

# Use of the ICF Model as a Clinical Problem-Solving Tool in Physical Therapy and Rehabilitation Medicine

The authors developed an instrument called the “Rehabilitation Problem-Solving Form” (RPS-Form), which allows health care professionals analyze patient problems, to focus on specific targets, and to relate the salient disabilities to relevant and modifiable variables. In particular, the RPS-Form was designed to address the patients’ perspectives and enhance their participation in the decision-making process. Because the RPS-Form is based on the *International Classification of Functioning, Disability, and Health* (ICF) Model of Functioning and Disability, it could provide a common language for the description of human functioning and therefore facilitates multidisciplinary responsibility and coordination of interventions. The use of the RPS-Form in clinical practice is demonstrated by presenting an application case of a patient with a chronic pain syndrome. [Steiner WA, Ryser L, Huber E, et al. Use of the ICF model as a clinical problem-solving tool in physical therapy and rehabilitation medicine. *Phys Ther.* 2002;82:1098–1107.]

**Key Words:** *Communications; ICF; International Classification of Functioning, Disability, and Health; Interprofessional relations; Patient-centered care; Problem solving.*

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**T**he most effective health care interventions for complex medical conditions, such as those encountered in people with chronic diseases, are thought by many authors to probably be delivered by multidisciplinary care teams.<sup>1</sup> This team model originates from the belief that a comprehensive therapeutic approach is required to fully address the current health care needs of patients with complex or chronic diseases.<sup>2,3</sup> Such integrated care, in our view, requires an exchange of information among all people involved in the therapeutic process. Multidisciplinary health care thus necessitates tools that function across professional boundaries<sup>4</sup> and that can handle differences in perspectives (eg, those shown to exist between physicians and nurses).<sup>4,5</sup> Health care professionals, as well as their patients, may perceive specific needs and disorders and their overall management quite differently.<sup>4,6-8</sup> Dissimilar points of view regarding a patient's

***A patient-centered evaluation tool is needed in order to acknowledge the views, experience, and perspectives of all participants involved in the health care process.***

health care needs and goals can lead to inappropriate treatment strategies, can hamper communication,<sup>9</sup> and can decrease the patient's adherence.<sup>10</sup> In order to avoid critical differences between the patient's and the health care professional's treatment goals, the goals need to be clarified prior to planning interventions.<sup>11</sup>

Another important aspect is that the consequences of disease manifest differently in different people. Although many patients may have the same disease, their responses to disease can be unique, and these particulars

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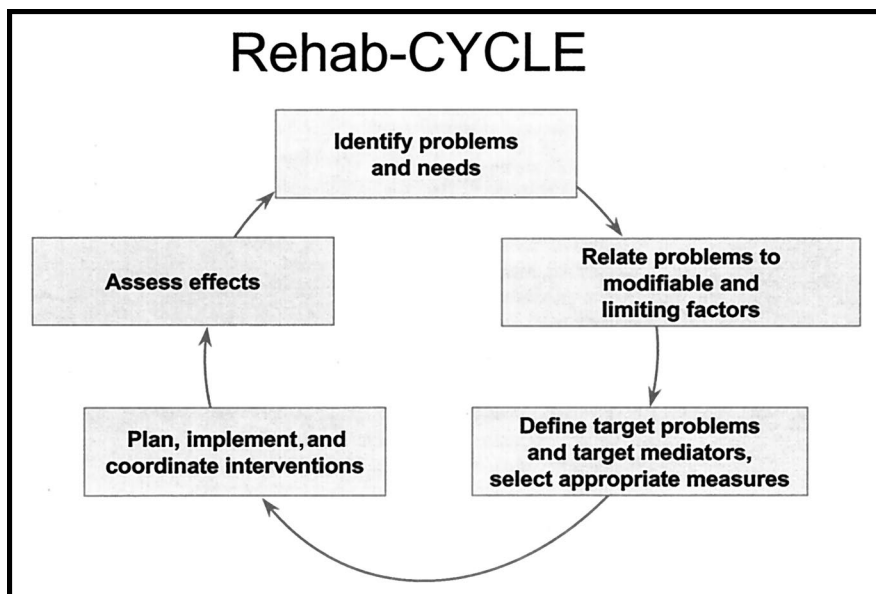
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**Figure 1.**

The Rehab-CYCLE is a modified version of the Rehabilitation Cycle developed by Stucki and Sangha.<sup>14</sup> It guides the health care professional with a logical sequence of activities. Endpoints of this rehabilitation management system are successful problem solving or individual goals achieved. The Rehab-CYCLE involves identifying the patient's problems and needs, relating the problems to relevant factors of the person and the environment, defining therapy goals, planning and implementing the interventions, and assessing the effects.

can become crucial in the care of patients.<sup>12</sup> Patient-centered practice is thought by some authors<sup>13</sup> to improve health status and increase the efficiency of care.

