



Pathogen Education

Influenza (Flu)

A contagious illness affecting up to 20% of Americans every year.¹

What Is It?

Influenza (Flu) is an extremely contagious respiratory illness caused by influenza A or B viruses. It spreads from person to person, can cause mild to severe illness and in some cases can lead to death. Flu appears most frequently in winter and early spring.

Symptoms and Treatment

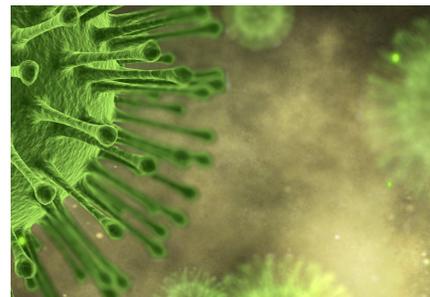
Symptoms of the flu and the common cold are a lot alike, but they are more severe with the flu. The flu can also result in other serious health problems such as pneumonia and bacterial infections and can require hospitalization. Symptoms such as fever, body aches, extreme tiredness and dry cough are more common and intense with the flu. Doctors are able to administer a flu test within the first few days of illness

to determine whether someone has the flu. Antiviral drugs are sometimes prescribed by doctors for patients with the flu.

How Do Flu Viruses Spread?

A simple cough or sneeze can spread the flu from person to person. It can also spread when a person touches something with the flu virus on it, like a door handle or a desk, and then touches his or her mouth or nose.² Studies have shown that influenza viruses can survive on surfaces up to 8 hours.³ A person can be infected with the flu and not realize it for a few days. In fact, someone can be contagious even before symptoms are evident.

In the U.S. in a typical year, approximately 5 to 20 percent of the population gets the flu, resulting in approximately 200,000 hospitalizations.⁴



How Can I Help Prevent the Spread of the Flu?

- Encourage vaccinations. Vaccination is the best protection against contracting the flu.
- Practice proper hand hygiene. Wash hands carefully and frequently with soap and water. Alcohol-based hand sanitizers containing at least 62% alcohol are also effective.
- Ensure frequent cleaning and disinfecting of commonly touched surfaces.
- Use EPA-registered disinfectants with an influenza claim.
- Cough or sneeze into elbows. Avoid coughing or sneezing into hands, which are more likely to spread bacteria and the flu virus through touch.
- Stay home. Encourage those who are sick to stay home and limit contact with others.

1. www.flu.gov/types/seasonal/index.html

2. New York State Department of Health, www.health.ny.gov/publications/7110/

3. Centers for Disease Control and Prevention, www.cdc.gov/flu/about/qa/preventing.htm

4. Centers for Disease Control and Prevention, www.cdc.gov/flu/about/qa/disease.htm





Cold and Influenza (Flu)

Outbreak and infection prevention strategies

- ✓ Use EPA-registered products with an influenza virus kill claim to treat surfaces daily.
- ✓ Get vaccinated — everyone 6 months and older should get an annual flu vaccine.
- ✓ Wash your hands often, and make hand sanitizing products available for all students and staff.
- ✓ Send sick students and employees home so they don't spread the virus.

School and Cleaning Staff Should Do the Following

Use Hand Sanitizer



Disinfect Surfaces Regularly



Cover Coughs and Sneezes with Your Sleeve or a Tissue



Stay Home if You Are Sick



Product Recommendations

For Daily Surface Disinfection



Clorox® Total 360® Electrostatic Sprayer
UPC: 60010

Clorox Commercial Solutions®
Clorox® Total 360® Disinfectant Cleaner,
4/128 oz. UPC: 31650



Clorox® Anywhere® Hard Surface Sanitizer
4/128 oz. UPC: 31651

Clorox® Anywhere® Hard Surface Sanitizing Spray
12/32 oz. UPC: 01698



Dilution Made Simple™ Clorox Commercial Solutions®
Clorox® Pro Quat Disinfectant Concentrate
2/101 oz. UPC: 31751



