




Social interventions

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Social interventions in epidemiology



What we already know:

- Mortality and morbidity are distributed unequally between countries, groups and people.
- Health is best in high income countries and high income groups and worst in low income countries and low income groups.  **Social inequality**
- Social inequality is characterized by the existence of **unequal opportunities for different social positions or statuses** within a group or society.
- **Social interventions** aim to **attenuate/prevent health inequality** to achieve better health of individuals and populations.
- Social interventions are actions that might be implemented on levels:
 - Macrosystem – healthcare policy, political decisions etc.
 - Community level (exosystem) – worksites, city-level, schools
 - Microsystem – family, individual behavioural changes etc.

SDGs-10 Reduce inequality

- Covers different dimensions:
 - **Economic inequality** - refers to differences in economic outcomes, such as in income, consumption or wealth.
 - **Social inequality** - refers to differences in social outcomes (such as in education or employment), or to differences in social status or position.
 - **Political inequality** - refers to unequal influence over decisions made by political bodies, and the unequal outcomes of those decisions. It is closely related to differences in the distribution of political resources, which can lead to the exclusion of particular groups from participating in political processes.
 - **Environmental inequality** - used to indicate an unequal distribution of environmental risks and hazards (e.g. air or water pollution) and unequitable access to natural resources and other ecosystem services (e.g. land, parks and freshwater) between different social groups.

[Reducing inequality | International Partnerships \(europa.eu\)](#)

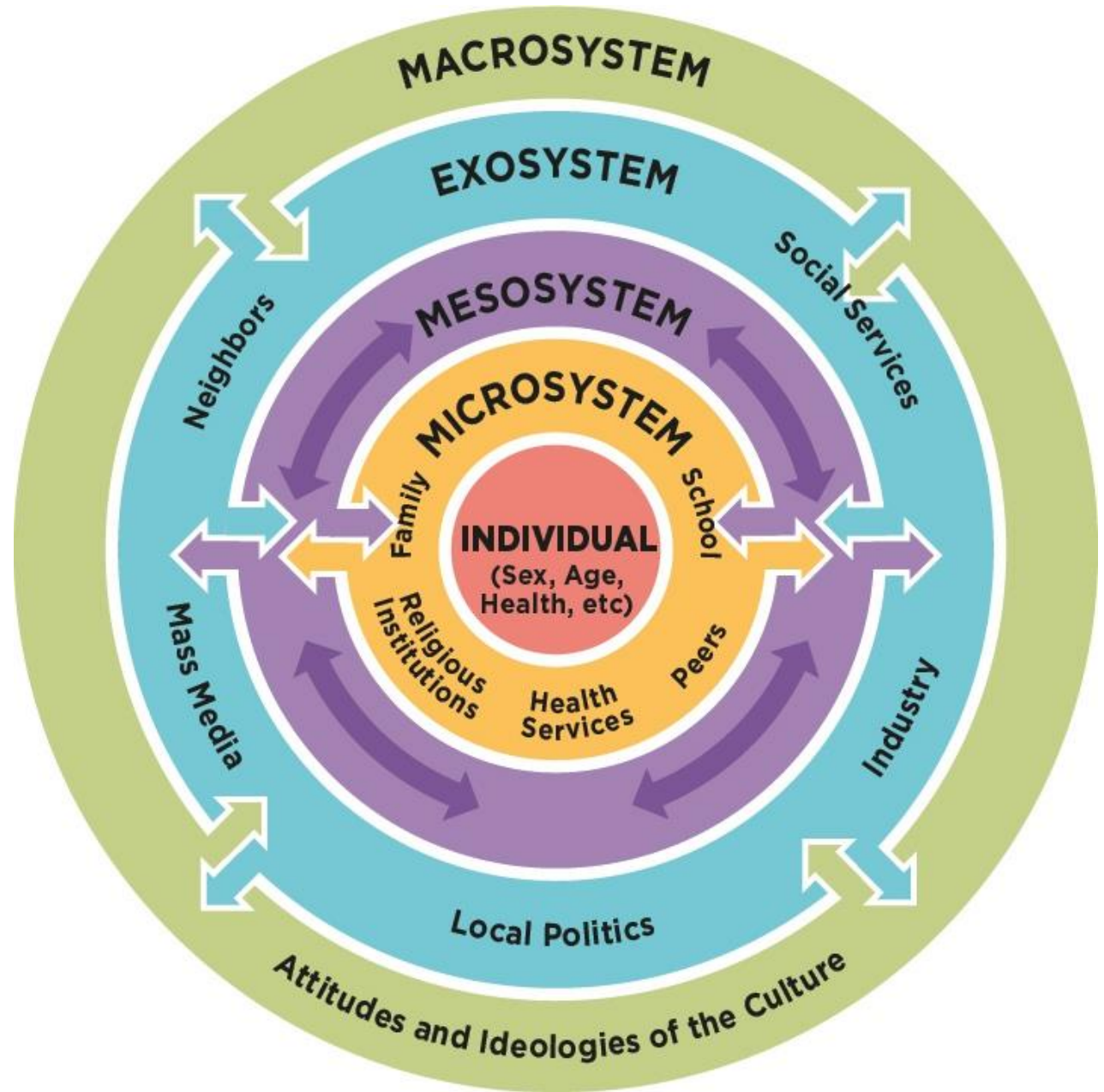


Typology of actions to reduce health inequalities



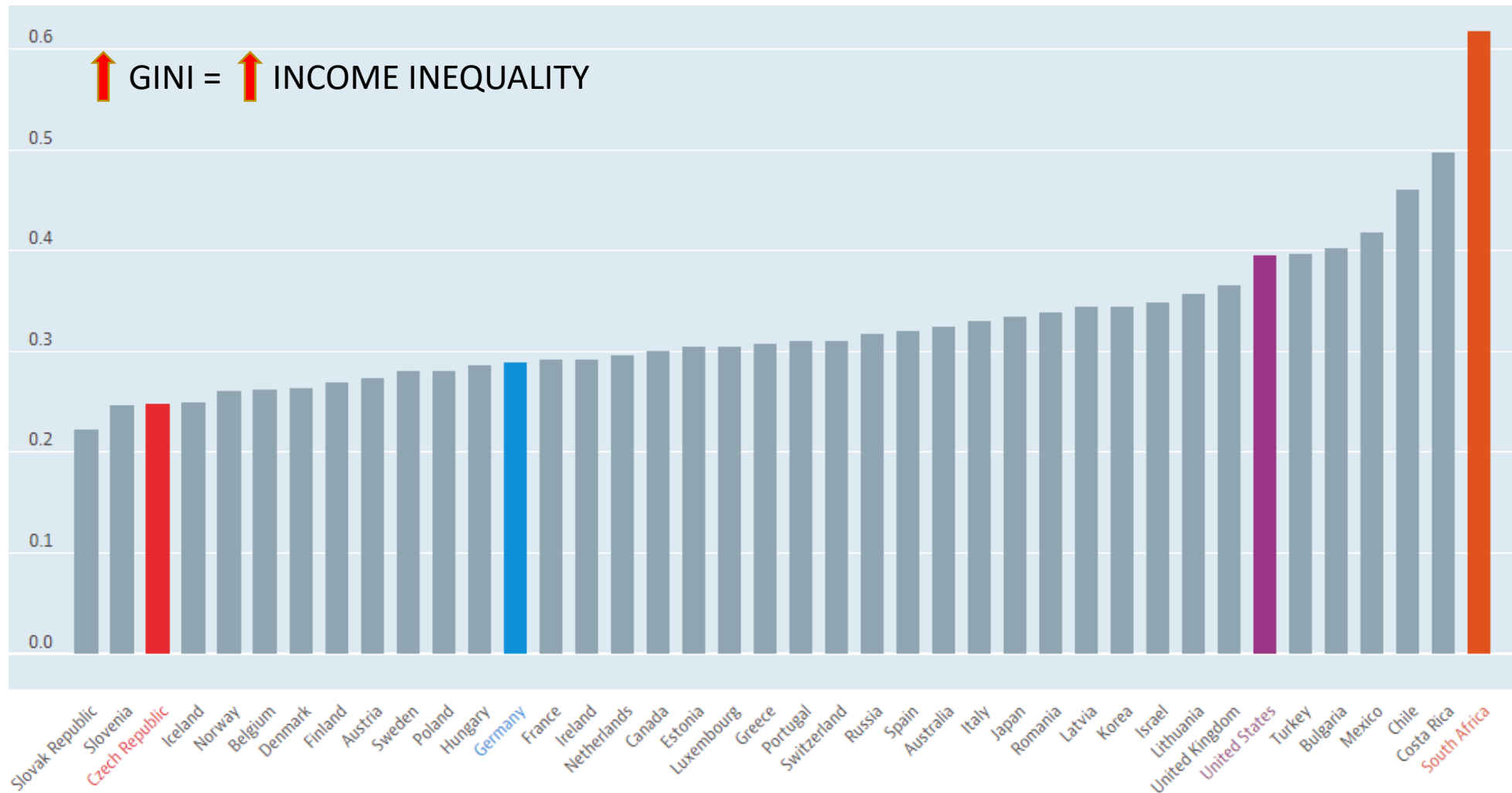
Micro-Exo-Macro Systems Framework

- Measures of characteristics of inequality:
 - **Individual:** e.g., sex, age, IQ, education, income, wealth
 - **Community:** e.g., unemployment rate, crime rate, neighbourhood deprivation, social support
 - **Group-level (national):** GDP, GINI, crime rate, life expectancy



