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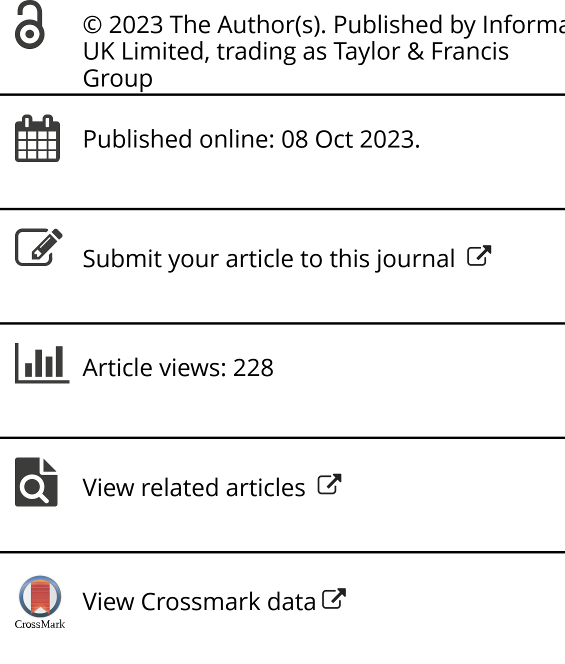
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RESEARCH ARTICLE

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Process evaluation of a comprehensive approach to reintegration of disability benefit recipients with multiple problems (CARm) into the labour market

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ABSTRACT

Purpose: As the effect evaluation of our randomized controlled trial the "Comprehensive Approach of Reintegration for clients with Multiple problems" (CARm) showed no superior effect on re-integration into paid employment of the clients when compared with clients of the care as usual, we conducted this process evaluation to gain insight into whether the intervention was conducted according to protocol.

Methods: Using questionnaires on recruitment, reach, dose delivered, dose received, fidelity, context, and satisfaction we collected data from 40 labour experts of the Public Employment Service of the Dutch Social Security Institute, and from 166 disability benefit recipients dealing with multiple problems.

Results: Only few of the labour experts provided the key elements of the intervention to their clients. Between the clients of both groups were no significant differences in the dose received. More than half of the labour experts of the intervention group reported organizational changes.

Conclusion: The lack of effect of the CARm intervention was almost certainly caused by implementation failure. Once again this study showed the importance of involving all stakeholders in developing and the conduct of the intervention, and of clarifying the consequences for the organization, to ensure that it can be conducted according to protocol.

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Process evaluation; multiple problems; strength; disability benefit; reintegration; return-to-work; vocational rehabilitation

IMPLICATIONS FOR REHABILITATION

- A Strength based intervention was developed to improve re-integration into paid employment of disability benefit recipients facing multiple problems and a process evaluation was carried out.
- Organizations should provide sufficient time to support their professionals by implementing this intervention into practice.
- Protocol adherence is crucial to value intervention results in practice.

Introduction

A high proportion of persons claiming work disability face multiple problems [1,2]. They have to deal with two or more related, and possibly mutually reinforcing, problems over longer periods of time, resulting in problematic participation in society and the labour market [3]. In a recent cross-sectional survey among a Dutch sample of disability benefit recipients, 87% reported experiencing multiple problems, including having poor health, a mismatch in education, financial problems, or care for family members [1]. For people with disabilities the chances to find or keep paid employment were negatively affected by these multiple problems [4,5]. Moreover, the combined effect of these problems meant that these people had fewer chances for a successful return to work than persons facing only unemployment [4].

In the past decades, many Western countries have introduced active labour market policies to encourage employment of people receiving benefits [6]. Although for unemployed benefit recipients these policies have been proven to be effective, for people claiming disability benefits, particularly those facing multiple problems, these policies seem much less successful [7–9]. The primary goal of these policies is to get the worker back to work, with a focus on re-integration. However, most of the current interventions are problem-centred, i.e., focused on problems, and on seeking expert and compensatory support for each problem separately, without taking into account other (non-health-related) factors that could obstruct participation in work. Because multiple problems are interconnected and interact with each other, they cannot be addressed separately and require a more complex intervention [1,8,10].

To improve re-integration into paid employment of disability benefit recipients facing multiple problems, the "Comprehensive Approach to Reintegration for clients with multiple problems" (CARm) was developed [11]. The intervention is based upon the Strengths Model described by Rapp [12] and is a strategy designed to help those with multiple problems to focus on their talents, qualities and strengths, and to involve their environment. This intervention is provided by labour experts, professionals who play

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a key role in supporting the re-integration process of persons who have a work disability but also remaining workability in the Dutch social security system. The evaluation of the randomized controlled trial (RCT) showed that the intervention by the CARm-trained labour expert had no significant superior effect on paid employment of the client when compared with clients of the care as usual (CAU) labour expert [13]. Furthermore, no significant differences were found in favour of the intervention group on secondary outcomes like functioning and participation in society.

Although knowledge about the effectiveness of interventions for reintegration is valuable, it does not explain why and how an intervention was, or was not, successful. This lack of knowledge impedes the generalisability and effectively implementing the intervention in practice [14,15].

A process evaluation can therefore be conducted to collect data about how interventions were planned and implemented. Kristensen [16] emphasized the importance of distinguishing between theory- and programme failure. When an intervention is delivered and received as planned but shows no effect, theory failure is plausible. However, poor execution of an intervention (failure to deliver or receive according to protocol) indicates program failure; this means that no conclusions should be drawn about the effectiveness of the intervention [16,17]. The process evaluation framework of Steckler and Linnan [18] helps to work out the theoretical model of Kristensen [16]. This framework specifies different elements that need to be evaluated to understand whether or not program failure did occur: recruitment, reach (participation rate), dose delivered (completeness), dose received (exposure), fidelity (quality), and context [18].

Our study reports on a theoretically founded and structured process evaluation of the CARm intervention. We used the framework of Steckler and Linnan [18] to develop, plan, and guide the process evaluation. The aims of this study were to evaluate: (1) whether the CARm intervention was conducted according to protocol; (2) whether the guidance of the clients of the CARm trained labour experts differed from that of the labour experts in the control group with regard to the key elements of the intervention; and (3) whether (and to what extent) the clients and labour experts who participated in the study were satisfied with the CARm method.

