

# **The Environmental Burden of Disease**

**A brief overview**

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**World Health  
Organization**

## ENVIRONMENTAL IMPACTS ON HEALTH

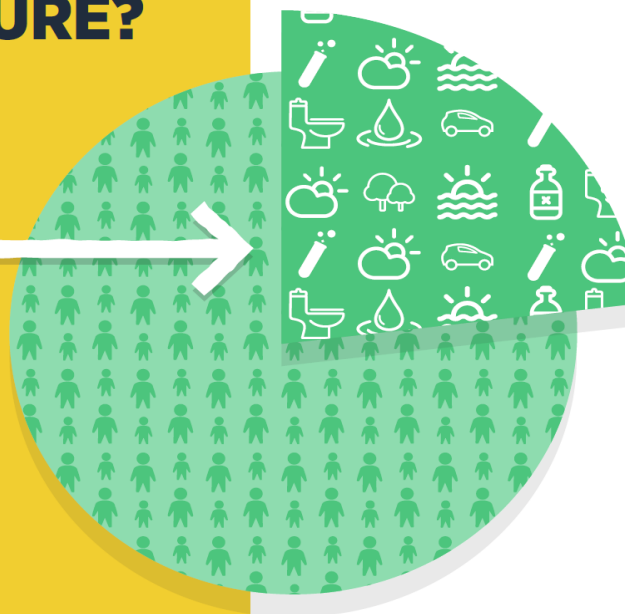
# WHAT IS THE BIG PICTURE?

FACT:

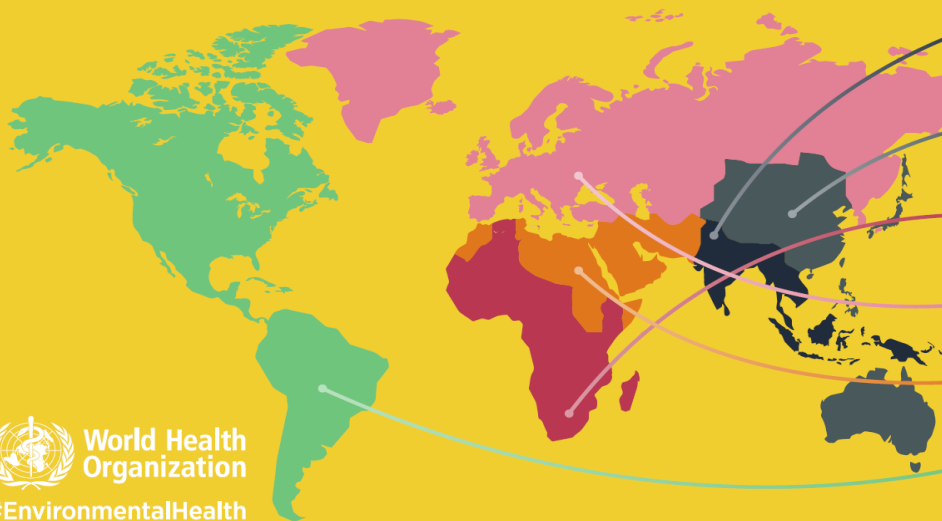
# 23%

of all global deaths are linked to the environment.

That's roughly **12.6 million deaths** a year.



## WHERE IS IT HAPPENING?



 World Health Organization  
#EnvironmentalHealth

- **3.8 million**  
in South-East Asia Region
- **3.5 million**  
in Western Pacific Region
- **2.2 million**  
in Africa Region
- **1.4 million**  
in European Region
- **854 000**  
in Eastern Mediterranean Region
- **847 000**  
in the Region of the Americas