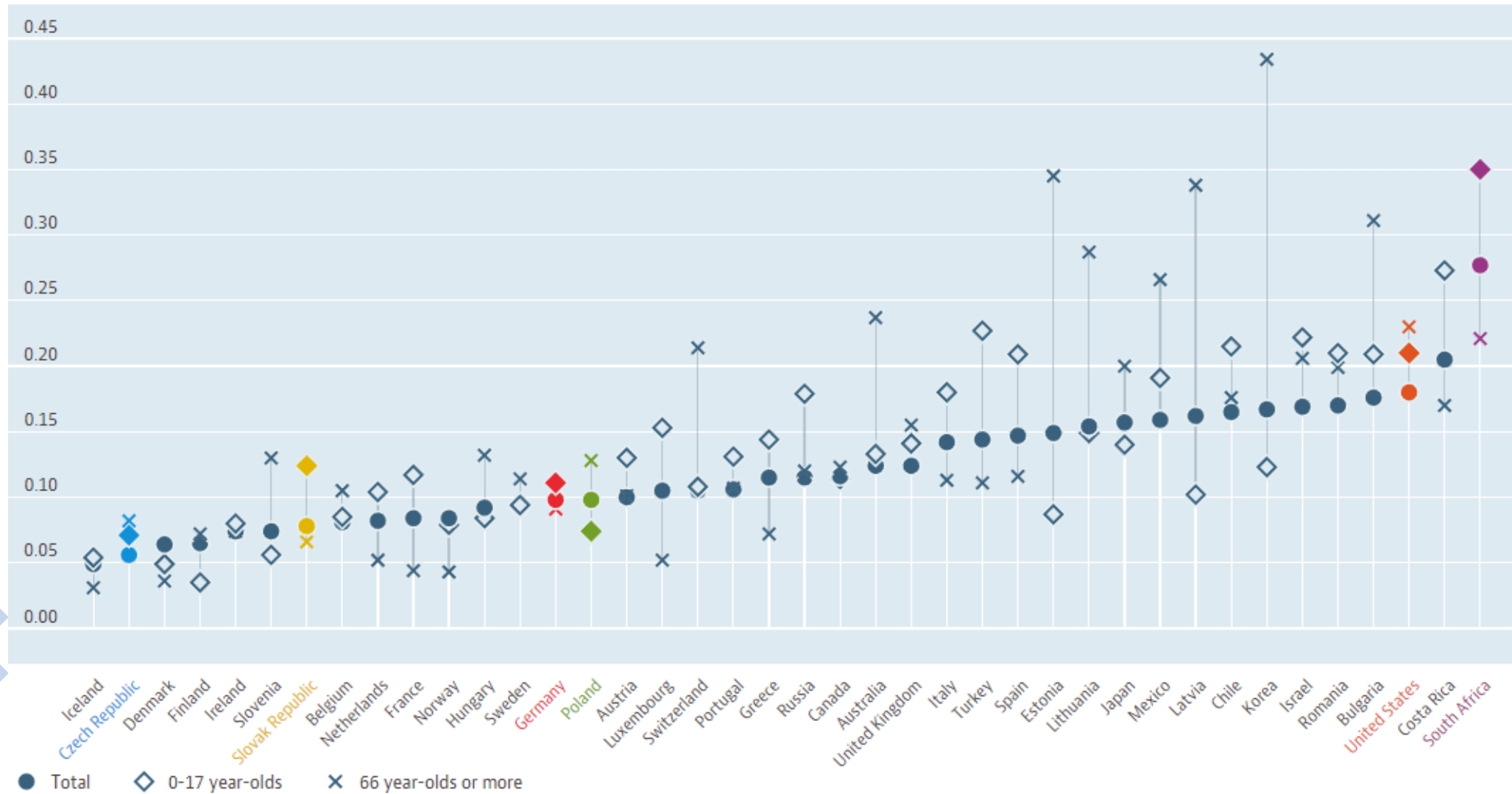
GINI coefficient

- Measure of income (or wealth) dispersion in a country – equality of income
- Gini coefficient, 0 = complete equality; 1 = complete inequality



Poverty rate

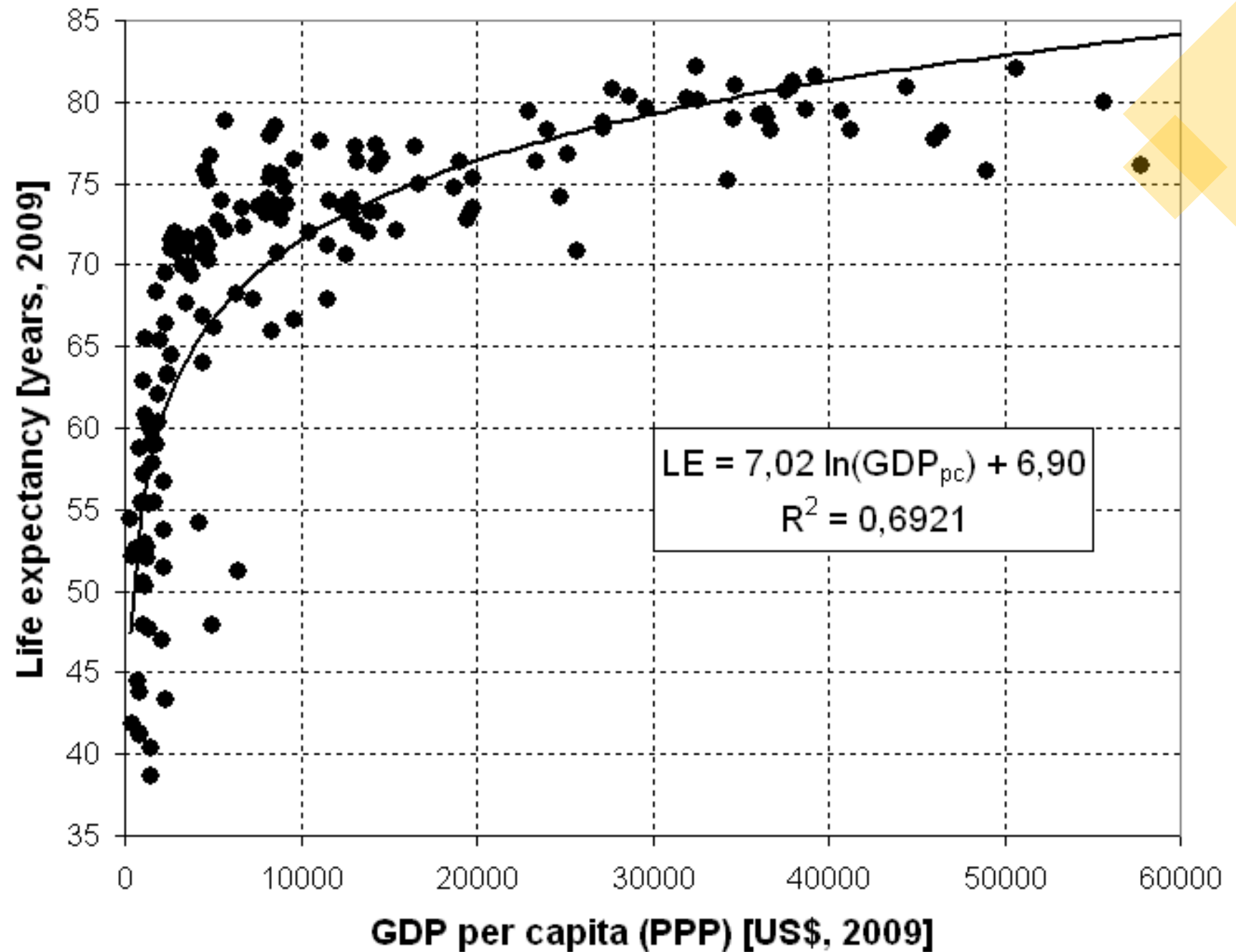
- The poverty rate is the ratio of people (in a given age group) whose income falls below the poverty line