Methods

Design

The process evaluation was part of a stratified, two-armed, non-blinded RCT evaluating the effect of the CARm study on work (re)integration of disability benefit recipients facing multiple problems. The study had a 12-month follow-up period. The trial was conducted in collaboration with ten districts of the Public Employment Service, a division of the Dutch Social Security Institute: the Institute for Employee Benefit Schemes (UWV) in the Netherlands. Labour experts were randomized into intervention and control groups. Clients were recruited by the labour experts, and their allocation to the intervention or control group followed the allocation of their labour expert. For more detailed information on the design of the RCT, see Brongers et al.. [13]

The Medical Ethics Committee of the University Medical Center Groningen (UMCG), the Netherlands, approved recruitment, consent and field procedures. The trial was registered at the Dutch Trial Register (Nederlands Trial Register) (NTR5733).

Study population

The study population consisted of labour experts from the Public Employment Services of the UWV, and disability benefit recipients facing multiple problems. Disability benefit recipients assessed with remaining workability are referred to a labour expert who evaluates their remaining workability. The labour experts play a key role in supporting the reintegration process.

Labour experts

All labour experts working at the Public Employment Service of the UWV were found eligible for participation in the study. All labour experts working at the Public Employment Service of the UWV completed a 2-year training to become a labour expert, only labour experts who had finished this training were included in the study. No further in- or exclusion criteria were formulated. Those who were first to agree to participate were included in the study, and randomized to the intervention or care as usual group, stratified to rural and urban districts to ensure a balanced assignment of location-specific employment rates.

The participating labour experts in the intervention group received training in the CARm intervention, provided by an experienced trainer in strength-based methods, including a book by Den Hollander & Wilken [19] and a training guide on the CARm method written by the research team, including tools and checklists to support the labour experts implement the key elements of the method. The development and evaluation of the CARm training and method was described previously in our feasibility study. However, several adjustments to the protocol were made in line with the results of the study [11]; (1) The training was compressed from 7 d training into five days training, within a time period of 4 months, (2) Labour experts were stimulated to use the Strength Based Method on their current caseload during the training period, to practise the method and discuss their experiences during the training days, (3) District managers were informed about the method and gave their approval on the additional time for labour experts to be able to give support to their clients according to protocol, (4) The local office of the participating labour experts received a compensation fee for the time the labour experts spend on study related activities, (5) Labour experts participating in the training received accreditation points for their attendance, (6) During the study period intervision was offered.

Furthermore, more time for practising was incorporated and we increased the awareness of trainers that the focus of the training was work reintegration.

Clients

The clients were recruited by the participating labour experts. Clients who met the following criteria were found eligible for the trial: clients who had been granted work disability benefits and had been assessed with residual work capacity but were unemployed or not working the complete number of hours according to their residual work capacity, aged between 18 and 65 years, and able to understand and write Dutch. Moreover, clients were assigned to a labour expert from the UWV, as they were in need of support during the work reintegration process.

The intervention – CARm

The CARm intervention comprises four core elements. (1) The labour expert becomes acquainted with the concept of the

strength-based method: he/she is responsible to build an *individual relationship* with the client (by meeting with the client personally on a regular basis: ≥2 personal contacts) and to support the client in his/her needs (focusing on strengths rather than limitations, and mobilizing the client's social network); he/she also arranges for a prioritization of the client's goals and problems, with an emphasis on abilities. (2) The labour expert drafts a *Personal Profile* of the client, containing information on the client's current situation, needs, experiences, strengths, successes, abilities and skills. (3) The labour expert and client make an inventory of external resources by *mapping the client's social network*: who are important for you, how is the contact, what was the support in the past, and who can help you to achieve your goals. (4) Based on this profile, the client and the labour expert jointly develop a *Participation Plan* to prioritize the client's goals, activate the network, and tackle the client's problems. More detailed information about the CARm intervention can be found elsewhere [11].

Care as usual

In the control group clients were guided in their work reintegration by labour experts who continued their work as usual. Labour experts of the UWV are ultimately responsible for the re-integration guidance of clients on work disability. However, due to high case load and time constraints, they only have limited time for contact with clients, they often meet only once, and usually this is by email or telephone. Therefore, the care as usual means in daily practice they only "screen" the clients and refer them to a private re-integration agency. These agencies offer activation programs aimed at work resumption (activation programs, enhancing self-esteem and self-efficacy, job-application training) and are contracted by the social security institute. The labour expert remains the responsible case-manager and after finishing an activation program the private re-integration agency informs the labour expert about the results and, when needed, the labour experts will contact the client to determine if further action is needed and by whom. More complex clients are usually not supported by these companies, as these activation programs do not fit to the needs of the clients. The clients are referred back to the labour expert of the UWV who has to find another solution. In these cases, the labour expert of the UWV usually provides support for clients with more complex multiple problems themselves. In current practice, in their role as work re-integration professionals labour experts focus mainly on the client and his or her limitations due to work disability. Furthermore, due to the high case load personal contact is usually limited to (e-)mail or telephone. The control group did not receive additional training as part of this study. Therefore, the control group was not acquainted with a strength-based method for reintegration, as our training and study were the first available sources on this method.

The process evaluation

The process evaluation was based on Steckler and Linnan's framework and included the components: recruitment, reach, dose delivered, dose received, fidelity, and context [18]. In line with previous process evaluation studies, we added satisfaction as a seventh component, to gain insight into the satisfaction of the labour experts with the applicability of the intervention, and the satisfaction of the clients with their treatment [20–24].

Data collection

Socio-demographic data from the labour experts and clients were collected at baseline by a questionnaire. Regarding labour experts, data included questions on age, gender, working years as a labour expert, and working area (urban/rural). Clients' sociodemographic characteristics included age, gender (male/female); living situation (living alone yes/no); being breadwinner (yes/no); and educational level, recoded as low, intermediate or high (low: primary school, lower vocational education, lower secondary school; intermediate: vocational education, upper secondary school; and high: vocational education, university).

Regarding the seven components of the process evaluation, data pertaining to both labour experts and clients were collected for both the intervention and control groups.

The labour experts were asked to complete questionnaires directly after the training and upon a 9-month follow-up. The clients were asked to complete a questionnaire about the components of the process evaluation upon 3 months follow-up. Along with the questionnaires, as part of the fidelity component the labour experts were asked to keep track of the number and types of contact with each of their clients. Dose delivered, fidelity, and satisfaction were not assessed by the labour experts in the control group, as these components were related to elements of the intervention that were not applicable to the control group.

