

Helseeffekter av arbeid

Notat fra Kunnskapssenteret
Systematisk litteratursøk med sortering
August 2015

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Nasjonalt kunnskapssenter for helsetjenesten fremskaffer og formidler kunnskap om effekt av metoder, virkemidler og tiltak og om kvalitet innen alle deler av helsetjenesten. Målet er å bidra til gode beslutninger slik at brukerne får best mulig helsetjenester. Kunnskapssenteret er formelt et forvaltningsorgan under Helsedirektoratet, men har ingen myndighetsfunksjoner og kan ikke instrueres i faglige spørsmål.

Nasjonalt kunnskapssenter for helsetjenesten
Oslo, august 2015

Hovedfunn

Nasjonalt kunnskapssenter for helsetjenesten ved Seksjon for velferdstjenester fikk i oppdrag fra NAV og Helsedirektoratet å utføre et systematisk litteratursøk med påfølgende sortering av mulig relevante publikasjoner. Oppdraget var å finne forskning fra 2012-2015 om helseeffekter av arbeid. Hensikten var å komplettere en eksisterende systematisk oversikt av van der Noordt og kolleger publisert i 2014 om temaet.

Metode

Vi utarbeidet søkestrategi for et systematisk litteratursøk. Det ble søkt i samfunnsvitenskaplige og medisinske databaser. Søket ble utført i mai 2015. To forskere gikk uavhengig av hverandere gjennom identifiserte referanser og vurderte relevans i forhold til inklusjonskriteriene.

Resultater

- Litteratursøket gav 7471 referanser etter dublettsjekk
- Vi identifiserte totalt 24 relevante studier: 2 mulige systematiske oversikter og 22 primærstudier
- Én mulig systematisk oversikt oppsummerte studier med utvalg hentet fra den generelle befolkningen; den andre oppsummerte studier med utvalg hentet fra personer med schizofrenilidelse
- 17 av de 22 primærstudiene inkluderte utvalg fra den generelle befolkningen, mens 5 studier inkluderte utvalg fra ulike pasientgrupper
- De 17 primærstudiene med generelle utvalg fordelte seg slik med hensyn til type utfallsmål:
 - 5 studier med psykiske utfallsmål
 - 4 studier med fysiske utfallsmål
 - 8 studier med både psykiske og fysiske utfallsmål
- De 5 primærstudiene med pasientutvalg hadde alle psykiske utfallsmål

I dette systematiske litteratursøket med sortering har vi ikke lest artiklene i fulltekst og dermed ikke vurdert studienes kvalitet. Basert på lesing av sammendragene ser majoriteten av studiene ser ut til å finne klare positive sammenhenger mellom det å være/komme i arbeid og helse, særlig psykisk helse. En enkel sammenstilling av studieforfatternes konklusjoner tyder derfor på at arbeid kan gi positive effekter på helse.

Tittel:

Helseeffekter av arbeid

Publikasjonstype:

Systematisk litteratursøk med sortering

Systematisk litteratursøk med sortering er resultatet av å

- søke etter relevant litteratur ifølge en søkestrategi og
- eventuelt sortere denne litteraturen i grupper presentert med referanser og vanligvis sammendrag

Svarer ikke på alt:

- Ingen kritisk vurdering av studienes kvalitet
- Ingen analyse eller sammenfatning av studiene
- Ingen anbefalinger

Hvem står bak denne publikasjonen?

Kunnskapssenteret har gjennomført oppdraget etter forespørsel fra NAV og Helsedirektoratet

Når ble litteratursøket utført?

Søk etter studier ble avsluttet mai 2015

Key messages

The Norwegian Knowledge Centre for the Health Services was commissioned by the Norwegian Labour and Welfare Administration and the Norwegian Directorate of Health to conduct a systematic literature search with a subsequent categorization of relevant research. The commission was to identify research published in 2012-2015 on health effects of employment. The aim was to complement an existing systematic review on the subject, published in 2014 by van der Noordt and colleagues.

Methods

We developed a search strategy for a systematic literature search. In May 2015, the search was carried out in social and medical scientific databases. Two researchers independently screened all identified references to assess inclusion according to predefined criteria.

Results

- The literature search resulted in 7471 references, after duplicates were removed
- In total, we identified 24 relevant references: 2 potential systematic reviews and 22 primary studies
- One potential systematic review summarized studies with samples from the general population; the other summarized studies with samples from people with a schizophrenic disorder
- 17 of the 22 primary studies included samples from the general population, while 5 studies included samples from various patient groups
- The 17 primary studies with general population samples were categorized into three groups of outcomes:
 - 5 studies with psychological outcomes
 - 4 studies with physical outcomes
 - 8 studies with both psychological and physical outcomes
- All the 5 primary studies with patient group samples had psychological outcomes

In this systematic literature search we have not read the articles in full and hence not critically evaluated the studies. Based on a reading of the abstracts, the majority of the studies seems to find clear positive correlations between being/becoming employed and health, especially psychological health. A simple synthesis of the study authors' conclusions therefore indicates that employment may have positive effects on health.

Title:

Health effects of employment

Type of publication:

Systematic reference list

A systematic reference list is the result of a search for relevant literature according to a specific search strategy. The references resulting from the search are then grouped and presented with their abstracts.

Doesn't answer everything:

- No critical evaluation of study quality
- No analysis or synthesis of the studies
- No recommendations

Publisher:

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Updated:

Last search for studies: May 2015

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Forord

Seksjon for velferdstjenester ved Nasjonalt kunnskapssenter for helsetjenesten fikk i oppdrag fra NAV og Helsedirektoratet å komplettere en eksisterende systematisk oversikt. Denne systematiske oversikten, av van der Noordt og kolleger (1), omhandlet helseeffekter av arbeid. Den inkluderte forskning frem til mars 2012. Kunnskapssenteret ble bedt om å utføre et systematisk litteratursøk med sortering over forskning fra 2012-2015 om helseeffekter av arbeid. Vi har tidligere presentert van der Noordt og kollegers systematisk oversikt i en egen omtale (2).

Prosjektgruppen har bestått av:

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Avdelingsdirektør

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Seksjonsleder

Heid Nøkleby
Prosjektleder

Innledning

Problemstilling

I dette prosjektet søkte vi etter forskning som kunne belyse effekter på fysisk og psykisk helse av det å være i arbeid, eventuelt ha kommet i arbeid på nytt, sammenliknet med det å ikke være i arbeid.

Bakgrunn

Oppdraget ble gitt av NAV og Helsedirektoratet. Målet var å komplettere en systematisk oversikt gitt ut i 2014 av van der Noordt og kolleger (1). Den opprinnelige oversiktens mål var «å beskrive sammenhenger over tid mellom arbeid og helseutfall eller helseeffekter av overgangen fra arbeidsledighet til arbeid» (1, s. 731). Søket etter litteratur i denne oversikten gikk frem til mars 2012.

Van der Noordt og kollegers systematiske oversikt viste at «arbeid er gunstig for helse, særlig for depresjon og generell psykisk helse», samt at videre forskning er nødvendig, «spesielt når det gjelder fysisk helse og dødelighet» (1, s. 735). Kunnskapssenteret laget på bestilling fra NAV og Helsedirektoratet en omtale av denne oversikten, publisert i 2015 (2).

Med utgangspunkt i den systematiske oversikten skulle Kunnskapssenteret identifisere og sortere relevante studier fra 2012-2015. Vi søkte i elektroniske kilder, men ikke etter grå litteratur eller liknende. Søket var begrenset til litteratur som var publisert i aktuelle databaser i perioden 2012 til mai 2015. Det ble tatt utgangspunkt i søkestrategien som ble brukt i van der Noordt og kollegers opprinnelige systematiske oversikt.

Styrker og svakheter ved litteratursøk med sortering

Ved litteratursøk med sortering gjennomfører vi systematiske litteratursøk for en gitt problemstilling. Resultatene fra søket blir grundig gjennomgått for å sortere ut ikke-relevante artikler. Dette gjøres basert på tittel og eventuelt sammendrag. Artiklene innhentes ikke i fulltekst. Det gjør at vi kan ha inkludert titler som ville vist seg ikke å være relevante ved gjennomlesning av fulltekst. Vi benytter kun databaser for

identifisering av litteratur og kan derfor ha gått glipp av potensielt relevante studier. Andre måter å identifisere studier på, som søk i referanselister, kontakt med eksperter på fagfeltet og upublisert litteratur, er ikke utført i dette oppdraget. Vi gjennomfører ingen kvalitetsvurdering av artiklene.

Ved en full forskningsoppsummering ville vi ha innhentet artiklene i fulltekst for endelig vurdering opp mot inklusjonskriteriene. Inkluderte studier ville så blitt kvalitetsvurdert i henhold til våre sjekklister og resultater sammenstilt og diskutert.

Metode

Litteratursøk

Vi søkte systematisk etter litteratur i følgende databaser:

- EMBASE
- MEDLINE
- PsycINFO
- Web of Science Core Collection; Indexes: SCI-EXPANDED, SSCI.

Spesialbibliotekar Lien Nguyen planla og utførte søkene, med støtte fra forskningsbibliotekar Gyri Hval Straumann. Søket etter studier ble avsluttet i mai 2015. Den fullstendige søkestrategien er vist i vedlegg 1.

Vi la bestillingen og den omtalte systematiske oversikten (1) til grunn ved utarbeiding av litteratursøket og søkte etter litteratur som oppfylte våre inklusjonskriterier for populasjon og intervensjon. Vedlagt den opprinnelige systematiske oversikten fulgte en gjengivelse av søkestrategien fra MEDLINE, og ved henvendelse til oversiktsforfatterne fikk vi opplyst at denne strategien også ble brukt ved søk i de andre databasene (EMBASE, PsycINFO, SciSearch og Social SciSearch). Vi benyttet denne søkestrategien i vårt søk i Ovid-basene MEDLINE, PsycINFO og EMBASE.

Databasene SciSearch og Social SciSearch som ble benyttet i van der Noordt og kollegers systematiske oversikt var imidlertid ikke tilgjengelig for søk for oss, og vi søkte i stedet i Web of Science med en tilpasset søkestrategi. Vi gjengir denne strategien nedenfor.

Søk 1: Det ble utført søk på tittel (TI) og emne (TS). Der det ikke var mulig å søke på publikasjonstype, søkte vi i emnefelt (TS) i stedet. Det ble heller ikke utført trunke-
ringer som i Ovid-basene. Treffresultatet ble på 5299. Da dette var et stort antall treff, og mange av dem ble regnet som 'støy', foretok vi en justering på søkestrategien (søk 2).