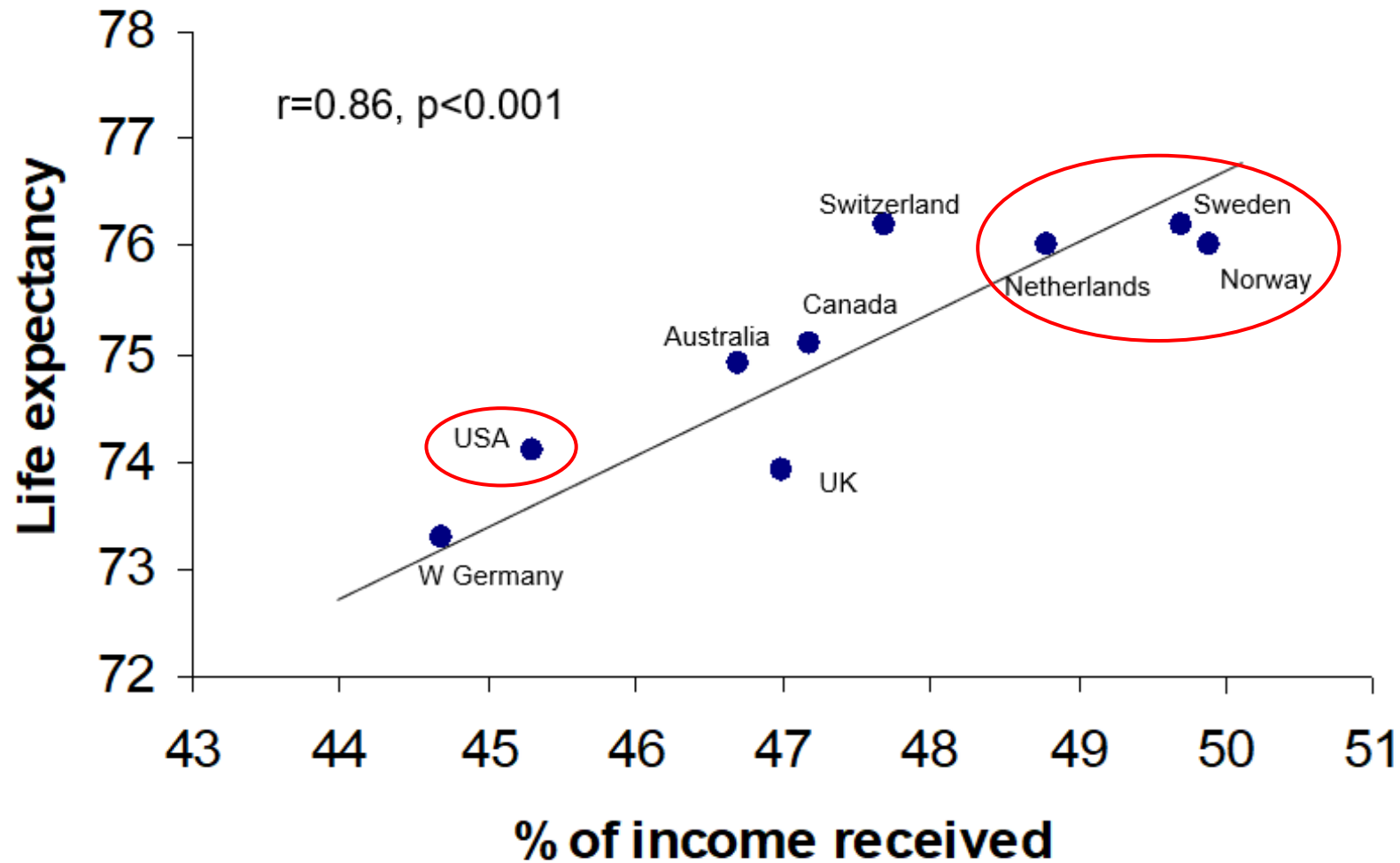
2017-2020.
 OECD Data.
<https://data.oecd.org/inequality/poverty-rate.htm#indicator-chart>

Life expectancy at birth and income

(Preston's curve)



Life expectancy at birth and percentage of income received by least well off 70% of families, 1981 (Wilkinson, BMJ 1992)

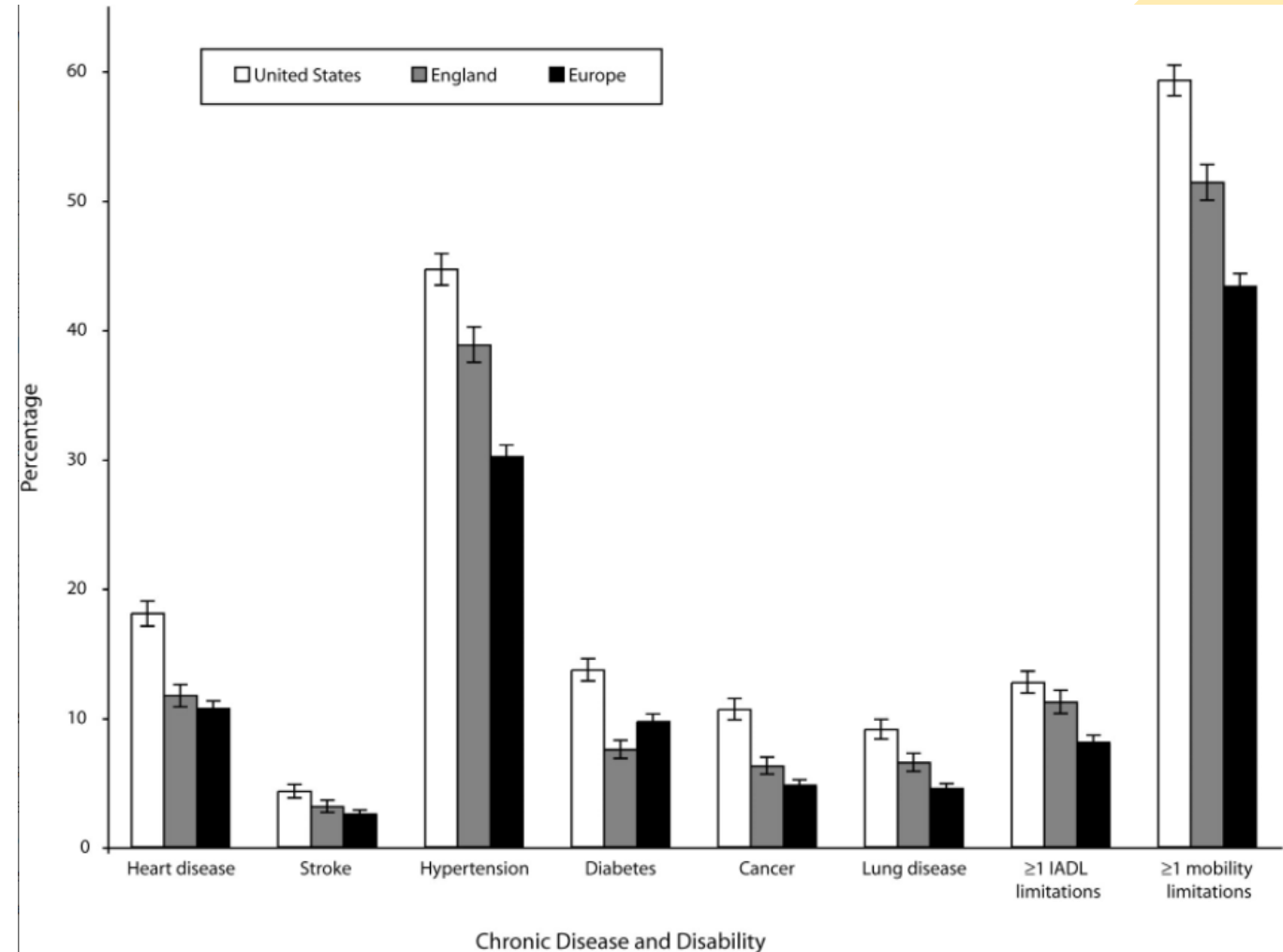


Why Do Americans Have Shorter Life Expectancy and Worse Health Than Do People in Other High-Income Countries? (2004)

- Representative samples of **adults aged 50 to 74 years** were interviewed in 2004 in 10 European countries (n = 17 481), England (n = 6527), and the United States (n = 9940).
- SHARE, ELSA and HRS adult cohorts included.

