

REPORT

2018

SYSTEMATIC REVIEW:

Employment-oriented mentoring
programmes for vulnerable populations

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Key messages

The division of health services in the Norwegian Institute of Public Health was commissioned by the Norwegian Directorate for Integration and Diversity (IMDi) to conduct a systematic review on the effect of employment-oriented mentoring programmes for vulnerable populations, including immigrants, persons with chronic physical and mental health issues, addiction problems or persons considered to be low-skilled, on employment-related outcomes.

Method

We conducted a systematic review in order to identify, critically appraise and synthesize relevant studies on employment-oriented mentoring programmes for vulnerable populations. We planned to include controlled studies (studies with control group or interrupted time series) about employment-oriented mentoring programmes delivered to vulnerable populations over 18 years, compared to no intervention or job activation intervention that comprised no actual mentoring component. The main outcome was obtaining full or part-time employment. Secondary outcomes were psychosocial outcomes and education.

A systematic literature search was performed in March 2018. Two researchers, independently, first read through all references and then the identified, possibly relevant, full-texts.

Results

No studies met the inclusion criteria. There is a gap in research about the effects of employment-oriented mentoring programmes for vulnerable populations. Future systematic reviews or mapping reviews could consider summarising studies about experiences with mentoring programmes.

Title:

Employment-oriented mentoring programmes for vulnerable populations: 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.

Doesn't answer everything:

- No studies outside the explicit inclusion criteria
- No health economic evaluations
- No recommendations

Publisher:

Norwegian Institute of Public Health

Updated:

Last search for studies:
March 2018

Peer review (all NIPH):

Atle Fretheim and Kjetil G Brurberg (protocol);
Øvind Melien and Gunn Vist (report)

External referees:

Anne Margrethe Gløkken, Østfold University College (protocol & report), Tatiana Maximova-Mentzoni, Work Research Institute (AFI), OsloMet (protocol) and Mona Jerndahl Fineide, Østfold University College (report)

Hovedbudskap (norsk)

Område for helsetjenester i Folkehelseinstituttet fikk i oppdrag av Integrerings- og mangfoldsdirektoratet (IMDi) å utføre en systematisk oversikt over effekter av arbeidsrettede mentorprogrammer for sårbare grupper inklusive innvandrere, personer med kroniske fysiske, eller psykiske helseproblemer, rusmiddelproblemer, eller personer med lave kvalifikasjoner, på arbeidsrelaterte utfall.

Metode

Vi utførte en systematisk oversikt i den hensikt å identifisere, kritisk vurdere og sammenstille relevante studier om arbeidsrettede mentorprogrammer for sårbare grupper. Vi planla å inkludere kontrollerte studier (studier med kontrollgruppe eller avbrutte tidsserier) om arbeidsrettede mentorprogrammer gitt til sårbare grupper over 18 år, sammenlignet med ingen tiltak eller arbeidstiltak som ikke inneholdt mentorordning som en aktiv komponent. Hovedutfallet var det å komme i arbeid, fulltid eller deltid. Sekundære utfall var psykososiale utfall og utdanning.

Et systematisk søk ble utført i mars 2018. To forskere gikk uavhengig av hverandre først gjennom alle referansene og deretter mulige relevante studier i fulltekst.

Resultater

Ingen studier møtte inklusjonskriteriene. Det mangler forskning om effekter av arbeidsrettede mentorprogrammer for sårbare grupper. Fremtidige systematiske oversikter eller kartleggingsoversikter kan vurdere å oppsummere studier som undersøker erfaringer med mentorprogrammer.

Tittel:

Arbeidsrettede mentorprogrammer for sårbare grupper: 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 utenfor de eksplisitte inklusjonskriteriene
- Ingen helseøkonomisk evaluering
- Ingen anbefalinger

Hvem står bak denne publikasjonen?

Folkehelseinstituttet har gjennomført oppdraget etter forespørsel fra Integrerings- og mangfoldsdirektoratet (IMDi)

Når ble litteratursøket utført?

Søk etter studier ble avsluttet i mars 2018

Interne fagfeller (alle FHI):

Atle Fretheim og Kjetil G Brurberg (protokoll); Øvind Melien og Gunn Vist (rapport)

Eksterne fagfeller:

Anne Margrethe Gløkken, Høgskolen i Østfold (protokoll & rapport), Tatiana Maximova-Mentzoni, Arbeidsforskningsinstituttet, (AFI), OsloMet (protokoll) og Mona Jerndahl Fineide, Høgskolen i Østfold (rapport)

Preface

The Norwegian Directorate for Integration and Diversity (IMDi) commissioned a systematic review on the effect of employment-oriented mentoring programmes for vulnerable populations, including persons with immigrant background, persons with chronic physical and mental health issues, addiction problems or persons considered to be low-skilled, on employment-related outcomes. We conducted a systematic literature search and screened identified titles and abstracts according to the predefined inclusion criteria, specified in a review protocol.

The project group consisted of:

- Project leaders: researcher Heather Munthe Kaas, NIPH (01.10.2017 to 01.05.2018) and researcher Heid Nøkleby, NIPH (01.05.2018 to publishing date)
- Researcher Nikita Baiju, NIPH
- Information specialist Ingvild Kirkehei, NIPH

All authors and peer reviewers filled out a form to document potential conflicts of interest. No conflicts of interest were declared.

Kåre Birger Hagen
Research Director

Rigmor C Berg
Department Director

Heather Munthe-Kaas/
Heid Nøkleby
Project leaders

Background

Background

This introductory text is partially based on a report about employment-oriented mentoring programmes for vulnerable populations, written by the main review author in 2012 (1), and the review protocol for the current project (Appendix 1).

Mentoring programmes

The term “mentor” can be defined a number of ways, which are discussed by Bozeman and colleagues (2). For the purpose of this report, we use the definition provided by the Migration Policy Institute (3) whereby mentoring:

- Is a process where an experienced individual (the mentor) advises a partner (mentee) who is lagging behind with respect to a particular set of social, cognitive, or technical skills and experiences. The mentor may be experienced in a number of ways including with respect to their knowledge of the local culture, their networks or their professional status.
- Is a formal one-on-one relationship with/out group elements where the mentee does not pay for the time/support of the mentor
- Has the end goal of employment for the mentee, as well as interim objectives that can promote employment success such as developing social and cognitive skills, expanding socio-professional networks and improving self-confidence or self-efficacy.

Context of mentoring programmes

Mentoring programs exist in many different forms, both within the professional context and in voluntary and public sectors. Mentoring programs can employ any one of the following methods: peer mentor; formal mentoring (meetings are planned by an organization/company); informal mentoring (develop spontaneously), and; diversified mentoring (individuals with different ethnic backgrounds engage in a mentoring relationship) (2). Many mentor programmes are considered employment-oriented in that they focus on an individuals’ career/labour force participation, and not their personal lives, which may be affected by career/labour force participation outcomes, but are not the main focus of the mentoring relationship.

Many definitions of such employment-oriented mentoring relate to a professional context, specifically career development for individuals already in a professional position.

This classic model of a mentoring relationship emphasises: (i) achievement, such as in the encouragement and facilitation of the development of a career or vocation; (ii) nurturance, which typically conveys caring and support while imparting elements of positive character development, and; (iii) generativity, which reflects the concept of inter-generational responsibility and the idea that elders/mentors transmit knowledge, values, and culture to the younger generation (Freedman 1993 in (2)).

However, employment-oriented mentoring programs can also be initiated outside of the workplace as a strategy for supporting an individual's entrance into the workforce. In the case of the voluntary sector, employment-oriented mentoring programs are often aimed at vulnerable groups, which, for various reasons, face barriers to entering the labour market. In this systematic review we focus on mentoring programs for vulnerable populations who experience barriers to entry into the workforce.

Diverse goals and methods

Many mentoring programs are centred on promoting career development and giving psychosocial support. A mentor has five functions regarding career development: *sponsorship, coaching, protection, challenging assignments, exposure* (2). Psychosocial support implies that the mentoring relationship has an interpersonal element and that the protégé gains an increased feeling of competence, increased self-efficacy in addition to professional and personal development (2). Research literature has shown that a mentor can contribute with psychosocial support or career related support, and can act as a role model for one or more protégés (3;4).

Elements of successful mentoring relationships

How, under which circumstances, and for which groups mentoring works is still relatively unknown, and under-researched. Pawson's 2004 systematic review attempts to identify the intervention characteristics of successful mentoring programs (4). However, this review is focused on mentoring programs for youth (4). Pawson concludes that there are three key concepts which are often used to describe differences in mentoring relationships and to explain why one relationship is more successful than another: *status differences, reference group position, and the mentoring mechanism* (4).

Vulnerable populations and employment outcomes

According to the Organization for Economic Co-operation and Development (OECD), vulnerable groups include "young people; people with a disability; minorities; migrants; aboriginals; and early school leavers" ((5) p.8).

