

## Group leaders' experiences of an online train-the-trainer programme for the Fewer Falls in multiple sclerosis intervention: A mixed method study

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### ABSTRACT

**Objective:** As part of a process evaluation, the aim of this mixed-method study was to gain an integrated understanding of healthcare professionals' experiences of the train-the-trainer programme for the Fewer Falls intervention.

**Methods:** Seven healthcare professionals were recruited as group leaders. A convergent interactive mixed methods design was employed. Quantitative data was collected at three time points (before and after the programme and after delivery of the first cycle of the Fewer Falls) by structured questionnaires. Individual semi-structured interviews were performed on two occasions (after the programme and after delivery of the first cycle of the Fewer Falls) with each group leader. Descriptive statistics was used for questionnaire data. Interview data was analysed using qualitative content analysis. Merging quantitative and qualitative data in a joint display was applied to generate an integrated understanding of the results.

**Results:** Quantitative data indicated that the programme provided sufficient information, supported relevant skills, and increased group leader self-confidence. The qualitative content analysis generated three main themes: *Valuing the online self-paced programme design*, *Preparing for the group leader role* and *Learning through practice and feedback*. The joint display generated the following integrated understanding: *The importance of practical rehearsal* and *The complex role of facilitating an online intervention*.

**Conclusion:** Our findings indicate that the participating health care professionals value an online self-paced TTT-P with various teaching methods and components in preparation for the complex role of facilitating online interventions, such as Fewer Falls. Practice and feedback are important elements in the design of TTT-Ps.

**Practice implications:** Practice, feedback and ongoing support are important aspects to consider for use in train-the-trainer programmes. An online self-paced module format is suitable when targeting healthcare professionals.

### 1. Introduction

Multiple sclerosis (MS) is a chronic inflammatory and neurodegenerative disease affecting approximately 2.8 million people worldwide [1]. Impaired balance, limited mobility and reduced cognitive functions are common symptoms in people with MS (pwMS) that can increase the risk of accidental falls [2]. To address the multifactorial fall risks in pwMS a fall prevention intervention, the Fewer Falls intervention, was developed in co-design with pwMS and healthcare professionals (HCP)

[3]. The Fewer Falls is a theory-based manualised online group-based fall prevention intervention designed to support pwMS self-management skills and by that, reduce their number of falls. The groups are led by a group leader which is a HCP. The intervention is currently under evaluation in a randomised controlled trial (RCT) as described in the published study protocol [4].

In intervention research such as the Fewer Falls, it is crucial to address intervention fidelity [5] i.e., "the extent to which an intervention's core components have been implemented as planned" [6].

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Understanding intervention fidelity is part of process evaluations of complex interventions [7,8]. Without knowledge of intervention fidelity, one cannot draw conclusions that observed effects are due to the intervention itself [9]. Recommendations for enhancing intervention fidelity in behavioural change interventions, such as self-management, highlight that fidelity needs to be addressed in five areas: study design (e.g. using an RCT), provider training, delivery of the intervention, receipt of intervention (patients' ability to understand and perform skills), and enactment of skills [10]. The areas are considered to be interrelated i.e., poorly trained providers will lead to suboptimal delivery where patients will not receive or be able to enact the desired skills [11]. It is therefore important to improve the training of those delivering the intervention. This can be accomplished in a train-the-trainer programme (TTT-P) i.e., an education designed to equip individuals with skills to train and supervise others in a given situation [12].

Thus, a TTT-P was created for the Fewer Falls intervention by researchers experienced in MS, fall prevention and educational science. In line with previous TTT-Ps [12–15], various teaching methods and components were included. The TTT-P was conducted online with seven asynchronous educational modules and one synchronous model with role-play in groups. The modules covered the Fewer Falls intervention's aim, structure, and content; the role of the group leader; information on MS, and on falls in MS; how to use an action plan; and detailed content of the Fewer Falls sessions manuals including instructions and practice on how to use the intervention's digital tools. See appendix 1 for the detailed content of the TTT-P. The online TTT-P aimed to provide group leaders with comprehensive knowledge of the Fewer Falls intervention, basic knowledge of MS and falls in MS, and support their self-confidence to manage digital tools, support pwMS in using action plans, and lead group discussions with pwMS.

