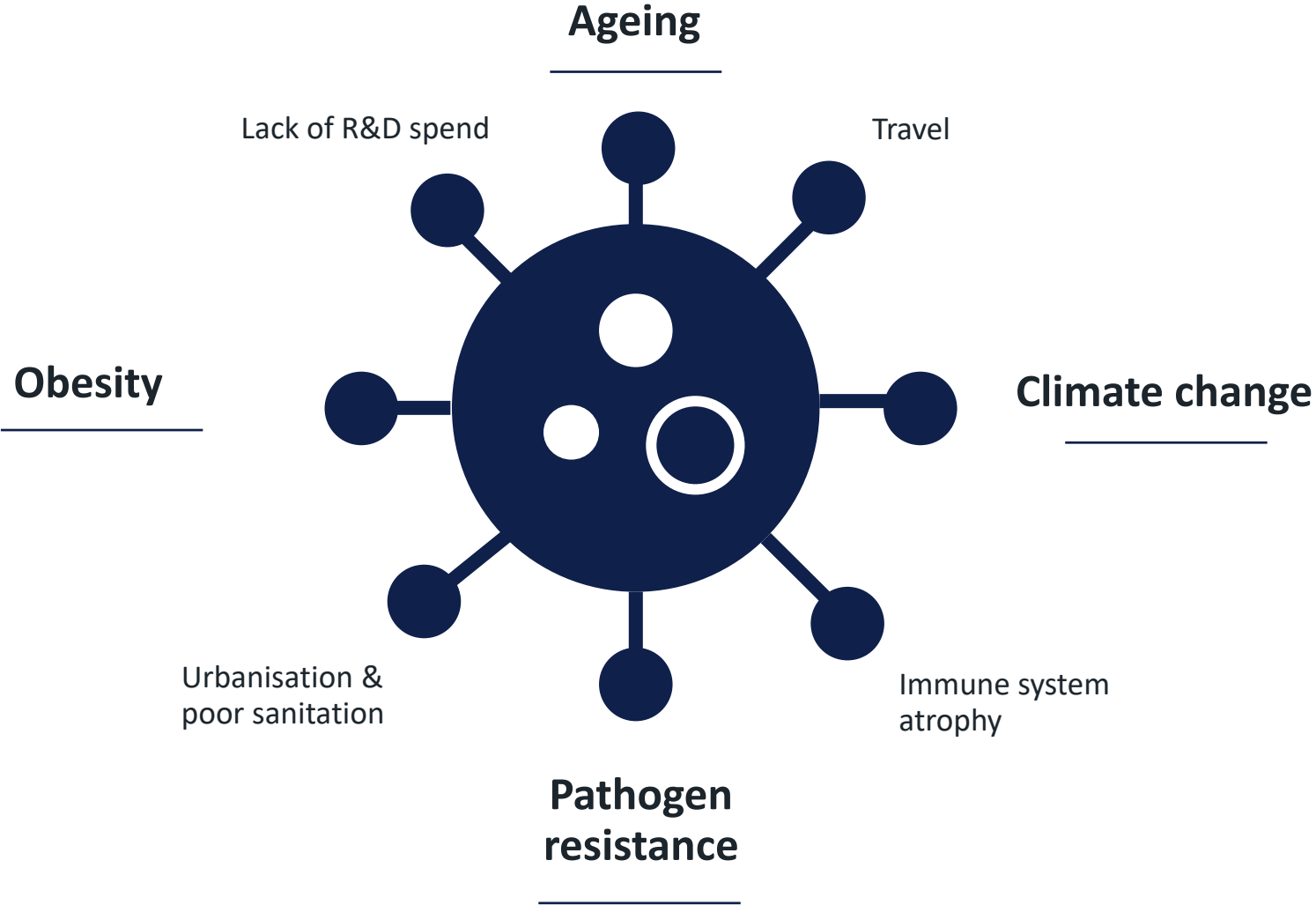


Ageing

Alex Hunter & Allanah du Plessis

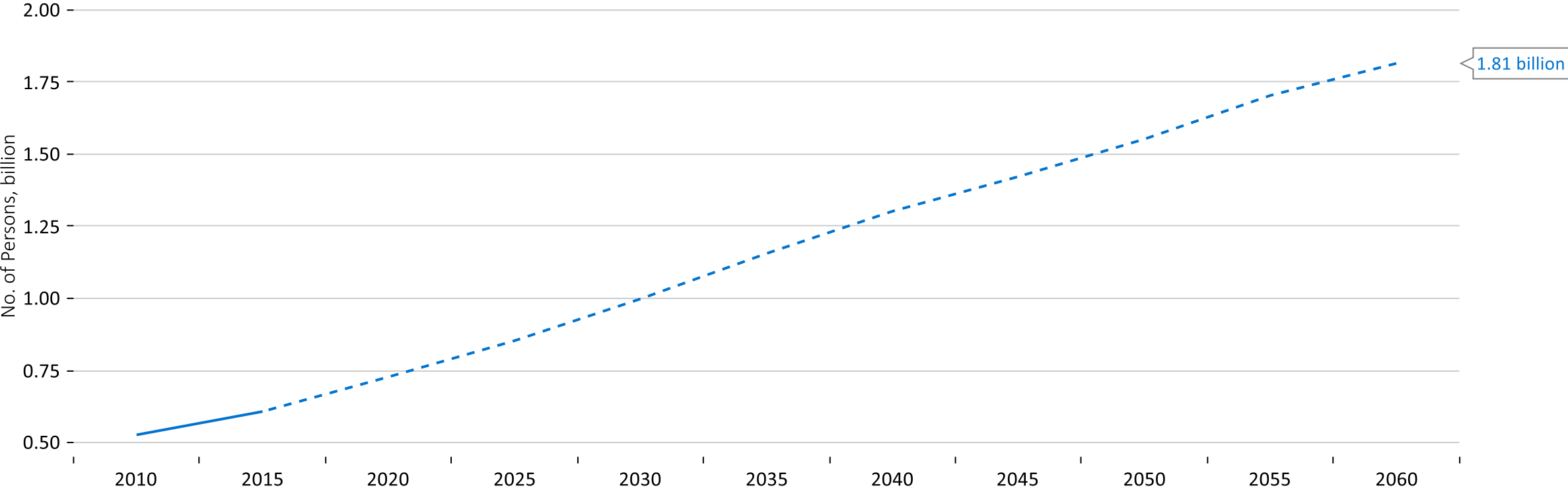


Many reasons for pandemic vulnerability



