TECHNICAL & SAFETY INFO

CloroxPro Technical Bulletin

CLOROX HEALTHCARE™

2019 CDC Report: Antibiotic Resistance Threats in the US

The 2019 Centers for Disease Control and Prevention (CDC) report "Antibiotic Resistance Threats in the United States" provides an update on antibiotic resistance (AR), the AR-pathogens of greatest concern, and what can to be done to ensure that antibiotics are available in the future. The 2019 report is the second AR report published by the CDC. The first, which serves as a comparison, was published in 2013.

What is Antibiotic Resistance?
Antibiotic resistance is when pathogens or germs develop ways to reduce or eliminate the effectiveness of antibiotics.

What are the Latest Trends in Antibiotic Resistance?
The number of AR-related deaths in the U.S. per year has declined 18% overall (from 44,000 to 35,880), 28% in hospitals, and across specific types of infections (e.g., VRE and MRSA are down 41% and 21%, respectively) since last reported in 2013. However, there are still far too many infections and deaths caused by AR and some AR infection rates have even increased (e.g., Erthromycin-resistant invasive group A strep and ESBL-producing Enterobacteraeae were up 315% and 50%, respectively). On average, someone in the U.S. gets an AR infection every 11 seconds and someone dies of an AR infection every 15 minutes.

What are the Top Antibiotic Resistant Pathogen Threats?
The report identifies 18 bacterial and fungal AR threats across three threat levels—urgent, serious, concerning. In addition, the CDC has added a new watch list—which includes three pathogens. The threat levels were determined based on several factors including clinical impact, economic impact, availability of effective antibiotics, and more.

Urgent Threats	Concerning Threats
• Carbapenem-resistant *Acinetobacter* • *Candida auris* • *Clostridioides difficile* (*C.difficile*) • Carbapenem-resistant Enterobacteriaceae • Drug-resistant *Neisseria gonorrhoeae*	• Erythromycin-Resistant Group A *Streptococcus* • Clindamycin-resistant Group B *Streptococcus*
Serious Threats	**Watch List**
• Drug-resistant *Campylobacter* • Drug-resistant *Candida* • ESBL-producing Enterobacteriaceae • Vancomycin-resistant *Enterococci* (VRE) • Multidrug-resistant *Pseudomonas aeruginosa* • Drug-resistant nontyphoidal *Salmonella* • Drug-resistant *Salmonella* serotype Typhi • Drug-resistant *Shigella* • Methicillin-resistant *Staphylococcus aureus* (MRSA) • Drug-resistant *Streptococcus pneumoniae* • Drug-resistant Tuberculosis	• Azole-resistant *Aspergillus fumigatus* • Drug-resistant *Mycoplasma genitalium* • Drug-resistant *Bordetella pertussis*

How Can We Combat Antibiotic Resistance?
As part of its action plan to prevent the spread of antibiotic resistance in the U.S., the CDC outlines 4 core actions:
1. Prevent infections from occurring and preventing resistant bacteria from spreading
2. Track resistant bacteria
3. Improve the use of antibiotics
4. Promote the development of new antibiotics and new diagnostic tests for resistant bacteria

Proper hand hygiene and disinfection are an essential part of preventing the spread of antibiotic resistance in the community, and at home. See the back of this page for CloroxPro disinfecting products that are EPA-registered to kill the pathogen species cited in the CDC's 2019 report.

Learn more about the report at CDC.gov.

Reference: CDC. Biggest Threats and Data. https://www.cdc.gov/drugresistance/biggest-threats.html
Updated Nov 14, 2019. Accessed Dec 16, 2019

CloroxPro Can Help You Stop the Spread of AR Pathogens on Surfaces

According to the CDC's Guidelines for Disinfection and Sterilization in Healthcare Facilities, no data is available that shows antibiotic resistant bacteria are less sensitive to chemical germicides than antibiotic sensitive bacteria under correct disinfection concentration and contact time.[1] With this in mind, the table below highlights the claims that CloroxPro products have that are related to the pathogens listed in the 2019 CDC Antibiotic Resistance report.

