

Health, disease and the development of medicines

Health and disease

WHO definition of health

Physical Mental Social

Communicable disease

Caused by pathogens Can be passed on

Non-communicable disease

Not passed on No pathogen

One disease leads to another

Weakened immune system Damaged barriers
Mental health

Interpreting data

Scatter diagram Correlation not cause Sample size

Pathogens

Pathogen types

Virus Bacteria Fungi Protists

Cholera, TB

Bacteria Water Airborne

Ash dieback

Fungus Airborne spores Leaf loss, lesions

Malaria

Protist Mosquito vector Blood and liver damage

HIV

Virus White blood cells AIDS

STIs

Chlamydia HIV Condoms

Human defences

Physical barriers

Skin Mucus Cilia

Chemical defences

Lysozymes Hydrochloric acid

Specific immune response

Antigens Antibodies Memory lymphocytes

Secondary response

Faster More antibodies

Immunisation

Inactive pathogen Memory cells made

Medicines

Antibiotics

Bacteria only Inhibit cell processes

New medicines

Discovery Development Preclinical Clinical

Non-communicable diseases

Multiple causes

Lifestyle Environment Inherited

Obesity and malnutrition

BMI Waist : hip ratio Diet and exercise

Alcohol

Liver disease

Smoking

Cardiovascular disease Lung disease

Levels

Local National Global

CVD treatments

Medication Surgery Lifestyle changes