



Infectious Disease Thresholds: Toward a CONVERSATION on Safeguarding Lives and Livelihoods: A COVID-19 Common Language

REGIONAL OUTLOOK FOR RISK AND REOPENING	1. Rate of Infections of Initial Onset and/or Growth of New Transmission	2. Introducing and Impact of Physical Distancing Measures. Mandate for Closing Community, Large Group Gathering Spaces	3. Capacity and Functioning of Health Care System-and ability to <i>handle a surge</i> ?	4. Comprehensive COVID-19 Surveillance Systems to Monitor Trends in Infection Incidence	5. Scaling Contact Tracing, Isolation and Quarantine	6. Antibody Testing, Level of Country/ Region Immunity: Development of Herd Immunity: Result of Exposure or Vaccination	7. The Game Changer LIFTING ALL RESTRICTIONS: Development of therapeutics and vaccine
LEVEL ONE: <ul style="list-style-type: none"> No <u>Local</u> or school community spread, no human transfer Minimal reported cases in country/region Evidence of government/agency preparedness, response Student attendance is at a normal percentage Faculty attendance is at a normal percentage 	<p>Low level infection rate or sustained decline in cases for at least two-cycles of fourteen days (incubation) of human-to-human transfer. Deaths are near zero. Cases linked to known chains. No significant spikes, cases trending down.</p> <p>People over 60, or those with underlying health issues should limit reopening activities until medical interventions/ vaccinations are available.</p>	<p>Community -level “Slow the spread” measures are either not required or withdrawn from country or regional practice.</p> <p>Based on rate of regional infections, medical and testing infrastructure, able to gradually lift physical distancing measures yet limit large gatherings over 50 people. All risk factors</p>	<p>Expertise and full critical care capacity and PPE, ability to expand capacity to 5-7 critical care and 30 acute care beds per 10,000. Expanded access to ventilators, capacity for a surge.</p> <p>Safely able to treat all patients without crisis standards of care</p>	<p>Widespread and sophisticated rapid testing at home and/or point-of-care facility with effective diagnostic tools. A country-wide sentinel/ surveillance system for tracking and analyzing COVID-19 data to ensure rapid detection and sharing across agencies and countries. Region or country able to test all people with COVID-19 symptoms.</p>	<p>Infrastructure to scale contact tracing, isolation and quarantine to accommodate thousands of daily contacts. Ability to surge the existing public health professionals for case finding and contact tracing. Rapid reporting across regional and national agencies. Rapid data analysis to ensure isolation and quarantine.</p>	<p>Effective serology testing to gauge background rates of exposure and % population with immunity to inform public health decision-making on the level of mitigation and suppression strategies needed, if at all.</p> <p>Certification of immunity procedures for return to work.</p>	<p>Development of therapeutics to care for those infected with COVID-19 or to minimize virus impact on the patient-making COVID-19 less severe when a person is infected.</p> <p>Clinical trials predict a safe and effective therapeutic and/or vaccine with industry scaling up production for mass distribution and to meet demand.</p>
LEVEL TWO: <ul style="list-style-type: none"> Community spread is small, geographically defined, few mortalities Isolation orders limited Increased government messaging and response Increased employee absenteeism Increased student absenteeism- yet at +90% Distance learning advised 	<p>Infection rates are increasing within region/ country. Existence in multiple geographic locations where case/contact tracing not clear on origin.</p> <p>More cases involve an unknown source of infection.</p> <p>Percent growth is high but remain within capacity of health system.</p>	<p>Physical distancing encouraged: Public spaces, tele-working, public transport, restaurants and bars either open or limited in operations.</p> <p>For reopening and gradually lifting physical distancing measures, essential that case tracing be effective, and no infection incidence increase across a five-day span.</p>	<p>Reasonable medical expertise. Triangulated reports predict compromised critical and acute care hospital beds, lack of adequate access to ventilators and PPE and medical materials.</p> <p>Likely not able to treat all patients in need, crisis standards of care remain in place.</p>	<p>Limited COVID-19 virus testing accessibility. Case sensitive rapid testing tools are not widely distributed with limited availability at point-of-care facilities. No country-wide sentinel system for data sharing across regions and countries has been set in place.</p>	<p>Regional and country infrastructure is incomplete or inefficient for contact tracing, isolation and quarantine—including ongoing home quarantine follow-up, after positive COVID-19 test and diagnosis. Inefficient follow-up after travel to virus hotspots.</p>	<p>Limited serology testing with uncertain background rates of exposure and immunity. Mitigation and suppression social distancing strategies are not mandated, yet no clear sense of asymptomatic virus infected carriers, shedding the virus to others.</p>	<p>Clinical trials are underway but no clear therapeutic or vaccine intervention available.</p> <p>When therapeutics or vaccine becomes available (if ever), distribution will be difficult because of population dynamics, economics and health system availability.</p>
LEVEL THREE <ul style="list-style-type: none"> Increased-wide local community spread, mortality Government mandated physical distancing, shelter-in-place Employee infection(s) Epidemic transitioning to pandemic (WHO declaration) Student, community, faculty risk is high Move to distance-learning 	<p>Observed case counts of virus are doubling every three to five days, where infection rate can overwhelm the health system capacity.</p> <p>High percentage of cases involve an unknown source of infection.</p> <p>Exponential-to-fast linear growth in number of new cases.</p>	<p>Stay at home, shelter in place orders mandated by country, geography or province. All non-essential services are shuttered. All org. functions via offsite virtual work.</p>	<p>Medical expertise lacking and/or poor availability of critical and acute care facilities. Access to ventilators, PPE and other medical materials way below standard per 10,000 people.</p>	<p>COVID-19 virus testing accessibility severely limited per 10,000 people. Infrastructure for point-of-care testing and laboratory analysis compromised by turn-around time and access.</p>	<p>Little or no effective regional or country infrastructure for contact tracing guaranteeing isolation and quarantine—including ongoing home quarantine follow-up, after positive COVID-19 test and diagnosis.</p> <p>No tracing follow-up after a person travels to virus hotspots.</p>	<p>No serology testing infrastructure available. Use of blanket mitigation and suppression social distancing strategies. No ability to determine level of immunity across the population for determining reopening of country/region safety</p>	<p>Not Applicable</p>

**based on a review of scientific literature and does not serve as a medical analysis, but rather as a means of establishing a common language for discussion*