Immigrants

In this systematic review, we define immigrants as individuals who are born to two parents who are not born in the host country (snl.no). The term *immigrants*, however, refers to a heterogeneous group that includes individuals with little or no formal education, as well as individuals who have achieved high levels of education, or who are considered "highly skilled". Both groups of individuals face unique barriers to entering

the workforce in a new country. For the first group, a lack of formal education or language skills may be the primary barrier to entering the workforce. For the latter group, hurdles to entering a relevant employment tract may include recognition of qualifications from another country (depending on the profession and country of origin), a lack of profession and/or social networks and language barriers (3).

Mentoring for immigrants may focus on minimizing barriers to labour force participation by supporting psychosocial development and promoting acculturation and integration (7). Furthermore, mentees could benefit from expanding their social or professional network and improving their language skills and cultural knowledge (7).

Other vulnerable populations

Individuals with chronic or mental illness or substance abuse problems are vulnerable populations with respect to employment outcomes (8;9). These groups may face a variety of barriers when entering or re-entering the labour market, including discrimination, lack of skills and/or qualifications, and a lack of opportunities (10). There appears to be little research available related to the hypothesised effect of mentoring interventions for supporting these populations to (re)enter the labour market.

Mentoring for individuals within the above mentioned vulnerable populations could be beneficial in terms of the psychosocial support a mentor could offer as well as networking opportunities.

Young people are sometimes also considered as part of a group of vulnerable populations. However, systematic reviews on mentoring for this group either is published or ongoing (11;12).

Previous research

In 2012, we published a systematic literature search with sorting, on voluntary mentoring programmes for adults (1). After screening titles and abstracts, we considered 87 references relevant and sorted them according to study, population, and intervention characteristics. The sorting was based on information available from the titles and abstracts only. We identified the following groups of recipients of mentor programmes in the literature on mentoring: immigrant and refugees, women, prisoners, minority groups, parents, drug users, and people with low-education, health related issues, low income (including welfare recipients), or those transitioning out of residential care institutions.

Another systematic review, conducted by Underhill and colleagues (search last updated in 2004), examined the effect of mentoring programmes within a corporation (13). The studies included in the Underhill review are outside the remit of the current review, since the mentees are in employment. The results of this review, however, showed improvements in career improvement for mentees compared to individuals not in a mentorship relationship. Furthermore, and potentially relevant for the current review, is that the authors hypothesised based on their findings that “If protégés [mentees] and

non-protégés are significantly different, then the effect of mentoring could be a result of characteristics such as the personality differences in people willing to enter into a mentoring relationship and those not mentored” (13).

Rationale

The Directorate for Integration and Diversity (IMDi) provides a grant scheme to organizations in order to support provision of mentoring services for vulnerable populations. IMDi takes an evidence-based approach to policy- and decision making. The aim of this systematic review was to strengthen IMDi's knowledge base for developing and advising on providing mentoring programs to different populations.

While a number of interventions to improve social inclusion and activate labour force participation exists, there appears to be an increasing interest in mentoring to address both of these goals. Since there are currently no known systematic reviews on mentoring for vulnerable populations, the results of this systematic review could be an important contribution in the input to future policy development.

Objective

The objective of this systematic review was to evaluate the effect of employment-oriented mentoring programmes for vulnerable populations on employment outcomes. We also wanted to assess whether expert-identified factors could influence the transferability of the review findings (size and/or direction of effect size) to the Norwegian context.

Methods

Inclusion criteria

A glossary of terms related to systematic reviews and study characteristics is included in Appendix 2.

We aimed to include studies that met the following inclusion criteria:

Population: Vulnerable populations over 18 years old, including immigrants, people with mental or chronic illness or substance abuse, or people who are low-skilled. In studies with mixed populations, at least 50% of the participants have to be over 18 years old and belong to one of the mentioned vulnerable groups.

Intervention: Employment-oriented mentoring programmes (as defined by the Migration Policy Institute (3), see above).

Comparison: No intervention or a job activation intervention (no actual mentoring component, but a programme that aims to gain sustainable employment and can include group or individual counselling).

Outcomes:

Primary outcome: Employment-related outcomes, such a full- or part-time employment.

Secondary outcomes: Psychosocial outcomes, social inclusion and integration, self-efficacy, and education.

We planned to include studies only if the primary outcome was described (and measured). We decided not to include studies where employers or social workers received mentoring services with the aim of better assisting/supporting vulnerable populations to attain employment.

Study design:

We wanted to include randomised controlled trials (RCTs), non-randomised controlled trials (NRCTs), prospective cohort studies with control, controlled before-after studies (CBAs), and interrupted time series (ITS) with at least three measurements points prior to intervention and three follow-up measurements.

The reason for including only controlled studies and interrupted time series in this systematic review of effects is that these study designs, relative to non-controlled designs, provide greater control over confounding variables, and we can to a larger extent draw conclusions about effect. With other study designs, it is far more difficult to know whether it is the intervention that leads to the observed effects.

Our preliminary literature search suggested that there were no relevant systematic reviews on the effect of mentoring for vulnerable populations on employment outcomes. However, if we had actually found one or more systematic reviews of high methodological quality that met the above inclusion criteria, and with a systematic literature search conducted no later than 2014, we planned to include it/them. If we had identified one systematic review, we would have written a summary of the review, and if we had included two or more reviews, we would have based the report on the findings from these reviews. Characteristics of a systematic review are:

- a clearly stated set of objectives with pre-defined eligibility criteria for studies;
- an explicit, reproducible methodology;
- a systematic search that attempts to identify all studies that would meet the eligibility criteria;
- an assessment of the validity of the findings of the included studies, for example through the assessment of risk of bias;
- a systematic presentation, and synthesis, of the characteristics and findings of the included studies (14).

If we had identified a systematic review that did not meet all of the above criteria, we planned to use the reference list from the identified review in order to identify relevant primary studies.

Year: Studies published in or after year 1995 were to be included. This date was set for two reasons: (i) our systematic search of the literature in 2012 only identified 2 of 91 studies published before 1995, thus mentoring appears to be a relatively recent intervention, and (ii) a recently published literature review restricted inclusion to studies published after 2000 to reflect modern socio-political contexts (7). By extending the date limitation to 1995, we were fairly certain that we would have identified and included all relevant literature.

Language/Country: There were no restrictions on language or country in the database literature search. In the event that studies were published in a language neither mastered by the review team nor colleagues at the NIPH, the study would have been translated, either by Google translate or by a professional translator.

The selection criteria were discussed and agreed with the commissioner ahead of the literature search.

Literature search

We developed and conducted a systematic search of the literature in the following international databases:

- PsycINFO
- Campbell Library
- Cochrane Library (incl. CENTRAL)
- MEDLINE
- Social Services Abstracts
- Sociological Abstracts
- CINAHL
- ISI Web of Science
- Epistemonikos
- PROSPERO

The majority of the databases are the same as we searched in 2012. We did not search in other databases, as suggested in the protocol.

The search strategy was developed by information specialist Ingvild Kirkehei and reviewed by information specialist Elisabet Hafstad. The complete strategy is included as Appendix 3.

Study selection

Two review authors independently screened all titles and abstracts that resulted from the systematic literature search, and included/excluded references according to the inclusion criteria. The screening software Rayyan was used (15). We promoted references to full-text when one or both authors found that the study appeared to meet the inclusion criteria above. Two researchers independently of one another read the full-texts of the promoted references and assessed them for inclusion/exclusion based on the inclusion criteria described above. We planned to include studies that met all inclusion criteria for the systematic review, but no studies were eligible.

Studies that we read in full-text and excluded are presented in a list with an explanation for exclusion (Appendix 4).

Data extraction and critical appraisal

We planned to extract data from the included studies in a systematic way. The data meant to be extracted were: publication characteristics (author, title, date and country of publication), as well as characteristics related to study, population, comparison and intervention (study design, number and characteristics of participants/studies, drop-out, type of intervention, type of control group/intervention). We also planned to ex-

tract data regarding results for relevant outcomes (employment, psychosocial outcomes, social inclusion and integration, self-efficacy, education). As no studies were included, we did not extract any data.

If we had identified studies for inclusion, two researchers would have critically appraised the risks of bias of the included studies, independently of one another using established checklists. For systematic reviews we planned to use the organization's checklist for systematic reviews (14). For RCTs and NRCTs, we planned to use the Cochrane risk of bias tool, which is based on an assessment of selection bias, performance bias, detection bias, attrition bias, and reporting bias (16). For all other controlled studies, we planned to use the Effective Practice and Organisation of Care (EPOC) checklist (available here: <http://epoc.cochrane.org/epoc-specific-resources-review-authors-2016>). As no studies were included, we did not perform any critical appraisal.

Data synthesis

If we had included one or more systematic reviews, we would not have performed new analyses, but extracted and reported the synthesized results in the systematic review(s).

If we had included primary studies, we would have reported the studies' effect sizes and possibly conducted meta-analyses if the studies were conceptually similar (similar PICO and study design) and it was statistically permissible. Otherwise, we had presented a narrative synthesis of the findings from included studies.