To summarize our thoughts, a patient-centered evaluation tool is needed in order to acknowledge the views, experience, and perspectives of all participants involved in the health care process. Ideally, such a tool should fulfill the clinical needs of both the patient and the health care team, should be simple to use, and should have a background that can be accepted by all involved partners.

Based on the framework of the Rehabilitation Cycle (and its modified version, the Rehab-CYCLE) developed by Stucki and Sangha<sup>14</sup> (Fig. 1), we developed a further extension that we called the "Rehabilitation Problem-Solving Form" (RPS-Form) (Fig. 2). This form is used to identify specific and relevant target problems, discern factors that cause or contribute to these problems, and plan the most appropriate interventions. In addition, the RPS-Form was designed to be used as a tool to facilitate both intraprofessional and interprofessional communications and to improve the communication between health care professionals and their patients.

The aims of our article are to present the theoretical construct that underlies the recently developed RPS-Form and to advocate its use in rehabilitation. The

Rehab-CYCLE is used as a framework to present this clinical problem-solving tool because the rehabilitation team followed the different steps of this approach and because we believe the RPS-Form and the World Health Organization's (WHO) *International Classification of Functioning, Disability, and Health* (ICF) Model of Functioning and Disability<sup>15</sup> that underlies this approach (Fig. 3) are integrated in the Rehab-CYCLE.

## Materials and Methods

### *The Rehab-CYCLE*

Rehabilitation, in our view, is a continuous process that involves identifying the problems and needs of individuals, relating the problems to relevant factors of the person and the environment, defining therapy goals, planning and implementing the interventions, and assessing the effects of interventions using measurements of relevant variables. To guide health care professionals in successful reha-

bilitation management, Stucki and Sangha<sup>14</sup> developed the Rehab-CYCLE. The ultimate goal of the Rehab-CYCLE is to improve a patient's health status and quality of life by minimizing the consequences of disease.

The Rehab-CYCLE (Fig. 1) is a structured approach to rehabilitation management that includes all tasks from problem analysis to the assessment of the effects, thereby involving the patient in clinical decision making. The emphasis is on the patient's perspective (eg, through patient-rated questionnaires), taking into account the patient's needs and preferences, and discussing therapy goals by means of the RPS-Form, which will be presented in this article.

Because the consequences of disease manifest differently in different people, it is necessary to have a conceptual framework for ordering and understanding what disease means to a patient. At the Institute of Physical Medicine of the University Hospital Zurich (Zurich, Switzerland), the WHO's ICF Model of Functioning and Disability<sup>15</sup> was recently implemented for this purpose by using the RPS-Form.

### *The ICF*

The RPS-Form consists of a single data sheet that is based on the ICF. The ICF classifies health and health-related components (such as education and labor) that describe

body functions and structures, activities, and participation.

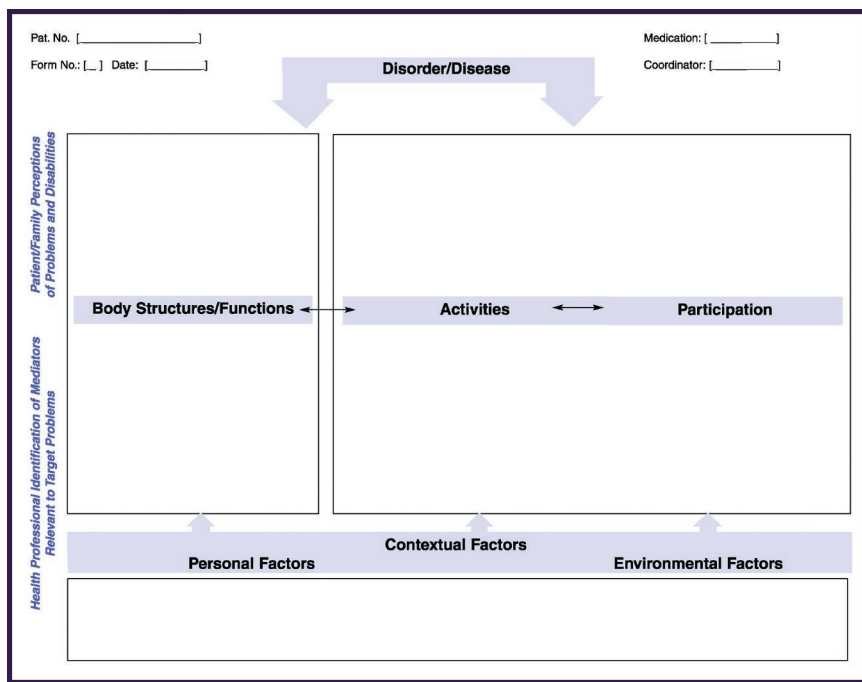
The overall aim of the developers of the ICF was to provide a unified and standard language and framework for the description of all aspects of human health and some health-relevant aspects of well-being.<sup>15</sup> The ICF provides a structure to present this information in a meaningful, interrelated, and easily accessible way. The information is organized in 2 parts, with each part having 2 components. Part 1 of the ICF (functioning and disability) consists of (1) body functions and structures and (2) activities and participation, and part 2 of the ICF (contextual factors) consists of (1) environmental factors and (2) personal factors.