The different components of the process evaluation were operationalised as follows:

Recruitment

We defined recruitment as the procedures used to attract labour experts and clients for participation in the CARm study. We describe these recruitment procedures in Table A1.

Reach

Reach was measured at the *labour expert and client level* and was defined as the proportion of the target population that agreed to participate by signing informed consent and completing the baseline questionnaire; this included both intervention and control groups. The target population consisted of all labour experts and clients who had been approached for participation in the study and were eligible for participation, based on the in- and exclusion criteria. Reach was illustrated by a participation flow.

Dose delivered

Dose delivered was assessed at *the labour expert level* by questioning the labour experts of the intervention group about the implementation of the strength-based strategy to help those with multiple problems to focus on talents, qualities and strengths, and to involve their environment [12]. The following questions were asked: How often did you stimulate the client to take control, how often did you focus on the strengths of the client and not only on the limitations, and how often did you involve the social network in the participation process. The questions were rated on a five-point Likert scale (1= seldom to never, 2= sometimes, 3= often, 4= very often, and 5= always). Answer options were recoded as dose delivered "seldom to sometimes" (= seldom to never, sometimes) and "often to always" (= often, very often, always).

Dose received

The dose received was assessed at the *client level* by questioning all clients whether they were stimulated to take control

themselves, whether their labour expert focused on their strengths and not only on their limitations, and whether their social network was involved in the participation plan. Answers to the questions included: yes, no, not applicable/I do not know.

Fidelity

Fidelity was defined as the extent to which the CARm intervention was delivered and received according to its four key elements, and was measured at labour expert and client levels.

According to the protocol, *labour experts* had to meet with clients personally on a regular basis, draft a personal profile of the client, develop a tailor-made participation plan, and map the social network of the client. After a 9-months follow-up labour experts of the intervention group were asked to report how often they had had personal contact (face-to-face or by phone) with each specific client. Answers were categorized into < 2 personal contacts and ≥ 2 personal contacts. Furthermore, labour experts were asked how often they had made a personal profile, how often they had developed a participation plan, and how often they had mapped the social network of the client. The questions were rated on a five-point Likert scale (1 = seldom to never, 2 = sometimes, 3 = often, 4 = very often, 5 = always). Answer options were recoded to "seldom to sometimes" (seldom to never, sometimes), and "often to always" (often, very often, always). The final question, to what extent they had involved the social network, was rated on a 4-point Likert scale (1 = not, 2 = limited, 3 = partially, 4 = extensive). Answer options on involving the social network were recoded as "not to limited" (not, and limited) and "partially to extensive" (partially, and extensive).

Fidelity at the *client level* was defined as the number of personal contacts (face-to-face or by phone) and categorized as the number of clients who had <2 personal contacts and ≥2 personal contacts with their labour expert. Furthermore, clients of both the intervention and control group were asked whether a personal profile had been made, a participation plan developed, and their social network mapped. Answer options to these three questions were yes, no, not applicable/I don't know.

Context

Context refers to factors related to the private or work environment that may influence the implementation or outcome of the intervention, and was measured at both labour expert and client levels.

Labour experts of both the intervention and control group were asked: (1) whether any changes had taken place within the organization (the UWV) (yes, no), (2) what kind of changes (open question), and (3) how these changes were experienced (answer options: positive, negative, neither positive nor negative). Furthermore, labour experts were asked whether they had followed any other training during the same period as the CARm training (yes, no).

At the *client level* the incidence of a major life event in private life was measured with the following questions: (1) did you experience any stressful life event during the research period (yes, no), and (2) what kind of event (open question). Furthermore, clients were asked whether they had participated in another education or training program during the study period (yes/no).

Satisfaction

Satisfaction referred to the degree of satisfaction with the intervention, and was measured at both labour expert and client levels.

Satisfaction at the labour expert level was assessed by the experts in the intervention group using seven statements about applying the intervention in daily practice: (1) I apply the method in daily practice, (2) I feel a better labour expert by applying the method, (3) Quality of my work improves by applying the method, (4) I expect to work more with the method in the future, (5) I find it hard to find time to work with the method in daily practice, (6) Applying the method in practice is good for the quality of my role as a labour expert, (7) I expect that working with the method will improve the quality of labour experts' work. Each statement was rated on a 4-point scale (1 = totally disagree, 2 = disagree, 3 = agree, 4 = totally agree, with the option to choose not applicable). Answer options on the satisfaction statements were recoded as "(totally) disagree (totally disagree, disagree)", and "(totally) agree (agree, totally agree)".

Satisfaction at the *client level* was measured with one question: how satisfied was the client with the guidance of the labour expert; answers were rated on a five-point Likert scale (from 1 = very dissatisfied, to 5 = very satisfied). Additionally, all clients were asked to indicate how well the guidance of the labour expert had been structured, and whether the guidance had helped to promote their re-integration. These questions were scored on a five-point Likert scale (from 1 = totally disagree, to 5 = totally agree). Answer options on client satisfaction were recoded as "disagree" (totally disagree, disagree, not disagree/not agree), and "agree" (agree, totally agree).

Data analysis

Quantitative data analysis

Descriptive statistics (frequencies, percentages, means, and standard deviations [sd]) were generated for the components of the process evaluation. Chi-square tests and the independent T-test were used to study differences between the two groups (intervention and control groups) on the components that were measured in both groups (i.e., dose received [client level], fidelity [client level], context [labour expert and client level], and satisfaction [client level]). Clients who completed only the baseline questionnaire were excluded from the analyses. Analyses were performed using SPSS (version 26.0), and a *p*-value <.05 was used to indicate statistical significance.

Qualitative data analysis

Thematic content analysis was used to analyse the open questions on organizational change (labour expert level) and life events (client level) [25]. The first step in the process included thoroughly reading all reported organizational changes and life events and identifying meaning units and codes. Thereafter the answers were clustered into themes. These steps were performed independently by two authors (KB and LW), and the process was then discussed with a third author (TH), until consensus on the themes was reached.

Results

The results of each component of the process evaluation are summarised below.

Recruitment

Table A1 presents the recruitment procedures that we used to attract labour experts working at the Public Employment Service

of the UWV and the clients who were provided by the labour experts. Detailed information on this calculation can be found elsewhere [13].

