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REPORT

A SYSTEMATIC REVIEW

Motivational Interviewing as a method to facilitate return to work

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Norwegian title Motiverende Intervju som en metode for å fasilitere tilbakeføring til arbeid: en systematisk oversikt

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Key messages

The Norwegian Labour and Welfare Administration (NAV) strives to include as many people as possible in employment. Motivational Interviewing (MI) is suggested to be a suitable method to achieve this goal. Training in MI is already widespread within NAV, despite the lack of solid research evidence about its effects on employment, wherefore NAV commissioned this systematic review.

We found scarce evidence for the effects of MI as a method to facilitate return to work: only five controlled studies (range 29 to 500 participants) met our inclusion criteria.

All studies targeted people with severe and longlasting conditions (i.e. people with severe mental disorders, disability pensioners, HIV-positive people, and drug-related offenders).

MI was in all studies combined with one or more other interventions, and compared either with the same other intervention, another intervention or no intervention. Due to differences across studies we decided against pooling of the results. Median follow up was 12 months.

Main findings:

- Results from three of the five studies suggest that using MI to facilitate return to work may lead to more people achieving open employment (low to very low certainty of evidence). The other two studies did not report results for open employment separately. Interpretation of other results was difficult as the study populations constituted a mix of employed and unemployed people.
- Only one study reported on work-hindering behavioural factors (e.g. expectancy to return to work). We could not determine the effect of MI on such factors.

Despite the scarce evidence, the results of this systematic review suggest that MI may be an effective method to facilitate return to work. Further investigation, including populations with less severe conditions is required to verify this potential.

Title:

Motivational Interviewing as a method to facilitate return to work: a systematic review.

Type of publication:

Systematic review

A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods (meta-analysis) may or may not be used to analyse and summarise the results of the included studies.

Doesn't answer everything:

- No studies evaluating the effects of MI in other contexts than for facilitating return to work
- No full cost-evaluation
- No recommendations

Who is responsible for this publication:

The Division of Health services within the National Institute of Public Health has completed this review which was commissioned by the Norwegian Labour and Welfare Administration (NAV)

When were the literature searched:

Last search for studies: November 2016.

Peer review:

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Executive summary

Background

One of the main objectives for the Norwegian Labour and Welfare Administration (NAV) is an inclusive job market with as many people as possible in employment. NAV's Guidance Platform points explicitly to Motivational Interviewing (MI) as a suitable method to achieve this goal. In Norway, training in MI is already widespread within NAV, despite the lack of solid research evidence about its effects on employment.

Objective

The overall objective of this project was to summarise the research on the effects of Motivational Interviewing as a method to facilitate return to work for people who for various reasons are not working. We aimed to answer the following questions:

1. What is the documented effect of Motivational Interviewing as a method to facilitate return to open paid employment (alternatively to remain in work) for people who are not working?
2. What is the documented effect of Motivational Interviewing as a method to help people who are not working overcoming work-hindering factors (e.g. low work-motivation, low self-efficacy or work-readiness etc)?

Method

We conducted a systematic review in accordance with the handbook of the Division of Health Services within the National Institute of Public Health. We searched for primary studies in ten electronic databases up to November 2016. Two people independently screened all titles, and thereafter assessed the full texts of possible eligible studies. One review author extracted data onto a standardised data extraction form, and a second review author checked the correctness of the extracted data. Two authors independently assessed the quality of the included studies using the Cochrane risk of bias tool and the certainty of the included evidence using the GRADE tool (Grading of Recommendations Assessment, Development and Evaluation).

Results

We found five controlled studies (range 29 to 500 participants) that evaluated the effects of MI as a method to facilitate return to work for people who for different reasons are not working. The studies were conducted in England, Australia, the USA (2 studies), and Norway.

Two of the studies reported effects of MI on open paid employment, and one study reported the effects of MI on the composite measure 'having returned to work or being in the process of returning to work' (i.e. being at work training or attending an educational course). One study reported no numerical data for open employment, and one reported work status and days in open employment. Only one of the studies reported effects on work-hindering (behavioural) outcomes.

One study showed that MI delivered with individual placement support (IPS) possibly lead to more people with psychosis achieving open paid employment as compared to IPS only (Risk Ratio [RR]: 2.35 [95% CI 1.31 to 4.19]; low certainty of evidence).

It is uncertain whether MI plus an information pack, delivered to people with severe psychiatric conditions, leads to increased open paid employment compared with the mailed information pack only (one study; RR: 7.33 [95% CI 1.04 to 51.67]; very low certainty of evidence).

It is uncertain whether MI delivered as part of a brief vocational intervention to disability pensioners with back pain, leads to increased 'paid employment or being in a process of returning to work' rate than control (one study; RR: 1.96 [95% CI 0.73 to 5.26]; very low certainty of evidence). The same study reported similar work capacity, perceived disability, and fear-avoidance behaviour in both groups.

It is uncertain whether MI, skills building and job related skills training delivered to HIV-positive people receiving disability payment, of which some were employed (32%) and some unemployed, leads to improved employment related outcomes as compared to community referral. The effect on a mean summed score of open employment, volunteer work, job training and job seeking, was inconsistent, with better scores in the intervention group at 18 months but not at 6, 12 or 24 months follow-up (no numerical data provided). Open employment was not reported separately.

It is uncertain whether MI delivered as part of a tailored vocational intervention alongside a drug court program to a mixed group of employed (53.6%) and unemployed drug-involved offenders, leads to more people achieving open legal employment than drug court only: around 30% of participants in both groups who were unemployed at baseline had achieved employment at follow up. The intervention may

lead to slightly more days of legal employment during the last 12 months (low certainty of evidence).

We found no studies that evaluated MI as a method to facilitate return to work for people who were unemployed, on sick-leave, or people receiving other types of benefits or work assessment allowance. Nor did we find any studies in which MI was used to support individuals on part-time sick leave to remain in work.

Discussion

We included five studies in this systematic review, of which four were relatively small. Differences across studies prevented us from pooling of the results. The results, which are based on low to very low certainty of evidence, should be interpreted with caution.

In all five studies, MI targeted people with severe long-term conditions only: people with psychiatric conditions, disability pensioners with HIV or back pain, and drug-involved offenders. It may not be possible to generalise the results of this review to people with less severe conditions, or with shorter work absences.

Surprisingly, only one of the included studies reported effects of MI on work-hindering behavioural factors (work capacity, perceived disability, fear avoidance behaviour); and no study reported on self-efficacy, work-motivation, 'work-readiness', anxiety, depression or sleeping problems.

Conclusion

There is scarce evidence for the effect of MI as a method to facilitate return to work. This is especially true for people with less serious conditions and shorter work absences.

The results of this review indicate that MI may be a useful method to facilitate return to work. As the certainty of the included evidence is low to very low, we need more evidence from large well-conducted trials to verify this.

Future studies should preferably include behavioural outcomes, and also evaluate the effects of MI targeted at people with less severe conditions.

Hovedfunn (norsk)

Arbeids- og velferdsdirektoratet (NAV) etterstreber å inkludere så mange som mulig i arbeidslivet. Motiverende Intervju (MI) er betraktet som en egnet metode for å oppnå dette målet. Opplæring i MI er utbredt innen NAV systemet, uten at det er basert på solid forskningsbasert kunnskap om hvilke effekter motiverende intervju har på arbeid. NAV bestilte derfor denne systematiske oversikten.

Vi fant lite dokumentasjon på effekten av MI som en metode for å fasilitere tilbakeføring til arbeid. Kun fem kontrollerte studier, med mellom 29 og 500 deltakere, møtte inklusjonskriteriene.

Tiltaket var i alle studiene rettet mot personer med alvorlige og langvarige tilstander: psykiske lidelser, langtidsuføre, hiv-positive, og lovovertrедere med rusproblemer.

MI var i alle studiene en del av et sammensatt tiltak og sammenlignet med enten kun én del av tiltaket, et annet tiltak eller ingen tiltak. På grunn av ulikheter mellom studiene var det ikke forsvarlig å slå sammen resultatene statistisk. Median oppfølging i studiene var 12 måneder.

Hovedfunn:

- Tre av de fem studiene fant at bruk av MI for å støtte tilbakeføring til arbeid muligens kan føre til at flere personer kommer tilbake i arbeid. To studier rapporterte ikke resultatene for arbeid separat, og tolkning av andre resultater var vanskelig pga at studiepopulasjonene utgjorde både personer som var sysselsatte og arbeidsløse.
- Kun én studie rapporterte om arbeidsbegrensende atferdsfaktorer (f.eks. egen tro på å komme tilbake i arbeid), og derfor kunne vi ikke avgjøre om MI har en effekt på disse faktorene.

Resultatene fra denne systematiske oversikten viser at MI muligens kan være en effektiv metode for å støtte tilbakeføring til arbeid. Men flere studier (inkludert populasjoner med mindre alvorlige plager) er nødvendig for å bekrefte dette potensialet.

Tittel:

Motiverende Intervju som en metode for å fasilitere tilbakeføring til arbeid: en systematisk oversikt

Publikasjonstype:

Systematisk oversikt

En systematisk oversikt er resultatet av å

- innhente
- kritisk vurdere og
- sammenfatte relevante forskningsresultater ved hjelp av forhåndsdefinerte og eksplisitte metoder.

Svarer ikke på alt:

- Ingen studier om motiverende intervju i andre kontekster enn for å lette tilbakeføring i arbeid
- Ingen økonomisk evaluering
- Ingen anbefalinger

Hvem står bak denne rapporten?

Kunnskapssenteret har skrevet rapporten på oppdrag fra Arbeids- og velferdsdirektoratet (NAV)

Når ble litteratursøket utført?

Søk etter studier ble avsluttet November 2016

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Sammendrag (norsk)

Bakgrunn

Ett av hovedmålene for Arbeids- og velferdsdirektoratet (NAV), er et inkluderende arbeidsliv med en målsetting om å få så mange som mulig i arbeid. NAVs Veiledningsplattform viser til Motiverende Intervju (MI) som en egnet metode for å nå dette målet. I Norge er opplæring i MI innen NAV systemet allerede utbredt, uten at det baseres på solid forskningsdokumentasjon om hvilke effekter MI har på arbeidsdeltakelse. På grunn av dette bestilte NAV en forskningsoppsummering om effekt av MI som en metode for å støtte personer som av forskjellige grunner ikke er i arbeid (f.eks. personer som er arbeidsledige, langtidssykemeldte, osv.) å komme tilbake i arbeid.

Problemstilling

Det overordnede målet med dette prosjektet var å oppsummere kunnskapsgrunnlaget om effekten av Motiverende Intervju på å komme tilbake i arbeid, for personer som av forskjellige grunner ikke er i arbeid. Vi hadde til hensikt å besvare følgende spørsmål:

1. Hva er den dokumenterte effekten av Motiverende Intervju som en metode for å støtte personer som ikke er i arbeid å komme tilbake i åpent lønnet arbeid (alternativt å forbli i arbeid)?
2. Hva er den dokumenterte effekten av Motiverende Intervju for å hjelpe personer som ikke er i arbeid, å overkomme arbeidshindrene faktorer (f.eks. lav mestringstro, lav arbeidsmotivasjon, lav følelse av å være rede/klar/forberedt for arbeid ('work readiness'), osv.)?

Metode

Vi utførte en systematisk oversikt i henhold til Område for helsetjenester i Folkehelseinstituttet sin håndbok. Vi søkte etter primærstudier i ti elektroniske databaser opp til november 2016. To oversiktsforfattere vurderte alle titler, sammendrag og fulltekst av mulige relevante studier uavhengig av hverandre. Én forfatter hentet inn data i et standardisert dataekstraksjonsskjema, og en annen forfatter kontrollerte

riktigheten av data. Vi brukte Cochranes «risiko for skjevhet» verktøyet for å vurdere den metodiske kvaliteten på studiene, og GRADE (Grading of Recommendations Assessment, Development and Evaluation) for å vurdere hvor mye tillit vi har til resultatene fra disse studiene. To forfattere gjorde dette uavhengig av hverandre.

Resultat

Vi inkluderte fem kontrollerte studier (antall: 29 til 500 deltakere) som evaluerte effekten av MI som en metode for å støtte personer å komme tilbake i arbeid. Studiene ble gjennomført i England, Australia, USA (2 studier) og Norge.

To av studiene rapporterte effekten av MI på å komme tilbake til lønnet arbeid og en studie rapporterte effekten av MI på et sammensatt utfall for 'lønnet arbeid eller være i ferd med å komme tilbake til arbeid' (dvs. jobbtrening eller deltakelse i et opplæringsforløp). En studie rapporterte ikke numeriske resultater for lønnet arbeid, og en studie oppga gjennomsnitt dager i arbeid. Kun en av studiene rapporterte effekten av MI på arbeidshindrende utfall.

En studie viste at MI gitt sammen med personlig plasseringsstøtte (IPS) muligens kan føre til at flere personer med psykose kommer tilbake i lønnet arbeid sammenlignet med IPS alene (Risk ratio [RR]: 2,35 [95% CI 1,31 to 4,19], lav tillit til resultatene).

Det er usikkert om MI gitt sammen med en informasjonspakke, til personer med alvorlige psykiske lidelser, fører til at flere kommer tilbake i arbeid sammenlignet med informasjonspakken alene (7,33 [95% CI 1,04 til 51,67], svært lav tillit til resultatene).

I en studie der MI ble levert som en del av et yrkesrettet tiltak, til uførepensjonister med ryggsmertor, var det usikkert om MI fører til at flere kommer tilbake til 'lønnet arbeid, eller til å være i ferd med å komme tilbake i arbeid', sammenlignet med kontroll (RR: 1,96 [95% CI 0,73 til 5,26], svært lav tillit til resultatene). Den samme studien rapporterte lignende effekter på arbeidskapasitet, oppfattet uførhet, og unngåelses-atferd.

Det er usikkert om MI, ferdighetsbygging og arbeidsrelatert jobbtrening sammenlignet med henvisning til kommunale tjenester for hiv-positive personer som mottar uførepenger, fører til at flere oppnår lønnet arbeid. Effekten på et kombinert utfall (lønnet arbeid, frivillig arbeid, yrkesopplæring og jobbsøking) varierte, med høyere skåre i intervensjonsgruppen ved 18 måneders oppfølging, men ikke ved 6, 12 eller 24 måneder. Lønnet arbeid ble ikke rapportert separat.