Clorox® Clean-Up® Disinfectant Cleaner with Bleach,
Pull-Top 6/32 oz. UPC: 31523
Trigger Spray 9/32 oz. UPC: 35417
Refill 4/128 oz. UPC: 35420

For Regular Disinfection of High Touch Surfaces



Clorox Commercial Solutions® **Clorox® Disinfecting Wipes**
Fresh Scent 1/700 ct. UPC: 31547
Lemon Scent 6/75 ct. UPC: 15948
Fresh Scent 6/75 ct. UPC: 15949



Clorox Commercial Solutions® **Clorox® Disinfecting Wipes Refill**
Fresh Scent 2/700 ct. UPC: 31428



Clorox® 4 in ONE Disinfectant & Sanitizer
12/14 oz. UPC: 31043

Clorox® Disinfecting Spray
Aerosol 12/19 oz. UPC: 38504

For Hand Sanitization



Clorox Commercial Solutions® **Clorox® Hand Sanitizer Spray**
12/500 mL UPC: 02176
24/2 oz. UPC: 02174

Clorox Commercial Solutions® **Touchless Dispenser**
4/1 L UPC: 30242



Cold and Influenza (Flu)

Outbreak and infection-prevention strategies

Surface Disinfection Protocols



Use EPA-registered products with specified kill claims

(Check the product label or ask the manufacturer if you are unsure about about kill claims.)



Disinfect classrooms, common areas, locker rooms, restrooms and food preparation areas daily.



Disinfect high-touch surfaces in between daily cleans, using an EPA-registered product such as Clorox® Disinfecting Wipes.



Sanitize soft surfaces using an EPA-registered product such as Clorox® 4 in ONE.

Classrooms and Common Areas

- ✓ Focus disinfection on the following high-touch areas: *desks and table tops, chairs, door handles, cabinet/drawer handles, light switches, shared classroom equipment, computer keyboard/mice, walls*



Desks and Table Tops



Door Handles



Light Switches

Food Preparation Areas

- ✓ Sanitize hard, nonporous food-contact surfaces with Clorox® Anywhere® Hard Surface Sanitizing Spray
- ✓ If you use a disinfectant, all food preparation areas require a potable rinse after
- ✓ Disinfectants should not be used on eating utensils, glassware and dishes
- ✓ Focus disinfection on the following areas: *food prep surfaces, food trays, faucets, refrigerators, microwaves*



Food Prep Surfaces



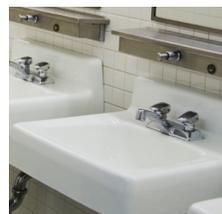
Food Trays



Faucets

Restrooms and Locker Rooms

- ✓ Focus disinfection on the following high-touch areas: *light switches, sinks, toilets, faucets, door handles, restrooms, walls, faucets, countertops, stall partition walls/doors, towel/soap dispensers, showers*



Sinks



Toilets



Showers

How to Disinfect Surfaces with the Clorox® Total 360® System



Follow a continuous path through the area to be treated, working from high to low areas and moving the sprayer in a sweeping motion until surfaces are thoroughly wet. Allow surfaces to air dry. If streaking is observed, wipe with a clean, damp cloth.*





Pathogen Education

Norovirus

The highly contagious leading cause of stomach flu (gastroenteritis)¹

What Is It?

Norovirus is a highly contagious virus that causes approximately 90% of epidemic nonbacterial outbreaks of gastroenteritis around the world.² It is often called by other names, such as stomach flu, viral gastroenteritis and food poisoning. Norovirus causes an estimated 23 million cases of gastroenteritis and 50,000 hospitalizations each year in the United States alone.³

Symptoms and Treatment

Norovirus causes the abrupt onset of nausea, vomiting and diarrhea that usually lasts one to two days. Symptoms appear 12–48 hours after exposure to the virus. Dehydration can be a problem among some people with norovirus infection, especially children, the elderly and people

with other illnesses. There is no specific cure for norovirus, but replacement of fluids to avoid dehydration is important.

