

Social Differences in Changes of Quality of Life, Activities of Daily Living, and Social Participation after Diagnosis of a Chronic Condition

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FOPH-Report: Health state of the elderly in Switzerland

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Gesundheit der älteren Bevölkerung in der Schweiz

Eine Studie basierend auf Daten des Survey of Health, Ageing and Retirement in Europe (SHARE) im Auftrag des Bundesamts für Gesundheit

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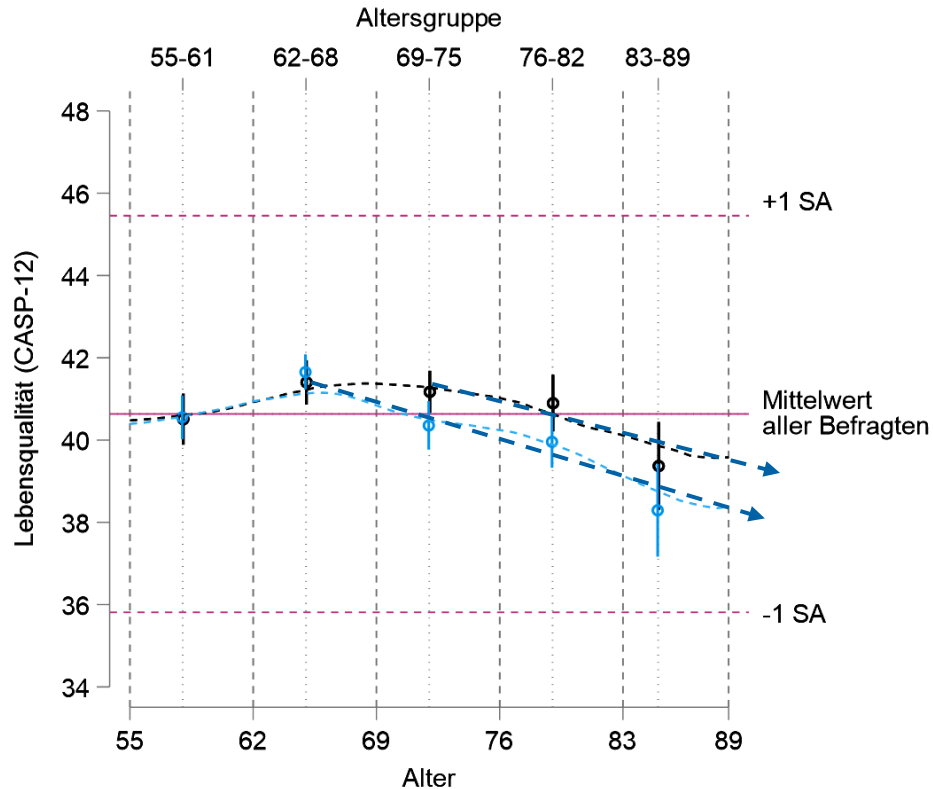
BAG-Bericht zu Gesundheitszustand der Schweizer Bevölkerung ab 55 Jahren basierend auf SHARE-Daten

Mit besonderem Fokus auf...

- Chronische Erkrankungen (Non-Communicable Diseases, NCDs)
- Lebensqualität
- Alltagsautonomie
- Gesundheitsverhalten und Ernährung
- gesundheitliche Ungleichheiten hinsichtlich der sozio-demografischen Faktoren Einkommen, Bildungsniveau, Migrationsgeschichte und Haushaltssituation

FOPH-Report: Central outcome quality of Life

Lebensqualität (CASP 12) nach Alter und Geschlecht



Quelle: SHARE 6, N=2537

Punktschätzer mit 95%-Konfidenzintervall für Altersgruppen. Gestrichelte Linien sind gleitende Mittelwerte für die einzelnen Jahrgänge. Dass die Punktschätzer nahe bei den jeweiligen gleitenden Mittelwerten liegen, zeigt, dass die gewählte Gruppierung von Altersjahren ein korrektes Bild wiedergibt. SA: Standardabweichung, beträgt in der untersuchten Population 4,8 Punkte.

- Lebensqualität als «übergreifendes» Konzept variiert insgesamt wenig über die Altersgruppen.
- Leichte Zunahme mit Pensionierung
- langsame Abnahme mit zunehmendem Alter, etwas stärker bei Frauen

Männer:

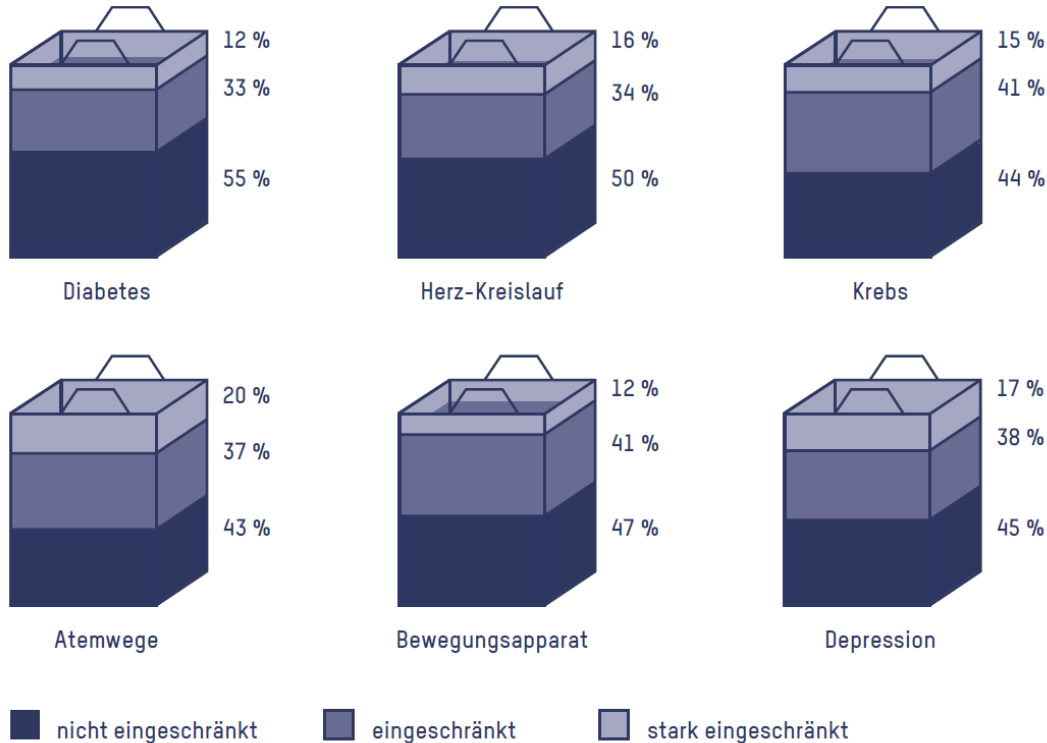
- Wert für Altersgruppe
- Gleitender Mittelwert

Frauen:

- Wert für Altersgruppe
- Gleitender Mittelwert

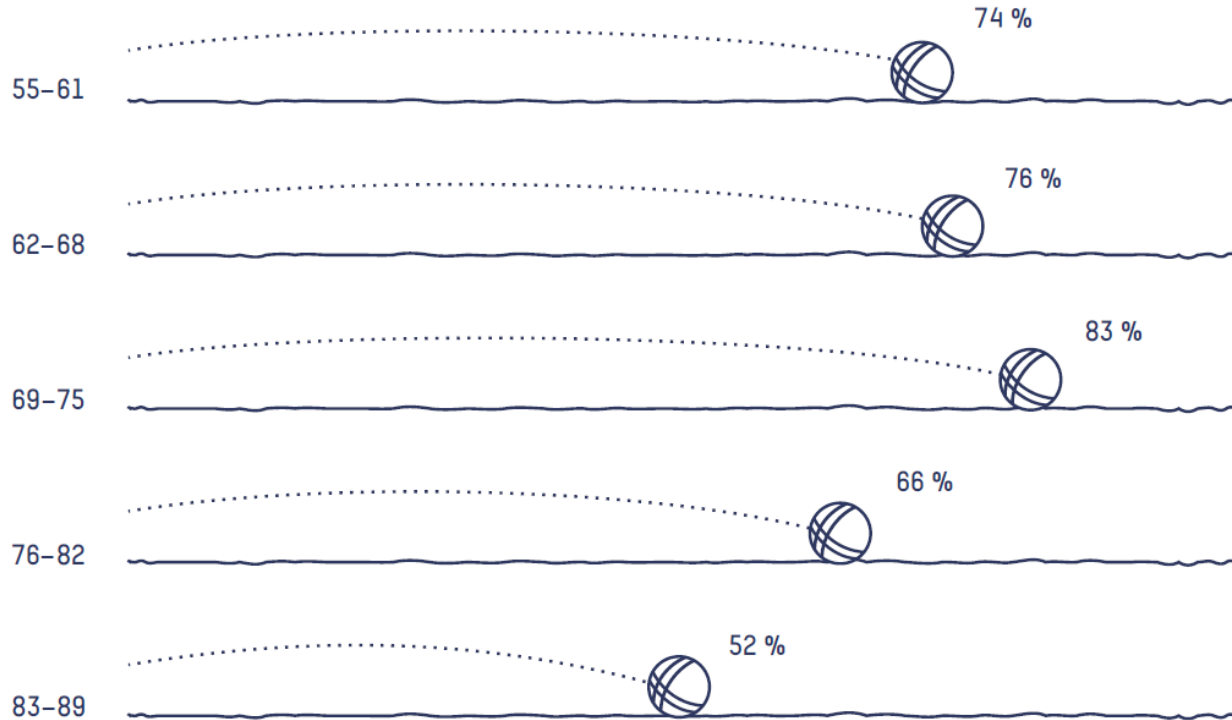
FOPH-Report: Autonomy in everyday life with NCD

Grafik 10: Alltagsautonomie bei Personen ab 55 Jahren, SHARE 2014 nach NCD-Gruppen