Reach

Detailed information about the inclusion rates were published before [13]. In summary: ten out of eleven districts of the Public Employment Service of the UWV were willing to participate, corresponding to a reach of 90%. In total, 45 labour experts were recruited, of these, 40 labour experts were included in the final sample: 19 of the 22 labour experts (86%) in the CARm intervention, and 21 of the 23 labour experts (91%) in the CAU intervention. The 40 labour experts approached 418 clients; of these 207 were included in the study, indicating a reach of 49.5% (Figure 1).

All included labour experts filled out the questionnaire directly after the training and after 9-months follow-up. There were no differences in baseline characteristics between the labour experts in the intervention and the control group (Table 1). For fidelity, for only 39 of the 80 clients was this information collected.

Of the 207 clients who participated in the study, 166 (80.2%) filled out the questionnaire upon process evaluation at 3-months follow-up. These clients did not differ on most characteristics from those who did not complete the questionnaire at 3-months follow-up, except for age. The clients who completed the questionnaire were significantly older than the clients who did not complete it (n=41) (mean age 30.6 ± 11.4 years). There were no differences in baseline characteristics between clients in the intervention (n=80) and the control group (n=86), both of whom completed the questionnaire at 3-months follow-up (Table 1). The responses of the 166 clients were used for analyses of the other elements of the process evaluation (dose delivered, dose received, fidelity, context, and satisfaction).

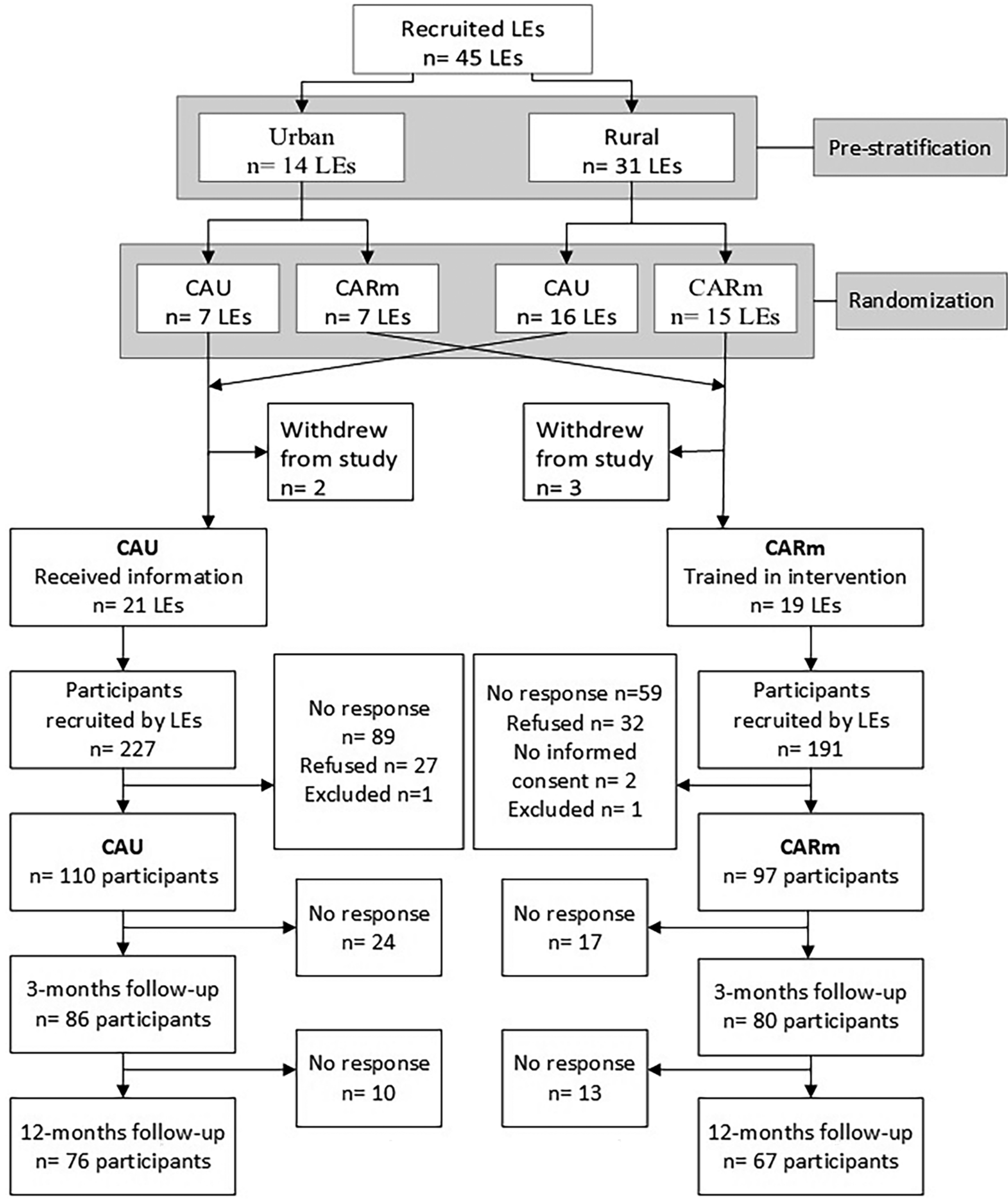

Figure 1. Flowchart of labour expert and client recruitment and allocation. CARm: intervention group; CAU: care as usual group; LE: labour expert. Excluded: provided incomplete information to link with register data.

Dose delivered

Directly after the training, 16 of the 19 labour experts in the CARm intervention (84.2%) reported that they "often to always" stimulated the clients to take control, 16 (84.2%) focused on strengths and not only on limitations, and 10 (52.6%) involved the social network in the participation process "often to always". At the 9-months follow-up 13 (68.4%) reported that they "often to always" stimulated the clients to take control, 16 (84.2%) focused on strengths and not only on limitations, and 8 (42.1%) involved the social network in the participation process (Table 2).

Table 1. Baseline characteristics of labour experts and clients.

