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Translating Epidemiology to Just Workplace Return Policies

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Too much public discussion on when and how to re-open economies has invoked either solely epidemiological data (how coronavirus is spread), or solely economic data (unemployment rates, stock market indexes, etc.). However, the key to just return-to-work policies is linking the two judiciously and creatively.

The following chart is intended as suggestive. It directly links epidemiological points about the pandemic to back-to-work-and-public-life considerations, and flags helpful examples. The examples demonstrate serious efforts to consider epidemiology as part of thinking through the ethics of returning to work, school, and open economies. Some of the return-to-work examples are issue-overviews; others raise ethical challenges; others describe pilot-programs.

EPIDEMIOLOGY	EXAMPLE	RETURN TO WORK	EXAMPLE
The 6 ft rule: remaining six feet apart from anyone potentially infected is protective because most aerosolized viral droplets will fall out within six feet of a breath.	*New York Times* 3-D simulation of droplet spread and the importance of social distancing	Re-arranging work-space to keep workers 6 feet apart will be protective. Similarly, re-arranging school space and processes to keep children apart.	*Forbes* article "What the Post-Coronavirus Office Could Look Like" *Washington Post* article on reconfiguring schools and school days for social distancing with in-person learning *Washington Post* article on reconfigured post-coronavirus workplace

Given the **aerosolizing tendencies** of coronavirus, it is **easier to stop egress** (dispersion from the breath) **than inhalation** (breathing in droplets in the air around one). Think of the breath as a firehose—it is easier to stop the water at the source than after it sprays.	Only medical-grade masks, which can prevent inhalation, protect the *wearer*. However, even simple masks or scarves over the mouth and nose can protect *others* (reduce egress). *Atlantic* article on how masks work, and don't	Having workers wear non-medical-grade masks will not protect them. They will be protected (although never completely) only if everyone around them wears masks—including full workforce, customers, etc.	*Time* article on the ethics of wearing masks CNN article on states that require public facemasks: CNN article on challenges of enforcement for customer-mask-wearing rules
Coronavirus is an "**enveloped virus**"—it is sticky, with a water-resistant outer-fat-layer. That is why it can live on hands or surfaces for many hours. People do not contract coronavirus through skin. But by touching their face with an infected hand—or glove-- they can infect themselves through mouth, nose, or eyes. Soap breaks down the virus's protective fatty layer.	Sciencefocus article on how handwashing with soap, peels and neutralizes the virus (or antibacterial sanitizer can kill it, but extended soap-washing is ideal): With the exception of providing medical care and housecleaning, gloves are not useful, and can give a false sense of security. *Health.com* article "Should You Wear Gloves to the Grocery Store?"	Provision of easily accessible hand-washing or hand-sanitizing stations, and encouragement to use them frequently, will be protective of workers.	*WHO* guidelines for readying workplace against Covid-19, stressing handwashing access *Business Insider* article on San Francisco's provision of municipal handwashing stations *Marketwatch* on booming business of portable handwashing stations The Conversation on providing handwashing stations for homeless *Washington Post* on teaching kids how to wash hands

Coronavirus can be **transmittable** for days before symptoms develop, during symptoms, and for two (or more) weeks after recovery. It can also be transmitted by carriers who never develop symptoms. For those who develop illness it has an **incubation period** of 2 -14 days before onset of symptoms.	*Healthline* on incubation period *Vox* on how Covid is being spread by people without symptoms	Everyone in the workplace is a potential carrier. It is critical to efforts to stop spread that workers stay home when sick, and for two full weeks after recovery. Sick leave or other policies that reduce economic (or professional or academic) costs of illness and quarantine can increase compliance and reduce spread. Undocumented and gig workers face special challenges to stay home from work according to guidelines.	*HRDive* on what the new paid sick leave provisions of Coronavirus Relief Act mean for employers CNBC article on how new sick leave may unintentionally encourage layoffs (especially for previously uncovered gig workers) *Atlantic* (pre Relief-Act) on why hard to tell sick workers to stay home California government initiative to support undocumented during Covid *Huffington Post* on limited effectiveness of employee temperature checks (which can still be one measure among others)
Two kinds of coronavirus tests answer different questions. **Diagnostic (also called antigen) tests** answer whether someone has the virus, by identifying proteins in the coronavirus. Diagnostic tests can identify non-symptomatic carriers as well as confirm that covid-19 is the cause of illness in sick people.	*CDC* explaining different kinds of coronavirus tests *WHO* raising questions about validity and testing for newly developed quick-response antigen and antibody tests.	Because carriers can be asymptomatic, there is great interest in doing wide, repeated diagnostic tests for workers or the general population. However, test supplies are inadequate in the U.S.	*USA Today* on role of two kinds of testing in reopening economy *National Employment Law Center* on employer responsibility to notify employees of potential exposure at work while keeping identities of **diagnostically** positive individuals confidential. *Business Insider* on Nobel economist Paul Rommer's proposal to test **diagnostically** all Americans