Det er usikkert om MI som en del av et skreddersydd arbeidsprogram pluss et 'drug court' program (juridisk veiledningsrett i USA som håndterer lovbrøttere som er voldelige stoffmisbrukere) for narkotikainvolverte lovovertredere, fører til at flere oppnår lønnet arbeid enn bare 'drug courts': 30 % i begge gruppene oppnådde lønnet arbeid ved oppfølging. Antall dager i lønnet arbeid var litt høyere i intervensjonsgruppen (en studie; 10,2 dager [-32,19 til 11,79]; svært lav tillit til resultatene).

Vi fant ingen studier om MI som en metode for å støtte tilbakeføring til arbeid for arbeidsledige personer, rehabiliteringsklienter (bortsett fra narkotikarelaterte lovovertredere), sykemeldte, personer som mottar uførepensjon (av andre grunner enn ryggsmarter og hiv), mottakere av stønad eller arbeidsavklaringspenger.

Diskusjon

Vi inkluderte fem kontrollerte studier i denne systematiske oversikten, hvorav fire var relativt små. Tilliten til effektestimaterne for hovedutfallet (lønnet arbeid) var lav til svært lav. Derfor må resultatene tolkes med forsiktighet.

I alle fem studiene var MI-intervensjonen rettet mot personer med alvorlige og langvarige plager: personer med psykiske lidelser, personer som var langtidsuføre, hiv-positive personer, og narkotikarelaterte lovovertredere. Det er usikkert om resultatene fra denne systematiske oversikten kan generaliseres til personer med mindre alvorlige plager eller med kortere arbeidsfravær.

Det var overraskende at bare én av de fem inkluderte studiene rapporterte effekt av MI på arbeidshindrende faktorer (arbeidskapasitet, oppfattet funksjonshemming, frykt-unngående atferd). Ingen av studiene rapporterte effekt på mestringsstro, arbeidsmotivasjon, følelse av å være rede/klar/forberedt for arbeid ('work readiness'), angst, depresjon eller søvnproblemer.

Konklusjon

Det mangler god dokumentasjon for effekten av MI som en metode for å støtte personer som er arbeidsledige, sykmeldte, mottar uførepensjon, eller av andre grunner ikke er i arbeid, å komme tilbake i arbeid.

Resultatene av denne systematiske oversikten viser at MI muligens kan være en nyttig metode for å hjelpe folk tilbake i arbeid, men siden tilliten til effektestimaterne for tilbakeføring til arbeid fra de inkluderte studiene var lav til svært lav, trenger vi mer dokumentasjon fra store, godt gjennomførte studier, for å bekrefte effekten.

Fremtidige studier bør inkludere atferdsmessige resultater, og også evaluere effekten av MI for personer med mindre alvorlige plager.

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Preface

The Norwegian Labour and Welfare Administration (NAV) commissioned a summary of available research on the effects of Motivational Interviewing (MI) as a method to support people who for different reasons are not working (e.g. people who are unemployed, on sick leave, disability pensioners etc.), in returning to work. This systematic review is intended to help decision-makers and professionals in NAV to make informed decisions about the usefulness of MI as a method to improve the provision of services.

The Division for health services within the National Institute of Public Health follows a standard approach in dealing with systematic reviews, which is described in the manual “Slik oppsummerer vi forskning.” We may use standard formulations when we describe the method, results and discussion of the findings.

Contributors to the project:

- Project leader: researcher, Gerd M Flodgren, National Institute of Public Health
- Other participants: Unit director, Rigmor C Berg, and research librarian Lien Nguyen, both from the National Institute of Public Health.

We would like to acknowledge the following people: research librarian Lien Nguyen for help with developing the search strategy and running the searches, internal peer referees Gunn Elisabeth Vist and Liv Merete Reinar, external peer referees Ira Malmberg-Heimonen from the Faculty for the Social Sciences at Oslo and Akershus University College of Applied Sciences, Liv Heide Magnussen from the Institute for ergo/fysio/radio, University of Bergen (protocol only), and Anne-Grete Tøge from the Centre for Welfare and Labour Research, Oslo and Akershus University College of Applied Sciences (full text review) for their helpful input on the review.

Declared conflicts of interest:

None of the authors or referees declared any conflicts of interest.

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Objective

The overall objective of this project was to summarise the evidence concerning the effect of Motivational Interviewing as a method to help people, who for various reasons are not in work, to overcome work-hindering factors and return to work.

We aim to answer the following research questions:

1. What is the effect of Motivational Interviewing as a method to facilitate return to work (i.e. open paid employment) for people who are not working?
2. What is the effect of Motivational Interviewing to overcome work-hindering factors (e.g. low motivation, self-efficacy or readiness to return to work, etc) for people who are not working?

By 'open employment' we mean having a job in the general labour market.

Background

Description of the problem

One of the main objectives for the Ministry of Labour and Social Affairs, and the Norwegian Labour and Welfare Administration (NAV), is an inclusive workplace with as many people as possible in employment. In Norway, employment is lower among people with disabilities compared to the general population (1), and this is also true for long-term recipients of sickness benefits (2). Mental disorders and muscle disorders are two of the main reasons for disability and prolonged sick leave (3).

There are many reasons why it can be difficult for individuals to achieve or return to work after prolonged illness or other absences. It can be external factors, such as lack of support in the workplace, and too demanding work (4), but also factors internal to the individual, such as lack of motivation, low self-efficacy, low sense of work readiness and depression (5).

NAV's Guidance Platform points explicitly to MI as a suitable method to help individuals overcome internal work-hindering factors (6). In Norway, training in using MI is already widespread within NAV. This practice has not been based on evidence about the effects of MI on employment. In light of this, NAV has commissioned a systematic review of the evidence for the effect of using MI to facilitate return to work among people who are unemployed, on long-term sick leave or not working due to other reasons.

Description of the intervention

MI is defined as a person-centred conversation method that aims to elicit and enhance an individual's motivation to change (7, 8). The focus of MI is to explore the

client's barriers and through these explorations contribute to change, with the client's intrinsic motivational processes in the centre. Consequently, it can be hypothesized that MI can help individuals overcome internal work-hindering factors.

An advisor/ therapist who uses MI does not try to impose changes that are not acceptable to the client's values, beliefs or desires, but supports amendment in accordance with these (7). MI can also be described through its three key elements:

1. A special kind of conversation about change (counseling, therapy, method of communication)
2. A method based on cooperation (person-centered, partnership, promotes autonomy, not expert receiver)
3. A strategy that conjures up strong images, memories, or feelings (mobilizing the person's own motivation and commitment to change) (7, 8).

How the intervention may work

Work is central to our identity as individuals, our social roles and social status (2). A solid knowledge base shows that work is generally good for both physical and mental health (2, 3). However, work may also, depending on the nature and quality of the work and its social context, pose a health risk (2). Nevertheless, considerable evidence shows strong links between unemployment and poorer general and mental health, and higher mortality (2). Returning to work is reported to increase self-esteem in addition to improving both physical and mental health. This is also true for people who are on sick leave and for people with disabilities (2).

The underlying mechanisms by which MI affects the behavioural change process is not fully understood, as has been discussed in a recent systematic review (9). There are a couple of theoretical models which are aligned with the MI technique, one is the 'readiness to change model' also called the 'stages of change model' proposed by Prochaska and Di Clemente (10). The model suggests that a behavioural change happens gradually for most people, with the person moving from a pre-contemplation stage (not ready to change), to the contemplation stage (considering change), and further through a preparation and action stage during which the person first decides, and finally acts, to accomplish change. There is also a relapse prevention stage, in which attempts to maintain the new behaviour are made (10). Another related model is the Transtheoretical Model, also described by Prochaska, Di Clemente et al (11, 12), in which the above mentioned 'stages of change' are central, but the model also includes and integrates key constructs from other theories into a comprehensive theory of change that can be applied to a variety of behaviours and contexts. A third theory (13) highlights the importance of the 'relational component' of MI, or what has been called the 'spirit of MI' (the empathy expressed by the therapist), and the 'technical component' of MI, also referred to as the 'change talk', as the mediators driving the behavioural change processes. However, no consensus exists

to date on which factors or components of the MI technique that actually mediates the behavioural change.

Why it is important to do this review

There are many systematic reviews concerned with the effects of MI on behavioural change in the context of drug dependence and other clinical conditions (14-17), but when it comes to evaluations of the effects of MI in facilitating return to work, the evidence has so far been sparse. One review from Australia reports positive effects of MI on return to work in people with disabilities (18). We are aware of one ongoing randomised controlled trial (in a NAV context) aiming to assess the effects of MI on return to work for people on long-term sick leave.

In this systematic review, commissioned by NAV, we evaluate the effects of MI as a method to facilitate return to work, by helping people to overcome work-hindering factors that are internal to the individual. The knowledge gained may provide decision-makers and professionals in NAV with guidance on the appropriateness of using MI to assist people to return to work.

Method

We conducted this systematic review in accordance with the Division of Health Services' handbook <https://www.fhi.no/kk/oppsummert-forskning-for-helsetjenesten/slik-oppsummerer-vi-forskning/>), and the previously published project-plan (see Appendix 1). We have provided a glossary in Appendix 2.

Inclusion criteria

Study design (in order of priority): We considered randomised controlled trials (RCTs), cluster RCTs, non-randomised controlled trials (NRCT), controlled before after studies (CBAs) with at least two intervention and two control sites, and interrupted time series studies (ITSS), with at least three data points before and three data points after the intervention.

- Population:**
- People who are unemployed
 - People with disabilities (i.e. disabilities that are either physical, mental, cognitive, intellectual, sensory, developmental or a combination of any of these)
 - Rehabilitation clients (i.e. people with either physical, mental, cognitive, behavioural or addiction problems, or a combination of any of these)
 - People who are on sick leave
 - People who receive benefits
 - People who receive disability pension
 - People who receive work assessment allowance

Intervention: Motivational interviewing (alone or in combination with one or more other interventions).

Note: We only included studies which clearly stated that Motivational Interviewing, or elements of Motivational Interviewing constituted the intervention, or parts of the intervention.

Comparison: Standard practice /'business as usual' or other active interventions (e.g. individual support placement)

Outcome: *Primary outcomes:* Work (paid work, full- or part time)
Secondary outcomes: Work capacity, 'work readiness', self-efficacy, work-motivation, anxiety, depression, sleeping problems

Language: All relevant studies are considered regardless of language (see additional criteria below)

Additional inclusion criteria:

- Only studies published in a language mastered by people in our team, colleagues in our unit, or colleagues at the National Institute of Public Health, were eligible for inclusion.
- Only primary studies that could be obtained in full text were eligible for inclusion.
- For self-reported (subjective) outcomes, we only included those that had been measured using standardised instruments, e.g. the Beck Depression Inventory (BDI-II) (19) etc.

Literature search

We searched in 10 electronic databases for studies that evaluated the effects of Motivational Interviewing as a method to facilitate return to work. We searched from 1983 (20) when Miller first described the MI method, up to November 2016. We applied no language restrictions.

We searched for studies in the following databases:

- MEDLINE (Ovid)
- PsycINFO (Ovid)
- EMBASE (Ovid)
- Cochrane Library (CDSR, DARE, CENTRAL)
- CINAHL (Ebsco)
- Web Of Science Core Collection (SCI-EXPANDED & SSCI)
- Sociological Abstracts & Social Services Abstracts (ProQuest)
- PubMed
- Epistemonikos
- SveMed+

In addition, we searched Google scholar and the Campbell library for relevant studies and/or reviews. We also searched reference lists of included studies, and contacted experts in the field.

We provide the complete search strategy in Appendix 3.

Selection of studies

We searched for controlled studies that compared MI delivered alone, or in combination with one or more other interventions, with 'business as usual' or one or more other active interventions, aimed at facilitating return to work.

We downloaded all titles and abstracts retrieved by searching the electronic databases into the reference management program EndNote and removed duplicates. Two review authors (GMF and RCB) independently assessed the eligibility of the remaining titles and abstracts for inclusion. We directly excluded those studies that clearly did not meet the inclusion criteria, and obtained full text copies of the possibly relevant studies. We resolved disagreements through discussion between the review authors.

We have documented reasons for exclusion of studies read in full text in Appendix 4.

Data extraction

One review author (GMF) extracted data from each included study into a standardised data extraction form, and a second review author (RCB) checked the accuracy of the data. Disagreements were resolved through discussion between the review authors.

We extracted the following data from the included studies:

- Characteristics of the population: age, gender, ethnicity, and type of population (i.e. job seekers, people with disabilities, rehabilitation clients, people on sick leave, beneficiaries, disability pensioners or people receiving work assessment allowance), and employment status
- Country and context: clinical, job support services, or rehabilitation clinics, etc.
- Characteristics of the intervention: MI only, or MI combined with one or more other interventions, duration of intervention (number, length and spacing of MI sessions), who delivered the intervention, whether the person delivering MI had a grade /quality finisher training in MI, whether a manual for MI was used, whether MI was given as intended (by means of 'adherence' checklists or method such as the Motivational Interviewing Treatment Integrity (MITI) scale (21))
- Comparison intervention: type of intervention the comparison group received (e.g. description of the intervention components and number and duration of sessions)
- Outcomes: results for all eligible outcomes e.g. open paid employment/ return to work (%), work capacity, self-efficacy, 'work readiness', work motivation etc.

In addition, we noted any mention of consumer involvement, and whether or not the authors used theory in an attempt to explain the behavioural change process.

Risk of bias assessment

Two review authors (GMF and RCB) independently assessed the risk of bias of included studies using the Cochrane risk of bias tool (22) on six standard criteria: adequate sequence generation, concealment of allocation, blinded or objective assessment of primary outcome(s), adequately addressed incomplete outcome data, free from selective reporting, and free of other risk of bias. We used two additional criteria specified by the Cochrane Effective Practice and Organisation of Care group (23): similar baseline characteristics, and similar baseline outcome measures.

We assigned an overall assessment of the risk of bias (high, unclear or low risk of bias) to each of the included studies using the approach suggested in Chapter 8 of the Cochrane Handbook for Systematic Reviews of Interventions (22). We considered studies with low risk of bias for all key domains, or where it seemed unlikely for bias to seriously alter the results, to have a low risk of bias. We considered studies where risk of bias in at least one domain was unclear, or judged to have some bias that could plausibly raise doubts about the conclusions, to have unclear risk of bias. We considered studies with a high risk of bias in at least one domain or judged to have serious bias that decreases the certainty of the conclusions to be at high risk of bias. We solved any disagreements through discussion between review authors.

We have described the results of the quality assessment, as well as the risk of bias items in Appendix 5.

Data synthesis

Due to heterogeneity of study populations, co-interventions and study designs across studies we did not pool the result for the main outcome (open paid employment). We instead report the results narratively in text and in tables. We have, when possible, reported the results for dichotomous outcomes as risk ratios (or odds ratios), and continuous outcomes as mean differences, both with 95% confidence intervals.