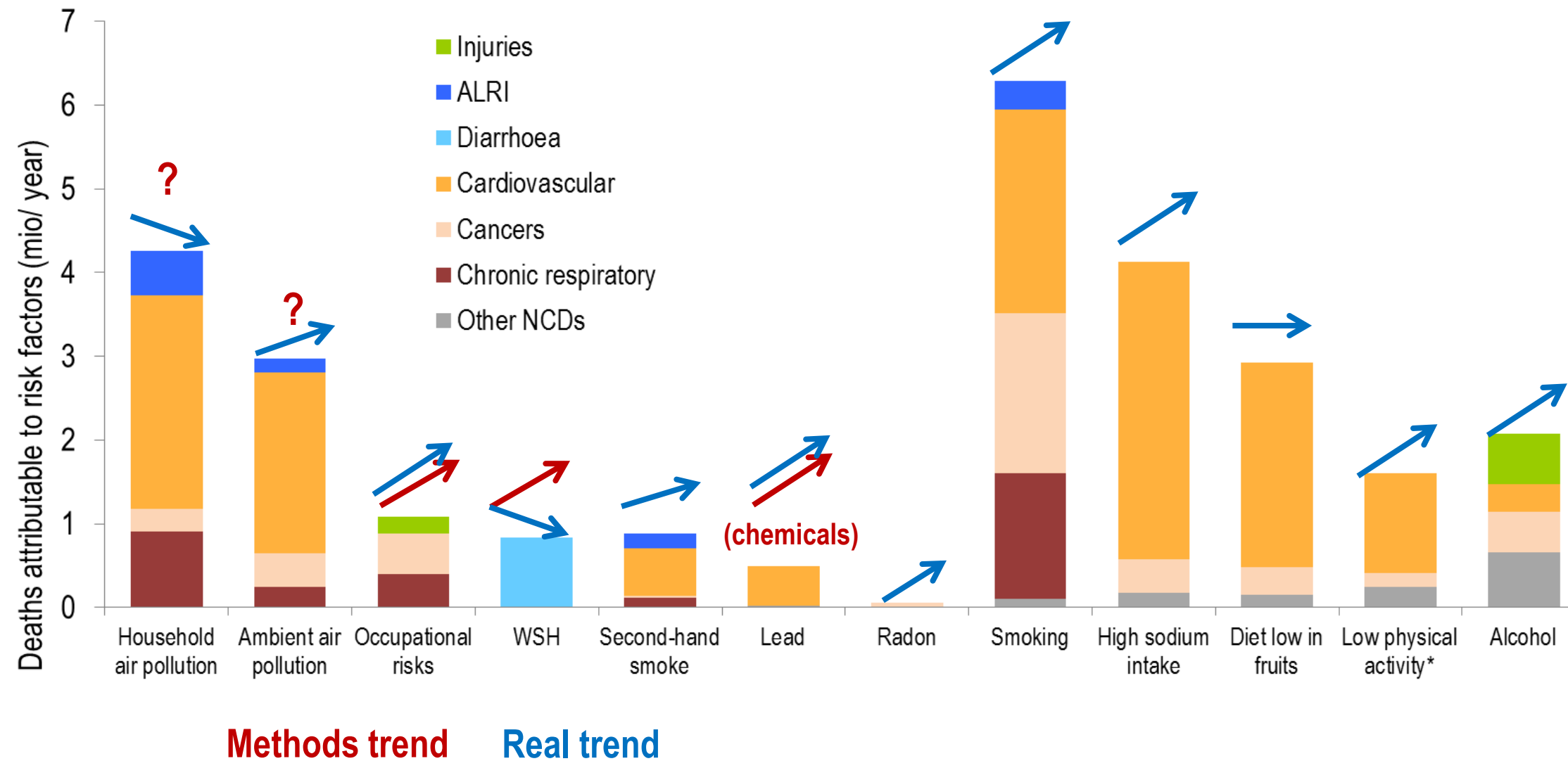
# TOP 10 CAUSES OF DEATH FROM THE ENVIRONMENT

**8.2 million** out of **12.6 million** deaths caused by the environment are due to noncommunicable diseases



World Health Organization

# Deaths attributable to risk factors (million/ year)



# HOW THE ENVIRONMENT IMPACTS OUR HEALTH

# 23%

of all global deaths are linked to the environment.

That's roughly **12.6 million deaths** a year.