Each ICF component can be expressed in both positive and negative terms. At one end of this scale are the terms that indicate nonproblematic (ie, neutral and positive) aspects of health and health-related states, and at the other end are the terms can be used to indicate problems. Nonproblematic aspects of health are summarized under the umbrella term “functioning,” whereas “disability” serves as an umbrella term for impairment, activity limitation, or participation restriction.

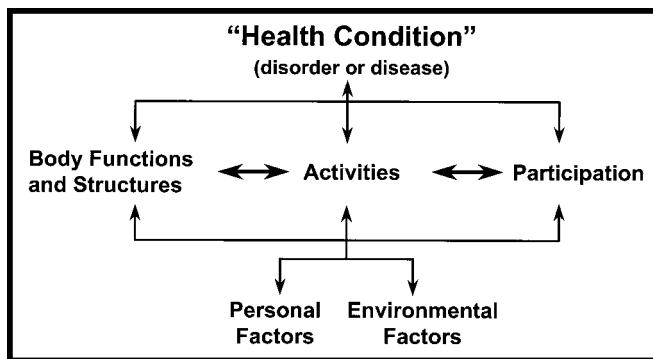
An ICF component consists of various domains and, within each domain, categories, which are the units of the ICF classification. All ICF categories are “nested” so that broader categories are defined to include more detailed subcategories of the parent category.

Health-related states of an individual are then recorded by selecting the appropriate category code or codes and then adding qualifiers, which are numeric codes, and specifying the extent or the magnitude of the functioning or disability in that category or the extent to which an environmental factor is a facilitator or barrier (for details, see the recently released full version of the ICF<sup>15</sup>).

The ICF also provides a model of functioning and disability, which reflects interactions between the components of the ICF (Fig. 3). The ICF Model of Functioning and Disability<sup>15</sup> is a biopsychosocial model designed to provide a coherent view of various dimensions of health at biological, individual, and social levels.



**Figure 2.** The Rehabilitation Problem-Solving Form (RPS-Form) is based on the *International Classification of Functioning, Disability, and Health* (ICF) Model of Functioning and Disability<sup>15</sup> (see Fig. 3). The main difference is that the RPS-Form is divided into 3 parts: (1) header for basic information, (2) upper part to describe the patient’s perspective, and (3) lower part for the analysis of the health care professionals. Copyright 2000 by Dr Werner Steiner, Switzerland. Reprint allowed with permission only.



**Figure 3.** The *International Classification of Functioning, Disability, and Health* (ICF) Model of Functioning and Disability<sup>15</sup> visualizes the interactions among the various components in the “process” of functioning and disability. The ICF provides a description of situations with regard to human functioning and disability and serves as a framework to organize information. Functioning and disability (“Body Functions and Structures,” “Activities,” and “Participation”) are seen as an interaction between the “Health Condition” (“disorder/disease”) and the contextual factors (“Personal Factors” and “Environmental Factors”). This figure has been modified and reprinted with permission of the World Health Organization (WHO), and all rights are reserved by the Organization.

As illustrated in Figure 3, an individual’s functioning or disability in a specific domain represents an interaction between the “Health Condition” (eg, diseases, disorders, injuries, traumas) and the contextual factors (ie, “Envi-

ronmental Factors” and “Personal Factors”). The interactions of the components in the model are in 2 directions, and interventions in one component can potentially modify one or more of the other components.

### *The RPS-Form*

The RPS-Form (Fig. 2) is constructed similarly to the ICF Model of Functioning and Disability (Fig. 3). Each component of the ICF model is graphically highlighted by a gray background. For instance, “Disorder/Disease” (or “Health Condition”) is highlighted at the top of the model; the main components of functioning or disabilities are highlighted in the middle of the model, with (left to right) body level (“Body Structures/Functions”), individual level (“Activities”), and societal level (“Participation”); and the contextual factors (“Personal Factors” and “Environmental Factors”) are highlighted at the bottom of the model. As indicated in Figure 2 by the gray arrows pointing downward and upward, “Disorder/Disease” as well as “Environmental Factors” and “Personal Factors” may have an impact on all components of functioning and disabilities.