Grading of the evidence

Two review authors (GMF and RCB) used the GRADE tool (Grading of Recommendations Assessment, Development and Evaluation) developed by the GRADE working group (24) to determine the certainty of the estimates of effects of interventions for the main outcome reported in the included studies, i.e. to what degree we could

trust that the results estimated the true effect. We considered the certainty of the compiled evidence for the main outcome (i.e. open employment) using GRADE.

Evidence from randomised controlled trials start as high certainty evidence but may be downgraded depending on five criteria in GRADE that are used to determine the certainty of the evidence: i) methodological study quality as assessed by review authors, ii) degree of inconsistency, iii) indirectness, iv) imprecision, and v) publication bias. Upgrading of results from observational studies is possible according to GRADE if there is a large effect estimate, or a dose-response gradient, or if all possible confounders would only diminish the observed effect and that therefore the actual effect most likely is larger than what the data suggest.

In accordance with the GRADE approach, we graded the certainty of the evidence as high, moderate, low, or very low. The GRADE Working Group defines these grades of evidence in the following way:

High certainty: We are very confident that the true effect lies close to that of the estimate of the effect

Moderate certainty: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different

Low certainty: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect

Very low certainty: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect

Ethics

We have not considered ethical issues in this systematic review.

Results

Search results

The literature searches yielded 2,488 unique citations. Of these 2,488 citations, we excluded 2,469 as irrelevant based on title and abstract review (see Figure 1). We retrieved and scrutinised 18 possible eligible studies in full texts, which all were published in English. We excluded 13 of these studies with reasons. Among the excluded studies are three abstracts that we could not obtain in full text (25-27), and therefore could not assess for inclusion. See Appendix 4 for a list of excluded studies and the reasons for exclusion.

As we identified only one ongoing study (28) we did not as planned report this single study in a separate table, but instead we have described it below.

We identified five controlled studies that were eligible for inclusion in this systematic review. For a list of included studies, see Appendix 6.

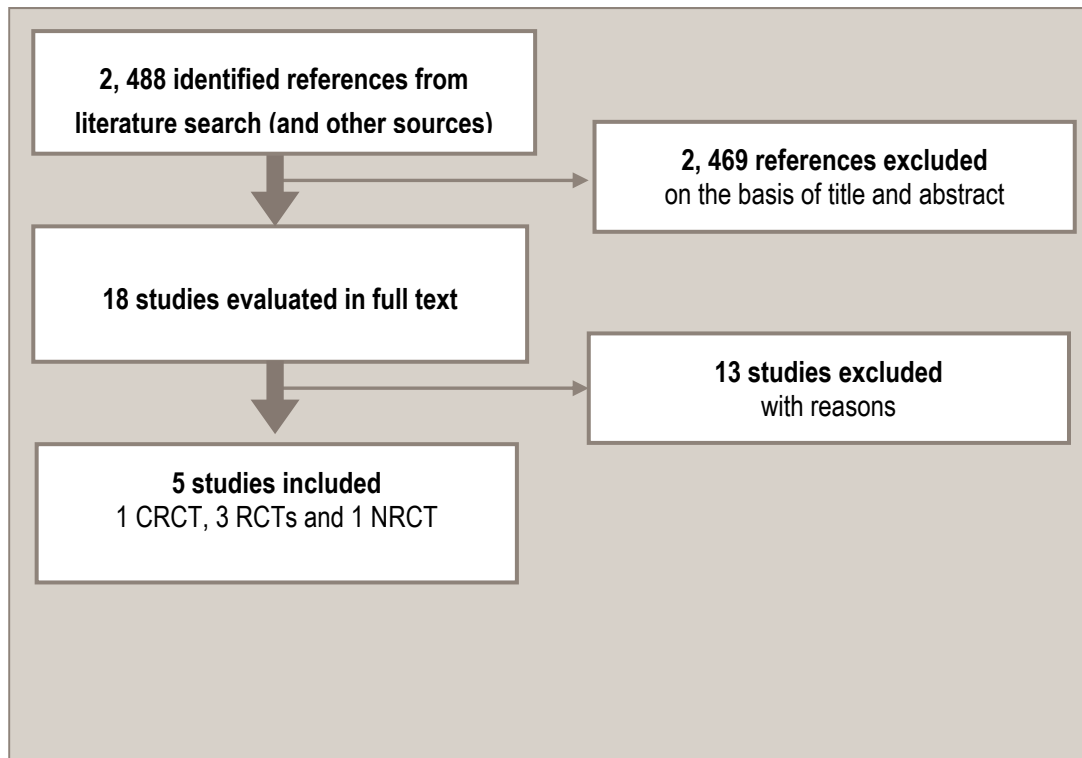


Figure 1. PRISMA study flow diagram (29) describing the study selection process.

NAV informed us about one ongoing Norwegian randomized controlled trial evaluating the use of MI as a method to support people who are on sick leave for longer than 8 weeks to return to work (28). The trial is 3-armed and compares motivational interviewing (MI) with motivational interviewing plus a stakeholder coordination program (MI+), and control (business as usual). The MI+ intervention provides an increased and ongoing coordination of the stakeholders, i.e. the employees, NAV caseworkers, employers and general practitioners.

Description of included studies

Table 1 provides a summary of the main characteristics of the five included studies. For more details see Characteristics of included studies table in Appendix 6.

Study design and setting

Five studies (30-34) were eligible for inclusion in this systematic review. There was one cluster-RCT from England that included four early mental health intervention teams (30). Three studies were randomized controlled trials (RCTs): one from Norway (32), and two from the USA (33, 34). One study (31) was a non-randomized controlled trial (NRCT) conducted at a government service agency in Australia.

Populations

The median number of participants in the included studies was 159 (range 26 to 500). In one study (30) the main target of the MI intervention was to address the motivational ambivalence of the clinical mental health specialist teams about their patients returning to work. The teams, however, were also provided with MI strategies to support patients (n=159) with early psychosis in returning to work. The participants in the other studies were as follows: people with severe psychiatric conditions (n=26) (31), disability pensioners with back pain (n=89) (32), HIV-positive people receiving disability payment (n=174) (33), and drug-involved offenders (n=500) (34).

In three of the studies (30-32) none of the participants were employed before the intervention, while in the other two studies (33, 34) there was a mix of participants who were employed, either full- or part-time, and people who were unemployed (33% and 54% respectively).

Interventions

Single or combined intervention

In all included studies MI was delivered together with one or more other interventions. These additional interventions were as follows: individual placement support (IPS) (30); an information pack describing options for work, study, or community

participation (32); lectures related to spinal problems (2 hours), and vocational information (1 h) (32); skills building (Dialectical Behaviour Therapy), job related skills training (33), and a drug court program (34).

Delivery of MI

In one study (30), which provided no information on the delivery of MI to the patients (i.e. mode of delivery, frequency, length or spacing of sessions) care coordinators and a vocational specialist were the key persons delivering the intervention. In the other four studies MI was delivered face-to-face as follows: by a registered psychologists during a single (1 h) individual session (31), by an unknown person during a single (3 h) group session (5 to 11 people) (32), by a psychologist, a vocational counsellor and a peer leader during three individual (1 h) sessions, and 13 (2 h) group sessions (3 to 10 participants) over a period of seven weeks (33), and by an employment specialist during a series of 26 individual and group sessions (3 intervention phases: obtaining employment, maintaining employment, and upgrading employment) (34).

Table 1: Summary of characteristics of included studies (n=5)

Author Year	Population	Intervention	Comparison	Outcomes
<p>Craig 2014 (30)</p> <p>Study design: CRCT</p> <p>Setting: four early mental health specialist teams; two located to London and two to the Midlands</p> <p>Country: England</p>	<p>People with early psychosis, n=159</p> <p>Age, mean: 23-25 years</p> <p>Gender: 63-81% male</p> <p>Ethnicity (%): white 33-95%; black 5-60%; Asian 3-29%</p> <p>Employment: 100% not in work (across the 4 locations)</p>	<p>MI + Individual Personal Placement Support (IPS)</p>	<p>IPS only</p>	<ul style="list-style-type: none"> • Open paid employment • Hours worked per week • Tenure (no of days in employment) • Any occupation (including casual and voluntary)
<p>Hampson 2015 (31)</p> <p>Study design: NRCT</p> <p>Setting: one government service agency</p> <p>Country: Australia</p>	<p>People with severe psychiatric conditions (schizophrenia, depression, post-traumatic stress disorder (PTSD), bipolar disorder, anxiety, drug dependence), n=26</p> <p>Age: 20-39 years- n=11; 42.3%; 40-69 years- n=15; 57.7%</p>	<p>MI+ information pack</p>	<p>Information pack only (mailed)</p>	<ul style="list-style-type: none"> • Uptake of paid work • Uptake of unpaid work • Uptake of study • Involvement in any other forms of social or community participation • Engagement in employment support service • Perceived usefulness of MI (participants)

	Gender: equal distribution of males and females Employment: 100% not in work			
Magnussen 2007 (32)	People with disability due to back pain, n=89	MI (group)+ lecture on spinal problems (2h) + information (1 h)	Unclear	<ul style="list-style-type: none"> • Return to work or being in a process of returning to work (i.e. on educational course or in work training, or back at work) • Perceived disability • Fear avoidance behaviour • Expectancy to return to work • Life satisfaction
Study design: RCT	Mean age: 49 years Gender: 65% women Employment: 100% not employed			
Setting: N/A	Received disability pension: 8 years on average			
Country: Norway				
Martin 2012 (33)	HIV-positive people receiving disability payment (excluding people with mental illnesses, drug problems and cognitive impairment), n=174 Mean age: 44.1 (SD: 7.6) Gender, male, n (%): 158 (91) Race/Ethnicity, white, no (%): 78 (45) Employment, n (%) during the last 6 months before the intervention: 33% Received disability payment: 4 years on average	A mixed (13 group-3 individual) modality intervention that incorporated elements of MI, skills building from dialectical behaviour therapy and job related skills.	A single session of community referrals	<ul style="list-style-type: none"> • Composite outcome of paid job, volunteer work, training, or job seeking • Paid job (not reported separately) • Volunteer work • Training • Job seeking behaviour (subgroup follow up work trajectory)
Study design: RCT				
Setting: N/A				
Country: USA				
Webster 2014 (29)	Drug-involved offenders, n=500 Age, mean years (SD): 30.5 (8.7) Gender, male, (%): 65.4% Ethnicity, white (%): 61.8% Employment: 53.6% were employed either full- or part-time at baseline	A series of 26 individual and group sessions all including the use of MI + drug court	Drug court only	<ul style="list-style-type: none"> • Work status • Days paid for legal employment • Income from legal employment (and subgroup-follow up work trajectory)
Study design: RCT				
Setting: 2 Kentucky drug court sites				
Country: USA				

CRCT= cluster randomized trial
MI= Motivational Interviewing
IPS= individual placement support
N/A= information not available/not reported

Qualifications and training of those delivering MI

In one study (30) the clinical team (which also included a vocational counsellor) received a total of eight days of training in using MI. The teams first received three days training, plus two days training during the next three months, and later (at the second year of the recruitment phase) they received a three days refresher course.

In one study (31) the psychologists involved in the project completed pre-reading on the subject of MI and attended a one-day training workshop delivered by an accredited MI trainer. They also attended a half-day session with peer supervision. The project manager held weekly phone meetings with the psychologists to monitor progress and provide support to ensure consistency in implementing the project.

In the three other studies (32-34) no information was provided on the qualifications or training of those delivering MI.

Fidelity to MI intervention

Only in one study (33) was a manual used when delivering the MI intervention and all group and individual sessions were recorded and monitored for fidelity. In one study the psychologists' adherence to the MI principles was evaluated during a half-day audiotaped and supervised MI counselling session (31). The other three studies did not mention having assessed intervention fidelity (30, 32), even though one study assessed the fidelity to IPS (30).

Comparisons

The comparisons were as follows: MI delivered together with IPS versus IPS only (30); MI plus an information pack versus the same mailed information pack only (31); elements of MI delivered together with skills building (dialectical behaviour therapy) and job related skills training versus a single session with community referral (33); MI as part of a tailored employment intervention plus drug court versus drug court only (34). In one study, it was unclear what type of intervention the control group received, if any (32).

Only in one of the included studies did the authors attempt to explain how the MI intervention would mediate behavioural change using theory (33). None of the included studies involved consumers at any stage of the research process.

Outcomes

Main outcomes:

Open paid employment (or being in the process of returning to work):

Three of the five included studies (30, 31, 33) reported open paid employment at median 12 months follow up. One study (32) reported a composite measure of participants who returned to work or entered a return to work process (i.e. defined as being on an educational course or in work training). One study (34) reported work status at follow up (full-time, part-time, unemployed, or not in the workforce e.g. not working and not looking for a job) and mean days paid for legal employment (and income from legal employment) (34). In addition, one study reported median hours worked per week and number of days in paid employment (tenure) (30).

Secondary outcomes:

Work hindering (behavioural) factors:

Only one of the included studies reported on factors that may be considered work-hindering, i.e. perceived disability, fear-avoidance behaviour, and beliefs of chances of returning to work (31). None of the included studies reported any other behavioural outcomes of interest for this review, i.e. work-motivation, self-efficacy, readiness for work, anxiety, depression, and sleeping problems.

Other outcomes:

Two studies (30, 31) reported unpaid work, including casual and voluntary work. One study (31) reported involvement in other forms of social or community participation, and uptake of studies. Two studies (26, (33) reported engagement in employment support services and/or job search activities. One study (33) reported a composite measure of paid employment, volunteer work, job training and participation in job search.

Quality and certainty of included evidence

We judged three of the five included studies to be at overall high risk of bias (31, 33, 34), and two of the studies (30, 32) to have an unclear risk of bias. The certainty of evidence from the included comparisons (for the main outcome, open employment) varied from low (30), to very low (31, 32). In Craig 2016 (30) we downgraded the certainty of evidence for the main outcome (open employment) for imprecision (few participants and wide CI). In Hampson 2014 (31) we downgraded the evidence due to high risk of bias and severe imprecision (very few participants and wide CI). Finally, we downgraded the certainty of evidence in Magnussen 2007 (32) due to severe imprecision (few participants and wide CI), and indirectness (as only a composite outcome of ‘having achieved open employment or being in a process of returning to work’ was reported, and ‘return to work’ was not reported separately). In Webster 2014 (34) we downgraded the evidence due to high risk of bias and indirectness (work status and mean days in paid legal employment), and imprecision (mean days of paid legal employment). As for the study (33) that did not report numerical results, neither for the main outcome (open employment), or any other outcomes, did we grade the evidence.