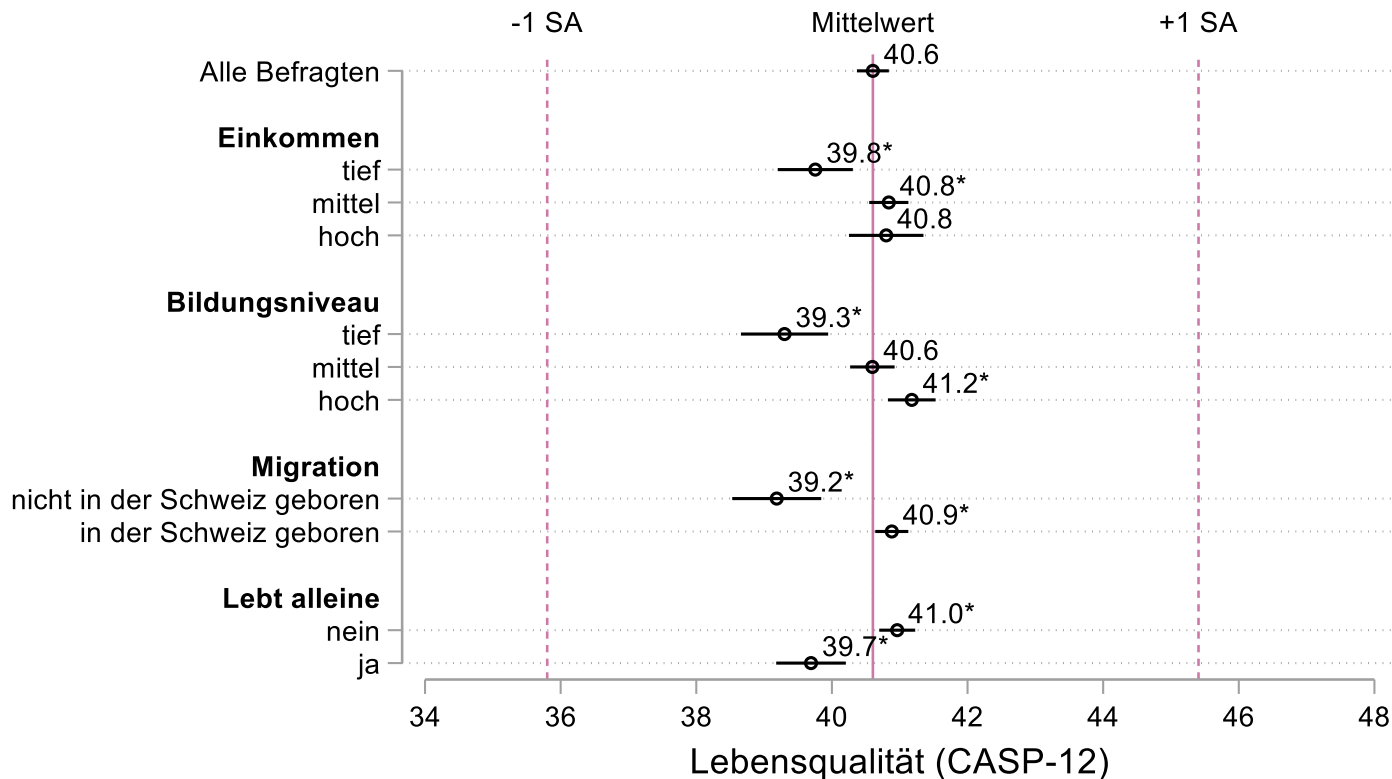


FOPH-Report: Social activities

Grafik 12: Soziale Aktivität (ehrenamtliche Tätigkeit, Weiterbildung, Vereinsaktivität) bei Männern, SHARE 2
% der Befragten, nach Altersgruppen



FOPH-Report: Quality of life by social groups



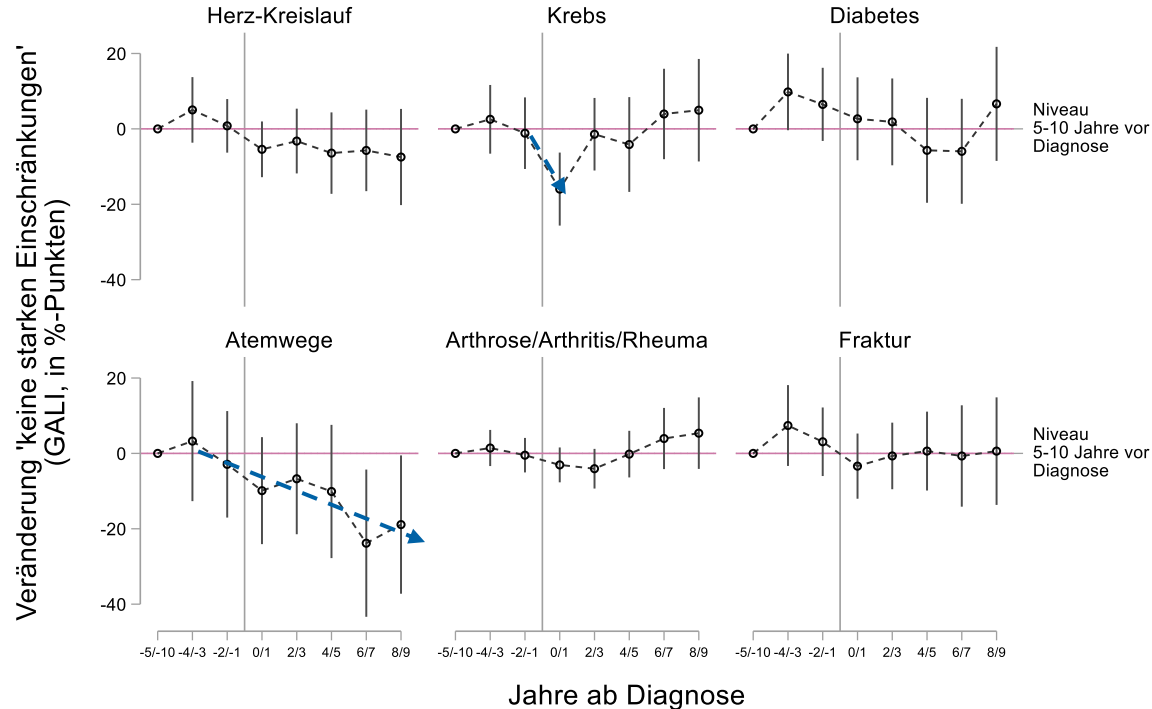
Quelle: SHARE 6, N=2262

Anteilsschätzer mit 95%-Konfidenzintervall, adjustiert auf Geschlecht und Alter. SA: Standardabweichung, beträgt in der untersuchten Population 4.8 Punkte.

* Wert weicht statistisch signifikant auf dem 5%-Niveau vom Mittelwert aller Befragten ab.

FOPH-Report: Autonomy in everyday life after NCD-diagnosis

Veränderung der Alltagsautonomie nach NCD Diagnose. Panel-fixed-effects Schätzer, adjustiert für Alter und andere NCDs.



Quelle: SHARE Wellen 1-6, mehr als 10'000 Beobachtungen von über 4000 Personen (variiert nach NCD)

Fixed-Effects-Schätzer mit 95%-Konfidenzintervall. Sämtliche zeit-invarianten Individualmerkmale sind kontrolliert, zusätzlich adjustiert für Alter und andere NCDs. SA: Standardabweichung, beträgt in der untersuchten Population 4.8 Punkte.

«Social factors» and the consequences of suffering from a chronic condition on patients

- Socio-economic background, education, and social integration of the patient, so-called “social determinants of health”, have been shown to influence the risk of suffering from a chronic condition such as diabetes out of various reasons:
 - unhealthy lifestyle
 - poor working and living conditions
 - limited access to health care etc. (e.g. Cockerham et al. 2017)
- But social factors not only affect the risk of developing a chronic condition; **they also influence how patients cope with their affliction, and how much formal and informal support they receive** (e.g. Höfelmann et al. 2017).
- **Consequences of chronic conditions on persons’ lives, on their perceived quality of life and autonomy are, hence, moderated by their material resources, cultural capital and social integration.**
- Previous research indicates that quality of life impairment caused by chronic conditions differs between socioeconomic groups (Galenkamp 2019)

Consequences on patients' health state and everyday life

- Poor disease management increases the prevalence of comorbidities and disabilities in mobility, ADL and IADL (Bourdel-Marchasson et al. 1997)
- This may impair patient's autonomy and their health-related quality of life (Brown et al. 2000 & Ose et al. 2011 & Redekop et al. 2002)
- Those living alone may suffer disproportionately from disease-related complications such as isolation due to treatment (Bourdel-Marchasson et al. 2007).
- Diabetes patients in a high socioeconomic bracket may be able to manage their disease better than those with a low-income, poor educational background (Larsson, 1999)
- Good disease management can be obtained with structured treatment programmes and by targeting vulnerable subgroups such as those with lower level educational background and with unbalanced diabetes (Ose et al. 2011 & Wayne et al. 2015)

Research questions

- How much are effects of chronic conditions on patients health state and on their daily lives moderated by social factors such as income, education and social integration?
- Our strategy to answer this is by comparing changes in relevant patient outcomes after the diagnosis of a chronic condition between different socio-economic groups.

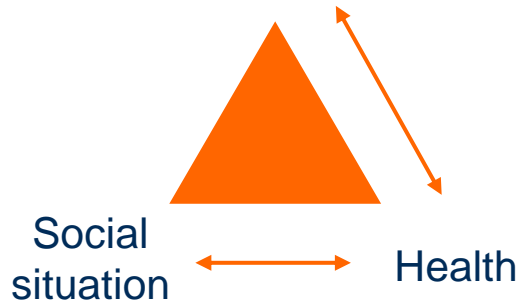
Data: Survey of Health, Ageing, and Retirement in Europe



Interdisciplinary study

- Thematically broad survey of the older population (here: 55+)
- **Contextualization** of health
- Various **patient-centered outcomes** such as quality of life or autonomy

Socio-economic resources



NCDs

- Deceases are self-reported using the following question: “Has a doctor told you that you suffer from ...**[long list of NCDs]**”

Panel / Longitudinal Design

- Bi-annual waves since 2004
- **Health trajectories** over a period of up to 10 years
- E.g., analyses of quality of life before, at the onset and during the course of a disease

Sample

All countries participating in the first 6 SHARE waves: Austria, Belgium, Denmark, France, Germany, Italy, the Netherlands, Spain, Sweden and Switzerland

Limitations

- Very limited information on deceased person (e.g., no analyses of heterogeneous mortality).
- Individuals with very bad health not able/willing to participate (⇒ bias toward good health).



Outcomes: subjective health, grip strength, strong pains

Good perceived health (SF-36, Ware and Gandek 1998)

- Good, very good, or excellent health vs. fair or poor health

Would you say your health is...	<ol style="list-style-type: none"> 1. Excellent 2. Very good 3. Good 4. Fair 5. Poor
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Severe pains – Item from the Brief Pain Inventory (Cleeland & Ryan, 1991; 1994).

Question text	Response options
Are you troubled with pain?	<ol style="list-style-type: none"> 1. Yes 5. No
How bad is the pain most of the time? Is it...	<ol style="list-style-type: none"> 1. Mild 3. Moderate 5. Severe

Grip strength (Andersen-Ranberg et al. 2009)
 Predictor of disability, morbidity, frailty and mortality. Measured with a handheld dynamometer. We use the maximum value of the grip strength measurements of both hands.

