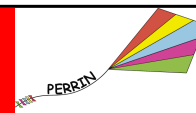


Knowledge Brokers PERRIN

Bridging the gap between research and practice:
The role of a network of Knowledge Brokers in the implementation
of measurement instruments in pediatric rehabilitation



Introduction

This newsletter describes the design and results of the project entitled Knowledge Brokers PERRIN (2008-2010). Eight knowledge brokers from four Dutch rehabilitation centres collaborated in a network to implement the use of 6 measurement instruments at their own centre. The project was coordinated by the De Hoogstraat rehabilitation centre in Utrecht, the Netherlands.

What is the objective of the project?

The project aims to bridge the existing gap between 'being able to administer a measurement instrument' and 'using it routinely', with the help of a network of **knowledge brokers**. Specifically, this means that the instruments used in the PERRIN research program should be routinely used in the rehabilitation of children and young adults. This does not mean that *each* instrument has to be used for *each* child, but that professionals should be able to make a considered choice as to the instrument that should be used, and that clear decisions should be made regarding the person who is going to administer the instrument and how the results will be communicated to the team and the child's parents. Since measurement instruments can be 'used' in various ways in practice, their 'use' is subdivided into various levels.

What is a knowledge broker?

Knowledge Brokers (KBs) are opinion leaders within an organisation, who are the linking pins in connecting researchers and practitioners, and who organize and stimulate the introduction and application of newly developed knowledge. They adapt research findings to make them suitable for use by practitioners. In the present project, the KBs facilitate the introduction of 6 measurement instruments in the rehabilitation of children and young adults. Each rehabilitation centre was asked to appoint 2 knowledge brokers.

What measurement instruments are involved?

GMFCS (Gross Motor Function Classification System)
MACS (Manual Ability Classification System)
GMFM (Gross Motor Function Measure)
PEDI-NL (Pediatric Evaluation of Disability Inventory)
MPOC (Measure of Processes of Care)
Rotterdam Transition Profile

How can the use of measurement instruments be classified?

The following **levels** can be distinguished as regards the **use of measurement instruments**:

1. *Being familiar with* the instrument, i.e. its aim and target group.
2. Being *willing* to use an instrument.
3. Being *able* to use the instrument, i.e. skills required to administer it, requirements.
4. *Actually using* the instrument:
 - a. in one's own treatment interventions;
 - b. in communications with team members (team decision making).
 - c. in communications with children / young adults and their parents.
5. *Continuing to use* the instrument; incorporating it in routines and protocols.

The objectives of the KB project relate to the actual use (levels 4 and 5) of those instruments that the team has agreed to implement in their treatment routines.

Which rehabilitation centres were involved?

The KB network included 4 centres:

Revalidatiecentrum De Hoogstraat
Revalidatie Friesland
Sophia Revalidatie
Rijndam revalidatiecentrum



Different levels for different users?

Rehabilitation teams include various disciplines. The aim of the project was that after 1 year all team members would be **familiar** with the measurement instruments that the team has agreed to use, while those who *administer* a particular instrument are expected to attain levels 4 and 5.

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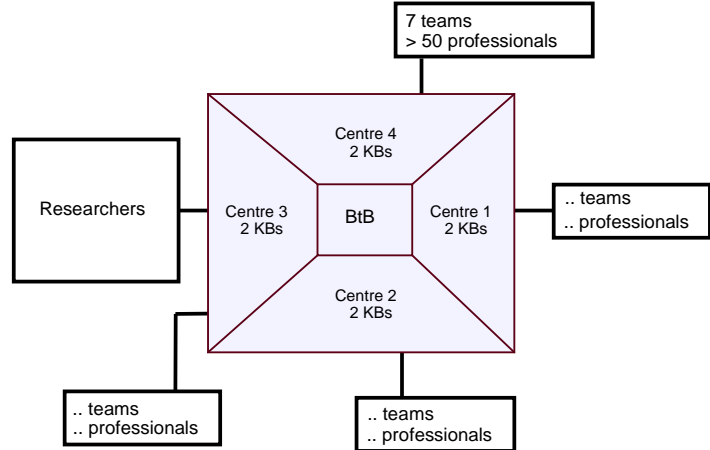
All participating centres have decided to continue to use knowledge brokers after the end of the project!

The KB model

The 'Broker to the Brokers' (BtB) organises and coordinates network meetings. The BtB is in direct contact with both researchers and KBs. The KBs are in direct contact with each other, with their fellow care providers and with the researchers. Together with the KBs, the BtB plays a central role in the KB model, standing on the bridge that connects research and practice.



A schematic representation of the KB model



How is knowledge exchanged?

The eight knowledge brokers exchanged knowledge, experiences and products among themselves, e.g. through meetings and a limited access web forum.

How did the project start?

