# (Recommended) Best Practices for Safely Reopening Institutes of Higher Education

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Disclaimer

This document has been compiled after extensive searching and reviewing of scientific literature and is based upon the authors knowledge, education, and experience. While it is expected to be generally applicable to Institutes of Higher Education (IHE), the IHE is responsible for the specific application of any of the Best Practices. This requires the IHE to utilize the underlying principles to ensure the Best Practice is applied by taking into considerations the specific characteristic(s) of a location. The mention of any specific commercial products, process, or service by trade name is for informational purposes and does not constitute or imply its endorsement or recommendation by the authors or their organizations.

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**Specific Best Practices for IBHE Guidance**

On Tuesday June 23, 2020 the Illinois Board of Higher Education (IBHE) released the document HIGHER EDUCATION IN ILLINOIS: SAFELY LAUNCHING ACADEMIC YEAR 2020 (IBHE Guidance). While this document was purported "**to represent the set of principles and guidance for Illinois Institutes of Higher Education (IHE) as they face the unprecedented challenge of reopening this fall in the midst of the COVID-19 pandemic,**" unfortunately, the IBHE Guidance was noticeably lacking in specific technical information and guidance. The "Best Practices" document has been prepared following the outline of the IBHE guidance document and provides technical commentary including identifying scientifically based best practices for addressing the IBHE Guidance.

This document has been prepared by faculty members of the University Professionals of Illinois Local 4100 (UPI) and the Cook County College Teachers Union (CCCTU) Local 1600 who were originally appointed to the IBHE Reopening Committee. These faculty members have specific education, knowledge and experience in public health (PH), health & safety (H&S) and infectious diseases. The document is meant to provide specific technical H&S advice and examples to Institutes of Higher Education (IHE) that was not in the IBHE Guidance.

This report concentrates on identifying best practices for addressing Occupational Health and Safety (OHS) and Public Health (PH) issues related to the ISBHE Guidance. While it is recognized that there may be resources limitations (typically funding and/or availability of equipment), this document does not allow these to eliminate a best practice from being identified for consideration. ***It must be emphasized that if it is not possible to implement a best practice it may mean it is not "safe" to do an activity, and in reality, all that can be done is a reduction in the risk associated with an activity. Individuals will need to make their own determination on whether an acceptable risk remains.*** In this type of situation, the precautionary principle would dictate not doing the activity in a face to face (F2F) context.

1. **General Health of Campus Population.**
   - 1.1. The IHEs need to follow and use the best science (including emerging issues) regarding the Covid-19 pandemic, in addition to IDPH, CDC and WHO guidance. There have now been several instances when guidance from CDC and WHO (especially) has not represented the latest science or appears to have been politically impacted.
     - 1.1.1. One of the goals of higher education is to foster critical thinking. Failure of an IHE to act on an issue, just because CDC or IDPH are silent on an issue, or where the science community is at odds with the CDC or IDPH, may miss opportunities to protect people. In any event, the IDPH and CDC guidelines represent minimum benchmarks, and IHEs are able to apply more stringent benchmarks.
       - 1.1.1.1. It is now generally accepted in the scientific community involved with the study of aerosols (defined as a suspension of particles or liquids in air) that the term "airborne transmission" can involve both indirect (e.g. respiratory droplet deposition on surfaces, and then transmitted via touching) and direct (e.g. inhalation or deposition of aerosols in mucous membranes of eyes, nose,

mouse) airborne transmission routes. Unfortunately, the terminologies used by WHO and CDC are technically incorrect, as the "droplets" and "respiratory aerosols" simply represent different size fractions of the total aerosol emissions, which can be generated by numerous common human activities (e.g. breathing, speaking, singing, coughing and singing).

1.1.1.2. The mandates for social distancing, wearing of face masks and proper hand hygiene have been shown to be effective in reducing (but not completely eliminating) transmission by both modes.

1.2. Social distancing (e.g. maintaining physical distancing of >6 ft) shall be required at all IHEs. As experience to date has shown that voluntary compliance is not always occurring, the IHE must develop compliance procedures (e.g. through student conduct manual, employee manual) to ensure social distancing is practiced wherever possible and that proper protective measures are in place if social distancing is not possible.

1.3. The wearing of facemasks shall be required at all IHEs unless there is a medical reason that prevents this. In the case of a medical reason for not wearing a mask, it may be more appropriate for a person not to be on the IHE location. As experience to date has shown that voluntary compliance is not always occurring, the IHE must develop compliance procedures (e.g. through student conduct manual, employee manual) to ensure this is practiced wherever possible. If the IHE wishes to supply or sell face masks they should do some level of investigation as to the performance aspects of the facemask (materials of construction, fitting etc.).

1.4. The importance of proper hand hygiene needs to be continually stressed to all members of the IHE community.

1.4.1. Hand sanitizing stations should be placed to be easily accessible and within sight. Specific locations would include building entrances/exits, cafeterias/break room, meeting rooms/classrooms, communal offices, and other high traffic areas.

1.4.1.1. Hand sanitizers should contain at least 70% ethanol or isopropanol.

1.4.1.2. Washing hands with soap and water is even more effective than the use of hand sanitizer.

1.4.1.3. Signage reminding people about the importance of hand washing can be used but has not been shown to be effective in increasing compliance.

1.5. For the self-monitoring of symptoms, the IHE needs to develop a system (which could be a checklist, an app or some type of physiological monitoring) that student, staff and faculty can utilize on a daily basis prior to coming to the campus. Numerous examples of forms, apps and sensors are available.

1.5.1. For the self-monitoring of symptoms, the major symptoms that have been reported (in order of prevalence include i) fever or chills ii) cough. iii) fatigue. Iv) a new loss of taste or smell and v) shortness of breath or difficulty breathing.

1.5.1.1. All members of the community need to be reminded that not all symptoms (in some cases none of the symptoms) are experienced by those who are infected by Covid-19.

1.5.2. A number of reports have now come out indicating that on an individual basis, a change in a physiological parameter(s) may (such as normal body T or HRV, or both) may occur sooner than symptoms. Monitoring of multiple physiological parameters appears to offer a better chance to identify changes.

1.5.2.1. The use of infrared monitoring cameras for temperature monitoring can be expensive to implement, requiring special equipment and subject to numerous potential problems and it is NOT recommended as a Best Practice at this time.

1.5.3. For the symptoms monitoring system that is implemented, the IHE needs to establish criteria for:

1.5.3.1. Under what set of self-monitoring results would students, staff or faculty be expected not report to campus.

1.5.3.2. Whether submission of self-monitoring results will be required or voluntary.

1.5.3.3. Monitoring of the symptom monitoring system that is put in place should take place on a regular basis to evaluate compliance and effectiveness and to identify opportunities for improvement.

1.6. The scientific literature supports:

1.6.1. Having up to date routine immunizations (influenza and MMR especially), and the IHE should encourage students, staff and faculty to continue to do so.

1.6.2. The IHE should develop a plan for mass vaccination for influenza and the Covid-19 vaccine when it is developed.

1.7. IHEs should establish and maintain regular liaison with their local public health department, and where appropriate, the IDPH during the Covid-19 pandemic. One of the topics that should be discussed specifically is what resources can the local public health department provide and what resources should be provided by the IHE.

1.7.1. Monitoring of student, staff and faculty absences should be carried out and evaluated on a minimum weekly basis. An increased absence trend should be discussed with the local public health department.

1.7.2. Faculty should plan for how to handle student absences due to i) quarantine (not an issue for online/remote learning) and b) active Covid-19 infection (isolation or too sick to complete/participate in course work).

