CHAPTER 6

Development of a training programme to facilitate occupational health professionals in the use of knowledge and skills provided by a guideline

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Submitted
Abstract

Purpose: Training needs and activities were explored to develop a training programme that aimed to facilitate occupational health professionals (OHPs) in applying knowledge and skills provided by a guideline.

Materials and methods: First, focus groups explored OHPs training needs. Second, learning objectives were formulated by the researchers. Third, experts in the field of education were interviewed to explore relevant training activities. Fourth, researchers integrated all the results into a training programme.

Results: Based on the training needs identified, we formulated seventeen learning objectives, e.g. being able to name influential factors and effective interventions, increase the individual client’s role, and increase communication with an employer or medical specialist to enhance work participation of people with a chronic disease. The training activities identified by experts to ensure OHPs acquired and applied knowledge and skills were: a case study, role play, discussion of best practices and interviewing stakeholders, all performed in plenary sessions or small groups. Learning objectives and training activities were integrated into a six-hour training programme.

Conclusions: Various training needs and teaching activities were identified, which were integrated into a one-day training programme. This approach can serve as input for others developing training programmes to transfer knowledge and skills to OHPs.

Keywords: Occupational health, guideline adherence, occupational health physicians, training programme, medical education, constructive alignment, employment.
Introduction
In recent years, various evidence-based guidelines have been developed for OHPs. These guidelines are intended to provide more standardized, evidence-based guidance and assessment [1], which can positively influence the quality of professional care offered by OHPs to their clients [2,3]. One of the guidelines relevant to OHPs is the evidence-based document called “Work participation of people with a chronic disease”. This guideline provides OHPs with knowledge concerning factors influencing work participation, effective interventions to enhance work participation, and the self-management of people with a chronic disease, irrespective of their specific diagnosis [8]. In the Netherlands, two types of OHPs are involved in the process of work participation: occupational physicians (OPs), who provide guidance to individuals aimed to support them in retaining or returning to work, and insurance physicians (IPs), involved in the assessment of the work ability of people with a chronic disease.

The evidence included in this guideline can provide OHPs with additional knowledge and enhance their skills, optimizing the guidance and assessment of people with a chronic disease in relation to their participation in work. Although knowledge and skills enhanced by guidelines can optimize the quality of occupational care [2,3], research has shown that even when OHPs have a positive attitude [4,5], the use of this knowledge and skills in practice is generally low [4-6]. Guideline adherence may be negatively influenced by various barriers, such as being unaware of knowledge provided by the guideline, or a lack of confidence in applying it in practice [6,7]. External barriers, such as perceived lack of time or costs, may also hinder OHPs reliance on the knowledge and skills offered by a guideline [6,7]. To address low adherence, this study focuses on how to facilitate OHPs’ use of such knowledge and skills in daily practice.

Research indicates that active strategies that include multiple training activities [9,10] are key in teaching OHPs how to use new information. One already recognized effective strategy that would include these elements is the provision of a training programme. In our case, we aimed to develop a training programme focused on increasing OHPs’ capability to apply the knowledge and skills provided. The results of studies of previous training programmes [10,11] have shown that OPs had more knowledge and confidence in applying the knowledge and skills in the guideline after participation in the programme.
and that IPs scored significantly higher on using knowledge and skills [10]. This indicates that a training programme is an effective way to increase OHPs’ capability to use the knowledge and skills provided by guidelines.

Although training programmes have been developed to increase OHPs’ capability to use knowledge and skills in daily practice, studies on how such training programmes are developed are limited. Therefore, this study focuses on the various steps in the development of a training programme to improve OHPs capability to use the knowledge and skills provided by the guideline, “Work participation of people with a chronic disease”.

In addition, although research [12-14] highlights the relevance of the involvement of the target group during the development of the training programme, limited strategies have been developed with the help and input of the target group [15]. As the involvement of the target group leads to a better fit of the programme to the trainees’ needs [13] and higher adherence of trainees to the programme [11,16], this study provides information on the development of a programme based on the needs and involvement of the target group. The research question of this study is: What are the OHPs’ training needs and which training activities can facilitate OHPs’ capability to use knowledge and skills provided by the guideline?