Each centre appointed two therapists, from different teams, to work as KBs for at least 2 hours a week each. These therapists were trained in 3 aspects:

1. their role as knowledge brokers;
2. exchange and implementation of knowledge – theory and practice
3. details about the PERRIN knowledge products (measurement instruments).

The KBs then analysed the current situation at their own centre in terms of the implementation of the use of the instruments, and analysed the local barriers and facilitators, the actors involved, the organisation of care, users and target groups. This analysis resulted in a tailored strategy for each of the four centres.

How was the success of the KBs assessed?

All team members were given a questionnaire at the start of the project, asking them to state, for each of the 6 instruments, whether they were familiar with it, administered it, and used it in decision making and communication with team members, children and parents. After a year, they completed the same questionnaire again. Research has shown that this questionnaire has sufficient test-retest reliability.

How did the knowledge brokers themselves experience the process?

"The network of 8 knowledge brokers has considerably speeded up the implementation process for the measurement instruments."

"Concrete plans and products are being produced, which are exchanged among colleagues. That saves time, as none of the centres have to reinvent the wheel."

"The set of instrument cards is a useful and practical tool!"

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Familiarity with all measurement instruments among all users / team members / disciplines has increased significantly after the KB interventions

GMFCS and MACS

GMFCS and MACS are classification instruments, which aim to promote unambiguous communication. This means that it is very important that all disciplines involved in a child's treatment are familiar with the instrument and can interpret its scores.

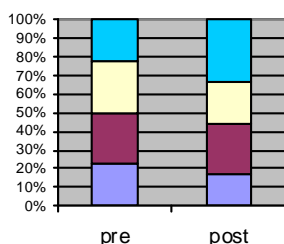
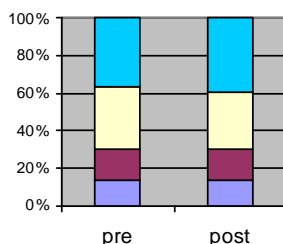
It is also important that the discipline that has to administer the instrument is indeed *able* to administer it and actually *uses* it in the decision-making process and the communication with colleagues and parents. In most teams, this included the physiotherapists, occupational therapists and rehabilitation physicians.

Results for GMFCS and MACS

Familiarity with GMFCS and MACS increased in all disciplines. The **interpretation** of the scores on both instruments also improved in **all disciplines**. Since many physiotherapists and rehabilitation physicians had already been using the GMFCS before the intervention, there was little change in the actual **use** of the instrument.

GMFCS in communication with colleagues

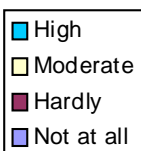
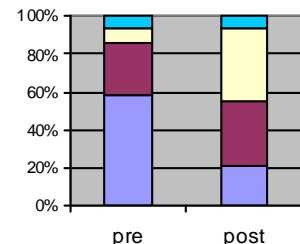
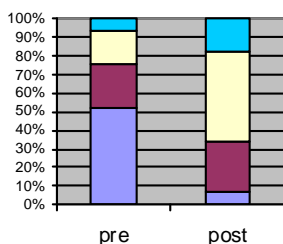
GMFCS in communication with parents



MACS had not been extensively used before, and is now much more frequently **used** by occupational therapists and rehabilitation physicians. The use of MACS in communication with colleagues has increased considerably. The use of both instruments in communication with parents also increased, but they could be used more consistently.

MACS in communication with colleagues

MACS in communication with parents



Pre: Pretest
Post: Posttest

PEDI-NL and GMFM

PEDI-NL and GMFM enable professionals to identify a child's strengths and weaknesses. They can also be used to evaluate a child's development over time. We assessed whether the discipline that had to administer / use the instrument was indeed familiar with it, was able to administer it and actually used it. In the case of PEDI-NL, this was usually the occupational therapists and the rehabilitation physicians. In the case of the GMFM, it was mostly the physiotherapists and rehabilitation physicians.

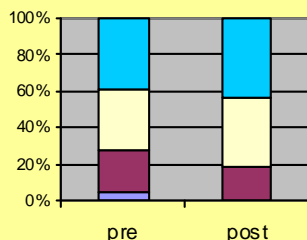
Results for PEDI-NL and GMFM

Familiarity with both PEDI-NL and GMFM was already high among all team members. Confidence about the **interpretation** of the scores of the PEDI-NL among those administering the instrument was also already high before the intervention, and did not increase further during the project. People administering GMFM-66 became more familiar with the interpretation of the scores during the project (see the graph on p. 4).