The RPS-Form is designed to distinguish between the perspectives held by the patient and those of the health care professional. The patient’s view is recorded in the upper part of the form denoted with “Patient (or Relatives): Problems and Disabilities,” and the health care professional’s views are noted in the lower part denoted with “Health Professionals: Mediators Relevant to Target Problems.” The header of the RPS-Form is reserved for basic information: identification of the patient (“Pat. No.”), form identification number (“Form No.”), date (“Date”), disorder/disease (eg, in words), current medication (“Medication”) and case coordinator (“Coordinator”).

### *RPS-Form: Case of a Woman With Chronic Pain*

A 49-year-old woman of Asian origin who had been living in Switzerland for over 20 years, was married, had no children, and had worked for 10 years as a nurse was referred as an inpatient to the Department of Rheumatology and Institute of Physical Medicine at the University Hospital Zurich for treatment for generalized painful reactive arthritis. This referral followed an episode of gastrointestinal infectious disease 2 years previously, with a positive stool identification of *Yersinia enterocolitica* as the pathogenic agent. Upon entry, the patient had a chronic pain syndrome that mostly affected her cervical (C5-C6 degenerative modifications) and thoracic spine. The patient also had pain at multiple locations such as in the elbows, hands, knees, and feet. No additional involvement of the axial skeleton could be found. One year prior to referral as an inpatient she started receiving weekly injections of methotrexate (increasing the dose

from 10 to 25 mg at time of referral), with hydroxychloroquine (2 × 200 mg/d) added after 7 months and sulfasalazine (4 × 500 mg/d) added after 10 months. This mixed drug therapy did not alleviate the patient’s symptoms.

At various times in the past, the patient received at the University Hospital Zurich corticosteroid injections in both feet and elbow (Kenacort\* 20 mg/injection), which together with numerous sessions of physical therapy helped to reduce the symptoms. The patient’s chronic secondary depression was treated with antidepressive agents (Surmontil† 10 mg/d), which did not entirely alleviate this condition. As a consequence of this chronic pain syndrome, the patient reduced her professional activity as a nurse to 60% 3 years before she was referred as an inpatient, and she stopped all professional activity 2 years later.

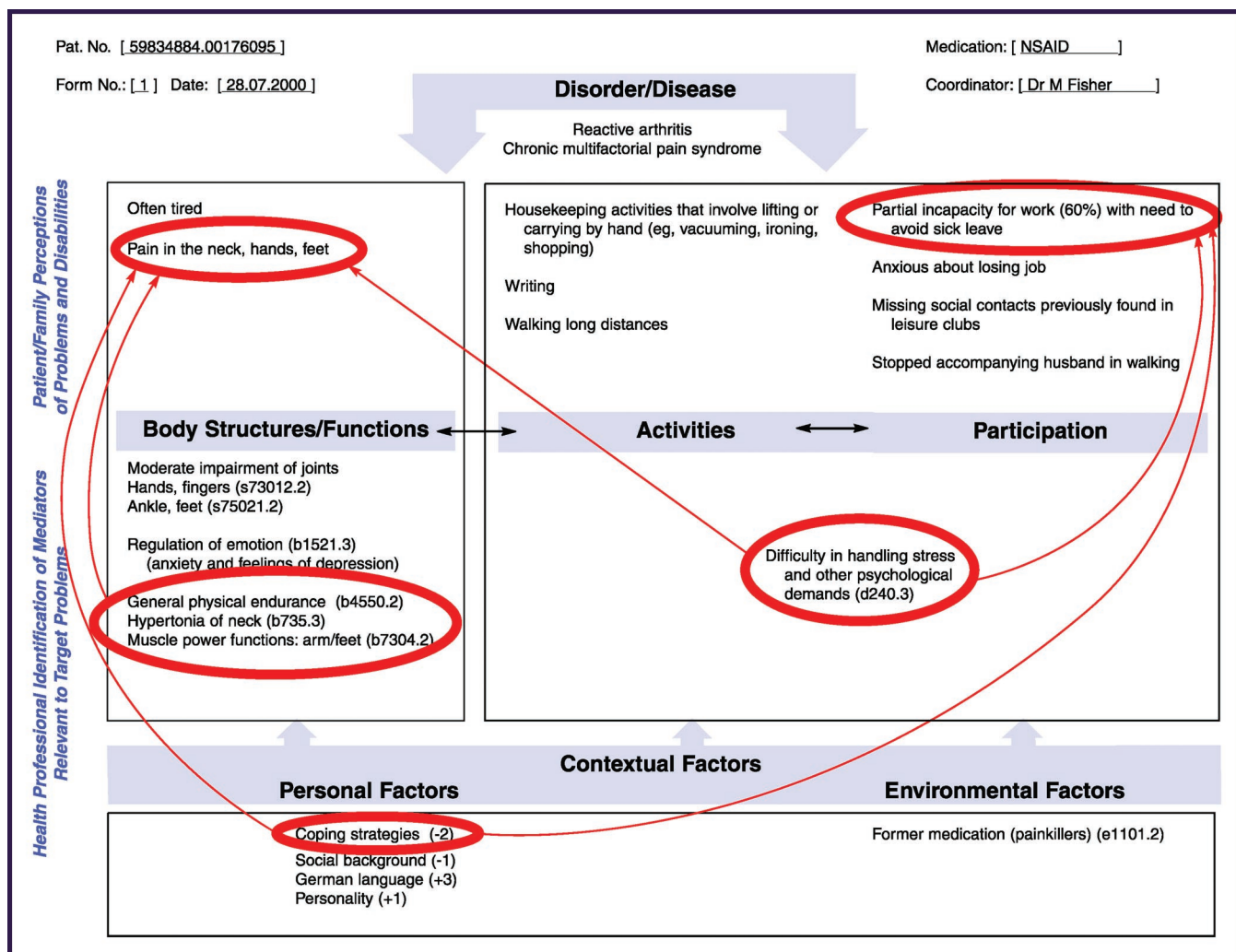
The clinical laboratory investigations made at the beginning of her hospitalization were normal, with no indication of any inflammatory or infectious activity, muscle degradation, or any other metabolic or biological abnormality. The diagnosis at the time of discharge from the hospital was chronic multifactorial pain syndrome with cervical and thoracic spondylarthritis and status after reactive arthritis associated with secondary depression. The patient continued her basic medication, including her antirheumatic drugs (weekly methotrexate injections of 20 mg, hydroxychloroquine 2 × 200 mg/d). The patient was discharged from the bed unit after 2 weeks and then was admitted to the Interdisciplinary Outpatient Pain Program (IOPP), which is hosted at the Department of Rheumatology and Institute of Physical Medicine of the University Hospital Zurich.