**AIR POLLUTION**  
including indoors and outdoors



**CLIMATE CHANGE**

**INADEQUATE WATER, SANITATION**  
and hygiene



**BUILT ENVIRONMENTS**  
including housing and roads

**CHEMICALS**  
and biological agents



**AGRICULTURAL PRACTICES**  
including pesticide-use, waste-water reuse

**RADIATION**  
ultraviolet and ionizing



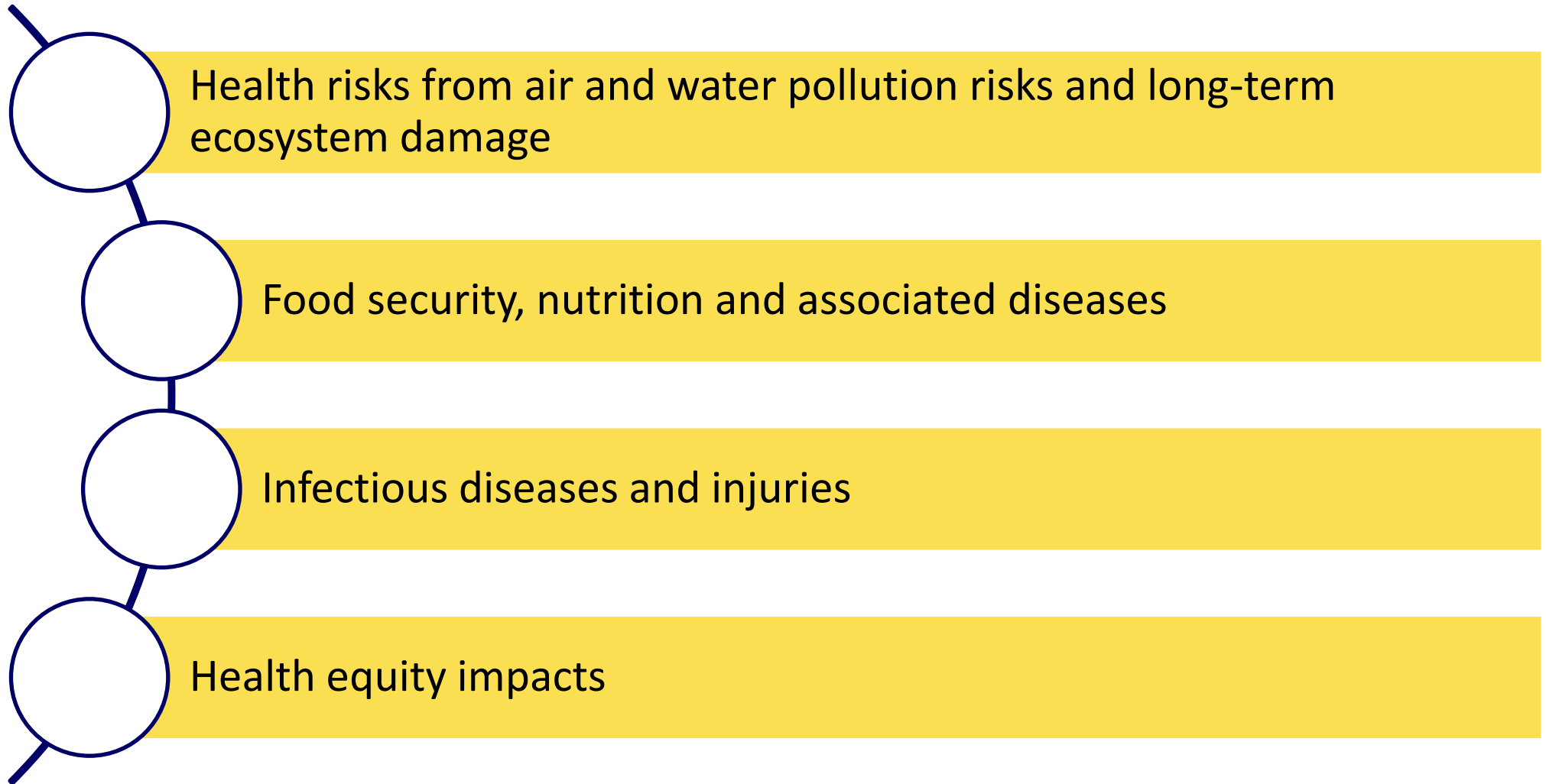
**COMMUNITY NOISE**



**OCCUPATIONAL RISKS**



# Example 1: Health and agriculture





## Promoting health through sustainable family agriculture

- WHO guidelines for the safe family production of fruits & vegetables >> decrease 50-60% diarrheal diseases
- improved nutrition by enhancing household diet diversity
- improved environmental health – less use of chemicals, fertilizers and other agricultural inputs
- promotion of production & consumption of traditional local foods, recovering biodiversity & gastronomy
- Short food chains -> reduced carbon "footprint"