Despite the potential of online educations e.g., improved accessibility [16], we have only identified a few TTT-Ps conducted online [17–19]. In TTT-Ps, the training of HCP can improve their knowledge, skills and confidence, and patient outcomes [14,16,20]. However, training of HCP is one of the least assessed areas of intervention fidelity [21,22] despite being highlighted as a key aspect of process evaluations [8]. Most previous studies evaluating TTT-Ps use solely quantitative methods, in summary 42 unique studies as presented in systematic reviews [14–16], and few use qualitative methods [24] or mixed methods [15,25–27]. In a mixed method design, quantitative and qualitative data complement each other, which allows for a more comprehensive, and integrated understanding of TTT-Ps [28]. To date, there is hence insufficient knowledge on how HCP experience their participation in online TTT-Ps. Gaining knowledge into these experiences is crucial for adjusting the program's topics to better match participants' needs, choosing more engaging teaching methods, and ensuring the program achieves its intended outcomes. Thus, as part of a process evaluation, the aim of this mixed-method study was to gain an integrated understanding of HCP's experiences of the TTT-P for the Fewer Falls intervention.

## 2. Materials and methods

### 2.1. Study design

This study used a convergent interactive mixed method design, meaning an iterative process where early data collection and analysis generated changes in the data collection processes [29]. This study was approved by The Swedish Ethical Review Authority (2022–06667–01 and 2023–07723–02).

### 2.2. Study population

Group leaders were recruited from a convenience sample of HCP with experience in MS and/or group treatments recruited via the researchers' clinical networks. Of 11 approached HCP, four

physiotherapists, one occupational therapist and two social workers agreed to be group leaders in the Fewer Falls intervention and to take part in the TTT-P study. They were given oral information and signed a written informed consent. All seven HCP had comprehensive professional experience, in mean 27 years (ranging from 21 to 33 years), and all but one were women. Their previous experience i.e., before the TTT-P, in fall prevention, MS care and rehabilitation, facilitating discussion groups, and hosting digital meetings, are presented in Fig. 1.

### 2.3. Data collection

Before and after the TTT-P, and after the delivery of the first cycle of the Fewer Falls intervention, a questionnaire inspired by the Practitioner self-confidence scale (PSCS) was used. The PSCS in its original form aims at assessing practitioners' attitudes and self-confidence in treating patients with low back pain [30]. The items on self-confidence were translated to Swedish and rephrased to address specific tasks and skills applied in the Fewer Falls intervention. The revised scale (see Appendix 2) consisted of seven items which were rated on a five-graded ordinal scale where a higher score indicates a better result. Questionnaire data were collected using the Research Electronic Data Capture (REDCap) web application.

After the TTT-P and after the delivery of the first cycle of the Fewer Falls intervention, individual semi structured interviews on the experiences of the TTT-P were performed (see Appendix 3–4). The interview guide was individually adapted based on the group leaders' responses to the PSCS. The interviews were recorded and conducted via phone or video platform based on the group leaders' preference. Interviews after the TTT-P were performed by the first author (JB), and interviews performed after the delivery of the Fewer Falls intervention were performed by either author MF or MK. The interviews lasted between 22 and 35 min (median=30) and were transcribed verbatim.

### 2.4. Analyses

Descriptive statistics were used for quantitative data. The transcribed interviews were analysed using qualitative content analysis with an inductive approach [31]. The analysis process was initiated by the first author, who reviewed the transcripts several times to become familiarised with the data. Each interview was coded individually, followed by discussions between the authors to reach consensus on the codes. Proceeding further, the codes were iteratively grouped based on similarities into five sub-themes which were grouped into three main themes. The analysis followed an iterative, collaborative approach involving all authors. Table 1 provides an example of this process.