Population of 65+ set to double by 2050

 World population by age, 65+ projections, United Nations



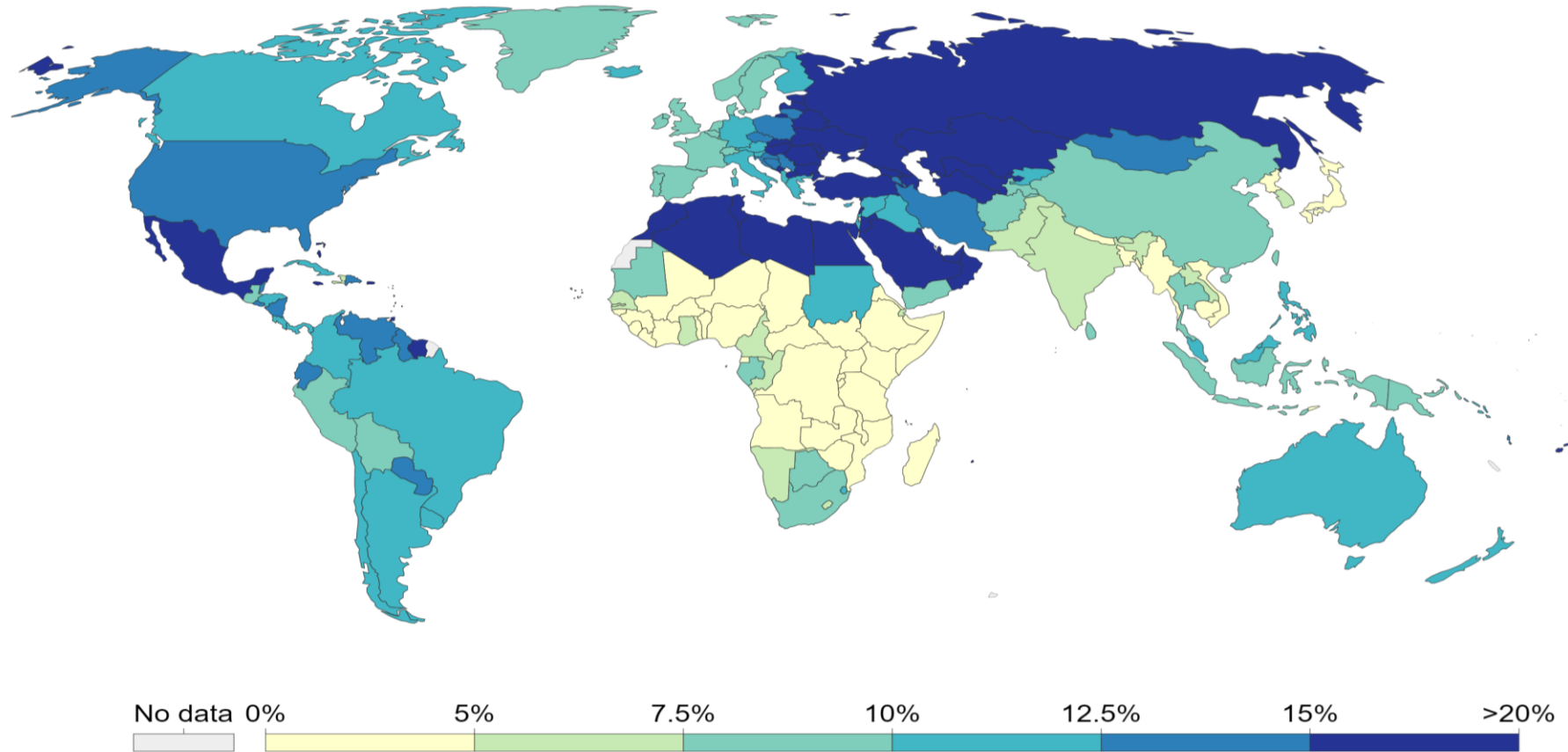
Source: Macrobond, 10.02.21

Obesity – a slow motion pandemic

