Abstract
Goal setting is an integral part of rehabilitation and the rehabilitation process. The aim of rehabilitation is to optimize functioning. Therefore, rehabilitation professionals and patients together have to determine mutually which aspects of functioning they should aim at. From a clinical view, a formal procedure for setting goals should help to motivate patients, ensure cooperation of rehabilitation team members, help to identify relevant blind spots and provide a system to monitor patient changes. Applying goal setting in rehabilitation represents a purpose in its own right, as it serves to strengthen the autonomy of patients and is a valuable tool to integrate personal motives, attitudes, meanings into the rehabilitation process. There is evidence that the introduction of goal setting into rehabilitation practice could enhance health-related quality of life and emotional states, especially self-efficacy. Mixed results have been reported regarding the patient motivation as well as activities and participation outcomes.

Keywords: rehabilitation, patient care planning, care goals, patient-centred care, personal autonomy, shared decision-making, multidisciplinary care teams

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Background
Rehabilitation differs from other areas or disciplines in medicine. One major difference relates to its ultimate goal, i.e. to restore or optimize functioning in patients experiencing disability.1,2 Functioning is in fact an artificial term coined by the developers of the International Classification of Functioning, Disability, and Health (ICF) of the World Health Organization (WHO).3 It comprises both body (including mental) structures and functions, activities (in terms of activities of daily living) and participation, i.e. the fulfillment of relevant social roles in society. In the ICF, functioning and disability form a continuum, with optimal functioning on the one side, disability on the other. While medicine is mostly concerned with diseases or ill health, rehabilitation applies a broader understanding of health in terms of functional health, which has also been termed as the lived experience of health.4 In rehabilitation, treatment of disease, or ill health, always is a means to reach goals in functional health.

Consequently, in rehabilitation we always have to reflect on and specify individual goals of the patient related to functioning. This is different from acute medicine. For example, if a patient with acute low back pain visits a physician, there is no primary need to reflect and specify treatment goals. In rehabilitation, there is a need to inquire about the functional goals of the patient, e.g. being able to go to the toilet independently, to dress independently, to be able to walk to the market, to be able to care for one's children or to return to the former workplace. Only by acknowledging these goals, we are able to plan and conduct rehabilitation and appraise its successes or failures.

Setting functioning goals has therefore become a hallmark of rehabilitation. Barnes & Ward5 have claimed it to be "the essence of rehabilitation" (S. 8). It is an essential part of the rehabilitation cycle: subsequently to the assessment phase, goals must be set in order to assign and conduct interventions, and evaluate their effectiveness.6 This paper provides a brief overview of the concept of goal setting in rehabilitation, implementation and management in clinical practice, and an insight into current evidence.

Concepts of goal setting in rehabilitation
Setting goals in rehabilitation has originated from a long tradition of research in goal setting and task motivation in fields of psychology and management. Goals can be located within at least three dimensions (cf.):7 1. time: we usually distinguish short or medium-term (rehabilitation) goals and long-term (life) goals; 2. abstractness: Goals can be expressed on different levels of concretization, e.g. being able to lift arms to an upright position vs. returning to work; and 3. content: different substantive frameworks, e.g. the ICF, exist for the specification of goals.

In this context, the SMART concept has gained a widespread recognition beyond rehabilitation.7 It helps to specify rehabilitation goals in clinical practice. The acronym SMART indicates specific, measurable, achievable, realistic, and timely. Despite its popularity, different authors have
pinpointed some weaknesses of the concept within rehabilitation\textsuperscript{7,8} as goals set in rehabilitation do not necessarily have to be achievable, realistic and timely. An alternative concept of MEANING as a key term and acronym for goal setting and goal achievement in rehabilitation has been proposed that underlines the importance of the person-related meaningfulness of goals for patients in rehabilitation.\textsuperscript{8} The criticism of the SMART concept and the development of the MEANING concept reflect the complexity of setting and pursuing goals in rehabilitation. Goal setting has been recognized as a complex intervention. For example, goal setting requires cooperation between patients and professionals. They can have very different perspectives and expectations (possibly without knowing it from each other to begin with). Their task is to come up with a mutual understanding and agreement of rehabilitation goals. In addition, (family) caregivers can also be involved in this process of setting goals.