# Sustainable agriculture: win-wins for addressing NCDs (1)

## **Reduce hunger and malnutrition by:**

- Sequestering carbon in soils – leading to higher yields
- Promoting diverse, micronutrient-rich plant-based localised agriculture; support for mixed crop-livestock systems and integrated rice-fish cultivation.

## **Address obesity and associated diseases by:**

- Modifying demand for saturated fat-rich meat & dairy products among high consuming populations in high and middle income countries



# Sustainable agriculture: win-wins for addressing NCDs (2)

## Reduce agrochemical and other contamination by:

- Promoting integrated pest & vector management to reduce chemical poisonings
- Addressing growth in intensive livestock production (problem of faecal contamination)
- Reducing excessive use of fertilisers

## Build long term climate adaptation to ensure long term food security by:

- Building soil carbon
- Halting deforestation;
- improving water resource efficiency (rainwater harvesting & drip irrigation)

# Sustainable agriculture: win-wins for addressing communicable diseases

## Reduce vector borne diseases:

- Alternate wet-dry irrigation in rice cultivation: disrupts mosquito breeding cycles & reduces methane emissions
- Aquaculture using larvivorous fish can reduce mosquito populations and enhance food security

## Tackle antimicrobial resistance and zoonoses by:

- Reducing proliferation of large scale, intensive livestock facilities

# Example 2: Air Pollution

AIR POLLUTION IN NUMBERS

## AIR POLLUTION AFFECTS NEARLY ALL OF US

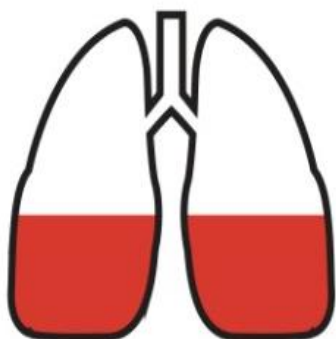
An estimated **6.5 million** deaths were associated with air pollution in 2012. This is **11.6% of all global deaths.**





# INVISIBLE KILLER

Air pollution may not always be visible, but it can be deadly.



**36%**

OF DEATHS FROM  
**LUNG CANCER**



**34%**

OF DEATHS FROM  
**STROKE**



**27%**

OF DEATHS FROM  
**HEART DISEASE**

# Opportunity 1: Urban Health

Nearly 70% of the world's population will be living in urban areas by 2050

Clean energy

Transport

Housing

Food systems

Land-use planning

Waste management

# Integrating health into urban policies: synergy and co-benefits

- Clean Energy
- Housing
- Transport
- Waste Management
- Land-use planning

Injuries, physical activity,  
noise, diet

Air pollution

Climate change

Local and global  
health impacts

# Sustainable transport

## WHO guidance on sustainable mobility

- Provision of walking and cycling infrastructure
- Enabling and facilitating access to public transport
- Improving land-use planning
- Improving vehicles and fuels
- Developing tools to quantify health and economic impact of transport policies