How Does Norovirus Spread?

Norovirus affects people of all ages and is highly contagious. One can get the virus either by eating contaminated foods or liquids, touching contaminated surfaces and then putting hands in the mouth, or having direct contact with an infected person. Outbreaks are a particular problem among closed populations in tight quarters, such as schools, cruise ships and extended-care facilities.



How Can I Help Prevent the Spread of Norovirus?

- Cleaning and disinfecting surfaces is an important part of controlling the spread of norovirus. Be sure to use a disinfectant registered as effective against norovirus by the Environmental Protection Agency, or a chlorine bleach solution with a concentration of 1,000–5,000 ppm.
- Practice proper hand hygiene. Wash hands carefully with soap and water, especially after using the toilet and changing diapers, and always before eating or preparing food. Alcohol-based hand sanitizers containing at least 62% alcohol are also effective.

Studies have shown that norovirus can survive on contaminated surfaces for up to 12 days.⁴

1. Mayo Clinic, www.mayoclinic.com/health/stomach-flu/AN01758

2. Lindesmith L, Moe C, Marionneau S, et al. "Human susceptibility and resistance to Norwalk virus infection." *Nat. Med.* 2003; 9 (5): 548–53.

3. Mead PS, Slutsker L, Dietz V, et al. "Food-related illness and death in the US." *Emerging Infectious Diseases.* 1999; 5: 607–625.

4. Centers for Disease Control and Prevention, www.cdc.gov/hicpac/norovirus/tables/evidence-table-q3-ron.html





Norovirus

Outbreak and infection-prevention strategies

- ✓ Use EPA-approved products with a norovirus kill claim to deep clean and disinfect surfaces daily.
- ✓ Wash your hands often, and make hand-sanitizing products available for all students and staff.
- ✓ Send sick students and employees home, especially those preparing and handling food.

School and Cleaning Staff Should Do the Following

Use Hand Sanitizer



Disinfect Surfaces Regularly



Stay Home if You Are Sick



Clean Up Spills Immediately



Wash Soiled Linens Right Away



Product Recommendations



For Deep Cleaning Surfaces

Clorox® Total 360®
Electrostatic Sprayer
UPC: 60010

Clorox Commercial Solutions®
Clorox® Total 360®
Disinfectant Cleaner₄
4/128 oz. UPC: 31650



For Hand Sanitization

Clorox Commercial Solutions®
Clorox® Hand Sanitizer Spray
12/500 mL UPC: 02176
24/2 oz. UPC: 02174

Clorox Commercial Solutions®
Touchless Dispenser
4/1 L UPC: 30242



For Daily Disinfection of High-Touch Surfaces:

Clorox Commercial Solutions®
Clorox® Pro Quaternary
All-Purpose Disinfectant Cleaner
4/128 oz. UPC: 30423

Clorox Commercial Solutions®
Clorox Clean-Up® Disinfectant
Cleaner with Bleach
9/32 oz. UPC: 35417

Surface Disinfection Protocols



Use EPA-registered disinfectants with a norovirus kill claim.

(Check the product label or ask the manufacturer if you are unsure about norovirus kill.)



Deep clean classrooms, common areas, locker rooms and food preparation areas daily.



Deep clean restrooms daily, and clean up any spills immediately.

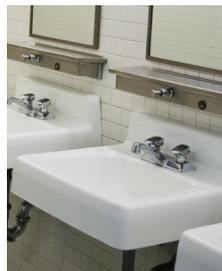


Disinfect high-touch surfaces in between deep cleans.