Finally, quantitative and qualitative data were merged into a joint display [32] to assess the agreement, expansion and/or discordance in the results [29]. The quantitative results and the qualitative findings

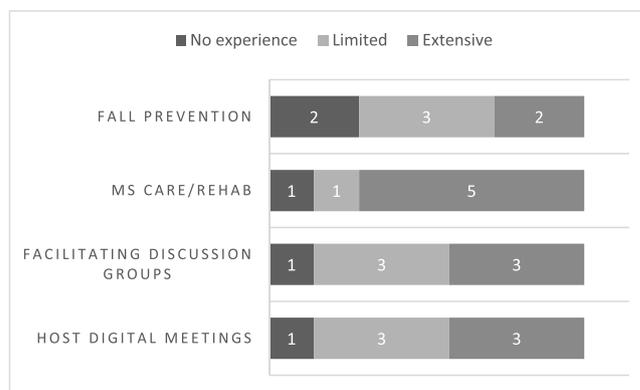


Fig. 1. Number of healthcare professionals answering having no, limited, or extensive experience before the train-the-trainer programme, n = 7.

**Table 1**  
Example of analytical process.

Meaning unit	Code	Theme
I feel reassured that I've more or less understood the bigger picture of the Fewer Falls intervention	Reassurance about understanding the Fewer Falls	Preparing for the group leader role

were thoroughly read and compared to gain in-depth integrated understanding in an iterative process involving all authors. The joint display was then created to visualise and generate an integrated understanding of group leader's experiences and their ratings on knowledge and self-confidence.

### 3. Results

#### 3.1. Experiences of the TTT-P: quantitative results

Overall, the group leaders' knowledge and self-confidence concerning specific tasks and skills applied in the Fewer Falls intervention were rated as high (medians 4–5) across all three time points (Table 2). Ratings on familiarity with the intervention's content and structure, and self-confidence in using the intervention's digital platform, were, however, low before the TTT-P but increased after the TTT-P and the Fewer Falls intervention.

#### 3.2. Experiences of the TTT-P: qualitative findings

The qualitative content analysis resulted in three main themes: *Valuing the online self-paced programme design*, *Preparing for the group leader role*, and *Learning through practice and feedback*. One theme, *Preparing for the group leader role*, comprised two sub-themes: *Importance of previous experience* and *Finding your role*.

**Table 2**  
Results of group leaders' questionnaire ratings before and after train-the-trainer programme (TTT-P) and after delivery of the first cycle of the Fewer Falls intervention, (n = 7). A higher score signifies a better result.

Variables	Median	Min-Max
<b>Foundational knowledge in MS and falls</b>		
Before TTT-P	5	3–5
After TTT-P	5	5
After Fewer Falls	5	5
<b>Familiarity with intervention content and structure</b>		
Before TTT-P	3	2–5
After TTT-P	4	4–5
After Fewer Falls	5	4–5
<b>Self-confidence in using a video platform</b>		
Before TTT-P	4	2–5
After TTT-P	4	4–5
After Fewer Falls	4	4–5
<b>Self-confidence in using Fewer Falls intervention digital platform</b>		
Before TTT-P	1	1–3
After TTT-P	4	3–4
After Fewer Falls	5	4–5
<b>Self-confidence to communicate intervention content</b>		
Before TTT-P	4	4–5
After TTT-P	5	4–5
After Fewer Falls	5	5
<b>Self-confidence in supporting the use of an action plan</b>		
Before TTT-P	4	4–5
After TTT-P	4	4
After Fewer Falls	5	4–5
<b>Self-confidence in facilitating a group in learning from each other</b>		
Before TTT-P	5	4–5
After TTT-P	5	3–5
After Fewer Falls	5	4–5

#### 3.2.1. Valuing the online self-paced programme design

The group leaders experienced that the overall design and content, with various teaching methods and components, was valuable. The provided materials helped them to become familiar with all content areas of the Fewer Falls intervention. The group leaders experienced that the manuals i.e., speech scripts, power point slides and technical instructions were of great value for preparing the delivery of the intervention. Some group leaders reflected that a fixed schedule might help to set aside time for the TTT-P. However, the self-paced, online design with short modules was experienced as suitable, allowing the group leaders to progress through the course bit by bit as time permitted.

