The Anatomy of a Positive COVID-19 Case at MIT

November 23, 2020 8am call
Anatomy of a positive case

• **Goal: Reduce the spread of COVID-19**
  - People management and information systems
  - Testing
  - Positive test alerts
  - Contact tracing
  - Notifications (beyond the positive case and close contacts)
  - Additional communications
  - Cleaning and disinfection of spaces
  - COVID-19 Monitoring Team
  - COVID-19 Decision Team
  - Support during quarantine and isolation

• **Summary**
Goal: Reduce the Spread
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- Rate of becoming infected: $R_0/D$
- Rate of becoming symptomatic: $S_y/D$
- Rate of recovery: $1/D$
- Testing: $T_F$
- Recovered
- Quarantined
Goal: Reduce the Spread

\[ R_0 \leq 1 + S_y + T_F D \]

Rate of becoming infected

Rate of becoming symptomatic

Fraction of the population tested daily

# of days an infected person is contagious
It all begins with people management: communications and information systems
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• COVID Pass remains a critical element of the MIT COVID infrastructure
  o Manages all “customer” interactions, including attestations and testing
  o Facilitates MIT Medical’s clinical activities: symptom review, managing positive results, etc.
  o Supports compliance via reporting and physical security integrations
  o Automatically locks ID of anyone who tests positive
Then on to testing...

**Current testing approach is working very well**

- PCR testing remains the gold standard
- Averaging ~17,000 tests per week
- Little to no wait times at testing sites
  - MIT Medical
  - Johnson
- Significant additional capacity available
- Back up plans and alternative testing modes in place
- Compliance > 95%
- All tests sent to Broad, turnaround time typically < 24 hours
A positive test result is received...

- MIT Medical receives a notification that includes the person’s information so they can immediately:
  - Contact the person
  - Put them into isolation
  - Begin the contact tracing process
- Emergency Management receives a notification that a positive result has occurred (no identifying information) for situational awareness purposes
- Number of positive results and number of tests returned is monitored on the COVID Pass dashboard (results often show up the next day)
Contact tracing begins...

- The **first** step of the process is to notify the + individual, and assist them into isolation (take them out of the purple box)
  - This is done as quickly as possible.
  - Goal is to quickly end any ongoing exposures.
- Contact tracing is the most manual and labor-intensive portion of MIT’s COVID-19 activities
  - The definition of a close contact is designated by the CDC, not MIT Medical.
  - CDC close contact definition: Any individual who was 6 feet or closer to a positive individual for 15 minutes or more (mask or no mask). 15 minutes can be cumulative over 24 hour period.
- Contact tracers then work with the positive individual to identify any close contacts over the previous 48 hours.
- Each close contact is then called and arranged for quarantine and testing.
- If any close contact converts to positive, another cycle of contact tracing is performed.
Notifications occur...

For positive individuals who are students:

- MIT Medical notifies Student Support and Wellbeing for all student cases.
- Student Support and Wellbeing handles **ALL** notifications for student cases:
  - DSL and Housing leadership
  - Advisors, professors, PI(s), academic department leadership, class instructors, family/loved ones, roommates, Student Support Services/GradSupport, other key supports.
  - The name of the individual who has tested positive will not be shared unless they have given permission to do so, with the exception of the student’s house team if they are a residential student.
Notifications occur...

For positive individuals who are *employees*:

MIT Medical will initiate the notification about a positive case, which will exclude any identifying information.

- **MIT Medical** will coordinate with the positive individual to notify their supervisor.
- **Ron Hasseltine** will notify DLC leadership for positive cases in VPR areas.
- **Peko Hosoi** will notify deans, assistant deans, and department heads for positive cases in schools.
- **Jennifer Walsh or MIT Medical** will notify department leadership for positive cases in administrative departments.
- **Marianna Pierce** will notify Labor Relations for positive cases in union areas.
- **Steve Bradt** will notify school communication directors for positive cases in schools, and will work with any departments where a broader communication is necessary.
- *The name of the individual who has tested positive will not be shared unless they have given permission to do so.*
Notifications occur...

- **MIT Medical contacts all close contacts directly.** If you are not contacted by MIT Medical directly, you are not considered a close contact of the positive individual. Therefore, you are at low risk of contracting COVID-19 from the positive individual.

- The notification process occurs as quickly as possible. However, sometimes DLC leadership will first learn of a positive case directly from the person who has tested positive, and/or from their manager.
  - Not a sign of system failure, but a sign of redundancy
  - Notification process is built to ensure DLC leadership learns of positives in their area from *someone*
  - If you hear about a positive case before the official notification process, ensure the positive individual has gone home. *There is no need to shut down your space.*
Additional communications may be needed (but probably not)...

