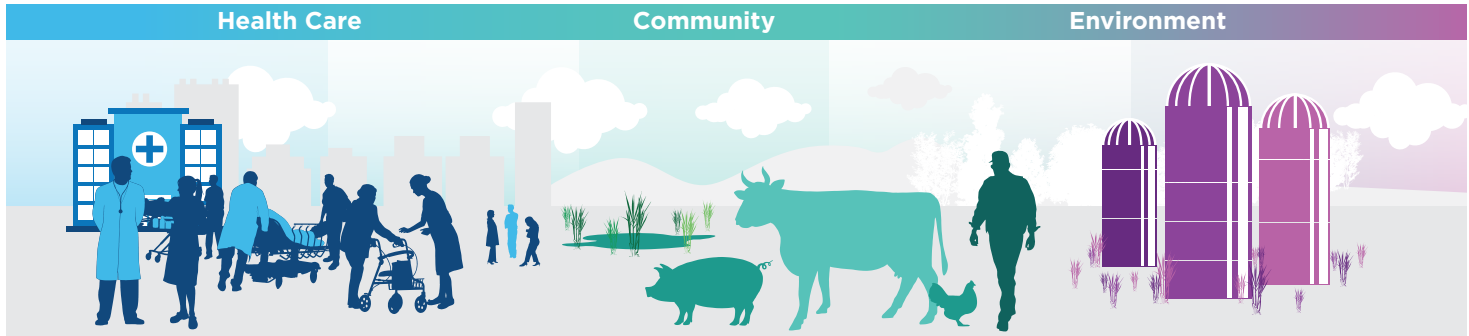


HEALTH EQUITY AND ANTIBIOTIC RESISTANCE

Antibiotic resistance (AR) can affect people at any stage of life and is an issue across One Health. Many risks for AR infections are tied to social determinants of health (SDoH) - where you live, environmental exposures, how often you engage with health care, quality of care received, and socioeconomic and other factors that contribute to disparities in health outcomes.

CDC Goals for Health Equity and AR across One Health



CDC is addressing AR health equity as a part of CDC's [CORE Initiative](#), an agency-wide strategy to increase equity across public health, through the following goals:

- More systematically expand the collection of disparities- and equity-focused data across multiple surveillance and data collection efforts to improve antibiotic use (AU) and reduce AR in disproportionately affected populations.
- Continuing to characterize health inequities related to key bacterial pathogens across incidence, infection outcome, and antibiotic resistance at a geospatial level, linking inequities to SDoH indicators.
- Supporting infection control and patient safety efforts including support to states to address health disparities related to AR pathogens and antibiotic use.
- Addressing educational needs that impact diverse frontline healthcare workers' ability to protect themselves and their patients from infections.
- Focusing on strategies to address disparities in quality of care in long-term care.

CDC addressing AR and Health Equity



Project Firstline supports and designs infection control resources for a diverse range of ethnicities, languages, professional roles and educational levels within the healthcare community.



The Antibiotic Resistance Laboratory Network works with state public health laboratorians and epidemiologists to link additional variables (e.g., demographic/epidemiological details) to laboratory test results that can be used to inform potential disparity efforts at the local and state levels.



The National Healthcare Safety Network (NHSN), the nation's most comprehensive and established system to capture and analyze data on emerging and enduring healthcare threats, provides precise and actionable patient demographic data, including gender identity variables and vulnerability indices for future analysis.

Learn more: www.cdc.gov/DrugResistance



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Antibiotic Resistance and Health Disparities

Health disparities related to AR may occur through a variety of avenues, including variance in risk of exposure or transmission, disparities associated with susceptibility to infection, or treatment received. Examples of known disparities for AR threats include:



CAMPYLOBACTER

Campylobacter infections with decreased susceptibility are more common in low- and middle-income countries, putting travelers at risk for infections that may be harder to treat ([CDC, 2019](#)).



ENTEROBACTERIALES BACTERIA

Community-associated ESBL-Enterobacteriales have higher incidence rates in certain geographic areas with lower median incomes, lower high school education rates, higher percentages of persons without health insurance, and limited English proficiency ([CDC, 2019](#)).



GROUP B STREPTOCOCCUS (GBS)

Disproportionately impacts infants, pregnant women, older adults, the Black population (regardless of age), and people with certain medical conditions, such as diabetes ([CDC, 2019](#); [CDC, 2019](#)).



NEISSERIA GONORRHOEAE (GONORRHEA)

The estimated rate of reported cases among men who have sex with men is 42 times the rate for men who have sex with women only ([CDC, 2019](#)).



STAPHYLOCOCCUS AUREUS (S.AUREUS)

Community-associated methicillin-resistant *S. aureus* (MRSA) rates are higher among Black populations when compared to White populations.

Differences in rates of community-associated MRSA may be attributable to socioeconomic factors, including income, housing, education, and health ([CID, 2017](#)).



SALMONELLA

Children younger than five and older adults living in higher-poverty census tracts have higher incidence rates of *Salmonella*. Additionally, a higher incidence of *Salmonella* is associated with increasing census tract poverty ([JID, 2020](#)).



CANDIDA SPECIES

Candidemia rates are approximately twice as high in Black persons as in non-Black persons, which could be related to differences in underlying medical conditions, socioeconomic status, healthcare access and availability, or other factors ([CDC, 2021](#)).



CLOSTRIDIODES DIFFICILE (C. DIFF)

Communities with low-income, foreign-born populations, those who speak less English at home, or with crowding in homes have higher incidences of community-associated *C. diff* infections ([CID, 2021](#)).



GROUP A STREPTOCOCCUS (GAS)

American Indian and Alaska Native persons have substantially higher population rates of all invasive GAS disease ([EID, 2020](#)). Erythromycin-nonsusceptible invasive GAS disproportionately impacts persons residing in long-term facilities, experiencing homelessness, who are incarcerated, or who inject drugs ([CID, 2021](#)).



MYCOBACTERIUM TUBERCULOSIS (TB)

In 2020, the majority of U.S. TB cases occurred among minorities- Asian, Hispanic and Black populations ([CDC, 2020](#)).



SHIGELLA

Disproportionately impacts individuals living in poverty or in close contact (homeless shelters) and is higher among children under 5 ([OFID, 2020](#)). *Shigella* is especially prevalent among children living in poverty, regardless of sex, race/ethnicity, or geographic location ([CDC, 2021](#)).



STREPTOCOCCUS PNEUMONIAE*

The only AR bacterial threat with an effective vaccine, overall rates of invasive pneumococcal disease (IPD) for the Black population have remained higher than the White population with the remaining disparities mainly due to serotypes not covered by the vaccine (2007-2018, CDC).

*Active Bacterial Core Surveillance 2007-2018. Unpublished data. This data demonstrated that IPD rates have remained higher for Black adults than White adults aged 19-64 and 65 and older from 2007 to 2018.

Risk factors included the Key Areas of SDoH in AR include:

Demographics: Age, Race/Ethnicity, and Gender; Healthcare Access and Quality: Health Literacy, Access or Type of Insurance, and Co-Morbidities; Education Access and Quality: Educational Attainment, Education Level, and Language or Literacy; Community and Built Environment: Persons Incarcerated, Limited-English Speaking Persons or Foreign Born, Persons Experiencing Homelessness, People Who Inject Drugs (PWID), Housing Quality, Geography, and Transportation Quality and Access; Economic Stability: Income or Persons Living at/or Below Poverty Level or Socio-Economic Status, Employment, and Housing Stability

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