Søk 2: Det ble utført et tilnærmet likt søk som søk 1. Justeringer som ble foretatt var å endre TS til TI på alle TS-søk, med unntak fra NOT- og metodesøkene. Treffresultatet ble på 402.

Ettersom det ble et stort spenn fra 5299 til 402 treff i henholdsvis søk 1 og søk 2, besluttet vi å teste spesifisiteten i søkene for å avgjøre om vi kunne benytte søk 2. Vi valgte derfor først ut 500 referanser fra søk 1 (5299 treff). Disse referansene ble valgt ut som følger: de 100 første referansene fra hvert 1000-sett (dvs. ref. 1-100, 1000-1100, 2000-2100 osv.). Deretter identifiserte vi blant de 500 referansene de referansene som så ut til å møte inklusjonskriteriene. Vi identifiserte i alt fire referanser. Disse fire referansene ble søkt opp mot søk 2 (402 treff), og det var kun én av referansene som ble fanget opp. Disse fire referansene ble også søkt opp mot treffene i Ovid-databasene, og der var det også kun denne ene av de fire relevante referansene som ble fanget opp. For ikke å risikere tap av mulig relevante referanser besluttet vi derfor til slutt å benytte søk 1.

Etter dublettsjekk mellom Ovid-databasene og Web of Science ble vi stående igjen med et sett på 7471 referanser. Søk etter studier ble avsluttet mai 2015.

Inklusjons- og eksklusjonskriterier

Populasjon:	Voksne/personer i yrkesaktiv alder
Tiltak:	Vanlig lønnet arbeid, heltid eller deltid (ikke arbeidsmarkedstiltak)
Sammenlikning:	Å ikke være i arbeid
Utfall:	Fysisk og psykisk helse
Studiedesign	Systematiske oversikter, observasjonsstudier (kohortstudier, longitudinelle studier)
Språk:	Ingen begrensning

Vi inkluderte studier med utvalg hentet fra både den generelle befolkningen og fra ulike pasientgrupper. Vi ekskluderte studier som ikke hadde flere måletidspunkter (var longitudinelle), som ikke vurderte effekt av arbeid versus ikke-arbeid, eller som ikke målte fysisk eller psykisk helse direkte.

Artikkelutvelging

To forskere gikk gjennom alle titler og sammendrag for å vurdere relevans i henhold til inklusjonskriteriene. Vurderingene gjorde de uavhengig av hverandre og sammenlignet i etterkant. Der det var uenighet om vurderingene, ble inklusjon eller eksklusjon avgjort ved diskusjon, eventuelt konsultasjon med en tredjeperson.

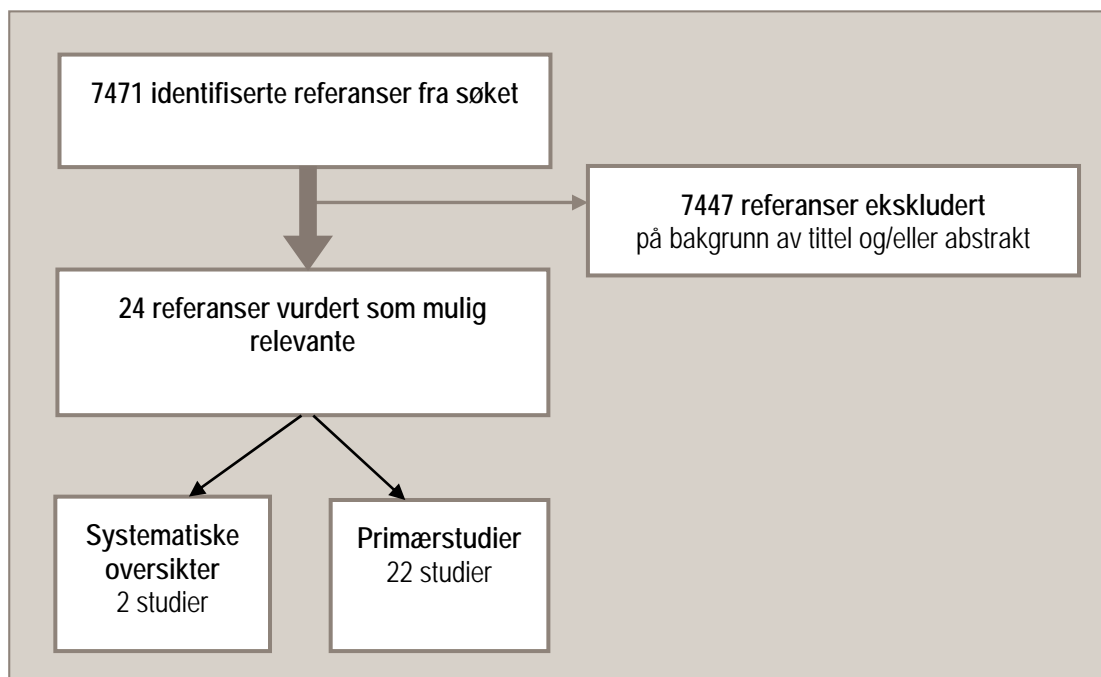
Utvelging av litteratur ble gjort kun basert på tittel og sammendrag. Vi bestilte ikke fulltekst av artiklene og vi har derfor ikke vurdert studienes metodiske kvalitet.

Resultat

Resultat av søk

Søket resulterte i 8772 referanser. Etter dublettkontroll var resultatet 7471 referanser. Vi vurderte 24 av de identifiserte referansene til å være mulig relevante i henhold til inklusjonskriteriene.

Hovedårsakene til eksklusjon var studiedesign (ikke longitudinelt design) og «intervensjon», dvs. at arbeid ikke var sammenlignet med ikke-arbeid, eller at arbeid ikke var intervensjon men utfallsmål.



Figur 1. Flytskjema over identifisert litteratur

Resultat av sorteringen

Vi sorterte de mulig relevante studiene i seks kategorier, først ut fra studietype og populasjon (se tabell 1), dernest ut fra utfallsmål (se tabell 2).

I tabell 3, 4a, 4b, 4c og 5 presenterer vi studiene fordelt i kategoriene og alfabetisk etter førsteforfatter. Vi oppgir forfattere, tittel på publikasjonen, publikasjonssted og sammendrag av artikkelen slik det fremkommer i de elektroniske databasene. I tillegg har vi kort oversatt forfatternes konklusjoner til norsk.

Tabell 1: Antall inkluderte studier sortert etter type studie og populasjon

Kategori	Antall referanser: 24	
Systematiske oversikter		
Generell befolkning	1	Tabell 3
Pasientgrupper	1	Tabell 3
Primærstudier		
Generell befolkning	17	Tabell 4 a, b, c
Pasientgrupper	5	Tabell 5

Identifiserte studier

I arbeidet med å identifisere studier leste vi kun titler og sammendrag og vurderte ikke studiene i fulltekst. Det var derfor av og til vanskelig å si sikkert om studiedesignet faktisk var longitudinelt, med måling av de samme personene på minst to tidspunkt, samt hadde måling av både arbeid og helseutfall på (minst) begge tidspunkt. Etter diskusjon har vi endt opp med den inkluderte listen.

For noen av studiene var det var ikke mulig å oppnå en klar forståelse for hvorvidt de møtte inklusjonskriteriene. Tilgjengelig informasjon i tittel og abstrakt var for begrenset eller uklar. Der vi etter diskusjon fremdeles var i tvil om hvorvidt studien hadde rett design eller rett «intervensjon», valgte vi derfor å presentere den i et vedlegg (vedlegg 2). Totalt ni referanser er listet i vedlegget.

Systematiske oversikter

Vi fant to mulige systematiske oversikter som oppsummerer studier av helseeffekter av arbeid. Oversiktene er «mulige» systematiske fordi vi ikke vet om de faktisk tilfredsstillende kriteriene for systematiske oversikter. Den ene oversikten oppsummerer studier der utvalgene er generelle befolkningsgrupper. I den andre oversikten er utvalgene personer med schizofrenilidelser.

Primærstudier

Vi fant 22 primærstudier som møtte inklusjonskriteriene: 17 studier som har utvalg fra den generelle befolkningen og fem studier som har utvalg fra pasientgrupper.

Av de 17 primærstudiene med generelle befolkningsutvalg var det fem studier som målte en form for psykisk helse, fire som målte en form for fysisk helse og åtte som målte både psykiske og fysiske utfallsmål.

Tabell 2: Inkluderte primærstudier av den generelle befolkningen, sortert etter utfallsmål

Kategori	Antall referanser: 17	
Psykiske utfallsmål	5	Tabell 4a
Fysiske utfallsmål	4	Tabell 4b
Både psykiske og fysiske utfallsmål	8	Tabell 4c

De fem studiene med pasientutvalg omfattet psykiatri- og ruslidelser, multippel sklerose, epilepsi, magetarmsykdom, og kvinner som hadde fått tvillinger med kunstig befruktning. Alle målte ulike sider ved psykisk helse (tabell 5).

Liste over inkluderte studier

Tabellene fra neste side og utover (tabell 3, 4a, 4b, 4c og 5) lister de inkluderte studiene med referanser, sammendrag og forfatterens konklusjoner oversatt til norsk.