Outcomes: Severe limitations (GALI), quality of life (CASP), social participation

Quality of life (CASP, Hyde et al. 2003)

- index consisting of four subscales: control, autonomy, self-realization and pleasure

Question text	Subscale
How often do you think your age prevents you from doing the things you would like to do?	Control
How often do you feel that what happens to you is out of your control?	Control
How often do you feel left out of things?	Control
How often do you think that you can do the things that you want to do?	Autonomy
How often do you think that family responsibilities prevent you from doing what you want to do?	Autonomy
How often do you think that shortage of money stops you from doing the things you want to do?	Autonomy
How often do you look forward to each day?	Pleasure
How often do you feel that your life has meaning?	Pleasure
How often, on balance, do you look back on your life with a sense of happiness?	Pleasure
How often do you feel full of energy these days?	Self-Realization
How often do you feel that life is full of opportunities?	Self-Realization
How often do you feel that the future looks good for you?	Self-Realization

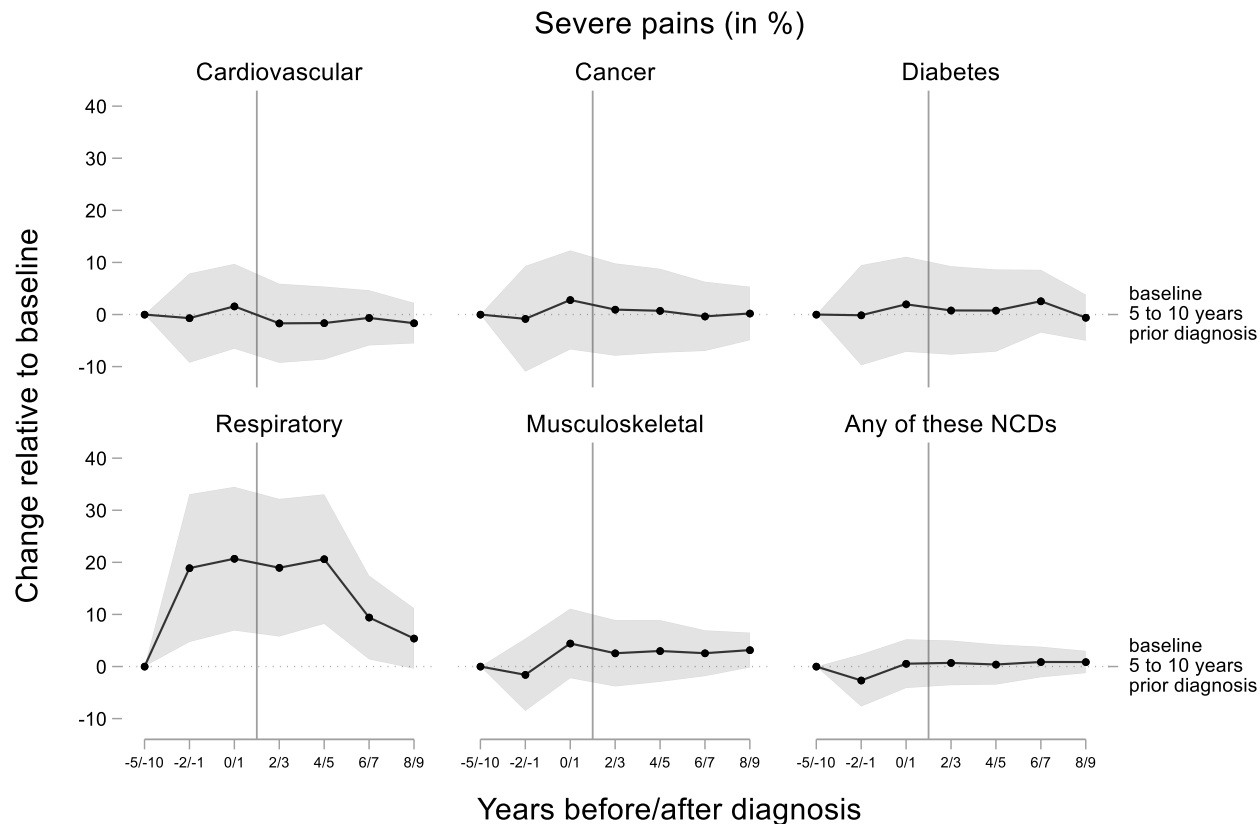
Severe limitations in activities of daily living (GALI, Robine & Jagger 2003)

Question text	Response options
For the past 6 months at least, to what extent have you been limited because of a health problem in activities people usually do?	<ol style="list-style-type: none"> 1. Severely limited 2. Limited, but not severely 3. Not limited

Social Participation – Took part in at least one of the following activities last year:

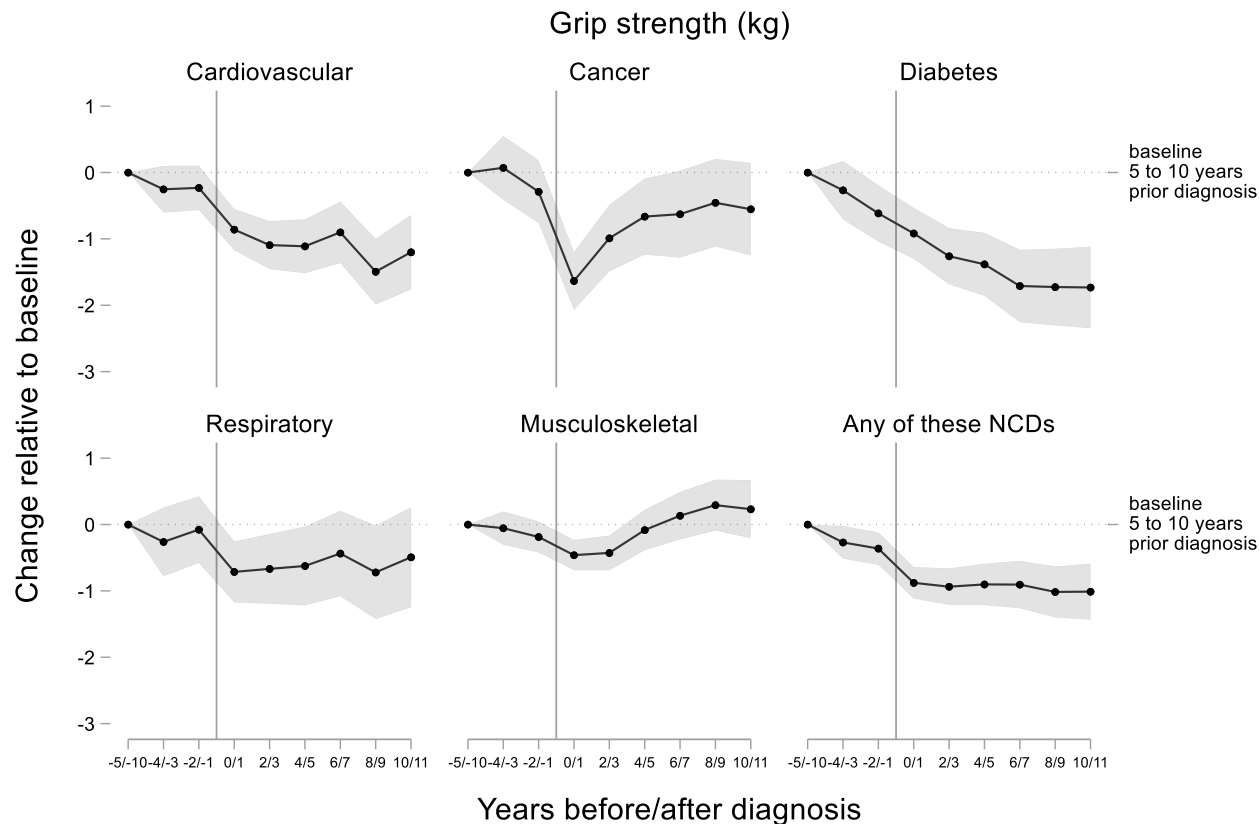
- voluntary or charity work
- attended an educational or training course
- gone to a sport, social or other kind of club

Trajectories in «Severe pains» after NCD-diagnosis



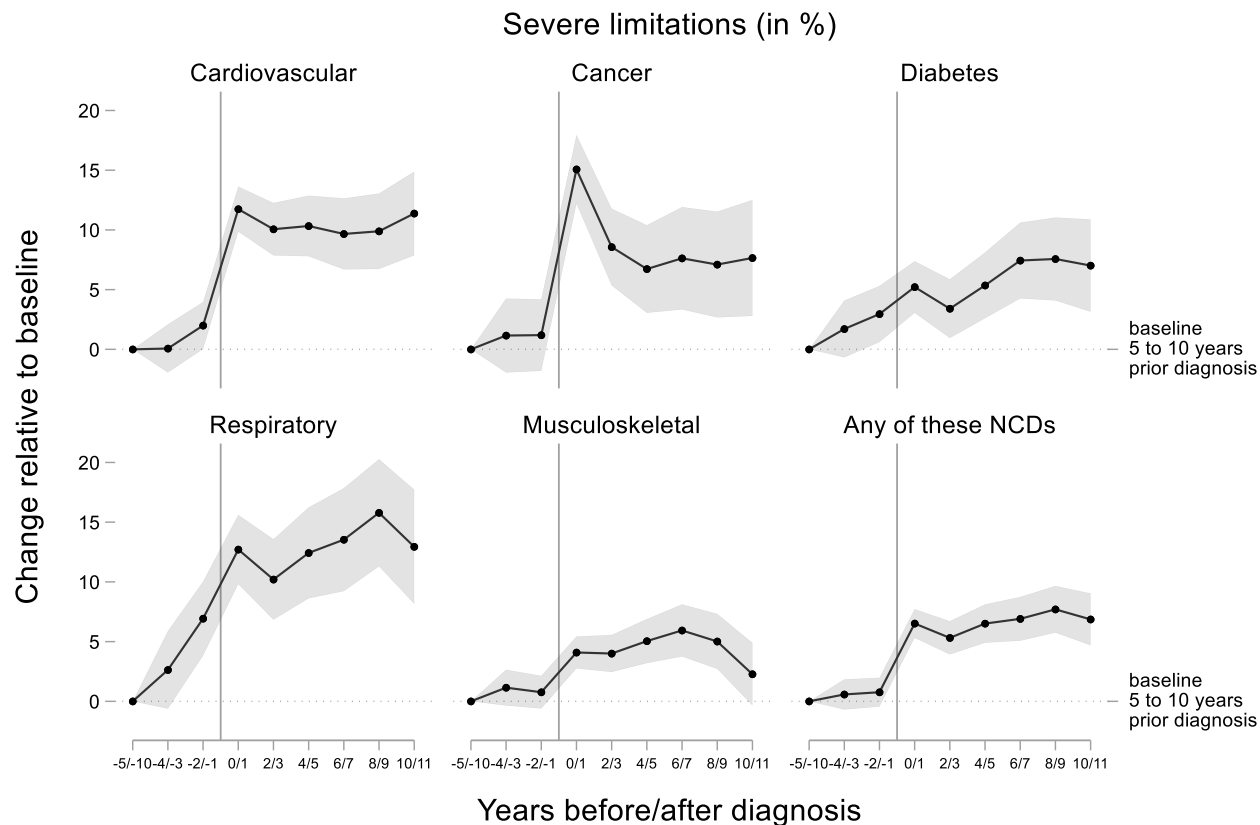
Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 10 years before to 11 years after diagnosis.

