

AS PANDEMIC SETS IN, RECOMMENDATIONS
TO MAINTAIN STAFF, PPE

CDC Revises Guidelines as Coronavirus Spreads in United States

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The containment phase of identifying and tracking contacts of individual COVID-19 cases is giving way to a broader social mitigation strategy as the outbreak increases in the United States. Travel information is still important, but it will become less predictive of infection as person-to-person transmission occurs in the community.

To blunt community transmission, on March 16, 2020, the Centers for Disease Control and Prevention (CDC) recommended that, for the next eight weeks, all gatherings of 10 people or more throughout the United States be canceled or postponed. In general, the CDC recommends that decisions about school closures be made at the state and local level based, in part, on community transmission rates.

The U.S. response has been complicated by the lack of diagnostics, particularly at the point of care, but as tests become more available and widely distributed, expect an upsurge in coronavirus cases that heretofore were undetected. This may create the false impression of rapid transmission, but the numbers will give a truer picture of the scale of the outbreak in the United States.



“We know it is going to get out into the community, but by taking a [containment] approach up front we are buying time,” said Michael Bell, MD, deputy director of the Centers for Disease Control and Prevention Division of Healthcare Quality Promotion.

“We are trying to suppress the peak of our epidemic curve and delay the arrival of that peak,” he said at a recent meeting of the CDC’s Healthcare Infection Control Practices Advisory Committee (HICPAC).

“That has the impact on the health system of having a slightly smaller and hopefully a lower magnitude of the arrival of cases.”

The containment phase has given hospitals and healthcare settings much-needed time to prepare, says Connie Steed, president of the Association for Professionals in Infection Control and Epidemiology (APIC).

“APIC has stood up a task force, and IPs [infection preventionists] are in roles of emergency management preparation for COVID-19,” Steed told *Hospital Infection Control & Prevention*. “All over the country, there is preparatory work going on to make sure they have the appropriate PPE [personal protective equipment] and the training. They are making sure if there is a surge of cases, where are you going to put them? What are the plans to address that? All hospitals are in close connection with the [state and local] public health departments as instructed by the CDC.”

IPs also are involved in trying to allay fears and putting the coronavirus threat in perspective for both the public and healthcare workers, Steed adds. The hope is that this preparation and community mitigation, such as social distancing and canceling large-crowd events, will prevent the healthcare system from becoming overwhelmed if the outbreak continues to expand.

A ‘BRITTLE’ SYSTEM

“When I talk about mitigation, a lot of what I’m thinking about is how we assist what is in fact an extremely brittle healthcare system to continue to function despite the outbreak,” Bell said.

The U.S. healthcare system is vulnerable to a pandemic, in part because of lean staffing practices, just-in-time supply chains and purchasing, and the expectation that hospital patients will be moved fairly quickly to less expensive post-acute locations, such as nursing homes and outpatient settings, he said.

“This makes sense during normal times, but we are really not well designed to stand up to something like an outbreak,” Bell said. “So, we are seeing all of the predictable effects of that,

and a lot of what we are doing as we move to mitigation is to try to accommodate those realities in a way that is safe for healthcare personnel (HCP), protects our patients, and allows us to keep the doors open to continue delivering care.”

An immediate threat to this goal is maintaining the needed stock of PPE. The CDC has outlined contingency plans for measures that can be taken if N95 respirators are in short supply.¹

If supply shortages are not an issue, the original recommendations for PPE for healthcare workers treating suspected or confirmed COVID-19 patients still are a fit-tested N95 respirator or higher level, eye protection, and gowns and gloves. The latter two are recommended because the CDC is concerned about the role the environment may play in transmission of the virus.

“Eye protection is something we have culturally, for a generation or more, been lax about,” Bell said. “I think that is frankly unacceptable in routine times, given that influenza strikes wildly across our communities every year. So, this [outbreak] is an opportunity to firm up our eye protection. The fact is that our eyes drain into the back of our throat and we are trying to keep respiratory viruses out of our throat.”

Although surgical masks provide some protection from large particulate droplets, there is concern that small particles could be inhaled via the mask gaps on either side of the face if the worker is within six feet of the patient.

“That’s why we recommend respirator protection,” Bell said. Medical procedures that create aerosols are a prime concern, but there is no evidence that COVID-19 is a true airborne pathogen like measles.



The mask vs. respirator issue really came to the fore in the 2009 influenza pandemic, and additional research has found little difference in terms of subsequent respiratory infections in healthcare personnel.

Image by Nick Fewings, via Unsplash

“What we see is that people are much more likely to adhere correctly to surgical mask use than to respirator use,” Bell said. “We will continue to navigate that gray zone, but for the time being, that is the recommendation that we made during the containment phase. That has led to a very inconveniently timed reality that we are running short of much of this protective equipment.”

The CDC’s National Institute for Occupational Safety and Health (NIOSH) is working on a report about using stockpiled respirators that are past their “use by” date, Bell said. In addition, the CDC now is recommending a strategy in times of shortage to save respirators for the most high-risk situations.

“We have negotiated intensively with our labor union colleagues and worked closely with NIOSH and OSHA [Occupational Safety and Health Administration] to get to a point where we can say that during a time of shortage we need to prioritize the available respirator



protection — whether that is N95s, powered air purifying respirators, or anything else — for the highest-risk activities, so the healthcare personnel who undertake those activities are still protected,” Bell said. This recommendation suggests wearing a surgical mask for general care of coronavirus patients, while still requiring respirators for aerosol-generating procedures. Those wearing surgical masks should still don gloves, gowns, and eye protection. The patient should be masked for source control of the virus.