Effects of interventions

See Appendices 7 and 8 for detailed results and the GRADE profiles respectively.

The included studies were heterogeneous in terms of participants, baseline work status (two studies included both employed and unemployed participants), type of co-interventions and comparison interventions, and in how the main outcome (open

paid employment) was reported across studies: three studies reported the proportion of participants who achieved employment at follow-up (30-32), one study (33) reported no effect estimate and no numerical data for open employment, and one study (34) reported work status (4 groups: fulltime, part-time, unemployed and not within the workforce), days of legal employment during the last 12 months, and the approximate proportion of participants who were unemployed at baseline that achieved employment at follow-up.

Motivational Interviewing + Individual Placement Support vs. Individual Placement Support only

MI delivered together with IPS to people with first episode psychosis may possibly lead to more people achieving open employment as compared to those receiving IPS only (one study; Risk Ratio [RR]: 2.35 [95% CI 1.31 to 4.19]; low certainty of evidence). See Table 2. For those in employment, the authors (30) found little or no difference in median hours worked per week or in the length of paid employment (tenure) between the groups. Further, the same study (30) reported a greater proportion of MI group participants in open employment or in formal education (composite outcome) than in the control group (Odds ratio [OR]: 3.6 [95% CI 1.9 to 7.2]), and similar uptake of any form of unpaid work across groups. See Appendix 7 for details.

Table 2: Summary of findings table on the effects of MI + IPS on open employment (Craig 2014)

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)
	Risk with IPS only	Risk with MI+IPS			
Open employment follow up: mean 12 months	182 per 1,000	427 per 1,000 (238 to 762)	RR 2.35 (1.31 to 4.19)	134 (1 RCT)	⊕⊕○○ ^a LOW

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: Confidence interval; RR: Risk ratio

a. Small study and wide CI

MI+ information pack vs. information pack only

It is uncertain whether MI, delivered with an information pack, leads to more people with severe psychiatric conditions achieving open paid employment, compared to the mailed information pack only (one study; RR: 7.33 [95% CI 1.04 to 51.67]; very low certainty of evidence). See Table 3.

The authors also reported similar uptake of any form of unpaid work, similar involvement in other forms of social or community participation, engagement with employment services, and uptake of studies across groups.

Table 3: Summary of findings table on the effects of MI + information pack on open paid employment (Hampson 2015)

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)
	Risk with information pack only	Risk with MI + information pack			
Open employment follow up: 12 months	91 per 1,000	666 per 1,000 (95 to 1,000)	RR 7.33 (1.04 to 51.67)	17 (1 NRCT)	⊕○○○ VERY LOW ^{abc}

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: Confidence interval; RR: Risk ratio

a. High risk of selection bias, performance bias and high attrition
b. Very wide confidence interval
c. Very small study

MI as part of a brief vocational intervention vs. control

It is also uncertain whether MI delivered as part of a short vocational intervention lead to more disability pensioners with back pain 'having returned to work or being in a process of returning to work' as compared to control (one study; RR: 1.95 [95% CI 0.73 to 5.26]; very low certainty of evidence). See Table 4.

The same authors (32) reported little or no difference between groups in the change from baseline to 12 months follow up for the following work-hindering behavioural secondary outcomes: work capacity (I: 1.7 (0.3); C:1.6 (0.4), p=0.19), as assessed with the Norwegian Functional Scale (0 to 24), perceived disability (I: 14.1 (4.0); C:13.9 (5.5), p=0.99; assessed with Roland Morris Disability questionnaire (scale:0 to 24), and fear-avoidance behaviour as assessed with the Fear Avoidance beliefs Questionnaire (FABQ-scale:0 to 24 for physical activity: Intervention: 13.0 (5.9); Control: 13.9 (5.5), p=0.14. and FABQ-scale 0 to 42 for work Intervention: 30.0 (10.2); Control:29.3 (12.0), p=0.33. See Appendix 7.

Table 4: Summary of findings table on the effects of MI as part of a brief vocational-oriented intervention on employment (Magnussen 2007)

Patient or population: people with back pain who were disability pensioners					
Setting: Norway					
Intervention: Motivational interviewing as part of a brief vocational-oriented intervention					
Comparison: control					
Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	No of participants (studies)	Quality of the evidence (GRADE)
	Risk with business as usual	Risk with Motivational interviewing			
Having returned to work or being in the process of returning to work follow up: 12 months	114 per 1,000	222 per 1,000 (83 to 598)	RR 1.95 (0.73 to 5.26)	89 (1 RCT)	⊕○○○ VERY LOW ^{a,b,c}
*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: Confidence interval; RR: Risk ratio					
a. Wide CI					
b. Does not report open employment separately, but together with being in the process of returning to work.					
c. Small study					

MI+ skills building + job related skills training vs. community referral

One study (33), comparing MI, skills building and job related skills training delivered to a mixed population of employed (32%), or unemployed HIV-positive persons with a community referral only, reported no numerical results for the main outcome of our review (paid employment), but a mean summed score of four outcomes assessed: paid work, volunteer work, job training or job seeking. The result for this composite outcome suggest a greater score in the intervention group at 18 months, but not at 6, 12 or 24 months, and a greater work training activity in the intervention group at 6 months only. We provide no summary of findings table as the study did not report numerical data. We are uncertain about the potential effect of the intervention on paid work.

MI as part of a tailored vocational intervention + drug court vs. drug court only

One study (34) compared MI as part of a brief tailored vocational intervention delivered alongside a drug court program with drug court only to a mixed group of employed (54%) and unemployed drug-offenders. The results indicated that the intervention may have led to similar or slightly more days in paid (legal) employment during the last 12 months (MD 1.06 (95% CI 0.97 to 1.17) than the drug court program only (d=0.20, F (1.464)=4.69, p=0.03). However, a similar proportion (around 30%) of the participants who were unemployed at baseline, reported being employed at follow up in both groups, and there was no difference in job status between groups at follow up. See Table 5.

Table 5: Summary of findings table on the effects of MI as a part of a tailored vocational intervention on paid employment (Webster 2014)

Motivational interviewing plus a drug court program compared to drug court program only for drug-involved offenders

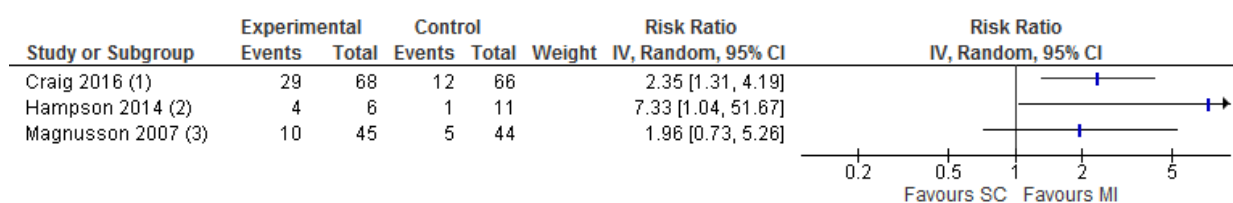
Patient or population: drug-involved offenders
Setting: Two Kentucky drug court sites
Intervention: Motivational interviewing plus a drug court program
Comparison: drug court program only

Outcomes	Anticipated absolute effects* (95% CI)		Relative effect (95% CI)	№ of participants (studies)	Quality of the evidence (GRADE)
	Risk with drug court program only	Risk with Motivational interviewing plus a drug court program			
Work status (part- or fulltime) follow up: mean 12 months	755 per 1,000	801 per 1,000 (733 to 884)	RR 1.06 (0.97 to 1.17)	477 (1 RCT)	⊕⊕○○ LOW ^{a,b}
Days of paid employment follow up: mean 12 months	The mean days of paid employment was 0 days	The mean days of paid employment in the intervention group was 10.2 days higher (11.8 lower to 32.2 higher)	-	477 (1 RCT)	⊕○○○ VERY LOW ^{a,b,c}

*The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI). CI: Confidence interval; RR: Risk ratio; MD: Mean difference

- a. High risk of bias
- b. A large proportion (53.6%) of participants were employed at baseline
- c. Wide CI

Follow up ranged from 12 to 24 months across studies (median 12 months). Below is a forest plot showing the un-pooled results for open employment and the composite outcome ‘having returned to work or being in the process of returning to work’ from three of the included studies (Figure 2).



Footnotes

- (1) Open employment
- (2) Open employment
- (3) Having returned to work or being in a process of returning to work

Figure 2. Forest plot showing the effects (Risk Ratio) of the Motivational interviewing interventions on return to work (open paid employment) and/or being in a process of returning to work in the included studies (n=3) which reported these outcomes.

Discussion

Main results

We included five studies (30-34) in this systematic review. Three of the five studies reported beneficial effects of the MI intervention on achieving open paid employment, or on having returned to, or being in a process of returning to work. One study reported similar proportion of participants achieving employment in both groups, and one study reported no separate results data for open employment, and inconsistent intervention effects on a composite measure of employment related outcomes. The problems with the two latter studies are that a large proportion of the participants were employed at baseline, and that all outcomes were based on self-report. Due to uncertainty related to the effect estimates, i.e. the low to very low certainty of evidence for the main outcome, we can draw no firm conclusions concerning the effect of MI as a method to facilitate return to work. MI may however hold some promise in this sense, but further investigation is needed.

Overall completeness and applicability of the evidence

Participants with severe and/or long-term conditions only

The study populations in the included studies were limited to people with severe psychiatric conditions (e.g. psychosis, bipolar disorders, schizophrenia etc.) or people with long-term disability due to back pain or due to HIV, or repeat drug offenders. We found no studies that evaluated MI as a method to facilitate return to work for people who are unemployed, on sick-leave, rehabilitation clients (who are not offenders), disability pensioners (with other disabilities than back pain and HIV) or people receiving other types of benefits or work assessment allowance. Nor did we find any studies on MI to support individuals who are on part-time sick leave to remain in work. It is unclear if the results from this systematic review can be generalised to all, or any of the groups mentioned above, or to people with less severe conditions or shorter work absences.

Mix of employed and unemployed participants

In three (30-32) of the included studies, baseline work status of the participants was the same (i.e. not working), while in the two other studies there was of a mix of people who were employed (part-time or even full-time), and people who were unemployed. This makes it difficult to tease out the effect of an intervention aimed at helping people to return to work, which was the case in both of these studies. In one of the studies, six out of 13 sessions focused on readiness and motivation to return to work, and identifying and overcoming obstacles for return to work, which would not have been relevant for 32% of the participants who were already employed (33). As for the other study (34), in which the intervention was organised and delivered in three phases (obtaining employment, maintaining employment, and upgrading employment), it appears that for 54% of the participants already in employment at baseline, the first phase of the tailored intervention was superfluous. The results of the studies involving participants with mixed job status at baseline cannot be generalised to groups of unemployed HIV-positive people or unemployed drug-involved offenders.

Intensity of the intervention

The optimal intensity of an MI intervention aimed at supporting people, who for various reasons are not working, in returning to work is unknown. In the studies included in this systematic review the number of sessions ranged from a single session (31) to 26 sessions (34). The recommended number of MI sessions, and the number of sessions reported in the literature varies: some authors recommend at least 1-3 sessions, but preferably 2-3 for drug dependence counselling (35). A systematic review on MI for smoking cessation reports varying number (1-4) and duration of sessions (15 to 45 minutes) in the included studies (36). Results from a systematic review of MI for health behaviour change in primary care settings suggest 4-5 hours of MI to be optimal for behaviour change to take place (9). According to guidance on the delivery of behavioural change interventions in general from the National Institute of Clinical Excellence in the UK, different types of conditions and types of desired behavioural change may require different intervention intensity (37). In the context of interventions aimed at facilitating return to work, the number and length of MI sessions needed for a successful intervention may differ depending on the underlying reasons for not being in work.

Mode of delivery of the intervention

MI was initially considered for individual drug counselling therapy (20). In the studies included in our review MI was in one study delivered to individuals only (31), in one study to groups only with no individual sessions (32), while in two studies MI was delivered during both individual and group sessions (33, 34). Since we were unable to find any studies that compared the effect of individual MI sessions with group MI sessions, apart from a protocol for a trial aiming to compare face-to-face individual counselling and on-line group motivational interviewing in improving

oral health, we do not know which mode of delivery that is most effective in eliciting behaviour change. One study (30) did not provide any information on how MI was delivered to the patients. In the other four studies MI was delivered face-to-face.

Training and qualifications of counsellors

The training provided to those delivering the MI intervention in the two studies that reported the training/qualifications of counsellors, varied from eight full days in one study (30) to one and a half day in the other (31). In three studies (32-34) the authors provided no information on the training provided to the counsellors. Only one of the studies reported following a manual when delivering the intervention (33). In one study, the project leader had weekly supportive phone meetings with the counsellors (31). Miller and colleagues have suggested that a 2-day workshop followed by ongoing coaching and supervision, is an effective way to train practitioners in the MI technique (38), which indicate that at least in one of the included studies the counsellors received appropriate training. However, a recent literature review claims that there does not exist a 'best practice' at present in how to learn to use MI (39).

Intervention fidelity

Two of the five included studies reported having assessed intervention fidelity to determine if MI was delivered to the study participants in accordance with the MI principles (31, 33). This was in one of the studies done for all counselling sessions (33), and in the other study during a half-day supervised session using video-recordings and feedback (31). In the other three studies (30, 32) it was not stated whether or not intervention fidelity was assessed. Miller and Rollnick (40) suggest that three components should be present in a well-conducted MI trial of behavioural change:

- 1) The treatment should clearly contain the components that are theoretically or empirically related to its efficacy;
- 2) Providers should be trained to an adequate and specified criterion of proficiency before treating trial patients;
- and (3) The fidelity of treatment should be documented by reliable coding of practice throughout the study and reported in a manner that permits comparison with skill levels in other trials.

If intervention fidelity is not assessed, it may be difficult to know whether any effects found (or not found) can be attributed to the MI intervention.

Combined interventions and comparisons

In three of the studies (30, 31, 34) MI was combined with another intervention and the comparison was the same other intervention, which makes it easy to establish the effect of MI per se. For other combined interventions, in which the comparison intervention is no intervention (32), or another intervention (33), it is difficult to tease out the effect of MI from the combined effect of the multiple interventions.

Work hindering (behavioural) factors

Since MI is used to support and facilitate the change process by helping the client to overcome ambivalence or a fear of change, and through this increase the client's own motivation to change, it seems reasonable that the client's motivation and readiness to change should be assessed in all studies evaluating the effect of MI. However, none of the included studies assessed work-motivation, and readiness to change was assessed before, but not after the intervention in one study, and seemingly only for the intervention group (31).

