

Communicable diseases and the workplace

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Coming to work when we are sick raises some interesting questions: How contagious are we? Should we stay home? What could be done to prevent disease transmission to others, with its effects on absenteeism, performance, and efficiency, as well as in the interests of public health? Is working from home an option? Shouldn't the employer provide sick leave or flextime to discourage working when sick? Without sick leave, aren't people more likely to go to work sick, as well as send sick kids to school? Should an employer sponsor, or even require, vaccinations?

When trying to change policy and attitudes on communicable infectious diseases in the workplace, there is a good business case to be made. Workplaces traditionally plan for a variety of crises – especially infrastructure damage and its recovery – but planning and prevention for diseases seems to get overlooked, despite its very significant cost in both human suffering and dollars. Some diseases that have had a costly impact on businesses include mumps, measles, norovirus, SARS, tuberculosis, and whooping cough.

Of course, people can come to work sick for many reasons – and this practice can be rationalized and even fostered. There may have been a deadline looming; people are fearful for their jobs or concerned about appearing “lazy”; some may be dedicated and feel obligated not to let their colleagues down in a crunch. Some people seem to think that catching an illness or having any kind of sickness is a sign of weakness. Some workplaces have a culture of long hours, where operational demands take precedence over employee wellbeing. When people work through illness or injury, we call this “presenteeism” -- as the opposite of “absenteeism.” In one study, almost three out of five organizations reporting an increase in presenteeism have not done anything to discourage it. Sickness presenteeism also tends to be high where there is difficulty in finding replacements.

Unfortunately, the workplace can be an incubator for diseases. Not surprisingly, occupational groups that experience high sickness presenteeism also tend to experience high sickness absenteeism. Some diseases we bring into the workplace ourselves, some arrive with the people we serve (clients, students, patients, visitors), we might acquire some from foreign travel, and some we “grow at the workplace”. This last item may sound awful, but think about it: in our homes, we would never leave a plate with crusted food in our sinks for two weeks or use the same sponge for months to wash dishes, but this happens quite often in workplaces. Are you running a mold growth experiment in your workplace's refrigerator?

Inevitably, people will come into the workplace with infections which may be obvious or not. Sometimes we don't even know that we have an infection -- it may have no symptoms or be very mild. We can share diseases at work, then take them home to our families – including children or the elderly. Some people may be especially at risk of infection. Susceptible or high-

risk individuals include those who are immunosuppressed from HIV/AIDS, cancer chemotherapeutic agents, organ transplant recipients, or autoimmune disorders.

How could we be exposed to a disease at work? Let's explore briefly our potential **modes of disease transmission**:

Depending upon the job, there may be close interaction with co-workers or with clients – putting us in close proximity to each other's breathing zones. Indoors, much of the air in a building is recirculated. **Airborne** human infections -- such as influenza, SARS, mumps, tuberculosis -- as well as the about 80 to 100 different cold viruses, are spread mainly from person to person...

... during coughing and sneezing as disease-laden respiratory droplets are expelled, exposing people nearby. These may evaporate to a smaller size and be inhaled deeply into the lungs or simply be propelled through the air and deposited on the mouth or nose of other people. (What is "nearby"? For influenza, it's about 6 feet or less.)

...when you touch respiratory droplets on another person or an object (such as a contaminated surface) and then touch your mouth, nose, or eyes before washing your hands.

For the airborne disease tuberculosis, food handlers may be an important group to screen. However, the US Centers for Disease Control notes that such screening is not done to protect customers of food establishments since *M. tuberculosis* is not transmitted through contaminated food and is unlikely to be spread in food establishments (other than person-to-person, as for any airborne disease). However, many food handlers are from medically-underserved low-income populations and/or foreign-born persons from countries with a high prevalence of tuberculosis. If a food handler were to test positive for tuberculosis, follow-up medication can be used to prevent a latent infection from becoming an active infection.

We can acquire infections by **direct contact**: touching the person or touching commonly-touched objects. Describing our exposure as "fecal-to-oral" may sound gross, but a very common disease exposure route is no, or poor, handwashing after using the toilet or changing diapers (such as in childcare or healthcare), and then touching a doorknob or other such item. We shake hands. We also touch many surfaces in common: paper, receipts, magazines, door handles, clothing, tables, chairs, computer keyboards, ATM machines, vending machines, water fountains, the handles of refrigerator doors and microwaves – the list goes on and on. Diseases spread through direct contact include MRSA (methicillin-resistant *Staphylococcus aureus*) and many gastrointestinal illnesses such as Norwalk agent (a norovirus). The noroviruses cause the most common form of gastroenteritis. Noroviruses may stay infectious on surfaces for weeks – complicating our cleaning procedures. Some skin conditions, such as MRSA, involve oozing or weeping skin sores for which direct contact, or touching something contaminated with the ooze, is the concern.