“This is a temporary state of affairs,” he said. “The intent would be that once the supply chain [issues] are resolved, we would

go back to recommending respirator protection once it is available. This is a pivot that we are making so we are not painted into a corner. We don't want to wait until everything is gone and there isn't anything left for those high-risk procedures. So now is the time to do this."

'LOW-RISK' EXPOSURES

Another CDC guideline change anticipates that as the coronavirus outbreak expands in the United States, healthcare workers will be exposed to infected patients through minor breaks in protocol or PPE.²

"As we look at the progress of this outbreak, there are going to be greater and greater numbers of HCP exposed, not necessarily high-risk exposures like doing an induced sputum or something like that, but nonetheless a non-negligible exposure," Bell said.

Routine two-week furloughs for workers with minor exposures could lead to inadequate staff to care for patients. Thus, the CDC has designed contingency planning guidelines that would allow asymptomatic healthcare workers to still work if they have a "low-risk" exposure to a coronavirus patient.

These include allowances for asymptomatic HCP — who have had an

exposure to a COVID-19 patient — to continue to work after options to improve staffing have been exhausted.

"Facilities could consider allowing asymptomatic HCP who have had an exposure to a COVID-19 patient to continue to work after consultation with their occupational health program," the CDC states. "These HCP should still report temperature and absence of symptoms each day prior to starting work. Facilities could have exposed HCP wear a face mask while at work for the 14 days after the exposure event if there is a sufficient supply of face masks."

If these workers develop even mild symptoms consistent with COVID-19, they must stop all patient care, notify their supervisor, and leave work, the CDC recommends. The thinking, in part, is to maintain the critically needed healthcare workforce rather than have arbitrary and extensive furloughs.



Examples of low risk include occupational exposure to a COVID-19 patient without wearing any one of these: eye protection, a gown, or gloves. Wearing a surgical mask instead of an N95 respirator while exposed to a coronavirus patient also is categorized as a low risk. Of course, individual circumstances could affect these situations greatly, and the CDC recommendations are nonregulatory and optional.

The guidelines state that the CDC has “removed [the] requirement under ‘self-monitoring with delegated supervision’ for healthcare facilities to actively verify absence of fever and respiratory symptoms when HCP report for work. This is now optional.” The CDC also simplified risk exposure categories based on the most common scenarios involving source control measures, use of PPE, and the duration of contact with the patient.

COMMUNITY TRANSMISSION

“[Community transmission] means previously recommended actions (e.g., contact tracing and risk assessment of all potentially exposed HCP) are impractical for implementation by healthcare facilities,” the CDC guidelines state.

“In the setting of community transmission, all HCP are at some risk for exposure to COVID-19, whether in the workplace or in the community. Facilities should shift emphasis to more routine practices, which include asking HCP to report recognized exposures, regularly monitor themselves for fever and symptoms of respiratory infection, and not report to work when ill.”

IPs and their employee health colleagues should develop a plan for how they will screen for symptoms and evaluate sick workers. This could include having healthcare workers report absence of fever and symptoms prior to starting work each day.



“I think this will make a large difference,” Bell said. “The issue of [allowing] symptomatic personnel to work is not currently on the table. It is something, however, I think a great deal about because during cold and flu season it is a reality that many healthcare workers come to work with a minor sniffle or a scratchy throat.”

There may come a time during this outbreak where shorthanded facilities need to consider letting workers with mild symptoms be allowed to work while wearing a mask.

“This is at odds with the very concrete statement that people often make, of ‘don’t come to work when you’re ill,’” he said. The problem with that blanket policy — and one of the explanations for the longstanding problem of presenteeism — is that many healthcare workers have limited sick leave, must use vacation days, or are not paid if they are out ill.

“I think our [HICPAC] committee is going to have to weigh in,” Bell said. “Not just for this outbreak but looking forward — do we want to see a change in our culture about how we manage healthcare personnel with very mild symptoms?”

A PUBLIC HEALTH PIVOT

The CDC will continue to grapple with these problems in healthcare, but the shift to community mitigation will dominate the coming months, Bell added.

“With regard to the healthcare system, right now the focus is on protecting a very



critical asset to the nation,” he said. “At a certain point, healthcare personnel are going to be more likely to get this infection at the grocery store than they are at the hospital.”

As of March 16, 2020, the United States had 3,487 total cases of the coronavirus and 68 deaths. Cases have occurred in 49 states and the District of Columbia. The CDC was gearing up for many more cases in the days and weeks ahead. In a move that was anticipated, the World Health Organization declared COVID-19 a global pandemic on March 11, with the case count reaching more than 14,000 cases with more than 4,000 deaths in at least 114 countries. China still bears the bulk of COVID-19, but new cases are declining there in a hopeful sign that mitigation strategies can be effective.

“If you look at the vast outbreak in China, it peaked and started to resolve in three or four months,” Bell told HICPAC members.

“We are now in month two. We probably have two or three more months of work to do in terms of accommodating this. Everything we do, we have to try to be nimble, making sure what we have said so far doesn’t get in the way and getting ready for what happens next.”

References

1. CDC. *Strategies for optimizing the supply of N95 respirators: Crisis/alternate strategies*. Reviewed Feb. 29, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/respirators-strategy/crisis-alternate-strategies.html>
2. CDC. *Interim U.S. guidance for risk assessment and public health management of healthcare personnel with potential exposure in a healthcare setting to patients with coronavirus disease (COVID-19)*. Updated March 7, 2020. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-risk-assesment-hcp.html#table1>