Almost everyone has had the experience of coming down with a cold, the flu, or a bad reaction from eating spoiled or contaminated food. These illnesses are examples of infectious diseases. Infectious diseases are caused by different types of germs, including viruses, bacteria, parasites, and fungi. Some of these germs are spread directly by person-to-person contact, or through airborne droplets when an infected person coughs or sneezes. Others are transmitted indirectly via contaminated objects, food and drinking water, insects, the environment, or even infected animals. Infectious diseases cause significant morbidity and mortality in the U.S. and globally. There is also a growing threat of emerging diseases for which we have no cure, as well as diseases which are becoming resistant to currently available treatments.

In 2017, over 119,000 people had a staph infection in the U.S., resulting in almost 20,000 deaths. Caused by the bacteria *Staphylococcus aureus*, staph infections are commonly associated with health care facilities, though they can be acquired in other settings. Staph bacteria can cause a variety of issues, including skin infections, food poisoning, and pneumonia.

Hepatitis C is a blood-borne virus that affects the liver and can lead to chronic liver damage. There are more than 3 million people in the U.S. living with hepatitis C.

The flu vaccine, typically manufactured using an egg-based process, prevents millions of infections each year. In 2016, the FDA approved a cell-based flu vaccine that allows for a faster start-up of vaccine production, which could be useful in the case of a pandemic.

Many researchers are also working on the development of a universal flu vaccine that would provide longer-lasting protection against a broader variety of flu viruses.

Some *Staphylococcus aureus* infections are resistant to one or more antibiotics, making them particularly difficult to treat. Researchers are studying how best to detect, prevent, and respond to methicillin-resistant *Staphylococcus aureus*, or MRSA. A 2015 study from the CDC demonstrated that using disinfectant and antibiotic ointment in intensive care units reduced bloodstream MRSA infections by 37%.

Prior to 2010, treatment for hepatitis C required regular injections, often had severe side effects, and was only 40-50% effective. Insights on the biology of the hepatitis C virus have led to the development of multiple new drugs that are well-tolerated and highly effective, with cure rates of 95-99%.
Global health is our health.

Since the 1970s, about 40 newly emerging infectious diseases have been reported, including Ebola, SARS, avian influenza (bird flu), and Zika. These emerging infections are often highly deadly. Contagious diseases do not respect international boundaries. With increased global travel and connectivity, ongoing and emerging infectious disease threats happening abroad will ultimately impact us here at home.

Infectious diseases disproportionately impact low and middle-income countries, and also act to perpetuate poverty.

Tuberculosis, HIV/AIDS, and malaria, three of the world’s deadliest infectious diseases, accounted for 3 million deaths in 2017. While global health efforts have been successful in decreasing the burden of these diseases, in all three cases drug resistance poses a major obstacle to continued progress. In 2017, there were an estimated 558,000 new cases of multi-drug resistant tuberculosis.

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This factsheet is intended to provide a glimpse into the diverse and complex universe of infectious diseases. Find more information on these diseases here.