Characteristics	Mean/*n*, (sd/%)	Mean/*n*, (sd/%)	Mean/*n*, (sd/%)
Labour experts	Total (*n* = 40)	CARm (*n* = 19)	CAU (*n* = 21)
Age (years)	50.1 (6.3)	51.1 (6.2)	49.2 (6.4)
Gender (male)	19 (47.5)	8 (42.1)	11 (52.4)
Years working as labour expert	8.50 (5.6)	9.4 (5.9)	7.7 (5.3)
Working area in the Netherlands			
Urban	15 (37.5)	8 (42.1)	7 (33.3)
Rural	25 (62.5)	11 (57.9)	14 (66.7)
Clients	Total (*n* = 166)	CARm (*n* = 80)	CAU (*n* = 86)
Age (years)	36.9 (13.0)	36.0 (12.0)	37.7 (14.0)
Gender (female)	84 (51.5)	39 (50.0)	45 (52.9)
Living alone	55 (33.5)	31 (39.7)	24 (27.9)
Breadwinner (yes)	74 (45.4)	41 (52.6)	33 (38.8)
Educational level			
Low	50 (30.5)	23 (29.1)	27 (31.8)
Intermediate	80 (48.8)	43 (54.4)	37 (43.5)
High	34 (20.7)	13 (16.5)	21 (24.7)
Paid employment (yes)	24 (14.5)	10 (12.5)	14 (16.3)

CARm: intervention group; CAU: care as usual group. Due to missing's the number and percentages do not always add up to the total number.

Dose received

At 3-months follow-up 45 (56.3%) of the clients in the CARm intervention and 53 (61.6%) in the control group felt stimulated to take control themselves. The percentages of clients who reported that labour experts focused on strengths and not only on limitations were 57.5% in the CARm intervention and 55.8% in the control group. The involvement of the social network in the participation plan was 21.3% for the CARm intervention and 12.8% for the control group (Table 3).

Fidelity

The labour experts in the CARm intervention group reported in 82.1% of the cases to have ≥2 personal contacts with the clients. For only 26.3% of the clients was a personal profile made, and for 42.1% a personal plan developed; for 52.6% of the clients in the intervention group the social network was involved at 9 months follow-up (Table 2). The clients in the CARm intervention group reported more often having had ≥2 personal contacts with the labour experts; i.e., 42.5% of the clients in the CARm intervention group, versus 34.9% in the control group. Furthermore, the clients of the CARm intervention reported low percentages on the other fidelity components: in 11.3% of the cases a personal profile had

Table 2. Components of process evaluation at labour expert level.

	Directly after training		9-months follow-up	
Components	CARm *n* = 19 *n* (%)	CAU *n* = 21 *n* (%)	CARm *n* = 19 *n* (%)	CAU *n* = 21 *n* (%)
Reach				
Proportion of clients who participated	97 of 209 (46.4)	110 of 231 (47.6)	–	–
Dose delivered				
Stimulate the client to take control	16 (84.2)	–	13 (68.4)	–
Focus on strengths	16 (84.2)	–	16 (84.2)	–
Involve social network	10 (52.6)	–	8 (42.1)	–
Fidelity				
Number of personal contacts with clients (reported for 39 clients during study period)				
<2 contacts with client	–	–	7 (17.9)	–
≥2 contacts with client	–	–	32 (82.1)	–
Made a personal profile	3 (15.8)	–	5 (26.3)	
Developed a personal plan	1 (5.3)	–	8 (42.1)	–
Mapped the social network	13 (68.4)	–	10 (52.6)	
Involved social network	14 (73.7)	–	10 (52.6)	–
Context				
Changes in the organization (yes)	6 (31.6)	6 (28.6)	11 (57.9)*	5 (23.8)*
Experiencing changes in the organization				
Positive	3 (50.0)	2 (33.3)	1 (9.1)*	3 (60.0)*
Neutral	2 (33.3)	3 (50.0)	6 (54.5)*	0*
Negative	1 (16.7)	0	4 (22.2)*	1 (20.0)*
Education/training during research period (yes)	5 (26.3)	4 (19.0)	11 (57.9)	10 (47.6)
Satisfaction ((totally) agree)				
I apply the method in daily practice	19 (100)	–	18 (94.7)	–
I feel a better labour expert by applying the method	16 (84.2)	–	13 (68.4)	–
Quality of my work improves by applying the method	19 (100)	–	16 (84.2)	–
I expect to work more with the method in the future	19 (100)	–	15 (78.9)	–
I find it hard to find time to work with the method in daily practice	13 (68.4)	–	15 (78.9)	–
Applying the method in practice is good for the quality of my role as a labour expert	18 (94.7)	–	14 (73.7)	–
I expect that working with the method will improve the quality of labour experts' work	19 (100)	–	17 (89.5)	–

CARm: intervention group; CAU: care as usual. Due to missing's the number and percentages do not always add up to the total number. * $p < 0.05$.

Table 3. Components of the process evaluation at client level.

Components	3-months follow-up ($n=166$) Intervention group ($n=80$) n (%)	Control group ($n=86$) n (%)
Dose received (yes)		
Stimulated to take control yourself	45 (56.3)	53 (61.6)
Labour expert focused on strengths and not only on limitations	46 (57.5)	48 (55.8)
Social network involved in participation plan	17 (21.3)	11 (12.8)
Fidelity		
Number of personal contacts		
<2 contacts with LE	45 (56.3)	54 (62.8)
≥2 contacts with LE	34 (42.5)	30 (34.9)
Personal profile made (yes)	9 (11.3)	0 (0)
Personal plan developed (yes)	27 (33.8)	32 (37.2)
Social network mapped (yes)	16 (20.0)	25 (29.1)
Context		
Stressful life event during research period	28 (35.0)	27 (31.4)
Education/training during research period	20 (25.0)	15 (17.4)
Satisfaction		
Satisfaction guidance labour expert	49 (61.3)	52 (60.5)
Structured guidance labour expert	39 (48.8)	39 (45.3)
Guidance labour expert helped my re-integration	31 (38.8)	32 (37.2)

Due to missing's the number and percentages do not always add up.

been made, in 33.8% a personal plan had been developed, and in 20.0% mapping of the social network had been conducted. No significant differences in findings between the clients of the CARm intervention and control group were found (Table 3).

Context

In both the intervention and control groups, about 30% of the labour experts reported organizational changes directly after the training. At 9-months follow-up, 11 (57.9%) labour experts of the CARm intervention and 5 (23.8%) labour experts of the control group reported organizational change, indicating a significant difference ($p=0.024$). The three most common organizational changes mentioned directly after the training were higher workload (CARm: 60.0% versus CAU: 16.7%), work role adjustment (20.0% versus 50.0%), and other job within the organization (20.0% versus 33.3%). Mentioned at the 9-months follow-up were higher workload (18.2% versus 16.7%), work role adjustment (54.5% versus 33.3%), and other job within the organization (9.1% versus 33.3%). Organizational changes reported at 9-months were experienced positively more often by the labour expert in the CARm intervention than by the expert in the control group (p = <0.05) (Table 2).