Trajectories in «Grip strength» after NCD-diagnosis



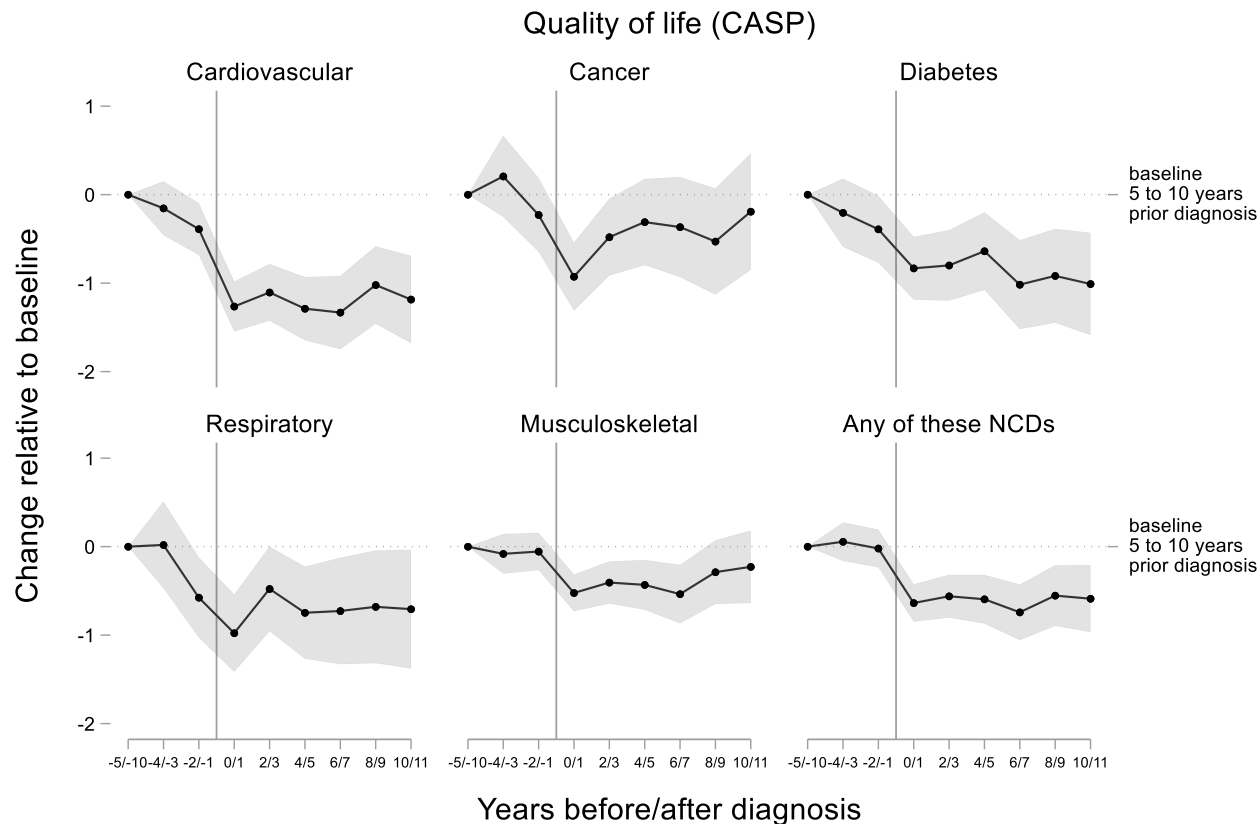
Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 10 years before to 11 years after diagnosis.

Trajectories in «Severe limitations (GALI)» after NCD-diagnosis



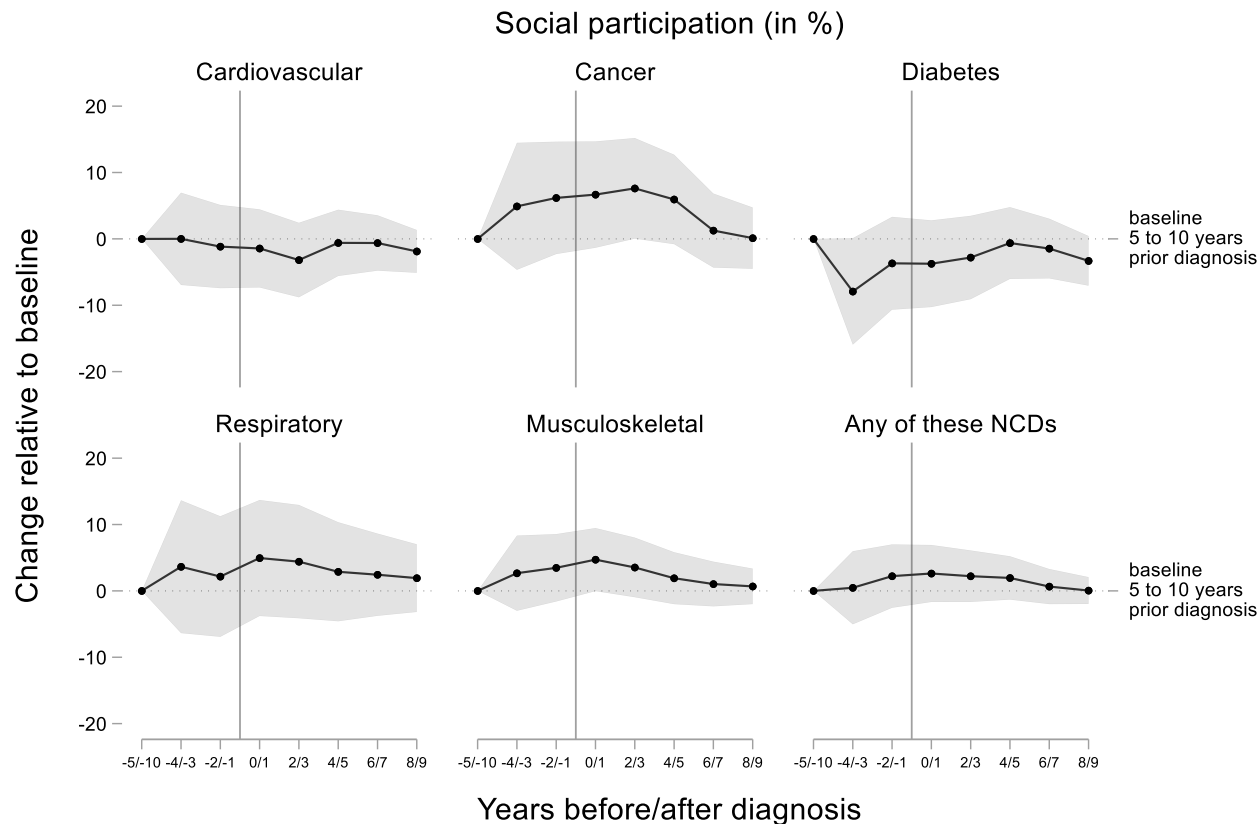
Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 10 years before to 11 years after diagnosis.

Trajectories in «Quality of life» after NCD-diagnosis



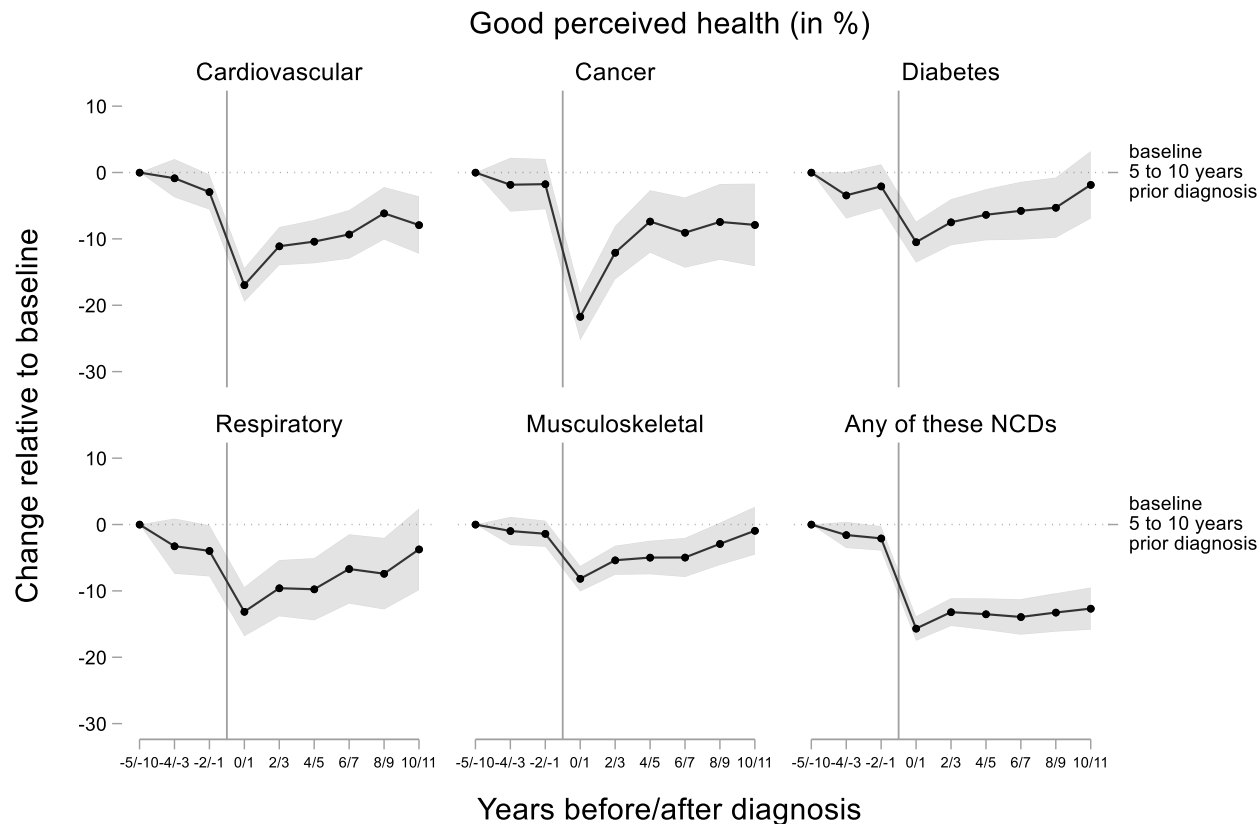
Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 10 years before to 11 years after diagnosis.