1.8. There are several mnemonics that have been found to be effective for summarizing the protective measures and reflect the latest science:

1.8.1. Avoid the 3 C's: i) Closed spaces with poor ventilation, ii) Crowded places with increased people density, iii) Close contact settings. (https://www.mhlw.go.jp/content/10900000/000615287.pdf)

1.8.2. Practice the 3 Ws: i) watch your distance ii) wear a mask iii) wash your hands often.

## 2. **Campus Operations and Staffing.**

2.1. Basics of Occupational Health and Safety

The US Occupational Safety and Health Act (OSHAct) and the corresponding IL OSHAct (covering public sector IHEs) require that the IHE furnish to its employees:

*"employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees..."*

In order to accomplish this, OSHA recommends that the IBHE have worker participation and requires procedures in place to identify workplace hazards and evaluate risks. This process is often

referred to as Hazard Identification and Assessment (HIA) (see https://www.osha.gov/shpguidelines/hazard-Identification.html).

Occupational Health and Safety (OHS) professionals make use of numerous tools in performing the HIA. Two of them, the Hierarchy of Hazard Control and the Risk Matrix, are discussed in further detail below as they provide a useful framework for IHEs to use for performing an HIA in the IBHE Guidance.

#### 2.1.1. Hierarchy of Hazard Control

The Hierarchy of Hazards Control is a framework used by OHS professionals for addressing identified workplace hazards, regardless of their nature.

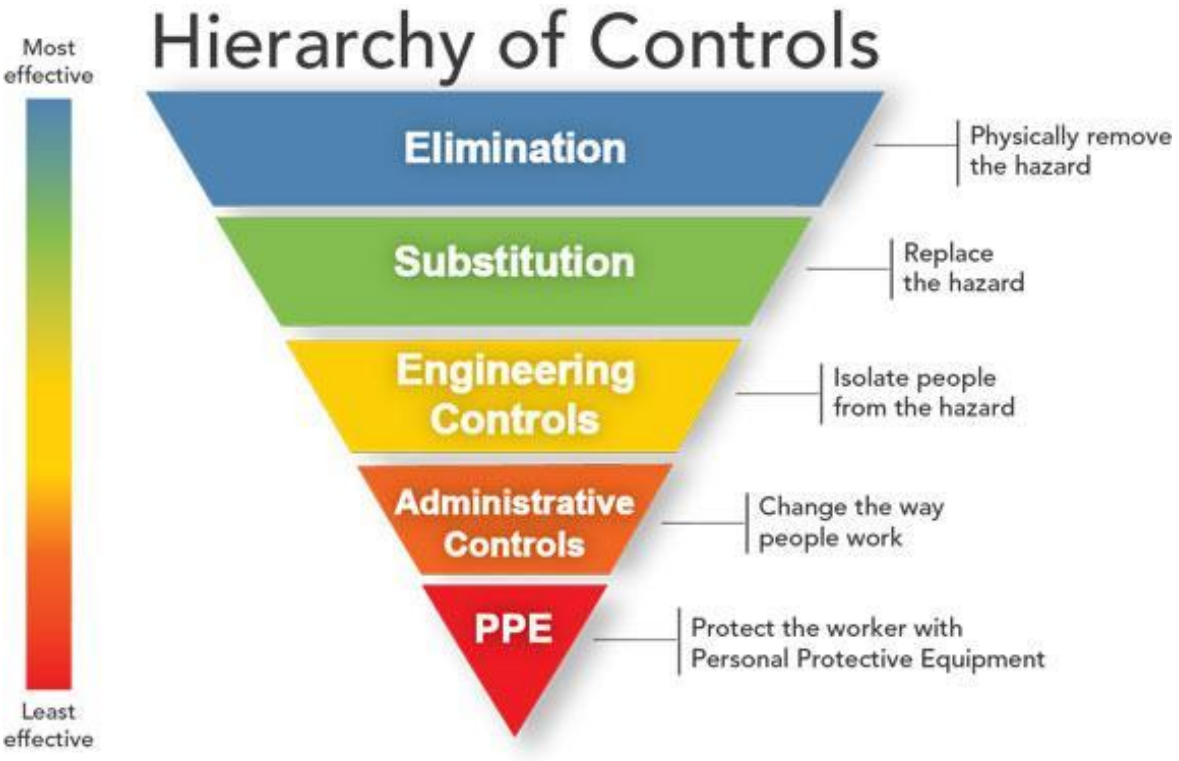


Figure I: Pictorial Representation of the Hierarchy of Hazard Control (from https://www.cdc.gov/niosh/topics/hierarchy/default.html)

This approach divides possible control measures into 5 different levels, with the most effective being elimination of the hazard and the least effective being use of Personal Protective Equipment (PPE).

Examples of how an OHS professional would utilize this framework to identify potential controls for Covid-19 could include:

2.1.1.1. Elimination (Hard Barrier):
2.1.1.1.1. Remote teaching/work with no F2F instruction. (The hazard of exposure from teaching or F2F meetings has been eliminated)
2.1.1.2. Substitution (Hard Barrier): generally, not directly applicable for Covid-19.
2.1.1.3. Engineering Controls (Hard Barrier)
2.1.1.3.1. The use of physical barriers, such as plexiglass "sneeze guards"
2.1.1.3.2. Reduced seating in a space, by physical removal of seats
2.1.1.3.3. Increased ventilation with outdoor air
2.1.1.3.4. Implementation of air cleaning for a space
2.1.1.4. Administrative Controls (Soft Barrier)
2.1.1.4.1. social distancing requirement
2.1.1.4.2. Occupancy restrictions in a space, without physical removal of seating.
2.1.1.4.3. Scheduling of classes in a space
2.1.1.4.3.1. When
2.1.1.4.3.2. How long
2.1.1.4.3.3. Intervals between classes
2.1.1.4.4. Requirements to wear face masks
2.1.1.4.5. Hand hygiene signs
2.1.1.4.6. Symptoms Monitoring
2.1.1.4.7. Implementation of enhanced cleaning/decontamination protocols (this could also be considered a form of engineering control)
2.1.1.5. Personal Protective Equipment (Soft Barrier)
2.1.1.5.1. Use of respiratory protection (Note: this does not include face masks/coverings)
2.1.1.5.2. Use of face shield or goggles
2.1.1.5.3. Use of gloves
2.1.1.5.4. Use of Disposable gowns

The initial identification of potential controls does not depend upon cost or availability of the control.

The use of administrative controls and PPE are considered "soft barriers" since they require behavioral adjustments/compliance by the worker. Hard barriers (e.g. elimination, engineering controls) are considered more effective in addressing a workplace hazard since they do not require behavioral compliance. In the case of Covid-19, the ineffectiveness of soft barriers has been clearly demonstrated by the rise in Covid-19 infections in certain geographical areas and/or in certain demographics (e.g. younger people).

### 2.1.2. Risk Assessment Matrix

In OHS, the risk associated with a task (or job or activity), is a function of the nature (or severity) of a hazard and the probability of the hazard occurring. A risk assessment involves an assessment of the hazards, the potential impact of the hazard, and an estimation of the probability of the hazard occurring. The Risk Assessment Matrix (Figure 2) is a tool often used by OHS professionals to help determine the acceptability (risk) of an activity based on the level of hazard control (Figure 1) that is implemented. The hierarchy of hazard controls results in a lowering of risk by either removing the

risk or reducing the probability of an exposure. In general, the higher the consequence of an exposure (e.g. death) or the probability (e.g. very probable), the higher the level of control required, up to and including not doing the task (eliminating the hazard).