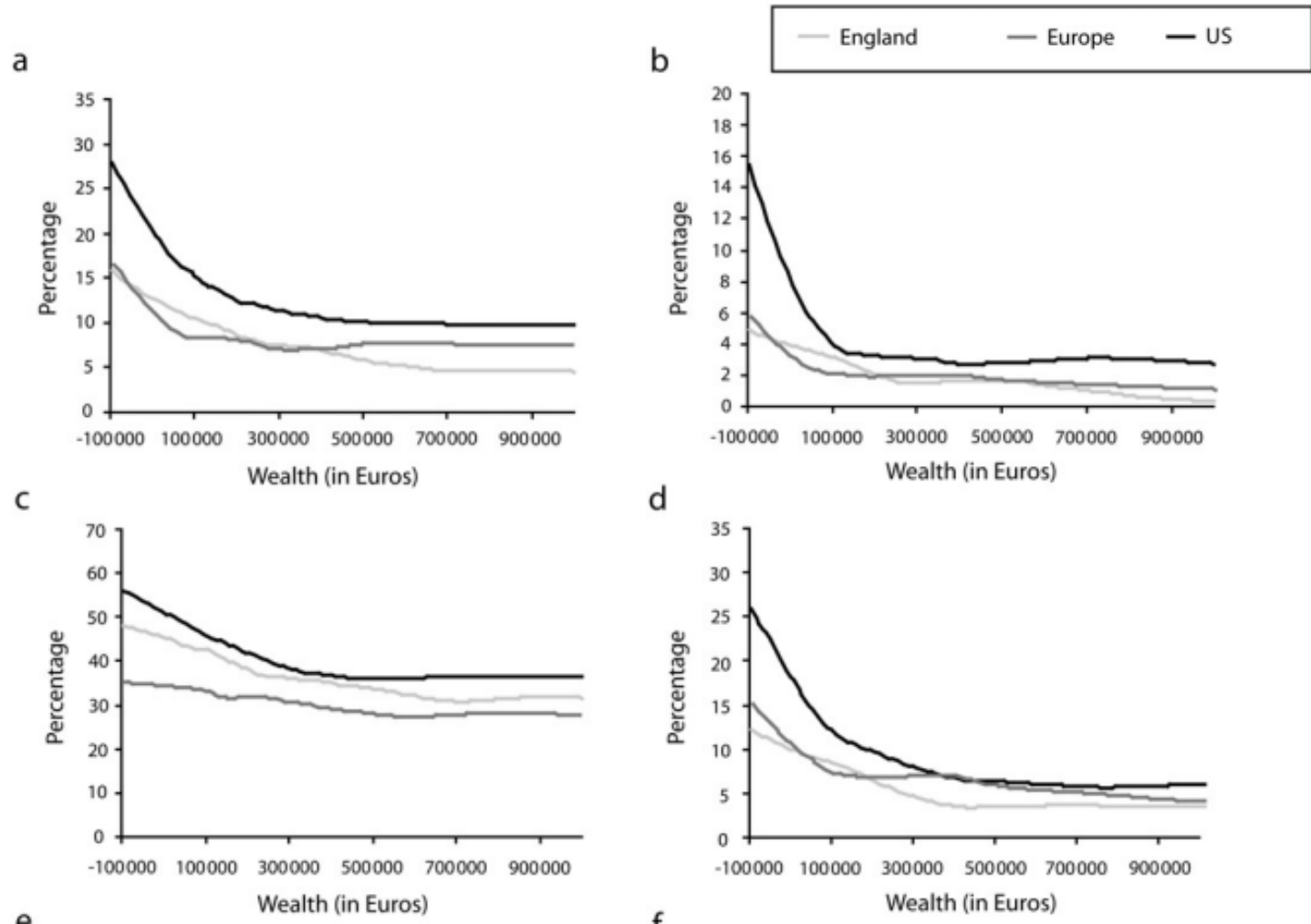
RESULTS:

- Health disparities by wealth were significantly smaller in Europe than in the United States and England.
- The poorest Americans experience the greatest disadvantage compared to Europeans.



LOESS function of chronic disease and disability by wealth among men and women aged 50 to 74 years (evidence from 2004)

WHICH FACTORS MAY PLAY A ROLE IN DIFFERENCES IN HEALTH BETWEEN EUROPE AND US?



(a) heart disease, (b) stroke, (c) hypertension, (d) diabetes

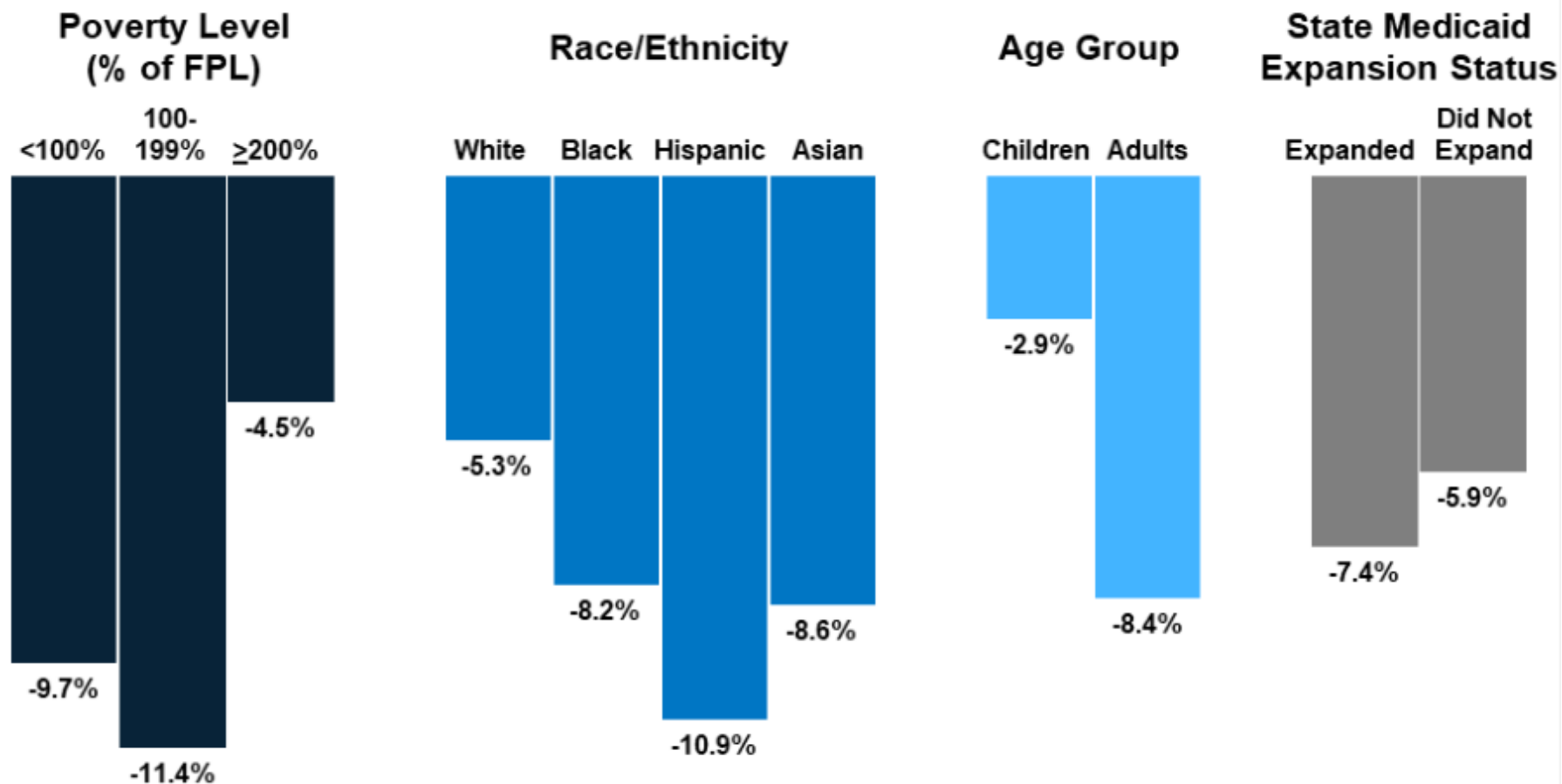
- **Lifestyle differences?**
 - prevalence of smoking or obesity
- **Health care system?**
- European countries have:
 - stronger primary care orientation ?
 - more equitable distribution of resources
- **Social policies?**
- European countries have:
 - Higher provision of social transfers (social retirement benefits, unemployment compensation, sick pay)
 - Lower level of uninsured people