Share of deaths attributed to obesity, 2017

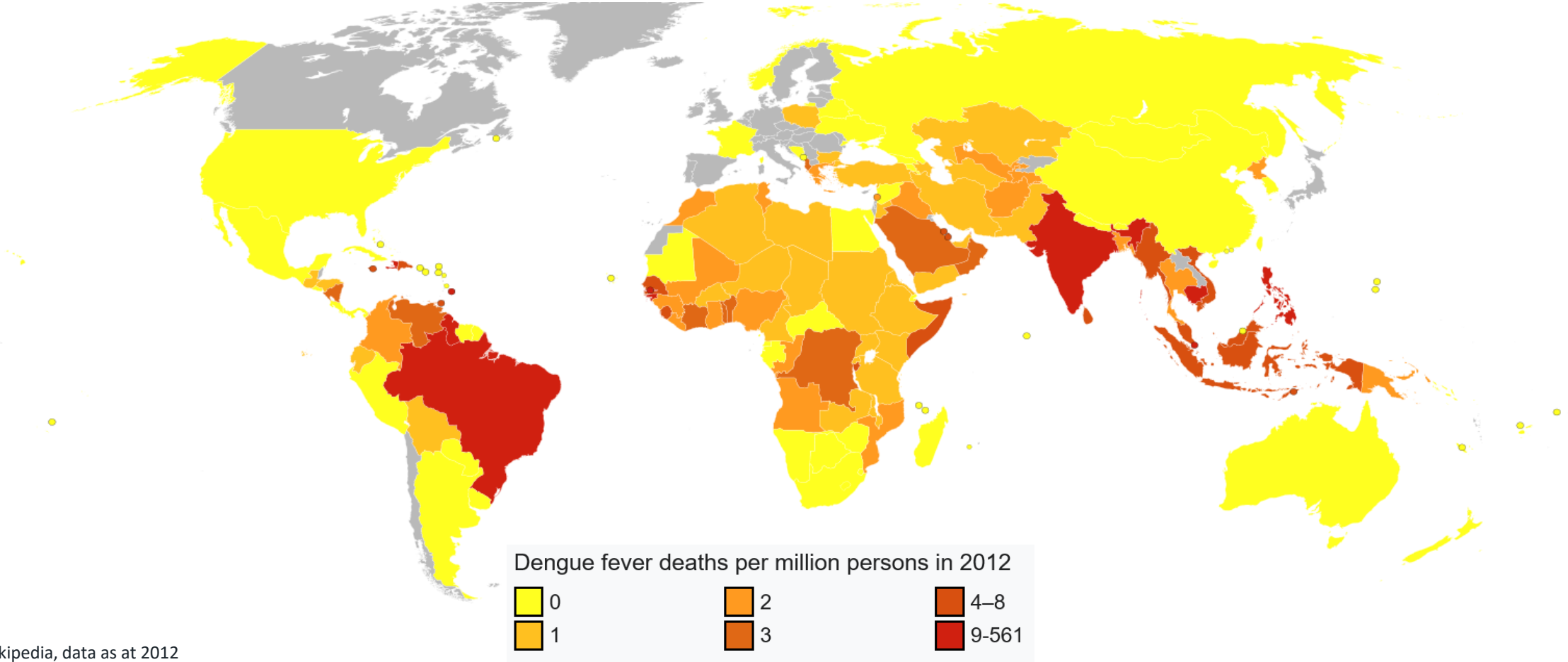


Obesity is defined as having a body-mass index (BMI) equal to or greater than 30. BMI is