



**Minutes**  
**Cambridge COVID-19 Expert Advisory Panel**  
**1 pm, Thursday July 2nd, 2020**

1. Can city guidance be updated, and the public informed. of the convergence of data on indoor aerosol transmission risk? The city's mask guidance currently does not recommend wearing masks indoors where > 6 feet can be attained.
  - From personal experience have seen that people don't need to wear a mask when they are inside a large public building, such as the lobby of an apartment building. This is dangerous due to evidence of airborne transmission. (Jill)
  - Cambridge is following state guidelines. Reason for clarification was that there are some situations where people are indoors but highly distanced especially in workplace (ex., working alone, etc) which is when mask wearing would not be as important. (Sam)
  - Are Somerville, Boston, or Brookline using guidelines that are different from Mass?
  - We can message stronger on indoor masking. Changing the wording on the executive order is complicated and challenging, and perhaps not greatest use of groups' leverage given all of our other priorities (Sam)
  - Massachusetts campaign is launching large messaging effort to promote mask wearing. There is some unevenness from one jurisdiction to another in ability to educate and enforce. There is an opportunity to message out to the public better and informally discuss the approach to messaging with city leadership. (Claude)
  - Building managers in Cambridge have shared that their residents do generally understand the importance of wearing a mask whenever in public spaces of the building. However, some people are defiant. (Sam)
2. Indoor fitness centers and dining. Should Cambridge go beyond state standards for safety in restaurants and fitness centers?
  - Customers and employees lodged complaints about a particular fitness center. Sam visited and clarified state safety guidelines
  - Question of whether indoor dining and exercise is safe at all.
  - State carved out exemption which says if you are 14 feet from others when exercising indoors don't have to wear mask, and also if there is a barrier between individuals then you can reduce the distance between people to 6 ft. (Sam)
  - May be potential to work with city to eliminate waiver
  - CDC website displays paper studying fitness dance classes good evidence for transmission in group exercise classes in South Korea (Kezi)
  - Does the city ordinance have ventilation requirements? (Jill)
  - No, and ventilation requirements are challenging. For example Sam spoke with Evolve gym: the gym's owner does not own the building and it would cost thousands of dollars in investment for major changes to HVAC system. (Sam)
  - HEPA filtration brings down viral count; 40% humidity recommended as well. Recommendation from Harvard study also suggests windows opened with fans. All of these things can be done with current infrastructure. (Jill)
  - Regarding indoor dining, NYC and other localities have changed their mind about allowing dining in indoor settings.



- There are many scientific articles that provide ample evidence that risk indoor dining is high. A single meal has led to transmission among many people. (Jill)
  - Can we put together language for executive order that prohibits indoor eating/drinking?
  - What is process for changing Cambridge's policy?
  - Department of public health can put forward a draft recommendation with feedback from leadership and from EAP. Can put forward a draft executive order for law department to review. Law department review does not move as quickly in summertime. Need the law department to review it in order for it to become an order rather than just a recommendation. The order needs to be co-signed by city manager and public health commissioner, Dr. Sayad. (Claude)
3. Discussion of outdoor pools. If there were requests for outdoor pool usage, what would be best practices to consider?
- People are probably healthy and feeling well if they go to outdoor pool. Question of whether chlorine in water helps to kill virus? (Jill)
4. Q & A with Lee Gehrke, MIT scientist and advisor for E25Bio that has developed a rapid and cheap antigen test for SARS-CoV-2 (seeking state or FDA-EUA approval).  
Note: 2 antigen methods are already approved by FDA-EUA, both require machines but some Becton-Dickinson machines might already be here: <https://www.fda.gov/news-events/press-announcements/coronavirus-covid-19-update-fda-issued-emergency-use-authorization-point-care-antigen-test>

Papers shared by Lee Gehrke:

Giordano G, et al. Modelling the COVID-19 epidemic and implementation of population-wide interventions in Italy. Nat Med [Internet]. 2020 Apr 22: <http://dx.doi.org/10.1038/s41591-020-0883-7> PMID: PMC7175834