Affordable Care Act (ACA) „Obamacare“

- Based on the previous studies from US, **insurance coverage as an important determinant of disparities in access to care.**
- The Affordable Care Act (ACA) has made new health insurance options **available to uninsured individuals in low- and middle-income households.**
 - Provides „**premium tax credits**“ that lower costs for households with incomes up to 400% of the federal poverty level (FPL),
 - For those with a family income below 138% of (FPL), ACA created federal funding (**Medicaid**) covering all costs for medical expenses.

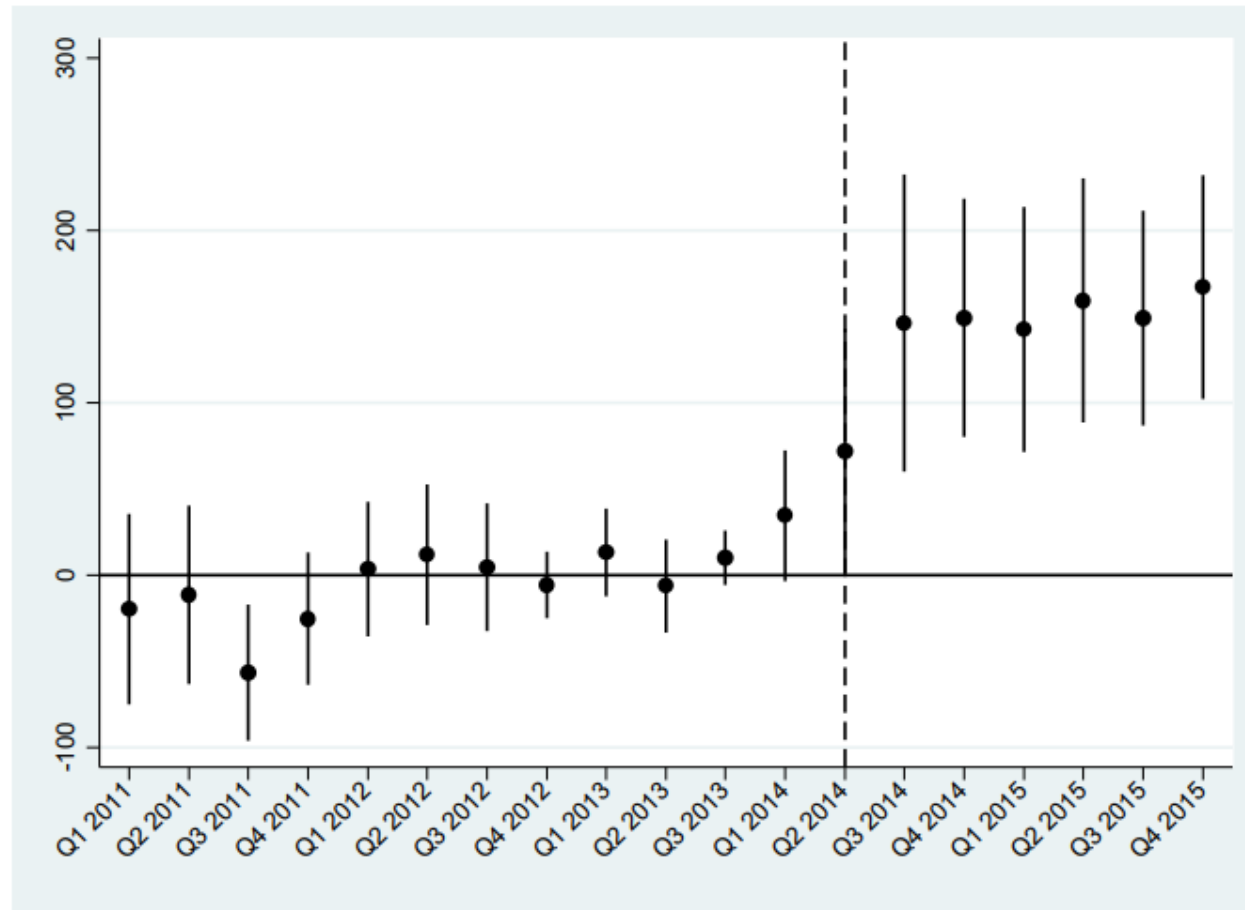


Change in Uninsured Rate Among the Nonelderly Population by Selected Characteristics, 2013-2016



NOTE: Includes nonelderly individuals ages 0 to 64. The US Census Bureau's poverty threshold for a family with two adults and one child was \$19,730 in 2017. Asian includes Native Hawaiians and Other Pacific Islanders (NHOPIs).
 SOURCE: Kaiser Family Foundation analysis of 2013 & 2016 American Community Survey (ACS), 1-Year Estimates.

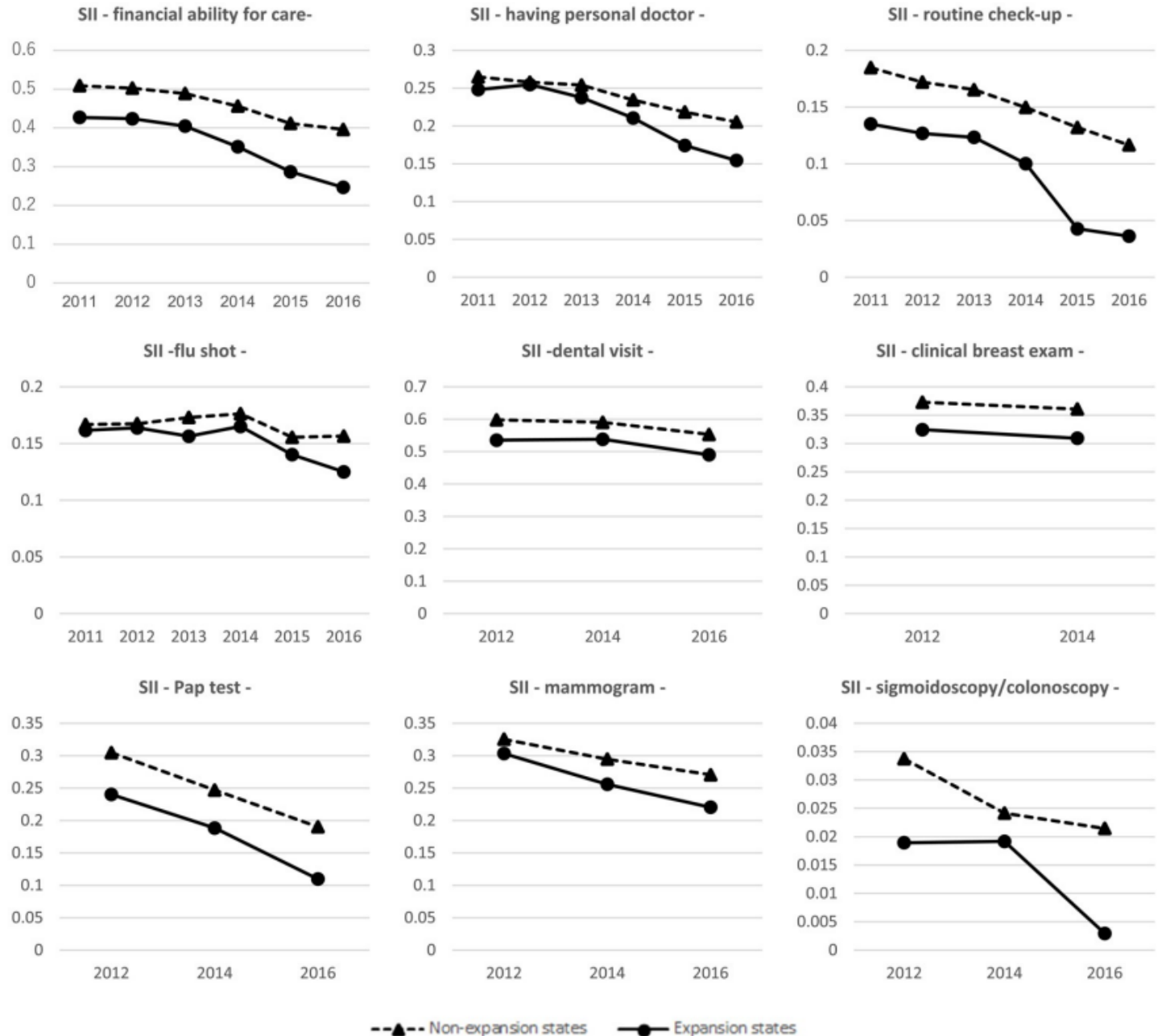
Effect of Medicaid expansions on smoking cessation prescription fills and refills using an event study: 2011-2015



