Evaluating COVID-19 Risk in Your Department

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As public health program directors, we have been thinking, talking, responding, and advising about COVID-19 and the novel coronavirus since early February 2020. From these extensive activities, we have developed a method of evaluation to determine how our institutional departments are responding to the pandemic. Evaluation plans supplement general guidance and mandates from the Centers for Disease Control and Prevention, individual states, and local officials. This easy-to-implement evaluation plan can help administrators, instructors, staff, and students understand their roles in responding to COVID-19. The COVID-19 department evaluation plan provides early detection of how the virus is affecting a department.

Why should your department have an evaluation plan that complements your institution-wide plan?

A department-level evaluation plan will help you determine how your department contributes to controlling the spread of COVID-19 on campus. A series of metrics was created to help evaluate department capacity for controlling the virus. The data collected can assist you in preparing for reopenings or closures during the academic year. Table 1 provides the base level of evaluation we recommend for an institution when developing a nuanced approach to COVID-19 evaluation. Table 2 defines the metrics we use and what we like about them, and table 3 presents the metrics we recommend and suggested targets to define levels of success.

Departments that develop their own evaluation plans can have a safer and more refined response plan. These evaluation

### Table 1. Base Level of Evaluation

| Institution COVID-19 Threat Level | 4 Very High | 3 High | 2 Low | 1 Very Low |
|-----------------------------------|-------------|--------|-------|------------|
| State COVID-19 cases              | High level  | 7-day increase | 14-day decrease | Low level |
| County COVID-19 cases             | High level  | 7-day increase | 14-day decrease | Low level |
| Community COVID-19 cases          | High level  | 7-day increase | 14-day decrease | Low level |
| % of population on campus         | 80–100%     | 50–80%    | 30–50% | 30% or lower |
| Campus testing                    | No testing  | 20–40% weekly | 50–80% weekly | 100% weekly |
| Cases on campus                   | High level  | 7-day increase | 14-day decrease | Low level |
| Tracing response time             | None        | 48-hour average | 24–48 hours | < 24 hours |
| Community spread                  | Over 10%    | 5–10%     | 0–5%   | None |
| Flu-like symptoms                 | High level  | 7-day increase | 14-day decrease | Low level |
| Taste and smell testing           | High level  | 7-day increase | 14-day decrease | Low level |
| Mask wearing                      | Under 60%   | 60–80%    | 80–90% | 90% or more |

### Table 2. Metrics Defined

| Metrics | Description |
|---------|-------------|
| **Mask Wearing** | Mask wearing is a proven way to reduce the spread of the coronavirus. Although the numbers vary, 70% to 95% of the transmission of the coronavirus can be reduced when 80% of people wear masks. |
| What it measures | The number of people who wear masks in your department. |
| What it indicates | Commitment to preventing the spread of the virus and the level of spread of existing coronavirus. |
| Why we like it | Counting how many people are wearing masks is easy to measure, and wearing masks makes a big difference. |
| What it lacks | Making the data-gathering process rigorous takes some thought. |
| How to implement it | Count how many people wear masks in one or more department locations and at different times of day. |
| **Absenteeism** | Measuring absenteeism can highlight the true effect of COVID-19 on a department. Absenteeism related to COVID-19 can be associated with local health conditions, department activities, and the department makeup. |
| What it measures | The proportion of the department that is absent and the change in absenteeism from previous weeks, months, and years. |
| What it indicates | The potential impact of COVID-19 on department productivity. It is an important lagging indicator of the effect of COVID-19 on your department. |
| Why we like it | It is easy to measure. Additional effort can highlight a variety of other issues or successes that are not related to COVID-19. |
**Metrics**

| What it lacks | It is a lagging indicator of how things are progressing. In most situations there is limited awareness of what is an optimal absentee level, and absenteeism levels fluctuate considerably because of the small size of many departments. It also does not confirm an absence to be COVID-19 related, and those working from home may not report. |
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| How to implement it | Look at department records or do a retrospective survey asking people to indicate how many days they missed over previous years and why they were absent. Then keep track of current absenteeism. |
| Note | Because people are encouraged to work from home or to stay out of the office when feeling ill, it is important to not shame those who are absent and to continue to support work-from-home options. |