Assessment of transferability

Using the TRANSFER Approach (17), we planned to identify, prioritise and assess hypothesised factors that may influence the transferability of the review findings to the context of interest in the review. We communicated with five stakeholders to identify and prioritise transferability factors prior to beginning the systematic review. The consulted stakeholders included a mentor, a mentee, someone involved in administering a mentorship program, and a representative from IMDi. The five stakeholders identified the below factors that may influence transferability of the review findings to the local context (Norway). After consultation, we tried to identify research to support these hypotheses, and where possible, any identified research is summarised along with the hypothesised transferability factor:

- Volunteering – The degree to which, or whether, mentees are voluntarily part of a mentoring programme. Previous research from a corporate mentoring programme indicates that voluntary mentor participation (of mentors) was positively related to a perception of the mentoring relationship as a rewarding experience, that outweighed any costs to the mentor (18).

- The institution responsible for implementing the program (e.g., governmental, non-governmental, religious) both in terms of supporting implementation and financing the activities.
- The education and skill level of the mentors and programme administrators.

We planned to extract data related to the transferability factors described above from included studies (or external sources when necessary). If we had conducted a meta-analysis, we wanted to conduct a subgroup analysis according to each transferability factor to evaluate whether the hypothesised factors influence transferability, to what degree and in what direction. In the case of a narrative synthesis, we wanted to present an overview of the included studies and their characteristics related to the identified transferability factors along with a discussion of any potential impacts the factors appear to have on transferability.

GRADING of the evidence

We planned to assess certainty in the effect estimate for the primary outcomes using GRADE (Grading of Recommendations Assessment, Development, and Evaluation) (19). GRADE is a method for assessing confidence in the effect estimate for outcomes in systematic reviews, or the strength of recommendations in guidelines. GRADE has four levels of certainty:

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.

For more information on GRADE visit www.gradeworkinggroup.org, or see Balshem and colleagues (2011) (19).

Ethics

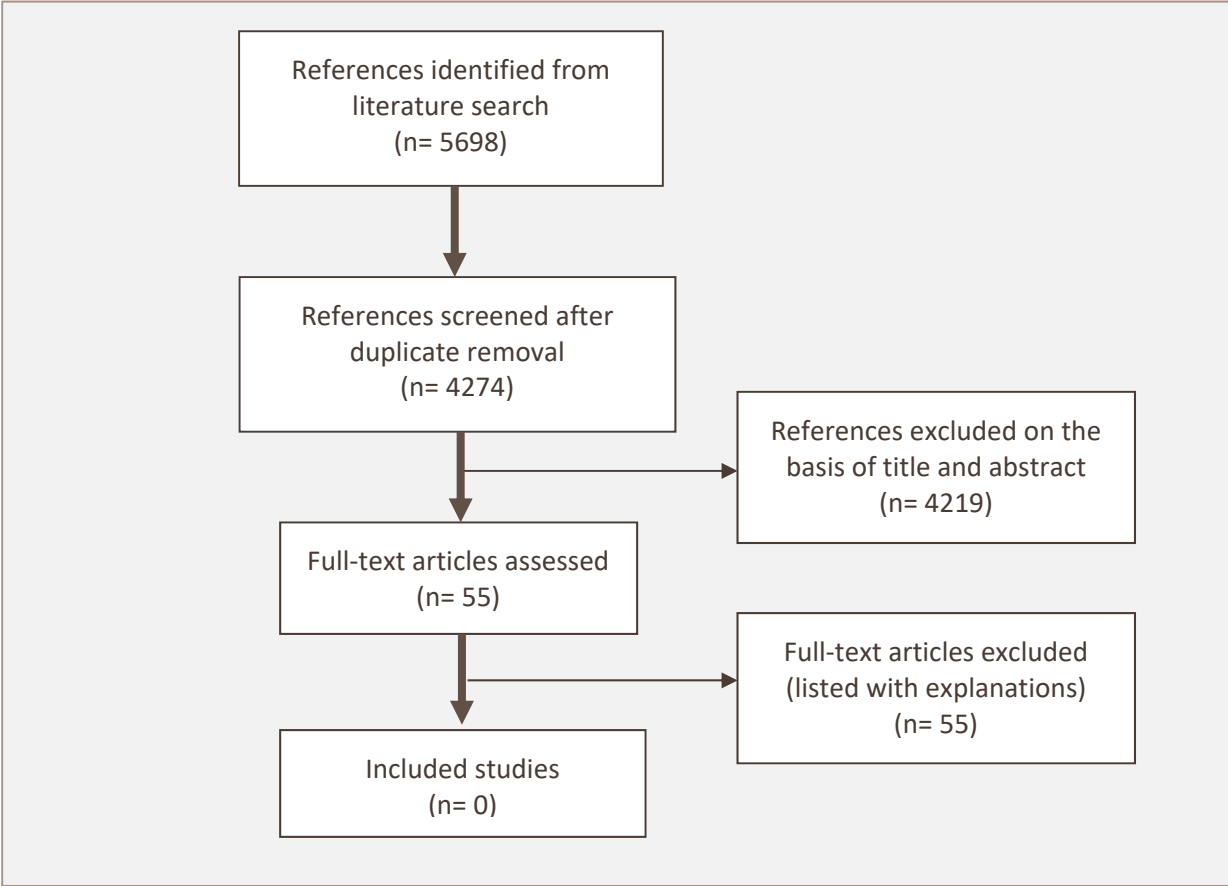
We did not consider ethical implications of employment-oriented mentoring programmes for vulnerable populations.

Results

Results of the literature search

The literature search yielded 4274 unique references after duplicate check. We read 55 studies in full-text. No studies met all inclusion criteria. The flowchart (figure 1) depicts the literature selection process.

Figure 1. Flowchart of the literature selection process



Description of excluded studies

The 55 studies (20-74) that we read in full-text and then excluded are listed with reasons for exclusion in Appendix 4. The main reasons for exclusion were:

- not an empirical study
- wrong study design (not a systematic review or a controlled study/interrupted time series)
- different population (not immigrants, people with mental or chronic illness)
- no relevant outcomes
- protocol (ongoing study)

Of the 55 excluded full-texts, the two most relevant studies for the commissioner are probably one about students with visual impairment and one about Individual Placement and Support. Antonelli and colleagues (2018) are the authors of 'College graduates with visual impairments: A report on seeking and finding employment' (20). We excluded this study because blindness in itself is not defined as a chronic disease. The other study was 'Effect on return to work or education of Individual Placement and Support modified for people with mood and anxiety disorders: results of a randomised clinical trial' by Hellström and colleagues (2017) (37). We excluded the study because Individual Placement and Support (IPS) is not considered a mentoring programme.

Discussion

This systematic review aimed to identify and summarise the empirical research on the effect of employment-oriented mentoring programmes for vulnerable populations. Our extensive search identified many relevant studies and we read 55 full-texts to assess their eligibility. However, despite our broad inclusion criteria regarding the population, no studies were eligible for inclusion. A systematic literature search with sorting of research on voluntary mentoring programs for adults published in 2012 (search last updated 2012) did not identify any studies on employment-oriented mentoring for vulnerable populations either, thereby indicating a dearth of any type of research studies on this topic (1).

The inclusion criteria regarding study design were restricted to controlled studies and interrupted time-series (in addition to systematic reviews), which are studies that can measure the effects of an intervention. Other study designs would allow for a significant influence of confounding variables, i.e. other variables that may have led to the observed difference in outcome between groups. Consequently, the certainty of our findings would have been low had we included such study designs.

We have not performed an analysis of why mentoring programmes have not been evaluated by controlled studies. Our experience suggests that in the social welfare field, the tradition for conducting controlled studies may not be as widespread as in other fields, such as education and medicine. Social welfare interventions are often complex, context-specific and can be challenging to evaluate and synthesize. However, synthesizing controlled studies in this area can be and are done, using a range of internationally endorsed methods.

The inclusion of other study designs may have given indications regarding the effects of- and experiences with mentoring programmes. Inclusion of qualitative studies could have shed light on stakeholders' experiences and perspectives of mentoring programmes. Results from the 2012 systematic literature search with sorting indicate that such studies exist (1). A systematic mapping review would have provided a mapping of studies of different designs answering different research questions, but without explicit synthesizing of results. Future systematic reviews might also include questions on the effects of (or experiences with) mentoring programmes for employers or social workers received with the aim of better assisting/supporting vulnerable populations to attain employment.

With regard to the question of supporting unemployed people with various difficulties into employment, readers might find a 2017 systematic review from NIPH interesting: 'Supported Employment for people with disabilities: a systematic review' (*Supported Employment for arbeidssøkere med bistandsbehov: en systematisk oversikt*) (75). 'Supported Employment' includes the intervention 'Individual Placement and Support' (IPS), mentioned in the result chapter.

Conclusion

In this systematic review, we did not identify any studies on employment-oriented mentoring programmes for vulnerable populations, that met the pre-defined inclusion criteria (determined in collaboration with the commissioner of the current review). It is therefore uncertain whether these programmes have an effect.

Future systematic reviews or systematic mapping reviews could consider summarising other study designs, as this report and a previous systematic literature search and sorting have shown that studies with other study designs do exist, however very few on immigrants. Including qualitative studies could give some answers regarding the experiences and mechanisms attached to mentoring programmes. It is possible to include observational study designs when examining questions of association between factors (e.g. mentoring and employment), such as cross-sectional studies, but such study designs are not suitable for examining questions of effect.