Surface Disinfection Protocols, CONTINUED

Restrooms and Locker Rooms

- ✓ Deep clean using the Clorox® Total 360® Electrostatic Sprayer to spray Clorox® Total 360® Disinfectant Cleaner₄ once a day, or more frequently if time allows. Make sure to clean up any vomit or diarrhea spills immediately to prevent further spread of infection.
- ✓ Disinfect in between deep cleans using an EPA-approved disinfectant with a norovirus kill claim (such as Clorox® Broad Spectrum Quaternary Disinfectant Cleaner or Clorox® Clean-Up® Disinfectant Cleaner with Bleach).
- ✓ Focus disinfection on the following high-touch areas:
toilets, sinks, faucets, showers, stalls, door handles, counter tops, towel, light switches



Sinks



Toilets



Showers

Classrooms and Common Areas

- ✓ Implement an end-of-day deep clean. Disinfect all surfaces daily by using the Clorox® Total 360® electrostatic sprayer to spray Clorox® Total 360® Disinfectant Cleaner₄.
- ✓ Disinfect in between deep cleans using an EPA-approved disinfectant with a norovirus kill claim (such as Clorox® Broad Spectrum Quaternary Disinfectant Cleaner or Clorox® Clean-Up® Disinfectant Cleaner with Bleach).
- ✓ Focus disinfection on the following high-touch areas:
desks/table tops, chairs, door handles, light switches, computer keyboard/mice, walls, cabinet/drawer handles, shared classroom equipment



Desks and Table Tops



Door Handles



Light Switches

Food Preparation Areas

- ✓ Disinfect all surfaces daily with the Clorox® Total 360® Disinfectant Cleaner through the Clorox® Total 360® Electrostatic Sprayer. All food preparation areas require a potable rinse after spraying with the Clorox® Total 360® Disinfectant Cleaner₄. Clorox® Total 360® Disinfectant Cleaner₄ should not be used on eating utensils, glassware and dishes.
- ✓ Focus disinfection on the following areas:
food prep surfaces, food trays, faucets, refrigerators, microwaves



Food Prep Surfaces



Food Trays



Faucets

How to Disinfect Surfaces with the Clorox® Total 360® System



Directions for Use

Follow a continuous path through the bathroom, working from high to low areas and moving the sprayer in a sweeping motion until surfaces are thoroughly wet. Allow surfaces to air dry. If streaking is observed, wipe with a clean, damp cloth.*





Clorox® Total 360® System

For cold and flu viruses and norovirus prevention and outbreak strategies

Superior Coverage with Trusted Clorox® Solutions

During Cold and Flu Season

Clorox® is proud to offer the first system that pairs an electrostatic sprayer with a portfolio of Clorox® disinfectants and sanitizers. Electrostatic technology enables superior coverage of trusted Clorox® solutions in hard-to-reach places — the side, underside and backside of surfaces. Using the Clorox® Total 360® Electrostatic Sprayer to apply Clorox® Total 360® Disinfectant Cleaner,⁴ eliminates odors and gives you a healthier facility this cold and flu season.



Clorox® Total 360® System provides:

TIME EFFICIENCY

UP TO

4X

FASTER*

SUPERIOR COVERAGE

UP TO

18,000

FT²/HOUR

COST-EFFECTIVENESS

UP TO

65%

LESS SOLUTION*

The greatest threat to your bottom line is illness in your school or workplace.

Cold and flu viruses spread easily throughout your facility:

\$3.9 Million — the amount a pro sports team lost due to gastrointestinal illnesses.¹

1-4 Days — typical time it takes for symptoms to show up once a student or employee is infected with a cold or the flu.³

7 — number of days a virus can live on hard surfaces.⁵

Norovirus is highly contagious:

\$400,000 — cost to a major university to combat a norovirus outbreak.²

5 Billion — approximate number of norovirus particles in a gram of feces.⁴

18 — number of norovirus particles required to infect a student or employee with norovirus.⁶



Athletic Facilities

Cold and flu impact where you train.



Classrooms

Cold and flu impact where you learn.