• We discourage DLC-wide communications about each positive case.
  o Could cause undue alarm to others who are at little to no risk
  o You could create an unrealistic precedent / expectations for notifications

• However, in cases where DLC leadership feels a broader notification is necessary — e.g., to combat misinformation — we can offer a template.
  o Carefully crafted to protect the privacy of the person who has tested positive, and to avoid alarm
  o Includes key messages, such as that those who have not been contacted by MIT Medical are not at risk in this situation
  o School and DLC communications staff are involved in this process to ensure coordination and accuracy, minimize anxiety, and protect privacy
Cleaning and disinfection will occur in any impacted spaces…

- *Frequent cleaning and disinfection of touch points is already performed in all campus locations.*
- MIT Medical initiates notifications to begin any additional cleaning needed after contact tracing is performed.
- Special decontamination procedures are only required for spaces occupied by individuals who are suspected or confirmed to have COVID-19.
- Disinfection is coordinated by Marty O’Brien and Nick Paquin and performed by an external vendor as needed.
- Process involves people familiar with the spaces, i.e. Facilities Managers and EHS Coordinators.
- Assessment made locally about specialized/sensitive equipment.
The COVID-19 Monitoring Team (CMT) meets at noon...

- Pre-meeting with MIT Emergency Management and MIT Medical
- Primary agenda item: Daily detailed analysis of positive cases (the story behind the positives)
- Daily agenda:
  - Updates from the CDT
  - Highlights and summary of positive cases
  - Positive case review
  - Upcoming and in-progress communications
  - Wastewater testing results
  - COD updates
  - Issues discussion/resolution/strategy
  - Items for the CDT
- Focus on big picture, broader impacts, potential actions
- Patterns in positive cases, or an increase in positive cases on campus or externally, could trigger responses to control the spread of the virus. This begins at the CMT.
The COVID-19 Monitoring Team (CMT) meets at noon...

- Suzanne Blake (Lead)
- Krystyn Van Vliet
- Kimberly Allen
- Steve Bradt
- Kim Haberlin
- Ron Hasseltine
- Suzy Nelson
- Nick Paquin
- Marianna Pierce
- Cecilia Stuopis
- Ian Waitz
- Jennifer Walsh
- Jay Wilcoxson
- Shawn Ferullo
- Richard Crook
- Rick Danheiser
- John Dozier
- John Fernandez
- Suzanne Glassburn
- Joe Higgins
- Peko Hosoi
- Maryanne Kirkbride
- Jag Patel
- Mark Silis
- David Barber
- Steve Taddonio
- Andrea Finnin
- Xin Li
The COVID-19 Decision Team (CDT) meets at 4pm...

• Receives updates on positive cases, testing, and other aspects of the Institute’s COVID-19 management and response work
• In addition to coordinating with CMT, CDT also works closely with Deans’ Council and student leaders
• Makes policy or operational decisions based on recommendations from CMT and input from stakeholders across MIT
• Coordinates broad communications for content and consistency
The COVID-19 Decision Team (CDT) meets at 4pm...

- Cindy Barnhart (Lead)
- Ramona Allen
- Sanjay Sarma
- Marty Schmidt
- Glen Shor
- Alfred Ironside
- Maria Zuber
- Mark DiVincenzo
- Suzanne Glassburn
- Kim Haberlin
- Cecilia Stuopis
- Suzanne Blake
All MIT community members who test positive are supported...

- Anyone who has tested positive will isolate for 10 days. All close contacts will quarantine for 14 days.
- MIT Medical follows up with all positive individuals and close contacts.
- For **students** who test positive or are close contacts:
  - Handoff from MIT Medical to Student Support and Wellbeing
  - Quickly get students out of the purple box
  - Provide students with support
- For **employees** who test positive or are close contacts:
  - Employees who are unable to work because they have Covid-19 or are quarantining are paid at 100% of their usual pay for up to 10 days, using a special pay code of Sick-Covid19.
  - If their exposure to Covid-19 is from their MIT work, they are paid at 100% and do not have to use their 10 days of Sick Covid-19 pay.
  - Example: employee who is a close contact of a co-worker who tests positive for Covid-19 is paid for their quarantine period and does not have to deplete their 10 days of Sick-Covid19 pay
In summary...

- This process is **WORKING** so we would like MIT community members to TRUST THE PROCESS. We appreciate all of the coordination and patience you have provided so far.

- There are **real people** behind this entire process who are working very hard to prevent the spread of COVID-19 among MIT community members.

- We have learned a lot this semester and we are **always improving**.

- We plan to use the same process for the rest of this year and into the **Spring semester**.