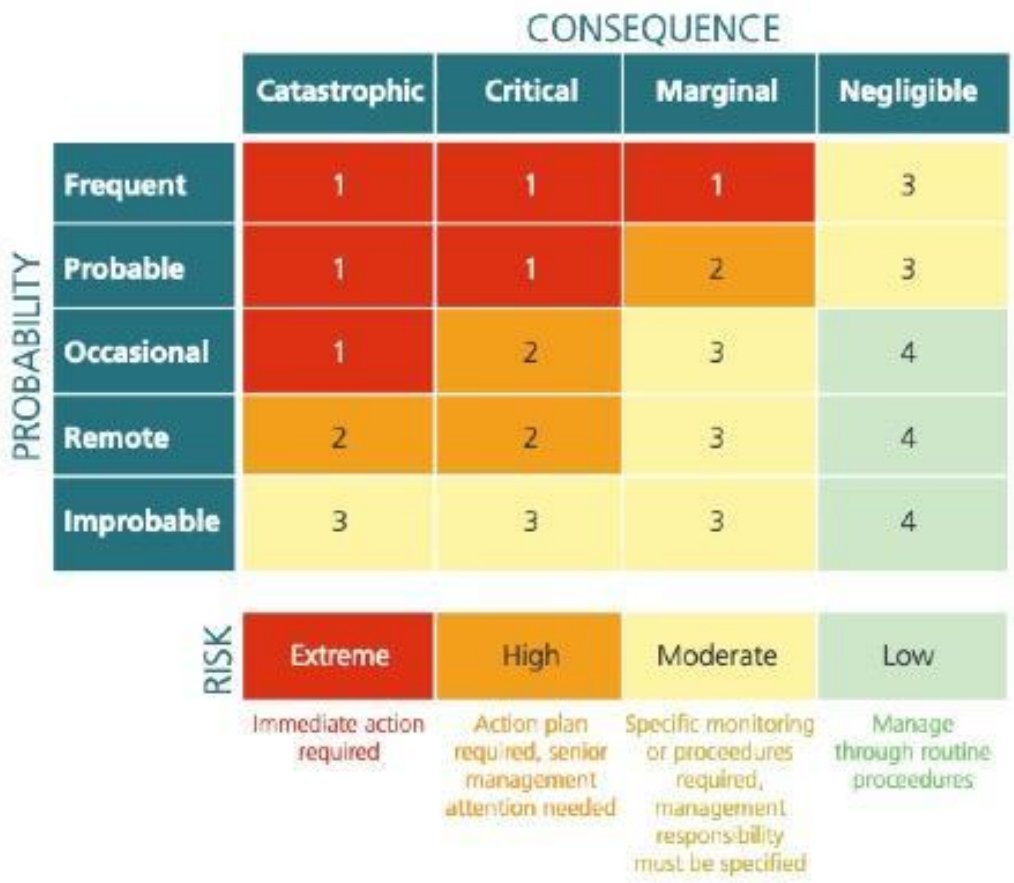


Figure 2. An Example Risk Assessment Matrix ( https://www.healthywa.wa.gov.au/~/media/Files/Corporate/general%20documents/Clandestine%20drug%20labs/PDF/Risk-Assessment-Matrix-Provided-by-the-Department-of-Environment-Regulation.pdf)

IHEs are expected to follow a process that would incorporate these frameworks in deciding upon F2F vs. online/remote instruction and providing staff and faculty with adequate protection.

Although the OSHAct does not cover students, who are not employees (e.g. not paid), UPI believes there is a moral and ethical responsibility to protect student health and safety, whether they are employees or not. It is recommended that all IHEs protect student health and safety, whether required by law or not

2.2. **Phase 3**

2.2.1. During Phase 3, where the default course delivery is on-line, most teaching related tasks will have a relatively low risk, since exposure has been reduced. Some research and administrative tasks may also take place.

During this phase it is also expected that all students, staff and faculty will practice social distancing, wear a face mask and there will not be gatherings of more than 10 persons. Faculty and staff, in individual office spaces, may remove their face mask/covering when alone. If someone visits with them, however, social distancing with face mask/coverings should be practiced.

2.2.2. For the limited cases where F2F activities are required, a risk assessment for the F2F activities should be performed by the IHE to help identify control options and implementing controls that reduce the risk to an acceptable level.

2.2.3. Answering the questions of what an acceptable control(s) is, will involve specialized judgement of a qualified OHS professional, and may require levels of control that are more stringent than simple regulatory compliance.

Examples of controls that could be implemented might include:

a). scheduling of work so that multiple persons are not in an office at one time (preventing any need for social distancing) (administrative control);

b) scheduling of work in an office setting so that social distancing may be maintained (administrative control);

c) rearranging office settings so that social distancing can be maintained (engineering control);

d) for research or administrative activities with necessary interaction, it would be prudent to install clear (plexiglass for example) "sneeze guards" to protect against transmission via respiratory emissions (engineering control);

e) where social distancing cannot be maintained it may be appropriate to require respiratory PPE, where respiratory PPE is required, it shall be at a minimum a N95 respirator (PPE).

f) in some cases, it may be advantageous to implement a higher level of respiratory PPE (e.g. the use of powered air purifier respirator (PAPR) instead of N95) since there will be fewer of the PAPR units needed under this limited reopening (PPE).

g) requiring a higher level of symptoms checking (for example completion of a questionnaire and T check) or even testing prior to an F2F session (engineering/administrative control);

h) scheduling staggered breaks so as to maintain even more social distancing when masks are removed for eating;

i) implementation of enhanced cleaning/decontamination protocols may be required for activities where there are multiple people using a specific piece of equipment or space, or where there is a possibility of exposure (e.g. clinical settings).

The basic point here is that a qualified OHSA professional has analyzed the task(s) involved and performed a risk assessment to determine the level of hazard control that needs to be implemented.

### 2.3. **Phase 4**

Under Phase 4 of the Reopening Illinois plan, public gatherings (such as classes) of up to 50 persons in a group with social distancing, or multiple groups where at least 30 feet is maintained between groups are allowed.

During Phase 4, the IBHE Guidance simply specifies that "IHEs should consider options for staff and faculty to work remotely". There is no requirement that classes take place on-campus, and there is no guidance or metric provided on how to determine when faculty and staff need to be on campus.

While there is near universal agreement that F2F teaching can be more effective than online/remote learning, this effectiveness must be balanced with the elevated exposure risk associated with F2F instruction, especially for groups of 10-50, or for tasks where social distancing cannot be maintained (e.g. labs, studios). Therefore, as an initial matter, IHEs should identify what types of activities i) are formally required to be on-campus (or F2F) due to accreditation or similar requirements, or ii) can only be done using equipment that is located on-campus, or iii) cannot be done practicing social distancing and/or wearing face masks (e.g. physiotherapy practicum, music singing lessons, certain fine arts and theater/dance classes).

Based on the scientific evidence to date regarding Covid-19 transmission, and an observed lack of resources (financial, equipment availability and space) at IHEs, it is expected that the safer route for most IHEs will be to conduct primarily online/remote earning. By having most learning online/remote, IHEs can focus appropriate OHS resources for the more limited F2F instruction or activities deemed necessary to be on campus.

The IBHE Guidance document states that:

> "Faculty and staff who need to be present on campus should follow protocols for the use of face coverings, hand hygiene, and social distancing consistent with CDC and IDPH guidelines."

This statement does not represent a HIA and is not the recommended best practice for faculty at IHE. For purposes of this "Best Practices" document, faculty includes tenure, non-tenure track and adjunct faculty, instructors and adjunct instructors, graduate assistants (GA), and teaching assistants (TA). Specific best practices for safe reopening are provided below.

A wide variety of spaces are used at IHEs for the various activities associated with their missions. These include classroom/lecture room/seminar rooms, laboratories (teaching and research) meeting spaces, libraries, meal halls, residences, support activities. It is a common practice in OHS to group similar types of activities for purposes of evaluating their risk. For example, all "widget" machines in a manufacturing plant would be expected to have similar risks, unless there were substantial differences. This allows for a common set of control options to be identified for implementation. For purpose of providing best practices, we have identified 4 example activities, i) classrooms (up to 50 persons) ii) laboratory iii) art/music/theater studio iv) administrative offices, which are considered to be generally representative of some major types of activities involved in reopening at IHEs. Note that this "Best Practices" does not address research laboratory activities due the wide variety of

activities this can entail, but which are specific for each type of research. For research laboratories, an HIA will need to be performed on an individual research laboratory basis and should be carried out by IHE OHS staff in conjunction with the specific research laboratory staff.