Office Facilities

Cold and flu impact where you work.

1. Source: <https://www.bostonglobe.com/sports/redsox/2017/04/12/teams-clearing-air-avoid-illness/5BjjuKmseVH5bSAWMish6M/story.html>

2. Source: <http://www.foodpoisoningnews.com/rochester-noroviruscosts-30000-osu-outbreak-over/>

3. Source: <http://www.webmd.com/cold-and-flu/flu-statistics>

4. Source: <http://phenomena.nationalgeographic.com/2013/01/02/the-norovirus-a-study-in-puked-perfection/>

5. Source: <https://www.sciencenews.org/blog/science-public/germs%E2%80%99-persistence-nothing-sneeze>

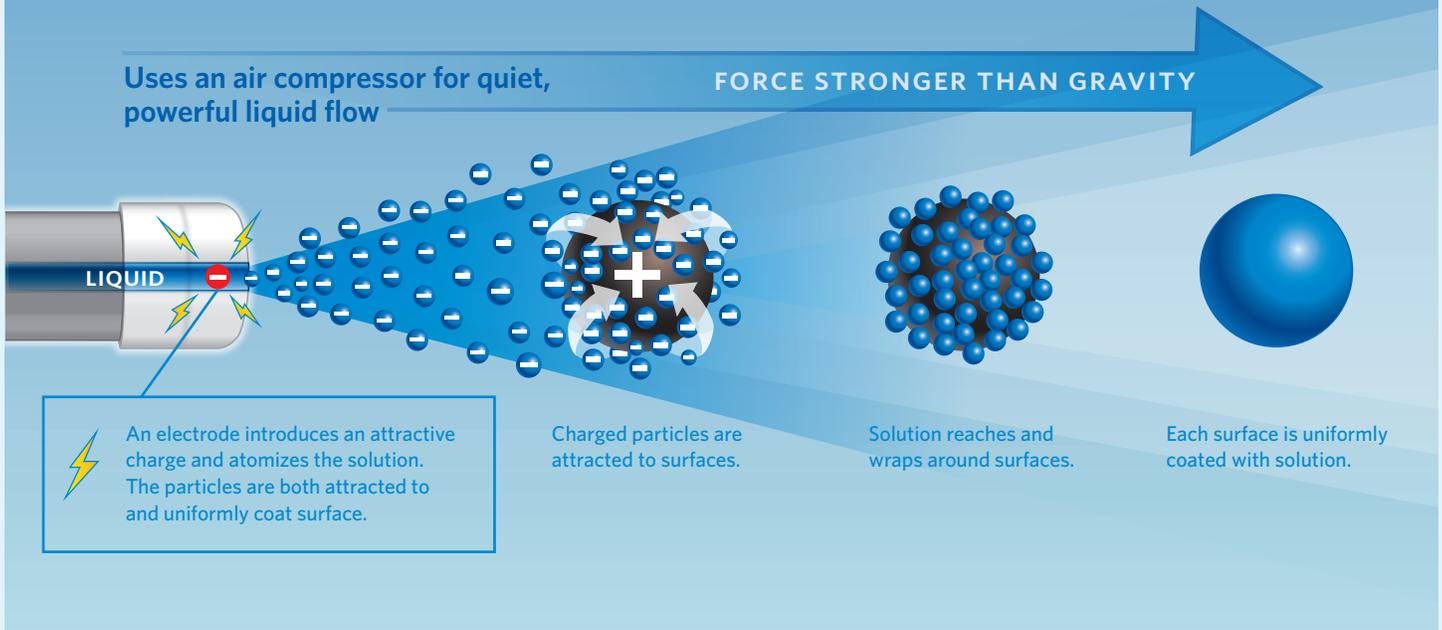
6. Source: <https://www.cdc.gov/norovirus/hcp/clinical-overview.html>

* Compared to a trigger sprayer
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Electrostatic Technology

Electrostatic technology enables Clorox® sanitizers and disinfectants to reach the side, underside and backside of surfaces.



