



Polish version of
IMPACT Model

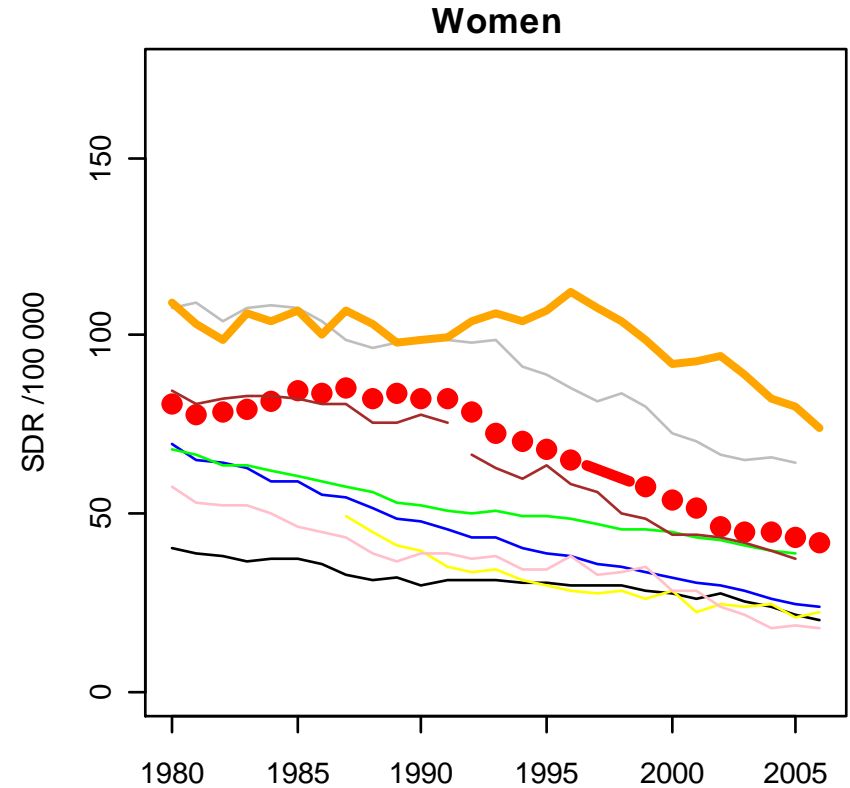
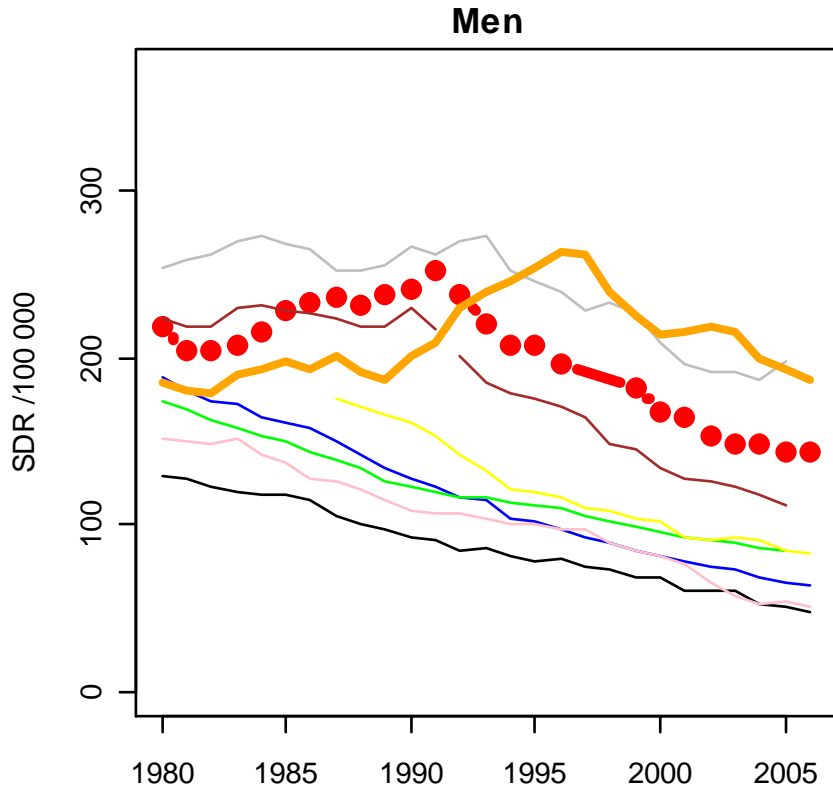
results

P. Bandosz, M. O' Flaherty, W. Drygas, J. Koziarek, B. Wyrzykowski,
M. Rutkowski, K. Bennett, T. Zdrojewski, S. Capewell

PL & GB

Total cardiovascular mortality trends.

Age group 0-64 y.





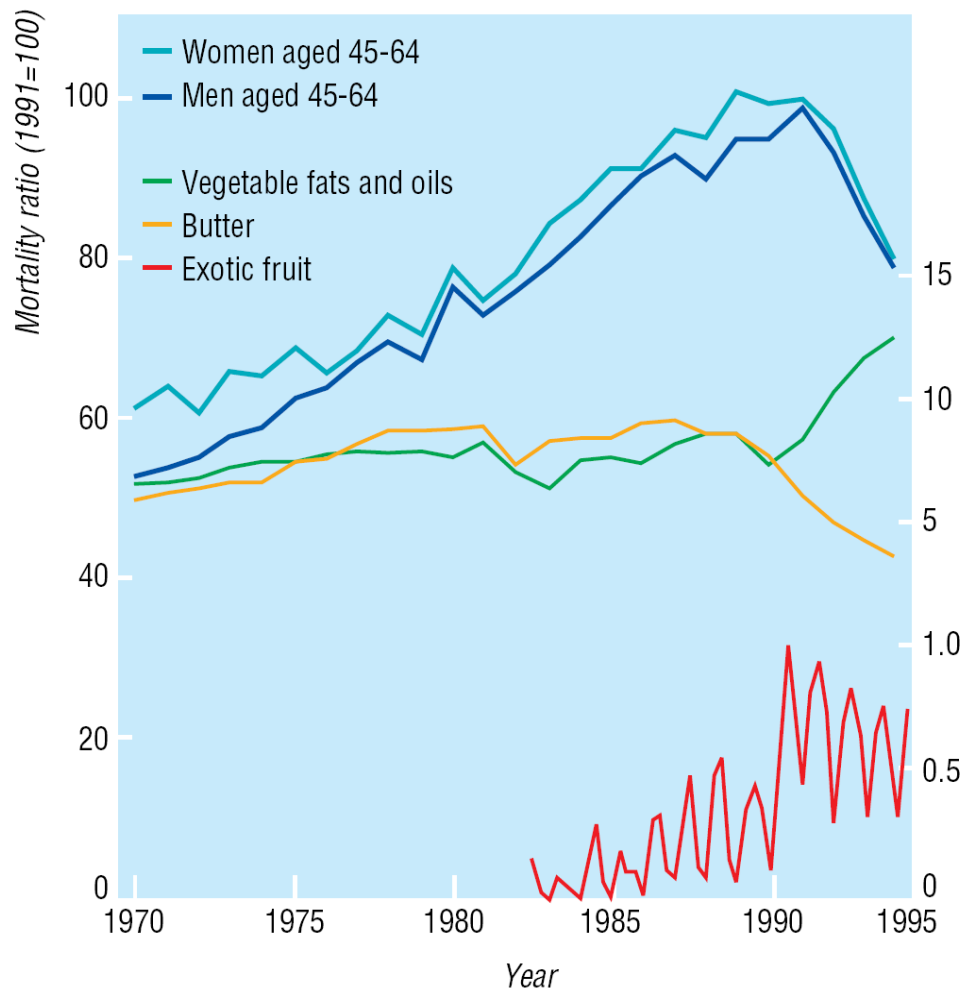
Why mortality falls?

- Better risk factors control?
- Evidence based cardiology treatments?
- Other?

Can we achieve more benefit?