Materials and methods
A qualitative approach including four steps was used to develop the training programme. All procedures followed were in accordance with the Helsinki Declaration of 1975, as revised in 2000.

Step 1: Focus group meetings to identify training needs
As a first step, training needs were explored through focus groups meetings with OPs and IPs.

Participants
Two focus group meetings were held to explore the perspectives of the target groups; one meeting consisted of OPs, the other included IPs. OHPs who had experience in providing guidance or assessment of people with a chronic disease were included. OHPs were recruited through the researchers’ personal networks. Informed consent was obtained from all participants.
Procedure

OHPs were recruited through an invitation via email, including an information leaflet with study information. The leaflet explained that all information obtained during the study would be handled confidentially and that an audio-recording would be made of the meeting. OHPs could indicate their interest in joining the study by sending an email reply to the first researcher (MV).

Based on the evidence, 53 recommendations were formulated, including hands-on information on what OHPs could do to optimize guidance and assessment in the support of the work participation of people with a chronic disease. Before the start of the meeting, OPs and IPs were asked to categorize each of the 53 recommendations and send their categorizations via email to the first researcher (MV). Recommendations could be categorized into one of four quadrants: 1) “Recommendation is part of the daily work of OHPs, has low priority for use in guidance or assessment”, 2) “Recommendation is part of the daily work of OHPs, has high priority for use in guidance or assessment”, 3) “Recommendation is not yet part of the daily work of OHPs, has low priority for use in guidance or assessment” and 4) “Recommendation is not yet part of the daily work of OHPs, has high priority for use in guidance or assessment”.

During the focus group, the categorizations of each participant were added to each quadrant by the first researcher (MV) and displayed on a digital screen. Focus group discussion gave OHPs the opportunity to share ideas with each other. During the focus group meetings, the aim was to obtain consensus about the recommendations classified into the fourth quadrant, which were considered “not yet part of the daily work of OHPs, high priority for use in guidance or assessment”. The duration of the focus group sessions was a maximum of two hours. Both meetings were run by a moderator working in the field of occupational health. MF, a female researcher, moderated the discussion with OPs. HW, a male researcher and IP, moderated the discussion in the focus group session with IPs.

After categorizing the recommendations, OPs and IPs were asked to indicate the knowledge and skills they thought were needed by OHPs to apply the selected recommendations in daily practice. During the focus groups, the first researcher (MV) took notes on the recommendations mentioned, and the knowledge and skills needed to apply the recommendations.
Data analysis
During the meetings, the selected recommendations were immediately processed into the quadrant by the first researcher (MV), allowing OPs and IPs to approve the final categorization. Notes made by the first researcher (MV) during the meetings were checked afterwards for completeness by both the first and second researchers (MV and DB) using the audio-recordings. Knowledge and skills needed to use the selected recommendations in practice were retrieved from the notes for each selected recommendation.

Step 2: Formulating learning objectives
Based on the selected recommendations and associated knowledge and skills required, the researchers (MV and DB) formulated the learning objectives for the training programme based on the approach of Kallenberg et al. [17], which provides a framework to guide the effective formulation of a learning objective. These learning objectives formed the backbone of the training programme. The learning objectives formulated were checked by the other researchers in the team (JH, HW and MF).

Step 3: Interviews to explore training activities
As a third step, interviews were conducted with experts in the field of education and in the development of training programmes to explore suitable training activities to attain the learning objectives.

Participants
A total of five interviews were held with experts who had extensive experience in developing education and training programmes for (occupational) health care professionals. Experts were recruited within the researchers’ personal networks by sending invitations via email, including a study information leaflet. This leaflet explained that all information given prior to or during the study would be handled confidentially and that an audio-recording would be made of the interview. Informed consent was obtained from all participants.

Procedure
The aim of the interviews was to identify and gain in-depth knowledge on training activities that were relevant to and suitable for addressing the learning objectives. The interviews were conducted by the first researcher
(MV), with a maximum duration of 1.5 hours. The interviews were held at a location determined by the interviewee. Experts were asked to indicate training activities they considered suitable to attain the learning objectives formulated and the structure they recommended to implement those training activities.