In addition, only one of the five included studies reported effects of MI on factors that may be considered as being work-hindering (31), but none of the studies reported effects on self-efficacy, work-motivation, anxiety, depression or sleeping problems, which all are secondary outcomes of interest for this review.

Theory used

One of the included studies designed their intervention based on the Transtheoretical model of behaviour change (12). None of the other studies used theory to try to explain the underlying processes of MI, i.e. what actually mediates the behavioural change.

Consumer involvement

None of the included studies reported having involved consumers in developing the intervention, or in any other stages of the research process.

Certainty of the evidence

The certainty of evidence for the main outcome (open employment) ranged from low (30) to very low (31, 32, 34) across four of the included studies. The fifth study did not report numerical results for the main outcome. We downgraded the certainty of evidence from two of the four included studies due to overall high risk of bias (31, 34), and due to indirectness in two studies (32, 34). In one of these studies (32) indirectness was due to the authors reporting a composite outcome of 'having achieved open employment' or 'being in a process of returning to work', and 'return to work' was not reported separately. In the other study (34) indirectness was due to the mixed population, with a large proportion being employed at baseline (and the intervention directed towards people who were unemployed).

Potential biases in the review process

We conducted a comprehensive search for studies that evaluated the use of MI as a method to facilitate return to work. A research librarian developed the search strategy together with the lead author, and conducted the search, which had no language restrictions. We also searched the reference lists of included studies and of other relevant publications, and contacted experts in the field. In addition, two authors independently screened all the references for inclusion, which makes it less likely that we missed any relevant studies. To minimize bias we also assessed the risk of bias and graded the certainty of the evidence in duplicate.

Agreements or disagreements with other published reviews

We are only aware of one other review (published in 2010) that have assessed the evidence for the effects of MI on return to work and employment outcomes (18). The result of this non-systematic review were in accordance with our results, i.e. they found a weak evidence-base, but despite this, they suggested that MI appears to have potential as a method to facilitate return to work, and may be worth further investigation.

Ongoing studies

In Norway, a randomized controlled trial evaluating the use of MI for facilitating return to work for people on long-term (>8 weeks) sick leave is underway (28). This is a 3-armed trial comparing motivational interviewing (MI), motivational interviewing plus a stakeholder coordination program (MI+), and control (business as usual). The MI+ intervention provides an increased and ongoing coordination of the stakeholders, i.e. the employees, NAV caseworkers, employers, and general practitioners. The study will be using mixed methods in order to explore efficacy and mechanisms of various interventions. The results of this RCT hold promise to strengthen the knowledge base in this field of research.

Implications for practice

The results of this systematic review indicate that MI may hold some promise as a method to facilitate return to work, but further investigation is required to verify this. Due to the low to very low certainty of included evidence, and the sometimes poor reporting concerning the delivery of MI, it is difficult to provide any recommendations for practice.

However, if an organization considers using MI as a method to facilitate return to work processes, the general advice would be to take the opportunity to evaluate the

effects of the intervention using a robust study design, and by recruiting a sufficiently large number of participants to enable reliable conclusions to be drawn.

Implications for research

- Large well-conducted trials evaluating the effect of MI on return to work outcomes (including behavioural outcomes) are needed, preferably should these also recruit populations with less severe conditions.
- Researchers should describe the *intensity* of the MI intervention (frequency, duration, and spacing of sessions), so readers better can appreciate its possible impact.
- Researchers should describe the *qualifications* of the MI counsellors as well as the training they have received, as their MI counselling skills may have implications for the effect of the intervention.
- Researchers should assess the intervention *fidelity* using reliable, validated methods to ensure that the counselling is delivered in accordance with the main MI principles.
- In addition, since the main goal with using MI in this context is to support people in becoming more motivated to return to work, the participants' *level of motivation* as well as their *readiness to change* should be assessed, and preferably also other behavioural outcomes e.g. self-efficacy.
- Researchers should aim to use theory to try to explain the workings of the MI intervention.
- Researcher should include consumers / patients in the research process.
- Lastly, if the aim of the intervention is to support participants to achieve open employment/return to work, the participants should not be employed at baseline.

Conclusion

There is scarce evidence about the effect of motivational interviewing as a method to facilitate return to work. This is especially true for people with less serious conditions and shorter work absences.

The results of this review indicate that motivational interviewing may potentially be a useful method to help people, who for various reasons are not working, to return to work. However, as the certainty of the evidence from the five included studies was low to very low, more evidence from large well-conducted studies is needed to verify this potential usefulness.

Future studies should preferably include behavioural outcomes, and also look at the effects of using MI targeted at people with less severe conditions.

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Appendix 1 Project-plan

Prosjektplan for Effekt av motiverende intervju på arbeid og arbeidshindrene faktorer for personer i yrkesaktiv alder som ikke er i arbeid

Plan utarbeidet

12.10.2016

(dd.mm.åååå):

Kort beskrivelse/sammendrag

Et av hovedmålene for Arbeids- og inkluderingsdepartementet og Arbeids- og velferds-forvaltningen (NAV), er et inkluderende arbeidsliv med en målsetning om å få så mange mennesker som mulig i arbeid. NAVs Veiledningsplattform viser eksplisitt til motiverende intervju som et egnet verktøy for å nå dette målet. I Norge er opplæring i motiverende intervju innen NAV systemet allerede utbredt, uten at det finnes forskningsbasert kunnskap om hvilke effekter motiverende intervju har på arbeid. Grunnet i dette behovet ønsker NAV at vi oppsummerer forskning om effekten av motiverende intervju på arbeid og arbeidshindrene faktorer for personer i yrkesaktiv alder som ikke er i arbeid.

English:

Effects of motivational interviewing on work and work-hindering factors in people who are on sick leave or unemployed

One of the main objectives for the Ministry of Labour and Social Affairs, and the Norwegian Labour and Welfare Administration (NAV), is an inclusive workplace with as many people as possible in employment. NAV's Guidance Platform points explicitly to Motivational Interviewing as a suitable tool to achieve this goal. In Norway, training in motivational interviewing is already widespread within NAV, despite the lack of solid research evidence about the effects of motivational interviewing on employment. In light of this, NAV has commissioned a systematic review of the evidence for the effect of motivational interviewing on work and work hindering factors in people of working age who are not employed.

Prosjektkategori og oppdragsgiver

Produkt (programområde):

Systematisk oversikt

Tematisk område:	Arbeid og velferd
Oppdragsgiver/bestiller. (med navn på kontaktperson for eksterne prosjekter):	Arbeids- og velferdsdirektoratet Kontaktperson: Navn: Thorgeir Hernes E-post: thorgeir.hernes@nav.no Tlf: 97105877
Prosjektledelse og medarbeidere	
Prosjektleder:	Gerd M Flodgren
Prosjektansvarlig (grup- peleder):	Rigmor C Berg
Interne medarbeidere:	Rigmor C Berg Lien Nguyen
Eksterne medarbeidere:	[Skriv inn her]
Plan for erstatning ved prosjektdeltakeres fra- vær:	Prosjektansvarlig peker ut nye prosjektmedar- beidere

Mandat

Våren 2016 sendte Arbeids- og velferdsdirektoratet et oppdrag til Kunnskapssete-
ret med ønske om en oppsummering av forskningen om effekten av motiverende in-
tervju på arbeid og arbeidshindrene faktorer hos personer i yrkesaktiv alder som
ikke er i arbeid.

Mål

Det overordnede målet med dette prosjektet er å oppsummere kunnskapsgrunnlaget
om effekten av motiverende intervju på å hjelpe individer som av forskjellige grun-
ner ikke er i arbeid, tilbake til arbeid. Vi har til hensikt å besvare følgende spørsmål:
Hva er den dokumenterte effekten av motiverende intervju på arbeid og arbeids-
hindrene faktorer hos personer i yrkesaktiv alder som ikke er i arbeid?

Bakgrunn

Ett av hovedmålene for regjeringen, og for Arbeids- og inkluderingsdepartementet
er et inkluderende arbeidsliv med så mange mennesker som mulig i arbeid (1). Ar-
beid er sentralt for individuell identitet, sosiale roller og sosial status (2). Et solid
kunnskapsgrunnlag viser at arbeid er generelt bra for fysisk og mental helse (2,3),
selv om også arbeid, beroende på arten og kvaliteten på arbeidet og dens sosiale
kontekst, kan utgjøre en helserisiko (2). Likevel, en stor mengde dokumentasjon vi-
ser til at arbeidsledighet er sterkt knyttet til dårligere generell- og psykisk helse samt

høyere dødelighet (2). Å komme tilbake i arbeid, etter å ha vært uten jobb av forskjellige grunner, har vist seg å forbedre selvfølelsen i tillegg til både den fysiske- og mentale helsen. Dette gjelder også for syke og personer med en funksjonsnedsettelse (2).

I september 2016 var 3.8 prosent av den voksne norske befolkningen arbeidsledig. Arbeidsledigheten blant funksjonshemmede var noe høyere, med 25 prosent (4). Psykiske lidelser og muskelskjelettplager er to av hovedårsakene til langvarig sykefravær og uførhet blant mennesker i yrkesaktiv alder (5). Det finnes mange årsaker til at det etter langvarig sykdom eller annet fravær kan være vanskelig for enkelte å komme tilbake i arbeid, f.eks. manglende oppfølging på arbeidsplassen, arbeide er for krevende (6) eller faktorer interne til den enkelte personen (7). I denne oversikten ser vi på interne arbeidshindrene faktorer, definert som hindringer for å gå tilbake til arbeid som er indre til den enkelte person, f.eks. lav motivasjon, lav mestringstro, lav følelse av å være rede/klar/forberedt for arbeid (*work readiness=arbeidsberedskap*) og depresjon.

Motiverende intervju er definert som en person-sentrert samtalemetode som har som formål å lokke frem og styrke en persons motivasjon til endring (fritt oversatt frem 8). Fokuset i motiverende intervju er på å utforske klientens barrierer og gjennom utforskningen bidra til endringer, med klientens iboende motiverende prosesser i sentrum. En veileder/terapeut som anvender motiverende intervju forsøker ikke å påtvinge endring som ikke er akseptabel for klientens verdier, holdninger eller ønsker, men støtter endring som er i samsvar med disse (8). Motiverende intervju kan beskrives gjennom tre viktige elementer: 1. Motiverende intervju er en spesiell form for samtale om endring (rådgivning, terapi, metode for kommunikasjon), 2. Metoden er basert på samarbeid (person-sentrert, partnerskap, fremmer autonomi, ikke ekspert-mottaker), 3. Motiverende intervju bruker en strategi som kaller fram sterke bilder, minner, eller følelser (mobiliserer personens egen motivasjon og engasjement) (8).

Det finnes mange systematiske forskningsoversikter som omhandler effekten av motiverende intervju for atferdsendring (9, 10, 11, 12), men når det gjelder effekten av motiverende intervju for å få klienter/ brukere tilbake til arbeid er dokumentasjonen sparsom. Noe dokumentasjon finnes, bl.a. en systematisk oversikt fra Australia som viser positive effekter av motiverende intervju for å få personer som er uføre tilbake til arbeid (13). Vi kjenner til at en randomisert kontrollert studie for å vurdere effekten av motiverende intervju i en NAV-sammenheng er under planlegging. Kunnskapen fra en systematisk oversikt om effekten av motiverende intervju for å komme tilbake i arbeid vil være nyttig for å gi beslutningstakere og profesjonsutøvere i NAV veiledning om hvorvidt motiverende intervju er en hensiktsmessig metode for å følge opp og veilede personer som ikke er i arbeid.

Vårt formål med denne systematiske oversikten er å oppsummere effekten av motiverende intervju på arbeid og arbeidshindrene faktorer for personer som ikke er i arbeid.

Metoder og arbeidsform

Vi vil benytte metodene i Kunnskapssenterets metodehåndbok til å utarbeide en systematisk oversikt. For en detaljert beskrivelse av Kunnskapssenterets metoder og arbeidsform henviser vi til vår metodebok 'Slik oppsummerer vi forskning' som finnes på våre nettsider: <http://kilden.kunnskapssenteret.no/h%C3%A5ndb%C3%B8ker/h%C3%A5ndbok-slik-oppsummerer-vi-forskning>. For å besvare spørsmålet har vi utviklet inklusjonskriterier og en foreløpig søkestrategi. Inklusjonskriteriene er beskrevet i detalj nedenfor.

Inklusjonskriterier:

Hva er den dokumenterte effekten av motiverende intervju på arbeid og arbeidshindrene faktorer for personer i yrkesaktiv alder som ikke er i arbeid?

Populasjon	<ul style="list-style-type: none"> • Arbeidsledige personer • Individuer med funksjonshemninger (personer med nedsatt funksjonsevne som er enten fysisk, mental, kognitiv, intellektuell, sensorisk, utviklings eller en kombinasjon av noen av disse) • Rehabiliteringsklienter (personer med enten fysiske, mentale, kognitive og /eller atferdsproblemer, men også individer med rusproblemer) • Sykmeldte • Stønadsmottakere • Uførepensjonister • Personer som mottar arbeidsavklaringspenger (AAP)
Intervensjon (eksponering)	<ul style="list-style-type: none"> • Motiverende intervju (alene eller i kombinasjon med et annet tiltak)
Sammenligning	<ul style="list-style-type: none"> • Vanlig praksis /'business as usual' • Andre aktive tiltak
Utfall (virkninger)	<ul style="list-style-type: none"> • Primærutfall: Arbeid (inntektsgivende, hel- eller deltid) • Sekundære utfall: arbeidsevne, 'work readiness', mestringstro, arbeidsmotivasjon, angst, depresjon, søvnproblemer
Studiedesign	<ul style="list-style-type: none"> • Randomiserte kontrollerte studier (RCT) • Ikke-randomiserte kontrollerte studier • Kontrollerte før- etter studier (CBAs) • Avbrutte tidsserie-analyser (ITS)

Andre inklusjonskriterier:

- Andre kriterier for studiedesign: Kun CBAs med minst to intervensjon- og to kontroll- grupper vil bli vurdert for inklusjon. Kun ITS studier med minst tre datapunkter før og tre datapunkter etter intervensjonen vil bli inkludert.
- Alle relevante studier er i prinsippet aktuelle uansett språk. Skandinavisk (norsk, svensk, dansk), islandsk, engelsk, tysk, og spansk vil bli lest av medarbeidere i prosjektgruppen eller kolleger. Språk som ikke beherskes av disse personene vil bli vurdert for inklusjon dersom det finnes andre medarbeidere på Kunnskapssenteret i Folkehelseinstituttet som behersker språket. Referanser til andre mulig relevante studier på andre språk vil listes i tabell i den endelige rapporten.
- Kun primærstudier som vi kan oppdrive i fulltekst vil bli inkludert. Pågående studier vil bli presentert i egen tabell.
- Kun studier som har brukt standardiserte måleinstrumenter for å måle utfall vil bli inkludert, f.eks. the University of Rhode Island Change Assessment (URICA) scale (14); the Generalised Self Efficacy (GSE) Scale (15); the Work extrinsic and Intrinsic Motivation Scale (WEIMS) (16) and the Beck Depression Inventory (BDI-II) (17).

