National Safety Council

SAFER

Preparing for Future Pandemics: Emerging Diseases and Employer Preparedness

Sustaining Resilience in the Wake of COVID-19

Getting ahead of emerging diseases or pandemics can begin with maintaining progress already attained while confronting COVID-19. Below are some successes and milestones that have come out of the pandemic for many employers which will strengthen future responses against infectious diseases:

1. **Maintaining the trust of the workforce**
    - Employers have generally been one of the most trusted sources of information amidst the pandemic for disease prevention, vaccination and even intervening to help workers access vaccines and treatment. Organizations can lead the way in protecting workers from future threats by continuing to engage workers in preventative actions, routine vaccinations, and regularly sharing reliable and practical health and wellness information. It also positions organizations as a trusted source of information to help combat emerging diseases or pandemics.
2. **Promote general health to help keep workers less vulnerable to emerging threats**
    - Overall health is crucial to protecting workers from becoming part of the population particularly vulnerable to infectious disease. Bolstering general health and wellness will help protect workers against severe illness.

- Identify specific barriers to health for workers at your organization so health and wellness programs will be impactful. For example, language barriers can prevent many foreign-born workers from accessing timely and affordable health care, while some populations within dense, urban areas lack access to affordable and nutritious food. Local health departments are a good resource for information on community-wide needs, but specific sectors of your workforce may benefit from targeted interventions such as the following:
    - Onsite preventative health screening
    - Fitness programs or incentives
    - Nutrition interventions, such as providing healthy food at catered meetings and in the cafeteria, or installing vending machines with healthier options
    - Targeted interventions for chronic health risks, such as weight loss, smoking cessation support or management of conditions like diabetes
    - Mental health and substance use interventions

3. **Keep in place policies to prevent infection**
    - Control measures
        - **Ventilation and filtration**: Investments in improving indoor air quality have been shown to drastically reduce sick leave, improve productivity and can protect workers against airborne pathogens
        - Contact tracing as well as isolation and testing policies were found in *SAFER* surveys of employers to be associated with significantly lower case rates across all industries – similar policies can be kept in place for any infectious disease with a threat of workplace transmission
        - Automation can be used to reduce touch points and even decrease the amount of in-person labor required and shift some operations to remote work
    - Schedule flexibility
        - Keep technology and procedures in place to allow for a quick transition to remote work if needed
        - If your business typically has variable schedules for workers such that all or most workers interact at some point during the work week, consider segmenting the workforce so workers only interact with a limited number of co-workers to reduce exposure
        - Consider spacing shifts so workers on each shift don't physically interact with those on the following shift during periods when infection risk is high
    - Providing sick leave and encouraging workers to stay home if they are sick can drastically reduce workplace transmission
    - Keep policies in place to facilitate onsite vaccination for routine inoculations like seasonal flu shots as well as emerging diseases and COVID-19 boosters

4. **Monitor global health threats** if your organization has international job sites or sends workers on business travel. These locations may have **specific precautions or recommended vaccinations**.
5. **Engage with remote workers about avoiding illness and the threat of community spread.** Transitioning to remote work when possible is the best way to reduce workplace transmission of infectious disease, but still leaves workers vulnerable to community spread. Consider:
    - Emphasizing the occupational health and safety reasons for returning to (or maintaining) remote work agreements, including health risks posed by currently circulating pathogens
    - Providing information and best practices about the currently circulating pathogens and how to avoid infection
6. **Assess lessons learned from your COVID-19 responses and develop ready-to-use emergency response plans which can be implemented quickly and flexibly.**
    - Maintain or enact an emergency response team that meets regularly to address diseases of concern
    - For small businesses, consider collaboration on emergency planning or centralized onsite vaccination for multiple workforces
    - Maintain relationships with local health departments for timely and accurate information about health threats
    - Maintain and strengthen relationships with local health care providers or vaccine clinics

Potential Pathogens Posing an Occupational Risk

Three main types of pathogens threaten public health and the workforce, and there is increasing evidence of antimicrobial resistance to all three. Certain viral, fungal and bacterial infections pose a more significant risk to certain industries and occupations. Below are some pathogens to consider in emergency preparedness as well as specific relevance to industries when applicable.

Viral infections

Viral pathogens are smaller than bacterial and fungal pathogens, which increases the risk of airborne transmission between humans in shared spaces. While most viruses posing occupational hazards to workers are airborne, viruses can also spread through animal vectors (e.g., mosquito bites) and bodily fluids, posing a greater risk to some workers, such as in health care or outdoor job sites.

One example is cases of avian flu caused by viruses that adapt to spread from birds to humans. For example, the emerging avian flu, H5N1, does not yet pose a significant threat to humans, but cases of avian flu are of great concern to the public health community due to the potential for a rapid spread over a large geographical area independent of human travel due to bird migrations. The H5N1 strain has also been identified in sea animals, such as seals and porpoises, introducing another mechanism for spread.