Data analysis
The recordings of the interviews were transcribed verbatim. The transcripts were qualitatively coded using the MAXQDA software programme (Verbi GmbH, Marburg, Germany). The first researcher (MV) coded all transcripts using open coding [18]. These open codes were then categorized into themes by the first researcher (MV) using axial coding [18]. Both open and axial coding were checked by the second researcher (DB).

Step 4: Integrating the results into a training programme
Finally, the researchers (MV and DB) selected the learning objectives and training activities to be included in the final training programme. In making this selection, the researchers used the input of the OHPs and experts. The final training programme was checked by the other researchers.

Results

Step 1: Focus group meetings to identify training needs
The focus group meetings were held in October 2016 and November 2016. Due to last minute cancelations, four OPs participated in the first focus group and three IPs participated in the second. Each of the seven participants (four women and three men) had extensive experience in guidance and assessment of people with a chronic disease in relation to work participation.

An overview of the recommendations categorized in the fourth quadrant, “not yet part of daily work, but high priority for use”, and the knowledge and skills needed according to the OHPs to apply the recommendations, is provided in Table 1.

Step 2: Formulating learning objectives
After the categorization of 53 recommendations and exploration of training needs, seventeen learning objectives were formulated. An overview of these learning objectives is provided in Table 1.
Table 1. Selected recommendations, reported knowledge and skills and learning objectives formulated.

<table>
<thead>
<tr>
<th>Selected by:</th>
<th>Selected recommendation:</th>
<th>Knowledge/skills needed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPs</td>
<td>OHPs should identify factors (psychological and work-related factors, factors related to health condition and functioning) which hinder work participation</td>
<td>Knowledge and skills to recognize factors that hinder work participation</td>
</tr>
<tr>
<td>IPs</td>
<td>OHPs should explore, with their client, whether these hindering factors can be overcome and if so, which approach and what support from the OHP is needed. What the client can do to overcome the obstacles identified should also be explored</td>
<td>Knowledge to recognize factors that hinder work participation</td>
</tr>
<tr>
<td>IPs</td>
<td>During the process of RTW, OHPs should consider the need for time to recover</td>
<td>IPs report they only need a reminder to apply the recommendation because they have the knowledge/skills needed</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should determine with their client whether a multicomponent approach (physical, psychological and/or occupational health training) can be used to enhance work participation, preferably in an early stage of work disability</td>
<td>Knowledge about the effectiveness of providing an intervention in early stage of work disability</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should advise employers/employees to draw up a reintegration plan together</td>
<td>Knowledge about how to provide advice to employers</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should advise employers on the improvement of social and practical support at work for people with a chronic disease</td>
<td>Knowledge and skills on how to provide social support; to have the courage, and the communication skills to advise the employer</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should recommend SE/IPS for individuals with a psychiatric disorder</td>
<td>Knowledge and the content of this specific intervention</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should support the role of clients in work participation, by providing advice and guidance, and stimulating individuals to be actively involved</td>
<td>Knowledge and skills on how to stimulate own role in work participation</td>
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<tr>
<td>Learning objective formulated:</td>
<td>Training activities reported:</td>
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</tr>
<tr>
<td>The OP/IP has knowledge of factors that hinder work participation, either related to the individual or to the work</td>
<td>Reading the guideline, case study</td>
<td></td>
</tr>
<tr>
<td>The IP has knowledge of the effective interventions available which can be used to alter the influence of these hindering factors</td>
<td>Reading the guideline, case study</td>
<td></td>
</tr>
<tr>
<td>The IP knows that individuals may need recovery time during the process of RTW</td>
<td>Reading the guideline, case study</td>
<td></td>
</tr>
</tbody>
</table>
| 1: The OP knows why using a multicomponent intervention is important to alter the effects of hindering factors  
2: The OP has the skill to evaluate at an early stage whether participation in work can be supported through use of a multicomponent approach | 1: Reading the guideline, case study  
2: Case study (“patient journey”) |
| The OP has the skill to evaluate whether the employer and the employee have prepared a reintegration plan together | Case study, card game, discussion of best practices and resistance, role play |
| The OP has the skill to provide advice to the employer regarding the importance of social support from the work environment to the individual | Case study, card game, discussion of best practices and resistance, role play |
| The OP has knowledge of the Individual Placement and Support (IPS) intervention and is aware of the groups in which this intervention could be used | Reading the guideline, case study |
| 1: The OP has knowledge from the document “Leidraad Participatieve Aanpak”  
2: The OP is able to stimulate the role of the individual through the provision of advice and guidance | 1: Reading the guideline, case study  
2: Case study, discussion best practices (with use of motivational interviewing), role play, interviews |
<table>
<thead>
<tr>
<th>Selected by:</th>
<th>Selected recommendation:</th>
<th>Knowledge/skills needed:</th>
</tr>
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<tbody>
<tr>
<td>OPs</td>
<td>OHPs should assess to what extent their client is able and wants to take control of the work situation If necessary, OHPs should support their client’s role in work participation</td>
<td>IPs report they only need a reminder to apply the recommendation because they have the knowledge/skills needed OPs reported that knowledge is needed on how to assess the ability of the individual to take control of the work situation</td>
</tr>
<tr>
<td>IPs</td>
<td>OHPs should use newly available digital forms of self-management support</td>
<td>OPs reported that knowledge on the self-management tools available is needed</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should provide information about client’s rights/obligations, limitations and abilities associated with their condition in relation to work and forms of support to enable WR/RTW</td>
<td>OPs reported that knowledge about the recommendation should be provided</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should advise employers on providing employees with space and time to determine their abilities and limitations in relation to work tasks and working hours</td>
<td>OPs reported that knowledge about the recommendation should be provided</td>
</tr>
<tr>
<td>IPs</td>
<td>OHPs and professionals in the curative health care sector should have mutual contact and/or be aware of each other’s intentions regarding support of the client</td>
<td>OPs reported they had the knowledge required. A training programme should promote collaboration between OHPs and other professionals</td>
</tr>
<tr>
<td>OPs</td>
<td>OHPs should consult with curative care in the case of different perspectives on the diagnoses; if they want to harmonize the treatment plan; or when the recovery process stagnates</td>
<td>OPs reported that knowledge regarding the available guidelines and/or protocols for the professionals involved is needed Skills to communicate with each other should be provided</td>
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</table>