*“For us clinically active who have some time now and then, one can read when one has the time. It makes it doable.” (Group leader 6).*

The TTT-P was perceived as less extensive than initially feared. It was highlighted that information beforehand on course extent was important to potentially reduce stress about time consumption. The use of both written material and videos published online was perceived as positive as the group leaders had different preferences for how to best absorb information and different time constraints. Additionally, having the possibility to review the material several times was considered pedagogical, with time between the roleplay session and the start of the Fewer Falls intervention for reflection on feedback. Several group leaders also frequently used the TTT-P's material to refresh their knowledge during the Fewer Falls intervention. Some requested printed material for more easy access, while others preferred the online format.

*“I prefer printed material so you can read just to quickly recapitulate something” (Group leader 7).*

Ending each theoretical module with assignments was considered valuable for the learning process. The quizzes were perceived as rather simple but amusing and a good way to conclude each module. However, some group leaders felt that the quizzes could be more rigorous to better confirm their knowledge and suggested to add reflective elements.

#### 3.2.2. Preparing for the group leader role

**3.2.2.1. Importance of previous experience.** The group leaders perceived that the TTT-P alone was not enough for them to feel confident in their role as group leaders. Professional experience of handling unexpected situations e.g., in clinical interactions, was mentioned as crucial to feel safe in their role.

*“It is difficult to learn how to handle unforeseen events only from reading” (Group leader 3).*

Some group leaders said that MS expertise increased their self-confidence for the role while others worried before the start of the intervention about the importance of previous experience.

*“If there is anything that worries me, it's probably this very thing that how good or bad it is that you're not an expert, but maybe this can also be an advantage” (Group leader 7).*

Even without extensive experience of MS or falls, the experience as an HCP combined with the TTT-P was perceived as sufficient to feel confident to deliver the Fewer Falls intervention. After having delivered the Fewer Falls intervention, a group leader without MS expertise noted that her lack of expertise might have encouraged an open facilitation where the pwMS became the experts. Regardless of their prior experience and expertise, the group leaders highlighted the importance of the TTT-P to be well-informed about the key content and confident in their ability to adhere to the Fewer Falls intervention.

**3.2.2.2. Finding your role.** After the TTT-P some group leaders reflected on the importance of finding your own way of leading groups. Although the intervention was manualised, personalisation of the speech scripts

was considered crucial to ensure a natural role, facilitating connections with the pwMS.

*“There isn’t a wrong and a right way to do it, you will still find your way” (Group leader 2).*

The group leaders reflected on how they wanted to be perceived in their role. Some expressed concerns that their approach as a group leader could influence the pwMS’ first impression and their willingness to continue the Fewer Falls intervention. Creating a safe environment for pwMS was thus considered an important part of the role.

*“You need to be present, be able to adjust and listen in, like pick things up and talk further around” (Group leader 4).*

Most group leaders experienced that the theories presented in the TTT-P (social cognitive theory and transtheoretical model) supported their preparation for the role as group leaders, including the emphasis on being a facilitator rather than an expert. After delivering the Fewer Falls intervention, group leaders stated that having the theories in mind made it easier to handle different scenarios that occurred during the intervention.

*“This thing about social cognition theory, this thing about learning from each other... and the fact that I, as the group leader, am not the expert who will be lecturing, that laid the foundation quite well.” (Group leader 7).*

### 3.2.3. Learning through practice and feedback

All group leaders emphasised the importance of practising relevant intervention skills and that such practice helped them feel more prepared for the intervention. The roleplay session was experienced as nervous but highlighted as the most important part of the TTT-P as it offered valuable opportunity to practice specific activities in the intervention. Practising facilitation of online groups with fictive pwMS and handling group dynamics, such as inviting quieter pwMS or politely interrupting to stick to the schedule, were considered important since it plays an important part in a group-based intervention such as Fewer Falls.

*“Different personalities in the group during the roleplay helped us explore how to handle and support diverse needs.” (Group leader 5)*

Interaction and practising with other group leaders through roleplay provided valuable insights and perspectives on how the intervention skills could be performed. The perceived importance of meeting other group leaders was highlighted in the suggestions to extend the roleplay with more time, include more group leaders for additional perspectives and to organise a group leader meeting during the intervention period to share strategies. The roleplay also offered a valued opportunity to clarify questions that remained after the asynchronous modules. Having researchers present during the roleplay session to provide feedback gave assurance that one had understood properly, and this strengthened their self-confidence.