*Identification of problems and disabilities and reporting them on the RPS-Form.* According to Stucki and Sangha,<sup>14</sup> the identification of a patient’s problems and needs is the first step in rehabilitation management. In the case of our patient, a series of interviews were initially conducted with the rehabilitation team (physician, psychologist, physical therapist, and social worker). In addition, questionnaires were used to comprehensively assess her experience with chronic pain. These questionnaires were the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36),<sup>16</sup> a generic health status measure; the Hospital Anxiety and Depression Scale (HADS),<sup>17</sup> which we used as a screening instrument for depressive and anxiety disorders; and the Coping Strategies Questionnaire (CSQ),<sup>18</sup> which we used to analyze the patient’s pain coping strategies.

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**Figure 4.**

The Rehabilitation Problem-Solving Form (RPS-Form) applied to a patient with chronic pain. The form visualizes the current understanding of the patient's state of functioning and disability, her target problems, and how the health care professional team relates them to hypothetical mediators and contextual factors. NSAID=nonsteroidal anti-inflammatory drugs. Copyright 2000 by Dr Werner Steiner, Switzerland. Reprint allowed with permission only.

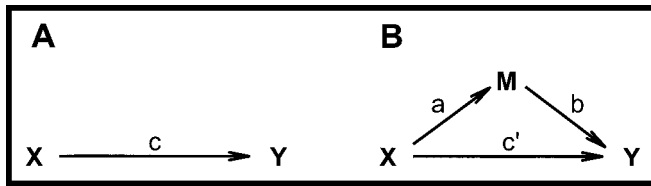
The concerns of the patient, as compiled by the various members of the health care team and supported by the analysis of the initial SF-36, HADS, and CSQ results, were then reported by the case coordinator on the upper part of the RPS-Form (Fig. 4). In order to avoid interpretation that goes beyond the patient's statements, we argue that it is essential to describe these concerns in the patient's own words and to discuss these entries with the patient.

As shown in Figure 4, the patient reported neck pain, as well as pain in the hands and feet. She often felt tired, which she said prevented her from participating in leisure clubs as she had done 2 years before. Writing or housekeeping activities that involved lifting and carrying objects with the hands (eg, using a vacuum cleaner) were very difficult tasks for her. Walking long distances became almost impossible due to the pain in her feet,

and she could no longer join her husband on his walks. Above all, she was anxious about losing her job as a nurse as a consequence of the further degeneration of her health and that this would lead to financial dependency on her husband.

*Relate problems to relevant and modifiable factors.* So far, the problem analysis that occurred was a compilation of the patient's problems and needs. Each specialist then examined the patient, keeping in mind concerns stated by the patient on the RPS-Form.