*IPS: individual placement and support, RTW: return to work, SE: supported employment*
### Learning objective formulated:

<table>
<thead>
<tr>
<th>Learning objective formulated</th>
<th>Training activities reported</th>
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<tbody>
<tr>
<td>The OP/IP has knowledge of how and the extent to which the individual with a chronic disease can take control in relation to their work participation</td>
<td>Reading the guideline, case study</td>
</tr>
<tr>
<td>The OP/IP has knowledge of the self-management tools available which can be used to increase the self-management skills of the individual with a chronic disease</td>
<td>Reading the guideline, case study</td>
</tr>
<tr>
<td>The OP has knowledge of the rights and obligations of the individual with a chronic disease regarding their participation in work</td>
<td>Reading the guideline, case study</td>
</tr>
<tr>
<td>The OP has knowledge of the document “Gesprekswijzer: Chronische aandoening en werk”</td>
<td>Reading the guideline, case study</td>
</tr>
<tr>
<td>IPs/OPs have the skills to collaborate in the guidance of a client</td>
<td>Including both professions in the training programme, case study (“patient journey”)</td>
</tr>
<tr>
<td>1: The OP/IP has knowledge of the importance of cooperation with the professionals in the curative sector in the support of individuals with a chronic disease</td>
<td></td>
</tr>
</tbody>
</table>
| 2: The OP has knowledge about which approach can be used to communicate with the medical specialist | 1: Reading the guideline, case study
|                                                                                             | 2: Interview, discussing best practices and resistance. Experts discouraged training activities |
Step 3: Interviews to explore training activities
Interviews were held in February 2017 and March 2017. Five experts (three men, two women) were interviewed to investigate which training activities could be used to attain the learning objectives (see Table 1). Below, we describe the training conditions reported and the methods of instruction and training activities mentioned.