**Temperature, Taste, and Smell**

| What it measures | Screening includes taking individual body temperature, smell and taste, and a questionnaire of signs and symptoms. |
|---|---|
| What it indicates | The number of potentially infectious people coming to campus. |
| Why we like it | Screening is easy to administer and reduces the number of potentially infectious people who are on campus. Loss of taste and smell are unusual symptoms specific to COVID-19. |
| What it lacks | Many with COVID-19 are asymptomatic and infectious. Those who become symptomatic are likely to have been infectious for two days prior to becoming symptomatic. Thus, this measure will not help eliminate all risk. Most symptoms associated with COVID-19 are common to other illnesses such as the flu, allergies, or common cold. |
| How to implement it | Ask people to self-monitor before leaving for campus or take the temperatures of everyone as they enter campus buildings. Smell and taste screening can be done with scratch-and-sniff cards, ammonia tabs, or small amounts of lemon juice. |

**Flu-Like Symptoms**

| What it measures | The number of people in the department with one or more symptoms. |
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| What it indicates | It provides a general gauge of the health and potential risk of infection in the department. |
| Why we like it | It increases awareness of symptoms associated with infectious diseases. A change in these symptoms from a previous baseline can potentially indicate the presence of COVID-19, the flu, or other infectious diseases. |
| What it lacks | Flu-like symptoms is nondisease specific. |
| How to implement it | Include flu-like symptoms in the screening process, then track these against previous years. Google Trends can be used to assess a change in searches for flu-like symptoms in previous years. Traditionally, this approach has been a great early indicator of the flu in an area. |

**Department Presence on Campus**

| What it measures | It indicates the likelihood of interaction and the potential to spread the virus. |
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| What it indicates | It provides a baseline of how many interactions are likely within a department. |
| Why we like it | It indicates the potential for a department to socially distance. |
| What it lacks | It assumes that space available to the department is fixed and that work schedules are not flexible, but it also provides data for a formula to maintain the number of people allowed per square foot. |
| How to implement it | Survey all department members on frequency of campus visits. |

**Vulnerable Population**

| What it measures | The number of students, staff, instructors, and others in the department who are at a higher risk of contracting COVID-19. It should also include those who routinely are in close contact with anyone in the department. Defining the demographics of the department can determine how vulnerable a department is to COVID-19. |
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| What it indicates | It indicates how much caution a department should exhibit to protect its members. |
| Why we like it | It demonstrates how a department is a community and is part of a broader community. It also has the potential to support a nuanced COVID-19 response plan. |
| What it lacks | It does not consider the impact of the department spreading COVID-19 to others in the macro community. Department members may not feel comfortable disclosing their health status. |
plans can be incorporated into the institution's evaluation plan. Further, data gathered in these evaluations can be part of the department's communication strategy. This data can also be used to develop a department's or institution's overall score that indicates how well the campus is keeping itself safe. Finally, evaluation plans can be linked to building a more refined response to existing phases recommended or prescribed by other officials.

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| Metrics |
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| **Work Space** | Available work space includes classrooms, offices, desks, and other areas commonly used by the department. |
| What it measures | The number of available work spaces and the space between them. It can be defined as a percent or a count of the total work space available. |
| What it indicates | Determining the amount of work space available to the department defines the potential to increase social distancing within the department. |
| Why we like it | It has the potential to shape how courses are offered, who can work on campus, and what activities the department can conduct. |
| What it lacks | It does not evaluate transition spaces like hallways or facilities (such as restrooms). If these are confining, then having a lot of space becomes less valuable. |
| How to implement it | Calculate work space requirements and options based on the level of expiration and duration of the activity. For sedentary activities, the six-foot social distancing rule works well. Greater distances are needed for activities such as singing, exercise labs, and teaching. For instructors who annunciate, the space requirement should be at least fifteen feet. For those who are in a confined space for more than three hours, check with facilities about ventilation to determine how much space is needed to limit aerosol exposure. |

| Table 3. Recommended Metrics |
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| Institution COVID-19 Threat Level |
| Level | 4 Very High | 3 High | 2 Low | 1 Very Low |
| Mask wearing | Under 60% | 60–80% | 80–90% | 90% or more |
| Absenteeism | High level | 3-day increase | 7-day decrease | Low level |
| Temperature/taste/smell | No screening | 20–40% daily | 50–80% daily | 100% daily |
| Flu-like symptoms | High level | 3-day increase | 7-day decrease | Low level |
| Department presence on campus | 80–100% | 50–80% | 30–50% | 30% or lower |
| Vulnerable population | 60–100% | 40–60% | 10–20% | 10% or lower |
| Work space | 80–100% | 50–80% | 30–50% | 30% or lower |
| Instructional space | 80–100% | 50–80% | 30–50% | 30% or lower |
| Study space | 80–100% | 50–80% | 30–50% | 30% or lower |
| Surveillance testing | Over 10% | 5–10% positive | 1–2% positive | 0 positive |
| Mask wearing | Under 60% | 60–80% | 80–90% | 90% or more |