At 3-months follow-up clients in the intervention group were more involved in other education/training (CARm 25.0% versus CAU 17.4%). More clients in the intervention group than in the control group reported stressful life events (35.0% vs. 31.4%), but these differences were not statistically significant. The three most common life events mentioned were moving or renovating the house (CARm 20.0% vs. CAU 19.2%), death of loved ones (32.0% vs. 11.5%) and health complaints (12.0% vs. 26.9%).

Satisfaction

Directly after the training, the satisfaction of the labour experts on the seven statements ranged from 68.4% to 100%. All labour experts reported that they applied the method in daily practice, they found that the quality of work was improved by the method, they expected to be working more with the method in the future, and they expected that working with the method would improve their own quality as labour experts. Nevertheless, in daily practice, 68.4% of the labour experts found it difficult to find time to work with the method. At the 9-months follow-up, satisfaction regarding the seven statements ranged from 68.4% to 94.7% (Table 2).

The satisfaction of the clients in the CARm intervention ranged from 38.8% (guidance of the labour expert helped my re-integration) to 61.3% (satisfied by the guidance of the labour expert); in the control group satisfaction ranged from 37.2% to 60.5% (respectively).

Discussion

The aim of this study was to conduct a process evaluation, based on the framework of Steckler and Linnan, to evaluate whether the CARm intervention had been conducted according to the protocol [18]. For the study we included data from labour experts and clients of both the CARm intervention and a control group, on the components: recruitment, reach, dose delivered, dose received, fidelity, contextual factors, and satisfaction with the training and treatment.

The process evaluation revealed that only a small part of the clients in the CARm intervention group had received all elements of the intervention. When comparing the results between the labour experts and clients in the intervention group regarding dose delivered and dose received, according to the clients fewer activities had taken place (dose received) than were reported by the labour experts (dose delivered). Moreover, fidelity to the intervention program was low (personal profile, personal plan, and social network) to reasonable (≥2 personal contacts). Overall, the satisfaction of the labour experts with the CARm intervention was high, but the clients in the intervention group scored much lower: only 38.8% considered the guidance helpful for return to work.

To our knowledge, this was the first time that persons with multiple problems were offered a strength-based intervention approach for (re)integration into the labour market. Our findings may indicate implementation failure, as implementation was not performed according protocol for most of the key elements. Although the labour experts were trained in the elements of the CARm intervention, and their organization (UWV) supported this study, we found that in only a small number of clients was it possible to provide the key elements of the intervention as planned. According to the labour experts, the majority of clients had received two of the three key components of the CARm intervention: stimulate clients to take control, and focus on strengths not only on limitations; however, the third element (involving the social network) had been delivered in only half of the cases. Remarkably, fewer than half of the clients in the CARm intervention group reported that they had had two or more contacts with their labour expert, and only a small percentage of the clients reported that a personal profile, a personal plan and/or social network map had been made. Moreover, when comparing the results of the clients in the CARm intervention group and the control group, no significant differences were found for the measures of fidelity and dose-received. This may indicate that the care delivered to the clients was similar for both the CARm intervention and control groups. Although we used a randomized controlled trial, and trained only the labour experts in the intervention group in the CARm approach, the invitation during the recruitment procedure may also have made the labour experts of the control group aware of the strength-based emphasis of the intervention. The high reach of the labour experts (86% of the labour experts randomized to the

intervention group participated in the intervention, as well as 91% of the labour experts in the control group) may indicate that all participating labour experts were very motivated and interested in the CARm intervention and may be regarded as "early adopters". This may hinder a strong distinction between the intervention and control groups. Another explanation may be that the clients in the control group gave desirable answers to the questions in the survey, as they knew they were participating in a trial, or the questions were not detailed enough to catch nuanced differences between the clients of both groups. In hindsight, we should have drafted the protocol differently. We, for example did not collect data about dose-delivery and fidelity from the labour experts of the control group, as we did not want to raise awareness of the key elements of the intervention. However, now we lack insight into the conduct of the care as usual, and it remains unsure if the differences between the intervention and the care as usual is indeed significant. As we had no access to the consultation reports of the clients with the labour experts, we were unable to compare the care delivered to the clients of the CARm intervention with that delivered to the control group. Furthermore, as the intervention was not implemented correctly, it is not possible to exclude theory failure being the cause of the lack of effectiveness, suggesting that the CARm intervention is not superior to care as usual.

In our feasibility study we demonstrated that the CARm intervention had good applicability, and we concluded that it was feasible and promising for disability benefit recipients with multiple problems after several adjustments to the protocol in line with the results of the feasibility study [11]. Nevertheless, the effectiveness study did not show the CARm intervention to have a superior effect on (re) integration into paid employment when compared to care as usual [13]. This process evaluation revealed that the execution of CARm in a "real setting" was less successful; in particular the fidelity, dose delivered, and dose received were low in the intervention group. Unfortunately, our process evaluation is not the first in field work and health to show disappointing findings. Previous studies have also reported poor fidelity due to delay in the execution of programs, poor registration of program components, and violations of protocol [21,23,24]. The large variation for fidelity, dose-delivered, and dose-received in our study may be due to the complexity of the CARm intervention. At about the same time as we conducted our study, Bitter et al. also performed an effectiveness study based on the Strength Model by Rapp: the Comprehensive Approach to Rehabilitation (CARe) in patients with severe mental illnesses [26]. Although Bitter et al. did not perform a process evaluation along with their effect study on CARe, they did report several barriers with regard to their implementation, such as: changes in staff and management, a negative work climate, and a lack of practical and moral support from the organization. Similar contextual barriers may have played a role in our study. For example, during the intervention some labour experts from the CARm intervention group reported that they were no longer involved in the guidance of their clients, as they had switched jobs, or were unable to offer the key components of the CARm intervention due to high workload. As researchers, we should have been more aware of the increasing work and caseload of the labour experts during the study period. Although a compensation fee and approval of the managers were arranged at forehand, to compensate the additional time the intervention entails, we are unsure if labour experts did have additional time to conduct the intervention. Checking this, should also have been part of the protocol. However, as the higher workload may have affected the fidelity and dose delivered to the clients in the CARm intervention group, we conducted a post-hoc analysis to compare the results of two subgroups of clients in the CARm intervention group: (1) clients whose labour expert reported an organizational change, versus (2) clients whose labour experts reported no organizational change (see Table 4). However, we found no difference between the two subgroups regarding the received components of the intervention as reported by the clients. This may indicate that unforeseen organizational changes did not impact our findings.