Training conditions
The experts indicated several conditions that a training should fulfil. A training programme should reflect OHPs’ daily practice, be challenging and include repetition. The training programme should be varied and entertaining and include frequent discussion between participants, reflecting on their learning experiences. In addition, trainees should feel comfortable during the programme and be able to learn from the “bottom up”, i.e. exploring solutions to problems by themselves. The experts suggested that both OPs and IPs be included in the training programme, while one expert recommended that the training be provided by peers, in this case an OP and an IP.

Methods of instruction
Several methods to transfer knowledge and skills were reported. The experts often mentioned working in small groups which would, for example, allow OHPs to share best practices or work on a case study. In addition, one expert advised working in a “carrousel”, in which OHPs work in small groups on specific topics. After working in groups, OHPs can share their learning experiences on either a general topic or a specific topic per group (‘carrousel’), in a plenary setting. In this way, OHPs will be able to learn from each other’s experiences. Working in pairs, for example when engaging in a role play, was also reported as a suitable method of instruction.

Training activities
In addition to methods of instruction, various training activities were mentioned as suitable to transfer knowledge and skills.

Reading the guideline
The experts recommended instructing trainees to read the guideline before the training programme, so that all participants start at a similar level of
knowledge. To support reading of the guideline, the experts indicated that OHPs should be advised to note the perceived value of the guideline to their daily practice. The experts also suggested the provision of a guideline summary, including all key messages of the guideline. Finally, to further support reading, the experts suggested a short film that explained the relevance of the guideline to their daily practice.

“But like knowledge, you can also offer that [i.e. knowledge] beforehand so that it [i.e. guideline] can be read in advance, or using other methods such as a film or e-learning. And I always think it’s a shame to do those sorts of things [i.e. providing knowledge] in class, because that’s the ideal place to go into greater detail.”

Knowledge and skills test
It was advised that a knowledge and skills test be administered before the start of the training programme. The results of such a test will provide trainers with input on baseline knowledge and skills. In addition, it can help OHPs realize discrepancies between their current behaviour and guidance and assessment practice according to the guideline. Making such discrepancies apparent was reported as helpful in increasing OHPs motivation to learn during the training programme.

Case study
Experts indicated that a case study would be a suitable way to apply the knowledge learned through reading the guideline. The experts recommended the use of a case study because OHPs are familiar with this kind of training activity, the activity reflects OHPs’ daily practice and it activates them. While either the trainer or the trainees might suggest the case study, the experts emphasized the value of trainees submitting their own case study, ensuring the case study being realistic and reflecting OHPs daily practice. The experts reported the case study should be presented on paper, in a video or as a combination of both. Another suggested form of a case study was a “patient journey”, which describes the process of work participation of an individual over a longer period, requiring the involvement of both OPs and IPs.
“You could take case studies for the rest of the time, to really go into detail. Because, in general, I think they [i.e. OHPs] are practical people. So I think case studies will really help them. Examples, allowing them to submit their own things [i.e. case studies], their own case studies in which they experienced problems or have questions about.”

Card game
An expert suggested developing a card game that would teach OHPs the importance of advising employers about the provision of social support to employees with a chronic disease. The card game would include examples of quotes by employers and individuals with a chronic disease regarding their experiences, for example those related to perceived social support in the work environment.

Interview of an individual with a chronic disease or a medical specialist
The experts suggested providing OHPs with the opportunity to discuss perspectives with other stakeholders involved, such as a representative of a patient association or a medical specialist, with the aim of gaining mutual understanding.

“In this case, I would invite someone to an appointment or for a Skype session. You see, he can relay his story but in this case, I think that a doctor [i.e. OHPs] would also like to give his opinion and that he [the medical specialist] can respond. This will result in mutual understanding. That the OHPs says, ‘I’m saying this because of this reason’, and the medical specialist says, ‘but that is not possible because of this or that reason’. You know, that would lead to better understanding.”

