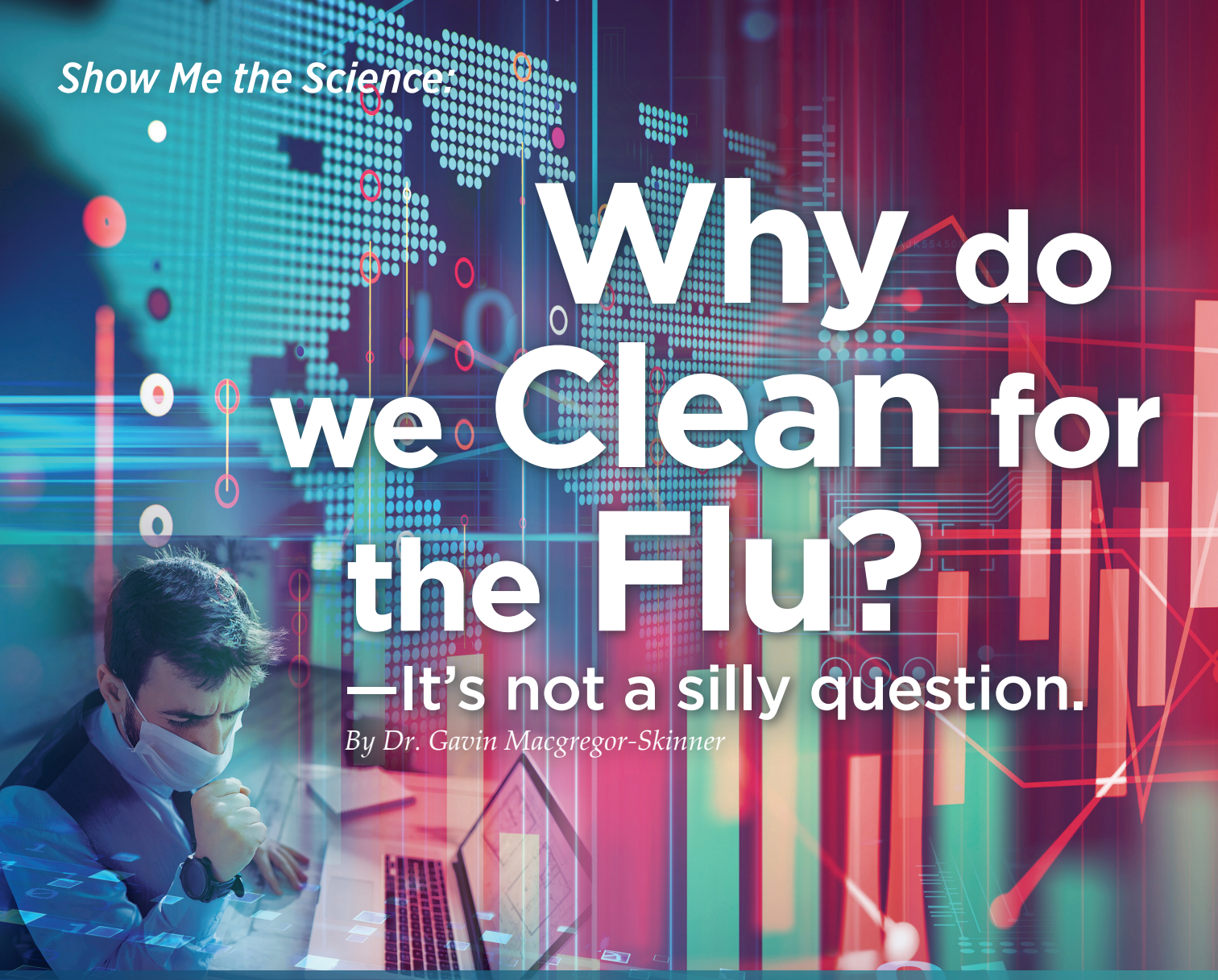
Show Me the Science:

Why do we Clean for the Flu?

—It's not a silly question.

By Dr. Gavin Macgregor-Skinner



The Global Biorisk Advisory Council™, or GBAC, a division of ISSA, helps facilities demonstrate that correct work practices, procedures, and systems can establish and maintain cost-effective cleaning, disinfection, and infectious disease prevention programs to minimize the risk associated with being infected and getting sick. Research shows that several key steps can reduce the risk of infectious diseases in the workplace:

- Development of and updating written policies, protocols, and procedures for reducing the risk of infectious disease.
- Training of staff on infection prevention practices and safety that is repeated on a regular basis, preferably:
  - Every year.
  - When new policies or products are introduced.
  - When new employees are hired.
- Reinforcing proper and frequent handwashing with soap and water or hand sanitizer.
- Appropriate cleaning and targeted disinfection of surfaces that are touched often, when necessary.
- Vaccination of staff.

Germs (bacteria, viruses, fungi) are part of everyday life. Some of them are helpful, but others are harmful and cause disease. They can be found everywhere—in the air, soil, and water. They are on our skin and in our bodies. Germs are also on the surfaces and objects that we touch.