Trajectories in «Social participation» after NCD-diagnosis



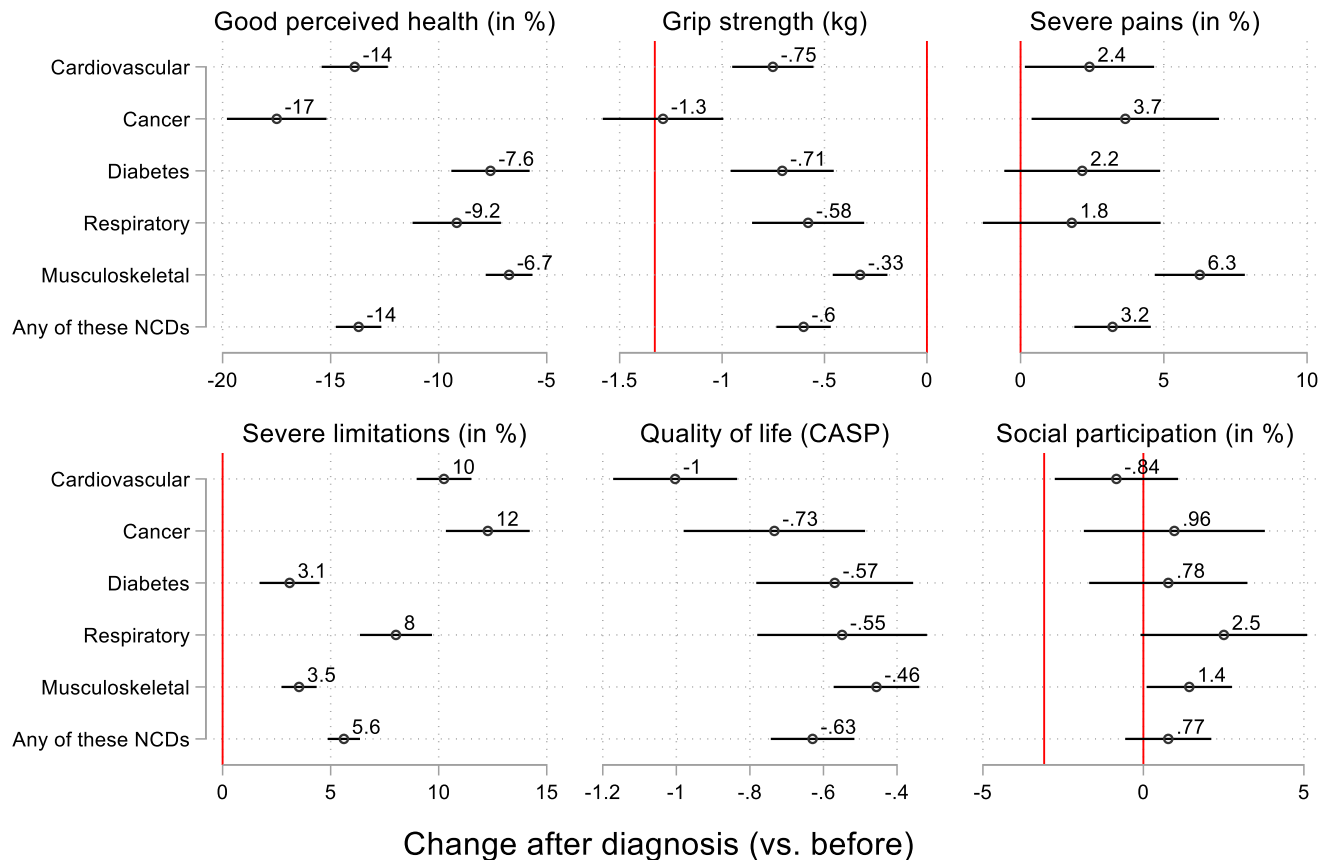
Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 10 years before to 11 years after diagnosis.

Trajectories in «Good perceived health» after NCD-diagnosis



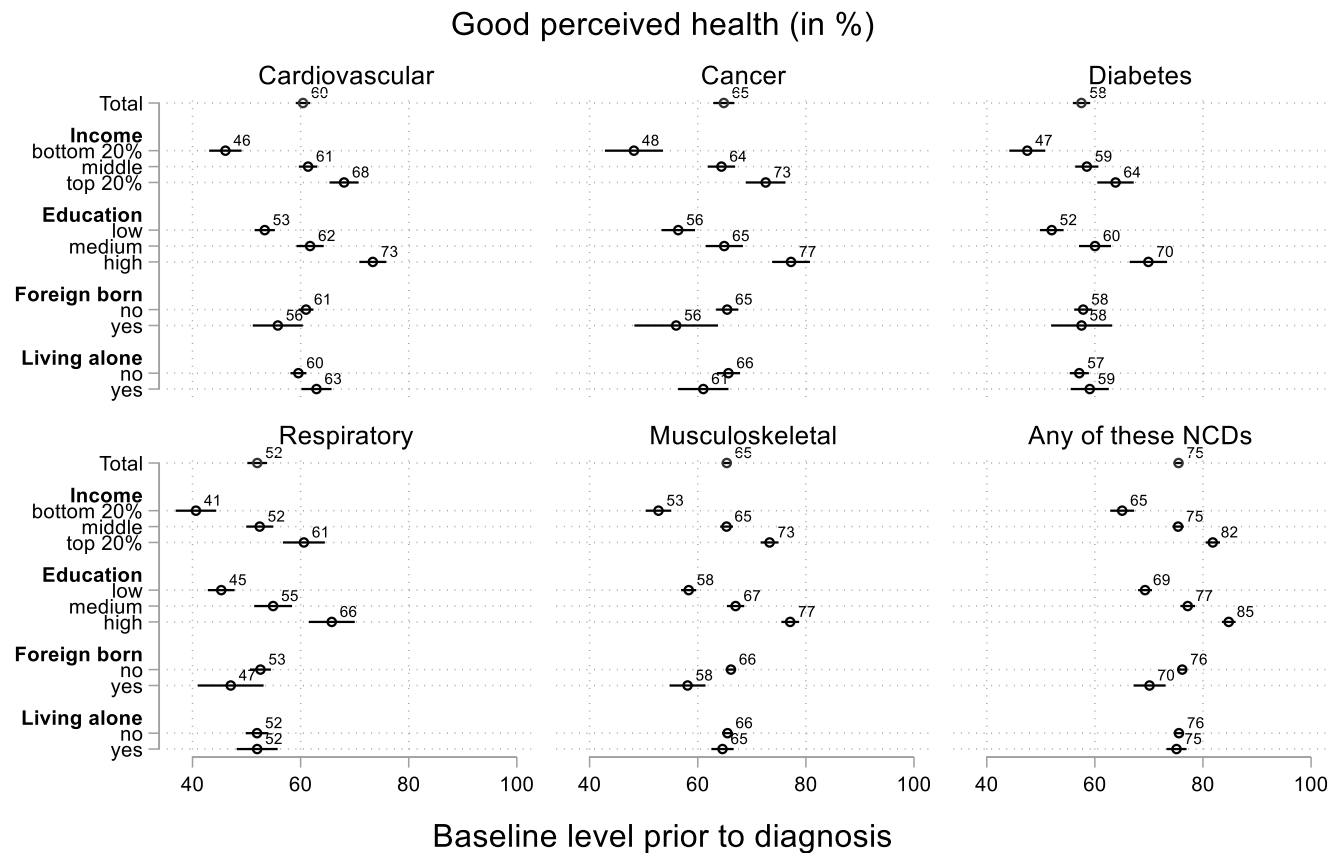
Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 10 years before to 11 years after diagnosis.

Changes in outcomes after NCD-diagnosis



Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

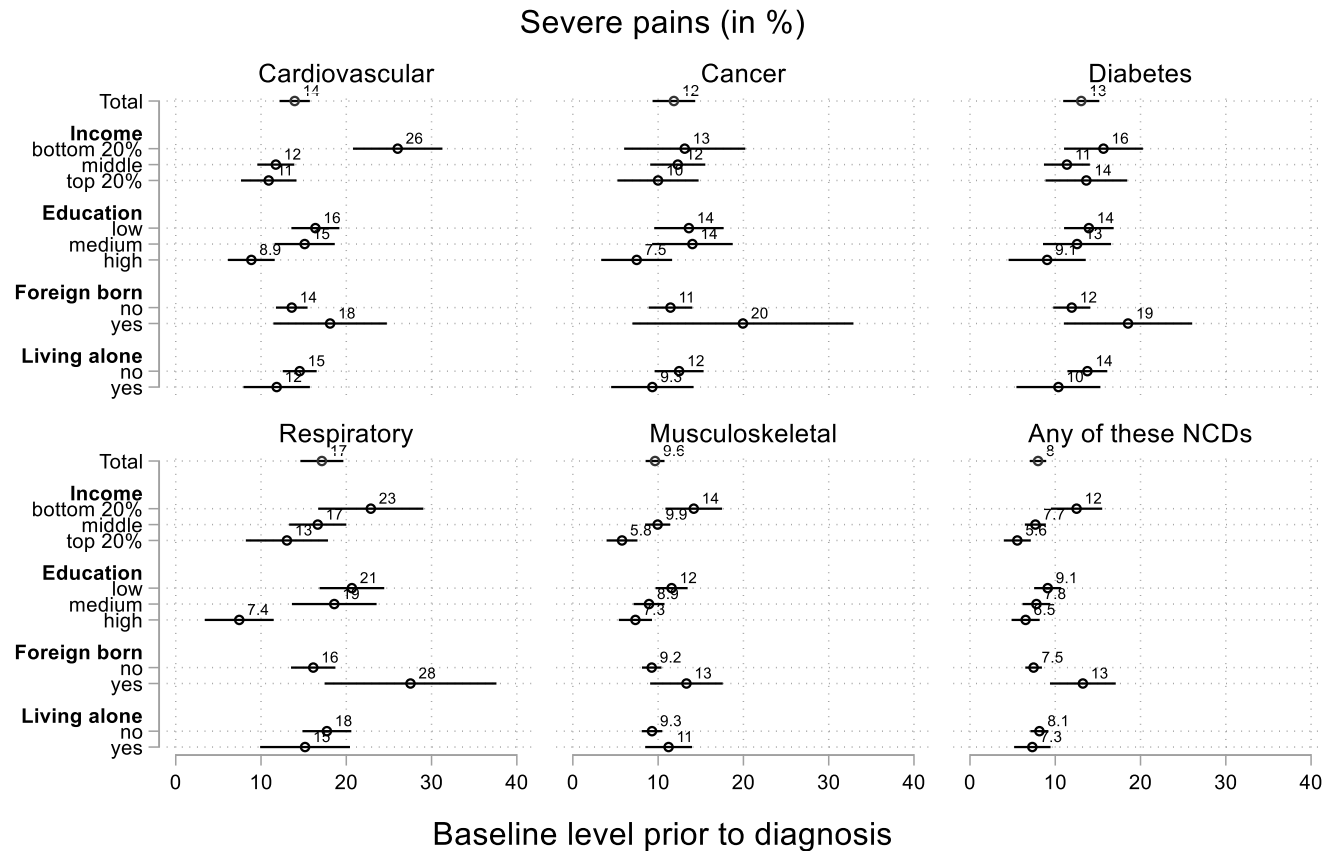
Baseline differences prior to NCD-diagnosis



> ci: inc:any; edu:any; mig:any; ab:any;

Random-Effects-Estimates with 95%-CI. Adjusted for age, gender, and survey-year.