This "Best Practice" document recommends that social distancing, wearing of a face mask/covering (except when eating), and proper hand hygiene be required as a minimum in all public spaces at the IHE. Faculty and staff in individual office spaces may remove the face mask when they are alone. If someone visits with them, the number of visitors should be limited; social distancing with face mask/covering wearing should be practiced.

An important consideration for IHEs for safe reopening will be determining building readiness after the Covid-19 shutdown, and proper operation and maintenance of building/room heating ventilation and air conditioning (HVAC) systems. ASHRAE has provided specific technical recommendations on these activities for schools and universities at https://www.ashrae.org/technical-resources/resources.

#### 2.3.1. Classrooms

The Illinois Phase 4 Reopening restriction limits F2F instruction to 50 persons in a room, or in spaces that can adequately separate groups of 50. This limitation is also supported by a number of pandemic modeling studies. However even this number is unlikely to be approached in practice at an IHE since design guidelines for IHE classrooms specify a student workspace of 12-40 sq. ft with a median/mode of approximately 20 sq. ft. To maintain a physical distance of 6 ft will require a minimum (min) area (for a circle) of 113 sq. ft. This means that for adherence with social distancing, a typical classroom will be operating at a ***maximum*** of 20-25% of its stated design capacity.

There are 4 possible Best Practices "modes" identified for classrooms:

1. Outdoors, or indoors with full ventilation
2. Indoors w Respiratory PPE
3. Indoors w Engineering Controls
4. Indoors with Regular Covid-19 Testing

##### 2.3.1.1. Outdoor Classroom or Indoor Classroom with good ventilation

For this mode, the classroom takes place outdoors, or if indoors with sufficient ventilation from outdoor air (via windows or doors) or Heating Ventilation Air Conditioning (HVAC) system to provide a **minimum 10 air changes/hour** (ACH) for the space.

1. Maintain social distancing between all persons while waiting to enter the room.
2. Maintain social distancing between all persons sitting in the room.
    a. It may be useful to identify in advance (with a seat map or markings) what seats are available.
    b. Maintain at least 30 feet from the next closest group if it is in a large outdoor or indoor location.
3. All students shall be wearing face masks
4. Faculty will be wearing a *Face Shield*

   a. A *Face Shield* can provide effective protection against larger respiratory droplets ejected during sneezing, coughing or loud talking/singing.
      i. NOTE: *a physical barrier* could also be used to provide protection to the faculty, but in this case the faculty would have to remain behind the physical barrier while teaching. The use of a *Face Shield* is more flexible and omnidirectional.
   b. Respiratory protection is not warranted in this situation as the scientific data has indicated that there is significantly less risk for transmission in outdoor (or well ventilated indoor) locations.
   c. Faculty may be wearing a face mask/covering when not talking.
5. Supplies should be provided in the room to allow students and faculty to clean surfaces in their seating/instructional area if they want to. This does not replace the enhance cleaning that will still be required of classroom areas (see the applicable section below)
6. Avoid switching seating locations once a location is selected.
7. Maintain physical distance when exiting the classroom. The sequence for exiting will be specific for each room or space.

2.3.1.2. Indoor Classroom with social distancing with Respiratory PPE

This is expected to be the typical scenario at an IHE. This would apply to an indoor room with 50 or less people and an HVAC that is providing 10 ACH or less, fresh (outdoor) air

1. Maintain social distancing between all persons while waiting to enter the room.
2. Maintain social distancing between all persons sitting in the room.
   a. It may be useful to identify in advance (with a seat map or markings) what seats are available
   b. maintain at least 30 feet from the next closest group if it is in a large outdoor or indoor location.
3. All students shall be wearing face masks
4. Faculty are recommended to be wearing a *Face Shield AND Respiratory PPE*
   a. A *Face Shield* can provide effective protection against larger respiratory droplets ejected during sneezing, coughing or loud talking/singing.
   b. *Respiratory PPE* is warranted by aerosol science and the scientific literature which clearly shows increased risk of transmission in indoor environments with increased density of people and/or where "aerosol generating" activities (which includes breathing, speaking, shouting, singing, coughing and sneezing) are taking place for longer than 15 minutes.
   c. The *Respiratory PPE* provided shall be at a minimum a N95 respirator.
      i. The use of a N95 respirator includes the requirement to be enrolled in the IHE respiratory protection program (RPP) and must be fit-tested.
      ii. In the alternative to an N95 respirator, a higher level of *Respiratory PPE* may be used, for example, a PAPR with a loose-fitting facepiece
         1. A PAPR offers several advantages over an N95 mask
            a. It provides a min 150% more protection than a N95 respirator.
            b. It does not require fit testing.
            c. It can be used by someone with a beard.

   d. It can easily be worn by someone with glasses.
   e. It provides integrated eye protection (i.e. face shield), so it protects against transmission of Covid-19 via the eyes.
   f. There is reduced heart, lung, and heat stress.
   g. PAPR units are generally more comfortable to wear than N95 and can provide all day comfort.
   h. There is improved communication. Non-verbal communication is sometimes as critical as the spoken word, and an N-95 hides the facial expressions while a PAPR with a loose-fitting facepiece allows patients to see warm smiles and other empathetic non-verbal cues. This is also helpful for students with hearing disabilities who utilize lip-reading.
   i. PAPR are easier to decontaminate than N95, are designed for reuse, and can be used by multiple persons during a workday. NOTE: the status of the filtering media with regards to contamination from the workplace air will need to be evaluated by an OHS professional on a regular basis to determine if it needs to be considered contaminated.
2. All *Respiratory PPE* requires training on the proper donning and doffing so as to avoid contamination and possible transmission.
3. If *Respiratory PPE* is not available faculty should not be required to teach the class under these conditions.

5. Cleaning supplies should be provided in the room to allow students and faculty to clean surfaces in their seating/instructional area if they want.
6. Avoid switching seating locations once a location is selected.
7. Maintain physical distance when exiting classroom. The sequence for exiting will be specific for each room or space.

#### 2.3.1.3. Indoor Classroom with Engineering Controls (in room HEPA air cleaners)

This mode would apply to an indoor room with 50 or less people and an HVAC that is providing less than 10 ACH fresh (outdoor) air. However, as an alternative to faculty being required to wear *Respiratory PPE, Engineering Controls* (in this example High Efficiency Particulate Air (HEPA) **in room** air cleaners, also referred to as air purifiers) can be implemented. The use of in room air cleaners is expected to be easier to implement with the existing HVAC systems at IHEs, and they can be used (in groups) in other locations depending upon room volumes and filtering. In room air cleaners are commercially available from most hardware and appliance stores, relatively inexpensive, and could also be manufactured locally (where expertise exists).