Ecological study of reasons for sharp decline in mortality from ischaemic heart disease in Poland since 1991

Witold A Zatonski, Anthony J McMichael, John W Powles



■ 1991-1994

■ Key messages:

- change in proportion of saturated to unsaturated fat in diet
- increase in consumption of fruits and vegetables
- decrease in butter consumption

IMPACT model

Aim:

**To explain fall in CHD mortality in Poland
between 1991 and 2005**

- Age groups 25-74
- Men & Women

Next steps:

- Future trends prediction
- Estimation of potential benefit from improvements in RFs control, and uptake of specific treatments
- Cost effectiveness of specific intervention

Impact model includes:

- Mortality & Demographic data
- CHD treatments:
 - Immediate AMI Treatments
 - Secondary Prevention
 - Post AMI, post revasc.
 - Chronic Angina CABG, Aspirin
 - Unstable Angina Aspirin, Heparin, PG IIB/IIIA
 - Heart failure
 - Hypertension, statins for primary prevention
- CHD Risk factors
 - Smoking, population blood pressure, cholesterol, obesity, diabetes, physical inactivity

Impact model includes:

- **Mortality & Demographic data**

routine statistics

- **CHD treatments:**

**cross sectional national and local studies:
(country representative surveys, Pol-MONICA)
registries (CABG registry, ACS registry)
hospital discharge database
expert opinions**

- **CHD Risk factors**

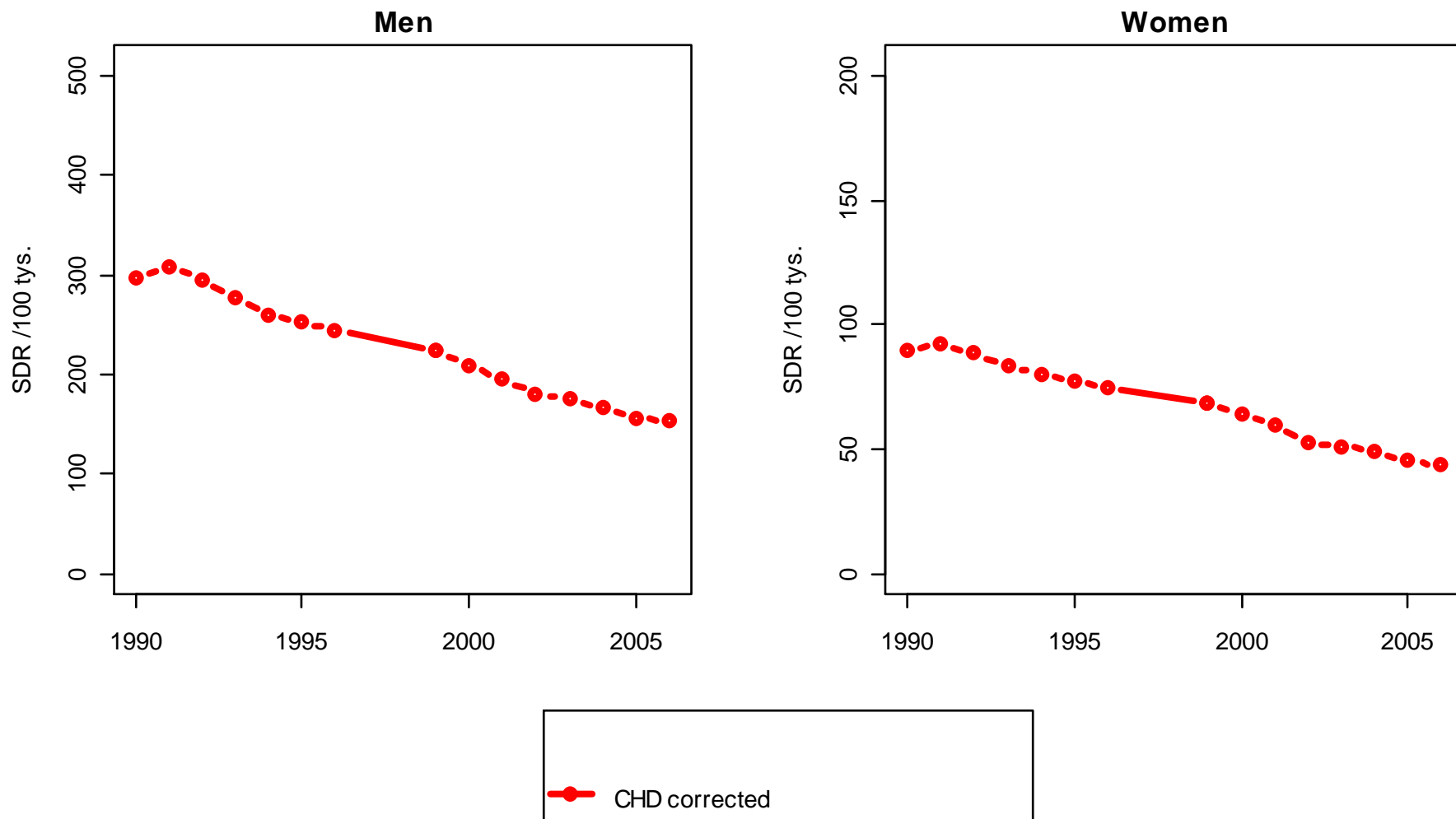
(national representative surveys, Pol-MONICA)



Problem:

- mortality data affected by changes in death registration system in 1997

Mortality from cardiovascular diseases in Poland (1990-2006, age 25-74)



* deaths coded as coronary heart disease, cerebrovascular diseases and atherosclerosis



Data verification

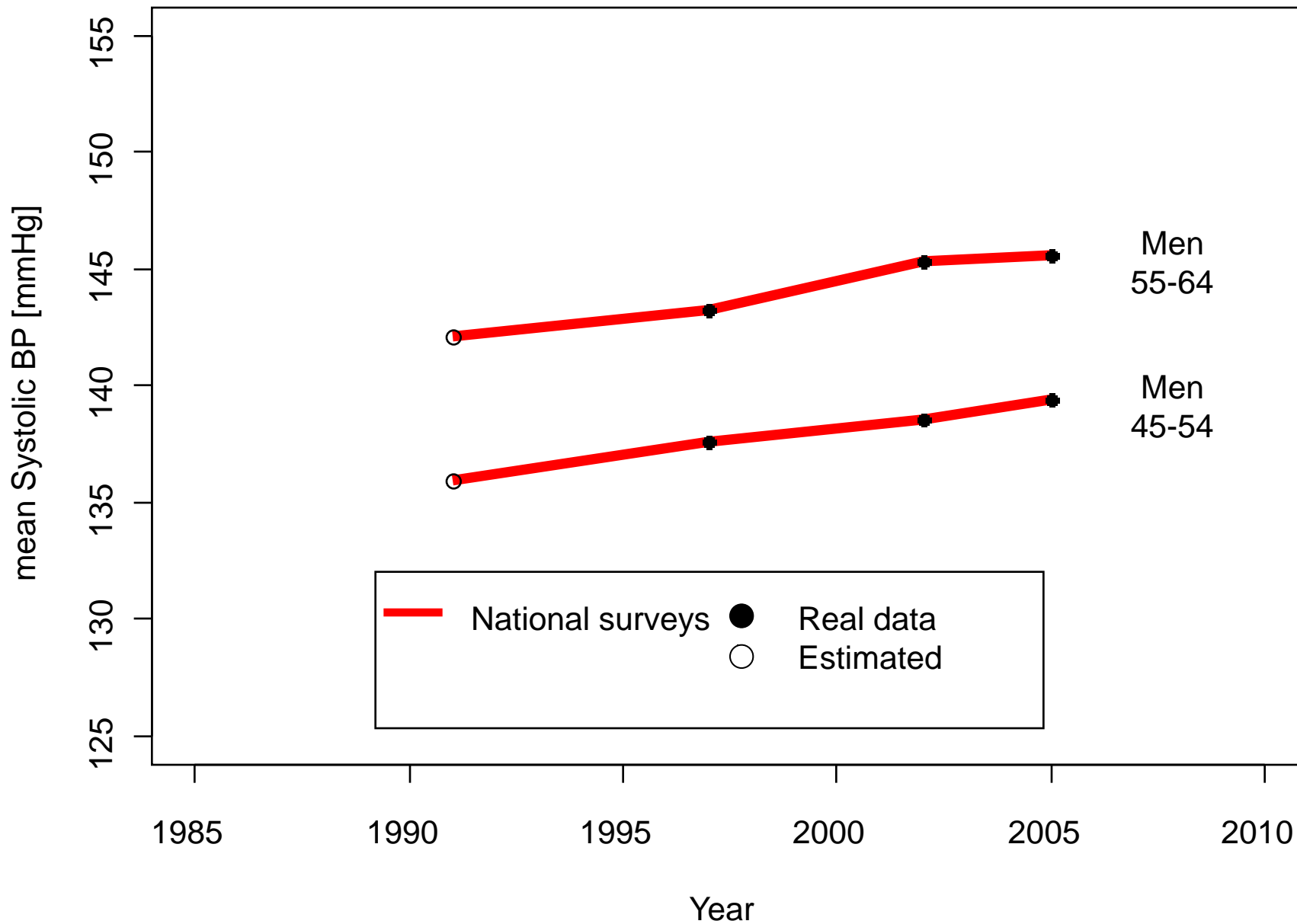
if possible, more than one data source was used to validate trends

example:

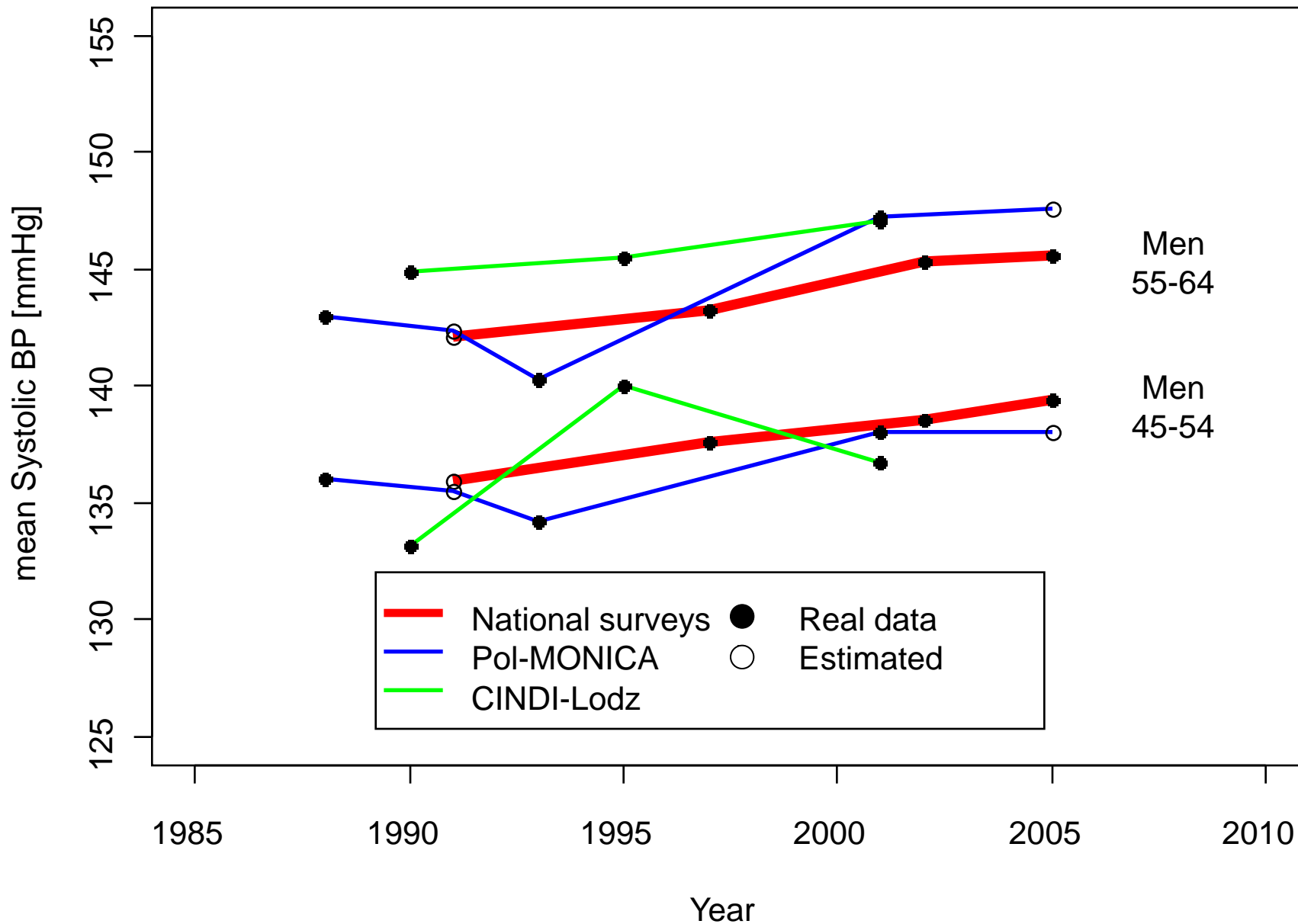
population BP data

- data from national cross-sectional studies was used
- trends from this studies similar in Pol-MONICA study and WHO-CINDI surveys.

Systolic blood pressure trends in Poland



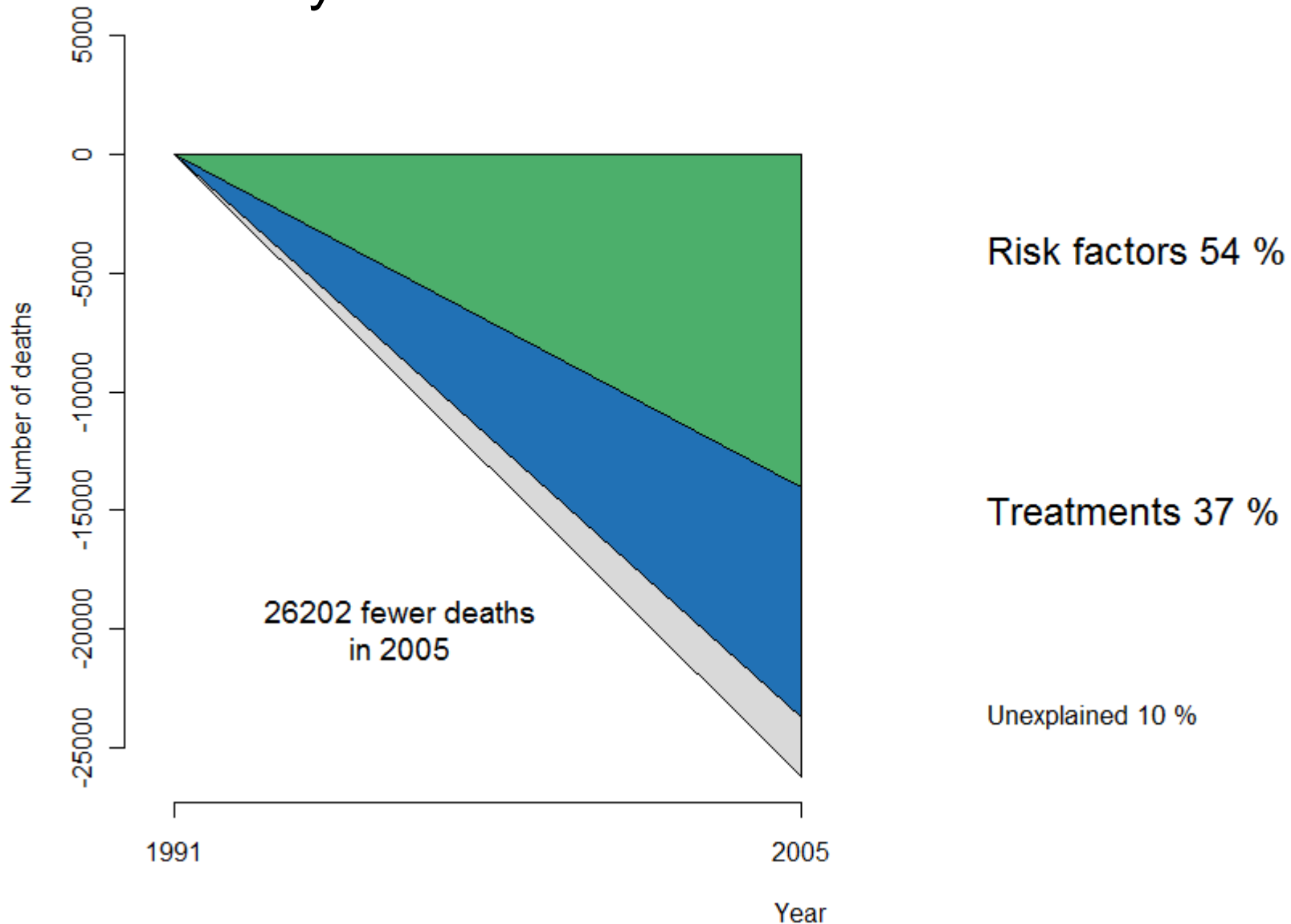
Systolic blood pressure trends in Poland