Litteratursøk:

Vi vil utarbeide litteratursøket i henhold til de inklusjons- og eksklusjonskriteriene som er satt. Bibliotekar Lien Nguyen vil utarbeide søkestrategien, og vil gjennomføre litteratursøket. En annen bibliotekar vil fagfelle vurdere søkestrategien. Studier fra år 1983 vil bli inkludert, da dette er året da motiverende intervju ble introdusert. Vi vil ikke legge begrensninger på språk i søket.

Vi vil søke i følgende databaser: Central, MEDLINE, EMBASE, PsycInfo, ISI Web of Science, CINAHL, Sociological abstracts. Andre databaser vil vurderes i samarbeid med bibliotekar. I tillegg vil vi lese referansene fra inkluderte studier og andre relevante publikasjoner for å identifisere relevante studier som ikke ble fanget opp i databasesøket.

Artikkelutvelging og kritisk vurdering:

To personer (GF og RB) vil uavhengig av hverandre gjennomgå titler og abstrakt fra trefflisten i litteratursøket. De samme to personene vil fremskaffe fullteksten av mulige relevante studier, og vurdere disse nærmere mot inklusjonskriteriene. For de inkluderte studiene vil to personer (GF og RB) vurdere risiko for skjevheter i resultatene ved hjelp av sjekklister utarbeidet av EPOC (Cochrane Effective Practice and Organisation of Care group) (18).

Dataauthenting, sammenstilling og gradering:

Vi vil hente ut følgende data fra primærstudiene: fullstendig referanse, informasjon om populasjonen (f.eks. alder, kjønn, etnisitet, gruppe av arbeidsledige [dvs arbeidsøkere, mennesker med funksjonshemninger, rehabiliteringsklienter, sykemeldte, stønadsmottakere eller uførepensjonister], kontekst, intervensjon (f.eks. varighet, hvem som leverer tiltaket, grad/kvalitet på behandlerens opplæring i motiverende intervju, hvorvidt en manual for motiverende intervju ble brukt, hvorvidt motiverende intervju ble gitt etter intensjonen [ved hjelp av 'adherence' sjekklister eller verktøy som f.eks. Motivational Interviewing Treatment Integrity (MITI) skala (19)], tiltak sammenligningsgruppen mottar (f.eks. beskrivelse og varighet av tiltak), utfall (f.eks. mestringstro, 'work readiness', arbeidsevne, arbeidsmotivasjon, 'return to work', arbeid (%)), og resultater. GF vil hente ut dataene fra de inkluderte primærstudiene. RB vil kontrollere beskrivelsen av informasjonen, valg av utfall og at alle tall og eventuelle beregninger er korrekte. Ved uenighet vil vi konferere med en tredje person.

For dikotome utfall vil vi uttrykke resultatene som risiko ratio (RR) med 95 % konfidensintervall (KI). For kontinuerlige utfall vil vi benytte forskjell i gjennomsnitt mellom gruppene (MD) med 95 % KI, hvis nødvendig omregnet til standardisert gjennomsnittlig forskjell (SMD). Hvis dette ikke er mulig vil vi gi en narrativ beskrivelse av resultatene. Resultater fra studier med ulike studiedesign (f.eks. RCT, CBA og ITS studier) vil oppsummeres og rapporteres separat. Vi vil vurdere heterogeniteten i materialet ved å se på populasjon, intervensjon, sammenligning og utfall.

Hvis det er forsvarlig å gjennomføre metaanalyser, vil vi vurdere statistisk heterogenitet ved å benytte I^2 test, der vi vil betrakte et signifikansnivå på $p < 0.01$ til å indikere heterogenitet.

I^2 -verdier på 25 % eller mindre vil indikere lav heterogenitet og verdier på 50 % eller mer vil indikere høy heterogenitet (I^2). Eventuelle metaanalyser vil gjøres i programmet RevMan 5 (20), der vi benytter "random-effects method" med "inverse-variance approach", som tilpasser vektningen av studien i samsvar med grad av variasjon i sikkerheten av effektestimater. Hvis det ikke er mulig å gjøre metaanalyser, vil vi gjøre en deskriptiv analyse med presentasjon av studiene og sammenstilling av dem i tabeller med resultater og kvalitetsvurderinger.

To personer (GF and RB) vil vurdere grad av tillit til resultatene for hvert av utfallsmålene ved hjelp av GRADE verktøyet (<http://www.gradeworkinggroup.org/index.htm>). Denne graderingen gir en vurdering av hvor mye vi kan stole på resultatene. Vi beskriver tilliten som å være høy, middels, lav, eller svært lav.

Høy	Vi har stor tillit til at effektestimater ligger nær den sanne effekten.
-----	--

Middels	Vi har middels tillit til effekttestimatet: det ligger sannsynligvis nær den sanne effekten, men der er også en mulighet for at det kan være forskjellig.
Lav	Vi har begrenset tillit til effekttestimatet: den sanne effekten kan være vesentlig ulik effekttestimatet.
Svært lav	Vi har svært liten tillit til at effekttestimatet ligger nær den sanne effekten.

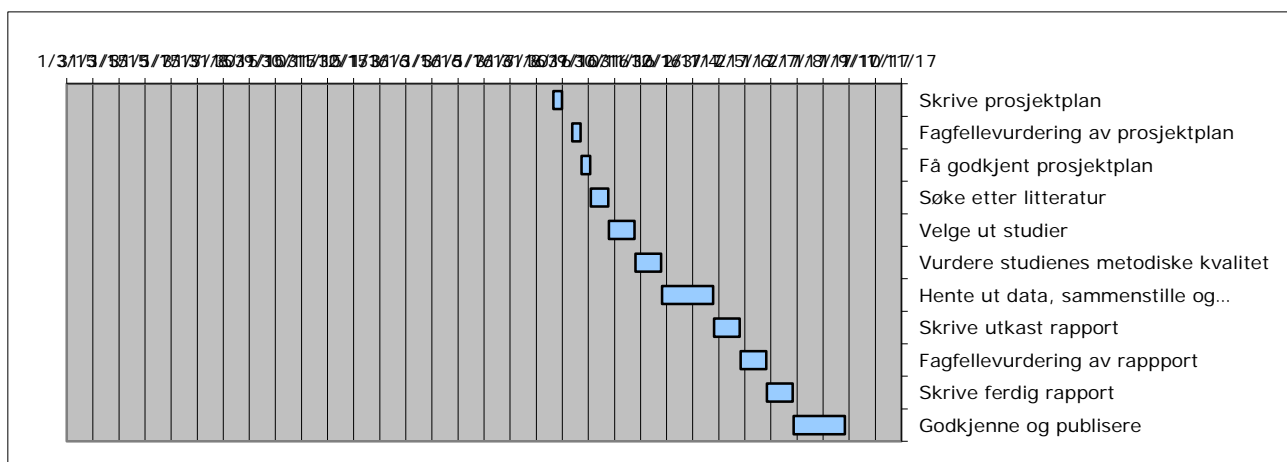
Fagfellevurdering:

To interne og to eksterne fagfeller vil vurdere både prosjektplanen og den ferdige rapporten.

Aktiviteter, milepæler og tidsplan

Prosjektplanen vil bli sendt til intern- og ekstern fagfellevurdering. Vi håper å ha prosjektplanen godkjent innen utgangen av oktober 2016. Planen er å ha søkestrategi klar og søk utført i november 2016. Screening av referanser og valg av studier vil avhenge av størrelsen av søkeresultatene men målet er å gjøre dette før utgangen av desember 2016. Vurdering av de identifiserte studienes kvalitet, data ekstraksjon, sammenstilling av resultatene og gradering av evidensen planlegges gjort i løpet av mars 2017. Utkast til rapport planlegges å være klar (med hensyn tatt til sommerferien) i september 2017. Gantt diagrammet nedenfor skisserer en tidsramme for å gjennomføre den systematiske oversikten.

Oppgave	Ansvarlig	Startdato	Kalender-		Reelt tidsforbruk i mnd-verk (overføres budsjettet)
			tid i dager	Sluttdato	
Skrive prosjektplan		20/09/2016	10	30/09/2016	
Fagfellellevurdering av prosjektplan		12/10/2016	10	22/10/2016	
Få godkjent prosjektplan		23/10/2016	10	02/11/2016	
Søke etter litteratur		03/11/2016	20	23/11/2016	
Velge ut studier		24/11/2016	30	24/12/2016	
Vurdere studienes metodiske kvalitet		25/12/2016	30	24/01/2017	
Hente ut data, sammenstille og gradere		25/01/2017	60	26/03/2017	
Skrive utkast rapport		27/03/2017	30	26/04/2017	
Fagfellellevurdering av rapport		27/04/2017	30	27/05/2017	
Skrive ferdig rapport		28/05/2017	30	27/06/2017	
Godkjenne og publisere		28/06/2017	60	27/08/2017	



Publikasjon/formidling

Prosjektet skal resultere i en systematisk oversikt som vil bli publisert som en FHI rapport. Rapporten skrives på norsk. Målgruppe er oppdragsgiver (NAV), beslutningstakere, interessegrupper og utdanningsinstitusjoner, samt publikum. Rapporten vil bli oversendt elektronisk til oppdragsgiver og publiseres på hjemmesidene til FHI. Publisering i form av en populærvitenskapelig artikkel (særlig engelsk-språklig) eller liknende rettet mot aktuelle profesjoner vil bli vurdert.

Risikoanalyse

RISIKOELEMENT	SANNSYNLIGHET	KONSEKVENNS	RISIKOFAKTOR
Langtidsfravær ved sykdom	Lav	Prosjektperioden forlenges	Lav

Tiltak for å begrense risikoelementenes sannsynlighet og konsekvens:
– Prosjektansvarlig utpeker ny prosjektleder eller prosjektmedarbeidere

Referanser

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Indeksering for hjemmesiden

(motivational interviewing, return to work, work capacity, work readiness, work motivation)

Relaterte prosjekter/publikasjoner

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Appendix 2 Glossary

Term	Explanation
Bias	A bias is a systematic error, or deviation from the truth, in results or inferences. Biases can operate in either direction: different biases can lead to underestimation or overestimation of the true intervention effect. Biases can vary in magnitude: some are small (and trivial compared with the observed effect) and some are substantial (so that an apparent finding may be entirely due to bias). Even a particular source of bias may vary in direction: bias due to a particular design flaw (e.g. lack of allocation concealment) may lead to underestimation of an effect in one study but overestimation in another study. It is usually impossible to know to what extent biases have affected the results of a particular study, although there is good empirical evidence that particular flaws in the design, conduct and analysis of randomized clinical trials lead to bias.
Certainty of evidence	Certainty of the evidence is also referred to as quality of the evidence, confidence in the effect estimate, and strength of the evidence. It is an assessment of the likelihood that the effect will not be substantially different from what the research found; i.e. different enough that it might affect a decision.
Confidence interval (CI)	A range of values so defined that there is a specified probability that the value of a parameter lies within it.
Controlled study	An experiment or clinical trial in which two groups are used for comparison purpose.
Controlled before-after study	A type of non-randomized study in which outcomes are measured before and after a treatment, both in a group that receives the treatment and in another comparison group
Effect estimate	A statistical measure indicating the most likely size of a treatment effect http://getitglossary.org/term/effect+estimate
GRADE	Grading of Recommendations, Assessment, Development and Evaluation. A tool that is used to assess the certainty of the evidence in a systematic review.
Heterogeneity	Any kind of variability among studies in a systematic review may be termed heterogeneity. Variability in the participants,

interventions and outcomes studied may be described as clinical heterogeneity, and variability in study design and risk of bias may be described as methodological heterogeneity. Variability in the intervention effects being evaluated in the different studies is known as statistical heterogeneity, and is a consequence of clinical or methodological diversity, or both, among the studies. Statistical heterogeneity manifests itself in the observed intervention effects being more different from each other than one would expect due to random error (chance) alone.

Imprecision

Imprecision in general, is when studies include relatively few participants, and few events, and therefore have wide confidence intervals around the estimate of effect.

Inconsistency

Inconsistency of relative (rather than absolute) treatment effects in binary/dichotomous outcomes may be determined by looking at the (dis)similarity of point estimates, extent of overlap of confidence intervals, and statistical criteria including tests of heterogeneity (I^2).

Indirectness

Indirectness of evidence is when evidence comes from research that either does not directly compare the interventions of interest with control, or when the intervention is not applied to the populations of interest or if a study measures outcomes that are not direct measures important to patients but proxy measures or process measures.

Interrupted time series (ITS)

A time series is a continuous sequence of observations on a population, taken repeatedly (normally at equal intervals) over time. In an ITS study, a time series of a particular outcome of interest is used to establish an underlying trend, which is 'interrupted' by an intervention at a known point in time

Meta-analysis

A meta-analysis uses a statistical approach to combine the results from multiple studies in an effort to increase power (over individual studies), improve estimates of the size of the effect and/or to resolve uncertainty when reports disagree

PICO

Population, intervention, comparison and outcomes

Randomisation	Randomization is the process of assigning clinical trial participants to treatment groups. Randomization gives each participant a known (usually equal) chance of being assigned to any of the groups
Randomised controlled trial (RCT)	A randomized controlled trial (or randomized control trial; RCT) is a type of scientific (often medical) experiment which aims to reduce bias when testing a new treatment.
Risk of bias	'Bias' and 'risk of bias' A bias is a systematic error, or deviation from the truth, in results or inferences. Biases can operate in either direction: different biases can lead to underestimation or overestimation of the true intervention effect.
Risk ratio (RR)	The risk ratio (or relative risk) is the ratio of the risk of an event in the two groups, whereas the odds ratio is the ratio of the odds of an event (see Box 9.2.a). For both measures a value of 1 indicates that the estimated effects are the same for both interventions.
Standard deviation (SD)	The standard deviation (SD) is a measure used to quantify the amount of variation of a set of data values. If close to '0' it indicates that the data points tend to be very close to the mean of the data set, while a high standard deviation indicates that the data points are spread out over a wider range of values.
Statistical significance	Statistically significant is the likelihood that a relationship between two or more variables is caused by something other than random chance. Statistical hypothesis testing is used to determine whether the result of a data set is statistically significant.
Systematic review	A systematic review is a type of literature review that collects and critically analyzes multiple research studies or papers. A review of existing studies is often quicker and cheaper than embarking on a new study. ... Systematic reviews of randomized controlled trials are key in the practice of evidence-based medicine.