*“The roleplay was great for getting feedback on what I think I can contribute with” (Group leader 5).*

Group leaders also expressed that more feedback during the roleplay could potentially have decreased their concerns of doing wrong. All wished for more feedback during the TTT-P, including on quizzes and assignments, to further affirm their performance and knowledge uptake. After the roleplay, concerns about the digital format and potential technical issues remained.

*“It’s somewhat a fear to manage all the digital aspects simultaneously and still succeed to communicate what you have planned, based on the manual” (Group leader 6).*

### 3.3. Experiences of the TTT-P: integrated understanding

When merging quantitative results and qualitative findings in a joint display (Table 3), the areas of agreement and expansion between quantitative results and qualitative findings resulted in the following integrated understanding.

*The importance of practical rehearsal* was an area of agreement. Knowledge and self-confidence in intervention specific tasks and skills increased over the three time points i.e., the more the group leaders practised. They also expressed feeling more confident after the TTT-P and even more after delivering the first cycle of the Fewer Falls intervention.

*The complex role of facilitating an online intervention* was an area of both agreement and expansion. Self-confidence in using the digital intervention platform increased over time, whereas self-confidence in using a video platform was high and relatively unchanged. In agreement, the group leaders did not express any concerns about the digital intervention platform, which was used between intervention sessions. However, concerns remained about potential technical issues regarding the video platform, which was used simultaneously with other intervention tasks. These results expand the understanding that the role of facilitating an online intervention is complex.

## 4. Discussion and conclusion

The aim of this mixed method study was to gain an integrated understanding of HCP’ experiences of the TTT-P for the Fewer Falls intervention. When merging quantitative results and qualitative findings in a joint display, an integrated understanding was generated: *The importance of practical rehearsal* and *The complex role of facilitating an online intervention*. The TTT-P seems to have contributed to sufficient knowledge and self-confidence related to the Fewer Falls intervention. However, the group leaders described that, although the TTT-P prepared them for the group leader role, previous professional experience was essential to feel confident. Thus, the TTT-P could not alone compensate for previous professional experience.

The group leaders emphasised that receiving feedback during the TTT-P was especially important to strengthen their confidence before

**Table 3**  
Joint display of integrated understanding.

Quantitative results	Qualitative findings	Theme	Integrated understanding
Familiarity with intervention content and structure slightly increased.	The TTT-P supported group leaders to become familiar with the Fewer Falls manuals.	Learning through practice and feedback.	The importance of practical rehearsal.
Self-confidence to communicate intervention content slightly increased.	Practising intervention tasks and skills was valuable. Receiving feedback during the roleplay session gave new perspectives on how to perform interventions tasks.		
Self-confidence in supporting the use of an action plan slightly increased.	Concerns were not expressed regarding the Fewer Falls digital intervention platform.	Preparing for the group leader role.	The complex role of facilitating an online intervention.
Self-confidence in using the Fewer Falls digital intervention platform increased.	Concerns remained about potential technical issues on how to use a video platform.		
Self-confidence in using a video platform was high and relatively unchanged.			

taking on the new role, a finding which corresponds with previous research on TTT-Ps [15,24]. Feedback is well known to enhance confidence and have a great impact on people's learning [33,34]. According to Hattie et al. [34], feedback works by bridging the difference between current and desired understanding or behaviour. The feedback given by researchers during the TTT-P's roleplay session helped to address this difference. However, the quizzes in the asynchronous part of the TTT-P were experienced as too simple to provide feedback on their acquired knowledge. Thus, in future programmes, rigorous feedback should be provided throughout all programme components.

Self-confidence in using digital tools increased after the TTT-P. In line with previous studies, access to technical support during the TTT-P was considered important [12,15]. However, concerns about potential technical issues remained throughout the Fewer Falls intervention. This may be explained by the complex role of facilitating online interventions [35,36]. In the Fewer Falls intervention, the group leaders' role comprised simultaneously managing digital tools and providing technical support to pwMS while facilitating group discussions and communicating intervention content. Thus, to best prepare HCP for the complex role of facilitating an online intervention, future TTT-Ps should include simultaneous practice of both tasks and skills. In addition, ongoing support during intervention delivery may enhance confidence [23] and intervention fidelity [5,10].