Discussion of best practices
The experts reported that a discussion of best practices between the trainees would be a relevant training activity in relation to several learning objectives, with the aim of learning from one another and to facilitate collaboration between OP and IP. In relation to learning to stimulate an individual, one expert recommended explaining the principles of motivational interviewing.
Role play
The experts suggested that role play would be an effective training activity in relation to several learning objectives. They suggested that role play could take various forms: one suggestion was that two OHPs could play the role of an OHP or the employer, medical specialist or individual with a chronic disease. Other experts indicated that a neutral person should play the role of employer, the medical specialist or individual with a chronic disease. Another form of role play that was suggested, involved two people conducting the role play while the remainder of the group was permitted to intervene. The reported advantage of this form is the active involvement of all trainees. The experts added that the trainees should be handed a case study and/or a list with questions so that OHPs can prepare themselves, and that after performing the role play, OHPs’ experiences should be discussed, either in a plenary setting or in smaller groups. It was considered important that this training activity be used in an environment in which trainees feel comfortable within the group.

“OPs quite enjoy role plays with employers, because they are in the situation. (...) Something like “I’ve got Ms Janssen here, are there no suitable jobs for her” or “how are we going to keep her in employment”. And the employer has the message “there are no suitable jobs and I’m not going to create them, either”. Well, how do you move forward from here?”

Discussion of resistance
The experts considered that it was valuable to inventory the current resistance of OHPs to performing certain work tasks, such as communicating with a medical specialist.

“You actually need to explore the roots of this resistance [contacting the medical specialist]. Then you can just ask why they aren’t doing it.”
Letter
One expert suggested that OHPs write a letter to themselves, including what they had learned during the training programme. This letter could be sent to OHPs a few weeks after the training programme as a reminder.

Step 4: Integrating the results into a training programme
All of the information gathered in the previous steps was formulated into learning objectives and integrated into a training programme by the researchers. Based on the input of the OHPs and experts, the training programme would focus on six learning objectives: a) OP/IP has knowledge of influential factors, b) OP/IP has knowledge of effective interventions that can alter the effect of factors influencing work participation, c) OP/IP evaluates the use of a multi-component approach in an early stage, d) OP/IP is able to increase the role of the individual through counselling and guidance, e) OP/IP is able to communicate with the employer about the reintegration plan and provides advice on the importance of social support from the workplace, f) OPs/IPs are able to collaborate in the guidance and assessment of people with a chronic disease. Each of the learning objectives was matched with a training activity considered suitable for OHPs to acquire the knowledge and skills needed. This knowledge and the skills to be addressed were incorporated into a training programme of six hours, which would be provided by two trainers – an OP and an IP. Table 2 presents an overview of the programme.
Table 2. Training programme based on learning objectives formulated

