

# ICELAND

Iceland has the lowest rates of antibiotic resistance in the world.

Why?

## ANTIBIOTIC RESISTANCE

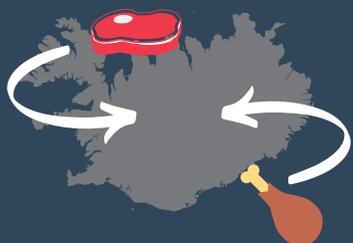
**Antibiotic-resistant infections** threaten the lives of millions of people around the world each year. To curb this rapidly growing global threat, we must learn more about the roles of the environment, trade, travel, healthcare, and food production in the spread of antibiotic-resistant bacteria in our communities and clinics. **The Iceland Consortium** comprises the Antibiotic Resistance Action Center (ARAC); Landspítali, the National University Hospital of Iceland; the Experimental Institute at Keldur; MATÍS; and the Icelandic Food and Veterinary Authority, thereby bringing together experts from the public health, medical, environmental, food, and agricultural sectors to study the complex ecology of antimicrobial resistance.

## WHY ICELAND

Learning how Iceland achieved the lowest antibiotic resistant infection rates in the world may be key to maintaining this enviable status and could provide lessons for reducing infections in other countries. Iceland's small size, geographic isolation, and outstanding public health infrastructure make it an excellent location for population-scale research.

### THREATS TO ICELAND'S LOW ANTIBIOTIC RESISTANCE RATES

1 Increasing importation of meat and policy changes allowing fresh imported meat



2 Booming tourism industry (364,000 residents/over 2 million visitors per year)

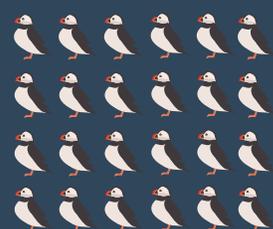
3 Globalization is changing the definition of geographical isolation



CURRENT POPULATION 364,000 ANNUAL FOREIGN VISITORS 2.1 million



PUFFIN POPULATION ~9 million [THAT'S A LOT OF PUFFINS!]



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## OUR STUDY

This national-scale, One-Health study seeks to understand how antibiotic-resistant bacteria move among humans, animals, and the environment; how antibiotic use in humans and animals affects the prevalence of these bacteria; and finally, how travel and trade affects the populations of antibiotic-resistant bacteria circulating among Icelanders. We hope to use this knowledge to develop evidence-based public policies to curb the spread of antibiotic-resistant bacteria in Iceland and around the world.

## ONE HEALTH

One Health is a research approach and world view based on the principle that the health of people, animals, plants, and the environment are inextricably intertwined.



## THE CONSORTIUM

This study is organized and carried out by the Antibiotic Resistance Action Center (ARAC); Landspítali, the National University Hospital of Iceland; the Experimental Institute at Keldur; MATÍS; and the Icelandic Food and Veterinary Authority.