1 Unit
UPC: 60010



4/128 oz.
Gallon
UPC: 31650



4/128 oz.
Gallon
UPC: 31651

Clorox® Total 360® Electrostatic Sprayer

- Easily delivers Clorox®-approved products to hard-to-reach places
- Provides more uniform surface coverage
- Reaches surfaces outside line of sight

Clorox® Total 360® Disinfectant Cleaner₄

- 20 organism claims — kills cold and flu viruses[†], MRSA and norovirus in 2 minutes or less
- One-step disinfecting
- Eliminates odors

[†] Rhinovirus

Clorox® Anywhere® Hard Surface Sanitizing Spray

- Sanitizes hard, nonporous, nonfood-contact surfaces in 1 minute
- Sanitizes hard, nonporous, food-contact surfaces in 2 minutes
- Controls the growth of odor-causing bacteria[‡]

[‡] *Escherichia coli*, *Salmonella enterica*, *Staphylococcus aureus*, *Klebsiella pneumoniae*, *Streptococcus pneumoniae*, *Salmonella typhi*



For more information or to schedule a demo of the Clorox Total 360, visit our website at <http://kssenterprises.com> or call us at 800.638.4191.



Commercial SOLUTIONS®

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www.cloroxtotal360.com



Economics of Clean School Absenteeism Calculator

Improved classroom hygiene may reduce the incidence of illness and absenteeism, resulting in significant savings for your school.

Student Absenteeism

| | Example | Your School |
|--|------------------------|----------------------|
| Total number of students | 500¹ | <input type="text"/> |
| | X | X |
| Cost of absenteeism per day per student ² | \$25 | \$ |
| | X | X |
| Average No. of days per year students are absent due to illness ^{3,4} | 4.5 | 4.5 |
| Total annual cost of absenteeism due to illness | = \$56,250 | = \$ |
| | X | X |
| Reduction in absenteeism ^{3,5} | 20% | 20% |
| Potential Savings | = \$11,250 | = \$ |

Teacher Absenteeism

| | Example | Your School |
|--|--------------------------|----------------------|
| Total number of teachers | 31⁶ | <input type="text"/> |
| | X | X |
| Cost of absenteeism per day per teacher | \$105⁷ | \$ |
| | X | X |
| Average No. of days per year teachers are absent due to illness ⁴ | 5.3 | 5.3 |
| Total annual cost of absenteeism due to illness | = \$17,251 | = \$ |
| | X | X |
| Reduction in absenteeism ^{3,5} | 20% | 20% |
| Potential Savings | = \$3,450 | = \$ |

| | | |
|--------------------------------|----------------------|---|
| | \$11,250 + \$3,450 = | Potential Student Savings + Teacher Savings for your school |
| Total Potential Savings | = \$14,700 | = \$ |



- According to a recent study, the inanimate surfaces most commonly contaminated with bacteria or viruses in schools include the water fountain toggles, pencil sharpeners, keyboards, faucet handles, desktops and paper towel dispensers.³
- Two recent national studies indicate that the implementation of interventions that included surface disinfection resulted in a reduction in school absenteeism (10–15%⁵, 50%³). For illustrative purposes, we use 20%.