a person's weight in kg, divided by height in metres squared



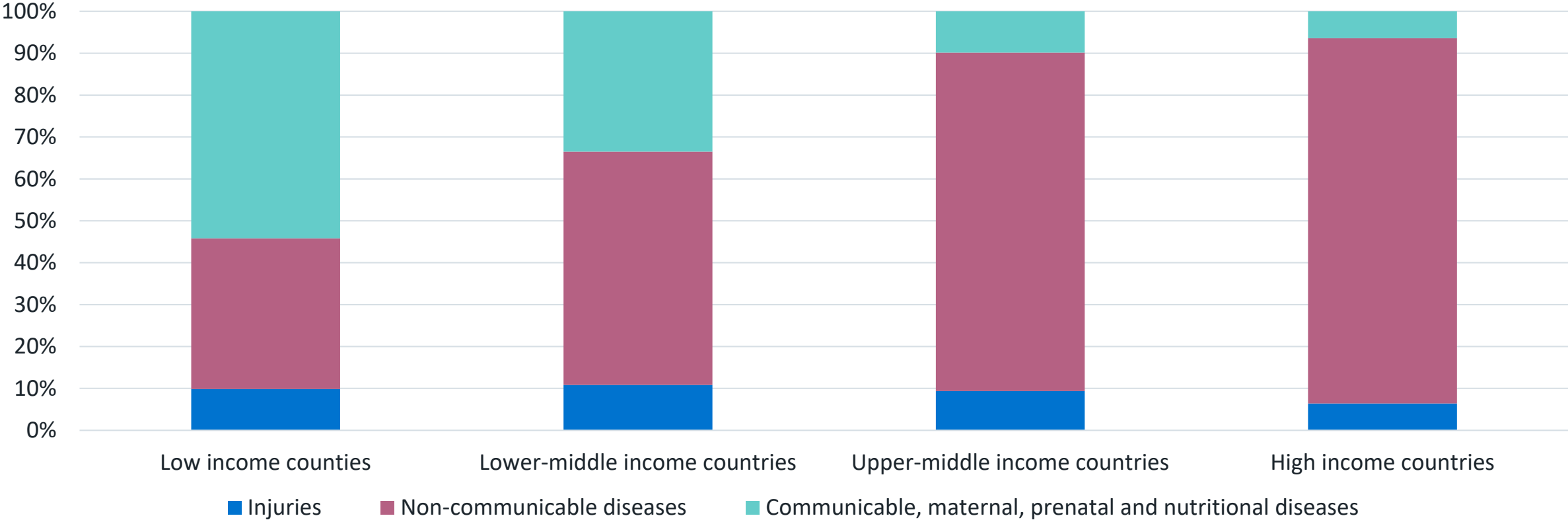
Source: IHME, Global Burden of Disease, 2017. www.ourworldindata.org/obesity

