

Managing Risk of COVID-19 Transmission During reopening of First U

June 28, 2020

Note: Medical professionals who are members of the First Unitarian of Providence community created this document for our community's decision-making process around how to use our buildings safely during this, and possible future, pandemics. The documents were created with the best understanding of the available science at the time of writing. We share them so that other communities may incorporate this work into their own decision-making process. The documents are not meant to be definitive and, if used, we trust that further research will be used to update and adapt them to other communities' needs.

Purpose

At present, the church's options to re-open are limited by the Current (Phase II) Rhode Island Reopening [Guidelines For Faith Communities](#). Church leadership will require medical information about risks to safely reopen the church when these state guidelines are relaxed.

The purpose of this document is to provide medical information based on current knowledge of the transmission of COVID-19. Nine risk mitigation strategies are described, and a reopening event-planning risk assessment checklist is attached on page 7.

Executive Summary

CDC and RI-DOH guidelines to minimize transmission of COVID-19 explain what to do but not why various actions are helpful. Understanding the 'why' behind the guidelines will enable informed decision-making when the guidelines are applied to specific situations at First U.

There is a risk of transmission of COVID-19 whenever two or more people are physically in the same space. This risk is present until the US population achieves 'herd immunity' via either a vaccine or widespread immunity following infection. Either is many months away. All reopening decisions until the pandemic ends will be a balance of medical risks against the benefits of meeting face-to-face.

Transmission of COVID-19 is not fully understood; but based on current knowledge, transmission is mainly airborne with surfaces playing a lesser role. Prolonged proximity, hand-to-face contact, and vigorous exhalation such as loud conversation or singing increases the risk of transmission. Reopening policies should take account of these four things: distance, physical contact, duration, and type of activity. Multiple strategies are available to minimize these risks and are discussed in this document. High-level policy recommendations are made.

There is no one-size-fits-all reopening policy. Because of the diverse nature of the spaces and activities on the church campus, the final reopening plan should include tailored guidance for the various locations, duration, and type of activities planned by the church.

Because the risk of any activity will be higher if COVID-19 infections are increasing in Rhode Island, the church leadership and members should monitor this weekly and be aware a return to more restrictive policies may be needed at any time, perhaps at short notice.

To help people make informed decisions about their own participation on the church campus, current risk levels, and risk mitigation, plans should be shared frequently with members and other users of the church buildings, perhaps by a system of colored placards posted on the doors.

At the end of this document is an event-planning checklist to assess the risk of viral transmission at each event that will create confidence in decisions to schedule or not schedule various events in the several locations on the church campus.

Available Mitigation Strategies

1: Distancing/Masks

Distance is the single most important strategy. Most transmission is via exhaled breath which, in a simple model, fills a sphere of air in which the virus is disturbed around the infected person. A healthy person inhaling close to the infected person is standing at the edge of the sphere, i.e. is separated from the source of infection by the radius of the sphere.

A mask helps because it reduces the count of viral particles in this sphere of exhaled breath.

The key fact is that the volume of this sphere is proportional to the **cube** of the radius, and the risk of infection decreases dramatically as this distance increases. This is why distancing is the single most important factor to reduce transmission.

Current (Phase II) Re-open RI guidelines for faith communities limit attendance to 25% of maximum permitted occupancy of space, require social distancing (6 ft) and masks, forbid choir/ensemble singing, and require 14 ft of social distance between any solo singer and others.

Examples:

- If a healthy person who is socially-distanced at six feet moves one foot closer to an infected person, viral transmission risk doubles.
- A person three feet from an infected person is eight times more likely to get infected than they were at six feet.

Policy implications:

- Pre-registration for all church events is recommended to avoid situations so people do not get turned away because the 25% maximum occupancy limit for the space has been

reached. Pre-registration also enables contact tracing, if needed. (See 6: Consideration of screening and contact tracing.)

- Once inside the church, attention to rigorous social distancing is critical. This is the single most important mitigation strategy. Six feet for non-family members is the minimum at all times.
- Plans to avoid close contact among people entering or leaving events, e.g. at the end of a service or other large event when people typically crowd around entrances/exits.
- Large rooms with high ceilings are safer than small rooms. Good ventilation helps; open doors and windows lower risk. Meeting outdoors is a lot safer than indoors.
- The small size of RE classrooms, low ceilings, and potential for larger numbers of students creates special challenges for both RE and in use of these rooms for outside groups and adult education offerings.
- If COVID-19 restrictions continue into the winter months, as they probably will, policy considerations arise in terms of ventilating and heating the Meeting House, the parlors, and the Atrium safely.

2: Hand Washing/Physical Contacts

When an infected person touches their face, the virus is carried to surfaces such as doorknobs, tabletops, phones, cutlery, etc. Once on these surfaces non-infected people may touch the surface, get the virus on their own hands and carry it to their respiratory tract by touching their face, nose or mouth.

In addition to wearing a mask, which limits the ability to touch the nose and mouth, frequent hand washing (60 seconds with soap and water using WHO technique) or use of hand sanitizer with > 60% alcohol for 20 seconds, reduces this transmission from surfaces.

<https://www.cdc.gov/handwashing/when-how-handwashing.html>

Policy Implications:

- Hand sanitization stations at all entrances to church events and the expectation that everyone washes or sanitizes their hands on entry. Hand sanitizers in other high-traffic areas.
- Frequent and regular sanitization of surfaces and objects likely to be touched by members including doorknobs (doors best left open), washbasins, and toilets. Removal of items that can't be sanitized (e.g. hymn books) and replacement with one-time-use disposable items such as a single-use order-of-service, disposable cutlery and dishware,

etc. Alternatively, a ritual wipe-down of the hymnals and rails of the pews could become a part of the service.