Direct contact with mucous membranes or damaged skin can let infectious organisms into the body easily. Bloodborne pathogens involve infectious blood (or other specific body fluids)

coming into contact with the mucous membranes of the eyes, nose, or mouth, or with broken skin (cuts, abrasions, chapped skin). This is the case for HIV/AIDS and for hepatitis B. For hepatitis B, saliva is also potentially infectious. Collecting breast milk at work means that drips should be cleaned up just as for blood. Sometimes people may volunteer information on disease status, such as being positive for HIV/AIDS infection, although they certainly don't have to and we can't ask them – so, for blood and potentially-infectious body fluids, we use the same cleanup procedure for everyone. (This article is not intended to go into detail on compliance with the OSHA Bloodborne Pathogens Standard.) In health care, daycare, and child care settings, cytomegalovirus (CMV) can be spread by blood, tears, feces, urine, saliva, and breastmilk, but mainly in urine and saliva. CMV is of particular concern when working with young children due to its potential to cause birth defects in the fetus of a pregnant worker.

Of course, organisms entering the body through damaged skin is a route of entry that also includes deep cuts or puncture wounds. Keep in mind that some organisms, such as tetanus, may be present on all kinds of surfaces, tools, and implements.

Some ideas for addressing contagious disease prevention in the workplace:

Workplace sick leave policy to promote staying home when sick. Such policies should be non-punitive. Critics of paid sick time have argued that it could lead to a loss of jobs and impose a major cost burden on employers, especially small businesses, as well as invite widespread abuse by employees. However, this was not the case in New York City which became the seventh — and the largest — U.S. jurisdiction to provide workers with paid sick days, with the passage of the Earned Sick Time Act, which took effect in April 2014. Under this law, covered workers employed in New York City private-sector companies and non-profit organizations with five or more employees accrue job-protected paid sick leave at a rate of one hour for every 30 hours worked. Employees of companies with one to four workers are entitled to unpaid sick leave. The law covers about 3.9 million workers employed in the City, 1.4 million of whom did not have access to paid sick days prior to its passage. A year and a half after the law took effect, a study of the law's effects have shown that, by their own account, the vast majority of employers were able to adjust quite easily to the new law, and for most the cost impact was minimal to nonexistent. Of the employers surveyed, 86 percent expressed support for the paid sick days law.

Your workplace's policies, standard job operating procedures, and work practices may already address communicable disease hazards or could do so with some tweaking. CDC recommendations are a great place to look for policy content. For example, CDC's recommendations for staff who develop a fever and respiratory symptoms are that they should be:

- Instructed not to report to work or, if at work, to promptly notify their supervisor (institute non-punitive leave policies)
- Excluded from work for at least 24 hours after they no longer have a fever, without the use of fever-reducing medicines. (Influenza virus is shed from 1 day before getting sick to 5-7 days after.)

- Reminded of the importance of practicing frequent hand hygiene and cough etiquette after returning to work following an acute respiratory illness.

For some jobs, you may be able to telecommute if this is an option.

Vaccinations: Prevention through vaccination is available for many diseases and is required for some occupations. The US CDC has general recommendations for vaccinations for the public and for those considered at high risk. Check the seasonal influenza vaccination recommendations, especially recommendations for those who interact with the public. For influenza, NYSDOH requires vaccination for health care workers; unvaccinated employees must wear surgical or procedure masks when near patients. Hepatitis A vaccine is available which could be used for food handlers. For jobs with potential blood or body fluid exposures that fall under the OSHA Bloodborne Pathogens Standard, the employer must offer the hepatitis B vaccine, as well as put into place protections and preventions, including post-exposure prophylaxis. It is very useful to maintain one's tetanus vaccination for protection for cuts or puncture wounds. The US CDC recommends a tetanus vaccination every 10 years; but also after a deep cut or puncture wound unless it has been fewer than 5 years since your last vaccination.

Engineering controls: touch-free designs for toilets, faucets (up to 70% water savings), and soap/foam dispensers can go a long way toward eliminating some commonly-touched items.