This systematic review has identified that there is a gap in research about the effects of employment-oriented mentoring programmes for vulnerable populations. The unemployment among immigrants and other vulnerable populations is higher than in the rest of the adult population, and there appears to be an increasing interest in mentoring as a strategy to assist/support vulnerable populations to attain employment. Thus, it would be important to identify the effects of such programmes, as well as stakeholders' experiences with mentoring. In future primary studies, researchers could strive to design a study that involves two comparable groups, one receiving the mentoring programme and the other not, even if randomisation is difficult or not possible. Qualitative studies could provide valuable answers regarding the way the programmes work, as well as the experiences from the perspectives of both the mentor and the mentees.

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Appendix 1: Protocol

Protocol: Effect of employment-oriented mentoring programmes for vulnerable populations on employment outcomes

Prosjektnummer / aktivitetsnummer / bestillingsnummer:

Plan utarbeidet (dd.mm.åååå): 29.11.2017

Short title: Effect of mentoring programmes for vulnerable populations

Short introduction: We will conduct a systematic review on the effect of employment-oriented mentoring programmes for vulnerable populations, including persons with immigrant background, persons with chronic physical and mental health issues, addiction problems or persons considered to be low-skilled, on employment-related outcomes.

Short summary:

The division for health services in the Norwegian Institute of Public Health has been commissioned by the Norwegian Directorate for Integration and Diversity to conduct a systematic review on the effect of employment-oriented mentoring programmes for vulnerable populations, including immigrants, persons with chronic physical and mental health issues, addiction problems or persons considered to be low-skilled, on employment-related outcomes. We will conduct a systematic literature search to identify relevant studies, critically appraise included studies, synthesize findings from these and present these findings in the form of a systematic review.

Norsk:

Kort tittel: Effekt av mentorprogrammer for sårbare grupper

Kort ingress: Vi skal gjennomføre en systematisk oversikt om effekt av sysselsettingsorienterte mentorprogrammer for sårbare grupper inklusive innvandrere, personer med kronisk fysisk, eller psykisk helse problemer, rusmisbruksproblemer, eller personer med lavutdanning, på arbeidsrelaterte utfall.

Kort beskrivelse/sammendrag:

Område for helsetjenester i Folkehelseinstituttet har blitt bedt av Integrerings- og mangfoldsdirektoratet å gjennomføre en systematisk oversikt om effekt av sysselsettingsorienterte mentorprogrammer for sårbare grupper inklusive innvandrere, personer med kronisk fysisk, eller psykisk helse problemer, rusmisbruksproblemer, eller personer med lave kvalifikasjoner, på arbeidsrelaterte utfall. Vi skal søke systematisk etter litteratur for å identifisere relevante studier, kritisk vurdere metodologiske kvaliteten til inkluderte studier, oppsummere funn fra disse studiene, og presentere funn i form av en systematisk oversikt.

Project category and commissioner	
Product:	Systematic review
Thematic area:	Employment and migration
Commissioner:	Directorate for Integration and Diversity Morten Sonniks Mob. 90 24 15 23 E-post: moso@imdi.no
Project leadership and co-authors	
Project leader:	Heather Menzies Munthe-Kaas
Responsible (group leader):	Rigmor Berg
Internal co-authors:	Heid Nøkleby Nikita Baiju Lien Nguyen
External co-authors:	N/A
Plan for replacing project leader or co-authors in case of long-term absence:	Either Heid Nøkleby or the person substituting for the project leader while she is on maternity leave will take over leadership of this project in May 2018.

Mandate

The unit for social welfare research in the Norwegian Institute of Public Health was commissioned by the Norwegian Directorate for Integration and Diversity to identify, critically appraise and synthesize empirical research on the effect of mentoring programmes for vulnerable people on employment outcomes. Given the complexity of the intervention under examination, we will also pilot two methodological tools in this project to consider issues related to implementation (TIDier checklist) and to support an assessments of transferability of the review findings to the Norwegian context (TRANSFER Approach).

Objectives

The objective of this systematic review is to evaluate the effect of employment-oriented mentoring programmes for vulnerable populations on employment outcomes. We will also assess whether expert-identified factors could influence the transferability of the review findings (size and/or direction of effect size) to the Norwegian context.

Background

The introductory text is primarily based on a report written by the review authors in 2012 (1).

Mentoring programmes

The term “mentor” can be defined a number of ways which are discussed by Bozeman and colleagues (2007) (2). For the purpose of this report, we will use the definition provided by the Migration Policy Institute (3) whereby mentoring:

- Is a process where an experienced individual (the mentor) advises a partner (mentee) who is lagging behind with respect to a particular set of social, cognitive, or technical skills and experiences. The mentor may be experienced in a number of ways including with respect to their knowledge of the local culture, their networks or their professional status.

- Is a formal one-on-one relationship with/out group elements where the mentee does not pay for the time/support of the mentor
- Has the end goal of employment for the mentee, as well as interim objectives that can promote employment success such as developing social and cognitive skills, expanding socio-professional networks and improving self-confidence or self-efficacy.

Context of mentoring programmes

Mentoring programs exist in many different forms, both within the professional context and in voluntary and public sectors. Mentoring programs can employ any one of the following methods: *peer mentor*; *formal mentoring* (meetings are planned by an organization/company); *informal mentoring* (develop spontaneously), and; *diversified mentoring* (individuals with different ethnic backgrounds engage in a mentoring relationship) (3). Many mentor programmes are considered *employment-oriented* in that they focus on an individuals' career/labour force participation (and not their personal lives, which may be affected by career/labour force participation outcomes, but are not the main focus of the mentoring relationship)

Many definitions of such employment-oriented mentoring relate to a professional context, specifically career development for individuals already in a professional position. This classic model of a mentoring relationship emphasizes: achievement, such as in the encouragement and facilitation of the development of a career or vocation; nurturance, which typically conveys caring and support while imparting elements of positive character development, and; generativity, which reflects the concept of intergenerational responsibility and the idea that elders/mentors transmit knowledge, values, and culture to the younger generation (Freedman 1993 in Bozeman 2007 (3)).

However, employment-oriented mentoring programs can also be initiated outside of the workplace as a strategy for supporting an individual's entrance into the workforce. In the case of the voluntary sector, employment-oriented mentoring programs are often aimed at vulnerable groups which, for various reasons, face barriers to entering the labour market. In this review we will focus on mentoring programs for vulnerable populations who experience barriers to entry into the workforce.

Diverse goals and methods

Many mentoring programs are centred on promoting career development and giving psychosocial support. A mentor has five functions regarding career development: sponsorship; coaching; protection; challenging assignments; exposure (2). Psychosocial support implies that the mentoring relationship has an interpersonal element and that the protégé gains an increased feeling of competence, increased self-efficacy in addition to professional and personal development (3). Research literature has shown that a mentor can contribute with psychosocial support or career related support, and can act as a role model for one or more protégés (3;4).

Elements of successful mentoring relationships

How, under which circumstances, and for which groups mentoring works is still relatively unknown, and under-researched. Pawson's 2004 systematic review attempts to identify the intervention characteristics of successful mentoring programs (4). However, this review is focused on mentoring programs for youth (4). Pawson concludes that there are three key concepts which are often used to describe differences in mentoring relationships and to explain why one relationship is more successful than another: status differences; reference group position; and the mentoring mechanism (4).

Vulnerable populations and employment outcomes

According to the Organization for Economic Co-operation and Development (OECD), vulnerable groups include “young people; people with a disability; minorities; migrants; aboriginals; and early school leavers” ((5) p.8).

Immigrants

In this review we will define immigrants as individuals who are born to two parents who are not born in the host country (snl.no). Employment outcomes for the migrant population tend to be worse than for native-born workers: In Norway, 69% of the immigrant population is in employment (6). However, while approximately 2% of the Norwegian population, excluding immigrants, was unemployed during the third quarter of 2017, approximately three times as many immigrants were unemployed during the same period (6%) (SSB.no).

The term immigrants, however, refers to a heterogeneous group that includes individuals with little or no formal education, as well as individuals who have achieved high levels of education, or who are considered “highly skilled”. Both groups of individuals face unique barriers to entering the workforce in a new country. For the first group, a lack of formal education or language skills may be the primary barrier to entering the workforce. For the latter group, hurdles to entering a relevant employment tract may include recognition of qualifications from another country (depending on the profession and country of origin), a lack of profession and/or social networks and language barriers (2).

Mentoring for immigrants may focus on minimizing barriers to labour force participation by supporting psychosocial development and promoting acculturation and integration (7). Furthermore, mentees could benefit from expanding their social or professional network and improving their language skills and cultural knowledge (7).

Other vulnerable populations

Individuals with chronic or mental illness or substance abuse problems are vulnerable populations with respect to employment outcomes (8;9). These groups may face a variety of barriers when entering or re-entering the labour market, including discrimination, lack of skills and/or qualifications, and a lack of opportunities (10). There appears to be little research available related to the hypothesized effect of mentoring interventions for supporting these populations to (re)enter the labour market.