Dengue follows the climate



Source: Wikipedia, data as at 2012

Infectious diseases greater emerging market impact

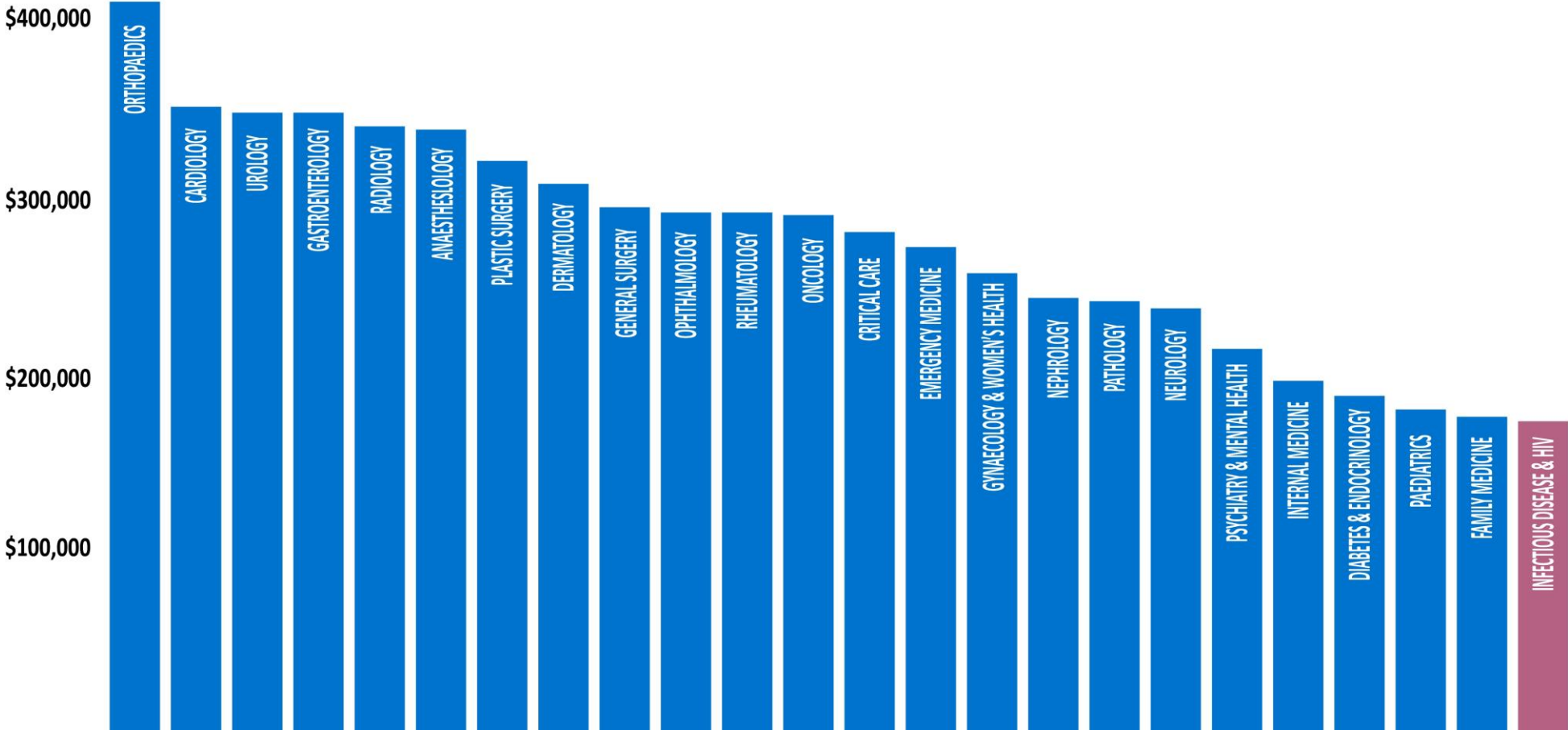


Source: The Lancet, WHO, 2020

Infectious diseases systemically neglected

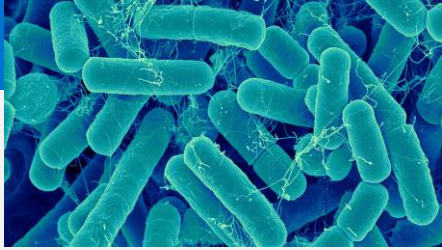


Average US salaries for research staff 2016



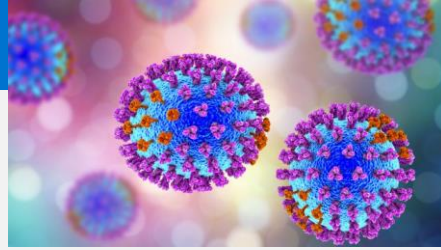
Source: AMR, 2016

