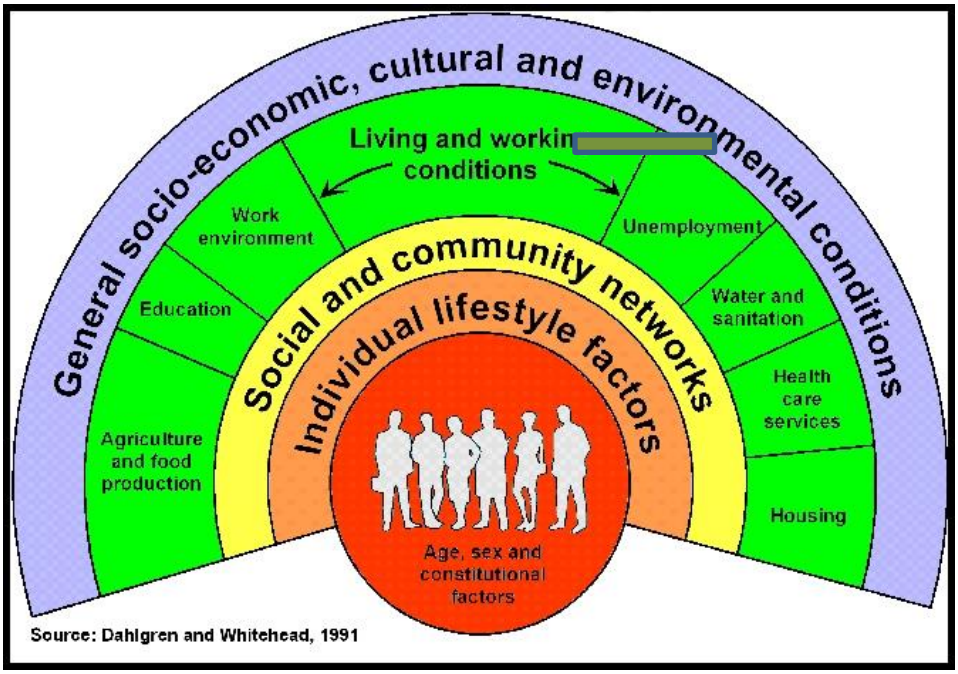
E4080 Demography and Social determinants of health

Practical 1

1. How would you characterise UNEMPLOYMENT – is it a risk factor or determinant of health?

2. In which part of model would unemployment fit best? Why?



3. How would you study the effect of unemployment on health in the Czech population?

    a. What type of study?
    b. What population group / sample …?
    c. Which health outcome?
    d. How would you measure this outcome?
    e. How would you measure unemployment?
    f. Which confounders you would take into account?
    g. What types of bias could affect the findings?

4. For the same question, please outline the design of
    a. Ecological study
    b. Cohort study
    c. Case-control study
    d. Cross-sectional study

5. The table show results of a Swedish study of unemployment and health. (Eur J Public Health. 2016 Oct; 26(5): 778–783).

Background: Mass unemployment in Europe is endemic, especially among the young. Does it cause mortality? **Methods:** We analyzed long-term effects of unemployment occurring during the deep Swedish recession 1992-96. Mortality from all and selected causes was examined in the 6-year period after the recession among those employed in 1990 (3.4 million). Direct health selection was analyzed as risk of unemployment by prior medical history based on all hospitalizations 1981-91. Unemployment effects on mortality were estimated with and without adjustment for prior social characteristics and for prior medical history.

HRs and 95% CI for those exposed to unemployment during the 1992–96 recession compared with those not exposed. All men in Sweden born 1931–65, employed in 1990 and alive on 31 December 1996 (n = 1 747 167).

Model 1: adjusted for birth year; Model 2: Model 1 + adjustment for social, family and employer characteristics. Model 3: Model 2 + adjustment for prior health status.

Men: mortality during the 1997–2002 post-recession period

Cause-of-death	No of deaths	HR (95% CI) Model 1	HR (95% CI) Model 2	HR (95% CI) Model 3
All causes	45 081	1.46 (1.43–1.49)	1.26 (1.23–1.29)	1.26 (1.23–1.28)
All cancer	15 923	1.21 (1.16–1.25)	1.13 (1.09–1.18)	1.14 (1.09–1.18)
Circulatory	15 639	1.31 (1.26–1.36)	1.11 (1.07–1.15)	1.13 (1.09–1.18)
IHD	9954	1.28 (1.22–1.34)	1.08 (1.03–1.13)	1.11 (1.06–1.17)
Stroke	2393	1.50 (1.37–1.65)	1.29 (1.17–1.42)	1.32 (1.20–1.46)
External	5664	2.05 (1.94–2.17)	1.67 (1.58–1.77)	1.59 (1.50–1.69)
Suicide	2419	1.74 (1.60–1.90)	1.48 (1.36–1.62)	1.43 (1.31–1.56)
Transport	953	1.50 (1.30–1.72)	1.33 (1.15–1.53)	1.30 (1.13–1.50)
Alcohol related	960	3.22 (2.83–3.66)	2.33 (2.04–2.66)	2.16 (1.89–2.47)

Women: mortality during the 1997–2002 post-recession

Cause-of-death	No of deaths	HR (95% CI) Model 1	HR (95% CI) Model 2	HR (95% CI) Model 3
All causes	26 183	1.12 (1.09–1.16)	1.03 (0.99–1.06)	1.03 (1.00–1.07)
All cancer	15 292	1.05 (1.00–1.10)	1.00 (0.96–1.05)	1.01 (0.96–1.05)
Circulatory	4948	1.01 (0.94–1.10)	0.89 (0.82–0.96)	0.91 (0.84–0.99)
IHD	2287	1.04 (0.93–1.18)	0.90 (0.80–1.02)	0.94 (0.83–1.06)
Stroke	1432	1.05 (0.91–1.22)	0.93 (0.80–1.08)	0.94 (0.81–1.10)
External	1912	1.47 (1.33–1.64)	1.24 (1.11–1.39)	1.17 (1.05–1.31)
Suicide	914	1.39 (1.19–1.62)	1.16 (0.99–1.36)	1.08 (0.92–1.27)
Transport	260	0.94 (0.69–1.30)	0.90 (0.65–1.24)	0.89 (0.64–1.23)
Alcohol related	314	2.32 (1.80–3.20)	1.97 (1.53–2.53)	1.91 (1.48–2.46)

a. Describe and interpret the results.

b. What are the differences in results between modesl modely 1, 2 and 3? Why?

6. Would it be possible to study this question in an *interventional* study? Can you outline such a study?

IF THERE IS TIME

7. Read the article “Money for nothing” (Guardian 12.1.2018). What do you think about this study?

    a. Design?
    b. Size?
    c. Likelihood to show beneficial effects on health?
    d. Other ideas?