Tabell 3: Mulige systematiske forskningsoversikter

Referanse	Sammendrag	Forfatterens konklusjon
<p>Luciano A, Bond GR, Drake RE. (2014) Does employment alter the course and outcome of schizophrenia and other severe mental illnesses? A systematic review of longitudinal research. <u>Schizophrenia Research</u> 159(2-3):312-321.</p>	<p>Introduction: This review synthesized prospective evidence to assess whether achieving employment alters the course of schizophrenia-spectrum disorder. Method: Researchers identified relevant analyses for review via PubMed, expert referral, and reference review and systematically applied two levels of screening to 1484 citations using seven a priori criteria. Results: A total of 12 analyses representing eight cohorts, or 6844 participants, compared illness course over time by employment status in majority schizophrenia-spectrum samples. Employment was consistently associated with reductions in outpatient psychiatric treatment (2 of 2 studies) as well as improved self-esteem (2 of 2 studies). Employment was inconsistently associated with positive outcomes in several other areas, including symptom severity, psychiatric hospitalization, life satisfaction, and global wellbeing. Employment was consistently unrelated to worsening outcomes. Discussion: Achieving employment does not cause harm among people with schizophrenia-spectrum disorder and other severe mental illnesses. Further detailed mechanistic analyses of adequately powered long-term follow-up studies using granular descriptions of employment are needed to clarify the nature of associations between employment and hypothesized benefit.</p>	<p>12 studier (8 kohorter) var inkludert i forskningsoversikten. Studiepopulasjonen var personer med schizofrenilidelser. 2 av 2 studier viste positive effekter på selvfølelse. Andre studier viste positive eller ingen effekter på symptombelastninger og generell velvære. Ingen studier viste negative effekter av arbeid på helse.</p>
<p>Rueda S, Chambers L, Wilson M, Mustard C, Rourke SB, Bayoumi A, et al. (2012) Association of Returning to Work With Better Health in Working-Aged Adults: A Systematic Review. <u>American Journal of Public Health</u> 102(3):541-556.</p>	<p>Objectives. We systematically reviewed the literature on the impact of returning to work on health among working-aged adults. Methods. We searched 6 electronic databases in 2005. We selected longitudinal studies that documented a transition from unemployment to employment and included a comparison group. Two reviewers independently appraised the retrieved literature for potential relevance and methodological quality. Results. Eighteen studies met our inclusion criteria, including 1 randomized controlled trial. Fifteen studies revealed a beneficial effect of returning to work on health, either demonstrating a significant improvement in health after reemployment or a significant decline in health attributed to continued unemployment. We also found evidence for health selection, suggesting that poor health interferes with people's ability to go back to work. Some evidence suggested that earlier reemployment may be associated with better health. Conclusions. Beneficial health effects of returning to work have been documented in a variety of populations, times, and settings. Return-to-work programs may improve not only financial situations but also health.</p>	<p>18 studier var inkludert i forskningsoversikten. Studiepopulasjonen var den generelle befolkningen. 15 studier viste enten positive effekter på helse ved å gå tilbake til arbeid, eller negative effekter ved fortsatt arbeidsledighet. Funnene antyder også seleksjon, at dårlig helse påvirker evne til å gå tilbake til arbeid.</p>

Tabell 4a: Primærstudier der utvalg er hentet fra den generelle befolkningen – med psykiske utfallsmål

Referanse	Sammendrag	Forfatterens konklusjon
<p>Flint E, Bartley M, Shelton N, Sacker A. (2013) Do labour market status transitions predict changes in psychological well-being? <u>Journal of Epidemiology and Community Health</u> 67(9):796-802.</p>	<p>Background: The objective of this study was to establish the direction of causality in the relationship between labour market status and psychological well-being by investigating how transitions between secure employment, insecure employment, unemployment, permanent sickness and other economic inactivity predict changes in psychological well-being over a 16-year period. Method: This study used data from the British Household Panel Survey (1991-2007). Psychological well-being was measured using the 12-item General Health Questionnaire (GHQ-12). Fixed effects models were utilised to investigate how transitions between labour market statuses predicted GHQ-12 score, adjusting for current labour market status and a range of covariates. Results: After taking account of the contemporaneous effects of joblessness on psychological well-being, and the impact of a range of confounding factors, experiencing a transition from employment to joblessness was significantly predictive of poorer psychological well-being. Transitions into employment were not found to have equal and opposite effects: the positive effects of moving into work from unemployment were not as large as the negative effects of job loss. Transitions between secure and insecure employment did not independently predict changes in psychological well-being. Conclusions: A causal relationship between labour market status and psychological well-being is indicated.</p>	<p>Resultatene tyder på en årsakssammenheng mellom arbeid/ikke-arbeid og psykologisk velvære. (De positive effektene av å komme i arbeid var imidlertid ikke så store som de negative effektene av å miste arbeid.) Å gå fra sikker til usikker arbeidstilknytning eller omvendt viste ikke tilsvarende effekter.</p>
<p>Gjerdingen D, McGovern P, Attanasio L, Johnson PJ, Kozhimannil KB. (2014) Maternal Depressive Symptoms, Employment, and Social Support. <u>Journal of the American Board of Family Medicine</u> 27(1):87-96.</p>	<p>Objective: The purpose of this study was to characterize the relationship between maternal depressive symptoms and employment and whether it is mediated by social support. Methods: We used data from a nationally representative sample of 700 US women who gave birth in 2005 and completed 2 surveys in the Listening to Mothers series, the first in early 2006, an average of 7.3 months postpartum, and the second an average of 13.4 months postpartum. A dichotomous measure of depressive symptoms was calculated from the 2-item Patient Health Questionnaire, and women reported their employment status and levels of social support from partners and others. We modeled the association between maternal employment and depressive symptoms using multivariate logistic regression, including social support and other control variables. Results: Maternal employment and high support from a nonpartner source were both independently associated with significantly lower odds of depressive symptoms (adjusted odds ratio [AOR], 0.35 and P = .011, and AOR, 0.40, P = .011, respectively). These relationships remained significant after controlling for mothers' baseline mental and physical health, babies' health, and demographic characteristics (AOR, 0.326 and P = .015, and AOR, 0.267 and P = .025, respectively). Conclusions: Maternal employment and strong social support, particularly</p>	<p>Resultatene viste at mødre som var i arbeid eller kom i arbeid rapporterte signifikant lavere grad av depressive symptomer, uavhengig av psykisk helse i utgangspunktet og sosial støtte fra partner.</p>

Referanse	Sammendrag	Forfatternes konklusjon
	<p>nonpartner support, were independently associated with fewer depressive symptoms. Clinicians should encourage mothers of young children who are at risk for depression to consider ways to optimize their employment circumstances and "other" social support.</p>	
<p>Liukkonen V, Virtanen P, Vahtera J, Suominen S, Sillanmaki L, Koskenvuo M. (2010) Employment trajectories and changes in sense of coherence. <u>European Journal of Public Health</u> 20(3):293-298.</p>	<p>Knowledge of the associations between labour market position and sense of coherence (SOC) comes mainly from cross-sectional studies. We investigated whether change in employment status is associated with change in SOC and whether such an association varies when young (<30 years) and older employees are compared. Data were derived from two studies: a cohort of initially non-permanent employees (n = 1898) was followed up for four years, and a cohort representing the national workforce (n = 9623) was followed up for five years. Labour market position at baseline and at follow-up (permanent/fixed-term job/unemployed) was used to locate the participants into six or nine different employment trajectories depending on the cohort. SOC was measured with a 13-item questionnaire. Associations of the employment trajectories with changes in SOC were analysed with general linear models. In both cohorts the change of SOC was significantly associated with type of employment trajectory. The results supported the hypothesis of more favourable development of SOC among those whose trajectories were directed upward: the associations of poor SOC with unemployment are indisputable, whereas the effects of fixed-term employment seem to be neutral or even positive. The analysis by age revealed that the effects of employment trajectory on SOC are particularly strong among individuals aged below 30 years. This longitudinal study provided evidence for the interpretation that stabilisation of SOC associates with stabilisation of the labour market position. Moreover, the fluctuations of SOC seem to depend on the type of trajectory throughout adult life.</p>	<p>Funnene viste effekt av arbeidslivstilknytning på opplevelse av sammenheng (<i>sense of coherence</i>): negativ effekt av svak tilknytning til arbeidslivet, positiv eller ingen effekt av sterk tilknytning til arbeidslivet. Effekten var sterkere for personer under 30 år enn for personer over 30 år.</p>
<p>Kim SS, Muntaner C, Kim H, Jeon CY, Perry MJ. (2013) Gain of employment and depressive symptoms among previously unemployed workers: a longitudinal cohort study in South Korea. <u>American Journal of Industrial Medicine</u> 56(10):1245-1250.</p>	<p>Background: The goal of this study is to examine the association between gain of employment and depressive symptoms among previously unemployed workers in South Korea. Methods: Using data from the ongoing Korean Welfare Panel Study, we determined four different employment statuses (i.e., unemployment, part-time precarious, full-time precarious, full-time permanent employment) at follow up (2008 or 2010) among the unemployed at baseline (2007 or 2009) and examined their association with depressive symptoms after excluding the people with depressive symptoms at baseline (N = 308). Depressive symptoms were assessed annually using the 11-item Center for Epidemiologic Studies Depression Scale. Results: After adjusting for covariates including health-related variables, unemployed individuals who gained full-time permanent employment (RR: 0.38, 95% CI: 0.18, 0.83) and those who gained full-time precarious employment</p>	<p>Studien viste at arbeidsledige som kom i fulltids stabilt eller midlertidig arbeid hadde signifikant færre depressive symptomer enn de som fortsatt var arbeidsledige. Etter justering for med depressive symptomer ett år før første måling av arbeidssituasjon</p>

Referanse	Sammendrag	Forfatterens konklusjon
	<p>(RR: 0.26, 95% CI: 0.11, 0.63) were less likely to have depressive symptoms compared to those with persistent unemployment. In a subpopulation analysis conducted after additionally excluding the people with depressive symptoms 1 year before baseline, only the association between gaining full-time permanent employment and depressive symptoms was significant (RR: 0.27, 95% CI: 0.08, 0.86). Conclusions: Our findings highlight the benefits of full-time permanent employment on worker's mental health.</p>	<p>var sammenhengen bare signifikant for personer som kom i stabilt arbeid.</p>
<p>Steele F, French R, Bartley M. (2013) Adjusting for selection bias in longitudinal analyses using simultaneous equations modeling: the relationship between employment transitions and mental health. <u>Epidemiology</u> 24(5):703-711.</p>	<p>Background: Effects of labor force participation on mental health can be difficult to discern due to the possibility of selection bias. Previous research typically adjusts for direct selection (reverse causality) but ignores indirect selection (unmeasured confounders). Methods: We investigate the relationship between men's employment transitions and mental health using a dynamic simultaneous equations model applied to data from the British Household Panel Survey (1991-2009). Outcome is self-reported distress and anxiety as summed on a 12-point scale. We allow for direct selection by allowing prior mental health to affect both subsequent mental health and employment transitions in the joint model. We adjust for indirect selection by allowing for residual correlation between mental health and employment. Results: Moving from unemployment to employment was strongly associated with an improvement in mental health, whereas becoming unemployed was detrimental. However, these associations were attenuated by unmeasured confounders. After adjustment for indirect selection, the increased distress and anxiety associated with becoming unemployed decreased from 2.5 (95% confidence interval = 2.2 to 2.7) to 2.2 (2.0 to 2.5). (A change of 2.5 equates to half a standard deviation on the 12-point scale.) The improvement with moving from unemployment to employment was also weakened slightly (from -2.1 [-2.4 to -1.7] to -1.8 [-2.1 to -1.5]). Conclusions: There was strong evidence of indirect selection, but less support for direct selection. Nevertheless, the effects on psychological health of transitions between employment and unemployment, and between employment and economic inactivity, remained substantial after adjusting for selection.</p>	<p>Studien analyserte både direkte (helse påvirker arbeid) og indirekte seleksjon (konfunderende variabler) når det gjaldt sammenheng mellom arbeid og psykisk helse (selvrapportert stress og angst) blant menn. Resultatene viste at, justert for begge mulige seleksjonsskjevheter, var det likevel en klar effekt av å komme i arbeid på psykisk helse.</p>