			Clorox Healthcare						CloroxPro				
	CDC 2019 AR Report Pathogen Threats	CloroxPro™ product claim†	Fuzion® Cleaner Disinfectant	Bleach Germicidal Wipes	Bleach Germicidal Cleaner	Hydrogen Peroxide Cleaner Disinfectant Wipes	Hydrogen Peroxide Cleaner Disinfectant Liquids	VersaSure® Cleaner Disinfectant Wipes	Clorox Disinfecting Wipes	Clorox Disinfecting Spray	Clorox Total 360® Disinfectant Cleaner[1]	Clorox Clean-up Disinfectant	Clorox Bleach Germicidal Concentrate
Urgent Threat	Carbapenem-resistant *Acinetobacter*	At least one strain of *Acinetobacter baumannii**	1 min	30 sec	1 min	1 min	30 sec	2 min MDR	4 min MDR	3 min	2 min MDR	30 sec MDR	5 min
	Candida auris	*Candida auris*				5 min	3 min						
	Clostridiodes difficile	*Clostridiodes difficile* (spores)	2 min	3 min	3 min								3 min
	Cabapenem-resistant Enterobacteriacae (CRE)	At least one species of Enterobacteriacae	1 min NDM-1, CRE	30 sec NDM-1, CRE	1 min NDM-1, CRE	30 sec NDM-1, CRE, MDR	30 sec NDM-1, CRE, MDR	2 min CRE	4 min CRE	3 min MDR, CRE	2 min NDM-1	30 sec CRE, MDR	5 min MDR
	Drug-resistant *Neisseria gonorrhoeae* (*N. gonorrhoeae*)	N/A											
Serious Threat	Drug-resistant *Campylobacter*	At least one species of *Campylobacter**	1 min	30 sec	1 min	1 min	30 sec	2 min	4 min	3 min	2 min		5 min
	Drug-resistant *Candida*	At least one species of *Candida**	1 min	3 min	1 min	3 min	3 min	2 min	4 min	1 min		30 sec	5 min
	Extended-spectrum beta-lactamase (ESBL)-producing Enterobacteriacae	At least one species of Enterobactericae*	1 min ESBL	30 sec ESBL	1 min	30 sec ESBL	30 sec ESBL	2 min	4 min ESBL	3 min ESBL	2 min ESBL	3 sec ESBL	5 min ESBL
	Vancomycin-resistant *Enterococci* (VRE)	At least one species of *Enterococci*	1 min VRE	30 sec VRE	1 min VRE	30 sec VRE	30 sec VRE	2 min VRE	4 min MDR	3 min VRE	2 min VRE	30 sec VRE	5 min VRE
	Multidrug-resistant *Pseudomonas aeruginosa*	*Pseudomonas aeruginosa**	1 min	30 sec	1 min	30 sec	30 sec	2 min	4 min	3 min	2 min	30 sec	5 min
	Drug-resistant nontyphoidal *Salmonella*	*Salmonella enterica**	1 min	30 sec	1 min	30 sec	30 sec	2 min	4 min	3 min	2 min	30 sec	5 min
	Drug-resistant *Salmonella* serotype Typhi	*Salmonella typhi**								3 min			
	Drug-resistant *Shigella*	At least one species of *Shigella**	1 min	30 sec				2 min	4 min	3 min		30 sec	5 min
	Methicillin-resistant *Staphylococcus aureus* (MRSA)	At least one strain of *Staphylococcus aureus*	1 min MRSA	30 sec MRSA	1 min MRSA	1 min MRSA	1 min MRSA	2 min MRSA	4 min MRSA	3 min MRSA	2 min MRSA	30 sec MRSA	5 min MRSA
	Drug-resistant *Streptococcus pneumoniae*	At least on strain of *Streptococcus pneumoniae**	1 min MDR	30 sec	1 min	30 sec PR	30 sec PR	2 min PR	4 min MDR	3 min PR	2 min MDR	30 sec	5 min PR
	Drug-resistant Tuberculosis	*Mycobacterium tuberculosis**	1 min	3 min		5 min	4 min	2 min		5 min			10 min
Concerning Threat	Erythromycin-Resistant Group A *Streptococcus*	*Streptococcus pyogenes* *	1 min	30 sec	1 min	30 sec	30 sec	2 min	4 min	3 min		30 sec	5 min
	Clindamycin-resistant Group B *Streptococcus*	*Streptococcus agalactiae**											
Watch List	Azole-resistant *Aspergillus fumigatus*	N/A											
	Drug-resistant *Mycoplasma genitalium*	N/A											
	Drug-resistant *Bordatella pertussis*	*Bordatella pertussis**	1 min	30 sec	1 min			2 min	4 min			30 sec	5 min

† Check product or EPA Master Label for specific microorganism claim
* Claims are against a non-antibiotic resistant species or strains of that pathogen, unless otherwise noted

Lack of antibiotic resistant strain claims likely means that the product has not been tested against the strain yet and not that it's ineffective. Contact your Clorox Healthcare Sales Rep for more information.

Abbreviations:
MDR = Multidrug resistant
PR =Penicillin resistant
ESBL = Extended-spectrum beta-lactamase
NDM-1 = New Delhi metallo-beta-lactamase
CRE = Carbapenem-resistant

Reference:
[1]Healthcare Infection Control Practices Advisory Committee (HICPAC), Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008. [cited 2020 Jan 6]. Available from: https://www.cdc.gov/infectioncontrol/guidelines/disinfection/index.html

For product resources and implementation tools, contact your Clorox sales representative or
Call: 800-234-7700
Visit: www.CloroxHealthcare.com
Email: healthcare@clorox.com

CLOROX HEALTHCARE™ FROM CLOROXPRO™

NI-49806