Mentoring for individuals within the above mentioned vulnerable populations could be beneficial in terms of the psychosocial support a mentor could offer as well as networking opportunities.

Young people are sometimes also considered as part of a group of vulnerable populations. However, a number of systematic reviews on mentoring for this group either is published or ongoing (11;12).

Previous research

We have previously conducted a systematic search of the literature and sorted identified references according to study, population, and intervention characteristics (1). In this project we only had access to the titles and abstracts for included studies, and thus the sorting was based on information available from the title and abstract only. We identified the following groups of recipients of mentor programmes in the literature on mentoring: immigrant and refugees, women, prisoners, minority groups, parents, drug users, and people with low-education, health related issues, low income (including welfare recipients), or those transitioning out of residential care institutions.

A systematic review conducted by Underhill and colleagues (search last updated in 2004), examined the effect of mentoring programmes within a corporation (13). The studies included in the Underhill review are outside the remit of the current review, since the mentees are in employment. The results of this review, however, showed improvements in career improvement for mentees compared to individuals not in a mentorship relationship. Furthermore, and potentially relevant for the current review, is that the authors hypothesize based on their findings that “If protégés [mentees] and non-protégés are significantly different, then the effect of mentoring could be a result of characteristics such as the personality differences in people willing to enter into a mentoring relationship and those not mentored” (13).

Rationale

The Directorate for Integration and Diversity (IMDi) provides a grant scheme to organizations in order to support provision of mentoring services for vulnerable populations. IMDi takes an evidence-based approach to policy and decision making. The results of the systematic review will strengthen IMDi's basis for developing and advising on providing mentoring programs to different populations. With the help of this systematic review, the grant scheme can be improved and further developed, and it will be possible to develop and implement more accurate measures against the target group.

While a number of interventions to improve social inclusion and activate labour force participation exist, there appears to be an increasing interest for mentoring to address both of these goals. Since there are currently no known systematic reviews on mentoring for vulnerable populations, the results of this systematic review will be an important contribution in the input to future policy development.

Methods

Inclusion criteria

We will include studies that meet the following inclusion criteria:

Population: Vulnerable populations over 18 years old including immigrants, people with mental or chronic illness or substance abuse, or people who are low-skilled. In studies with mixed populations, at least 50% of the participants have to be over 18 years old and belong to one of the mentioned vulnerable groups.

Intervention: Employment oriented mentoring programmes (as defined by the Migration Policy Institute (2), see above).

Comparison: No intervention or a job activation intervention (no actual mentoring component, but a programme that aims to gain sustainable employment and can include group or individual counselling)

Outcomes:

Primary outcome: Employment-related outcomes, such as full- or part-time employment
Secondary outcomes: Psychosocial outcomes, social inclusion and integration, self-efficacy, and education.

Studies will only be included if the primary outcome is described (and measured).

We will not include studies where employers or social workers receive mentoring services with the aim of better assisting/supporting vulnerable populations to attain employment.

Study design:

We will include randomized controlled trials (RCTs), non-randomized controlled trials (NRCTs), prospective cohort studies with control, controlled before-after studies (CBAs), and interrupted time series (ITS) with at least three measurement points prior to intervention and three follow-up measurements. In the event that we identify two or more RCTs and/or NRCTs with data for the primary outcome that have low risk of bias and more than 400 participants total for continuous outcomes and 300 events for dichotomous outcomes, we will consider not including other types of studies.

Our preliminary literature search suggested that there are no relevant systematic reviews on the effect of mentoring for vulnerable populations on employment outcomes. However, if we find one or more systematic reviews of high methodological quality that meet the above inclusion criteria, and with a systematic literature search conducted no later than 2014, we will include it/them. If we identify one systematic review, we will write a summary of the review, and if we include two or more reviews, we will base the report on the findings from these reviews. Characteristics of a systematic review are:

- a clearly stated set of objectives with pre-defined eligibility criteria for studies;
- an explicit, reproducible methodology;
- a systematic search that attempts to identify all studies that would meet the eligibility criteria;
- an assessment of the validity of the findings of the included studies, for example through the assessment of risk of bias;
- a systematic presentation, and synthesis, of the characteristics and findings of the included studies (14).

If we identify a systematic review that does not meet all of the above criteria, we will use the reference list from the identified review in order to identify relevant primary studies.

Year: Studies published in or after year 1995 will be included. This date is set for two reasons: (A) a systematic search of the literature in 2012 only identified 2 of 91 studies published before 1995, thus mentoring appears to be a relatively recent intervention and (B) a recently published literature review restricted inclusion to studies published after 2000 to reflect modern socio-political contexts (7). By extending the date limitations to 1995 we are fairly certain that we will identify and include all relevant literature.

Language/Country: No restrictions. In the event that studies are published in a language neither mastered by the review team nor colleagues at the FHI, the study will be translated, either by Google translate or by a professional translator.

Search strategy

We will develop and conduct a systematic search of the literature in the following databases:

- PsycINFO
- Campbell Library
- Cochrane Library (incl. CENTRAL)
- PubMed
- Social Services Abstracts
- Sociological Abstracts
- CINAHL
- ISI Web of Science
- Epistemonikos
- SocIndex

- ASSIA
- PROSPERO

The search strategy will employ both «subject headings» (e.g. MeSH terms in Medline) and free text related to the intervention and population. We will also search in Google Scholar using terms related to the free text used in the database search, in reference lists of relevant publications, and by contacting experts in the field to identify any unpublished, or difficult to access literature. The search in Google Scholar will be conducted in English, Norwegian. We will also search relevant databases from Scandinavian research institutes (e.g., Libris, DFF, Kora, Nordart, Arblin).

Study selection

Two review authors will independently go through all titles and abstracts that result from the systematic literature search, and include/exclude references according to the inclusion criteria. They will use the screening software Rayyan (15). References will be promoted to full-text when one or both authors find that the study meets the inclusion criteria above. Two researchers will independently of one another read the full-texts of the promoted references and will assess them for inclusion/exclusion based on the inclusion criteria described above. All studies that meet all inclusion criteria will be included in the systematic review.

For studies that do not meet inclusion criteria because they do not include results related to the primary outcome, we will specify which outcome(s) these studies do include and present a separate overview of these studies and the included outcomes in the appendix. Such a list may be useful to inform future systematic reviews.

Data extraction and critical appraisal

One researcher will extract data from the included studies and another researcher will double check extraction with respect to completeness and accuracy. Data will be extracted for publication characteristics (author, title, date and country of publication), as well as characteristics related to study, population, comparison and intervention (study design, number and characteristics of participants/studies, dropout, type of intervention, type of control group/intervention). We will also extract data regarding results for relevant outcomes (employment, psychosocial outcomes, social inclusion and integration, self-efficacy, education).

When an outcome is measured at numerous follow-up points we will use the longest follow-up time in the analysis. When data is missing we will contact authors, and if sufficient data is not provided we will either exclude the studies from any meta-analyses and summarize the findings narratively or recalculate the data and employ extrapolations.

Two researchers will critically appraise the risks of bias of the included studies, independently of one another using established check lists. For systematic reviews we will use the organization's check list for systematic reviews (14). For RCTs and NRCTs, we will use the Cochrane risk of bias tool, which is based on an assessment of selection bias, performance bias, detection bias, attrition bias, and reporting bias (16). For all other controlled studies, we will use the Effective Practice and Organisation of Care (EPOC) check list (available here: <http://epoc.cochrane.org/epoc-specific-resources-review-authors-2016>). In cases of disagreement, we will discuss and potentially with a third reviewer until consensus is reached.

Implementation of Intervention

Given the complexity of the intervention, when possible we will extract information related to implementation using the Template for Intervention Description and Replication (TIDieR) checklist which includes the following questions:

1. Provide the name or a phrase that describes the intervention
2. Describe any rationale, theory, or goal of the elements essential to the intervention
3. Materials: Describe any physical or informational materials used in the intervention, including those provided to participants or used in intervention delivery or in training of intervention providers. Provide information on where the materials can be accessed (such as online appendix, URL)
4. Procedures: Describe each of the procedures, activities, and/or processes used in the intervention, including any enabling or support activities
5. For each category of intervention provider (such as psychologist, nursing assistant), describe their expertise, background, and any specific training given
6. Describe the modes of delivery (such as face to face or by some other mechanism, such as internet or telephone) of the intervention and whether it was provided individually or in a group
7. Describe the type(s) of location(s) where the intervention occurred, including any necessary infrastructure or relevant features
8. Describe the number of times the intervention was delivered and over what period of time including the number of sessions, their schedule, and their duration, intensity, or dose
9. If the intervention was planned to be personalised, titrated or adapted, then describe what, why, when, and how
10. * If the intervention was modified during the course of the study, describe the changes (what, why, when, and how)
11. Planned: If intervention adherence or fidelity was assessed, describe how and by whom, and if any strategies were used to maintain or improve fidelity, describe them
12. * Actual: If intervention adherence or fidelity was assessed, describe the extent to which the intervention was delivered as planned

Synthesis

We note that we will only extract data on secondary outcomes when the primary outcome (employment) is reported in the study. However, data on secondary outcomes will not be synthesized; we will only extract these data and present them in tables.