Tabell 4b: Primærstudier der utvalg er hentet fra den generelle befolkningen – med fysiske utfallsmål

Referanse	Sammendrag	Forfatterens konklusjon
<p>Akinwale B, Lynch K, Wiggins R, Harding S, Bartley M, Blane D. (2011) Work, permanent sickness and mortality risk: A prospective cohort study of England and Wales, 1971-2006. <u>Journal of Epidemiology and Community Health</u> 65(9):786-792.</p>	<p>Background: In recent decades, labour market participation has fallen in men, with large amounts of this decline accounted for by increases in permanent sickness. There is speculation that the rising numbers of permanently sick incorporate more people with less severe conditions than was previously the case. This paper examines the relationship between labour market position and subsequent mortality around State Pension Age. Methods: Using linked census and death records in the ONS Longitudinal Study, samples of men aged 55e69 and women aged 50e64 were selected from each decennial census, 1971e2001 and their health followed up. Differences between the employed, unemployed and economically inactive in age-specific death rates, Standardised Mortality Ratios and odds of reporting limiting long-term illness were examined. Results: Labour market activity in late middle age has changed since 1971. For example, the proportion of men employed at ages 60e64 years has fallen by 39%, and the proportion permanently sick has more than doubled. Despite this change, there has been stability in the RR of mortality between labour market positions. Working people have the lowest risk of premature death, while, relative to working people, the permanently sick continue to have mortalities around three times higher among men and four to five times higher among women. Conclusion: The evidence does not support the notion that the permanently sick are becoming less seriously ill. The persistence of the group's raised mortality suggests that measures aimed at encouraging later life employment should ensure provision of work environments suitable for people with chronic illnesses.</p>	<p>Studien sammenligner grupper av middelaldrene voksne i kontinuerlig arbeid med tilsvarende grupper med kontinuerlig sykefravær. Gruppen i arbeid har langt lavere risiko for tidlig død.</p>
<p>Johansson B, Helgesson M, Lundberg I, Nordquist T, Leijon O, Lindberg P, et al. (2012) Work and health among immigrants and native Swedes 1990-2008: a register-based study on hospitalization for common potentially work-related disorders, disability pension and mortality. <u>BMC Public Health</u> 12(10).</p>	<p>Background: There are many immigrants in the Swedish workforce, but knowledge of their general and work-related health is limited. The aim of this register-based study was to explore whether documented migrant residents in Sweden have a different health status regarding receipt of a disability pension, mortality and hospitalization for lung, heart, psychiatric, and musculoskeletal disorders compared with the native population, and if there were variations in relation to sex, geographical origin, position on the labor market, and time since first immigration. Methods: This study included migrants to Sweden since 1960 who were 28-47 years old in 1990, and included 243 860 individuals. The comparison group comprised a random sample of 859 653 native Swedes. These cohorts were followed from 1991 to 2008 in national registers. The immigrants were divided into four groups based on geographic origin. Hazard ratios for men and women from different geographic origins and with different employment status were analyzed separately for the six outcomes, with</p>	<p>Studien sammenligner innvandrere og etniske svensker når det gjelder arbeidstilknytningens innvirkning på ulike helseutfall, inkludert dødelighet. Resultatene viser sammenhenger mellom arbeidstilknytning (og oppholdstid) og helse, men det kan gi seg ulike utslag for innvandrere og etniske svensker.</p>

Referanse	Sammendrag	Forfatterens konklusjon
	<p>adjustment for age, education level, and income. The influence of length of residence in Sweden was analyzed separately. Results: Nordic immigrants had increased risks for all investigated outcomes while most other groups had equal or lower risks for those outcomes than the Swedes. The lowest HRs were found in the EU 15+ group (from western Europe, North America, Australia and New Zealand). All groups, except Nordic immigrants, had lower risk of mortality, but all had higher risk of disability pension receipt compared with native Swedes. Unemployed non-Nordic men displayed equal or lower HRs for most outcomes, except disability pension receipt, compared with unemployed Swedish men. A longer time since first immigration improved the health status of men, while women showed opposite results. Conclusions: Employment status and length of residence are important factors for health. The contradictory results of low mortality and high disability pension risks need more attention. There is great potential to increase the knowledge in this field in Sweden, because of the high quality registers.</p>	
<p>Ki M, Kelly Y, Sacker A, Nazroo J. (2013) Poor health, employment transitions and gender: evidence from the British Household Panel Survey. <u>International Journal of Public Health</u> 58(4):537-546.</p>	<p>Objectives: We examined health selection in the context of transitions across employment statuses (employment, unemployment and inactivity), with attention to gender differences. Methods: 60,536 transitions from 7,901 individuals were pooled from 17 waves of the British Household Panel Survey. Associations between self-rated health and transitions across employment statuses were examined using multilevel multinomial analysis. Results: Health selective employment transitions between year t-1 and t were observed at entry to as well as exit from employment. Associations for poor health with the transitions were similar for men and women in transitions from employment to both unemployment and to inactivity, but with some differences in other transitions. When leaving employment, transitions from employment to unemployment (OR(adjusted)(adjusted odds ratio) = 1.51, 95 % CI = 1.21-1.89 for men and OR(adjusted) = 1.60, 95 % CI = 1.25-2.04 for women) and to inactivity (OR(adjusted) = 1.58, 95 % CI = 1.21-1.89 for men and OR(adjusted) = 1.63, 95 % CI = 1.35-1.96 for women) were affected by health status among both men and women. Similarly, poor health lowered the probability of transitions to employment from unemployment and inactivity; however, the negative impact of poor health was statistically significant only for women. Conclusions: There is a strong relationship between health and transitions both into and out of employment suggesting an independent role for poor health, and these associations were similar for men and women.</p>	<p>Studien analyserte sammenhengen mellom arbeidstilknytning og selvopplevd helse med henblikk på kjønn. Resultatene viste sterke sammenhenger for begge kjønn mellom helse og arbeid. Studien antyder at dårlig helse kan gi seleksjonseffekter.</p>
<p>Schuring M, Burdorf. (2013) Self-rated health before and after employ-</p>	<p>Objectives: The aim of this study was to investigate self-rated health before and after labour force exit due to unemployment, economic inactivity or early retirement. A secondary objective was to investigate health before and after entering paid employment Methods: Trajectories of self-rated health in 520.830 employed and</p>	<p>Studien viste at arbeidsledige som kom i arbeid (på nytt) rapporterte signifikant bedre</p>

Referanse	Sammendrag	Forfatterens konklusjon
ment transitions: Evidence in European countries. <u>Occupational and Environmental Medicine</u> 70.	278.954 non-employed persons were examined from the European Community Household Panel Survey (ECHP) for up to 5 years before and 6 years after labour force exit or re-employment, with yearly measurements from 1994-2001. Data were analysed by use of repeated-measures logistic regression with generalised estimating equations. Results: The likelihood of poor health increased among persons who became unemployed (OR = 1.15, 95% CI 1.04-1.28) or economically inactive (OR = 1.29 95% CI 1.17-1.42). Among persons who left the labour force due to early retirement the likelihood of poor health increased in the years before retirement (OR = 1.10 95% CI 1.07-1.13), whereas this increase was less steep in the years after early retirement. Among unemployed persons who re-entered paid employment the likelihood of poor health decreased (OR = 0.80 95% CI 0.71-0.91). Conclusions: Health is influenced by employment transitions into and out of the labour force. Policies should protect persons who leave the labour force against further deterioration of health. Entering paid employment is an important measure to improve self-rated health among unemployed persons.	selvopplevd helse.

Tabell 4c: Primærstudier der utvalg er hentet fra den generelle befolkningen – med både psykiske og fysiske utfallsmål

Referanse	Sammendrag	Forfatterens konklusjon
Buckley J, Tucker G, Hugo G, Wittert G, Adams RJ, Wilson DH. (2013) The Australian baby boomer population--factors influencing changes to health-related quality of life over time. <u>Journal of Aging and Health</u> 25(1):29-55.	Identify factors associated with changes to health-related quality of life (HRQoL) in baby boomers. Panel data were collected on baby boomers at two time points, 2000-2002 and 2004-2006. A fixed-effects model was used to identify associations between changes in the dependent variable (SF-36 summary scales) and changes in independent variables (health indicators/employment status). Mental health problems, being out of labor force, sedentary behavior, and severe lung disease were associated with deterioration in physical and mental HRQoL. Obesity was associated with deterioration in physical HRQoL whereas cardiovascular disease was associated with deterioration in mental HRQoL. Unemployment, full-time employment, and absence of lung disease symptoms were associated with improvements in physical and mental HRQoL. If we are to maximize the future labor participation, and HRQoL, of this cohort, it will be necessary to reduce obesity and sedentary behavior and to further investigate the association between health and employment.	Studien viste sammenhenger mellom både arbeidsledighet og fulltidsarbeid og bedret helsereelatert livskvalitet (fysisk og psykisk).