Table 4. Comparison of components of the process evaluation between clients in the CARm intervention group guided by labour experts, with and without organizational changes.

	Clients of labour experts of intervention with(out) organizational changes ($n = 80$)	
Components	No organizational changes $N = 38$	Organizational changes $N = 42$
Dose received (yes)		
Stimulated to take control yourself	22 (57.9%)	23 (56.1%)
Labour expert focused on strengths and not only on limitations	21 (55.3%)	25 (61.0%)
Social network involved in participation plan	9 (23.7%)	8 (19.5%)
Fidelity		
Number of personal contacts		
<2 contacts with LE	22 (59.5%)	23 (54.8%)
≥2 contacts with LE	15 (40.5%)	19 (45.2%)
Personal profile made (yes)	5 (29.4%)	4 (25.0%)
Personal plan developed (yes)	11 (28.9%)	16 (39.0%)
Mapping social network (yes)	7 (18.4%)	9 (22.0%)
Context		
Stressful life event during research period	14 (36.8%)	14 (33.3%)
Education/training in research period	6 (15.8%)	14 (33.3%)
Satisfaction		
Satisfaction guidance labour expert	21 (55.3%)	28 (70.0%)
Well-structured guidance labour expert	16 (43.2%)	23 (59.0%)
Guidance labour expert helped my re-integration	14 (37.8%)	17 (43.6%)

Strengths and limitations

The first strength of this study is its structured process evaluation; following the well-known framework of Steckler and Linnan to structure our process evaluation, we were able to reveal, analyse and describe the key process evaluation elements [18]. Second, we collected quantitative data to gain insight into the extent of implementation of the intervention. We expanded our data collection, including qualitative data to gain deeper insight into contextual changes. Third, for the process evaluation data were collected from both labour experts and clients; this gave us subjective information from both perspectives. However, large variations existed between both data resources, as well as within the groups of labour experts and clients. It would have been desirable also to have data available from other objective data sources, like administrative records (for information about the number of contacts) and consultation reports (for information about the different program activities). Using multiple resources (subjective and objective, qualitative and quantitative) would have enabled us to study in more detail the quality of the implementation process, and to better understand what had or had not been successful.

Another limitation of our study is a potential selection bias, involving both labour experts and clients. Because participation by the labour experts was voluntary, we may have especially reached labour experts who were motivated to use the methods provided in the CARm intervention. This could hinder a clear

distinction between the intervention and control groups. Moreover, as the recruitment of eligible clients was conducted by labour experts, we had no insight into which clients were selected for the study. Furthermore, not all labour experts and clients included in the study completed all questionnaires for the process evaluation. In particular, data regarding the number of personal contacts were highly inadequate, as they were collected for only 40% of the clients. This latter limitation can be explained by the fact that this was not part of the study design at the start of the intervention. When recruitment of the clients began, this assignment was added for the labour experts. A stronger emphasis on personal contact, and measurement of these contacts, would be a recommendation for further research.

Implications for research and practice

Although theory failure may have occurred, we are convinced that many elements of the CARm method fit well within modern labour market policies. Further research is needed to investigate the effect of the CARm method on outcomes like (re)integration into paid employment, but also on whether the tailor-made program supports the needs of clients, mobilizes their social networks, and leads to a decrease in their perceived problems. Positive effects on these elements could be a first, but very important, step in the process of (re)integration. However, real life research (focusing for example on (re)integration into work) is complex, time consuming, and involves many stakeholders. To evaluate the effectiveness of an intervention, it is therefore extremely important that all stakeholders support its implementation and create circumstances to conduct the study according to protocol. For example, organizations, like the UWV, should provide sufficient time for professionals to provide any form of intervention to improve the reintegration into the labour marked for clients with multiple problems, or researchers should adapt the interventions to the limited time available. Additionally, organizations should be aware that the professionals participating in an (intervention) study should not be transferred to other departments or jobs, or have their workload increased during the conduct of the study; such actions can have major consequences on study results regarding the effectiveness of the intervention by preventing it from being implemented according to protocol. In addition, researchers should be more aware during the conduct of the study, if the study is implemented according to protocol. The usage of a digital application including a checklist could help participants to carry out the intervention according to protocol, but also give the research insight when key elements are not provided according to protocol during the conduct of the study. Insight in possible barriers, like time constraints, give the researcher the possibility to act at the moment and make adjustments to the protocol. As this is not in line with the RCT approach, other study designs, like realist evaluation and action research, might be more appropriate for real-life research.

Conclusion

The lack of effect of our strength-based reintegration method, CARm, for clients with multiple problems on work disability benefits, compared to care as usual was almost certainly caused by implementation failure, as the process evaluation reveals that most key elements of the intervention were not implemented according to protocol. However, the satisfaction of the labour experts regarding the training module and the intervention was high. As we are confident that many elements of the CARm method align with the current labour market policies, more in-depth research is necessary to further study its effect on (re) integration into the labour market.

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References

[1] Brongers KA, Hoekstra T, Roelofs PD, et al. Prevalence, types, and combinations of multiple problems among recipients of work disability benefits. Disabil Rehabil. 2022;44(16):4303–4310. doi: 10.1080/09638288.2021.1900931.
[2] Singley SG. Barriers to employment among long-term beneficiaries: a review of recent international evidence. Wellington: Ministry of Social Development Te Manatū Whakahiato; 2003.
[3] Blumenberg E. On the way to work: welfare participants and barriers to employment. Econ Dev Q. 2002;16(4):314–325. doi: 10.1177/089124202237196.
[4] Bosselaar JH, Prins R, Maurits E, et al. Multiproblematiek bij cliënten, verslag van een verkenning in relatie tot (arbeids) participatie. [Clients with multiple problems. An orientation and report in relation to (labour)participation]. Dutch: Ministerie van sociale zaken en werkgelegenheid; 2010.
[5] Berthoud R. Multiple disadvantage in employment: a quantitative analysis. New York: Joseph Rowntree Foundation; 2003.
[6] OECD. Activating the unemployed: what countries do. EOCD Employ Outlook 2007 [Internet]; 2007. Paris: OECD; 2007. Available from: https://www.oecd.org/employment/emo/40777063.pdf
[7] OECD. Sickness, disability and work: breaking the barriers: a synthesis of findings across OECD countries. Paris: OECD; 2010.
[8] Dean H, MacNeill V, Melrose M. Ready to work? Understanding the experiences of people with multiple problems and needs. Benefits. 2003;11(1):19–25. doi: 10.51952/JFJT4519.
[9] Martin JP. Activation and active labour market policies in OECD countries: stylised facts and evidence on their effectiveness. IZA J Labor Policy. 2015;4(1):1–29. doi: 10.1186/s40173-015-0032-y.