1. Maintain social distancing between all persons while waiting to enter the room.
2. Maintain social distancing between all persons sitting in the room.
   a. It may be useful to identify in advance (with a seat map or markings) what seats are available.

   b. Maintain at least 30 feet from next closest group if it is in a large outdoor or indoor location.
3. All students shall be wearing face masks.
4. HEPA in room air cleaners will be used to provide removal of any circulating aerosols in the classroom.
   a. Multiple HEPA air cleaner (HEPA units) should be used in the classroom
      i. A minimum of two, but preferably 4 or more HEPA units are recommended to provide for more distributed air flow and avoid all air being directed towards one unit.
         1. The airflow in the classroom with the HEPA units in operation should be checked to ensure there is proper mixing taking place.
      ii. The operating flowrate of the combined HEPA units should be sufficient to provide a minimum of 5, and preferably 10 ACH.
      iii. The HEPA units should have a monitor to provide warning if they are not operating properly (e.g. fan failure, filter media develops a hole or is plugged up).
      iv. The HEPA units should be regularly checked for operating efficiency (using aerosol challenge to the inlet while measuring the outlet aerosol concentration) and have a maintenance schedule to ensure proper operation.
      v. During replacement of the HEPA filter, workers should assume the filters are contaminated with Covid-19 and proper protocols should be in place to perform this maintenance.
   b. Alternative engineering controls: There are a number of other Engineering Controls that are possible (e.g. ultraviolet (UV) germicidal irradiation (GI), catalytic oxidation using metal substrates) but there are numerous issues associated with them such as health and safety ( UVGI, for example, has serious concerns for using in occupied classrooms due to the possibility of skin burns, skin cancer, photo keratitis, and retinal burns ) efficacy (UVGI for example needs a minimum energy and exposure time and can suffer from "shadowing"), system maturity (the recent announcement of heated nickel "foam" being able to destroy the Covid-19 virus, is a long way from a commercially available system). An IHE may wish to consider to these other Engineering Controls separately or in conjunction with a HEPA unit as long as the OHS impacts are considered and performance requirements set out for the in-room HEPA units are meant.
5. Faculty are recommended to be wearing a *Face Shield*
   a. A *Face Shield* can provide effective protection against larger respiratory droplets ejected during sneezing, coughing or loud talking/singing
   b. With the face shield and proper HEPA operation, there will not be a need for faculty to wear a face mask while teaching. However, faculty may choose to wear a face mask when not talking.
6. Cleaning supplies should be provided in the room to allow students and faculty to clean surfaces in their seating/instructional area if they want.
7. Avoid switching seating locations once a location is selected.
8. Maintain physical distance when exiting classroom. The sequence for exiting will be specific for each room or space.

2.3.1.4. Indoor Room with Regular Covid-19 Testing

1. All faculty and staff have tested negative for Covid-19 either individually or in a pooled test within the last 7days or less. If 1 or more members of the class (faculty or students) have do not have a negative result from the last 7, days or less, this reverts to 2.3.1.2.
2. Maintain social distancing between all persons while waiting to enter the room.
3. Maintain social distancing between all persons sitting in the room.
4. It may be useful to identify in advance (with a seat map or markings) what seats are available.
5. Maintain at least 30 feet from next closest group if it is in a large outdoor or indoor location.
6. Students and faculty are not required to wear a face mask in the classroom.
7. Faculty are recommended (but not required) to be wearing a Face Shield.
8. Cleaning supplies should be provided in the room to allow students and faculty to clean surfaces in their seating/instructional area if they want.
9. Avoid switching seating locations once a location is selected.
10. Maintain physical distance when exiting classroom. The sequence for exiting will be specific for each room or space.

To reduce the risks of transmission even further IHE could use administrative controls such as allowing more time between classes for any aerosol emissions from a previous class activity to have subsided (approximately 2 hrs.) and for enhanced cleaning of surfaces (tabletops, chairs, door handles).

2.3.2. Teaching Laboratory (or similar hands-on settings)

It is recognized that some skills, especially in the sciences, require hands on learning. An example of this is laboratories in chemistry, biology, and physics; however, the IHE should evaluate whether the laboratory is necessary to be performed F2F or could a simulation also provide similar skills.

1. Prior to having students come to the laboratory, the IHE needs to evaluate the following questions
    a. Do the normal (e.g. existing) safety procedures for the laboratory include
        i. Face protection (safety glasses, googles, face shield)
        ii. Face mask or respiratory protection
        iii. Laboratory coats
        iv. Social distancing
        v. Does the laboratory have enhanced ventilation (e.g. fume hoods) with 10 ACH for the space?
    b. Can social distancing be maintained during the laboratory
        i. At regular density
        ii. At a reduced density

1. If at a reduced density, how many additional sections would be needed to run all labs for all class members?
2. Can the laboratory accommodate the additional sections?
3. If not,
    a. can at least some of the laboratories be simulated or data shared between students?
    b. can physical barriers be added (engineering controls) between workstations
    c. can work be carried out using fume hoods or other engineering controls
    d. can face shields be added to provide for more facial (eye) protection
    e. can respiratory protection (e.g. N95 respirators) be used?

c. Special attention should be paid to possible choke points (e.g. limited or only 1 or 2 instruments).
d. Can laboratory tasks be safely performed while wearing facemask?
e. Can students be trained to do cleaning of their work area?
    i. If yes
        1. Are procedures for properly cleaning the workspace in place?
        2. Are supplies for properly cleaning the workplace readily available in the laboratory?
        3. If the students will be doing the cleaning, their work should be inspected and approved by the faculty/instructor/TA/staff
    ii. If no
        1. Are there adequate resources (e.g. staff, supplies and time) to do cleaning prior to all sections?
f. If social distancing cannot be maintained and engineering controls or respiratory PPE cannot be implemented, can testing be performed to ensure all class members in a lab session have tested negative (see section 5) in the last 7 days, either individually or in a pooled test result?
g. If the answer to f is no, the laboratory may not be able to be carried out safely according to the risk assessment matrix, and the IHE may have to consider either reducing enrolment or postponing the laboratory session to a later date or cancelling the laboratory for the term.

2. For Laboratory F2F activities, all students are required to wear face masks. Faculty are recommended to wear a face shield with respiratory PPE.
3. If the laboratory space has additional ventilation (e.g. fume hood, laminar flow hoods) these should be turned on for an appropriate interval (a time period equivalent to at least 1 air change is recommended).

### 2.3.3. Activities where social distancing is Difficult/Impossible

In discussions with faculty at various IHEs a specific subset of specialized activities (primarily in fine arts and performing arts, but also in health sciences such as physical therapy, speech therapy, kinesiology) have been identified where the nature of the work

makes it impossible to maintain social distancing and wear a face mask and practice proper hand hygiene at all times. By definition, these activities are in the realm of risk mitigation rather than risk elimination.

2.3.3.1. Maintain social distancing where possible
2.3.3.1.1. Decrease density in existing space
2.3.3.1.2. Expand existing spaces to decrease density
2.3.3.1.3. Where social distancing cannot be maintained:
2.3.3.1.3.1. Consider implementing Engineering Controls
2.3.3.1.3.1.1. In room HEPA air cleaners
2.3.3.1.3.2. Consider implementing Respiratory Protection
2.3.3.1.3.2.1. N95 or PAPR
2.3.3.1.3.3. Minimize time periods where social distancing cannot be maintained to < 15 minutes (consecutive or total) in a one-hour period.
2.3.3.1.3.4. Consider implementing testing (individual or pooled) for ALL attendees, on a maximum 7day (including reporting) rolling basis.
2.3.3.2. Wear Face Mask where possible:
2.3.3.2.1. With social distancing
2.3.3.2.2. Without social distancing
2.3.3.2.3. Where a Face Mask cannot be worn
2.3.3.2.3.1. Minimize time periods where social distancing cannot be maintained to < 15 minutes (consecutive or total) in a one-hour period.
2.3.3.2.3.2. Consider implementing Engineering Controls (increase ventilation or decreased density)
2.3.3.3. Enhanced cleaning protocols
2.3.3.3.1. For space
2.3.3.3.1.1. Increased Frequency
These spaces should be thoroughly cleaned at least 1X daily.
2.3.3.3.1.2. No change in frequency but using longer lasting cleaning agents. A space, may revert to prior cleaning frequency if it can be shown the cleaning agents will maintain antimicrobial activity over the time period between cleaning
2.3.3.3.2. For equipment:
The special case of shared equipment or equipment used by multiple persons during a class needs to be considered. This might include the use of UVGI, or UVGI combined with other engineering controls (e.g. HEPA). At a minimum, disinfection supplies must be available so someone can clean a piece of equipment themselves prior to their using it. Additionally, users of equipment should be required to clean the equipment after using it.
2.3.3.4. Scheduling:
2.3.3.4.1. Can the number of persons using a space at one time be reduced?
2.3.3.5. Testing:
Due to the lack of social distancing, an IHE may want to consider prioritizing these types of activities. The maximum time period between testing should be 7 days, and all personnel in the room need to meet this criterion.