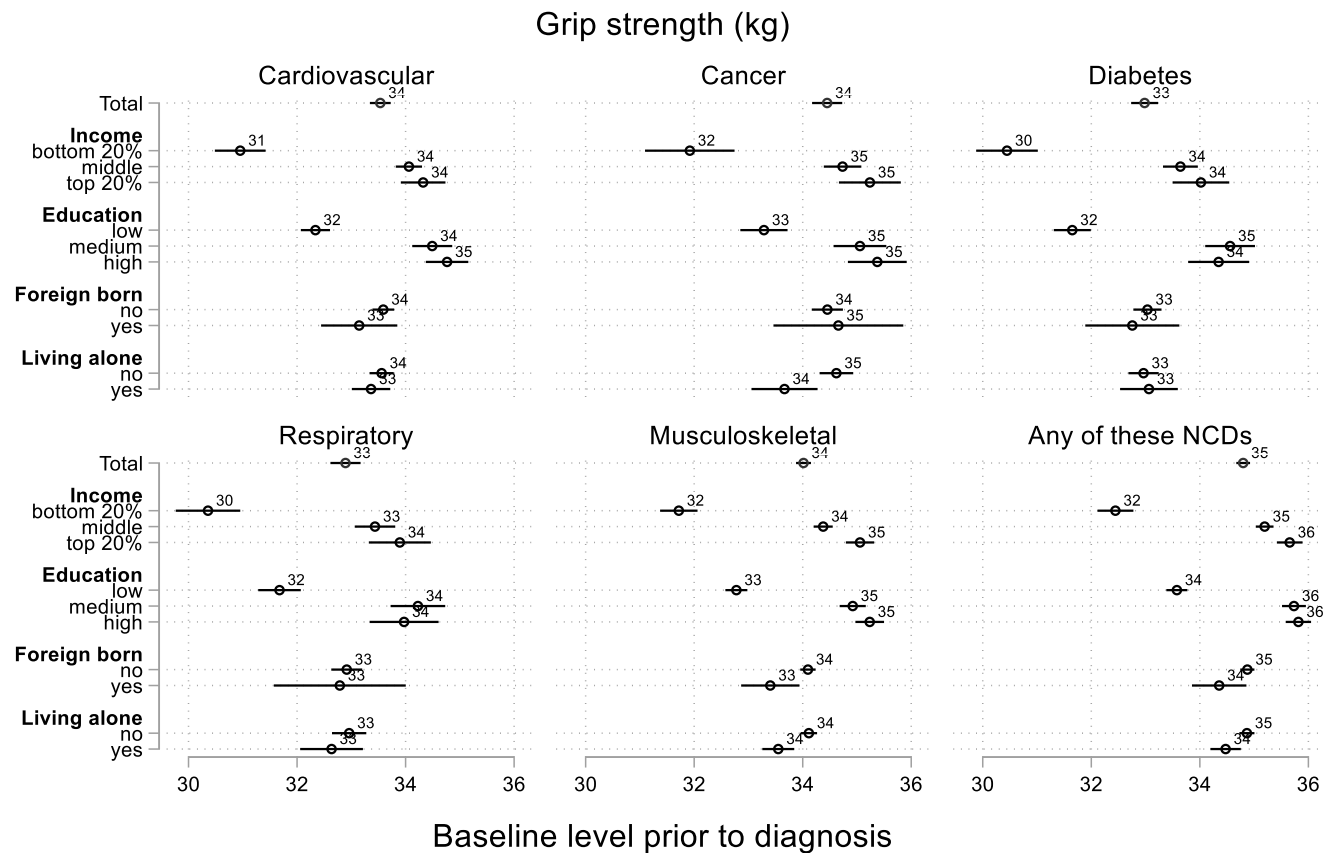
Baseline differences prior to NCD-diagnosis



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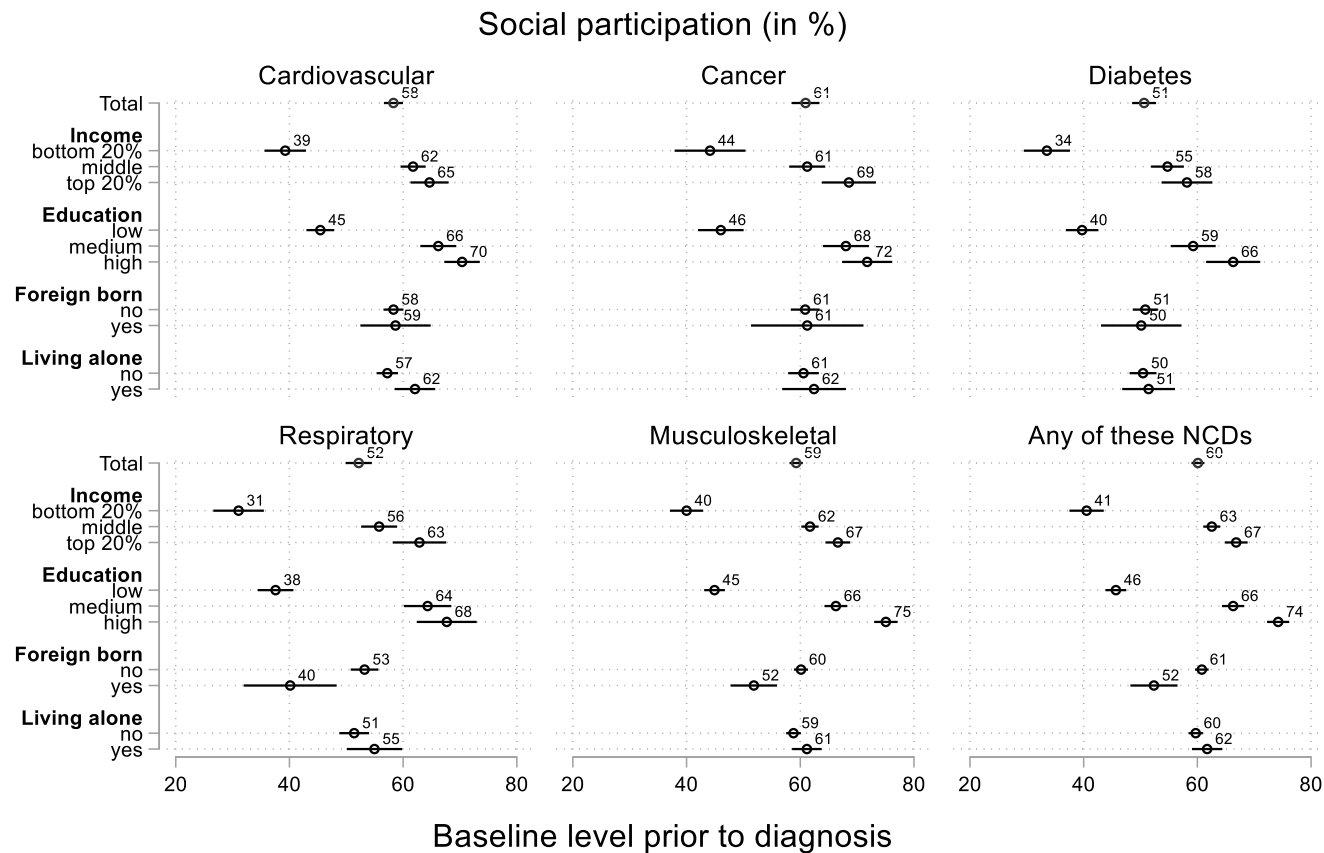
Random-Effects-Estimates with 95%-CI. Adjusted for age, gender, and survey-year.

Baseline differences prior to NCD-diagnosis



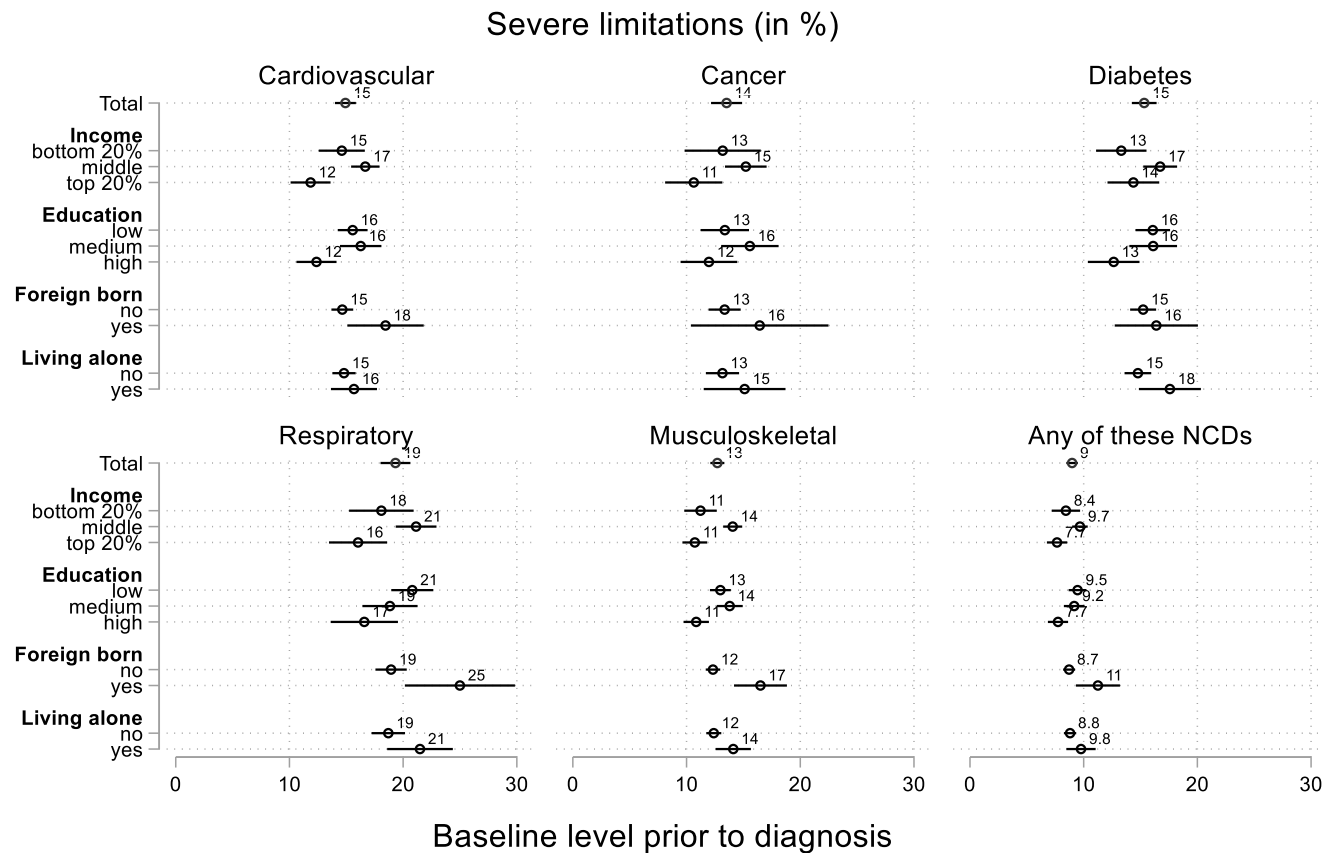
> ci: income; edu:edu; mig:mig; ab:ab;