Referanse	Sammendrag	Forfatterens konklusjon
<p>Gebel M, Vosemer J. (2014) The impact of employment transitions on health in Germany. A difference-in-differences propensity score matching approach. <u>Social Science & Medicine</u> 108:128-136.</p>	<p>This article investigates the effects of transitions between employment and unemployment on health. It also addresses the question of whether or not the widespread use of temporary employment has altered the positive health effects of employment. Drawing on data from the German Socio-Economic Panel for the period 1995-2010, we apply difference-in-differences propensity score matching to identify the direct causal effects of unemployment and reemployment on psychological and physical health. This combination of two approaches towards causal inference controls for both unobserved fixed effects and observable differences in a flexible semi-parametric specification. Our sample includes persons between the ages of 16-54 who have at least experienced one respective employment transition (treatment groups) or are continuously employed or unemployed (control groups). The results show that only psychological but not physical health is causally affected by the respective employment transitions. Specifically, the effects of unemployment and reemployment are of similar size, highlighting the importance of reemployment in compensating unemployment's negative impact on psychological health. In contrast, health selection and confounding seem to be important determinants of the cross-sectional association between unemployment and physical health. Carrying out separate analyses for permanent and temporary workers, we shed new light on the health effects of temporary employment. It has been argued that the rise of temporary employment has introduced a new inequality in the world of work, blurring the line between employment and unemployment. However, contrary to our expectations we find that both employment transitions have effects of a similar size for permanent and temporary workers. In sum, our results highlight two points. First, longitudinal research is needed to properly evaluate the health effects of unemployment, reemployment, and temporary employment. Second, compared to temporary employment, unemployment is still the greater threat to individuals' psychological health.</p>	<p>Studien sammenlignet et utvalg som har gått fra arbeidsledighet til arbeid eller motsatt, med et utvalg som har vært arbeidsledige eller i arbeid over tid. Resultatene viste at å komme i arbeid på nytt gav positive effekter på psykisk helse, men ikke nødvendigvis på fysisk helse. Å komme i midlertidig arbeid gav like stor effekt som å komme i fast arbeid.</p>
<p>Carlier BE, Schuring M, Lotters FJ, Bakker B, Borgers N, Burdorf A. (2013) The influence of re-employment on quality of life and self-rated health, a longitudinal study among unemployed persons in the Netherlands. <u>BMC Public Health</u> 13:503.</p>	<p>Background: Unemployed persons have a poorer health compared with employed persons and unemployment may cause ill health. The aim of this study was to investigate the effect of re-employment on quality of life and health among unemployed persons on social benefits. Methods: A prospective study with 18 months follow-up was conducted among unemployed persons (n=4,308) in the Netherlands, receiving either unemployment benefits or social security benefits. Quality of life, self-rated health, and employment status were measured at baseline and every 6 months of follow up with questionnaires. Generalized estimating equations (GEE) modeling was performed to study the influence of re-employment on change in self-rated health and quality of life over time. Results: In the study population 29% had a less than good quality of life and 17% had a poor self-rated health. Persons who started with paid employment during the follow-up period were more</p>	<p>Studien viste at i et utvalg arbeidsledige som ble fulgt over tid, medførte det å få arbeid på nytt økt sannsynlighet for god livskvalitet og god selvopplevd helse.</p>

Referanse	Sammendrag	Forfatterens konklusjon
	<p>likely to improve towards a good quality of life (OR 1.76) and a good self-rated health (OR 2.88) compared with those persons who remained unemployed. Up to 6 months after re-employment, every month with paid employment, the likelihood of a good quality of life increased (OR 1.12). Conclusions: Starting with paid employment improves quality of life and self-rated health. This suggests that labour force participation should be considered as an important measure to improve health of unemployed persons. Improving possibilities for unemployed persons to find paid employment will reduce socioeconomic inequalities in health.</p>	
<p>Di Gessa G, Grundy E. (2014) The relationship between active ageing and health using longitudinal data from Denmark, France, Italy and England. <u>Journal of Epidemiology and Community Health</u> 68(3):261-267.</p>	<p>Background: Active ageing' has been promoted as a strategy for extending quality of life and healthy life expectancy. However, there is limited evidence from nationally representative longitudinal studies on whether engagement among older adults is associated with better outcomes and few studies have considered possible bias arising from differential study attrition. Methods: We investigate associations between the engagement of people aged 50-69 in three types of activity with self-rated health and depression 2years later using nationally representative longitudinal data from four European countries (Denmark, France, Italy and England). Data were drawn from waves 1 and 2 of the Survey of Health, Ageing and Retirement in Europe and the English Longitudinal Study of Ageing. Multivariable analysis was used to analyse associations between baseline activity and outcomes at follow-up controlling for socioeconomic, demographic and health-related variables at baseline. Multiple imputation techniques and sensitivity analyses were undertaken to investigate possible bias arising from sample attrition. Results: Respondents in paid work at baseline were less likely to be depressed or to report poor or fair health at follow-up than those who were inactive', although not in Italy. Engagement in formal and informal activities was not significantly associated with health at follow-up. Sensitivity analyses showed that assuming that those in bad health were over-represented among study attriters weakened the association between work at baseline and health at follow-up. Conclusions: Engagement in paid work may help maintain health in later life, although mechanisms and contextual influences need further investigation.</p>	<p>Studien viste at for eldre voksne kan det å være i betalt arbeid ha positiv effekt på helse (mindre risiko for depresjon og dårlig helse) senere i livet. (Funnene justert for sosioøkonomisk, demografiske og helsemessige forskjeller ved utgangspunktet, men frafallet blant deltakere med dårlig helse var stort.) I denne europeisk studien gjaldt effekten Danmark, Frankrike og England, men ikke Italia.</p>
<p>Frech A, Damaske S. (2012) The relationships between mothers' work pathways and physical and mental health. <u>Journal of Health & Social Behavior</u> 53(4):396-412.</p>	<p>We contribute to research on the relationships between gender, work, and health by using longitudinal, theoretically driven models of mothers' diverse work pathways and adjusting for unequal selection into these pathways. Using the National Longitudinal Study of Youth-1979 (N = 2,540), we find full-time, continuous employment following a first birth is associated with significantly better health at age 40 than part-time work, paid work interrupted by unemployment, and unpaid work in the home. Part-time workers with little unemployment</p>	<p>Studien viste at stabilt fulltidsarbeid blant mødre gav bedre helse enn deltidsarbeid, avbrutt arbeid pga arbeidsledighet eller ubetalt arbeid i hjemmet. Deltidsarbeid gav bedre</p>

Referanse	Sammendrag	Forfatterens konklusjon
	<p>report significantly better health at age 40 than mothers experiencing persistent unemployment. These relationships remain after accounting for the unequal selection of more advantaged mothers into full-time, continuous employment, suggesting full-time workers benefit from cumulating advantages across the life course and reiterating the need to disentangle health benefits associated with work from those associated with pre-pregnancy characteristics.</p>	<p>helse enn arbeidsledighet. Sammenhengene bestod også etter justering for eventuell selvseleksjon.</p>
<p>Pit SW, Byles J. (2012) The association of health and employment in mature women: a longitudinal study. <u>Journal of Women's Health</u> 21(3):273-280.</p>	<p>Background: Despite a reduction in income inequalities between men and women, there is still a large gap between income and retirement savings of Australian men and women. This is especially true for women who have health or disability problems. Mature age women are closest to retirement and, therefore, have less chance than younger women to build up enough retirement savings and may need to continue working to fund their older age. Continued workforce participation may be particularly difficult for women who are less healthy. Understanding which health problems lead to a decrease in workforce participation among mature age women is crucial. Therefore, this longitudinal study sought to identify which health problems are associated with employment among midage women over time. Methods: Data were analyzed from the midage cohort of the Australian Longitudinal Study on Women's Health (ALSWH), which involved 14,200 midage women (aged 45-50 years in 1996). The women have been surveyed four additional times, in 1998, 2001, 2004, and 2007. Generalized estimating equations (GEE) were used to conduct nested multivariate longitudinal analyses. Results: The percentages of women who were employed in the years 2001, 2004, and 2007 were 77%, 72%, and 68%, respectively. Results were adjusted for sociodemographic variables. Being employed decreased as physical and mental health deteriorated and with self-reported conditions: diabetes, high blood pressure, depression, anxiety, and other psychiatric conditions. Back pain, arthritis, cancer, obesity, and being a current smoker are associated with employment but not when quality of life is added to the model. Conclusions: There were significant associations between health and employment. Understanding these relationships could inform policies and guidelines for preventing declines in employment in mature age women.</p>	<p>Studien fant sammenhenger mellom arbeid og selvrappor-terte helseutfall (diabetes, høyt blodtrykk, depresjon, angst og andre psykiske lidelser) i favør arbeid, blant middelaldrende kvinner. Analysen var justert for sosiodemografiske forskjeller, men sammenhengene mellom arbeid og helse kan gå begge veier.</p>
<p>Waenerlund AK, Gustafsson PE, Hammarstrom A, Virtanen P. (2014) History of labour market attachment as a determinant of health status: a 12-year follow-up of the Northern</p>	<p>Objective: The present study aims at using trajectory analysis to measure labour market attachment (LMA) over 12 years and at examining whether labour market tracks relate to perceived health status. Design: Data were retrieved from a 26-year prospective cohort study, the Northern Swedish Cohort. Setting and participants: All ninth grade students (n=1083) within the municipality of Lulea in northern Sweden were included in</p>	<p>Studien fant at type tilknytning til arbeidslivet hos personer i perioden fra de er 16 til 42 år har effekt på psykologiske symptombelastninger</p>

Referanse	Sammendrag	Forfatterens konklusjon
Swedish Cohort. Bmj Open 4(2):9.	the baseline investigation in 1981. The vast majority (94%) of the original cohort participated at the fourth follow-up. In this study, 969 participants were included. Measures: Perceived health status (psychological distress and non-optimal self-rated health) at age 42 and the data obtained from questionnaires. Results: We have identified four tracks in relation to LMA across the 12-year period: permanent', high level', strengthening' and poor level' of attachment. LMA history relates to psychological distress. High level (OR 1.55 (95% CI 1.06 to 2.27)), strengthening (OR 1.95 (95% CI 1.29 to 2.93)) and poor attachment (OR 3.14 (95% CI 2.10 to 4.70) involve higher OR for psychological distress compared with permanent attachment. The overall p value remained significant in the final model (p=0.001). Analyses regarding non-optimal self-rated health displayed a similar pattern but this was not significant in the final model. Conclusions: Our results suggest that health status in mid-life, particularly psychological distress, is related to patterns of LMA history, to a large part independently of other social risk factors and previous health. Consideration of heterogeneity and time in LMA might be important when analysing associations with perceived health.	<i>(psychological distress)</i> ved 42 år, langt på vei uavhengig av andre sosiale risikofaktorer og tidligere helse. Studien fant ikke tilsvarende effekt på selvopplevd helse.
Wickrama KK, O'Neal CW, Kwag KH, Lee TK. (2013) Is working later in life good or bad for health? An investigation of multiple health outcomes. Journals of Gerontology Series B-Psychological Sciences & Social Sciences 68(5):807-815.	Objectives: To examine the mutual influences between changes in work status and multiple dimensions of health outcomes (immediate memory, physical disability, and depressive symptoms) over later years. Methods: We used a subsample of 8,524 older adults who participated in the Health and Retirement Study from 1998 to 2008 and were 62 years or older in 1998 to examine work status and health outcomes after controlling for age and background characteristics. Results: We present results of cross-lagged auto-regressive models. Work status (level of work) predicted subsequent residual changes in immediate memory over time, whereas immediate memory predicted subsequent residual changes in work status over time, even after controlling for physical disability and depressive symptoms. Similar results were indicated for the associations between work status and physical disability and depressive symptoms over time. Discussion: Consistent with social causation and social selection traditions, the findings support bi-directional associations among changes in work status (the level of work), immediate memory, physical disability, and depressive symptoms in later years. Practical implications are discussed.	Studien viste at for eldre voksne var det gjensidige påvirkninger mellom det å være i arbeid på den ene siden og arbeidsminne, fysiske vansker (<i>disability</i>) og depressive symptomer på den andre siden.