To avoid becoming infected by germs from surfaces and objects, it is essential to wash your hands often. But you can't wash your hands every time you touch something. So, it's important to clean and disinfect surfaces and objects that are touched often every day.

Cleaning and disinfecting are part of a broad approach to preventing infectious diseases. To help slow the spread of influenza (flu) or COVID-19, the first line of defense is getting vaccinated. Other measures include staying home when sick, covering coughs and sneezes, and washing hands often with soap and water or hand sanitizer. It really is that simple.

The U.S. Centers for Disease Control and Prevention or the CDC lists eight tips on how to slow the spread of infectious diseases, specifically through cleaning and disinfecting.

1. Know the difference between cleaning, disinfecting, and sanitizing.

Cleaning removes germs, dirt, and impurities from surfaces or objects. Cleaning works by using soap (or detergent) and water to physically remove germs from surfaces. This process does not necessarily kill germs but removing them lowers their numbers and the risk of spreading infection.

Disinfecting kills germs on surfaces or objects. Disinfecting works by using products that contain chemicals to kill germs on surfaces or objects. This process does not necessarily clean dirty surfaces or remove germs, but killing germs on a surface after cleaning can further lower the risk of spreading infection. All products will have a label from the manufacturer that lists the chemicals as active ingredients, explains how to use them, and has safety instructions. You need to leave the disinfectant on the surfaces and objects for a certain period of time to kill the germs. You must always *read the label before using*.

Sanitizing lowers the number of germs on surfaces or objects to a safe level, as judged by public health standards or requirements. This process *works by either cleaning or disinfecting* surfaces or objects to lower the risk of spreading infection.

2. Clean and disinfect surfaces and objects that are touched often.

Cleaning is done with water, a cleaning product, and scrubbing. Cleaning does not kill bacteria, viruses, or fungi, generally referred to as "germs." Cleaning products are used to *remove* germs, dirt, and other organic material by washing them down the drain or wiping them off.

Sanitizing and disinfecting products are chemicals that work by *killing* germs. These chemicals are also called antimicrobial pesticides. In the United States, they are regulated by the federal government's U.S. Environmental Protection Agency (EPA) and at the state level by similar government agencies. Depending on where you work, you should be very familiar with the websites and the material published by government regulatory bodies. Disinfectants kill more germs than sanitizers. In most cases, a cleaning product is used first. Then the surface is either sanitized or disinfected *when it is necessary*.

You need to have standard procedures for routine cleaning and disinfecting, and then you need to follow them. Typically, this means daily sanitizing surfaces and objects that are touched often, such as desks, countertops, doorknobs, computer keyboards, faucet handles, light switches, phones, and equipment. But if infectious diseases are making people sick in your local area, then objects and surfaces that are touched often will require daily cleaning and disinfecting. Standard procedures call for a minimum once-a-day disinfecting of specific workplace areas or public spaces, like bathrooms, employee break rooms, and locker rooms.

> It's important to **clean** and **disinfect** surfaces and objects that are touched **often** every day.

We clean surfaces and objects that are visibly soiled. We do this for appearance, to smell better, but also to decrease the likelihood of getting sick. But note that dirt on a surface can be both visible and invisible. The germs that make people sick, such as bacteria, viruses, and fungi, are also invisible. If surfaces or objects are soiled with body fluids or blood, use gloves and other standard precautions to avoid contact with fluids. Isolate the area of the spill, safely remove the spill (this requires training), and then clean and disinfect the surface.

A good rule to remember: If it's wet and comes from someone else's body, it can be infectious.

3. Simply do routine cleaning and disinfecting.

It is crucial to match your cleaning and disinfecting activities to the types of germs you want to remove or kill. Most studies have shown that the flu virus can live and potentially infect a person for up to 48 hours after being deposited on a surface. However, it is not necessary to close buildings to clean or disinfect every surface in the building to slow the spread of the flu. Also, if you experience high absenteeism at

your workplace during a flu outbreak, it is not necessary to do extra cleaning and disinfecting.

Flu viruses are relatively fragile, so standard cleaning and disinfecting practices are sufficient to remove or kill them. Special cleaning and disinfecting processes, including wiping down walls and ceilings, frequently using room air deodorizers, and fumigating, are not necessary or recommended. These processes can irritate eyes, noses, throats, and skin, aggravate asthma, and cause other serious side effects.

4. Clean and disinfect correctly.

Always follow label directions on cleaning products and disinfectants. Wash surfaces with a general household cleaner to remove germs. Rinse with water and follow with an EPA-registered disinfectant to kill germs. Read the label to make sure it states that EPA has approved the product for effectiveness against the flu—the influenza A virus.

If a surface is not visibly dirty, you can clean it with an EPA-registered product that both cleans (removes germs) and disinfects (kills germs) instead. Be sure to read the label directions carefully, as there may be a separate procedure for using the product as a cleaner or as a disinfectant. Disinfection usually requires the product to remain on the surface for a certain period of time (e.g., letting it stand for three to 10 minutes).