<table>
<thead>
<tr>
<th>Part</th>
<th>Training activity</th>
<th>Aim</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>1: Trainees read the guideline &lt;br&gt;2: Trainees report value of the guideline &lt;br&gt;3: Trainees send case study &lt;br&gt;4: Trainees complete knowledge and skills test</td>
<td>1: Trainees start with an equal level of knowledge &lt;br&gt;2: Trainees made aware of the value of the guideline in daily practice &lt;br&gt;3: Training includes case studies which relate to daily practice &lt;br&gt;4: Trainees realize there is a discrepancy between current behaviour and behaviour according to the guideline</td>
</tr>
<tr>
<td>Entry participants</td>
<td>1: Trainers welcome participants individually, shaking hands &lt;br&gt;2: Trainees receive a folder with the guideline, summary and programme outline</td>
<td>1: Trainees feel welcome and at ease 2: Trainees are informed about training programme and guideline</td>
</tr>
<tr>
<td>Introduction trainers and training programme</td>
<td>1: Trainers introduce themselves using a PowerPoint presentation &lt;br&gt;2: Trainers explain their aim of providing a stimulating programme with many learning opportunities &lt;br&gt;3: Trainers describe the programme</td>
<td>1: Trainers are informed about the role and background of the two trainers (one OP, one IP) &lt;br&gt;2: Trainers are motivated and energized &lt;br&gt;3: Trainers are provided with structure</td>
</tr>
<tr>
<td>Introduction participants/discuss value of guideline</td>
<td>Trainees exchange names, their profession and perceived value of the guideline for four minutes with another trainee. After four minutes, trainees switch to another trainee</td>
<td>Trainees become acquainted with other trainees and professions. Discussion of value sets a positive norm concerning the use and value of the guideline and makes trainees realize what value the guideline may have for their work</td>
</tr>
<tr>
<td>Coffee break</td>
<td>NA*</td>
<td>Trainees and trainers have a moment to rest and recharge energy levels</td>
</tr>
<tr>
<td>Value guideline</td>
<td>1: Trainers guide plenary discussion of the value of the guideline 2: Trainers guide plenary discussion of their need for knowledge in the training programme</td>
<td>1: Trainees realize what value the guideline may have for their work 2: Training fits trainees needs as much as possible</td>
</tr>
<tr>
<td>Factors</td>
<td>1: Trainees work in groups of four (two OPs/two IPs) on a case study including influential factors 2: Trainees indicate when to inventory factors on a patient journey in groups of four (two OPs/two IPs)</td>
<td>1: Trainees recognize influential factors in a case study 2: Trainees learn when to inventory influential factors</td>
</tr>
<tr>
<td>Interventions</td>
<td>1: Trainees work in groups of four (two OPs/two IPs) on a case study 2: Trainees indicate when to use interventions on a patient journey in groups of four (two OPs/two IPs)</td>
<td>1: Trainees name and use effective interventions to change negative influential factors 2: Trainees learn that an intervention should preferably be used at early stage in the patient journey</td>
</tr>
<tr>
<td>Collaboration with employer</td>
<td>1: Trainees discuss best practices and perform a role play in pairs (one OP/one IP) 2: Trainees indicate when collaboration is needed on patient journey (in pairs)</td>
<td>1: Trainees obtain skills to better communicate with the employer 2: Trainees learn when collaboration with the employer is important</td>
</tr>
<tr>
<td>Part</td>
<td>Training activity</td>
<td>Aim</td>
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</tr>
<tr>
<td>Lunch break</td>
<td>NA*</td>
<td>Trainees and trainers have a moment to rest and recharge energy levels</td>
</tr>
<tr>
<td>Structure</td>
<td>Trainers explain the remaining programme</td>
<td>Trainees are provided with structure</td>
</tr>
<tr>
<td>Discussion of the cases</td>
<td>Trainers guide trainee plenary discussion of factors and interventions identified and the reasons for collaboration</td>
<td>Trainees learn from other trainees’ experiences regarding inventory of factors and interventions, and the use of collaboration</td>
</tr>
</tbody>
</table>
| Own role of client           | 1: Trainees watch a short introductory film  
2: Trainers introduce the subject with use of PowerPoint  
3: Trainees formulate questions in pairs (either 2 OPs or 2 IPs), which may stimulate the role of individuals with a chronic disease | 1: Trainees are introduced to the idea of the client’s own role and obtain knowledge about the value of equal communication between “patient” and doctor  
2: Trainees obtain knowledge about the effect on the individual with a chronic disease of being given a role  
3: Trainees learn how to stimulate the role of the individual with a chronic disease                        |                                                                                                                                                                                                                                               |
| Coffee break                 | NA*                                                                                                                                                                                                                                                                                                                                                           | Trainees and trainers have a moment to rest and recharge energy levels                                                                                                                                                                         |
| Discuss of ‘patient journey’ | Trainers guide plenary discussion regarding the patient journey                                                                                                                                                                                                                                                                                           | Trainees obtain knowledge about when to discuss factors and the early use of an intervention                                                                                                                                                     |
| Individual evaluation of learning objectives | Trainees write a letter to themselves                                                                                                                                                                                                                                                         | Trainees have a reminder of lessons learned in the training programme                                                                                                                                                                           |
| Evaluation and closing of training programme | 1: Trainers answer any of the trainees’ remaining questions  
2: Trainees evaluate training                                                                                                                                                                                                                                                                   | 1: Trainees are able to share additional questions  
2: Trainers acquire insight into trainees’ experiences                                                                                                                                                                                           |