- Trends in **Slope Index of Inequality (SII)** in US countries with and without extension (ACA Medicaid)

SII reflects changes in the mean or the prevalence of the health outcome among the population.

Comparison between US states where ACA Medicaid was expanded and was not expanded.



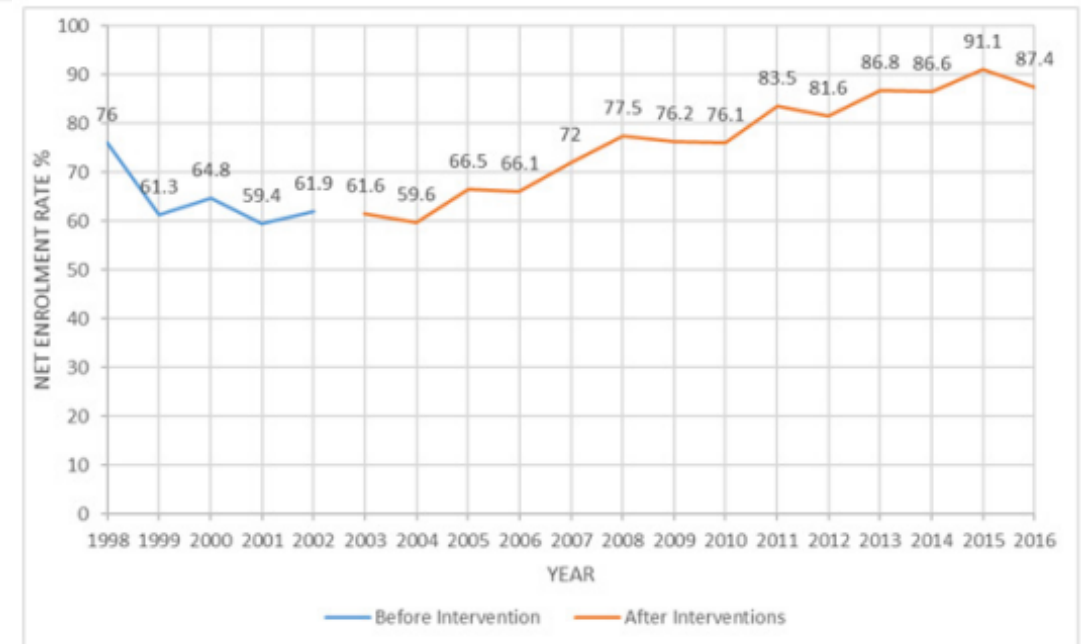
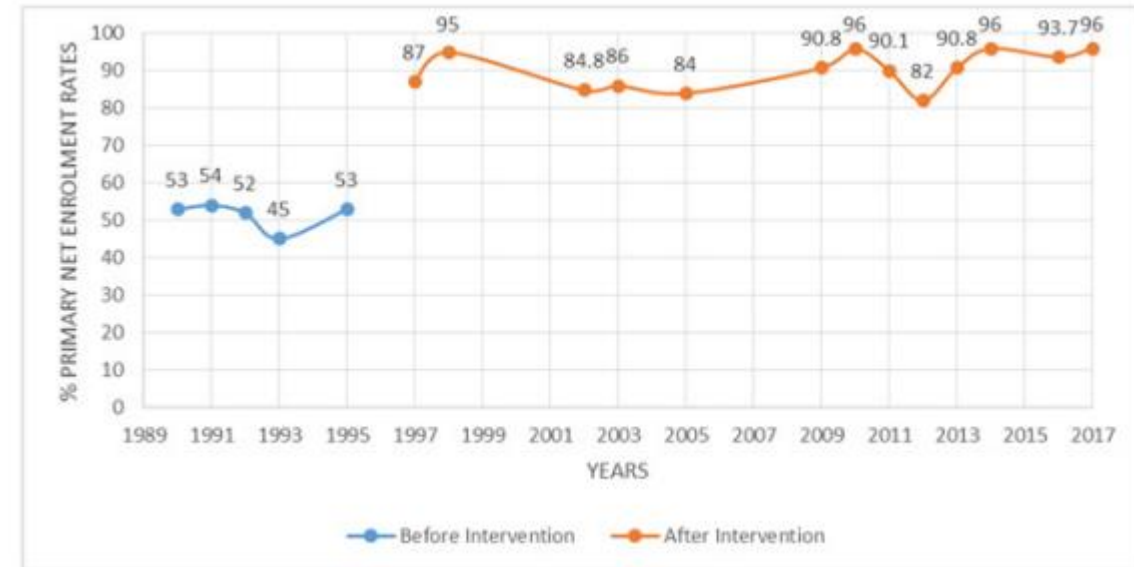
Social interventions in low income countries

Free Basic Education

- To improve a poverty rate in developing countries, it is important to:
 - Build political freedom
 - Build transparent government and reduce corruption
 - Provide socio-economic facilities
 - Support social opportunities and security
 - Support education in all levels
- Social protection interventions have been used as a poverty reduction strategy in many countries.
- Major donors of the free Universal Education Policy are the World Bank and other subsidiary agencies

Brenyah JK. Implementation of Social Protection Interventions in Africa. „The trend in the outcomes of free basic education in Ghana, Malawi, Kenya and Uganda. Univ J of Educ Res. 2018; 6(12).

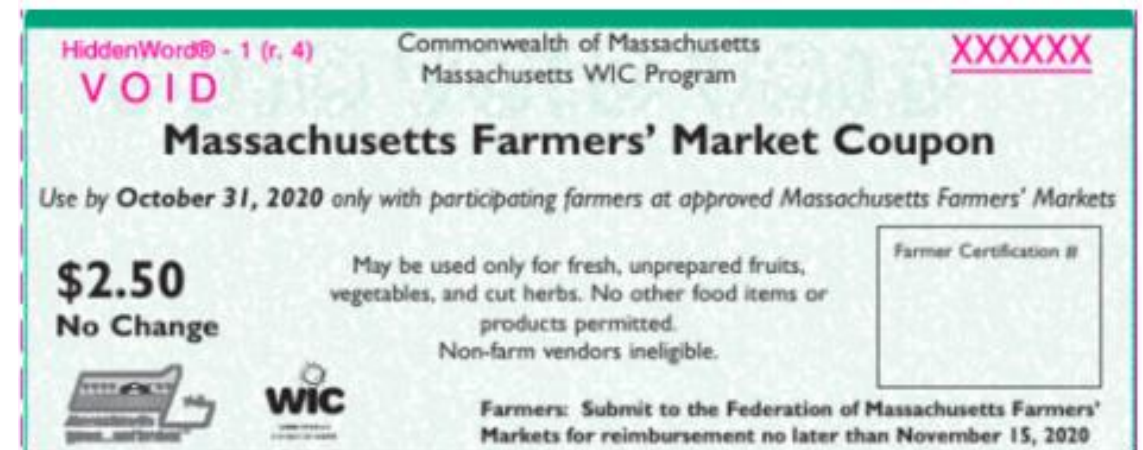
Primary schools enrolment rate in Uganda and Malawi



National and community level interventions

Examples of programs:

- **Earned Income Tax Credit program** have led to **increased birth weight and reduced maternal smoking**
- Pregnancies in women exposed to the Food Stamps program had **better birth outcomes** than did pregnancies in women who were not exposed to this program, particularly among African American mothers.
- The Massachusetts farmers' market coupon program for **low-income elders** led to 32% increase in vegetable and fruit consumption (1992).