If we include one or more systematic reviews, we will not perform new analyses, but extract and report the synthesized results in the systematic review(s).

If we include primary studies, we will report the studies' effect size using standardized mean difference for continuous outcomes (or mean difference if studies report results using the same scale) or risk ratio for dichotomous outcomes together with 95% confidence intervals. When studies are conceptually similar (similar PICO and study design) and it is statistically permissible, we will conduct meta-analyses. We will conduct separate meta-analyses for continuous and dichotomous results related to the primary outcome. We will report meta-analyses, and any relevant subgroup analyses using forest plots.

When it is not possible to conduct a meta-analysis, we will present a narrative synthesis of the findings from included studies, and present the effect sizes as they are reported in the primary studies in a table using the results from the longest follow-up measurement from each study.

When we can perform meta-analyses we will assess statistical heterogeneity using I². Where I² is less than 25% we will consider the results to have low heterogeneity. Where I² is greater than 50% we will consider the results to have high heterogeneity. We will conduct meta-analyses using RevMan 5 using a random-effects model and inverse-variance approach (17). This method allows us to weight each study according to the degree of variation in the confidence in the effect estimate.

Dealing with missing data

We will contact primary study authors for missing data when necessary. When authors are unable to provide the missing data, we will report them as missing and either use available results for analysis, or present the findings narratively.

Heterogeneity

In the case of high heterogeneity (greater than 50%) of results from the systematic review, we will undertake meta-regression and sub-group analyses. We will conduct sub-group analyses using the following explanatory factors when possible:

- Population characteristics (type of vulnerable group, immigrant status, education level, level of disability/type of chronic health problem)
- Intervention characteristics (objectives, dose of intervention, mentor characteristics, context)

We will present results from the sub-group analyses using bubble plots and in separate tables along with an interpretation of how much the explanatory factors can account for variation in the results.

We will also consider to use meta-regression analysis methods to examine the individual association of each variable (key components of mentoring programmes) with the pooled estimate of employment outcomes (with support from a statistician) (18). If meta-regression is not possible or considered appropriate, we will attempt to identify key components of the intervention which are associated with successful outcomes using a narrative approach. We will do this using a matrix approach whereby each programme will be broken down into its components using the following list of components developed from a qualitative study aimed at examining the key components of an effective mentoring relationship (19):

- A. Open communication and accessibility
- B. Role modelling
- C. Goals and challenges
- D. Passion and inspiration
- E. Caring personal relationship
- F. Mutual respect and trust
- G. Exchange of knowledge
- H. Independence and collaboration

This list of key components may be modified after data extraction for two reasons: (1) the list is based on a single qualitative study with university students who may differ from vulnerable populations with respect to what is important in a mentoring relationship; and (2) the studies identified may not report on all of the components discussed above.

The programmes will be ranked according to their relative effect from best to worst. We will then attempt to highlight common key components across the “best” programmes (see example of a table 1 below).

Table 1. Example of components of mentoring programmes

Component/study	A	B	C	D	E	F	G	H
1	x	x		x	X	x		
2	x	x				x	x	
3		x			x			
4	x		x		x			

For a detailed description of our procedures for conducting systematic reviews, visit www.fhi.no to access our Handbook.

Assessment of transferability

Using the TRANSFER Approach, we will identify, prioritize and assess hypothesized factors that may influence the transferability of the review findings to the context of interest in the review. The TRANSFER Approach consists of guidance for review authors on how to collaborate with stakeholders and includes (a) guidance for review authors on how to conduct a meeting with stakeholders, (b) a PICO template that can help to ensure a mutual understanding of the review question, and (c) a conversation guide to lead the review team and stakeholders through a systematic discussion of possible transferability factors.

We communicated with stakeholders to identify and prioritize transferability factors prior to beginning the systematic review. The consulted stakeholders included a mentor, a mentee, someone involved in administrating a mentorship program and a representative from the directorate. The stakeholders identified the following factors that may influence transferability of the review findings to the local context (Norway). We tried to identify research to support these hypotheses, and where possible, any identified research is summarized along with the hypothesized transferability factor:

- Volunteering – The degree to which, or whether, mentees are voluntarily part of a mentoring programme. Previous research from a corporate mentoring programme indicates that voluntary mentor participation (of mentors) was positively related to perception of the mentor relationship as rewarding experience and outweighed any costs to the mentor (20).
- The institution responsible for implementing the program (e.g., governmental, non-governmental, religious) both in terms of supporting implementation and financing the activities.
- The education and skill level of the mentors and programme administrators

The review authors, in accordance with guidance on conducting subgroup analysis, will search for documentation to support for the inclusion of each transferability factor as a hypothesized explanatory factor (21).

We will extract data related to the transferability factors described above from included studies (or external sources when necessary). Where we have conducted a meta-analysis, we will conduct a subgroup analysis according to each transferability factor to evaluate whether the hypothesized factors influence transferability, to what degree and in what direction. In the case of a narrative synthesis, we will present an overview of the included studies and their characteristics related to the identified transferability factors along with a discussion of any potential impacts the factors appear to have on transferability.

We will follow the process as it is outlined in Munthe-Kaas & Nøkleby (manuscript under review) (22).

Certainty in the effect estimate (GRADE)

We will assess certainty in the effect estimate for the primary outcomes using GRADE (Grading of Recommendations Assessment, Development, and Evaluation) (23). GRADE is a method for assessing confidence in the effect estimate for outcomes in systematic reviews, or the strength of recommendations in guidelines. GRADE has four levels of certainty:

High certainty: Further research is very unlikely to change our confidence in the estimate of effect.

Moderate certainty: Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate.

Low certainty: Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate.

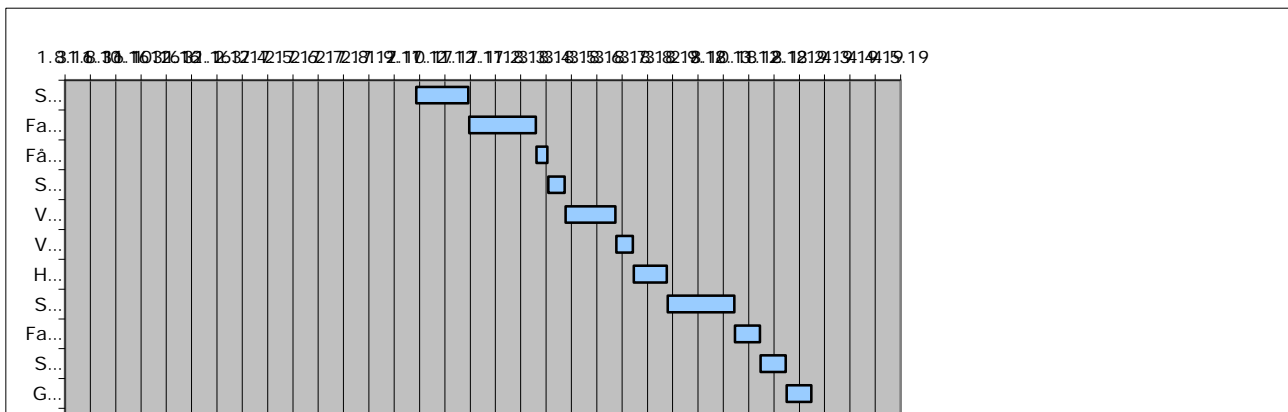
Very low certainty: We are uncertain about the estimate.

A GRADE assessment will be made for the primary outcome (employment) and will be based on evidence coming from the individual primary studies contributing to the outcome. If we include one or more systematic reviews, we will either use the GRADE assessment reported in the review(s), or undertake a new GRADE assessment depending on how well done or appropriate the original assessment was. If the review(s) contain no GRADE assessment, we will perform one, using the available evidence in the review. For more information on GRADE visit www.gradeworkinggroup.org, or see Balshem and colleagues (2011) (23).

Gantt-diagram:

Gantt-diagram, vedlegg til prosjektplanen

Oppgave	Ansvarlig	Startdato	Kalender- tid i dager	Sluttdato	Reelt tidsforbruk i mnd-verk (overføres budsjettet)
Skrive prosjektplan		28.09.2017	63	30.11.2017	
Fagfellevurdering av prosjektplan		01.12.2017	80	19.02.2018	
Få godkjent prosjektplan		20.02.2018	13	05.03.2018	
Søke etter litteratur		06.03.2018	20	26.03.2018	
Velge ut studier		27.03.2018	60	26.05.2018	
Vurdere studienes metodiske kvalitet		27.05.2018	20	16.06.2018	
Hente ut data, sammenstille og gradere		17.06.2018	40	27.07.2018	
Skrive utkast rapport		28.07.2018	80	16.10.2018	
Fagfellevurdering av rapport		17.10.2018	30	16.11.2018	
Skrive ferdig rapport		17.11.2018	30	17.12.2018	
Godkjenne og publisere		18.12.2018	30	17.01.2019	
Skriv og send inn artikkel til tidsskrift		18.01.2019	30	17.02.2019	



Starting date (for FHI.no):

03 October 2017

End date (publication date):

February 2019

Publication/dissemination

This project will result in a systematic review that will be published on fhi.no three weeks after it is sent to the commissioner. We will also consider submitting the finished review to the Campbell Collaboration library for consideration.