\textbf{Goal setting and goal management in clinical practice}

Setting goals serves different purposes. From a clinical view a formal procedure for setting goals can help to motivate patients, ensure cooperation of rehabilitation team members working towards the same goals, help to identify relevant blind spots of important actions and provide a system to monitor patient changes to adjust ineffective interventions or treatment goals.\textsuperscript{7}

Setting goals is an important task for the leading PMR (physical medicine and rehabilitation) physician or other members of the rehabilitation team to specify the goals together with the patient that serve as the main reference point both for the patient and the rehabilitation team. This often involves breaking down overly broad or vague patient goals such as “getting better” or “improving one’s health” into smaller, more specific components. Dekker et al.\textsuperscript{9} provided a 3-step procedure to setting meaningful goals. It represents a top-down approach as it starts 1) to explore the patient’s global meanings in life, consisting of fundamental beliefs, life goals and general attitudes. Specifically, they explore five aspects: a) \textit{core values}, i.e. fundamental beliefs about right and wrong in life, b) \textit{meaningful relationships} and the experience of being connected, c) a \textit{worldview} as fundamental beliefs about life, death and suffering, d) \textit{identity}, i.e. beliefs about oneself and e) an \textit{inner posture} that represents general attitudes on how to acknowledge and deal with life facts that are not prone to change. This is usually a step for which respective rehabilitation team members either need support (such as from psychotherapists, hospital chaplains, etc.) or respective training. 2) Based on the results of this inquiry a personal meaningful \textit{overall rehabilitation goal} should be derived in cooperation with the patient, such as “being able to take care of the children independently” or “identifying and pursuing a new occupational position”. 3) This rehabilitation goal should then be broken down into \textit{specific rehabilitation goals} that serve the meaningful overall rehabilitation goal and provide direction for the selection and assignment of interventions in the rehabilitation process. In this phase, it becomes useful to apply approaches such as the SMART- or MEANING-concept (see above). To be integrated into the whole rehabilitation process, patient goals (and possible changes) should be transparent, communicated to rehabilitation team members and used to monitor the progress of rehabilitation.

Goal setting in rehabilitation must be a mutual effort. Goals can be contradictory, between patients and professionals, but also between different professionals involved in rehabilitation. Therefore, efforts must be made to explore these contradictions and come to mutual agreements, if possible. Therefore, goal setting should not be mistaken with setting rehabilitation goals by the physician, which will eventually lead to disengagement, dissatisfaction and failure on the patients’ side. Also, it does not mean to accept (clinically or possibly ethically inappropriate) goals from the patient at face value. It should always be the result of a mutual discussion and agreement, keeping in mind the structural power imbalance between professional and patient. This can be quite challenging in practice. For example, the willingness and ability to set goals may be limited in patients with congenital or acquired brain damage because they suffer from limitations in their communication skills and/or cognition.

\textbf{Evidence related to goal setting}

Levack et al.\textsuperscript{10} conducted a Cochrane systematic review with meta-analysis on the effects of goal setting and strategies to enhance goal pursuit in rehabilitation for adults with acquired physical or mental disabilities. They found preliminary evidence from randomized-controlled trials (RCTs) that introduction of goal setting into rehabilitation practice could enhance subjective outcomes such as health-related quality of life and emotional states. Large effects could be seen for task-specific self-efficacy. In contrast, no effects were reported regarding activities and participation outcomes. Also results on the enhancement of patient motivation or engagement were mixed at best. A recent paper by Preede et al.\textsuperscript{11} reported a significant association between goal achievement and mental functioning 12 months after a rehabilitation, but not between goal achievement and physical functioning.

Knutti et al.\textsuperscript{12} reviewed the impact of goal setting on engagement and rehabilitation outcomes restricted to
patients with acquired brain injuries. They reported positive effects of goal setting on adherence to treatment regimens. They also provide some preliminary evidence on positive effects on performance on simple tasks, occupational performance and psychosocial integration. However, they also referred to possible negative effects if the process and meaning of goal setting was unclear to the patients.

**Conclusions**

Goal setting can be understood as a formal process in which members of the rehabilitation team negotiate and specify goals together with the patient and/or (family) caregivers. It fosters a more patient-centred care that is meaningful to the patient’s life. It can enhance the patient’s motivation to engage in the rehabilitation process, for which there is still limited evidence. It could also help to foster insight into limited recovery or acceptance of limitations.7 It provides the grounds for coordinated and harmonised action within the rehabilitation team. It offers a means of appraising rehabilitation successes. In the end, there is some evidence that it also improves rehabilitation outcome. Also, applying goal setting in rehabilitation represents a purpose in its own right, as it serves to emphasize and strengthen the autonomy of the patients and is a valuable tool to integrate personal motives, attitudes, meanings or purposes into the rehabilitation process, potentially also those of the family caregivers. In sum, it is a valuable means to foster patient-centred care in rehabilitation. Therefore, goal setting is an integral part of rehabilitation and the rehabilitation process.

**References**