Infectious pathogens



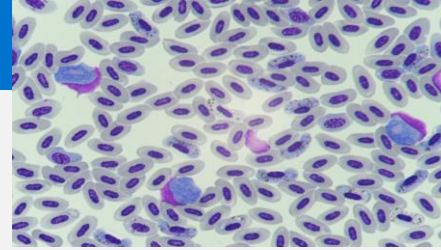
BACTERIA

E.Coli, tetanus, typhoid fever, diphtheria, syphilis, and leprosy



VIRUS

COVID, smallpox, influenza, mumps, measles, chickenpox, Ebola, HIV, rubella



PARASITES

Malaria, Leishmaniasis (Kala-azar), Cryptosporidiosis, Amoebiasis, Helminths

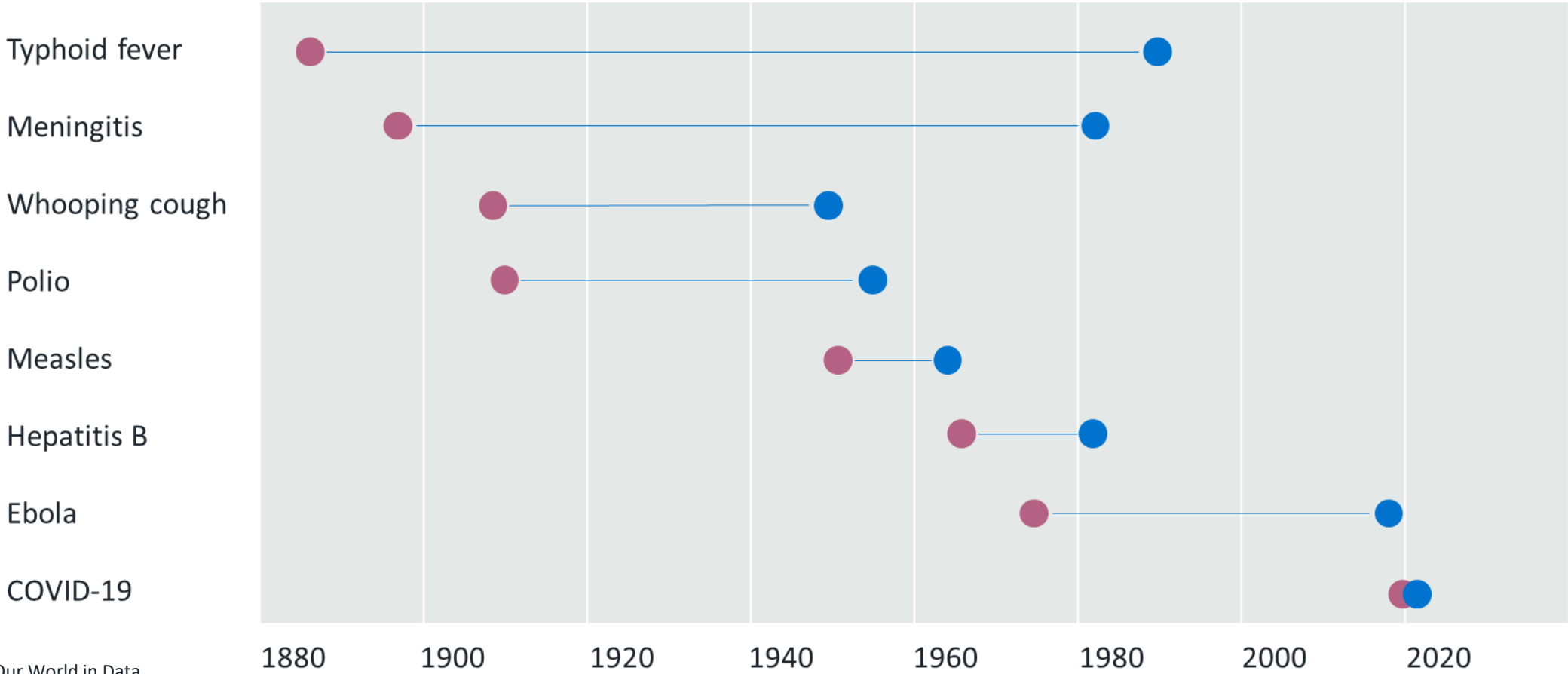


FUNGI

Candida albicans,