- No handshaking, elbow bumps, hugging, or kissing. Nods, bows, or waves instead.

3: Duration

Risk of transmission is proportional to the duration of exposure to an infected person. This risk is linear, i.e. doubling the duration of an event doubles the risk.

Example:

- A meeting lasting 60 minutes exposes those attending to twice the risk of a 30 minute meeting.

Policy implications:

- Shorter is better than longer, but social distance remains critical even in short meetings.

4: Activity

Every breath from an infected person exposes others to the risk of transmission. This risk is lowest with normal breathing and increases with whispering, then talking, then more with singing, shouting, or vigorous exercise.

Several unfortunate choral events have led to widespread infection and some deaths among participants. <https://www.theatlantic.com/health/archive/2020/06/choir-practice-during-pandemic/612868/>

Example:

- A service with choir and congregation singing multiple times carries a higher risk than a service with the choir alone singing once.

Policy implications:

- Less singing is better than more. No singing is best.
- Per state guidelines, no choir/ensemble, social distance of 14 feet between solo singer and others.
- Choral organizations nationally are developing policies for rehearsal and performance. These will be useful in planning events at the church.

5: Screening And Contact Tracing

Screening: Another mitigation strategy for any event is to screen attendees for fever as a marker for possible COVID-19 infection.

Infrared non-contact thermometers are a reasonable way to quickly screen people for fever with minimal risk of viral transmission to the screener (who should be wearing PPE). These devices are easy to use, relatively cheap (\$25-\$100), and accurate enough when used correctly. Those doing the screening would require PPE and training in sterile technique.

Asymptomatic persons who feel well but are infected with COVID-19 can infect others. This may be common. It lessens the value of screening for fever, but it may still be helpful because it maintains public awareness of the virus and will discourage people who do feel unwell from trying to attend church events.

<https://www.fda.gov/medical-devices/general-hospital-devices-and-supplies/non-contact-infrared-thermometers>

Policy Implications:

- Temperature screening at the entrance to church events. Anyone with a temperature above 100.4 F or 38 C is asked to go home.
- Personal Protective Equipment and training for screeners required.

Contact Tracing: If a church member who has attended an event at the church is diagnosed with COVID-19, the church will want to notify those who also attended the event and were in close contact with the infected individual. Presumably, those in attendance will want to be notified for their own benefit and the safety of those around them. The Department of Health will also identify potential contacts at and outside the church.

Pre-registration: (online or by phone) for events will create a list of potential attendees but at the last minute some may choose not to attend. However, if contacted, these individuals can say they were not present at the event.

Policy Implications:

- Pre-registration required for all scheduled church events.

6: Monitoring Community Infection Rates

The higher the rate of infection in the community, then the higher the risk of transmission at a church event because it's more likely than an infected person attends an event. This can be mitigated by tightening church policies at the first sign of increasing infection outside the church.

The best markers of increased community infection rates are:

Immediate (Today):

- The seven-day-average count of new cases/day and the seven-day-average percentage of positive tests out of all tests/day.

Short term (A few days to a couple of weeks):

- Daily count of new admissions to hospital for COVID-19

Policy Implications:

- Weekly monitoring of COVID-19 7-day-average new case and hospitalization data on RI-DOH website, immediately review/increase mitigation strategies at the church when RI-DOH first notes consistently increasing case counts. <https://ri-department-of-health-covid-19-data-rihealth.hub.arcgis.com>
- Consider a red/yellow/green type of risk status indicator for gatherings at the church.
- Communication plan for rapid changes in the church's reopening policies.

Summary:

We hope the Bridging Team will find this document helpful as they plan to safely re-open the church for various activities in the church's various locations: Meeting House, Atrium, Auditorium, parlors, classrooms, breezeway and offices.

Attached is a planning checklist for church events to help planners assess risk, make a go/no-go decision for each event based on risk, and plan/implement mitigation measures for scheduled events. Estimates of risk (low, medium, high) should be based on science but will be subjective. Nevertheless, this structured fact-and-reason-based approach should create confidence in events that are planned well and prevent scheduling of events that present a high risk of transmission of virus to others.

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COVID-19 Risk Assessment and Mitigation Plans For Scheduled Events

Mitigation Strategies	Notes	Transmission Risk			
		Low	Medium	High	N/A
1: Social Distancing/Masks Required	Attendees Informed and likely to be compliant?				
	Entrance and Exit Policy to maintain 6ft?				
2: Handwashing and Physical Contact	Pre-registration required? (to ensure < 25% of occupancy limit)				
	Room size (small, medium, large?)				
	Ventilation? (poor, good, outside?)				
	Attendees informed?				
	Hand sanitizer available?				
	Sinks, soap for handwashing available?				
	Surfaces sanitized?				
	Objects sanitized? (doorknobs, tables, etc.)				
	Disposable single-use items available when needed?				
3: Event Duration	< 30 mins (Low) 30-60 mins (Medium) > 60 mins (High)				
4: Event Activities	Speaking: One to many?				
	Speaking: Many to many?				
	Singing solo?				
	Singing ensemble?				
	Wind instruments?				
	Other?				
5: Screening/Contact Tracing	Pre-registration required?				
6: Concurrent community infection rates	Low/medium/high according to RIDOH				
Overall Risk Estimate					