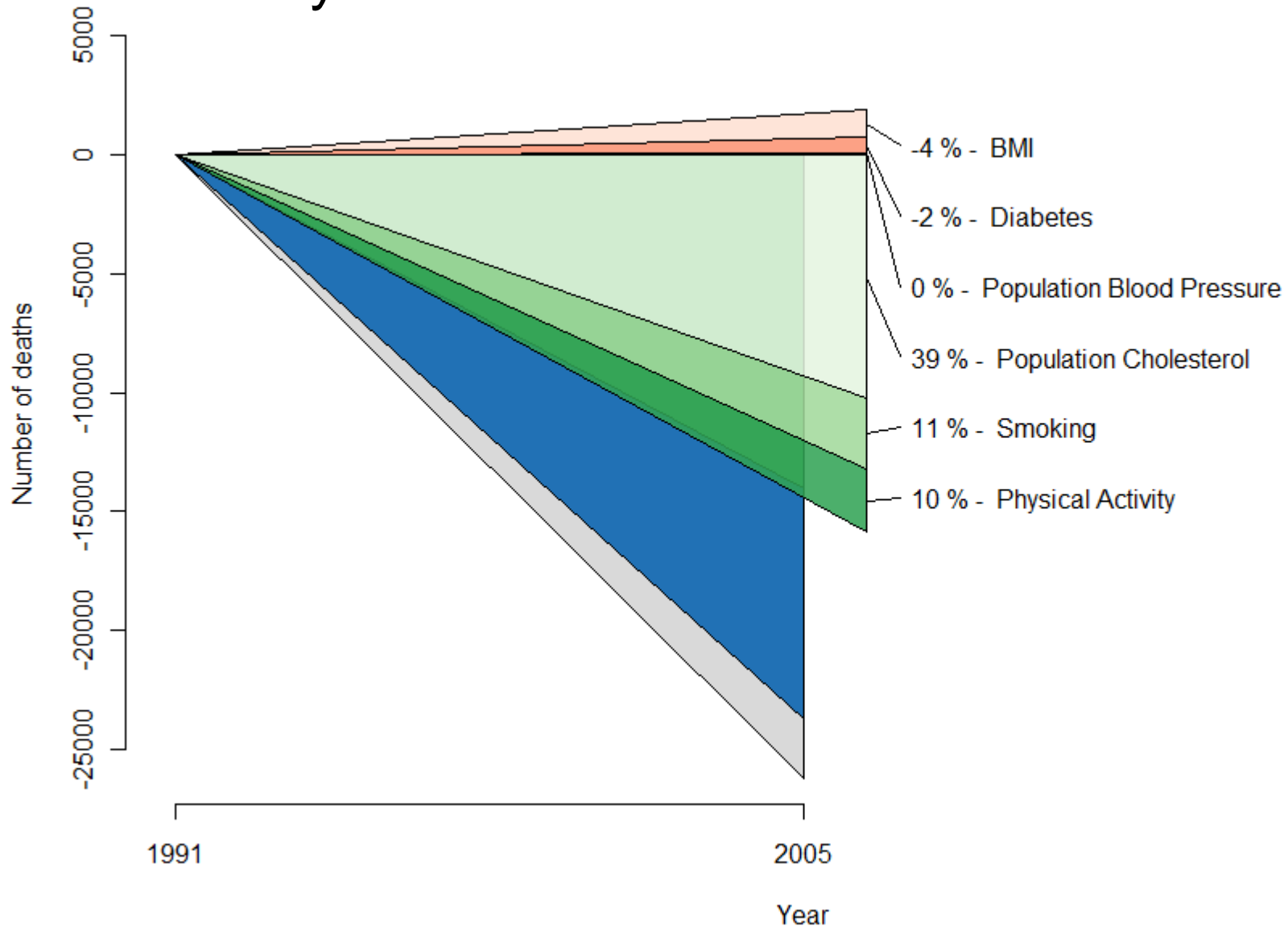


Main results

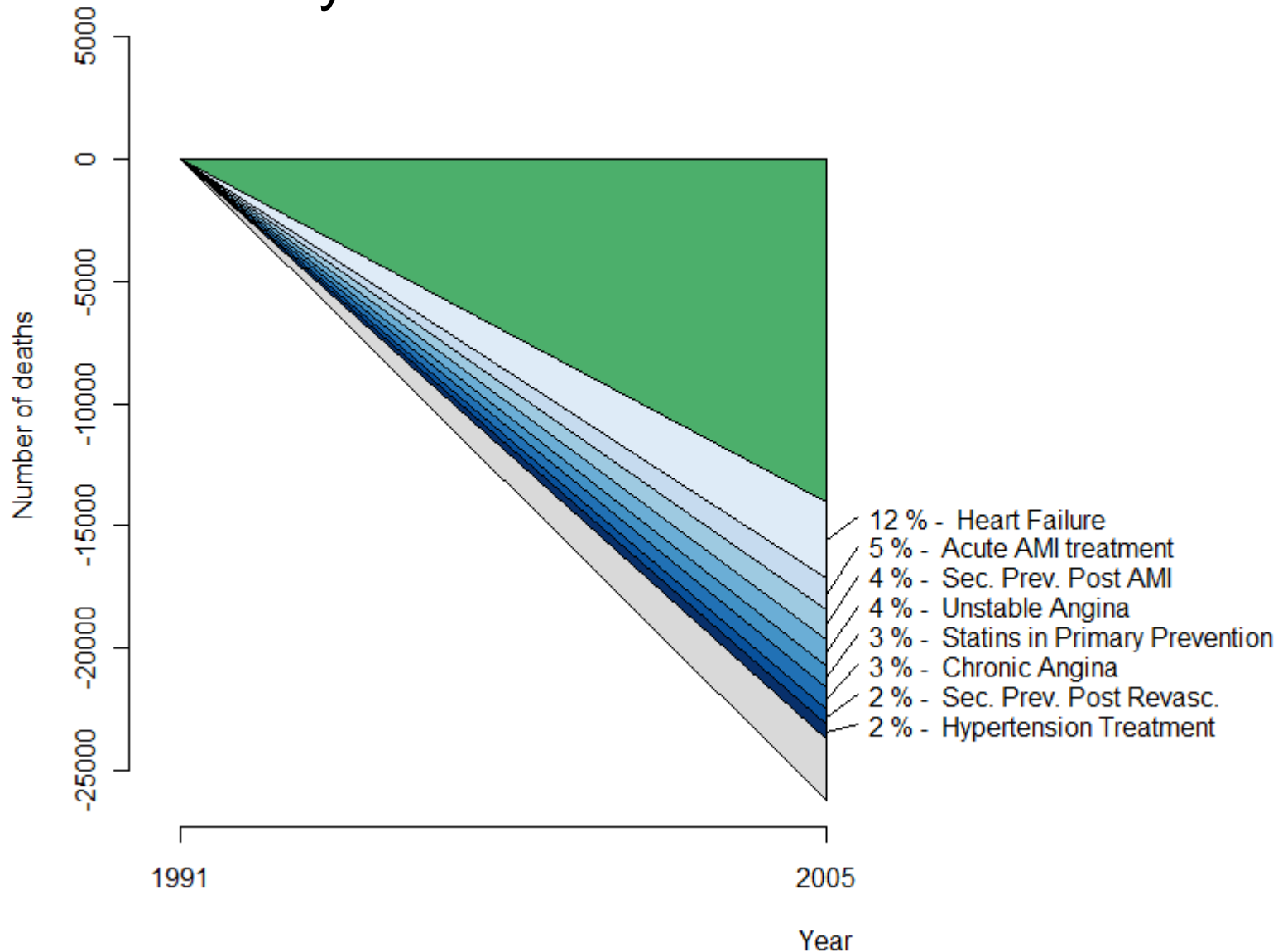
Explaining the fall in coronary artery disease mortality in Poland between 1991 and 2005