Use disinfecting wipes on electronic items that are touched often, such as phones, light switches, and computers. Pay close attention to the directions for using disinfecting wipes. It may be necessary to use more than one wipe to keep the surface wet for the stated length of contact time. Make sure that the electronics can withstand the use of liquids for cleaning and disinfecting.

5. Use products safely.

Pay close attention to hazard warnings and directions on product labels. Cleaning products and disinfectants often call for the use of gloves or eye protection, or both. For example, gloves should always be worn to protect your hands when working with cleaning and disinfectant products.

Do not mix cleaners and disinfectants unless the labels indicate it is safe to do so. Combining certain products (such as chlorine bleach and ammonia cleaners) can result in serious injury or death.

Ensure that employees and others who use cleaners and disinfectants read and understand all instruction labels and understand safe and appropriate use. This requires that instructional materials and training be provided in languages appropriate for the user and in a way that the user understands.

6. Handle waste properly.

Follow your workplace standard procedures for handling waste, which may include wearing gloves. Place no-touch trash cans where they are easy to use. Throw disposable items used to clean surfaces and objects in the trash immediately after use. Avoid touching used tissues and other waste when emptying wastebaskets and trash cans. Wash your hands with soap and water after emptying wastebaskets and trash cans.

7. Check that your disinfectant product is on the lists of antimicrobial products registered by EPA that are effective against common pathogens.

CDC states that routine cleaning with soap or detergent and water to remove soil and organic matter, followed by the proper use of disinfectants, are the basic components of effective environmental management of influenza. Reducing the number of influenza virus particles on a surface through these steps can reduce the chances of hand transfer of the virus. A number of chemical disinfectants are readily available and effective against influenza viruses. All disinfectants marketed in the United States are required to be registered by EPA. These products must be used in accordance with their label instructions. Following label instructions is necessary to achieve adequate efficacy and to avoid unreasonable adverse effects.

All EPA-registered antimicrobial products must have

an EPA registration number (EPA Reg. No.). The EPA Reg. No. of a product can be more useful than its brand name for identifying the EPA-registered product. Alternative brand names have the same EPA Reg. No. as the primary product. The EPA Reg. No. of a product for primary registrants consists of two sets of numbers separated by a hyphen (for example, EPA Reg. No. 12345-12). The first set of numbers refers to the registrant's company identification number, and the second set of numbers represents the product number. Use of the listed EPA-registered products consistent with the product labeling complies with the Occupational Safety and Health Administration's (OSHA) requirements for *Occupational Exposure to Bloodborne Pathogens* (29 CFR 1910).

8. Do you have a hazard communication program, and are you using it?

By law, every employer is responsible for providing their employees with a safe and healthy workplace. Communicating to employees about chemical hazards present in the workplace is an essential part of this responsibility. The U.S. Department of Labor OSHA Hazard Communication Standard (HCS) requires chemical manufacturers, importers, distributors, and employers to provide hazard information to employees and customers.

As employers, you must have someone on staff who is trained to recognize the potential hazards of diverse chemicals. A hazardous chemical is any chemical that is a:

- Physical hazard (for example, it might explode or start a fire).
- Health hazard (it may cause short or long-term health effects in people who are exposed).

Someone on your staff must also know how to protect your employees from these hazards through:

- Work policies and procedures.
- The use of personal protective equipment (PPE).

The OSHA Hazard Communication Standard applies anywhere employees may be exposed to hazardous chemicals. This standard requires you to develop a written hazard communication program that includes the following:

- Your plans for managing your safety data sheets, which provide information on the chemical products you are using, and a labeling system for product containers.
- How and when you train your employees about hazardous products and their safer use and management.
- A list of hazardous products that you are using.
- Methods to inform employees of the hazards of non-routine tasks involving hazardous products, such as emergency response spill clean-up.
- Methods to communicate hazards to outside contractors and other people who may be exposed to hazardous products where you work.

> Flu viruses are **detected** year-round in the United States, but flu activity increases **significantly** each year from October to May.

About influenza

Influenza or the flu is a contagious respiratory illness caused by influenza viruses. It can cause mild to severe illness. Serious outcomes of flu infection can result in hospitalization or death. Flu viruses are detected year-round in the United States, but flu activity increases significantly each year from October to May, and this is known as the flu season. While the impact of flu varies, it places a substantial burden on the health of people in the United States each year. The U.S. CDC estimates that flu each year since 2010 has resulted in nine million to 45 million illnesses, between 140,000—810,000 hospitalizations, and between 12,000—61,000 deaths.

Dr. Gavin Macgregor-Skinner is the senior director of the Global Biorisk Advisory Council™ (GBAC), a division of ISSA. As an infection prevention expert and consultant, he works to develop protocols and education for the global cleaning industry, empowering facilities, businesses, and cleaning professionals to create safe environments.