Division 44  
Water, Energy, Transport



Urban Transport and Health

Module 5g

Sustainable Transport: A Sourcebook for Policy-makers in Developing Cities

**giz** | Transport Policy  
Advisory Services

**BMZ** | Federal Ministry  
for Economic Cooperation  
and Development

 **World Health  
Organization**

# Opportunity 2: International conventions and treaties

PARIS CLIMAT 2015



GREEN  
CLIMATE  
FUND

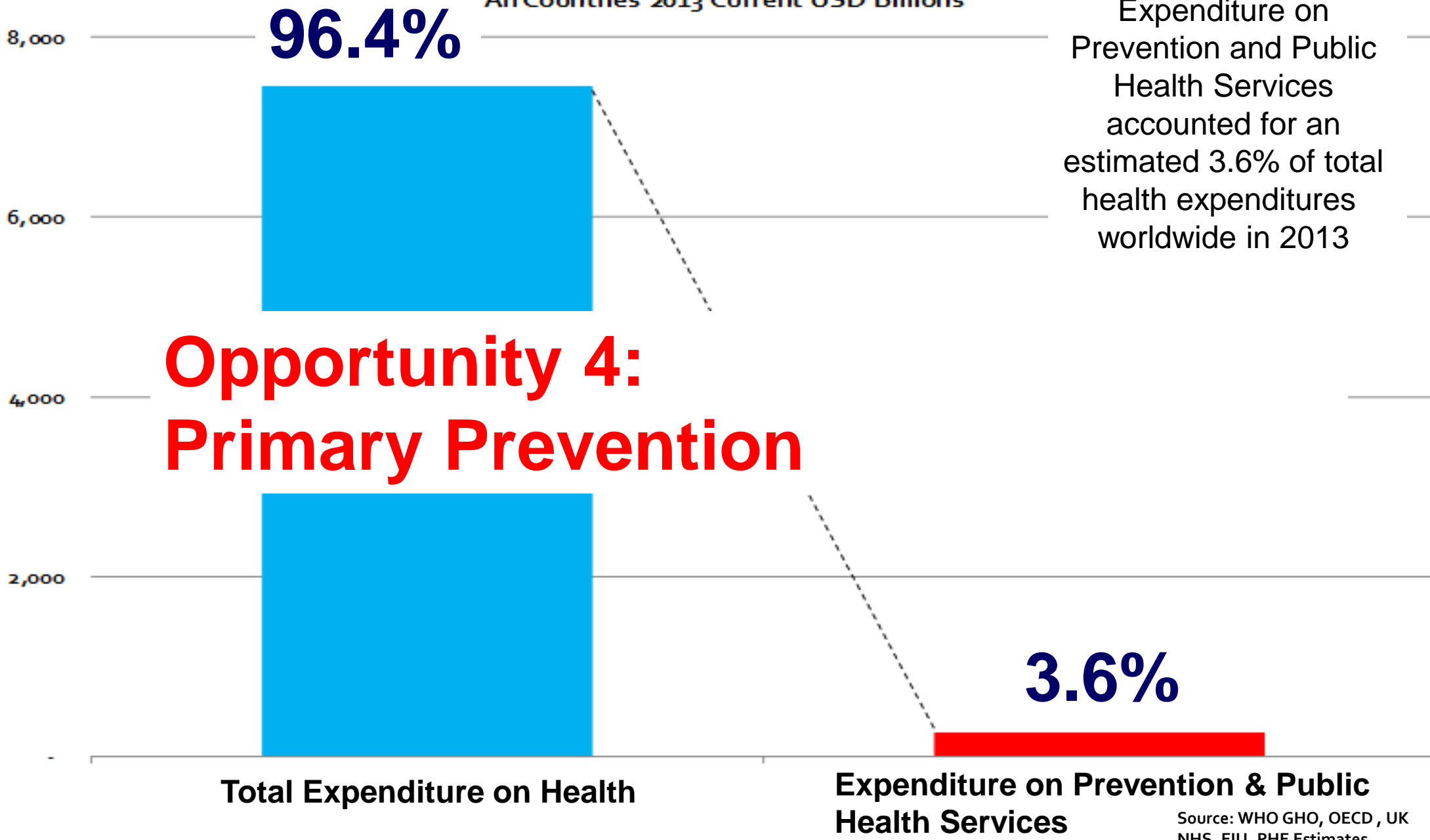




# Opportunity 3: SDGs and intersectoral action



All Countries 2013 Current USD Billions



Expenditure on Prevention and Public Health Services accounted for an estimated 3.6% of total health expenditures worldwide in 2013

## Opportunity 4: Primary Prevention

Source: WHO GHO, OECD, UK NHS, EIU, PHE Estimates