Fungal infections

Fungal infections, while not always transmissible between humans, **pose a threat to workers in certain environments and job roles**. In October 2022, the World Health Organization (WHO) released a list of **health-threatening fungi**, noting that fungal pathogens are becoming a major threat to public health as they become increasingly resistant to treatment and the incidence and geographic regions affected are growing due to climate change and international movement of travelers and goods. The risk and prevalence of fungal pathogens varies by region. Below are some fungal infections to be aware of based on your organization's location and industry:

- **Valley Fever** is caused by a fungus (Coccidioidomycosis) in soil which becomes a risk when soil is disturbed. Soil disruption releases spores into the air which can be inhaled by humans, causing a condition known as "Valley Fever." The fungus is primarily endemic to California, but it is expected to affect larger portions of the western United States as a result of increasing temperatures and shifting precipitation patterns due to climate change. Workers who disturb soil by digging or operating vehicles, and those who work in dusty, wind-blown areas face the highest risk of infection. **Employers can reduce exposure** if it is determined workers are at high risk.
- **Histoplasmosis** is caused by a fungus living in soil, especially soil that is contaminated with large amounts of bird or bat excrement. Workers at **heightened risk of exposure** include those who come into contact with accumulations of bird or bat droppings, work in agriculture and forestry, and work on job sites with significant soil disruption, demolition and construction.
- **Candida auris** (C. auris), while still rare in the United States, is becoming more common and can spread quickly among patients in health care facilities. Patients are at higher risk if they have serious pre-existing health problems, have frequent hospital stays, live in nursing homes or have medical devices like breathing tubes, feeding tubes or catheters. While C. auris poses little risk to health care workers, the pathogen can live on surfaces for weeks, causing outbreaks among patients through contact with infected equipment. C. auris can be resistant to antifungal medications as well as commonly used disinfectants, so specific **prevention and control measures**, including the use of **approved disinfectants**, are crucial to preventing its spread among patients.

Bacterial infections

In addition to novel bacterial pathogens, a significant risk is posed by common bacterial infections that are becoming increasingly resistant to treatment. The Centers for Disease Control and Prevention (CDC) provides information on pathogens identified as urgent, serious or concerning threats, **including those which are drug-resistant**.

Considerations for Future Emergency Preparedness

1. **Consider methods of transmission when building targeted response plans**
    - **Airborne transmission** during in-person work operations is best avoided by limiting the number of people who occupy shared spaces and ensuring clean air circulation and respiratory protective equipment.
        - Plan for remote work when possible

- Provide masks or respiratory PPE for in-person, essential work
- Segment the workforce, i.e., ensure the same group of workers work together when they are scheduled, reducing contact between larger numbers of workers
- Space shifts to minimize contact between shifts of workers
- Inspect and maintain optimal ventilation and filtration systems
- Introduce fresh air wherever possible, such as open windows
- Facilitate movement of air from “clean” to “less clean”

- **Fomite transmission** involves contaminated surfaces and is best avoided by reducing touch points, such as shared work equipment.
  - Plan for remote work when possible
  - Use automation and other technology to reduce touch points
  - Plan for sanitization of shared equipment between shifts
  - Provide disposable gloves and safe disposal receptacles for used PPE
  - Install signage or other instruction on safe hygiene practices such as thorough hand-washing
  - Install or distribute hand sanitizer, surface sanitizing wipes, and other mitigating hygiene and cleaning products
- **Zoonotic diseases** are caused by infectious pathogens that people can catch from contact with animals. Many strains of avian flu and swine flu are zoonotic and have caused pandemics such as the 1918 Spanish flu.
  - **Insect vectors** primarily threaten workers in outdoor settings, especially at jobsites in the proximity of standing water or wooded and high grass areas. Plan for:
    - Mosquito or other insect abatement
    - Reducing reservoirs of stagnant water near jobsites
    - Decreasing tick and flea populations by removing leaves, mowing tall grass and brush, and discouraging deer activity
    - Providing **information and equipment** to outdoor workers for protection against insects

2. **Include plans for infectious diseases following natural disasters**

- Emergency preparedness plans for natural disasters should address the possibility of **infectious diseases** and other health and safety hazards emerging in the wake of the initial crisis. Based on the location of business operations, employers can prepare for specific diseases based on which types of disasters are likely to affect workers. For example, stagnant water following hurricanes, tsunamis or flooding puts workers at risk for **mosquito-borne illnesses**, especially if they work primarily outside, or are involved in post-disaster cleanup.

3. **Consider flexibility and contingency plans when building new facilities, expanding business operations and designing on-the-job skills training**
    - Design newly built or acquired business properties and jobsites to optimize ventilation, reduce touch points, and allow for easy cleaning and disinfection of surfaces
    - Cross-train workers on tasks and procedures across interdependent teams to help maintain continuity if some team members are out sick
    - If applicable, maintain the technology and procedures to allow segments of the workforce to smoothly transition to remote or hybrid work on short notice