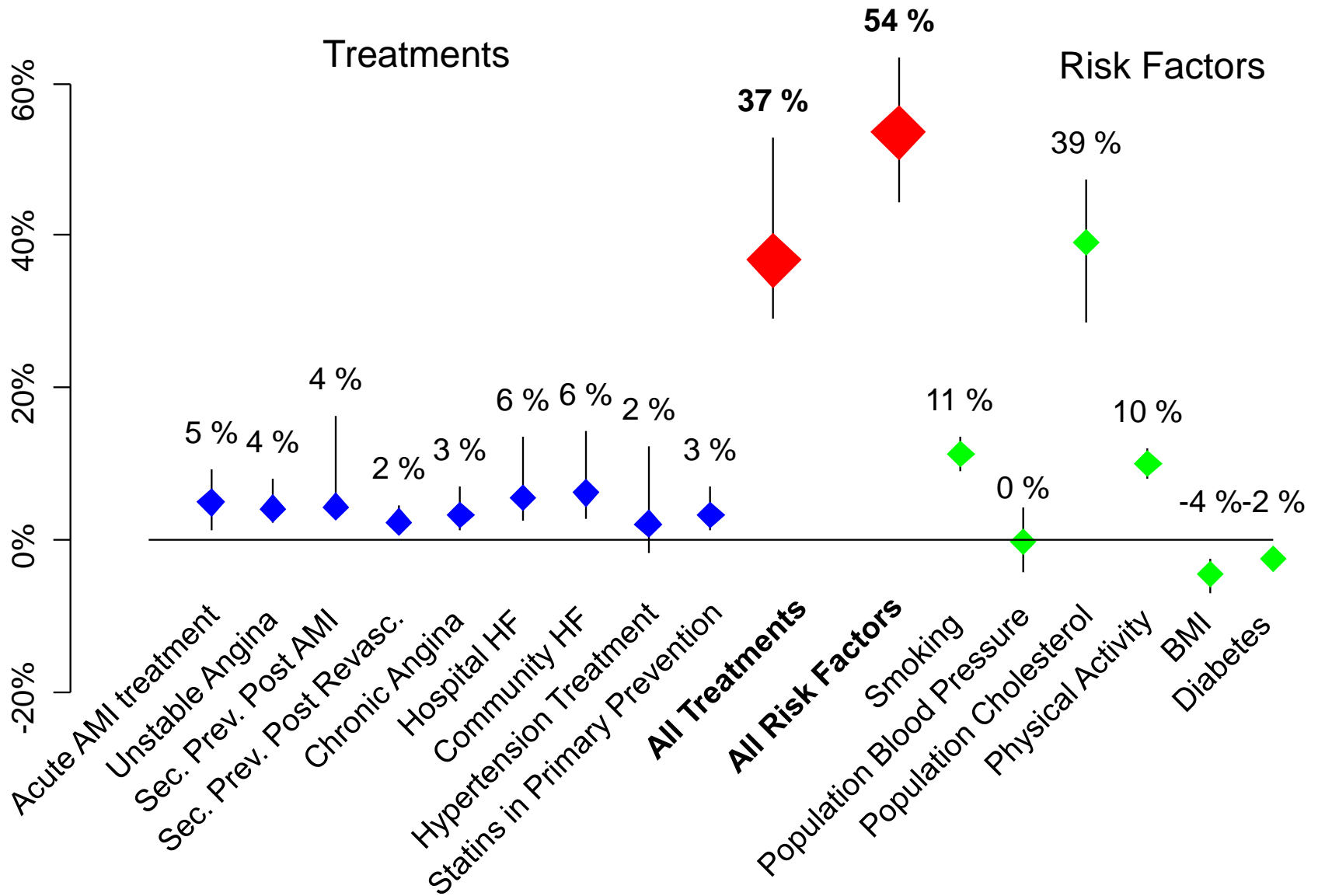
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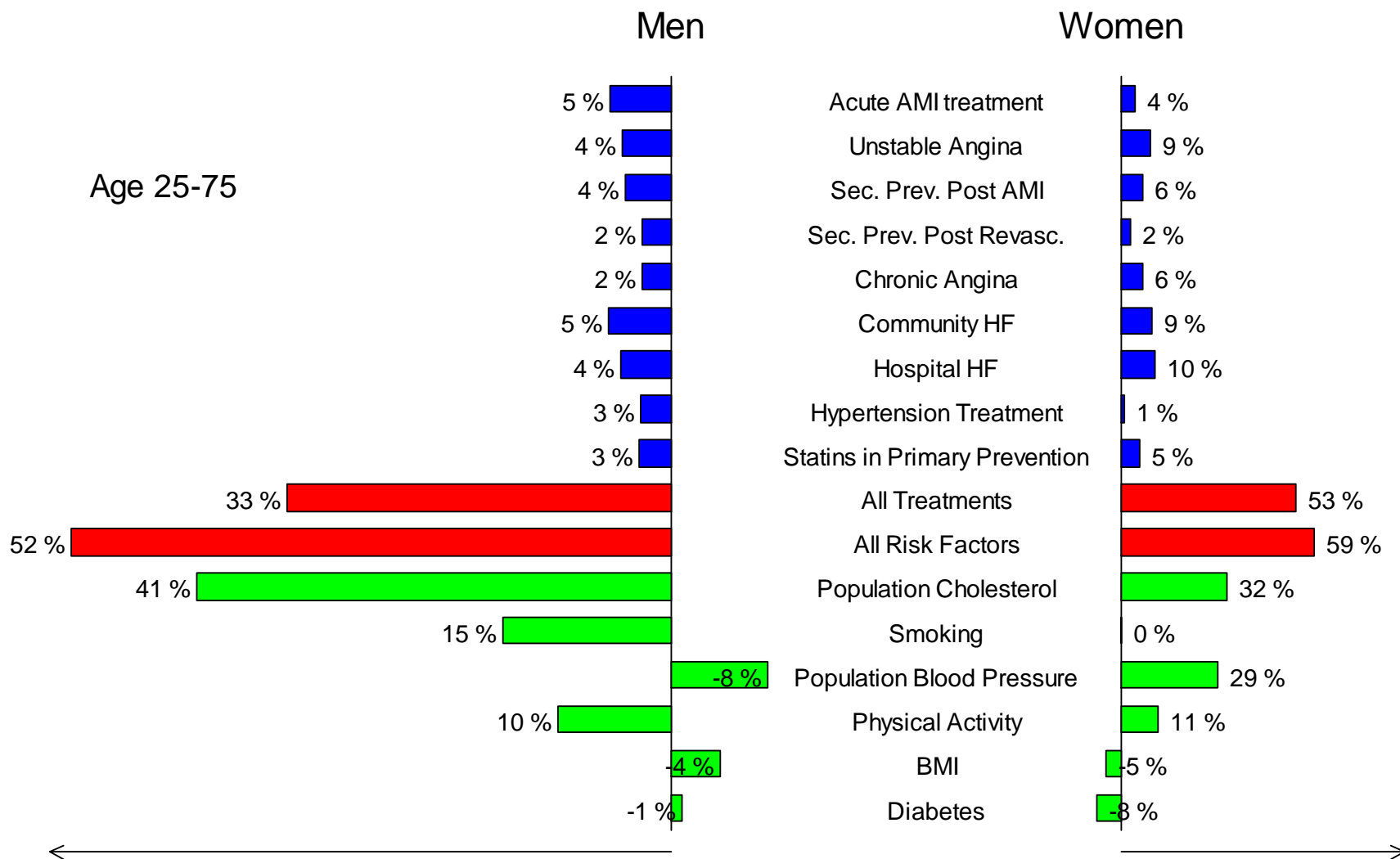
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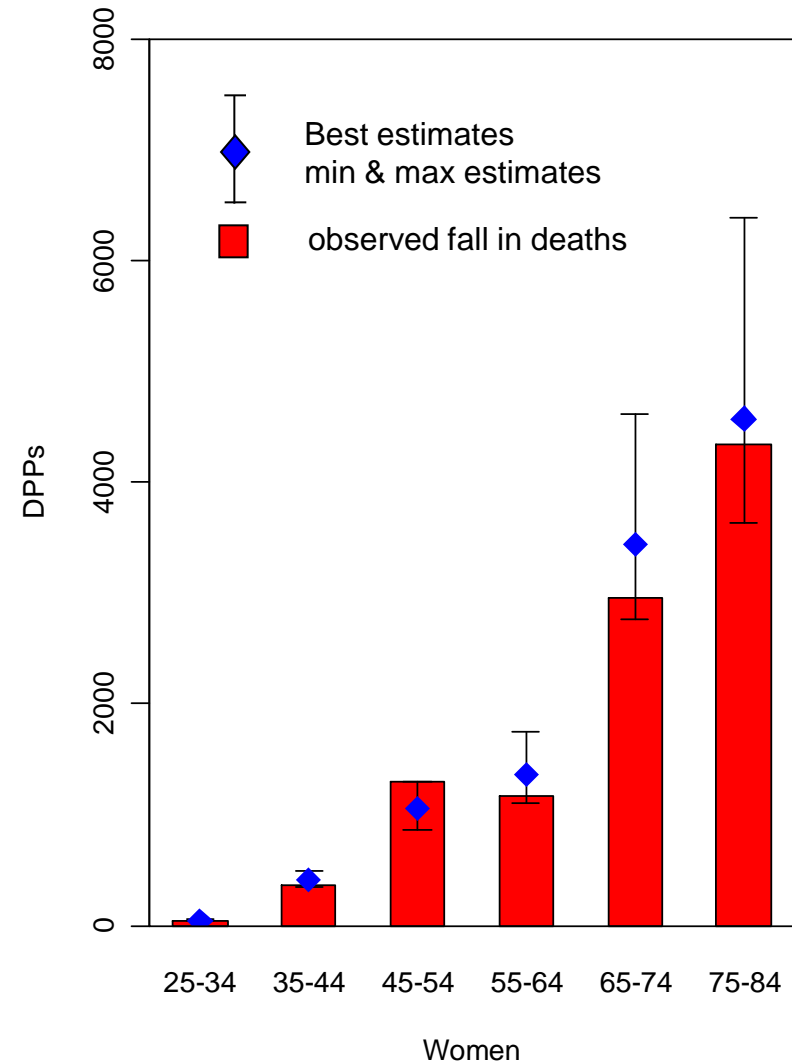
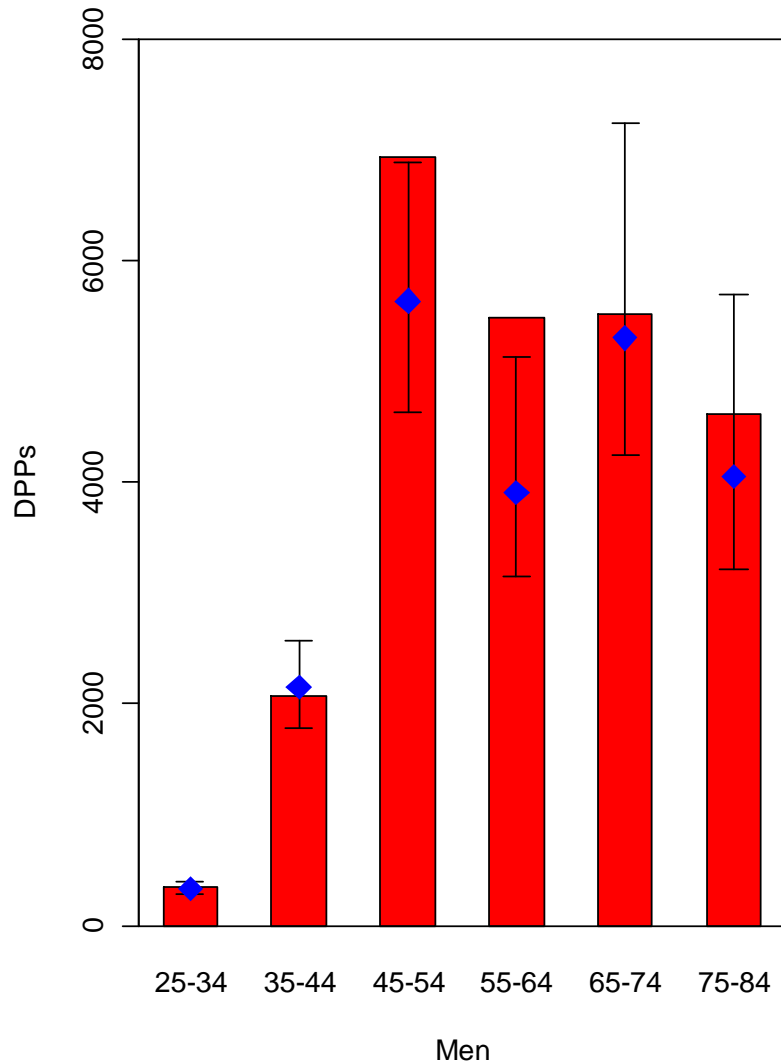