Cryptococcus neoformans - meningitis

Rapid progress in vaccine innovation

● Year in which pathogen was linked to disease ● Year in which US vaccine was licenced

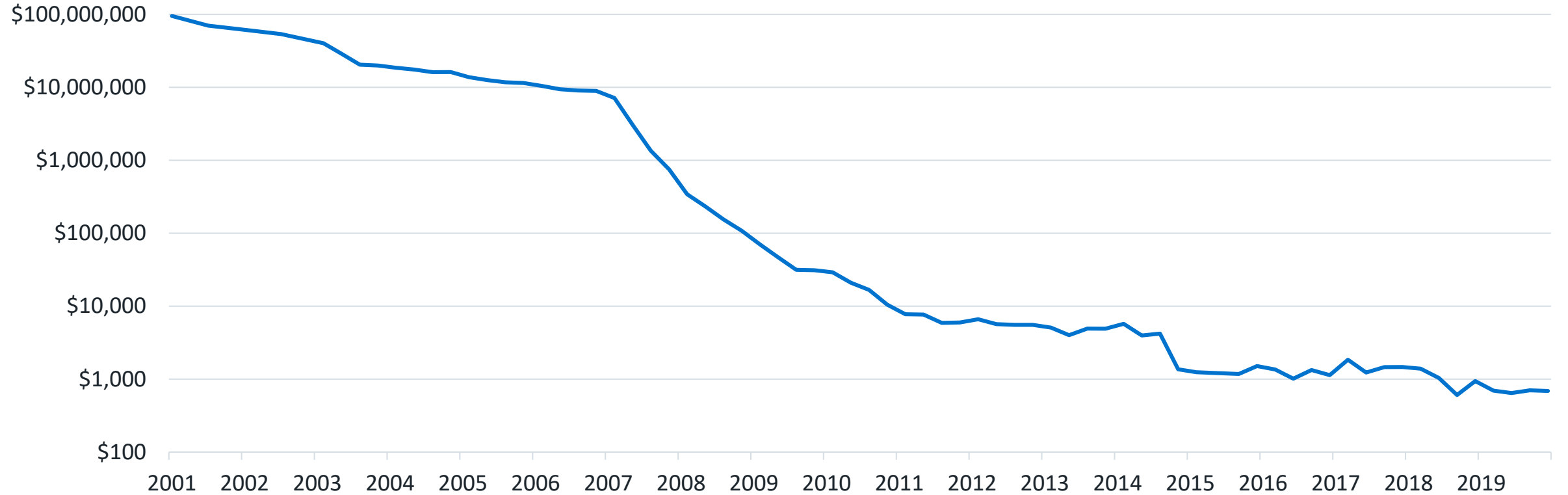


Source: Our World in Data

#1 Genomic deep learning



Cost per genome (\$)



Source: BAML, Illumina, NHGRI, 2020

Important information

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