Baseline differences prior to NCD-diagnosis



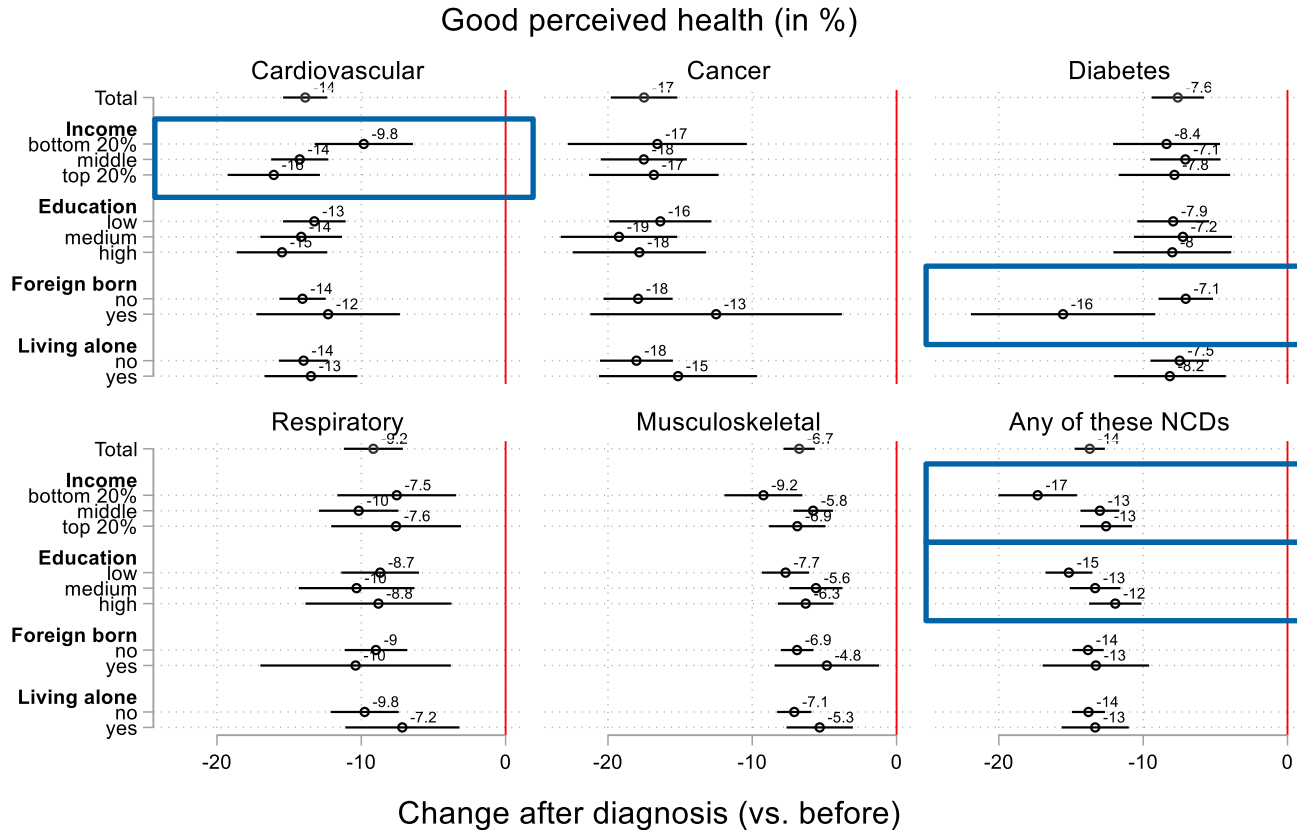
F-Test significant at 95% level: inc-cardio; edu-cardio; mig-cardio; inc-cancer; edu-cancer; mig-cancer; inc-dab; edu-dab; mig-dab; inc-respi; edu-respi; mig-respi; inc-musco; edu-musco; mig-musco; inc-any; edu-any; mig-any; ab-any.

Baseline differences prior to NCD-diagnosis



> ci: income; edu: any; ab: any

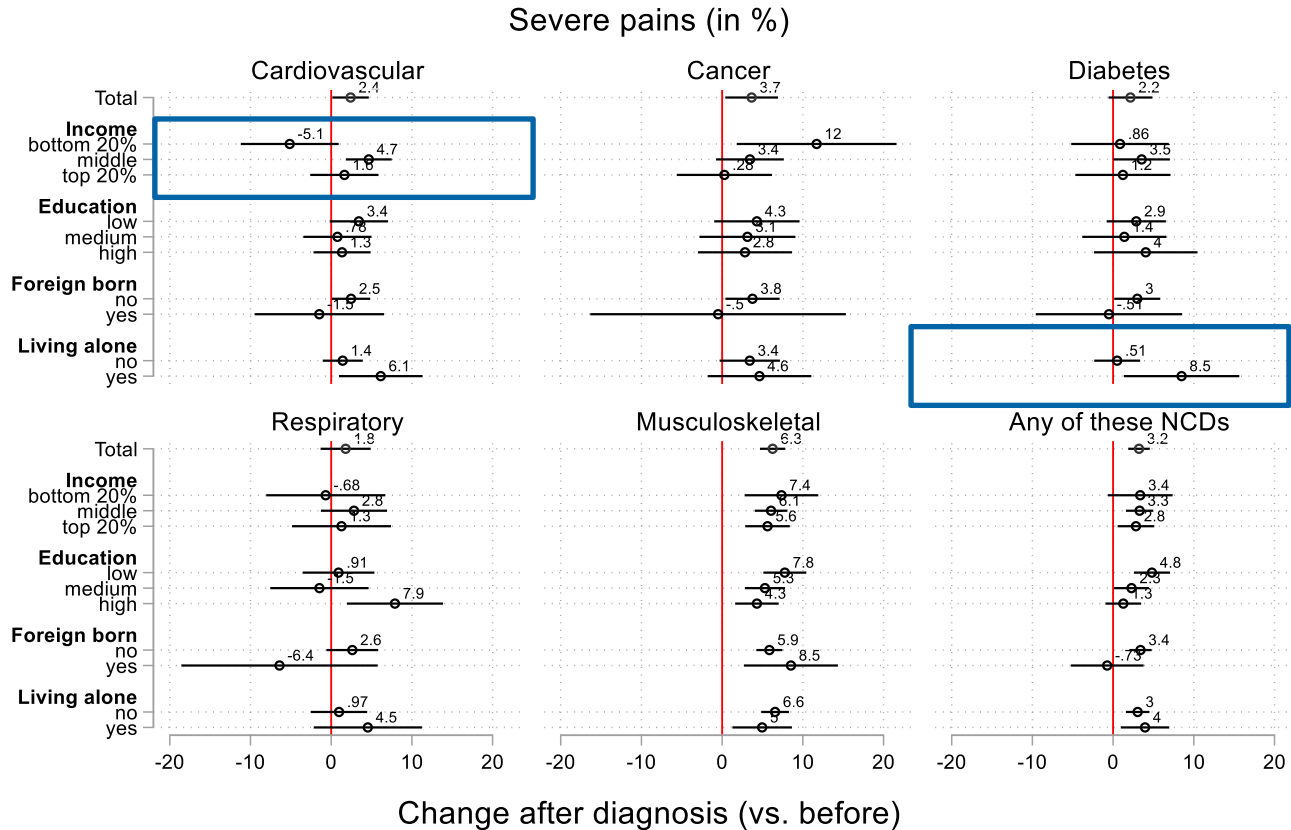
Change in outcomes after NCD-diagnosis by social groups



F-Test significant at 95%-level: inc for cardio; mig for diab; inc for any; edu for any;

Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

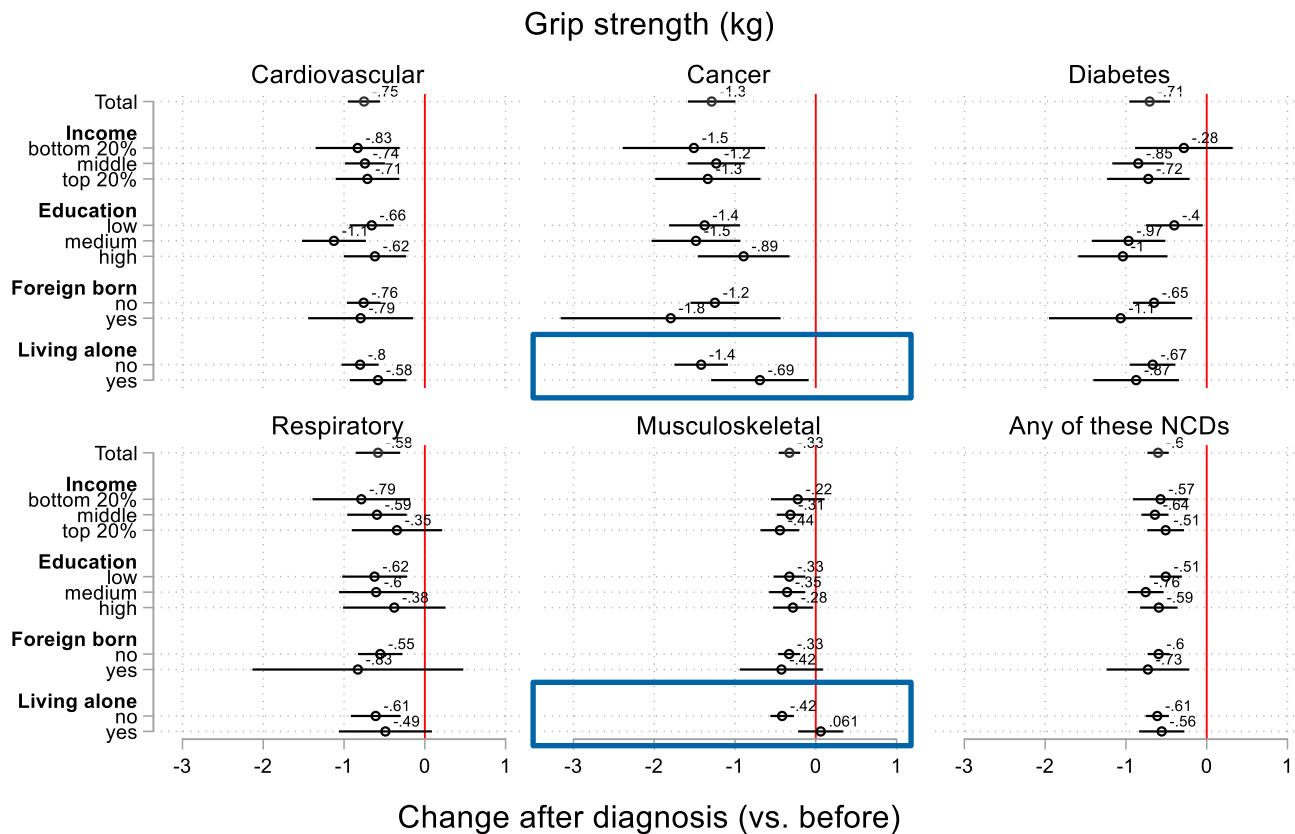
Change in outcomes after NCD-diagnosis by social groups



F-Test significant at 95%-level: inc for cardio; alo for diab;

Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year.
 Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