Tabell 5: Primærstudier der utvalg er hentet fra pasientgrupper

Referanse	Sammendrag	Forfatterens konklusjon
<p>Baor L, Soskolne V. (2012) Mothers of IVF twins: the mediating role of employment and social coping resources in maternal stress. <u>Women & Health</u> 52(3):252-264.</p>	<p>Twin pregnancies and births resulting from assisted reproductive technologies have been associated with adverse perinatal outcomes and maternal health complications leading to psychologically complex parenting. In the current study the authors assess the prevalence of clinical levels of maternal stress among mothers of twins resulting from in vitro fertilization and examine the association of social coping resources with three maternal stress sub-scales. During the years 2003-2005, 88 primiparous Israeli mothers of in vitro fertilization-conceived twins provided socio-demographic data during their third trimester of pregnancy, and at 6 months after birth provided data on delivery and medical condition of infants, coping resources (social support and marital quality), and a maternal stress scale. Forty-one percent of the mothers reached a clinically significant level of maternal stress. Social support and maternal employment were the most significant variables associated with experience of the stress in the early stages of adaptation to mothering in vitro fertilization twins. Primiparous mothers of in vitro fertilization twins are vulnerable to maternal stress in early stages of adaptation to the maternal role, some of whom reach clinical levels that may require professional interventions. Unemployed mothers with low social support were the most susceptible to the deleterious effects of in vitro fertilization treatment.</p>	<p>Studien viste at for nybakte mødre til tvillinger unnfanget med kunstig befruktning, var det å være i arbeid en av to variabler som gav sterkest positiv effekt på mors stressnivå (mødre i arbeid hadde lavere stressnivå).</p>
<p>Brakenhoff L, Van Den Berg R, Van Gaalen F, Van Der Meulen-de Jong A, Huizinga T, Hommes D, et al. (2013) Quality of life in inflammatory bowel disease patients with and without arthropathies: A prospective longitudinal study with 12-months follow-up. <u>Journal of Crohn's and Colitis</u> 7:S74-S75.</p>	<p>Background: Arthropathies are the most common extraintestinal manifestation in inflammatory bowel disease (IBD) patients. IBD patients have lower Quality of Life (QoL) than the general population. We assessed the effect of patient-reported factors on QoL in IBD patients with and without arthropathies, prospectively over 1 year. Methods: In total, 181 IBD patients were questioned about joint pain. At baseline, 135 patients (77% Crohn's disease (CD), 34% male) had arthropathies (daily back pain for >3 months and/or peripheral joint pain and/or joint swelling during the last year), another 46 patients (74% CD, 50% male) who had no arthropathies served as controls. QoL was assessed by the shortIBDQ and SF-36 (physical (PCS) and mental (MCS) component summary scores). Harvey Bradshaw Index (HBI) and Simple Clinical Colitis Activity Index (SCCAI) were used to measure IBD activity (active disease if HBI/SCCAI >4). Disease activity and (nocturnal) pain, back and peripheral joints, were scored (11-point numerical rating scale [NRS]). The self-administered questionnaires were assessed every 3-months. Uni- and multivariate (linear mixed model) analyses were performed to investigate which variables (age, gender, type of IBD, IBD duration, IBD activity, 6 NRS</p>	<p>Studien viste at for personer med kronisk inflammatorisk tarmsykdom hadde arbeid en selvstendig positiv sammenheng med psykisk helse og livskvalitet.</p>

Referanse	Sammendrag	Forfatternes konklusjon
	<p>scores, smoking and employment) were associated with QoL. Variables with a $p < 0.20$ were included in multivariate analyses. Because of the strong correlation between the 6 NRS scores, we included 2 of 6 scores in the multivariate analyses. Results: The mean age and mean IBD disease duration of all patients ($n = 181$) were 43.6 ± 13.7 and 15.6 ± 11.1 years, respectively. Multivariate analysis showed that an increase in NRS of disease activity back and peripheral joints and IBD activity were independently negatively associated with shortIBDQ (all $p < 0.001$). Increased IBD duration and employment were independently positively associated with shortIBDQ (both $p < 0.05$). Back and peripheral joint pain, IBD activity and unemployment were independently negatively associated with PCS (all $p < 0.001$). Disease activity of peripheral joints and IBD were independently negatively (both $p < 0.001$), and employment and age independently positively associated with MCS (both $p < 0.05$). Conclusions: An increase in severity of back and peripheral joint pain, disease activity of the back and peripheral joints and IBD activity are independently negatively associated with QoL in IBD patients. Furthermore, employment, increased IBD duration and age are independently positively associated with QoL.</p>	
<p>Hartoonian N, Terrill AL, Of M, Turner AP, Day MA, Alschuler KN. (2015) Predictors of Anxiety in Multiple Sclerosis. <u>Rehabilitation Psychology</u> 60(1):91-98.</p>	<p>Purpose/Objectives: The aims of this study were to (1) identify the predictors of symptoms of anxiety, and (2) evaluate the differential association of somatic and nonsomatic symptoms of depression on anxiety over time in persons with multiple sclerosis (MS). Method/Design: Participants were 513 persons with MS who previously enrolled in a study exploring the experience of living with MS and completed a 4-month follow-up survey. The main outcome measure used was the Hospital Anxiety and Depression Scale-Anxiety. Demographic, disease-associated variables (time since onset of MS, Expanded Disability Status Scale Mobility, pain, and fatigue), and Time 1 psychological variables were entered into a hierarchical regression model to examine predictors at baseline for anxiety symptoms at Time 2. Results: A large portion of the sample was White (92%), female (82%), and had relapsing-remitting MS (57%). After adjusting for demographic and disease related variables, anxiety ($\beta = .001$), employment ($\beta = .07$), and nonsomatic depressive symptoms ($\beta = .10$) at baseline significantly predicted anxiety at Time 2, $ps < .05$. Interactions revealed significant effects for time since onset of MS and somatic symptoms as well as time since onset and nonsomatic symptoms, $ps < .05$. Nonsomatic symptoms were more linked to anxiety early in the disease and somatic symptoms were more prominently linked to anxiety later in the disease. Conclusions: Findings suggest that nonsomatic symptoms of depression and employment predict anxiety in MS. The relationship between different aspects of depression and anxiety may change over the course of the disease.</p>	<p>Studien viste at for personer med multippel sklerose hadde arbeid (og symptomer på depresjon) en negativ effekt på angst.</p>

Referanse	Sammendrag	Forfatterens konklusjon
<p>McHugo GJ, Drake RE, Xie H, Bond GR. (2012) A 10-year study of steady employment and non-vocational outcomes among people with serious mental illness and co-occurring substance use disorders. <u>Schizophrenia Research</u> 138(2-3):233-239.</p>	<p>Objective: Employment promotes recovery for persons with serious mental illness by providing extra income and a valued social role, but the impact of employment on other psychosocial and clinical outcomes remains unclear. This study examined non-vocational outcomes in relation to steady employment over 10 years among people with serious mental illness and co-occurring substance use disorders. Methods: Researchers interviewed people with co-occurring disorders at baseline and yearly for 10 years and tracked employment in relation to five non-vocational outcomes: independent living, psychiatric symptoms, substance use disorder, healthy (non-substance-abusing) relationships, and life satisfaction. Latent class trajectory analysis identified steady workers, and mixed-effects regression models compared steady workers with non-workers. Results: Both steady workers (n=51) and non-workers (n=79) improved substantially; for example, a majority of each group achieved independent housing and stable remission of substance use disorders. Steady workers achieved independent housing and higher quality of life during the first 5 years of follow-up, but the two groups achieved similar outcomes by 10 years. Conclusions: People with co-occurring disorders can improve markedly. Those with steady employment may improve faster, but those without employment may achieve similar long-term outcomes at a slower pace.</p>	<p>Studien viste at for personer med samtidige alvorlige psykiske lidelser og ruslidelser hadde det å være i stabilt arbeid en positiv effekt på livskvalitet ved fem-års oppfølging. Ved ti-års oppfølging var det ingen forskjell på rapportert livskvalitet mellom de som hadde vært i arbeid og de som ikke hadde vært i arbeid.</p>
<p>Peterson CL, Walker C, Shears G. (2014) The social context of anxiety and depression: exploring the role of anxiety and depression in the lives of Australian adults with epilepsy. <u>Epilepsy & Behavior</u> 34:29-33.</p>	<p>Aim: To examine key determinants of anxiety and depression in a community sample of people with epilepsy. Method: Data were analyzed from the 2010 Australian Epilepsy Longitudinal Survey, examining living with epilepsy in Australia. The HADS was analyzed, and Pearson correlations and block recursive regression were undertaken to identify key associations between anxiety, depression, and a range of variables and to identify key determinants of anxiety and depression. Results: Key factors to influence anxiety were social aspects of stigma, effectiveness of seizure control, whether in employment, and the number of different epilepsy drugs. Determinants for depression were social aspects of stigma, whether in employment, and the effectiveness of seizure control. Stigma was also found to be an important mediating variable for employment, control, and the number of drugs. Conclusion: Understanding the mechanisms involved in anxiety and depression in a community sample of people with epilepsy requires the inclusion of opportunities for paid employment and the effects of psychosocial factors such as stigma. Without this fuller social context, there are limitations on understanding factors that influence anxiety and depression and how to deal with the outcomes.</p>	<p>Studien viste at for personer med epilepsi hadde det å være i arbeid en positiv effekt på angst og depresjon.</p>

Referanser

- (1) van der Noordt M, IJzelenberg H, Droomers M, Proper KI. Health effects of employment: a systematic review of prospective studies. *Occup Environ Med*. 2014 Feb 71(10):730-736.
- (2) Nøkleby H. Sammenheng mellom arbeid og helse: omtale av andres forskning [internett]. Oslo: Nasjonalt kunnskapssenter for helsetjenesten; [hentet 2015-07-12]. Tilgjengelig fra <http://www.kunnskapssenteret.no/publikasjoner/Sammenheng+mellom+arbeid+og+god+helse>

Vedlegg 1 – Søkestrategi

Database: Ovid MEDLINE(R) In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily, Ovid MEDLINE(R) and Ovid OLDMEDLINE(R) <1946 to Present>