Indexing for website

Immigrant, vulnerable population, employment, mentoring, workforce

Related projects

1. Munthe-Kaas, HM, Kurtze N, Hammerstrøm KT. Systematic mapping of research on voluntary mentoring programs for adults. Memorandum – 2012. Oslo: Norwegian Knowledge Centre for the Health Services, 2010.

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1. Munthe-Kaas H, Kurtze N, Hammerstrøm K. Systematic mapping of research on voluntary mentoring programs for adults. Oslo: Norwegian Knowledge Centre for the Health Services; 2012
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Appendix 2: Glossary

Concept	Definition
Controlled before-and-after study (CBA)*	A study in which observations are made before and after the implementation of an intervention, both in a group that receives the intervention and in a control group that does not.
Interrupted time series study (ITS)*	A study that uses observations at multiple time points before and after an intervention (the 'interruption'). The design attempts to detect whether the intervention has had an effect significantly greater than any underlying trend over time.
Non-randomized controlled trial (NRCT)*	An experimental study in which people are allocated to different interventions using methods that are not random.
Randomized controlled trial (RCT)**	Work consisting of a clinical trial that involves at least one test treatment and one control treatment, concurrent enrolment and follow-up of the test- and control-treated groups, and in which the treatments to be administered are selected by a random process, such as the use of a random-numbers table.

* Effective Practice and Organisation of Care (EPOC). What study designs should be included in an EPOC review? EPOC Resources for review authors. Oslo: 2016.

**Cochrane Handbook for Systematic Reviews of Interventions. Version 5.1.0 (last updated 2011) Eds Julian PT Higgins and Sally Green <http://handbook-5-1.cochrane.org/>

Appendix 3: Search strategy

Search hits total: 5698

Search hits total after duplicate removal: 4274

ISI Web of Science

Search hits: 1704

Indexes=SCI-EXPANDED, SSCI, A&HCI, ESCI Timespan=1995-2018

3 #2 OR #1

2 TS=((vocational or occupation* or work* or job* or "work force") NEAR/1 mentor*) OR

TI=((vocational or occupation* or work* or job* or "work force" or workforce) and mentor*) # 1 TS=(mentor* or (advis* NEAR/1 relationship*)) AND TS=((return* or "back to" or "re-enter*"

or reenter* or "re-entr*" or reentr*) NEAR/2 ("work" or "job")) or "sick leave" or "medical leave" or "sick day*" or sicklist* or "sick-list*" or "work based learning" or "work related learning" or "employment" or "unemployment" or "employability" or "labour" or "labor" or "occupational reintegration" or "occupational re-integration" or (("vocational" or "occupation*" or work* or job* or "work force" or workforce) NEAR/2 (educat* or train* or program* or course* or guidance* or recruit* or hir*))

MEDLINE, PsycINFO (Ovid)

Ovid MEDLINE(R) Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) 1946 to Present: 1061 hits

PsycINFO 1806 to February Week 4 2018: 1575 hits

2403 hits after Ovid duplicate removal

1. Mentors/ use ppez or Mentor/ use psych or (mentor* or advis* relationship*).tw.
2. (return* to work or back to work or occupational reintegration or occupational reintegration or ((re-enter* or re-entr* or reenter* or reentr*) adj2 (work or job)) or sick* leave* or sick* absence or medical leave* or sick day* or sicklist* or sick-list* or work based learning or work related learning or employment or unemployment or employability or labour or labor or ((vocational or occupation* or work or job* or work-force or work force) adj3 (education or training or program* or guidance* or recruit* or hir*))).tw.
3. Sick Leave/ use ppez or Employee leave benefits/ use psych or Return to Work/ use ppez or reemployment/ use psych or Absenteeism/ use ppez or employee absenteeism/ use psych or Employment/ or exp employment status/ use psych or Employability/ use

- psych or Unemployment/ or Vocational Guidance/ use ppez or vocational counselors/
 use psych or occupational guidance/ use psych
4. 2 or 3
 5. 1 and 4
 6. ((vocational or occupation* or work* or job* or work force) adj2 mentor*).tw. or
 ((vocational or occupation* or work* or job* or work force) and mentor*).ti.
 7. 5 or 6
 8. limit 7 to yr="1995 -Current"
 9. remove duplicates from 8

Cochrane Library

Search hits: Cochrane reviews 4, CENTRAL 62, DARE 1, HTA 0

- #1 MeSH descriptor: [Mentors] explode all trees
- #2 (mentor* or (advis*-relationship*)):ti,ab,kw in Cochrane Reviews (Reviews and Protocols)
- #3 mentor* or (advis*-relationship*) in Other Reviews, Trials and Technology Assessments
- #4 #1 or #2 or #3
- #5 MeSH descriptor: [Sick Leave] explode all trees
- #6 MeSH descriptor: [Return to Work] explode all trees
- #7 MeSH descriptor: [Absenteeism] explode all trees
- #8 MeSH descriptor: [Employment] this term only
- #9 MeSH descriptor: [Unemployment] explode all trees
- #10 MeSH descriptor: [Vocational Guidance] explode all trees
- #11 (return*-to-work or back-to-work or occupational-reintegration or occupational-re-integration or ((re-enter* or re-entr* or reenter* or reentr*) near/2 (work or job)) or sick*-leave* or medical-leave* or sick-day* or sicklist* or sick-list* or work-based-learning or work-related-learning or employment or unemployment or employability or labour or labor or ((vocational or occupation* or work* or job* or workforce or work-force) near/3 (educat* or train* or program* or course* or guidance* or recruit* or hir*)):ti,ab,kw in Cochrane Reviews (Reviews and Protocols)
- #12 (return*-to-work or back-to-work or occupational-reintegration or occupational-re-integration or ((re-enter* or re-entr* or reenter* or reentr*) near/2 (work or job)) or sick*-leave* or medical-leave* or sick-day* or sicklist* or sick-list* or work-based-learning or work-related-learning or employment or unemployment or employability or labour or labor or ((vocational or occupation* or work* or job* or workforce or work-force) near/3 (educat* or train* or program* or course* or guidance* or recruit* or hir*))) in Other Reviews, Trials and Technology Assessments
- #13 #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12
- #14 #4 and #13
- #15 ((vocational or occupation* or work or job* or workforce or work-force) near/2 mentor*):ti,ab,kw in Cochrane Reviews (Reviews and Protocols)
- #16 (vocational or occupation* or work or job* or workforce or work-force) near/2 mentor* in Other Reviews, Trials and Technology Assessments

#17 ((vocational or occupation* or work or job* or workforce or work-force) and mentor*):ti

#18 #14 or #15 or #16 or #17 Publication Year from 1995 to 2018

CINAHL (Ebsco)

Search hits: 658

S13 S11 OR S12 Limiters - Published Date: 19950101-20180331; Exclude MEDLINE records

S12 TI ((vocational or occupation* or work or job* or workforce or work force) N2 mentor*) OR AB ((vocational or occupation* or work or job* or workforce or work force) N2 mentor*) OR TI ((vocational or occupation* or work* or job* or work force) and mentor*)

S11 S3 AND S10

S10 S4 OR S5 OR S6 OR S7 OR S8 OR S9

S9 "return to work" or "back to work" or "occupational reintegration" or "occupational re-integration" or ("re-enter*" or "re-entr*" or reenter* or reentr*) W0 (work or job) or "sick leave" or "medical leave" or (sick* W0 day*) or "work based learning" or "work related learning" or employment or unemployment or employability or labour or labor or ((vocational or occupation* or work* or job* or workforce* or work-force*) N2 (educat* or train* or program* or course* or guidance* or recruit* or hir*))

S8 (MH "Vocational Guidance")

S7 (MH "Absenteeism")

S6 (MH "Employment+") OR (MH "Unemployment")

S5 (MH "Job Re-Entry")

S4 (MH "Sick Leave")

S3 S1 OR S2

S2 mentor* or (advis* N0 relationship*)

S1 (MH "Mentorship")

Sociological Abstracts / Social Services Abstracts (ProQuest)