2.3.4. Administrative Offices

Faculty and staff of an IHE performing certain administrative duties may be determined by an IHE to need to be on campus for at least some of their work. Part of the determination should include whether they need to be on-campus all the time, every day, or can it be part of each day, or only certain days.

2.3.4.1. Individual office
- 2.3.4.1.1. Faculty and staff in individual office spaces may remove the face mask when they are by themselves.
- 2.3.4.1.2. Where possible duties should be performed by phone or email.
- 2.3.4.1.3. Where duties require dealing with others on a face to face basis:
  - 2.3.4.1.3.1. Social distancing should be practiced
  - 2.3.4.1.3.2. The wearing of face masks is required
  - 2.3.4.1.3.3. The implementation of physical barriers (sneeze guards) or face shield, in addition to face masks should be implemented
  - 2.3.4.1.3.4. If drop-ins are allowed, they should be limited to one F2F per staff member at a time.
  - 2.3.4.1.3.5. Avoid drop-ins (use appointment scheduler such as in Teams)
  - 2.3.4.1.3.6. Faculty/staff are permitted to ask persons to leave if they are not practicing social distancing and wearing a mask.
- 2.3.4.1.4. The IHE should consider the implementation of enhanced ventilation (open a window) or Engineering Controls (e.g. HEPA unit) for the office space

2.3.4.2. Shared office space:
- 2.3.4.2.1. Arrange the office space to physically maintain social distancing between work areas.
- 2.3.4.2.2. Wear face masks when others are in the shared office space.
- 2.3.4.2.3. Where possible duties should be performed by phone or email.
- 2.3.4.2.4. Where duties require dealing with others on a face to face basis:
  - 2.3.4.2.4.1. Social distancing should be practiced
  - 2.3.4.2.4.2. The wearing of face masks is required
  - 2.3.4.2.4.3. The implementation of physical barriers (sneeze guards) or face shields, in addition to face masks should be implemented.
  - 2.3.4.2.4.4. If drop-ins are allowed, they should be limited to one F2F per staff member at a time.
  - 2.3.4.2.4.5. Avoid drop-ins (use appointment scheduler such as in Teams).
  - 2.3.4.2.4.6. Faculty/staff are permitted to ask persons to leave if they are not practicing social distancing and wearing a mask.
- 2.3.4.2.5. Consider the implementation of enhanced ventilation (open a window) or Engineering Controls (e.g. HEPA unit) for the office space.

2.4. **Nothing in this "Best Practice" document is meant to override any regulatory determination regarding a minimum level of hazard control, where a regulatory determination would provide more protection**. IHEs are reminded that what is acceptable from a regulatory point of view (e.g. OSHA) may not meet the current standard of care for

OHS. For example, many OSHA permissible exposure limits (PEL) date from 1968 and are known not to be protective of worker health.

3. **Protection of Vulnerable Community Members.**

3.1. Vulnerable Populations Definition

As more information has become available regarding Covid-19 and SARS-CoV2, the list of vulnerable populations (i.e. those with increased risk for severe illness if they were to become infected with Covid-19) has continued to expand. These populations currently include i) older adults (note, no specific age cutoff is determined, this is relative term and is a continuum from the younger (<10 years old) population, ii) people of any age with underlying medical conditions (e.g. Chronic Kidney Disease, Chronic Obstructive Pulmonary Disease (COPD)), those in an immunocompromised state, obesity, serious heart conditions, sickle cell disease, type 2 diabetes), iii) those minority groups with long-standing systemic health and social inequities, iv) people experiencing homelessness, v) pregnant people, vi) people with developmental and behavioral disorders. In addition, there is scientific support for males being more at risk than females, and males with male pattern baldness being more at risk than males who do not have male pattern baldness. It is expected that additional vulnerable populations will be identified, and this list is not meant to be static.

3.2. **Reasonable Accommodation**

The IBHE Guidance indicates that reasonable and appropriate accommodations should be made for remote work and learning but does not specify what this would look like. UPI agrees that remote learning is the only safe option for these populations. Some members of the vulnerable populations may find the risk of working on-campus acceptable to them if there is an acceptable level of hazard control provided (e.g. PAPR or HEPA room filtering, limited no. of persons, limited time of exposure), but this should be on a case by case basis and not required.

3.2.1. **No Faculty should be forced to teach face-to face if they do not feel safe**

No Faculty should be forced to teach F2F if they do not feel safe, regardless of whether they meet the definition of vulnerable population or not. For example, if the risk reduction procedures for maintaining a "safe" workplace are primarily based on student compliance with social distancing and facemask compliance, which we know from the epidemiology they are not doing, a faculty member should be allowed to choose to teach the course online/remote.

3.2.2. Reasonable Accommodations for Students

- 3.2.2.1. No student should be forced to attend a class F2F if they do not feel safe, regardless of whether they meet the definition of vulnerable population or not.
- 3.2.2.2. Provision should be made for students to take a class via online/remote (for example attending a class via remote web interface)
- 3.2.2.3. Faculty teaching F2F classes should include provisions in their course for students who are subject to quarantine due to
  - 3.2.2.3.1. contact tracing or a positive Covid-19 test
  - 3.2.2.3.2. or who suffer a Covid-19 infection.

3.2.2.3.3. Cannot attend a class due to family commitments related to Covid-19 (e.g. stay at home orders or a family member sick with Covid-19).

3.2.2.4. If an F2F course is needed for the student to advance to a next level, and it cannot be offered online/remote, it may be prudent to allow the student to defer a term or a year.

3.2.2.5. IHEs should consider implementing Satisfactory/Unsatisfactory or Pass/Fail type grading on an individual basis for those impacted by Covid-19.

3.2.2.6. Many faculties already have general provisions in their syllabus that would cover these situations.

4. **Health, Safety, and Social Responsibility Training for Students, Faculty, and Staff.**

In OHS, training (a form of administrative control) is often required to ensure optimal results. While it would have been better to have a state-wide training program developed, in the absence of one, the IHE will need to develop their own training program. For the purposes of this document, social responsibility is defined as "the degree to which people minimize their negative impact on others." For an IHE during Covid-19, social includes the importance of social distancing, wearing a mask, practicing proper hand hygiene, not coming to campus if you have a fever, etc. Although it is hoped that students, staff, and faculty will exhibit social responsibility voluntarily, it is recommended that applicable documents (e.g. bargaining agreements, employee handbooks, student codes of conduct, course syllabi) at the IHE be clarified to regarding the expectation to exhibit social responsibility. This needs to include provisions for handling non-compliance with policies and procedures regarding Covid-19. For example, a course syllabus could be modified to include to specifically classify the non-wearing of masks in a required area as a "disruptive behavior," which many IHEs already have procedures in place to deal with.

It is recommended that this required training include, at a minimum, the following elements:

1. General information on Covid-19 (e.g. What is Covid-19? What are the health impacts that have been observed, what are the risk factors)?
2. What are the routes of transmission (e.g. direct contact with an infected person, contact with fomites (objects or materials likely to carry infection such as doorknobs, clothing, utensils, furniture), indirect or direct respiratory aerosols)?
3. What are the routes of entry into the body (e.g. primary routes of entry are mucous membranes of mouth, nose, eyes)?
4. Protective Behaviors (e.g. social distancing, use of face masks, proper hand hygiene, additional considerations for using public transportation, meal hall, residences).
5. Proper use of PPE (where required).
6. Communications and reporting (e.g. how the IHE will communicate on Covid-19 related matters with the students, staff and faculty; where can someone find out information about Covid-19 requirements and status at an IHE; how does someone report a potential or confirmed positive test result)?