Dato: 07.05.2015

Treff: 1228 treff

- 1 (work or employment or re-employment or employed or "labor participation").ti.
- 2 unemployment.ti. and (employed or employment or re-employment).tw. (402)
- 3 *employment/ or *employment, supported/ or *work/ or *career mobility/ or *occupations/
- 4 1 or 2 or 3
- 5 ("work done" or "work group*" or "future work" or "who work with" or "research work" or "social work" or "work in combination" or "work-up").ti.
- 6 4 not 5
- 7 ((health or ill-health or well-being or disease* or disorders or complaints or psychosocial or psychological or sleep or mental or depression or anxiety or stress or distress or ageing or aging) not oxidative stress).ti.
- 8 *health/ or *health status/ or *health status indicators/ or *physical fitness/ or *mens health/ or *womens health/ or *"attitude to health"/ or *disease/ or *chronic disease/ or *sleep disorders/ or aging/
- 9 *mental health/ or *mental disorders/ or *adaptation, psychological/ or *self concept/ or *personal satisfaction/ or exp *stress, psychological/ or *stress, physiological/ or *depression/ or *depressive disorder/ or *anxiety/ or *anxiety disorders/
- 10 7 or 8 or 9
- 11 6 and 10
- 12 risk factors/ or risk assessment/
- 13 longitudinal studies/ or cross sectional studies/ or intervention studies/
- 14 prospective studies/ or multivariate analysis/ or epidemiologic methods/
- 15 models, theoretical/ or models, statistical/ or models, psychological/

- 16 review.pt. or review.ti.
- 17 12 or 13 or 14 or 15 or 16
- 18 11 and 17
- 19 environmental exposure/ or exp child/ or exp infant/ or animals/ or hazardous substances/ or infection/ or communicable diseases/ or disease outbreaks/ or (influenza or hiv or aids or physical therapy or biomechanic* or tobacco or smoking or diet* or emergency or commentary).ti.
- 20 (news or letter or editorial or comment).pt.
- 21 18 not (19 or 20)
- 22 (2012* or 2013* or 2014* or 2015*).ed,yr.
- 23 21 and 22
- 24 remove duplicates from 23

Database: PsycINFO <1987 to May Week 1 2015>

Dato: 11.05.2015

Treff: 192 treff

- 1 (work or employment or re-employment or employed or "labor participation").ti.
- 2 unemployment.ti. and (employed or employment or re-employment).tw.
- 3 *employment status/ or *supported employment/ or *Occupations/ or exp *Occupational Mobility/
- 4 1 or 2 or
- 5 ("work done" or "work group*" or "future work" or "who work with" or "research work" or "social work" or "work in combination" or "work-up").ti.
- 6 4 not 5
- 7 ((health or ill-health or well-being or disease* or disorders or complaints or psychosocial or psychological or sleep or mental or depression or anxiety or stress or distress or ageing or aging) not oxidative stress).ti.
- 8 *Health/ or *Physical Fitness/ or *Health Attitudes/ or *Chronic Illness/ or *Sleep Disorders/ or Aging/
- 9 *Mental Health/ or *Mental Disorders/ or adaptive behavior/ or *Self Concept/ or *satisfaction/ or *physiological stress/ or exp *psychological stress/ or *affective disorders/ or *"depression (emotion)"/ or *Anxiety Disorders/ or *Anxiety/
- 10 7 or 8 or 9
- 11 6 and 10
- 12 Risk Factors/ or Risk Assessment/
- 13 Longitudinal Studies/ or cross sectional studies.mp. or intervention studies.mp.
- 14 Prospective Studies/ or Multivariate Analysis/ or epidemiologic methods.mp.
- 15 theoretical models.mp. or statistical analysis/ or psychological models.mp.

- 16 review.pt. or review.ti.
- 17 12 or 13 or 14 or 15 or 16
- 18 11 and 17
- 19 environmental effects/ or child*.mp. or infant*.mp. or Animals/ or hazardous materials/ or infectious disorders/ or Epidemics/ or (influenza or hiv or aids or physical therapy or biomechanic* or tobacco or smoking or diet* or emergency or commentary).ti.
- 20 (news or letter or editorial or comment).pt.
- 21 18 not (19 or 20)
- 22 (2012* or 2013* or 2014* or 2015*).up,yr.
- 23 21 and 22
- 24 remove duplicates from 23

Database: Embase <1974 to 2015 May 08>

Dato: 01.06.2015

Treff: 2000

- 1 (work or employment or re-employment or employed or "labor participation").ti.
- 2 unemployment.ti. and (employed or employment or re-employment).tw.
- 3 employment/ or *work/ or *career mobility/ or *occupation/
- 4 1 or 2 or 3
- 5 ("work done" or "work group*" or "future work" or "who work with" or "research work" or "social work" or "work in combination" or "work-up").ti.
- 6 4 not 5
- 7 ((health or ill-health or well-being or disease* or disorders or complaints or psychosocial or psychological or sleep or mental or depression or anxiety or stress or distress or ageing or aging) not oxidative stress).ti.
- 8 *health/ or *health status/ or *health status indicator/ or *fitness/ or *men's health/ or *women's health/ or *"attitude to health"/ or *disease/ or *chronic disease/ or *sleep disorders/ or aging/
- 9 *mental health/ or *mental disease/ or *adaptive behavior/ or *self concept/ or *satisfaction/ or exp *mental stress/ or *mental stress/ or *depression/ or *anxiety disorder/ or *anxiety/
- 10 7 or 8 or 9
- 11 6 and 10
- 12 risk factor/ or risk assessment/
- 13 longitudinal study/ or cross-sectional study/ or intervention study/
- 14 prospective study/ or multivariate analysis/ or epidemiology/
- 15 theoretical model/ or statistical model/ or psychological model/
- 16 review.pt. or review.ti.

- 17 12 or 13 or 14 or 15 or 16
- 18 11 and 17
- 19 environmental exposure/ or child/ or infant/ or animal/ or dangerous goods/
or infection/ or communicable disease/ or epidemic/ or (influenza or hiv or aids or
physical therapy or biomechanic* or tobacco or smoking or diet* or emergency or
commentary).ti.
- 20 (news or letter or editorial or comment).pt.
- 21 18 not (19 or 20)
- 22 (2012* or 2013* or 2014* or 2015*).dd,yr.
- 23 21 and 22
- 24 remove duplicates from 23

**Database: Web of Science Core Collection: Citation Indexes (SCI-EX-
PANDED --1975-present; SSCI --1975-present**

Dato: 07.05.2015

Treff: 5352

20 #18 not #19

19 TI=("environmental exposure" or "child" or "infant" or "animals" or "hazardous
substances" or "infection" or "communicable diseases" or "disease outbreaks") or
TI=("influenza" or "hiv" or "aids" or "physical therapy" or "biomechanic*" or "to-
bacco" or "smoking" or "diet*" or "emergency" or "commentary")

18 #17 AND #11

17 #16 OR #15 OR #14 OR #13 OR #12

16 TI="review"

15 TS=("theoretical models" or "statistical models" or "psychological models")

14 TS=("prospective studies" or "multivariate analysis" or "epidemiologic meth-
ods")

13 TS=("longitudinal studies" or "cross sectional studies" or "intervention stud-
ies")

12 TS=("risk factors" or "risk assessment")

11 #10 AND #6

10 #9 OR #8 OR #7

9 TI=("mental health" or "mental disorders" or "psychological adaptation" or "self
concept" or "personal satisfaction" or "psychological stress" or "physiological stress"
or "depression" or "depressive disorder" or "anxiety" or "anxiety disorders")

8 TI=("health" or "health status" or "health status indicators" or "physical fitness"
or "mens health" or "womens health" or "attitude to health" or "disease" or "chronic
disease" or "sleep disorders" or "aging")

7 TI= ("health" or "ill-health" or "well-being" or "disease*" or "disorders" or "complaints" or "psychosocial" or "psychological" or "sleep" or "mental" or "depression" or "anxiety" or "stress" or "distress" or "ageing" or "aging") not "oxidative stress")

6 #4 not #5

5 TI= ("work done" or "work group*" or "future work" or "who work with" or "research work" or "social work" or "work in combination" or "work-up")

4 #3 OR #2 OR #1

3 TI= ("employment" or "supported employment" or "work" or "career mobility" or "occupations")

2 TI= "unemployment" and ts= ("employed" or "employment" or "re-employment")

1 TI= ("work" or "employment" or "re-employment" or "employed" or "labor participation")

Vedlegg 2 – Usikre referanser

Følgende ni referanser kan *muligens* være aktuelle:

- 1. Brown J, Demou E, Tristram MA, Gilmour H, Sanati KA, Macdonald EB. (2012) Employment status and health: understanding the health of the economically inactive population in Scotland. BMC Public Health 12:327.**

Background: Although the association between health and unemployment has been well examined, less attention has been paid to the health of the economically inactive (EI) population. Scotland has one of the worst health records compared to any Western European country and the EI population account for 23% of the working age population. The aim of this study is to investigate and compare the health outcomes and behaviours of the employed, unemployed and the EI populations (further subdivided into the permanently sick, looking after home and family [LAHF] and others) in Scotland. Methods: Using data from the 2003 Scottish Health Survey, the differences in health and health behaviours among the employed, unemployed and the subgroups of the EI population were examined. Results: Both low educational attainment and residence in a deprived community were more likely in the permanently sick group. The LAHF and the unemployed showed worse self-reported health and limiting longstanding illness compared to the employed but no significant differences were observed between these groups. The permanently sick group had significantly poorer health outcomes than all the other economic groups. Similar to the unemployed and LAHF they are more likely to smoke than the employed but less likely (along with LAHF and 'others') to exhibit heavy alcohol consumption. Interestingly, the LAHF showed better mental health than the rest of the EI group, but a similar mental health status to the unemployed. On the physical health element of lung function, the LAHF were no worse than the employed. Conclusions: While on-going health promotion and vocational rehabilitation efforts need to be directed towards all, our data suggests that the EI group is at higher risk and policies and strategies directed at this group may need particular attention.

- 2. Cullati S, Rousseaux E, Gabadinho A, Courvoisier DS, Burton-Jeangros C. (2014) Factors of change and cumulative factors in self-rated health trajectories: A systematic review. Advances in Life Course Research 19:14-27.**

In Western societies, self-rated health (SRH) inequalities have increased over the past decades. Longitudinal studies suggest that the SRH trajectories of disadvantaged populations are declining at a faster rate than those of advantaged populations, resulting in an accumulation of (dis)advantages over the life course, as postulated by the Cumulative Advantage/Disadvantage (CAD) model. The objectives of this study are to conduct a systematic review of the factors influencing SRH trajectories in the adult population and to assess to what extent the findings support the CAD model. Based on the inclusion criteria, 36

articles, using 15 nationally representative databases, were reviewed. The results show that young age, high socioeconomic position and marital transitions (entering a partnership) are advantageous factors of change in SRH trajectories. However, evidence for cumulative influences supporting the CAD model remains limited: gender, ethnicity, education and employment status are only moderately associated with growing influences over time, and the cumulative influences of income, occupation, age and marital status are weak. In conclusion, this systematic review provides consolidated evidence on the factors influencing SRH trajectories, though the inclusion of only 15 nationally representative databases may limit the generalization of the results.