Through this process, the rehabilitation team tried to relate these problems to impairments, activity limitations, participation restrictions, or personal and environmental factors. All team members were requested to generate hypotheses about cause and effects. That is, the rehabilitation team attempted to identify those charac-



**Figure 5.** The concept of mediation as explained by Baron and Kenny.<sup>19</sup> (A) Variable X is assumed to affect another variable (variable Y). Variable X is called the initial (or independent) variable, and the variable that it affects (variable Y) is called the outcome variable. The direct impact of the independent variable is indicated by path c. (B) The effect of variable X on variable Y is mediated by a process or mediating variable (variable M), with path b indicating the impact of the mediator. The variable X may still affect variable Y (path c'). The mediator also has been called an intervening or process variable. Complete mediation can occur when variable X no longer affects variable Y (path c' = zero) after variable M has been controlled.

teristics of the patient or her environment that caused or contributed to her problems, either directly or indirectly by transmission. The multiple interactions between patient and environment, and between all components of the patient's organism, require thinking in terms of causal networks, rather than in straight lines where A causes B, which leads to C.<sup>12</sup>

Because it is often unclear whether a variable is directly responsible for a disability or whether it is a trigger that releases certain processes linked with the disability, the umbrella term "mediator" is used on the RPS-Form to describe such variables. The concept of mediation<sup>19</sup> is explained in Figure 5.

Mediators, as identified by the various members of the rehabilitation team, are reported by the case coordinator on the lower part of the RPS-Form (Fig. 4). At this stage, the RPS-Form is completed to be discussed at the next interdisciplinary treatment team meeting.

*Which terms should be used to denote mediators?* In order to ensure a common language for interdisciplinary teams, we recommend that health care professionals specify the mediators on the RPS-Form, listing corresponding terms that are listed in the ICF<sup>15</sup> (Fig. 4). Only the well-defined ICF items, we believe, can ensure consistency in the use of terminology across disciplines, and inconsistency can pose a barrier to effective communication.<sup>20</sup>

The ICF terms can be interpreted by means of 3 separate but related constructs,<sup>15</sup> all using "qualifiers" for operationalization. Body functions and body structures can be described by a qualifier, with the negative scale used to indicate the extent or magnitude of an impairment (eg, the qualifier "s73021.2" can be used to indicate moderate impairment of the joints of the hands and fingers). For the activities and participation component,

2 constructs are available: capacity and performance.<sup>15</sup> The capacity qualifier describes an individual's ability to execute a task or an action, and the performance qualifier describes what an individual does in his or her current environment. Both qualifiers can be used with and without personal assistance or assistive devices. For simplicity, these 2 constructs are not differentiated further in this article. Therefore, the activities and participation classification results in a single list of items, denoted by a leading "d." The item code "d240.3" (Fig. 4), for example, refers to the ICF item d240 ("Difficulty in handling stress and other psychological demands"), without differentiating between activities and participation. The qualifier "3" denotes a severe difficulty in accomplishing this task, disregarding aspects of capacity and performance.

Qualifiers also can be added to environmental factors. A decimal point denotes a barrier (.1 to .4), whereas a plus sign denotes a facilitator (+1 to +4).<sup>15</sup> For our patient (Fig. 4), the former medication (ie, chronic abuse of pain killers [e1101.2]), was considered a moderate barrier for her rehabilitation.

Although personal factors or resources are extremely important in the rehabilitation process,<sup>21</sup> they are not classified in the ICF because of the large social and cultural variance associated with them.<sup>15</sup> In our opinion, however, this should not hinder the rehabilitation team in addressing personal factors relevant to the target problems or in describing their quantitative property in analogy to the qualifier system applied to environmental factors (Fig. 4). In our case, personal factors considered relevant to problem solving were: command of the German language (+3 denotes a severe facilitator), personality (+1), social background (-1), and coping strategies (-2).

*Define target problems and target mediators on the RPS-Form.* After clinical examination of the patient and compilation of all limiting and modifiable mediators on the RPS-Form, a revision process is needed to exchange information within the rehabilitation team as well as with the patient in order to define realistic therapy goals and to plan the most appropriate interventions. The clinical examination may have revealed underlying conditions that force the health care professional to set therapy goals that differ from the personal preferences and beliefs of the patient. When using the Rehab-CYCLE to revise the problems mentioned by the patient (Fig. 4, upper part), there is a desire to meet the patient's expectations and to achieve his or her commitment, but always taking into account practical and evidence-based knowledge of the rehabilitation team (eg, aspects of secondary and tertiary prevention). Thus, this process of defining the target problems is usually the result of

consent between the patient and the health care team. The target problems are visualized on the RPS-Form by circling the corresponding items. In the case of our patient, they include the alleviation of pain in the neck, hands, and feet and the avoidance of sick leave (Fig. 4).