Appendix 3 Search strategy

Database: Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present

Dato: 23.11.2016

Treff: 1 224

1 employment/ 43418
2 return to work/ 1182
3 employment, supported/ 1039
4 rehabilitation, vocational/ 9276
5 (employment or re-employ* or reemploy* or "back to work" or ((work* or job) adj2 (readiness or return* or re-ent* or reent*)) or (vocational adj1 re-hab*)).ti,ab,kf.60851
6 or/1-5 95866
7 motivation/ 62206
8 motivational interview*.mp. 3762
9 motivational enhancement.ti,ab,kf. 593
10 or/7-9 64915
11 6 and 10 1611
12 exp animals/ 22098307
13 humans/ 17429156
14 12 not (12 and 13) 4669151
15 (news or editorial or comment).pt. 1207751
16 11 not (14 or 15) 1584
17 limit 16 to yr="1983-Current" 1348
18 remove duplicates from 17 1224

Database: PsycINFO 1806 to November Week 2 2016

Dato: 23.11.2016

Treff: 501

1 Employment Status/ 13436
2 Reemployment/ 1157
3 Supported Employment/ 1170
4 Vocational Rehabilitation/ 5512
5 (employment or re-employ* or reemploy* or "back to work" or ((work* or job) adj2 (readiness or return* or re-ent* or reent*)) or (vocational adj1 re-hab*)).ti,ab,id.49145
6 or/1-5 53080
7 motivation/ 44763
8 motivational interview*.mp. 3224

9 motivational enhancement.ti,ab,id. 590
 10 or/7-9 47751
 11 6 and 10 560
 12 limit 11 to yr="1983-Current" 501
 13 remove duplicates from 12 501

Database: Embase 1974 to 2016 November 22

Dato: 23.11.2016

Treff: 468

1 *employment/ 21419
 2 return to work/ 3275
 3 vocational rehabilitation/ 9336
 4 work resumption/ 3458
 5 (employment or re-employ* or reemploy* or "back to work" or ((work* or job) adj2 (readiness or return* or re-ent* or reent*)) or (vocational adj1 re-hab*)).ti,ab,kw. 67542
 6 or/1-5 87171
 7 *motivation/ 25678
 8 motivational interview*.mp. 4861
 9 motivational enhancement.ti,ab,kw. 583
 10 or/7-9 30349
 11 6 and 10 542
 12 exp animals/ or exp invertebrate/ or animal experiment/ or animal model/ or animal tissue/ or animal cell/ or nonhuman/ 24117448
 13 human/ or normal human/ or human cell/ 18280439
 14 12 not (12 and 13) 5883827
 15 (news or editorial or comment).pt. 523258
 16 11 not (14 or 15) 541
 17 limit 16 to yr="1983-Current" 475
 18 remove duplicates from 17 468

Database: Cochrane Library (CDSR, DARE, HTA)

Dato: 23.11.2016

Treff: 93

#1 [mh ^employment] 691
 #2 [mh ^"return to work"] 110
 #3 [mh ^"employment, supported"] 99
 #4 [mh ^"rehabilitation, vocational"] 367

- #5 (employment or re-employ* or reemploy* or "back to work" or ((work* or job) next/2 (readiness or return* or re-ent* or reent*)) or (vocational next/1 re-hab*)):ti,ab,kw 2498
- #6 (24-#5) 2725
- #7 [mh ^motivation] 3735
- #8 "motivational interview*" 1855
- #9 "motivational enhancement":ti,ab,kw 259
- #10 (15-#9) 5245
- #11 #6 and #10 Publication Year from 1983 to 2016, in Cochrane Reviews (Reviews only), Trials and Methods Studies 85
- #12 (employment or re-employ* or reemploy* or "back to work" or ((work* or job) next/2 (readiness or return* or re-ent* or reent*)) or (vocational next/1 re-hab*)) 3642
- #13 (24-#4, #12) 3865
- #14 "motivational enhancement" 329
- #15 #7 or #8 or #14 5266
- #16 #13 and #15 Publication Year from 1983 to 2016, in Cochrane Reviews (Protocols only), Other Reviews and Technology Assessments 8

Database: CINAHL (EBSCO)

Dato: 23.11.2016

Treff: 378

- S1 MH Employment+ 31,297
- S2 MH Job Re-Entry 4,288
- S3 MH Rehabilitation, Vocational 4,891
- S4 TI ((employment or re-employ* or reemploy* or "back to work" or ((work* or job) N1 (readiness or return* or re-ent* or reent*)) or (vocational No re-hab*))) OR AB ((employment or re-employ* or reemploy* or "back to work" or ((work* or job) N1 (readiness or return* or re-ent* or reent*)) or (vocational No rehab*))) OR SU ((employment or re-employ* or reemploy* or "back to work" or ((work* or job) N1 (readiness or return* or re-ent* or reent*)) or (vocational No rehab*))) 44,438
- S5 S1 OR S2 OR S3 OR S4 47,746
- S6 MH Motivation 16,937
- S7 TX "motivational interview*" 2,170
- S8 TI "motivational enhancement" OR AB "motivational enhancement" OR SU "motivational enhancement" 149
- S9 S6 OR S7 OR S8 18,776
- S10 Limiters - Exclude MEDLINE records; Published Date: 19830101-20161131 378

Database: Web of Science Core Collection (SCI-EXPANDED & SSCI)

Dato: 23.11.2016

Treff: 31

- # 1 TS=((("employment" or "re-employ*" or "reemploy*" or "back to work" or
(("work*" or "job") NEAR/1 ("readiness" or "return*" or "re-ent*" or
"reent*")) or ("vocational" NEAR/o "rehab*")))) 95,192
- # 2 TS=("motivational interview*" OR "motivational enhancement") 3,478
- # 3 #1 AND #2 [Indexes=SCI-EXPANDED, SSCI Timespan=All years] 31

Database: Social Services Abstracts & Sociological Abstracts (ProQuest)

Dato: 23.11.2016

Treff: 299

((SU.EXACT("Employment") OR SU.EXACT("Vocational Rehabilitation")) OR
TI,AB,SU(employment OR re-employ* OR reemploy* OR "back to work" OR
((work* OR job) NEAR/1 (readiness OR return* OR re-ent* OR reent*)) OR (voca-
tional NEAR/o rehab*)) AND (SU.EXACT("Motivation") OR (ALL("motivational
interview*") OR TI,AB,SU("motivational Enhancement"))) AND pd(19830101-
20161121)

Database: PubMed

Dato: 23.11.2016

Treff: 0

("return to work" OR "back to work" OR employment OR reemploy* OR re-employ*
OR "vocational rehabilitation") AND ("motivational interviewing" OR "motivational
interview") AND pubstatusaheadofprint

Database: Epistemonikos

Dato: 23.11.2016

Treff: 3

("return to work" OR "back to work" OR employment OR reemploy* OR re-employ*
OR "vocational rehabilitation") AND ("motivational interviewing" OR "motivational
interview")

Database: SveMed+

Dato: 23.11.2016

Treff: 35

[Søk ALL:] "motivational interviewing" OR "motivational interview"=35 treff

Appendix 4 List of excluded studies

Study First author (reference no.)	Cause for exclusion of study
Bell 2005 (41)	Not primarily about helping people returning to work. Ineligible outcomes.
Bohman 2011 (42)	Population uninsured working people only. Not relevant in a Norwegian context.
Glynn 2016 (25)	No full text available. Results reported at trial registration site. E-mailed contact author. No response.
Hunter 2007 (43)	Abstract only. Contacted authors who said that a publication is underway. The study appear to be about using MI to help people with MS to stay in their jobs.
Ipsen 2014 (44)	Not primarily about helping people returning to work, but about promoting health. Ineligible outcomes.
Johnson 2007 (26)	Abstract only. No full text publication. Contacted authors but received no response.
Johnson 2008 (27)	Abstract only. No full text publication. Contacted authors but received no response. Belongs to the same study as the abstract above.
Larsson 2007 (45)	Ineligible study design.
Leukefeld 2003 (46)	Ineligible population (mix between employed and unemployed drug offenders). Belongs with Webster 2014 below.
Nuechterlein 2008 (47)	Not about motivational interviewing.
Ruggiero 2012 (48)	Ineligible outcomes. Belongs with Ipse 2014 above.
Proactive 2010 (49)	Mixed group of unemployed and 'underemployed' people. Results for unemployed and 'underemployed' people not reported separately.
Van Veltzen 2016 (50)	Does not evaluate the effect of the intervention only the perceived barriers and the perceived effect.

Appendix 5 Risk of bias of included studies

	Random sequence generation (selection bias)	Allocation concealment (selection bias)	Blinding of participants and personnel (performance bias)	Blinding of outcome assessment (detection bias)	Incomplete outcome data (attrition bias)	Baseline characteristics similar	Baseline outcome measures similar	Selective reporting (reporting bias)	Other bias
Craig 2016	?	?	?	?	+	?	+	?	+
Hampson 2014	-	-	-	-	-	?	?	?	-
Magnusson 2007	+	+	?	?	?	+	+	+	-
Martin 2012	?	?	-	?	+	+	?	+	?
Webster 2014	?	?	-	?	-	?	?	+	+

Risk of bias summary: review authors' judgements about each risk of bias item for each included study. Red= high risk, Yellow= unclear risk, and Green=low risk

Appendix 6 Characteristics of included studies

Included studies (n=5): Craig 2014, Hampson 2015, Magnussen 2007, Martin 2012 and Webster 2014

First author, Year, (30)	Craig 2014
Aim	To assess whether a motivational interviewing intervention directed at clinical staff to address ambivalence about employment improved patient's occupational outcomes.
Study design	CRCT
Population	People with early (first episode) psychosis; n=159 (out of n=300 eligible patients) Age, mean: 23-25 years (across the 4 locations); Male (%):63-81% Ethnicity (%): white:33-95%; black:5-60%; asian:3-29%
Setting	<i>Country:</i> England (South London and the Midlands)
Intervention	<i>Single or combined intervention:</i> The MI intervention was delivered together with an individual placement support (IPS) intervention. <i>MI delivered to the patient:</i> not described MI training targeted at healthcare professionals to address their ambivalence about employment for improved patient (employment) outcomes. <i>Who received training:</i> The whole clinical team (all teams included a vocational expert). <i>Number, length, and spacing of training sessions:</i> 3 days training+ 2 days during the next 3 months, and at second year of the recruitment phase a 3 days refresher course. <i>MI support:</i> N/A
Comparison	IPS only
Outcomes	<ul style="list-style-type: none"> • Open paid employment (main outcome) • Hours worked per week • Tenure (no of days in employment) • Any occupation (including casual and voluntary)
Follow up	At 12 months Outcomes at 12 months were available for 134 patients (85%)- 15 % of patients were not possible to get hold of
Consumer involvement	No
Theory used	No

First author, Year, (31)	Hampson 2015.
Aim	To investigate the effectiveness of motivational interviewing in improving employment-related outcomes among people with a persisting mental health condition.
Study design	NRCT
Population	People with severe psychiatric condition (schizophrenia, depression, PTSD, bipolar disorder, anxiety and drug dependence) Age: 20-39 years-n=11; 42.3%; 40-69 years- n=15; 57.7% Gender: equal distribution of males and females Out of n=51 eligible patients, n=28 (55%) agreed to participate: Of these two could not be contacted why the total number was 26; 10 were allocated to the intervention group and 16 to the control group
Setting	<i>Country:</i> Australia
Intervention	<i>Single or combined intervention:</i> The intervention consisted of a brief (1 h) motivational interviewing intervention + an information package. <i>Who delivered the intervention:</i> Six registered psychologists employed in a government service delivery agency <i>MI training:</i> Complete pre-reading on the subject of MI and attend a 1-day training workshop conducted by an accredited MI trainer.

	<p><i>Evaluation of MI adherence:</i> A half-day peer supervision session during which adherence to MI principles was evaluated through observation and feedback on audiotaped sessions (but not during the intervention).</p> <p><i>MI support:</i> Weekly phone meetings with the project manager to monitor progress and provide support to ensure consistency in MI delivery</p>
Comparison	Mailed information to assist them to return to paid or unpaid work (i.e. information on options for work, study or community participation)
Outcomes	<ul style="list-style-type: none"> • Uptake of any form of paid work during the period • Uptake of any form of unpaid work during the period • Uptake of study • Involvement in any other forms of social or community participation. • Engagement with an employment support service • Participant experiences of the usefulness of the MI session and/or information pack
Follow up	<p>At 6 and 12 months</p> <p>Losses to follow up:</p> <p>At 6 months: I: 3 (of 10); C: 8 (of 16). Attrition rate: 43.4%</p> <p>At 12 months: I: 4 (of 10); C: 5 (of 16)</p> <p>NOTE: 3 participants who requested information only were reallocated to the control group-and did not receive the MI intervention</p>
Consumer involvement	No
Theory used	No

First author, Year, (32)	Magnusson 2007
Aim	To investigate the outcome of a brief vocational oriented intervention aiming to motivate disability pensioners with back pain to return to work, and to evaluate prognostic factors for having entered a return to work process.
Study design	RCT
Population	<p>People who receive disability pension due to back pain</p> <p>Out of N=431 eligible disability pensioners in Norway, N=89 agreed to participate in the study.</p> <p>Mean age: 49 years,</p> <p>Gender: 65% women</p>
Setting	Country: Norway
Intervention	<p><i>Single of combined intervention:</i> MI was delivered as a part of an intervention programme</p> <p>The intervention programme consisted of 2 sessions lasting for 3 hours each, 2 or 3 days apart, and was organized in groups of 5–11 persons.</p> <p>Description of the intervention: The programme involved 3 hours of motivational interviewing (18) aiming to help the participants to focus on their strength and capacity. They were encouraged to identify barriers for returning to work and to look for possible solutions for a successful return to work.</p> <p>Another part of the included 2 hours of lectures related to spinal problems, focusing on pain mechanisms and aiming to reduce fear avoidance beliefs related to activity and work. In addition, counsellors from the social insurance office and work office provided one hour of information, and accessible options for combining health-adjusted work and disability pension were outlined.</p> <p>All participants were offered individual follow-up by a physician and a nurse including a medical examination and assessment of their work ability after the group session. Those participants, who were motivated to try to return to work after this intervention, were followed up by a counsellor from the work office, with the aim of entering specific work-related training.</p> <p>No information about who delivered the MI intervention and if they had received appropriate training. No assessment of fidelity to the intervention.</p>
Comparison	Unclear what intervention, if any, the control group received.