3. Hall JP, Kurth NK, Hunt SL. (2013) Employment as a health determinant for working-age, dually-eligible people with disabilities. *Disability and Health Journal* 6(2):100-106.

Background: Individuals with disabilities are a health disparity population with high rates of risk factors, lower overall health status, and greater health care costs. The interacting effect of employment, health and disability has not been reported in the research. Objective: This study examined the relationship of employment to health and quality of life among people with disabilities.

Methods: Self-reported survey data and secondary claims data analyses of 810 Kansans ages 18-64 with disabilities who were dually-eligible for Medicare and Medicaid; 49% were employed, with 94% working less than 40 hours per week. Statistical analyses included ANOVA for differences between the employed and unemployed groups' health status, risk scores, and disease burdens; chi-square analyses for differences in prevalence of health risk behaviors and differences in quality of life by employment status; and logistic regression with health status measures to determine factors associated with higher than average physical and mental health status. Results: Findings indicated participants with any level of paid employment had significantly lower rates of smoking and better quality of life; self-reported health status was significantly higher, while per person per month Medicaid expenditures were less. Employment, even at low levels, was associated with better health and health behaviors as well as lower costs.

Participants reported being discouraged from working by medical professionals and federal disability policies. Conclusions: Although cause-effect cannot be established from this study, findings strongly support changes to provider practices and federal disability policy to support employment at all levels for people with disabilities.

4. Krokavcova M, Nagyova I, Rosenberger J, Gavelova M, Middel B, Gdovinova Z, et al. (2012) Employment status and perceived health status in younger and older people with multiple sclerosis. *International Journal of Rehabilitation Research* 35(1):40-47.

Abstract: This study explores how employment is associated with perceived physical and mental health status in people with multiple sclerosis (MS) adjusted for sociodemographic and clinical variables stratified by age. The sample consisted of 184 MS patients divided into a younger (<45 years) and an older (>45 years) age group. Respondents underwent an interview, a neurological examination on disability [Expanded Disability Status Scale (EDSS)], and completed the Short Form-36 Health Survey. Of the respondents (mean age 40.5+/-6.2 years), 43.5% were employed. Significant differences between younger and older patients were found in employment, EDSS, disease duration, and five Short Form-36 Health Survey dimensions. Block-step multiple regression explained 32.4% of the variance in physical health and 14.5% in mental health in the younger group. Being employed was significantly related to good physical health, whereas EDSS diminished the effect of being employed on physical health. The most important variable for mental health was

employment status in the younger group. For the older age group, 19.1% of the variance in physical health and 14.0% of the variance in mental health was explained by the studied variables. Male gender and a lower EDSS were significant explanatory variables of better physical health. Male gender significantly explained mental health in the older age group. In conclusion, employment status was an explanatory variable for physical health and mental health in the younger patients. EDSS played a significant role in physical health for all patients. A vocational rehabilitation program could prevent eventual nonemployment and improve health outcomes in older MS people.

5. Kukla M, Bond GR, Xie H. A prospective investigation of work and nonvocational outcomes in adults with severe mental illness. *Journal of Nervous and Mental Disease* 2012;200(3):214-222.

This study assessed the impact of steady competitive or noncompetitive employment on nonvocational outcomes for clients with severe mental illness receiving employment services. We conducted a secondary analysis of 2-year data for 187 clients participating in a randomized controlled trial comparing two employment programs. Participants were classified according to 2-year employment outcomes into four groups: steady competitive work, steady noncompetitive work, minimal work, and no work. We compared these groups on 2-year outcomes including symptoms, hospitalizations, quality of life, and social networks. During follow-up, working clients had fewer days of hospitalization than the no-work group. The steady competitive group had greater reduction in negative symptoms than did the no-work group. The steady noncompetitive group showed greater improvement in social networks compared with the other groups. Extended periods of work are associated with improvements in nonvocational outcomes. Beneficial effects may vary according to the type of employment. Copyright © 2012 by Lippincott Williams & Wilkins.

6. Lund RS, Karlsen TI, Hofso D, Fredheim JM, Roislien J, Sandbu R, et al. (2011) Employment is associated with the health-related quality of life of morbidly obese persons. *Obesity Surgery* 21(11):1704-1709.

Background: We aimed to investigate whether employment status was associated with health-related quality of life (HRQoL) in a population of morbidly obese subjects. Methods: A total of 143 treatment-seeking morbidly obese patients completed the Medical Outcome Study 36-Item Short-Form Health Survey (SF-36) and the Obesity and Weight-Loss Quality of Life (OWLQOL) questionnaires. The former (SF-36) is a generic measure of physical and mental health status and the latter (OWLQOL) an obesity-specific measure of emotional status. Multiple linear regression analyses included various measures of the HRQoL as dependent variables and employment status, education, marital status, gender, age, body mass index (BMI), type 2 diabetes, hypertension, obstructive sleep apnea, and treatment choice as independent variables. Results: The patients (74% women, 56% employed) had a mean (SD, range) age of 44 (11, 19-66) years and a mean BMI of 44.3 (5.4) kg/m². The employed patients reported significantly higher HRQoL scores within all eight subscales of SF-36, while the OWLQOL scores were comparable between the two groups. Multiple linear regression confirmed that employment was a strong independent predictor of HRQoL according to the SF-36. Based on part correlation coefficients, employment explained 16% of the variation in the physical and 9% in the mental component summaries of SF-36, while gender explained 22% of the variation in the OWLQOL scores. Conclusion: Employment is associated with the physical and mental HRQoL of morbidly obese subjects, but is not associated with the emotional aspects of quality of life.

7. Macy JT, Chassin L, Presson CC. (2013) Predictors of health behaviors after the economic downturn: a longitudinal study. *Social Science & Medicine* 89:8-15.

Economic declines and their associated stress, shortage of financial resources, and changes in available time can impair health behaviors. This study tested the association between change in working hours, change in employment status, and financial strain and health behaviors measured after the 2008 recession after controlling for pre-recession levels of the health behaviors. The moderating influences of demographic factors and pre-recession levels of the health behaviors on the association between change in working hours and employment status and financial strain and the health behaviors were also tested. Participants (N = 3984) were from a longitudinal study of a U.S. Midwestern community-based sample. Regression analyses tested the unique relations between change in hours worked per week, change in employment status, and financial strain and five health behaviors over and above demographic factors and pre-recession levels of the same behavior. Models included predictor by covariate interactions. Participants who reported higher levels of financial strain engaged in lower levels of all but one of the five health behaviors, but there were no significant main effects of a change in the number of hours worked per week or change in employment status. Significant interactions revealed moderation of these relations by demographic characteristics, but findings differed across health behaviors. Financial strain negatively affected engagement in multiple healthy behaviors. Promoting the maintenance of healthy behaviors for disease prevention is an important public health goal during times of economic decline.

8. Ottomanelli L, Barnett SD, Goetz LL. (2013) A prospective examination of the impact of a supported employment program and employment on health-related quality of life, handicap, and disability among Veterans with SCI. *Quality of Life Research* 22(8):2133-2141.

Purposes: To investigate impact of participation in a supported employment program and impact of employment itself on health-related quality of life (HRQOL), disability, and handicap among Veterans with spinal cord injury (SCI). **Methods:** We used a prospective, randomized, controlled, multi-site trial of supported employment (SE) versus treatment as usual (TAU) for vocational issues. Subjects were 157 Veterans with SCI who received either SE or TAU for vocational issues. Outcomes were examined in terms of type of vocational treatment received and whether competitive employment was obtained. Outcomes investigated were HRQOL as measured by the Veterans RAND 36-item health survey (VR-36), handicap as measured by the Craig Handicap Assessment and Reporting Technique (CHART), and disability as measured by the functional independence measure (FIM). Subjects were assessed at baseline and at 3, 6, 9, and 12 months. **Results:** There were no significant differences between Veterans who participated in SE compared to those who received TAU in study measures. Participants obtaining competitive employment demonstrated significantly higher scores on the Social Integration, Mobility, and Occupation dimensions of the CHART. There were no observed differences in VR-36 scores or FIM scores for those obtaining competitive employment. **Conclusions(s):** This study suggests that employment has a positive effect on an individual's ability to participate in social relationships, move about their home and community, and spend time in productive and usual roles. Inability to detect differences across other domains of handicap or any changes in HRQOL may have been due to several factors including level and intensity of employment, insufficient follow-up period, or measurement limitations.

9. Young CA, Edwards R. (2014) Psychosocial factors affecting quality of life in multiple sclerosis-a review of the current evidence base. Multiple Sclerosis 1:405-406.

Abstract: Background: Multiple sclerosis (MS) may have a significant impact on a patient's quality of life (QOL), those with MS report having a poorer quality of life than the general population. Several psychosocial factors may be possible contributors to the observed deterioration of QOL in MS. Objectives: The aim was to analyse the current literature on the contribution of various psychosocial factors on QOL in MS. Methods: Literature searches were conducted in Medline, Science Direct and Psych Info for articles on MS, quality of life, psychosocial factors and a series of psychosocial factors identified from the literature search. All primary studies published in English were eligible. Each database was searched up to 1 April 2014. Exclusion criteria included reviews, duplicate publications and papers on measurement of psychosocial factors or QOL, as opposed to the relationship per se. Results: 137 papers yielded 30 studies on the potential influence of psychosocial factors on QOL in MS. Assessment of the relative importance of the factors is impaired because several factors are little studied, such as coping and self efficacy. The factors most frequently examined for effect on QOL were depression, employment status and cognitive impairment. Contributory factors ranked in order of number of papers examining the topic and finding a relationship to QOL were depression (15 out of 15 studies), employment (10 out of 11 studies), cognitive function (9 out of 10 studies), education (6 out of 7 studies), and fatigue (5 out of 5 studies). In addition, some factors may contribute to QOL in MS but appear to have been under-researched. These included anxiety (4 out of 4 studies) and obsessive compulsiveness disorders (1 study). Gender, age and marital status did not appear to influence QOL. Conclusions: Current research determining factors affecting QOL in MS shows strong evidence in support of depression having a detrimental impact upon QOL in this population. However it is also evident that the literature focuses on a limited number of psychosocial factors. Future research needs to consider a wider range of psychosocial factors in order to gain a more holistic picture of what contributes to QOL in MS and hence determine possible ways in which this can be improved.