*NA: Not applicable
Discussion

The objective of this study was to explore OHPs’ training needs and relevant training activities to develop a training programme that would facilitate the use of knowledge and skills provided by a guideline. The OHPs reported various training needs. Based on this, several learning objectives were formulated, such as the ability to name influential factors and effective interventions, being able to empower the individual to take an active role, and being able to communicate with an employer or medical specialist to enhance participation in work. The experts reported various training activities to attain these learning objectives, including reading the guideline, working on a case study, conducting role play, discussing best practices and interviewing stakeholders. These activities could be undertaken in a plenary setting, but also in small groups working on either similar or different subjects. The training needs and training activities mentioned were integrated into a six-hour training programme.

The steps used in the development of the training programme were in line with the “theory of constructive alignment”, which emphasizes the formulation of learning objectives as a core element. Subsequently, training activities and assessment methods should be aligned with and focused on obtaining these learning objectives [20]. By formulating the learning objectives in the initial phase of the development process and then determining the appropriate training activities, the development of our training programme accords with the theory of constructive alignment.

Research has shown that using the principles of constructive alignment improves trainees’ learning experiences and facilitates trainees’ attainment of the intended learning objectives [20]. In addition, studies indicate that trainees who complete “constructively aligned training programmes” are more likely to adopt deep-learning approaches [21]. This means that trainees are able to integrate new information into their current set of knowledge and skills. Deep learning, unlike surface learning, does not entail simply memorizing the materials, but facilitates the understanding and use of the information [22]. As our aim was for OHPs to apply the new information in practice, developing the training programme according to the principles of constructive alignment was considered the most effective way to facilitate this.
In addition, both the formulation of learning objectives and the training activities identified focused on stimulating the trainees to learn through their own experience and through discussion with peers. Examples of such training activities are a case study, role play or the discussion of best practices. According to Bloom [22], the opportunity for OHPs to learn through their own experience, discuss with each other and think critically about the knowledge imparted also greatly contributes to the process of deeper learning by trainees, which in turn facilitates application [22,23]. Many of the training activities suggested, such as a case study or role play, also reflect OHPs’ daily practice, which enhances the linking of new information to the OHPs’ current knowledge base. As research reports that such training activities (bottom-up, interactive and reflecting daily practice) are key to improving skills, attitudes and behaviour [20,24,25], the training activities are likely to be effective in facilitating OHPs in applying the knowledge and skills.

One strength of this study is that we included OHPs in the development of the training programme. Both constructive alignment theory [20] and adult learning theory [12] emphasize the importance of focusing on learning objectives that have the greatest relevance to trainees’ work, as it increases the motivation to learn. By including OHPs in the development of the programme, we aimed to ensure the learning objectives and training activities corresponded to their needs [13] and thereby would positively affect their motivation. In addition, as research shows that including the target group can positively influence adherence [11,16], we considered that developing the programme with OHPs would positively influence their compliance with it and facilitate the use of knowledge and skills provided by the guideline.

We integrated the training activities into a one-day training programme. One advantage of undertaking all teaching activities in one day is that the time required of OHPs to complete the programme is minimized. This facilitates feasibility of uptake, as it limits strain on OHP performance of daily work tasks. However, research has shown that in striving to change behaviour, relapses in old behaviour can occur [26]. As we provide a one-day training programme, this could limit the uptake in the long term. Therefore, one could consider preventing relapses in behaviour [26] by organizing follow-up educational sessions.

This study provides information on one type of approach that could be followed to develop a training programme to facilitate use of knowledge and
skills. We are aware that there are multiple ways to develop such programmes, but we aimed to develop a solid and effective training programme by including the target group in the development of the programme and by taking into account the principles of adult learning [12] and the theory of constructive alignment [20]. The steps described in this study can serve as input for researchers and developers of occupational guidelines on how to develop a training programme aimed at facilitating the use of the knowledge and skills addressed by such guidelines. A further feasibility study is needed to determine whether such training activities are indeed effective in facilitating the application of new knowledge and skills by OHPs.

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Declaration of interest
The authors report no conflicts of interest.
References