5. **Testing and Contact Tracing**

Testing for Covid-19 of an IHEs population and the surrounding community can provide important temporal and spatial information about the Covid-19 infection to allow the IHE to make decisions about their on-campus activities, including maintaining the status quo, a possible implementation of reduced activities, or movement to more remote learning. Decisions about testing need to be part of an overall plan by the IHE on how to track the current Covid-19 infection situation on their campus as well as the surrounding area. Contact tracing needs to be part of any testing program that is implemented.

It is extremely important that the IHE establish and maintain a close working relationship with the local health department for considering testing and contact tracing implications for the IHE.

### 5.1. Testing

Testing refers to two types: molecular, and antibody testing. Molecular testing, sometimes called 'viral testing,' refers to the use of real time-reverse transcriptase-polymerase chain reaction (RT-PCR) used for qualitative detection of nucleic acid from SARS-CoV-2, the virus responsible for COVID-19, in upper and lower respiratory specimens (such as nasopharyngeal or oropharyngeal swabs, saliva, sputum, lower respiratory tract aspirates, bronchoalveolar lavage, and nasopharyngeal wash/aspirate, nasal aspirate, nasal swabs, or mid-turbinate swabs) collected from individuals suspected of COVID-19 by their healthcare provider. Molecular testing should be used to diagnose current infection.

Antibody testing, also known as serology testing, refers to the use of the detection of antibodies against COVID-19 and may provide information about past infection with the virus.

When choosing the type of testing, it should be understood that except in instances in which molecular testing is delayed, antibody tests should not be used to diagnose a current COVID-19 infection. An antibody test may not show if an individual has a current COVID-19 infection because it can take 1–3 weeks after infection for the body to make antibodies.

Additional considerations regarding the type of testing used are the capacity available (throughput), turnaround and reporting time (faster is better, tests that take more than 2-3 days to report become less useful in preventing the spread), and positives reporting protocols.

#### 5.1.1. IBHE Testing Considerations

It is recognized that there is a wide range in 1) the ability of IHEs to implement testing of their population and 2) the impact of the surrounding community Covid-19 infection rate on the IHE (e.g. a residential university in a small community vs. a community college in Chicago).

In determining whether to implement testing of an IHE population, it is recommended that the IHE consider the following aspects of their particular situation:

1. Currently available resources at the IHE:
    a. Is there an academic program that can provide support (e.g. Medical School, Nursing School, Public Health? Medical Laboratory)?

   b. Is there a student health services?
   c. What is current capacity/capability for sampling, testing, contact tracing in the community?
2. Potentially available resources (e.g. funding, test kits, sampling or testing services, contact tracing):
   a. Local health dept
   b. IDPH
   c. Local healthcare organizations (e.g. hospital systems)
3. Type of student population (e.g. residential, non-residential)
4. IHE Location (e.g. rural, suburban, urban)
5. Current local community, out of state, or out of country students Covid-19 infection trends (e.g. infection rate, demographics of infection,)
6. Reporting protocols for positive and negative tests
7. Quarantine/isolation capabilities

The feasibility of testing students and employees or identifying and testing close contacts will likely vary by IHE and their local context. **However, IHE should make an effort work with local health officials and design a plan for testing/contact tracing**.

5.1.2. **IBHE Population Testing**

5.1.2.1. Prior to coming on campus:

Because of the potential for asymptomatic and/or pre-symptomatic transmission, it is important that individuals diagnosed with COVID-19 be identified and tested. Testing prior to coming to campus will identify students and employees that need to remain in quarantine and will allow for testing close contacts. Testing prior to coming to campus will also provide a baseline for ongoing epidemiologic surveillance throughout the fall semester.

It needs to be emphasized that this initial testing is simply a snapshot in time**. The usefulness of a single test result is diminished if there is not ongoing systematic surveillance testing.**

5.1.2.2. Settings where broader testing, beyond close contacts, is recommended as a part of a strategy to control transmission of COVID-19:

5.1.2.2.1. In IHEs, residence halls, laboratory facilities, and classrooms may be settings with the potential for rapid and pervasive spread of COVID-19.

5.1.2.2.2. Expanded testing might include testing of all people who were in proximity of an individual confirmed to have COVID-19 (e.g., those who shared communal spaces or bathrooms), or testing all individuals within a shared setting (e.g., testing all residents on a floor or an entire residence hall). Testing in these situations can be helpful because in high density settings, it can be particularly challenging to accurately identify everyone who had close contact with an individual confirmed to have COVID-19. For example, students who do not know each other could potentially be close contacts if they are both in a shared communal space.

5.1.2.3. **Ongoing surveillance testing**

**After molecular testing prior to coming to campus, IHE should have in place a surveillance system to facilitate early detection of cases, implementation of preventive interventions, and enable effective coordination of healthcare professionals**. With appropriate testing frequency, even a rapid test with low sensitivity, as long as it has high specificity, could be used to monitor sentinel populations on campus throughout the semester. This would allow for the control of outbreaks with manageable isolation dormitory utilization for residential IHE and to implement manageable control measures in non-residential IHE. Rapid testing, combined with pool testing, may result in cost-effective surveillance throughout the semester while providing specific data for the IHE to adjust their practices and policies should an outbreak be detected. Modeling has shown that surveillance testing period needs to be performed at an interval of 7 days or less to be effective for identifying and intervening in an outbreak.

5.1.3. **No testing of IBHE population**

If an IHE decides not to implement testing of the IHE population, it is still recommended that the IHE identify resources for readily available testing in the local area in order to be able to respond to an identified outbreak at the IHE. This could include a supply of testing kits at the student health services or arrangements with a local hospital or medical laboratory.

Even if no testing is being performed at an IHE, the IHE needs to be continually following the Covid-19 infection rates for the local community and state.

5.1.4. **Establish Criteria**

The IHE should establish criteria for moving to a previous phase if warranted by the IHE population, loca,l or statewide surges in Covid-19 infection rates.

5.2. **Contact tracing**

Contact tracing refers to the process of quickly identifying and isolating a patient's recent contacts in order to locate individuals who might be at risk for contracting COVID-19. Steps involved in contract tracing include: i) interviewing people with COVID-19 to identify everyone they had close contact with during the time they may have been infectious; ii) notifying contacts of their potential exposure; iii) referring contacts for testing; iv) monitoring contacts for signs and symptoms of COVID-19.

IDPH has established protocols for contact tracing

1. **Case investigation**: Local public health department staff work with a patient to help them recall everyone they have had close contact with during the time they may have been infectious.
2. **Contact tracing**: Local public health department staff begin contact tracing by notifying exposed people (contacts) of their potential exposure as rapidly and sensitively as possible, not revealing the infected patient's identity.

3. **Contact support**: Contacts are provided with education, information, and support to help them understand their risk, what they should do to separate themselves from others who are not exposed, and how to monitor themselves for illness. In addition, they are informed of the possibility that they could spread the infection to others even if they do not feel ill.
4. **Self-quarantine**: Contacts are encouraged to stay home, monitor their health, and maintain social distance (at least 6 feet) from others until 14 days after their last exposure to the infected patient in case they also become ill.

Local Public Health Departments/Districts have responsibilities for disseminating protocols for contract tracing. In collaboration with IHE, a local department may choose to develop a campus contact tracing team.

Contact tracing personnel will continue to investigate, evaluate, and deploy methods which may support and enhance contact tracing as they become available, in compliance with approved protocols from the CDC and IDPH.

The IHE may wish to consider implementing some form of sign in for class attendance, meals, at library entrances etc. to allow for better contact tracing and notification.

For privacy purposes (e.g. FERPA and HIPAA), identifying information of positive cases will not be given to contacts.

6. **Quarantine and Isolation Measures**.