Explaining the fall in coronary artery disease mortality in Poland between 1991 and 2005, by gender



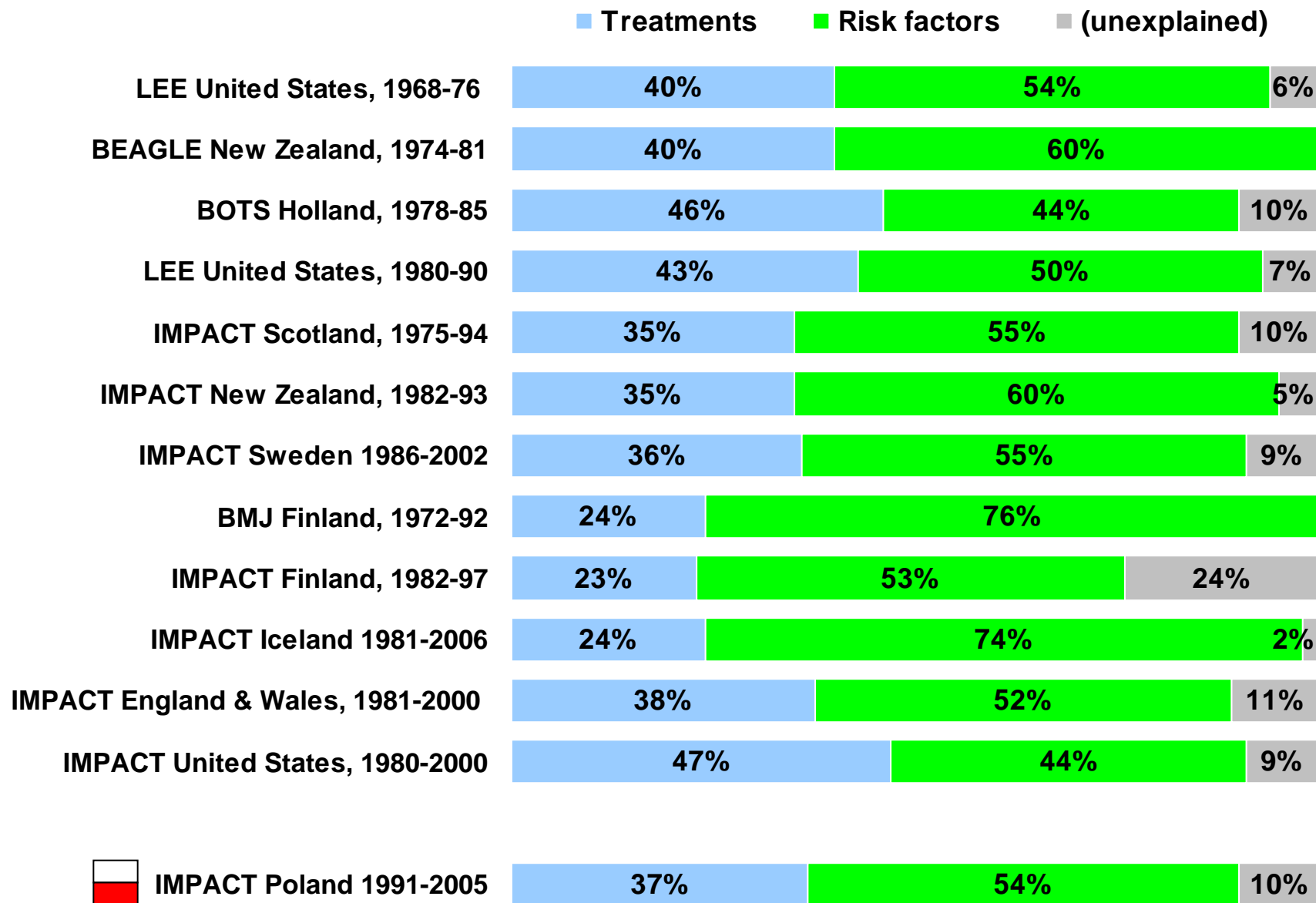
bar widths are proportional to absolute number of deaths prevented or postponed