Antibody tests answer whether someone had the virus in the past, by identifying antibodies to the virus. Antibody tests do not reliably identify those who have the virus now, since it can take several weeks to develop antibodies. It is not known what the risk of reinfection is for people with antibodies, but it is speculated that they are likely less vulnerable to acute Covid.	(Home versions of both diagnostic- antigen tests and antibody tests are in fast development.)	There is also great interest in wide scale antibody testing, to identify the part of the workforce that is at less risk and might return earlier. Antibody testing might be easier to do on a mass scale. However, several new antibody tests are failing validity testing. Some brands are emerging as more accurate. There are concerns that trying to protect non-antibody-positive workers could also result in job discrimination against them. Both kinds of testing raise privacy concerns: who should have a right to know your results?	Time article questioning ethics of who has a right to know one's **diagnostic** coronavirus test results NBC news on inaccuracy of some new **antibody** tests *Business Insider* report on German's full national-population **antibody** testing *New York Times* editorial worrying **antibody**-negative people could become 2nd class citizens
Exposure-tracking (also called electronic contact-tracing) seeks to counteract the danger of asymptomatic carriers by using cell phone data, tracking proximity to other cell phones, to notify people if others they have been close to subsequently test positive.	*Electronic Frontier Foundation* on Apple/Google collaboration to develop a voluntary de-identified exposure-tracking system *Vox* article on exposure-tracking in Asian countries	Digital networks may offer promise of exposure tracking while raising questions about validity, voluntariness, control of data, and privacy protection. Efforts to "de-identify" exposure-tracking (protect the confidentiality of individuals) complicates risk-assessment & follow-up. For U.S. businesses, schools, etc., a big question will be whether to support self-quarantine decisions of those notified of possible exposure through such voluntary systems with full leave/sicktime/ flextime benefits, just as if diagnosed or as if alerted to possible exposure by traditional contact-tracing of identifiable contacts.	*SCU Markkula Center for Applied Ethics (I. Raicu)* on privacy and other considerations *Wall Street Journal* article on coronavirus eroding privacy *Al Jazeera* critique of Israel's phone data exposure-tracking system for over-surveillance *Slate* on why Singapore's sophisticated electronic contact-tracing system failed to pick up a coronavirus surge that began among migrant workers *Fortune on* voluntary buy-in necessary for Apple/Google app to be successful

People over age 60 are more likely to get acute, rather than milder, cases of Covid if infected, and more likely to die.	*Statistica* chart of death rate by age. *Statnews* on who is getting sick by demographics	Social distancing and PPE may be especially important for older workers (for example, a 70-year-old professor in a room otherwise filled with young college students) At the same time, invidious appeals to coronavirus epidemiology to enact unfair age discrimination must be resisted, especially as older workers are more economically at risk in any recession.	*Forbes* on how coronavirus punishes older workers *AARP* on policies to protect older workers during pandemic *AARP* on new paid sick leave
People with chronic health conditions such as diabetes, hypertension, and autoimmune diseases are more likely to get acute, rather than mild, Covid and are more likely to die.	*The Hospitalist* on correlation of Covid 19 deaths with comorbidities	Workers with comorbidities, or those who care for elders or people with comorbidities whom they could infect, face greater risks returning to workplaces. When it is reasonably safe for some workers to return may not be reasonably safe for others. A major question for public policy and businesses is how to support employees who feel they cannot return at the same time as rest of workforce because of greater risk to themselves or those in their care.	*ViceNews* on being trapped between work and high-risk caregiving *NPR* on risk of getting pushed off unemployment once businesses are allowed to reopen SHRM on supporting employees with special vulnerabilities