Outcomes	Primary outcome return to work or being in a process of returning to work (measured by register data from the National Insurance Offices and self-report; being in a process of return to work was defined as being on educational course or being in work training)
Follow up	At 12 months
Consumer involvement	No
Theory used	No

First author, Year, (33)	Martin 2012
Aim	To evaluate the effects of an intervention designed to help people with HIV/AIDS re-enter the workforce.
Study design	RCT
Population	HIV –positive people receiving disability payment: N= 174; I: n=83; C: 91 Mean age: 44.1 (SD: 7.6) Gender, male, n (%): 158 (91) Race/Ethnicity, white, no (%): 78 (45) Employment, n (%) during the last 6 months: 32% (unclear if part- or full-time) Received disability payment: 4 years on average
Setting	Country: USA
Intervention	<i>Single or combined intervention:</i> A mixed (group-individual) modality intervention that incorporated elements of MI, skills building from dialectical behaviour therapy (Linehan, 1993) and job related skills. (Prize & Vinokur, 1995). <i>MI intervention delivered to the patient:</i> The intervention was delivered from a manual developed for the project to ensure fidelity. <i>MI training:</i> not described <i>Delivery of the intervention:</i> the psychologist, vocational counsellor and peer leader used Motivational Interviewing principles during both individual and group sessions. The psychologist and vocational counsellor were central in planning and drafting the intervention manual and therefore familiar with all group and individual session content and routines.
Comparison	The control condition was a single session delivered at the conclusion of randomization. Participants were given community referrals to assist them in returning to work, pursuing volunteer opportunities, or obtaining job training. Referrals included career centres, the Department of Rehabilitation, benefits counsellors, and employment-related websites.
Outcomes	<ul style="list-style-type: none"> • Composite score of paid job, volunteer work, training, or job seeking • Paid job – no numerical results • Volunteer work • Training • Job seeking behaviour
Follow up	At 6, 12, 18 and 24 months
Consumer involvement	None mentioned
Theory used	Used the Transtheoretical model (12) to develop the intervention.

First author, Year, (34)	Webster 2014
Aim	To examine employment outcomes for drug-involved offenders who received a tailored employment intervention.
Study design	RCT
Population	Drug-involved offenders (n=500) Age, mean years (SD): 30.5 (8.7) Gender, male, (%): 65.4% Ethnicity, white (%):61.8% Employment: 53.6% were employed either full- or part-time
Setting	Two Kentucky drug court sites Country: USA
Intervention	<i>Single or combined intervention:</i> Drug court + tailored employment intervention which included MI <i>Description of the intervention:</i> a series (26 sessions) of individual and group sessions with a study hired employment specialist with experience in both employment and substance abuse counselling
Comparison	Drug court only
Outcomes	<ul style="list-style-type: none"> • Work status, • Days paid for legal employment • Income from legal employment (and follow up work trajectory)
Follow up	Follow up interview rate was 96% (Note: interview assessed outcomes.
Consumer involvement	Not reported
Theory used	Not reported

Appendix 7 Results of included studies

First Author Year (30)	Craig 2014
Open (paid) employment	1. Open employment, no/total (%) At 6 months: I: 25 /68 (33%); C: 9/73 (12%) At 12 months: I: 29/68 (43%); C: 12/66 (18%); RR: 2.35 [95% CI 1.31 to 4.19]; Odds Ratio (OR) =4.3 (95% CI 1.5 to 16.6); Clustering was accounted for in the analysis, which was adjusted for gender, ethnicity, educational and employment history and clinical status. The CI suggests great variation in effectiveness between teams.
Hours worked	2.The hours worked, median per week:(IQR) I: median 30.0 h, (19.0–37.5) ; C: median 37.5 h, (16.0–37.5); Mann–Whitney Z =-0.231, P = 0.82).
Tenure (no of days/weeks in employment)	3.Tenure, median no of days in employment (IQR): I: 65 days, (13–168), C: 117 days, (30–168); Mann–Whitney Z =-0.993, P= 0.32).
Any occupation (including casual or voluntary)	4. Any occupation, no (%) At 6 months: I: 31/76 (41%); C: 22/73(30%) At 12 months: I: 38/68 (56%); C: 28/66 (42%); RR: 1.32 [0.93 to 1.87]
Open employment or formal education (composite measure)	5. Open employment or formal education At 12 months: OR = 3.6 (95% CI 1.9–7.2). This included 13 individuals who engaged in both activities.
Clinical status/ function/experiences/attitudes/satisfaction	6. PANSS total score: ranged from mean 35.1 to 50.1 across teams, P=0.01, Comparison between intervention and control: P=0.61 (baseline only) 7. GAF score: ranged from 67.9 to 70.6 across teams, P= 0.80; Comparison between intervention and control: P=0.71 (baseline only) 8. Participants in all teams expressed a wish to work: mean score 7.8 (SD 2.1), from a total possible score of 10 9. Most participants though it unlikely to achieve employment in the near future: mean score 3.9 (SD 2.0=, from a possible 10
Losses to follow-up	At 6 months: 10 participants (five from each group) were lost to follow up; at 12 months 24 participants were lost (13 vs. 11 participants from the intervention and control group respectively). Outcomes at 12 months were available for 134 patients (85%).There were no differences in demographics or clinical variables between those lost to follow up and those who remained in the study.

First Author Year (31)	Hampson 2015
Open (paid) employment	1.Uptake of any form of paid work during the period: At 6 months: I: 3 (42.9%); C: 1 (12.5%); At 12 months: I: 4 (66.7%); C: 1 (9.1%) Analysis: Fisher's exact test
Any occupation (casual or voluntary)	2.Uptake of any form of unpaid (voluntary) work during the period At 6 Months: I: 2 (28.6%); C: 1 (12.5%); At 12 months: I: 2 (33.3%); C: 3 (27.3%) 3.Involvement in any other forms of social or community participation At 6 months: I: 1 (14.3%); C: 2 (25.0%); At 12 months: I: 3 (50%); C: 2 (18.2%)
Open employment and/or formal education	4) Started studying At 6 months: I: 2 (28.6%); C: 0; At 12 months: I: 1 (16.7%); C: 3 (27.3%)
Engaged with an employment support service	5. Engaged with an employment support service At 6 months: I: 6 (85.7%); C: 4 (50%); At 12 months: I: 5 (83.3%); C: 4 (36.4%)
Clinical status/ /experiences/attitudes/satisfaction etc	6.Participant experiences of the usefulness of the MI session and/or information Pack (yes/no) -no results comparing exp. with control group reported
Losses to follow up	At 6 months: I: 3 (of 10); C: 8 (of 16). Attrition rate: 43.4% At 12 months: I: 4 (of 10); C: 5 (of 16)

Author Year (32)	Magnusson 2007
Open (paid) employment	1.Returned to work or in a return to work process: At 12 months: I: 22%, n=10. C:11% , n=5 RR; 1.96 (0.73 to 5.26); I:n=45, C: n=44 RTW measured by register data from the National Insurance Offices and self-reported data of being in a process of return to work defined as being on educational course or being in work training at one year follow-up.
Reduction in disability pension	2.Reduction in disability pension: At 12 months: I: 2 (4.0%); C: 2 (4.5%)
Clinical status/ function/experiences/attitudes/satisfaction etc	3. Life satisfaction (measured with Cantril's Ladder Scale, a 10-point vertical numerical rating scale) At 12 months: I: 5.3 (1.7); C: 5.4 (2.0), p=0.05 , but the control group had lower scores at BL 4. Norwegian Functional Scale (NFS) (work-related function): At 12 months: I. 1.7 (0.3); C:1.6 (0.4), p=0.19 5: Roland Morris Disability Questionnaire (RBQ)(0-24): At 12 months: I: 14.1 (4.0); C:13.9 (5.5), p=0.99 6.Fear Avoidance beliefs Questionnaire – physical activity (FABQ-PA; 0-24); At 12 months: I: 13.0 (5.9); C: 13.9 (5.5), p=0.14 7.Fear Avoidance beliefs Questionnaire- work (FABQ-W; 0-42): At 12 months: I: 30.0 (10.2); C:29.3 (12.0), p=0.33
Losses to follow up	16 of 45 participants withdrew from the study, and 4 dropped out

Author Year (33)	Martin 2012
Open (paid) employment	<ol style="list-style-type: none"> Open employment – No numerical data reported. No mentioning of the effects of MI on employment only. Unknown proportion of participants who moved from unemployed at baseline to employed at follow up. Mean summed scores (cross-sectional analysis): significant difference at 18 months, but not at 6, 12 or 24 months Mean summed scores over time (paid job, volunteer work, training or job seeking): Chi 2 (df=4, N=645)=10.45, p=0.03 (higher score=better outcome in the intervention group)
Any occupation (casual or voluntary)	4. Volunteering. No numerical data reported. Authors report no difference between groups.
Engaged with an employment support service	<ol style="list-style-type: none"> Engage in job training: unadjusted OR:1.48 (Chi2; df=4; n=645;13.38, p=0.01 adjusted OR:1.45 (Chi 2; df=4; n=621; 12.55; p=0.01 Note: adjusted for the three baseline covariates found to be different between groups at baseline Looking for job- No numerical data reported. Authors report no difference between groups.
Losses to follow up	Very small losses to follow up (5 participants in intervention group and 6 participants in control group)

Author Year (34)	Webster 2014
Open (paid) employment	<p>1.Work status at 12 months: Working full-time (%) : I:67.6; C: 59.7 Working part-time (%): I:12.9; C:15.9 Unemployed: I: 1.7; C:1.7 Not in the work-force:I:17.8; C:22.8 All results are analysed based on intent to treat. Note. The percent of participants who moved from unemployed at baseline to employed at follow up was around 30% in both groups.</p>
Tenure (no of days/weeks in employment)	<p>2: Days paid for legal employment (SD) In the past year: I:210.1 (114.1); C: 199.9 (130.1) days D=0.20; F (1.464)=4.69, p=0.03 In the past 30 days: I: 16.7; C:16.1 days</p>
Income from legal employment	<p>3.Income from legal employment (USD) In the past year: I:9863.9; C:11073.6; In the past 30 days: I:809.9; C:845.5</p>
Losses to follow up	61% of the intervention participants completed half or more of the available sessions. No information on losses to follow up provided.

Appendix 8 GRADE profiles

Author(s): Flodgren GM, Berg RC
Date: 27.03.17

Question: Motivational interviewing compared to business as usual for first episode psychosis

Setting: UK

Bibliography: Craig T, Shepherd G, Rinaldi M, Smith J, Carr S, Preston F, et al. Vocational rehabilitation in early psychosis: cluster randomised trial. British Journal of Psychiatry 2014; 205(2):145-150.

Quality assessment							No of patients		Effect		Quality
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motivational interviewing	business as usual	Relative (95% CI)	Absolute (95% CI)	
Open employment (return to work) (follow up: 12 months)											
1	randomised trials	not serious	not serious	not serious	very serious ^a	none	25/68 (42.6%)	12/66 (18.2%)	RR 2.35 (1.31 to 4.19)	244 more per 1,000 (from 56 more to 580 more)	⊕⊕○○ LOW

CI: Confidence interval; **RR:** Risk ratio

a. Small study and wide CI

Author(s): Flodgren GM, Berg RC

Date: 27.03.17

Question: Motivational interviewing compared to business as usual for severe psychiatric condition

Setting: Australia

Bibliography: Hampson ME, Hicks RE, Watt BD. Exploring the effectiveness of motivational interviewing in re-engaging people diagnosed with severe psychiatric conditions in work, study, or community participation. American Journal of Psychiatric Rehabilitation 2015;18 (3):265-279.

Quality assessment							No of patients		Effect		Certainty
No of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motivational interviewing	business as usual	Relative (95% CI)	Absolute (95% CI)	
Open employment (follow up 12 month)											
1	Quasi-experimental	serious ^a	not serious	not serious	very serious ^b	none	4/6 (66.7%)	1/11 (9.1%)	RR 7.33 (1.04 to 51.67)	575 more per 1,000 (from 4 more to 1,000 more)	⊕○○○ VERY LOW

CI: Confidence interval; **RR:** Risk ratio

a. High risk of selection bias, performance bias and high attrition.

b. Very small study and wide CI

Author(s): Flodgren GM, Berg RC

Date: 27.03.17

Question: Motivational interviewing as part of a brief vocational-oriented intervention compared to control for disability pensioners with back pain

Setting: Norway

Bibliography: Magnussen L, Strand LI, Skouen JS, Eriksen HR. Motivating disability pensioners with back pain to return to work—a randomized controlled trial. Journal of Rehabilitation Medicine 2007;39(1):81-87

Quality assessment							№ of patients		Effect		Certainty
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motivational interviewing	business as usual	Relative (95% CI)	Absolute (95% CI)	
Returned to work or being in the process of returning to work (follow up: 12 months)											
1	randomised trials	Not serious	not serious	Very serious ^{a, b}	serious ^c	none	10/45 (22.2%)	5/44 (11.4%)	RR 1.95 (0.73 to 5.26)	108 more per 1,000 (from 31 fewer to 484 more)	⊕○○○ VERY LOW

CI: Confidence interval; RR: Risk ratio

a. Wide CI, small study

b. Does not report open employment separately, but together with being in the process of returning to work (i.e. taking an educational course or being in work training).

Author(s): Flodgren GM, Brg RC

Date: 30.05.17

Question: Motivational interviewing plus a drug court program compared to drug court program only for drug-involved offenders

Setting: Two Kentucky drug court sites

Bibliography: Webster MJ, Stanton-Tindall M, Dickson MF, Wilson JF, Leukefeld CG. Twelve-month employment intervention outcomes for drug-involved offenders

Quality assessment							№ of patients		Effect		Quality
№ of studies	Study design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Motivational interviewing plus a drug court program	drug court program only	Relative (95% CI)	Absolute (95% CI)	
Work status (part- or fulltime) (follow up: mean 12 months)											
1	randomised trials	serious ^a	not serious	serious ^b	not serious	none	196/244 (80.3%)	176/233 (75.5%)	RR 1.06 (0.97 to 1.17)	45 more per 1,000 (from 23 fewer to 128 more)	⊕⊕○○ LOW
Days of paid employment (follow up: mean 12 months)											
1	randomised trials	serious ^a	not serious	serious ^b	serious ^c	none	244	233	-	MD 10.2 days higher (11.8 lower to 32.2 higher)	⊕○○○ VERY LOW

CI: Confidence interval; RR: Risk ratio; MD: Mean difference

a. High risk of bias

b. A large proportion (53.6%) of participants were employed at baseline

c. Wide CI

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