Search hits: 527

((ab(((return* OR "back to" OR re-enter* OR reenter* OR re-entr* OR reentr*) NEAR/2 (work OR job)) OR "occupational reintegration" OR "occupational re-integration" OR "sick leave" OR "medical leave" OR "sick day*" OR sicklist* OR "sick-list*" OR "work based learning" OR "work related learning" OR "employment" OR "unemployment" OR "employability" OR "labour" OR "labor" OR ((vocational OR occupation* OR work* OR job* OR "work force" OR workforce) NEAR/3 (educat* OR train* OR program* OR course* OR guidance* OR recruit* OR hir*))) OR (MAINSUBJECT.EXACT("Unemployment") OR MAINSUBJECT.EXACT("Employment") OR MAINSUBJECT.EXACT("Temporary Employment"))) OR ti(((return* OR "back to" OR re-enter* OR reenter* OR re-entr* OR reentr*) NEAR/2 (work OR job)) OR "occupational reintegration" OR "occupational re-integration" OR "sick leave" OR "medical leave" OR "sick day*" OR sicklist* OR "sick-list*" OR "work based learning" OR "work related learning" OR "employment" OR "unemployment" OR "employability" OR "labour" OR "labor" OR ((vocational OR occupation* OR work* OR job* OR "work force" OR workforce) NEAR/3 (educat* OR train* OR

program* OR course* OR guidance* OR recruit* OR hir*)))) AND (MAINSUBJECT.EX-
ACT("Mentoring") OR ab(mentor* OR (advis* NEAR/1 relationship*)) OR ti(mentor*
OR (advis* NEAR/1 relationship*))) OR (ab((vocational OR occupation* OR work* OR
job* OR "work force") NEAR/1 mentor*) OR ti((vocational OR occupation* OR work*
OR job* OR "work force") AND mentor*))

Limits, date range: 1995-2018

Campbell Library

Search hits: 5

Title: mentor*

OR

Keyword: mentor*

Epistemonikos

Søketreff: 267

Title/abstracts: mentor* AND (work* OR job OR occupational OR "sick leave" OR "med-
ical leave" OR "sick days" OR sicklist* OR "sick-list*" OR employment OR unemploy-
ment OR employability OR labour OR labor)

Publication date: 1995-2018

PROSPERO

Search hits: 72

Search 1

mentor* and (work* or job or employ* or vocation* or occupation* or labor or labour
or unemploy*)

Search 2

MeSH DESCRIPTOR Mentors EXPLODE ALL TREES

Appendix 4: Excluded studies

Author (first)	Year	Title	Reason for exclusion
Antonelli	2018	College Graduates with Visual Impairments: A Report on Seeking and Finding Employment	Different population: blind college graduates
Bainbridge	2014	The quantity, quality and characteristics of Aboriginal and Torres Strait Islander Australian mentoring literature: a systematic review	Wrong study design: systematic review not including relevant effect studies
Balcazar	2011	Using Peer Mentoring to Support the Rehabilitation of Individuals with Violently Acquired Spinal Cord Injuries	Wrong study design: qualitative and descriptive (no control group)
Bisset	2005	The role of education and support in the vocational development and recovery of young adults with psychiatric disabilities	Wrong study design: qualitative and descriptive (no control group)
Burgstahler	2001	A collaborative model to promote career success for students with disabilities	Wrong study design: survey
Butterworth	2012	Improving the Employment Outcomes of Job Seekers with Intellectual and Developmental Disabilities: A Training and Mentoring Intervention for Employment Consultant	Different population: training of mentors
Cullen	1998	Mentoring in the context of a training programme for young unemployed adults with physical disability	Wrong study design: qualitative
Denys	2011	Mentoring in the context of a training programme for young unemployed adults with physical disability	Wrong study design and outcomes
Doren	2013	Key Program Features to Enhance the School-to-Career Transition for Youth with Disabilities	Wrong study design (review) and population (youth)
Dunstan	2018	Applying Strengths Model principles to build a rural community based mental health support service and achieve recovery outcomes	Wrong study design (no control group), wrong outcomes
Ellison	2015	Adapting supported employment for emerging adults with serious mental health conditions	Wrong study design: no control group

Gao	2016	In-Vivo Job Development Training Among Peer Providers of Homeless Veterans Supported Employment Programs	Not a study
Gewin	2011	Equality: The fight for access	Not a study
Gilson	2016	Promoting Social Interactions and Job Independence for College Students with Autism or Intellectual Disability: A Pilot Study	No relevant outcomes
Giust	2017	Supporting mentors working with students with intellectual disabilities in higher education	Wrong study design (qualitative), different population
Gutman	2007	The effectiveness of a supported education program for adults with psychiatric disabilities: the Bridge Program	Wrong study design: no control group
Hagner	1999	Career-related outcomes of a model transition demonstration for young adults with emotional disturbance	Wrong study design: no control group
Hellström	2017	Effect on return to work or education of Individual Placement and Support modified for people with mood and anxiety disorders: results of a randomised clinical trial	Wrong intervention
Hellström	2013	The effect of IPS-modified, an early intervention for people with mood and anxiety disorders: study protocol for a randomised clinical superiority trial	Protocol for Hellström 2017
Heppe	2015	Testing the effectiveness of a mentoring intervention to improve social participation of adolescents with visual impairments: study protocol for a randomized controlled trial	Protocol, participants 15-22 years old
Holmes	2016	Development and evaluation of an early specialised traumatic brain injury vocational rehabilitation training package	Different population
Huizing	2012	Mentoring together: A literature review of group mentoring	Wrong study design: a non-systematic review
Katz	2013	A mentoring volunteer program for orthodox Jewish adults with disabilities	Protocol for a study
Kerr	2006	New Jersey's recovery mentor initiative increases workforce	Not a study
Klayman	2017	Summative evaluation of the Employment First State Leadership Mentoring Project 2015 program year	Not a study
Klodnick	2015	Perspectives of young emerging adults with serious mental health conditions on vocational peer mentors	Wrong study design: qualitative
Kolakowsky-Hayner	2012	An effective community-based mentoring program for return to work and school after brain and spinal cord injury	Wrong study design: no control group
Lane	2011	Supported employment for persons with disabilities	Not a study (grant proposal)
Lindsay	2016	A systematic review of mentorship programs to facilitate transition to post-secondary education and employment for youth and young adults with disabilities	Wrong study design: systematic

			review not including relevant effect studies
Lindsay	2017	Improving Transition to Employment for Youth With Physical Disabilities: Protocol for a Peer Electronic Mentoring Intervention	Ongoing study, unsure percentage over 18
McDonald	2007	Informal Mentoring and Young Adult Employment	Wrong study design: survey
Meghani-Wise	1995	Equalising Opportunities: Mentoring for Students from Minority Ethnic Groups	Not a study
Nestor	2008	The employment of consumers in mental health services: politically correct tokenism or genuinely useful	Not a study
O'Mally	2016	The effect of career mentoring on employment outcomes for college students who are legally blind	Wrong study design: longitudinal with one pre-test and two post-tests
Pini	2009	Education mentoring for teenagers and young adults with cancer	Not a study
Powell	2016	Effectiveness of Occupation- and Activity-Based Interventions to Improve Everyday Activities and Social Participation for People With Traumatic Brain Injury: A Systematic Review	Different population: blind college graduates
Prakash	2016	Effectiveness of community-based mental health interventions on common mental health problems among international migrants: a systematic review and meta-analysis	Protocol: no relevant outcomes/interventions
Richard	2015	A systematic review of peer mentoring interventions for people with traumatic brain injury	Protocol: no relevant outcomes
Richard	2017	Peer mentoring to enhance participation in activities among people with acquired brain injuries	No relevant outcomes
Rumrill	2017	Supporting College Students with Traumatic Brain Injuries for Academic and Employment Success	Not a study
Sacks	2008	An employment program designed to enhance the resiliency of the older worker	No relevant outcomes
Schoutens	2016	Design of a randomized controlled trial on the effect on return to work with coaching plus light therapy and pulsed electromagnetic field therapy for workers with work-related chronic stress	Protocol, wrong intervention: coaching in intervention and control group
Shandra	2008	School-to-work program participation and the post-high school employment of young adults with disabilities	Different population (youth), wrong study design (longitudinal)
Shem	2011	Return to work and school: a model mentoring program for youth and young adults with spinal cord injury	Wrong study design: no control group

Sims	2016	Developing a user-informed mentoring programme for adults on the autism spectrum	Ongoing study, appears to be no control group
Smith	2017	The Role of Mentors for People With Spinal Cord Injury and the Return-to-Work Process	Poster abstract, qualitative
Tee	2012	Supporting students with disabilities--promoting understanding amongst mentors in practice	Wrong study design: qualitative
Thomas	2015	"Teaching Somebody to Fish": Implications for Immigrant-Serving Organizations and Employment in Edmonton and Winnipeg	Wrong study design (qualitative), wrong intervention
Wanberg	2006	Mentor and protege predictors and outcomes of mentoring in a formal mentoring program	Different population: in work
Wheeler	2016	Effectiveness of Interventions to Improve Occupational Performance for People With Psychosocial, Behavioral, and Emotional Impairments After Brain Injury: A Systematic Review	Review, no included studies with relevant intervention and outcome
Whitcavitch-DeVoy	2000	Adolescent social and emotional competence through work-based mentoring programs	Different population: adolescents
Wilson	2018	Intergenerational mentoring at Men's Sheds: A feasibility study	Wrong study design: no control group
Wilson	2010	The potential for active mentoring to support the transition into retirement for older adults with a lifelong disability	Not a study
Yam	2016	A pilot training program for people in recovery of mental illness as vocational peer support workers in Hong Kong - Job Buddies Training Program (JBTP): A preliminary finding	Wrong intervention: training as support workers
Yuen	2008	Impact of Participating in Volunteer Activities for Residents Living in Long-Term-Care Facilities	Wrong intervention: effects of being a mentor

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