1. 500 Students is an estimate of the average number of students in a national public school. The Center for Educational Reform K-12 fact sheet indicates that as of 2009 there were 98,916 public schools with a total public school enrollment of 49,293,000.
2. This cost varies depending on the type of school, the state the school is in and other factors. For the purposes of this example we will use \$25. California schools range about \$37 (absent 7th & 8th graders cost a CA school \$35 per day).
3. Bright KR, Boone SA, Gerba CP. Occurrence of Bacteria and Viruses on Elementary Classroom Surfaces and the Potential Role of Classroom Hygiene in the Spread of Infectious Diseases. *J School Nursing*. 2010;26(1):33-41.
4. Minnesota Department of Health publication of information compiled by The Soap and Detergent Association, the Centers for Disease Control and Prevention and the Department of Health and Human Services. "Absenteeism Is Expensive."
5. Sandora TJ, Shih MC, Goldmann DA. Reducing Absenteeism from Gastrointestinal and Respiratory Illness in Elementary School Students. *Pediatrics*. 2008;121(6):1555-62.
6. The Center For Educational Reform K-12 fact sheet indicates that as of 2009 the public school student to teacher ratio was 15.7:1, so for every 500 students there are approximately 31 teachers.
7. National average for a substitute teacher is \$105 per full day according to the National Substitute Teachers Alliance.

Do the math. Do the right thing for your school.



Office Absenteeism Calculator

Illnesses cost money and take a toll in countless ways on your business.

| | Example | Your Organization |
|--|--------------------|----------------------|
| Total number of employees | 2,000 | <input type="text"/> |
| | X | X |
| Cost of illness absenteeism per employee | \$230 | \$230 |
| Total annual cost of absenteeism due to illness | = \$460,000 | <input type="text"/> |
| | X | X |
| Reduction in absenteeism | 20% | 20% |
| Potential Savings | = \$92,000 | <input type="text"/> |

Do the math. Do the right thing for your school.



Infectious diseases cost the U.S. \$120 billion a year.¹

- On average, workplace absenteeism due to personal illness costs U.S. businesses \$230 per employee.²
- Two recent national studies indicate that the implementation of interventions that included surface disinfection resulted in a reduction in school absenteeism (10-15%³, 50%⁴). For illustrative purposes, we use 20%.

1. CDC Ounce of Prevention Campaign [April 24, 2008].

2. 2005 CCH Unscheduled Absence Survey. \$660 per employee; 35% due to personal illness. \$660 x 35% = \$231.

3. Sandora TJ, Shih MC, Goldmann DA. Reducing Absenteeism from Gastrointestinal and Respiratory Illness in Elementary School Students. *Pediatrics*. 2008;121(6):1555-62.

4. Bright KR, Boone SA, Gerba CP. Occurrence of Bacteria and Viruses on Elementary Classroom Surfaces and the Potential Role of Classroom Hygiene in the Spread of Infectious Diseases. *J School Nursing*. 2010;26(1):33-41.



Surfaces Spread Germs

How to Protect Yourself and Others



Nearly **111 million** workdays are lost each year due to the flu, which adds up to about **\$7 billion per year** in sick days and lost productivity.¹

Germs are spread on surfaces, by people and through the air.

Influenza viruses can survive on hard surfaces such as stainless steel and plastic for up to 48 hours.²



The telephone (48%), keyboard and mouse (38%) – are considered germ hot spots in the office during cold and flu season.³



Hand sanitizer (37%) or disinfecting wipes (36%) top employees' list of what they would keep at their work station during cold and flu season and top the list of items employees wish employers made available in the office.³



Nearly all employees agree (86%) that disinfecting surfaces is one of the best ways to prevent germ transmission.³



Reduce the spread of cold and flu viruses in the office.



Get the flu vaccine



Stay home if you are sick



Routinely clean and disinfect personal and communal surfaces with Clorox® Disinfecting Wipes



Wash hands regularly with soap and water or use hand sanitizer



Disinfect hard-to-reach surfaces with Clorox® Total 360®



1. "Seasonal Influenza (Flu) in the Workplace." Centers for Disease Control and Prevention (2012, June 4). Retrieved from: <http://www.cdc.gov/niosh/topics/flu/activities.html>.

2. "Interim Guidance on Environmental Management of Pandemic Influenza Virus." Flu.gov. Retrieved from: <http://www.flu.gov/planning-preparedness/hospital/influenzaguidance.html>.

3. Clorox Professional Products Company Survey, May 2015.