6.1. Reporting of positives
- 6.1.1. IDPH procedure requires laboratories to report positive lab tests to the local County Public Health Department/District.
  - 6.1.1.1. County Health Departments/Districts communicate positive tests to IHE officials.
  - 6.1.1.2. IHE officials, working closely with County Health Departments/Districts, support isolation and quarantine procedures.

6.2. Who needs to quarantine?
- 6.2.1. Anyone who has been in close contact with someone who has COVID-19. This includes people who previously had COVID-19, and people who have taken a serologic (antibody) test and have antibodies to the virus.
  - 6.2.1.1. What counts as close contact?
    - 6.2.1.1.1. You were within 6 feet of someone who has COVID-19 for at least 15 minutes.
    - 6.2.1.1.2. You provided care at home to someone who is sick with COVID-19.
    - 6.2.1.1.3. You had direct physical contact with the person (touched, hugged, or kissed).
    - 6.2.1.1.4. You shared eating or drinking utensils.
    - 6.2.1.1.5. They sneezed, coughed, or somehow got respiratory droplets on you.

6.2.2. Anyone returning from travel to a high-risk area in accordance with CDC, IDPH, or local ordinances.

6.2.3. Quarantine procedures:

6.2.3.1. Stay home for 14 days after your last contact with a person who has COVID-19 (or return from travel to high risk areas).

6.2.3.2. Watch for fever (100.4◦F), cough, shortness of breath, or other symptoms of COVID-19.

6.2.3.3. If possible, stay away others, especially people who are at a higher risk for getting very sick from COVID-19.

6.3. Who needs to isolate?

6.3.1. Persons who test positive must isolate for 10 days.

6.3.2. Symptom based and testing based strategy has been approved by the CDC (June 04/2020).

6.3.2.1. Positive cases exclude from work/school until <u>all criteria are met.</u>

6.3.2.2. Symptom based: At least 3 days (72 hours) have passed *since recovery* defined as resolution of fever without the use of fever-reducing medications **and** improvement in respiratory symptoms (e.g., cough, shortness of breath); **and**, At least 10 days have passed *since symptoms first appeared.*

6.3.2.3. **Test-based strategy**. *Exclude from work/school until <u>all criteria are met</u>: Resolution of fever without the use of fever-reducing medications **and** Improvement in respiratory symptoms (e.g., cough, shortness of breath), **and** Negative results of COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive respiratory specimens collected ≥24 hours apart (total of two negative specimens).*

6.4. Policy for worker compensation:

The IHE should establish a policy for compensation in case of quarantine or isolation. This may be governed by collective bargaining agreements.

6.5. Policy for students

The IHE should establish a policy for students who are impacted by quarantine, isolation, or sickness due to Covid-19.

As the understanding of Covid-19 pandemic evolves it is expected that the guidelines (and Best Practices) regarding quarantine and isolation may change. IHEs should continue to monitor the scientific understanding and guidelines from CDC, OSHA, IDPH, and other professional organizations regarding this topic.

7. **Campus Space Utilization**.

The general rule of thumb for reducing risks for on-campus activities during Phase 4 is to have the fewest number of people gathering in the largest space (i.e. lowest possible density) for the shortest amount of time.

**The importance of HVAC and indoor environmental quality (IEQ) in the transmission and mitigation of Covid-19 needs to be recognized and emphasized to IHEs**. The authors' experience to date is that many IHEs have failed to recognize this and have failed to implement appropriate plans and procedures to do this. ASHRAE has provided a series of recommendations (https://www.ashrae.org/file%20library/technical%20resources/covid-19/ashrae-reopening-schools.pdf) that, if followed, will help an IHE address this issue.

In addition to the HVAC/IEQ issues IHEs will need to consider traffic flows between and within buildings and within spaces, as well as the need for reduced densities at student centers, libraries, meal halls etc. These may require implementations of engineering controls (e.g. physical barriers, reduced seating) and administrative controls (e.g. scheduling).

**Nothing in this document would prevent the adoption of technologies that can be shown to either effectively remove or destroy airborne SARS-CoV-2.**

## 8. **Cleaning of Facilities**

Outside of healthcare and paramedical facilities, the infrastructure and standard practices of infection prevention and control have not been commonplace. In order to prevent the community spread of Covid-19, IHEs will need to develop enhance cleaning and disinfection controls. These enhanced cleaning and disinfection measures can be divided into two broad categories:

1. Enhanced Cleaning for Prevention
2. Enhanced Cleaning and Disinfection After Notification of a Confirmed Covid-19 case.

Some general recommendations are provided regarding cleaning:

1. As a preliminary matter there will be a need for sufficient resources (materials and personnel) to be provided for cleaning and disinfection. (It has been observed that some IHEs have actually been reducing resources.)
2. IHEs should review their current cleaning protocols to ensure that they will be effective against Covid-19.
3. HEs should use US EPA approved disinfectants. https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2-covid-19 (note; this list is updated on an ongoing basis) as part of their cleaning protocols. Many of these agents have a specified minimum contact time to be effective and these should be observed.
    a. The IHE is reminded to review the Safety Data Sheet and technical specifications for the cleaning agent prior to use. For example, some of the US EPA approved disinfectants can have a corrosive effect, and IHEs are reminded to consider this issue in their cleaning protocols. Some of the US EPA approved disinfectants will require additional H&S controls than an IHE may have been using in the past.

4. Cleaning equipment utilized at an IHE should be used for the designed purpose(s) and used in a manner so as to minimize the possible spread of Covid-19. Any vacuum cleaners used should be equipped with HEPA filters. The vacuum cleaner is designed to work the specific HEPA filter.
5. Cleaning supplies should be readily available in classrooms and bathrooms and kept stocked.
6. Several methods of enhanced cleaning that could have applicability to Covid-19 are raised for consideration by an IHE for their Covid-19 cleaning.
    a. The use of electrostatic deposition (ESD), also referred to as electrostatic sprayer, may offer superior coverage than typical wet cleaning
    b. The use of UVGI for surface decontamination is effective against Covid-19 provided it is used properly. UVGI surface cleaning should not be used in occupied spaces.
    c. Agents with enhanced surface anti-microbial activity (including against virus) have been developed that provide for multi-day, and for some agents, multi-week, activity. These may be of particular use in high traffic areas, areas that are difficult to clean frequently (e.g. within a day) or areas that are only cleaned infrequently (e.g. day or weeks).
7. Cleaning staff at an IHE are on the front line against Covid-19, and there have been infection clusters and deaths reported in cleaning staff at IHE in other states. In addition, some of the US EPA approved disinfectants or cleaning procedures (e.g. ESD) have new or additional hazards from regular cleaning. Appropriate H&S protocols, including use of PPE should be followed by cleaning staff. If there is a need for a space to be closed off for a time period after cleaning/disinfecting, this should rigorously be followed.

9. **Adjustments to Campus Academic Schedules.**

The use of Administrative Controls, such as scheduling, may be effective in reducing risk where engineering controls are not feasible.

IHEs may wish to consider changes to academic term start/stop dates or length of the academic term depending upon their location and student makeup.

10. **Completion of labs, clinicals, and other performance/demonstration skills.**

See the recommendations in Section 2 above. No other specific recommendations at this time.

11. **Residential Life**

No specific recommendations at this time.

12. **Food Service Operations.**

No specific recommendations at this time.

13. **Bookstore and Other Retail Operations**

No specific recommendations at this time.

14. **Recreation and Centers.**

No specific recommendations at this time.

15. **Campus Early Childhood Care and Education Facilities**.

No specific recommendations at this time.

16. **Campus Transportation**.

No specific recommendations at this time.

17. **Campus Access, Visitors, and Events.**

During Phase 4, external visitors to campus should be minimized. For guest presentations, it would be more appropriate to have these done remotely. For residential IHEs, students visits to the local community should be limited where possible**.** This is especially important if the local community Covid-19 positivity rate is increasing.

There are no other specific recommendations at this time.