Good handwashing technique: Just think about all the items that you have touched since you woke up this morning. It gives perspective on how many commonly-touched objects we really encounter and why good handwashing can make such a difference in preventing disease transfer. Where hand-washing is not convenient, hand sanitizer can be an alternative.

Hand washing procedure: wash hands with soap and warm water for 15-20 seconds (this is long enough to sing "Happy Birthday" twice), use a disposable towel to dry the hands, and then use the towel to turn off the faucet, then throw out the towel. Even better if you can use the paper towel to open the restroom door and then throw it out.

Sometimes, faucet arrangements make you wonder if public health was even considered when they were designed. For example, what if you are washing your hands at a sink with a faucet that you push on, but it automatically shuts itself off -- the faucet is timed and doesn't stay on long enough to do the full washing and rinsing that the hands need. This could mean that you have to touch the contaminated faucet to turn it back on and keep the water running. I tend to recommend for this that you use your soapy hands to wash off the faucet handle, so that it can be touched again, if necessary. Have you ever found yourself in an older-style restroom with two faucets -- one for hot water and one for cold water? If you're unsure whether you were actually successful washing your hands adequately, sometimes the only choice is to use hand sanitizer afterward.

Clean the commonly-touched environment: faucets, sinks, toilets, door handles, stair rails, buttons for the elevator and the ATM, shared phones, chairs, work surfaces, keyboards, etc. But, note that some objects that we commonly handle, like paper, can't be disinfected.

Kitchen in the workplace: Do not use bare hands to scoop ice or food items from a common area. A shared ice bucket in the freezer should have a scoop. Countertops should be cleaned frequently with a bleach solution. Use paper towels when possible instead of sponges. Clean sponges with bleach solution when necessary. Refrigerators should be kept at temperatures below 41 degrees and spills in refrigerators should be cleaned before bacteria/fungi have a chance to grow.

Report vomiting/diarrhea in restroom: then have mandatory closure of the restroom until it can be cleaned.

Respiratory etiquette: “do a Dracula” – cough or sneeze into the elbow, rather than the hand.

Social distancing, especially during flu season: instead of shaking hands, rub elbows, maybe do fist bumps. If someone wants to shake hands, tell them “I’m dealing with a bad cold (or whatever), so I’m not shaking hands today.”

Cell phones: wipe your cell phone, please. Do you use your cell phone when you are sick? Have you ever noticed people using cell phones in the restroom (or overheard them being used in stalls)? Do family members, such as children and the elderly, use your mobile phone? Currently, children commonly use mobile phones because of their multimedia functions such as to play games.

Studies of the mobile phones of hospital staff have found significant bacterial contamination (one study showed 98% of the phones contaminated), including MRSA and pathogenic forms of *E. coli*. Cell phones could serve as vectors among health care workers, patients, and the community -- bringing diseases home or from home back to work. Unfortunately, these studies indicate that only a minority of people reported cleaning their phones routinely; even fewer utilized antiseptic wipes to clean their phones. Does your workplace have a policy addressing this issue?

For cuts or skin infections, including MRSA, bandage and cover the wound; use disposable gloves for wounds on the hands.

Handling food:

Of course, some people don’t actually “choose” to come to work sick, but do so because their workplace has no sick leave policy. Infected persons coming to work as **food handlers** come under USFDA Food Code because, if they have the following signs or symptoms, they could contaminate food: diarrhea, vomiting, open skin sores, boils, fever, dark urine, or jaundice. Typical pathogens often transmitted by food contaminated by infected persons who handle food include viruses (such as hepatitis A virus), bacteria, parasites, and tapeworms. If you handle food, it is important to wash hands after using the toilet, handling raw meat, cleaning spills, or carrying garbage; wear clean gloves, and use clean utensils. Also, since food handlers may contaminate food after cessation of symptoms, they probably should remain off work until at least 48 hours after recovery (as viruses can still be excreted until about 48 hours after

symptoms cease). Similarly, if you've been sick with vomiting and diarrhea, don't fix food for others at home.

The information in this fact sheet was originally developed for The Center for Occupational & Environmental Medicine at the Erie County Medical Center (ECMC), 462 Grider St., Buffalo, NY 14215. The fact sheet is licenced under a [Creative Commons Attribution-NoDerivatives 4.0 International \(CC BY-ND 4.0\) licence](https://creativecommons.org/licenses/by-nd/4.0/).