The importance of the mediators compiled by the health care professional on the RPS-Form might vary from low to high, as does their potential to be modified during the intervention period. It is the “art of rehabilitation” to discern the target mediators (ie, those mediators supposed to have the greatest potential to solve the target problems). This process generally takes place at the interdisciplinary team meeting, where the RPS-Form serves as a basis for team members to discuss findings and hypotheses in the framework of the ICF Model of Functioning and Disability. According to the target problems, the resulting target mediators are marked on the RPS-Form by circling the corresponding items (Fig. 4). Lines can be then drawn to each of the corresponding target problems (dark connecting lines in Fig. 4).

*The case model.* Once these hypothetical relationships are stated by the health care team, the RPS-Form represents an explicit and interdisciplinary elaborated “case model,” explaining by which mediators the target problems can be solved. Because this case model is based on assumptions, the rehabilitation team must carefully explore associations or causal links between mediators and target problems during the intervention period. Individual therapy goals can now be formulated, usually including both target problems and target mediators, and the RPS-Form serves as an excellent tool for communicating these goals to the patient.

The model of our case (Fig. 4) shows that the target problem “pain in neck, hands, feet” is mediated by 3 pathways: (1) by mechanisms related to the body functions (ie, “general physical endurance,” “hypertonia of neck,” and “muscle power functions: arms/feet”), (2) by an indirect mechanism (ie, “difficulty in handling stress and other psychological demands,” and (3) by poor coping strategies. Similarly, the target problem “partial incapacity for work (60%) → avoid sick leave” was related to the same mediators except coping strategies.

Mediators considered by the health care professional to have a low potential to solve the patient’s problems during the treatment process are not directly included in this initial case model (Fig. 4). However, their importance might change with progress of the rehabilitation process.

*Plan, implement, and coordinate interventions.* The concept of the IOPP emphasizes the active participation of

the patient and a multidisciplinary team approach to treatment. According to the target mediators specified on the RPS-Form, the initial program for our patient included physical therapy to decrease the muscle contractures of the neck, to improve her general physical endurance, and to increase the muscle force in her arms and feet. The psychological therapy focused on learning daily living strategies to manage pain (ie, coping strategies), to better handle stress (eg, at work), and to deal with other demands (eg, her husband wanted her to accompany him on long walks). Medical therapy included the use of nonsteroidal anti-inflammatory drugs to manage her joint problems.

*Assess effects of interventions.* A rehabilitation management program for complex medical conditions, we believe, needs a routine check of goal attainment by comparing outcomes with target problems (Fig. 1, “Assess effects”). Use of qualifiers, as shown in Figure 4, allows the rehabilitation team to quantitatively monitor results in longitudinal care. However, information about the sensitivity and reliability of this new qualifier measurement system is still absent. A better solution to measure longitudinal changes of outcomes would be to use validated instruments such as psychometrically sound questionnaires and standardized clinical parameters.<sup>22</sup> In the case of our patient, outcomes have been measured by a battery of instruments. The corresponding assessment information was presented in the interdisciplinary team meeting. The presentation of these results would go beyond the aims of this article and is disregarded here.

According to the patient’s progress in the rehabilitation process, it might be necessary to adjust treatment. After the assessment of effects (Fig. 1), or when a full round of the Rehab-CYCLE is completed, the rehabilitation team compares changes of target problems and target mediators with therapy goals. The degree of problem solving, among other topics, is then a key factor for the rehabilitation team to decide whether a new “problem-solving cycle” should be completed.

The Rehab-CYCLE is therefore an evolutionary and interactive approach that implies continuous survey and a dynamic handling of all elements of the problem-solving process. Each RPS-Form represents a snapshot model of a patient’s functioning and disabilities. We therefore advocate that, for every patient with complex health problems, several consecutive RPS-Forms should be used in longitudinal care, these forms should be collected as comprehensive documentation of the treatment process, and this process should be related to observed outcomes. Thereby, sound instruments such as internationally validated, patient-rated questionnaires



can help the health care professional to measure whether therapy goals are achieved.

## Discussion and Conclusion

The RPS-Form described in this article has been applied to many different health conditions (eg, cardiovascular disease, neurologic problems such as hemiplegia, musculoskeletal problems such as arthritis and low back pain) at the Institute of Physical Medicine of the University Hospital Zurich. This tool, we believe, is simple to use, helps to fully address the patients' perspectives, and serves as a platform where multidisciplinary care teams can exchange information using a common language. The RPS-Form supports care teams in offering a visual representation of the salient aspects of a disease, as well as of the relationships between disabilities and underlying factors. Therefore, this tool also forms a basis for treatment team meetings to discuss the individual goals of the interventions. The underlying ICF Model of Functioning and Disability provides both the common language and the rational framework for the description of health states associated with diseases and disorders.