The design of the TTT-P, which was in line with previous programmes [14–17], was highly valued by the group leaders. The online module format and the self-paced design of the TTT-P was described as facilitating for the clinically active group leaders. Further, the combination of different components such as written materials, interactive and practical assignments and opportunities to refresh the programme's content was considered important. The use of various pedagogical methods in TTT-Ps can increase intervention fidelity and improve patient outcomes [20].

All group leaders perceived the roleplay as the most important part of the TTT-P as this provided an opportunity to master skills through practical rehearsal and observing others' performances. Observing others was seen as helpful for improving one's own approach, aligning with findings from earlier research [15,24,34,37]. Practical rehearsal i. e., learning by doing, which was the core of the roleplay, is well-known to accentuate knowledge and skill acquisition [38] and corresponds to a higher level of Miller's pyramid of clinical competence development ("show how") [39]. Delivering the Fewer Falls intervention further supported the group leaders in their learning. This underscores the critical role of practice when mastering new skills [39] and that experience can generate group leading confidence [40]. Roleplay is recommended for TTT-Ps [12,13,24] and enhances intervention fidelity [9, 10]. Thus, it seems to be valuable to include several opportunities for practical rehearsal in TTT-Ps.

#### 4.1. Strengths and limitations

While this study offers valuable insights when planning future TTT-Ps for interventions like the Fewer Falls, certain methodological considerations should be discussed. Although the sample was small, the study's comprehensive data collection at three time points, using mixed methods, is a notable strength as most comparable studies have relied solely on quantitative measures. Combining methods offers a more thorough understanding of the research question [32]. The interviews performed on two different occasions with each group leader provided rich data on their experiences of the TTT-P and what could be important to consider for refinement and implementation. Selection bias is a potential limitation, and similar to previous studies [13], the included participants were recruited based on known expertise. All participants had over 20 years of professional experience, and including someone less experienced could have resulted in more diverse perspectives.

The use of a modified questionnaire is a limitation, as validity and reliability have not been assessed. The items on knowledge and self-

confidence concerning specific tasks and skills applied in the Fewer Falls intervention were inspired by the Practitioner self-confident scale, which assesses attitudes and self-confidence in treating patients with low back pain [30]. Although the analysis was limited to descriptive statistics, it offers valuable insights on the group leaders' self-confidence at different time points. For future studies, a validated and reliability tested questionnaire should be considered.

#### 4.2. Conclusion

Our findings indicate that the participating health care professionals value an online self-paced TTT-P with various teaching methods and components in preparation for the complex role of facilitating online interventions, such as Fewer Falls. Practice and feedback are important elements in the design of TTT-Ps.

#### 4.3. Practice implications

Practice, feedback and ongoing support are important aspects to consider for use in TTT-Ps. An online self-paced module format is suitable when targeting healthcare professionals.

#### CRediT authorship contribution statement

**Johanna Bylinder:** Writing – review & editing, Writing – original draft, Visualization, Validation, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Charlotte Ytterberg:** Writing – review & editing, Writing – original draft, Supervision, Methodology, Funding acquisition, Formal analysis, Conceptualization. **Marie Kierkegaard:** Writing – review & editing, Visualization, Supervision, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Maria Flink:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. **Kristina Gottberg:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

#### Ethics approval

Ethics approval was obtained from The Swedish Ethical Review Authority (2022–06667-01 and 2023–07723-02).

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#### Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used ChatGPT to improve readability. After using ChatGPT the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

#### Declaration of Competing Interest

The authors declare that they have no competing interest.

## Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at [doi:10.1016/j.pec.2025.109241](https://doi.org/10.1016/j.pec.2025.109241).

### Data Availability

The data sets generated and/or analysed during the current study are not publicly available but can be available upon reasonable request. As data can indirectly be traced back to the study participants, according to the Swedish and EU personal data-sharing legislation, access can only be granted upon request. Request for access to the data can be put to our Research Data Office (rdo@ki.se) at Karolinska Institutet and will be handled according to the relevant legislation. In most cases, this will require a data processing agreement or similar with the recipient of the data.

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