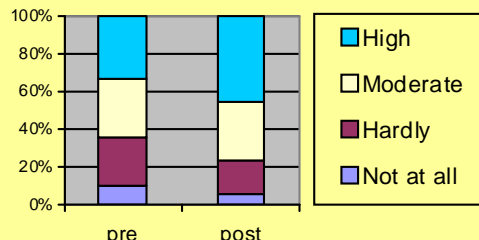
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Confidence about the interpretation of scores increased significantly for most instruments

PEDI-NL – confidence about interpretation



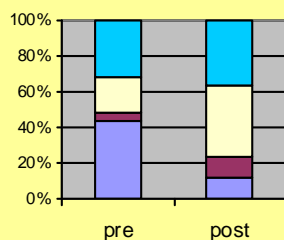
GMFM-66 – Confidence about interpretation



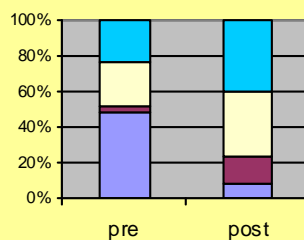
Pre: Pretest
Post: Posttest

PEDI-NL had already been in relatively common use. The number of professionals using PEDI-NL did not increase significantly during the project, but the group which was using PEDI-NL at the posttest had started to use it more consistently in the communication with colleagues and parents. There is room for further improvement for the group as a whole.

GMFM-66 in communication with colleagues



GMFM-66 in communication with parents



Confidence about the ability to administer the instrument rose significantly among those administering GMFM-66. The actual use of GMFM-66 also increased, and the group that started using the instrument often used it in communication with colleagues and parents.

MPOC

The MPOC is a questionnaire to assess parents' degree of satisfaction with the quality and family-oriented character of paediatric rehabilitation.

Results for MPOC

Familiarity with the MPOC increased. Interpretation of the MPOC was poor at baseline and improved somewhat. Many teams first focused on the introduction of the other instruments. Among the teams that did introduce the use of the MPOC, the instrument was administered by only a few professionals (mostly managers). There were no changes in actual use at group level, but some changes were found at the level of individuals.

Rotterdam Transition Profile

The Rotterdam Transition Profile monitors the transition from child to adult as a developmental process involving stages of increasing independence in various domains of participation and self-management in terms of rehabilitation care. The instrument is especially relevant to teams working with adolescents from the age of about 16 years.

Results for the Rotterdam Transition Profile

The instrument was relatively unknown, but its familiarity increased significantly, and there was also some progress as regards interpretation. No changes at group level were found in the actual use of the Rotterdam Transition Profile, though a small number of professionals have started using it.

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The KB network is to be expanded with 8 new rehabilitation centres!

What were the experiences of the professionals?

"We now talk about measurement instruments. Not only the fact that they're used, but especially why" (BEING RECEPTIVE, UNDERSTANDING, WILLINGNESS).

"I now know more about tests for physical / occupational therapy and I can use them to guide my therapy". (ABILITY)

"The GMFCS is now used more consistently and the MACS is more often mentioned in the diagnosis". (USING)

"The GMFCS is used routinely by the physicians". (CONTINUING TO USE)

"It's very useful that developments are nationally monitored and coordinated, and that you're continually stimulated to optimise the care you offer". (KB NETWORK)

How do professionals share the information they gain from the instruments with the parents?

Following the KB interventions, all users / team members / disciplines had become significantly more familiar with all of the instruments. There is, however, still room for improvement as regards communicating with parents about the outcome of the instruments. This requires a high level of familiarity with an instrument. Professionals appear to need more guidance for their consultations with parents. Strikingly, none of the six measurement instruments provide such guidance. The manuals for the instruments offer no indications of the way consultations with parents could be structured.

How important are clear working agreements?

The implementation process of the instruments worked better in those teams where clear agreements had been made about operational procedures.

Such agreement should at least specify who is to administer an instrument, where the data will be stored, at what stage of the therapy the instrument is to be administered and who is to provide the feedback to the other team members and to the parents. Operational agreements ensure that responsibilities are clear, making the implementation process more transparent and more successful.

How important is the involvement of rehabilitation physicians and team managers?

The implementation process worked better in teams where the rehabilitation physician and the manager expressed clear opinions about the choice of instruments. In teams where they expressed no clear opinions, the KBs had to spend much more time convincing the rest of the team, before the actual implementation process could start. This indicates that KBs can speed up the implementation process by thoroughly discussing needs and preferences, as well as the instrument-specific commitment, with physicians and team managers. This allows the KBs to concentrate their interventions on those instruments for which implementation agreements have been made with the physicians and managers.

Why one KB for each team and for each site?

The implementation process worked better in teams where the KB was also a member of the team. KBs who were not a member of the therapy team or worked at a different site than the team found it more difficult to facilitate the implementation.

What is the future of the project?

The KB project will be continued with an expanded network. Since 1 March 2010, 8 *new* rehabilitation centres have joined the project, so the KB network now includes 12 rehabilitation centres!

Support

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