Strully KW, et al. 2010. Effects of prenatal poverty on infant health: state earned income tax credits and birth weight. *Am. Sociol. Rev.* 75: 534–62

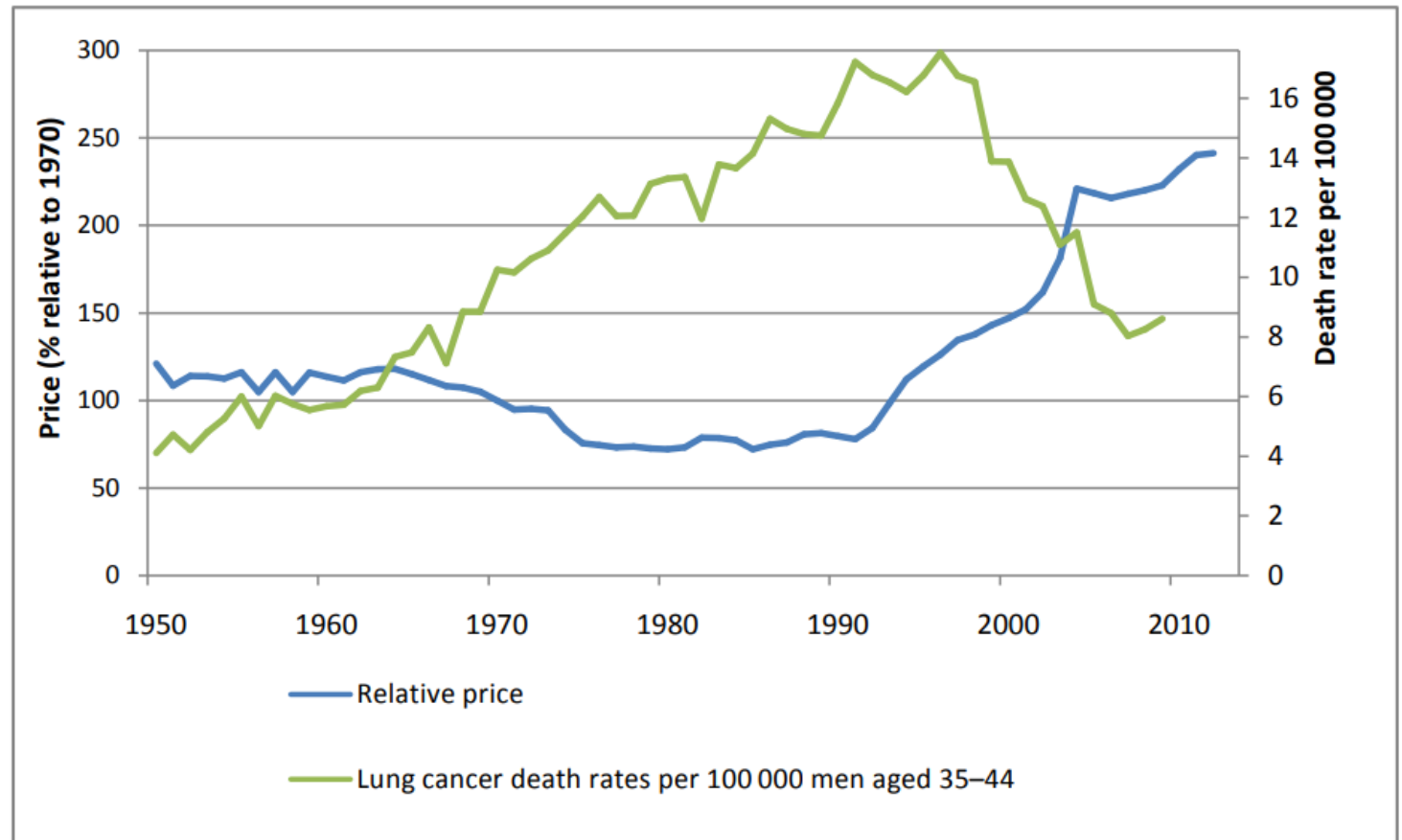
Almond D, et al. 2011. Inside the war on poverty: the impact of Food Stamps on birth outcomes. *Rev. Econ. Stat.* 93: 387–403

Example of Governmental intervention

Smoking intervention in France

- The French government increased taxes for tobacco products substantially and regularly between the early 1990s and 2005.
- This led to a reduction in sales by more than 50%.
- The health impact of this dramatic reduction in consumption was seen only a few years later with the reduction of lung cancer death rates among young men.
- **Death rates among men aged 35–44 also went down by 50% from 1996.**

Fig. 1: Prices (rising with tax increases) and lung cancer death rates, France, 1950–2010



Source: Graph reproduced using data from Hill C. Prévention et dépistage des cancers [Cancer prevention and screening]. Bulletin du Cancer. 2013;100:6.

Community-based interventions characteristics

- As setting, the community is primarily defined geographically, but should **address the community characteristics related to specific needs of population.**
- Such interventions may be citywide (using e.g. mass media), or may take place within community institutions such as neighbourhoods, schools, churches, work sites, agencies, etc.
- The focus of these community-based projects is primarily **on changing individuals' behaviours as a method for reducing the population's risk of disease.**

ESSENTIAL ELEMENTS OF THE SUCCESSFUL COMMUNITY-BASED INTERVENTION

Building a trust with community

„Everything on the table“ approach

Understanding the cultural/social context

Ongoing plans preparation to ensure sustainability

Marmot Places: the areas taking a proactive local approach to health inequalities



A Marmot Place recognises that health and health inequalities are mostly shaped by the social determinants of health (SDH): the conditions in which people are born, grow, live, work and age, and takes action to improve health and reduce health inequalities.

The UCL Institute of Health Equity works with places to reduce inequalities in health by:

- **Assessing the extent of inequalities in health and the social determinants of health locally**, reviewing actions already happening and scoping the local context.
- **Identifying where places can go further to reduce inequalities** and spot where there are gaps in existing actions.
- Evaluating how partners within a place can work together more effectively to achieve greater impact and make the needed changes; even in the challenging financial and resource context.
- **Strengthening the health equity** system in a place.
- **Implementing new approaches and interventions** to tackle health inequalities and inequalities in the social determinants of health.

Marmot Places: the areas taking a proactive local approach to health inequalities



Bharti Patel

Team Leader, Families for all Hub

8 main principals:

1. Give every child the best start in life.
2. Enable all children, young people and adults to maximise their capabilities and have control over their lives.
3. Create fair employment and good work for all.
4. Ensure a healthy standard of living for all.
5. Create and develop healthy and sustainable places and communities.
6. Strengthen the role and impact of ill health prevention.
7. Tackle racism, discrimination and their outcomes.
8. Pursue environmental sustainability and health equity together.