Wölfel R, Corman VM, et al. Virological assessment of hospitalized patients with COVID-2019. Nature [Internet]. 2020 May: <http://dx.doi.org/10.1038/s41586-020-2196-x> PMID: 32235945

- E25 has developed rapid, cheap antigen test for COVID-19. A test with the same technology has already been commercialized for dengue and zika.
- This shouldn't be seen as a competition among tests, but instead different use cases for different tests. There are three types of tests right now: PCR/molecular (high sensitivity detection of nucleic acid), antibody (history of infection), and antigen (detecting viral protein).
- This test is rapid, with point of care output in 15 minutes.
- It is also low cost, especially compared to PCR (\$50-120). Lateral flow tech has been around for years.
- Easy to scale: Can be scaled to output of 1M per week; Company in UK can make 8M per day.
- Tradeoff in sensitivity as compared to PCR test.
- High specificity
- Use case may be for population surveillance to identify super spreaders due to the current sensitivity level. This is what they are proposing to FDA. People with low viral loads – CT values in mid 30s and have detectable viral RNA but probably not spreading much. This test can ID people with high viral load with repeated testing. Viral infection cycle is about 1 week. If you test only once a week you could miss the entire infection. In order to have good confidence that you are catching asymptomatic carriers, want to test

- 2-3 days. Test with 50-60% sensitivity can reach near 90% sensitivity when repeated. FDA is tough because test and this screening tool application is without precedent. Test that FDA has approved require a reader. They are being stubborn and saying you should not need reader or power. Final stage of clinical data and about to be submitted. In touch with governor to make clear case for test.
- Jill: Governor is capable of making ruling that test can be used? Gehrke's colleague talked to governor about this and found he didn't even know that was in his authority.
  - Sensitivity for use case at high viral load: Most patients with high viral load come in with CT of 22 to 25. This test is 75% sensitive in that range. Going to CT values of 39 drops off to 50% overall. This is why it is valuable to identify people with highest viral loads.
  - The question with low sensitivity surveillance test is whether people understand the limitations. Different message compared to PCR test. (Sam)
  - One possible way to deal with the false negative could be to not give an answer until there's been 2-3 tests. Employer employee relationship is another environment – employer could say – as a condition of employment you have to take this test (Gherke)
  - What is the growth rate – do some people never reach the viral levels necessary? (Jill) Important education would be that viral infection cycle - where are you in that window?
  - Carewell doing \$160 15-minute rapid antigen testing in Cambridge at Fresh Pond– state is now considering positive antigen test to be probable cases. Recc from DPH is now to seek PCR testing after getting antigen test.
  - How to overcome the challenge of testing people multiple times when it is already a challenge to test them once? Many of the people getting tested now are young people with no symptoms. Many people not getting tested have language barriers, face stigma, etc.
  - COGS is \$3 for their rapid test. Say it's sold at \$10.. If you have 2-3 tests, versus 1 PCR you must compare cost. If you do PCR you could miss many people due to infection cycle.
  - MIT is doing initial re-entry test to go back to work and now doing random testing as well. Once school starts up again – going to start doing regular testing. This is why use case is so important
  - Would children have high enough viral load for this test to identify infection? Could this be used for surveillance of elementary school children? (Kirby)
  - Have read studies that children could have same viral load as adults even if they don't show symptoms. As long as it is anterior nares it could be palatable– they would rather do that than not have the kids at school. 4 yr olds may not tolerate, but 10 yr olds might. Benefit of getting daycare open so parents can work and protecting teachers. Potential for self testing after you've had an initial test. (Gherke)
  - Haven't landed on what city is going to do for back-to-school and testing. May be helpful to have part 2. This is a helpful data point – Cambridge has .07% positivity rate and 21K folks have been tested--Other 350 cities higher rates. Cambridge is doing well with access to testing and prevalence rate. Some innovative pilots have been replicated state-wide. There is space to innovate but also limitations. (Claude).
  - If we do a part 2 on delivery and access beyond testing centers, it would be good to revisit self-testing. Dr. Lander had ideas about individual testing access using unusual mechanisms. (Sam)