanitizer/temp checks

PREPARE TO TIGHTEN THE FAUCET IF CASES SPIKE
Test patients and trace contacts immediately, isolate the ill, and quarantine contacts effectively
Purpose of Investigation and Tracing

Communicate with those who have infectious disease (cases) such as COVID-19 to:

- Identify exposed persons (contacts)
- Recommend strategies to reduce further transmission
- Improve community and population health

......All about breaking the chain of transmission / turning off the faucet
CONTACT TRACING - KEY QUESTIONS

1. Technology?
What technology could we leverage to support work (but also allay concerns about confidentiality and privacy?)

2. Mobilizing Troops?
How could we mobilize a battalion of contact tracers when health departments are already fully maxed?

3. Training?
What did we need to train people to do the job (and do it well) and how quickly could we do it?

4. Equity-focused?
How do we ensure a more inclusive COVID response for historically marginalized populations?
1. TECHNOLOGY: a digital solution to support contact tracing

- A case management tool (not a proximity tracking app)

  - Can be scaled remotely
    Enable expansion of workforce, but do work quicker
  - Can be used by non-clinical/public health staff
    Train new people in a few hours
  - Can be implemented fast….
2. MOBILIZING TROOPS

- **Projections of staffing needs:**

<table>
<thead>
<tr>
<th>Location</th>
<th>No. CTs</th>
<th>Population</th>
<th>CTs/100k,00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wuhan, China</td>
<td>9,000</td>
<td>11.1 million</td>
<td>81.1</td>
</tr>
<tr>
<td>Iceland</td>
<td>50</td>
<td>360,000</td>
<td>13.7</td>
</tr>
<tr>
<td>New Zealand</td>
<td>190</td>
<td>4.9 million</td>
<td>3.9</td>
</tr>
<tr>
<td>New York City</td>
<td>1000</td>
<td>8.4 million</td>
<td>11.9</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>1000</td>
<td>9.6 million</td>
<td>14.5</td>
</tr>
<tr>
<td>California</td>
<td>20,000</td>
<td>39.5 million</td>
<td>50.6</td>
</tr>
</tbody>
</table>

**Expert opinion:**
14 CTs per 100k population

**San Francisco:**
Currently 148 staff (95 FTE) working on CI/CT including ‘disaster service workers’
3. TRAINING

- Epidemiology & COVID-19
- Overview of Contact Tracing
- Comprehensive Containment Strategies
- How to Conduct a Contact Tracing Interview
- Cultural humility
- Interviewing Skills & Building Rapport
- Overview of Case Investigation
- Health Coaching
- Addressing Common Challenging Situations
3. TRAINING

San Francisco
Orientation training to Contact Tracing: >400
- In depth training: 280

California
Total enrolled in UCSF/UCLA training: 5805
- Completed training: 82%

Approx. 20 hours of training +/- 10 hours onboarding
Impact in San Francisco

1,830 Case Investigation Interviews Completed

3,203 Contacts Identified

1,961 Contacts Notified

Data for 4/13/20-6/21/20
CT Outcomes are one of 5 Key Indicators for our Status in San Francisco

82%  
Level 2: Low Alert

Percent of Cases Reached Over the Prior Two Weeks

Level 1: Above 90%
Level 2: 80%-90%
Level 3: 65%-80%
Level 4: Below 65%

Contact tracing dataset coming soon!

88%  
Level 2: Low Alert

Percent of Contacts Reached Over the Prior Two Weeks

Level 1: Above 90%
Level 2: 80%-90%
Level 3: 65%-80%
Level 4: Below 65%

Contact tracing dataset coming soon!

https://data.sfgov.org/stories/s/epem-wyzb
Success depends on many steps

By testing contacts here, we can reduce latency here.

Diagram showing timeline with key events: Infectious Period Begins, Symptom Onset, Test Completed, Contacts Notified, Case Interview Complete, Test Resulted, Biggest interval.
Success demands an inclusive response:

Trust comes easier between people with shared language, culture, and experiences.

- Demands cultural humility training, recruit for language & lived experience, partner with CBOs

Holding the community’s trust is a heavy load that response workers are not always prepared or equipped to bear.

- Clearly define roles & responsibilities of CTs, build support systems for CTs and offer training to manage ‘emotional labor’
Success requires an expansive response:

For many, caring about COVID is a luxury in the face of more pressing and urgent needs.

- Contact tracing must be integrated with welfare systems & connections to other social services

Contact tracing and symptom tracking asks the vulnerable to take on more risk than it’s worth.

- Understand that asking a well-intentioned question can provoke anxiety and fear.
- For the most vulnerable, a face-to-face interaction may be the only way to ensure privacy and trust.
Questions?
THANK YOU

Michael.reid@ucsf.edu