Model fit in specific age and gender groups



Comparison with other countries:

% CHD mortality falls attributed to:





Summary

- Observed fall in CHD mortality in Poland was attributable approximately 54% to population risk factors changes and 37% to evidence based treatments
- There is still a great potential for further reduction of specific population risk factors, especially smoking in women and blood pressure in men



Limitations

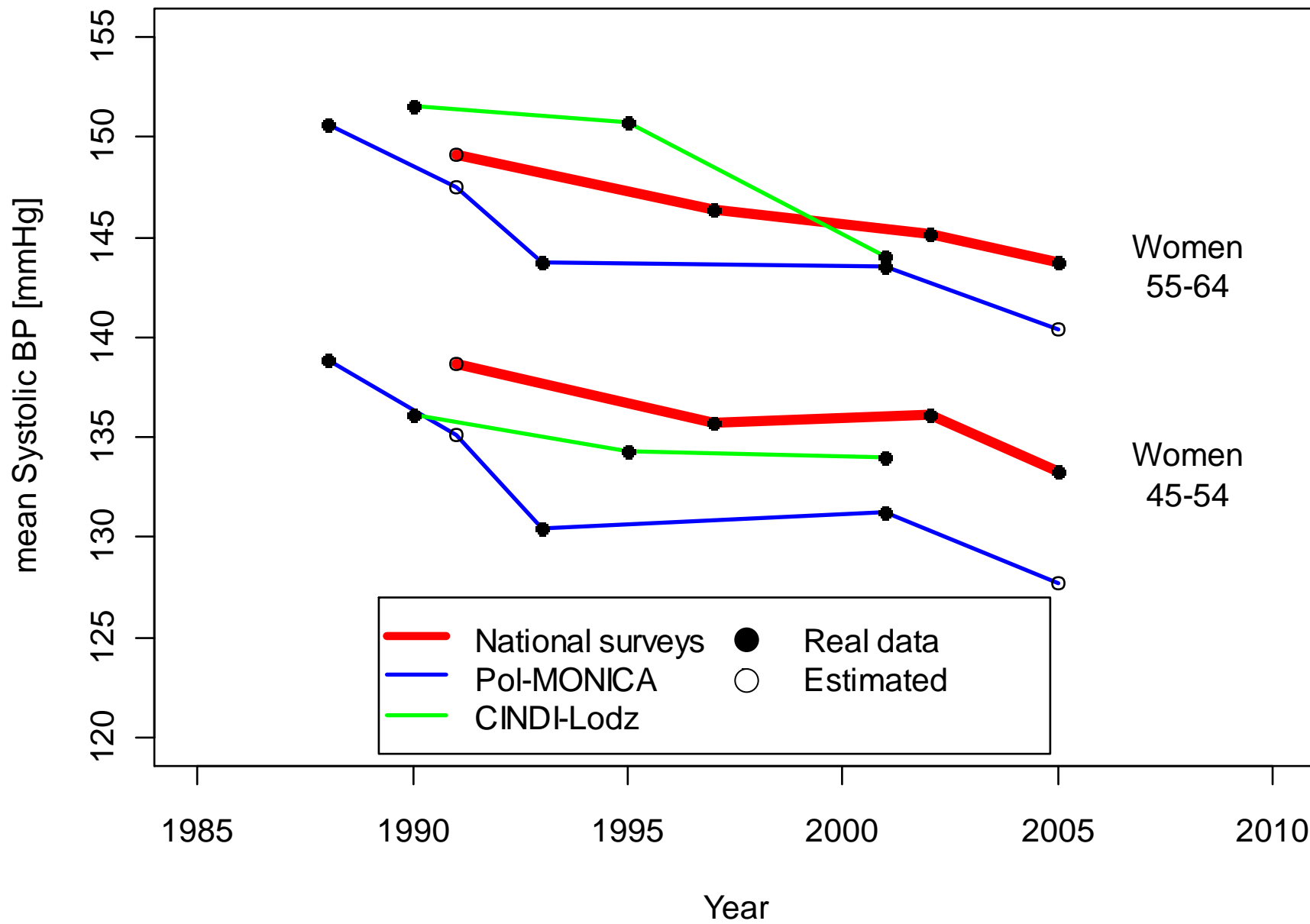
- Not optimal data quality for 1991
- Assumptions about efficacy/effectiveness
- Assumed short time lag between changes of population risk factors and mortality.







Systolic blood pressure trends in Poland



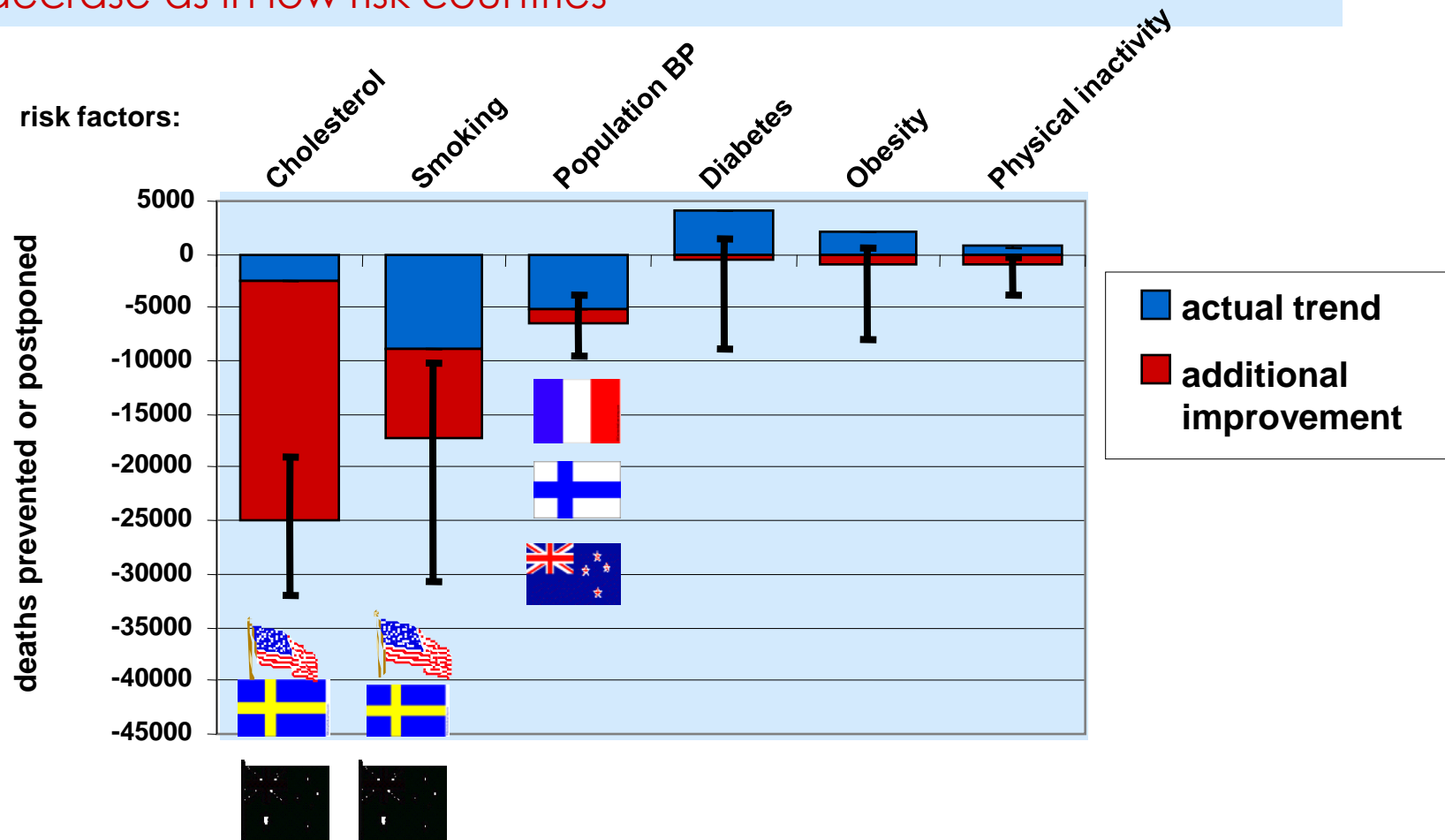
Further studies: Policy

Potential changes in mortality in England and Wales

In case risk factors:

a) change according to actual trend

b) decrease as in low risk countries

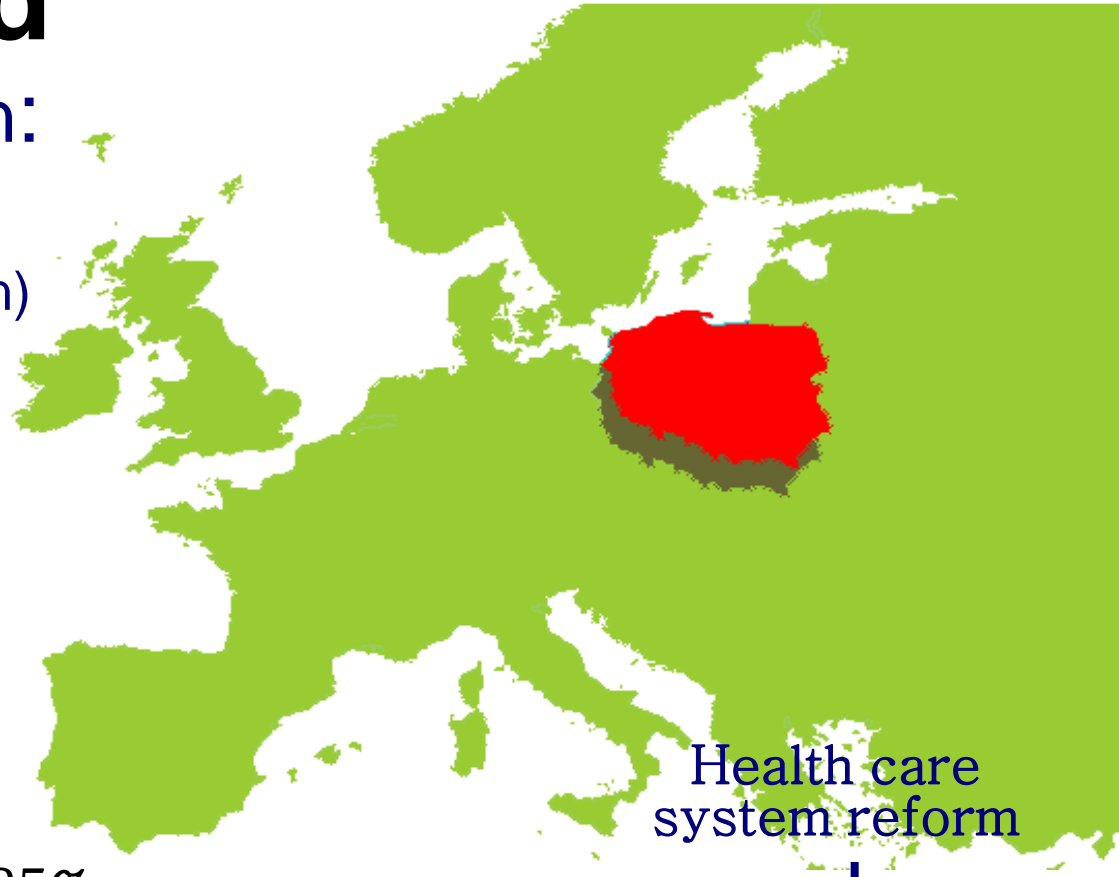


Poland

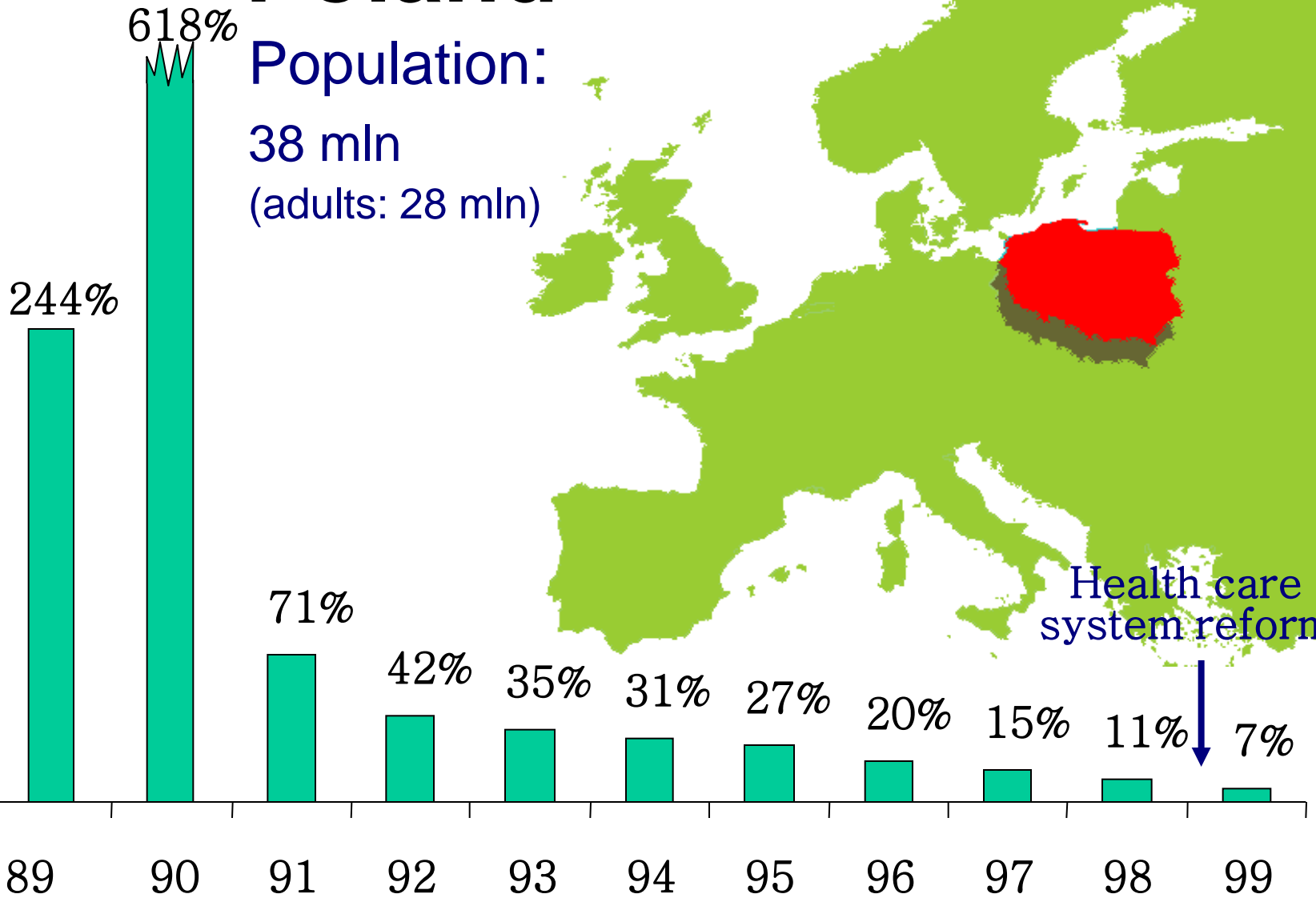
Population:

38 mln

(adults: 28 mln)



Health care system reform



Inflation rate in Poland in 90.s



Sources of epidemiological data

- **routine statistics** (PZH – mortality, hospital registry)
- **cross sectional studies** – Pol-MONICA, NATPOL PLUS, WOBASZ, others...
- **national registries** (KROK, PL-ACS)
- **expert opinions**