[10] Audhoe SS, Nieuwenhuijsen K, Hoving JL, et al. Perspectives of unemployed workers with mental health problems: barriers to and solutions for return to work. Disabil Rehabil. 2018;40(1):28–34. doi: 10.1080/09638288.2016.1242170.
[11] Brongers KA, Cornelius B, van der Klink JJ, et al. Development and evaluation of a strength-based method to promote employment of work-disability benefit recipients with multiple problems: a feasibility study. BMC Public Health. 2020;20(1):71. doi: 10.1186/s12889-020-8157-3.
[12] Rapp CA, Goscha RJ. The strengths model: a recovery-oriented approach to mental health services. 3rd ed. Oxford: Oxford University Press; 2011.
[13] Brongers KA, Hoekstra T, Wilming L, et al. Comprehensive approach to reintegration of disability benefit recipients with multiple problems (CARm) into the labour market: results of a randomized controlled trial. Disabil Rehabil. 2023;45(9):1498–1507.
[14] Glasgow RE, Klesges LM, Dzewaltowski DA, et al. The future of health behavior change research: what is needed to improve translation of research into health promotion practice? Ann Behav Med. 2004;27(1):3–12. doi: 10.1207/s15324796abm2701_2.
[15] Bartholomew Eldredge LK, Parcel GS, Kok G, et al. Planning health promotion programs: an intervention mapping approach. San Francisco: Jossey-Bass; 2006.
[16] Kristensen TS. Intervention studies in occupational epidemiology. Occup Environ Med. 2005;62(3):205–210. doi: 10.1136/oem.2004.016097.
[17] Egan M, Bambra C, Petticrew M, et al. Reviewing evidence on complex social interventions: appraising implementation in systematic reviews of the health effects of organisational-level workplace interventions. J Epidemiol Community Health. 2009;63(1):4–11. doi: 10.1136/jech.2007.071233.
[18] Steckler AB, Linnan L, Israel B. Process evaluation for public health interventions and research. Vol. 28. San Francisco: Jossey-Bass; 2002.
[19] den Hollander D, Wilken J-P. Supporting recovery and inclusion. Working with the CARe model. Amsterdam: SWP Publishers; 2015.
[20] Arends I, Bültmann U, Nielsen K, et al. Process evaluation of a problem solving intervention to prevent recurrent sickness absence in workers with common mental disorders. Soc Sci Med. 2014;100:123–132. doi: 10.1016/j.socscimed.2013.10.041.
[21] Lammerts L, Schaafsma FG, van Mechelen W, et al. Process evaluation of a participatory supportive return to work program for workers without a permanent employment contract, sick-listed due to a common mental disorder. J Occup Rehabil. 2017;27(2):159–172. doi: 10.1007/s10926-016-9625-6.
[22] Koolhaas W, Groothoff JW, de Boer MR, et al. Effectiveness of a problem-solving based intervention to prolong the working life of ageing workers. BMC Public Health. 2015;15(1):76. doi: 10.1186/s12889-015-1410-5.
[23] van Holland BJ, Brouwer S, de Boer MR, et al. Process evaluation of a workers' health surveillance program for meat processing workers. J Occup Rehabil. 2017;27(3):307–318. doi: 10.1007/s10926-016-9657-y.
[24] Oude Hengel KM, Blatter BM, van der Molen HF, et al. Meeting the challenges of implementing an intervention to promote work ability and health-related quality of life at construction worksites: a process evaluation. J Occup Environ Med. 2011;53(12):1483–1491. doi: 10.1097/JOM.0b013e3182398e03.
[25] Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77–101. doi: 10.1191/1478088706qp063oa.
[26] Bitter N, Roeg D, van Assen M, et al. How effective is the comprehensive approach to rehabilitation (CARe) methodology? A cluster randomized controlled trial. BMC Psychiatry. 2017;17(1):396. doi: 10.1186/s12888-017-1565-y.

Appendix

Table A1. Recruitment procedures of labour experts and clients in the CARm study.

Recruitment procedures	Execution of the procedure
Every labour expert working at the Public Employment Service of the UWV was eligible for recruitment. In total this group consisted of 353 labour experts, divided over 11 different districts of the UWV in the Netherlands. The managers of the UWV selected one contact person per district. We then asked these contact persons to forward to all labour experts in their district our invitation to participate in the study.	Management of all 11 districts of the public employment service were informed with an oral presentation by the researchers. Ten of the 11 districts agreed to participate in the study and mailed a recommendation letter to all labour experts working in their district. Included with the recommendation mail were an information letter from the researchers regarding the intervention (training and method) and a schedule of the training.
Labour experts who were first to agree to participate were included in the study, up to a maximum of 40 labour experts.	We held a meeting to inform all included labour experts of their role in the study. Recruitment of labour experts took place from February until March 2016. After inclusion, the intended labour experts were randomized to the intervention or care as usual groups (CAU). Researchers organized separate instruction meetings for the control and intervention groups. The intervention group was informed about the intervention and instructed about the inclusion of clients. The control group was instructed only about the inclusion of clients. The participating labour experts received a consent form.
Clients who met the inclusion criteria were recruited by their labour expert	Clients who met the following criteria were eligible for the study: they had been granted a work disability benefit and assessed as having residual work capacity but were unemployed or not working the complete number of hours according to their residual work capacity; they were aged 18–65; and they were able to understand and write Dutch.
Client inclusion in the study	After agreement to participate, the name, address and e-mail address of the clients were collected by the labour expert and sent to the research assistant. The research assistant then sent by mail a letter to inform the client in more detail about the study, along with a consent form and the first questionnaire. After returning the informed consent form the client was included in the study.