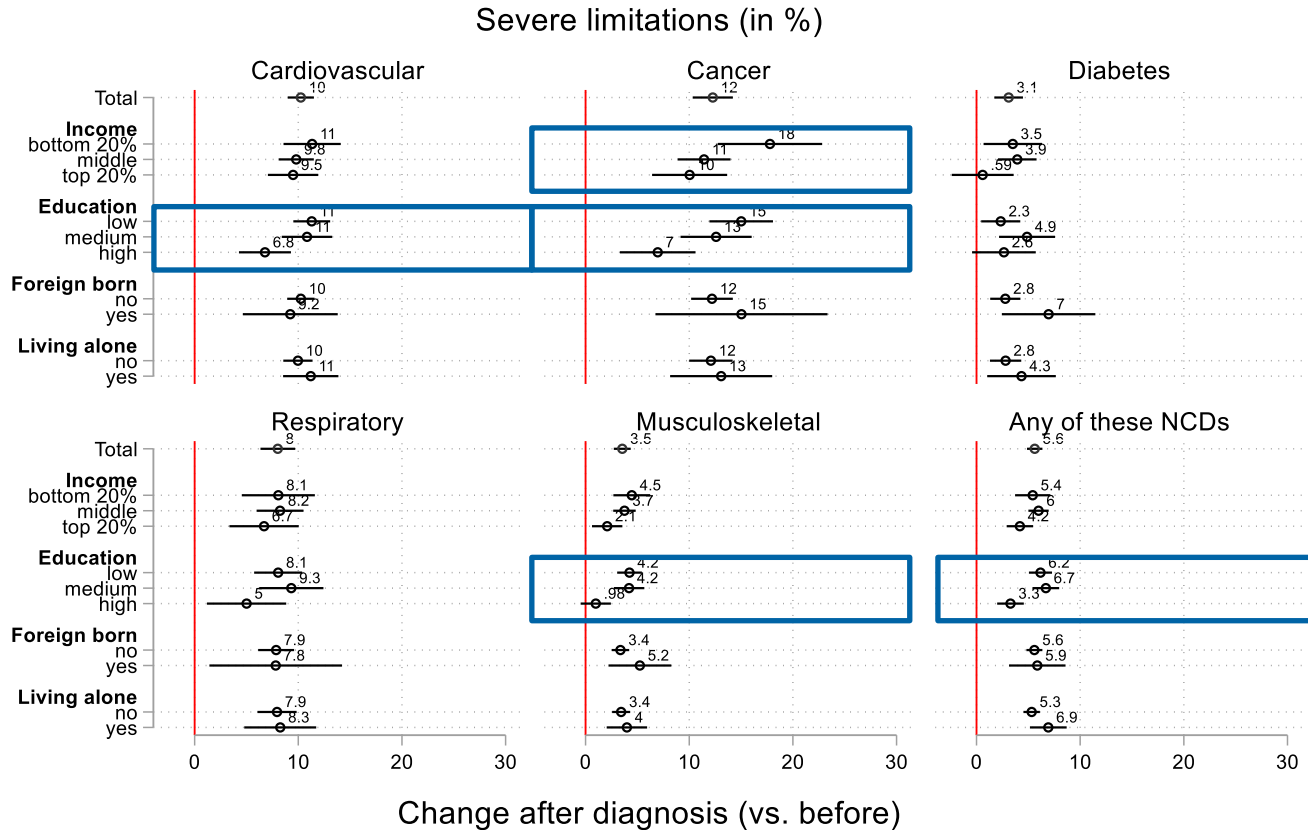
Change in outcomes after NCD-diagnosis by social groups



F-Test significant at 95%-level: alo for cancer; alo for musco;

Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

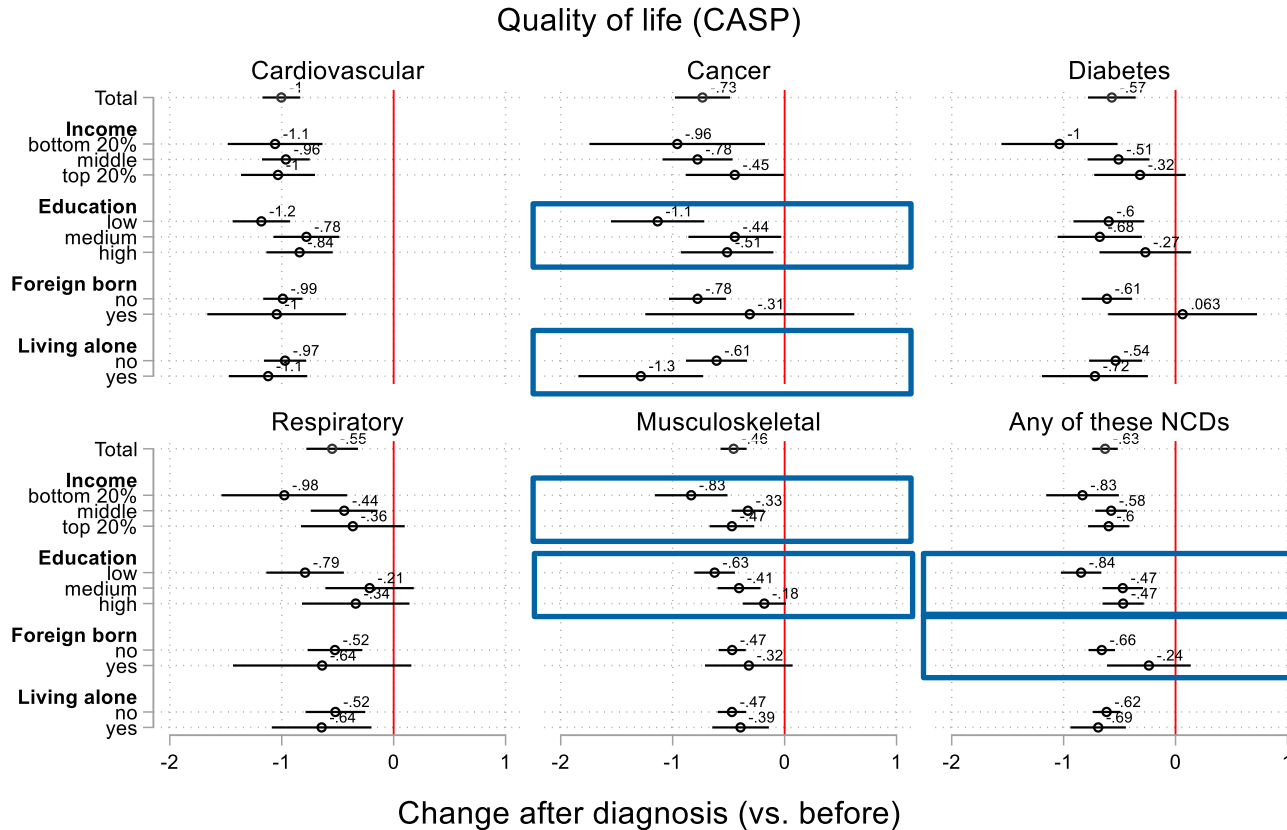
Change in outcomes after NCD-diagnosis by social groups



F-Test significant at 95%-level: edu for cardio; inc for cancer; edu for cancer; edu for musco; edu for any;

Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

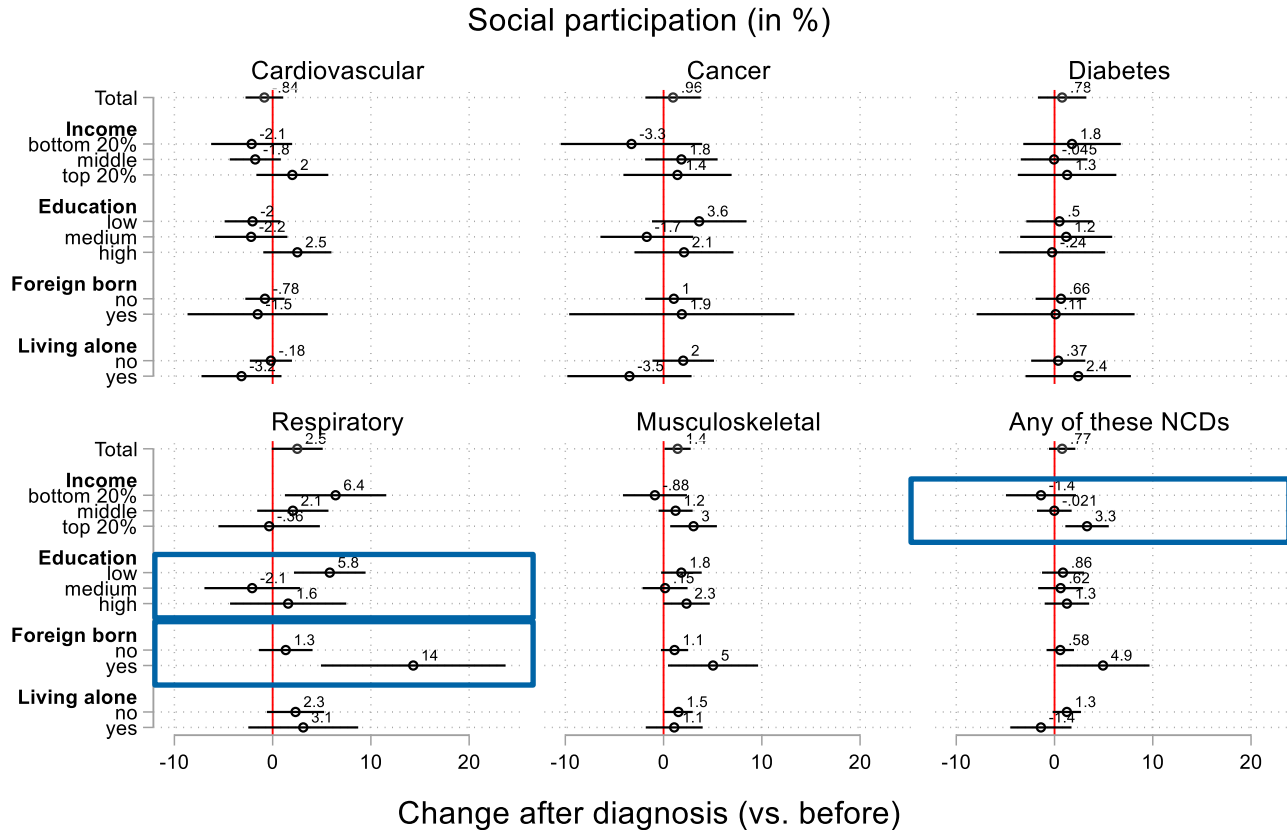
Change in outcomes after NCD-diagnosis by social groups



F-Test significant at 95%-level: edu for cancer; alo for cancer; inc for musco; edu for musco; edu for any; mig for any;

Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year.
 Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

Change in outcomes after NCD-diagnosis by social groups



F-Test significant at 95%-level: edu for respi; mig for respi; inc for any;

Fixed-Effects-Estimates with 95%-CI. All time-invariant individual characteristics are controlled for. Adjusted for age and survey-year. Considered time-windows: 1 to 10 years before diagnosis vs. 0 to 11 years after diagnosis.

Conclusions

- Various cues, but no very consistent pattern for worse outcomes after NCD diagnosis for patients with a disadvantaged socio-economic background.
- Education matters: patients with lower educational level show the most consistent pattern of worse outcomes regarding various dimensions.
- However, differences seem to be small in size (to be discussed...).

- Question to discuss/explore further:
 - What outcome measures are the most relevant? Other relevant outcomes?
 - Methodological issues: (self-reported) diagnosis vs. onset of a disease. Impact on our results?
 - Sample selection: severely ill patients have high drop-out probability
 - Modelling issues: model comparing mean value 1-10 years before to 0-11 years after diagnosis suitable? Limitations?
 - Selection of countries?

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