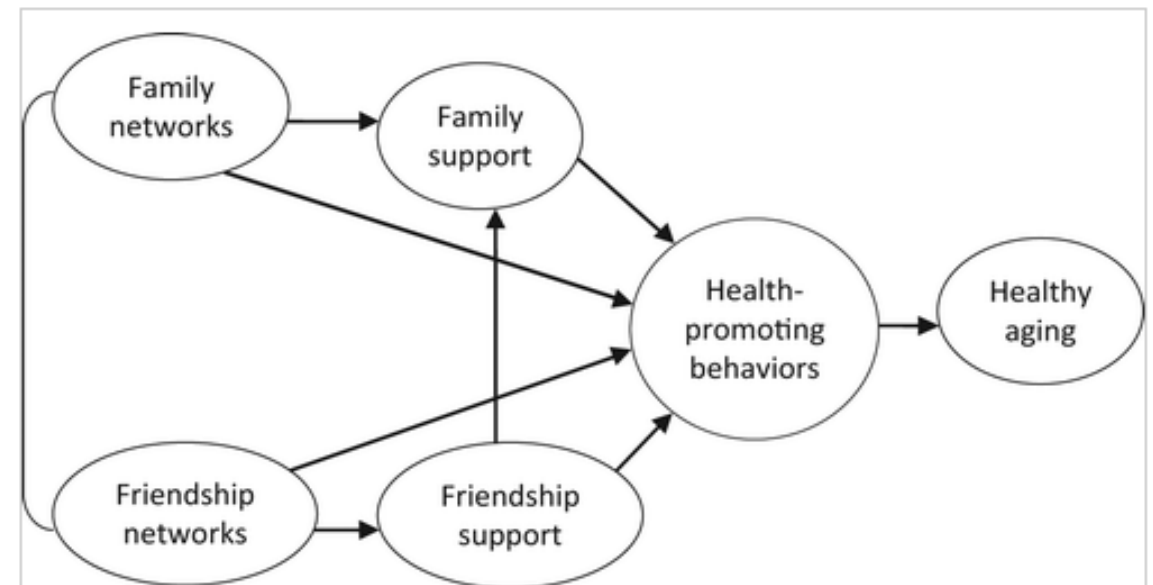
Worksites interventions

- **Occupational health screening** aims to:
 - prevent work-related illness and injury (primary prevention)
 - reveal diseases related to exposures to risk factors on workplace (secondary prevention)
- Besides that, a wide range of risk factors have been targeted through the workplace, including smoking, nutrition, physical activity, work-family stress, addiction, cancer screening, occupational exposures.
- Notably, workplace can play an important role in supporting unhealthy behaviour.
- Controlling for social class, probability of smoking cessation decreased with exposure to occupational hazards.

Microsystem

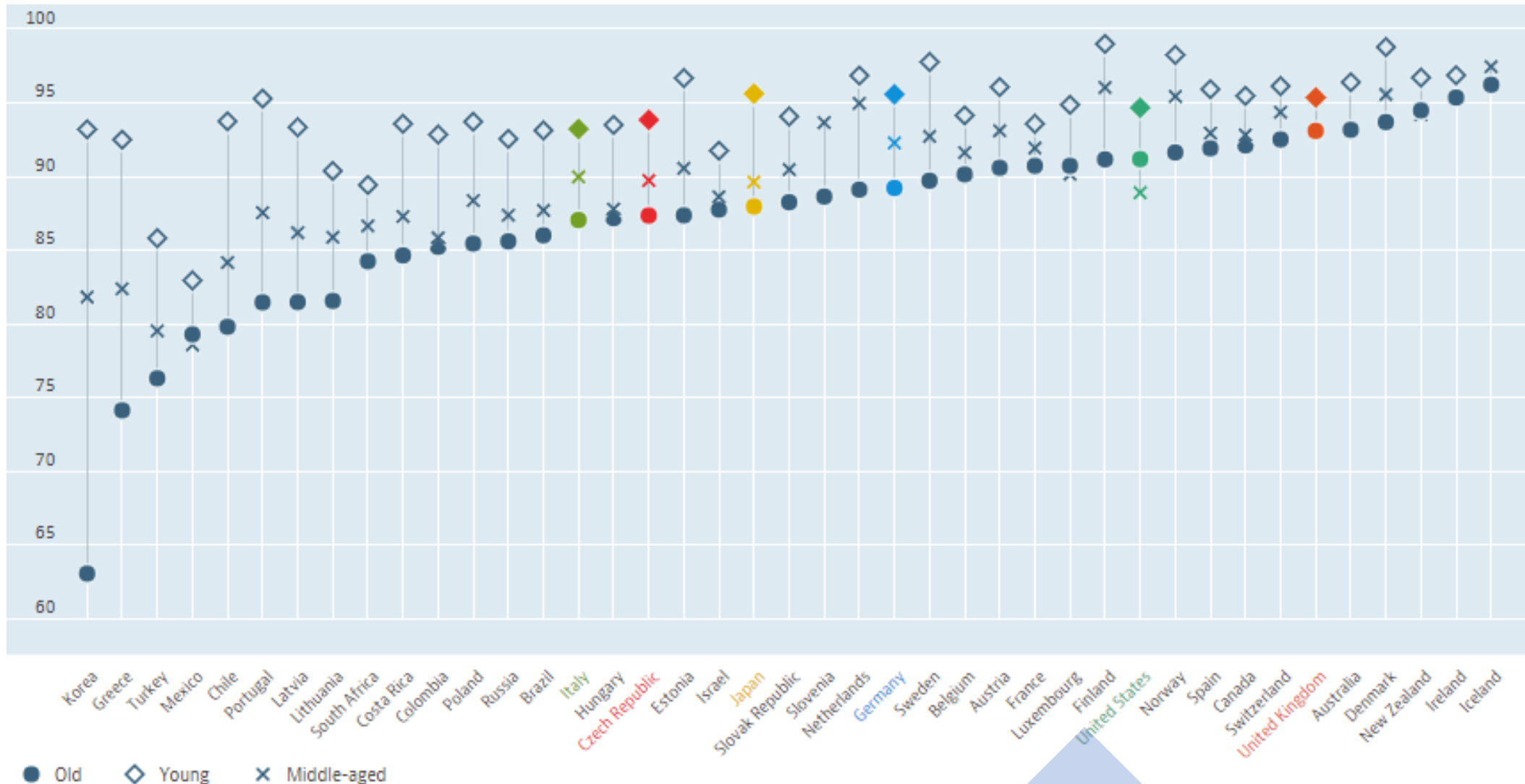
Family Social support

- Lack of social support indicates the share of people who report having no friends or relatives whom they can count on in times of trouble.
- Individuals with social support are consistently more likely to be satisfied with their personal health.
- Research has linked **social isolation and loneliness to higher risks for a variety of physical and mental conditions** including
 - high blood pressure,
 - heart disease,
 - obesity,
 - weakened immune system,
 - anxiety and depression,
 - cognitive decline and Alzheimer's disease.



Social support

- Social support indicates people who report having friends or relatives whom they can count on in times of trouble



2017-2020.
 OECD Data.
<https://data.oecd.org/healthrisk/lack-of-social-support.htm>

Individual-based interventions

- Based on **health behaviour change** interventions
 - health education and advice giving
- **Usually targeted to individual risk factors**
- Interventions were typically small-scale, long in duration and complex.
- The interventions usually aimed to highly motivated individuals – not also representative of the general population.
- Interventions should focus on
 - success with the most vulnerable population groups
 - address the social and economic circumstances

Motivational Interviewing

- Delivery by phone, Internet etc.
- Smoking cessation, mental health crisis etc.

eHealth interventions

- Require not limited access to internet
- Young people oriented
- Regular physical activity, improved diet

Risk groups

Some **individual socio-demographic characteristics** might be **disadvantaged** in various situations. = **INEQUALITY**

Could you come up with some situations where one could experience inequality?





Thank you for your attention!



Applying the typology to smoking interventions

INDIVIDUALS AND FAMILIES

- Anti-smoking educational programs
- Smoking cessation clinics and consultancy
- Targetting poorer patients or areas
- Nicotine replacement therapy

COMMUNITIES

- Greater community participation
- Build confidence and stimulate mutual support to generate circumstances for participants to quit smoking.

ENVIRONMENTS

- Mass media campaigns
- Smoke-free environments
- Control smoking in public places
- Ban the supply of cigarettes to children

MACRO POLICIES

- Restrictions on paid advertisements and brand sponsorship
- Increase access to services to help quitting
- Regulate taxes for tobacco products
- Protect against smuggling („pašování“)
- Controlling product use and distribution
- Reduce EU subsidies to farmers for growing tobacco

Applying the typology to physical activity interventions

INDIVIDUALS AND FAMILIES

- Prolong and increase physical education at schools
- Targetting poorer people and promote „cheaper“ physical activities (running, walking groups etc.)

COMMUNITIES

- Greater community participation
- Build confidence and stimulate mutual support to generate circumstances for physical activity.
- Promote joint sport activities and clubs

ENVIRONMENTS

- Improve „walkability“ in the environment
- Build parks and recreational areas suitable for sport activities
- Free or donated sports at workplaces (free or multisport at all workplaces)

MACRO POLICIES

- Increase access to environment encouraging physical activity.
- Improve infrastructure suitable for cycling
- Healthcare insurance companies – subsidies/dotations related to sports activities.