The ICF (and the preceding *ICIDH-2: International Classification of Disability and Health*<sup>23</sup>) is the result of an effort that started in 1993 and that focused on cross-cultural and multisectoral issues and involved the active participation of 1,800 experts from 65 countries.<sup>15</sup> Studies have been undertaken in an effort to ensure that the ICF is applicable across cultures, age groups, and genders, and it can be used to collect reliable and comparable data on health outcomes of individuals and populations. The ICF was accepted in November 2001 by 191 countries as the international standard to describe and measure health and disability. At present, the ICF is available in 6 languages (English, French, Spanish, Arabic, Chinese, and Russian); translations into other languages (eg, German) will follow in 2002. Because the ICF contains the collective views of an international group of experts,<sup>23</sup> we believe the RPS-Form permits international communication about clinical problem solving at any level of health.

There are other major conceptual models that can guide health care professionals in understanding disabilities and functioning. Earlier conceptual models used in the same context were reviewed by Jette.<sup>24</sup> One of the first models was developed by the sociologist Nagi.<sup>25</sup> Nagi's classification scheme varies from that of the WHO<sup>23,26</sup> primarily by suggesting the concept of functional limitations, that is, the physical manifestation of functional problems at the level of the organism as a whole. According to Nagi,<sup>25</sup> a functional limitation represents a direct way through which impairments contribute to disability. This conceptualization often is considered useful for differentiating between performance-based measures of function and self-reports, an important

aspect that was not explicitly integrated in the WHO's *International Classification of Impairments, Disabilities, and Handicaps (ICIDH)*.<sup>26</sup> However, this aspect is handled by the ICF with the introduction of the concept of capacity and performance.

In the history of rehabilitation management at the Institute of Physical Medicine of the University Hospital Zurich, the first model used in physical therapy was the model of Pope and Tarlov,<sup>27</sup> which is an extension of Nagi's basic disablement formulation.<sup>24</sup> With progress in the initial version of the ICIDH,<sup>26</sup> a revised version, the ICIDH-2,<sup>28</sup> was introduced as a tool for thinking about and describing health and health-related states such as functioning and disabilities. The ICIDH-2 differs substantially from the 1980 version of ICIDH in the depiction of the interrelationships between functioning and disability. The ICIDH-2 was found to be useful in rehabilitation, because the underlying model allows health care professionals to state the complex relationships between "Health Condition" (eg, diseases, disorders), the components of health (body structures and functions, activities, and participation), and the contextual (ie, environmental and personal) factors. Along with the growing international acceptance of the ICF, the ICF Model of Functioning and Disability and the corresponding classification scheme are considered the future tools for organizing information about functioning and disabilities.

Each model mentioned can be used to generate hypotheses about the interrelationships of different components included in the model. The key to successful rehabilitation management, however, is understanding the relationship between target problems and the components (impairments, functional limitations, and psychosocial and environmental factors) that affect them and addressing those (ie, the target mediators) with the most potential for improvement. In this process, the Rehab-CYCLE is open to all ideologies of hypothesis generating, clinical reasoning, and decision making.

The Rehab-CYCLE (Fig. 1) is a structured approach to rehabilitation management that should help to systematically review disease consequences, to define therapy goals, to relate problems to mediators, and to optimize treatment by relating interventions to results during the rehabilitation process. It is thus similar to the hypothesis-oriented algorithm for clinicians (HOAC) described by Rothstein and Echtertnach<sup>29</sup> in that it guides the health care professional with a logical sequence of activities and relies on the patient to describe his or her problems and on the health care professional to generate testable hypotheses. Both approaches are open to any treatment strategy. The main difference, we believe, is that the Rehab-CYCLE is a more patient-centered approach with a biopsychosocial perspective.

In the case management at the Institute of Physical Medicine of the University Hospital Zurich, applying the new and unfamiliar systematic coding scheme of ICF classification initially hampered teamwork and communication among the health care team. It is not the correct coding of ICF items, but the problem-solving technique that can lead to better care for the patient. Therefore, when introducing the RPS-Form, health care professionals should feel free in how to describe health and disability (eg, permit initial flexibility in wording, neglect alphanumeric ICF codes and “qualifiers”). Even this simple version of the RPS-Form trains health care professionals in proceeding through the Rehab-CYCLE, permits both health care professionals and patients to focus on salient aspects of the disease, and assists with treatment decision making shared by both the patients and the health care professionals. Because understanding and motivation of the patient is usually a requirement for his active involvement in the rehabilitation process, the simple version of the RPS-Form could even be advantageous in the communication with certain patients.

After establishing the procedures associated with the RPS-Form, we believe the time may have come to introduce the standardized terms of the ICF classification.<sup>23</sup> Use of these terms then can ensure consistency in terminology across disciplines, improve interprofessional communication, and facilitate multidisciplinary responsibility and coordination of interventions in physical therapy and rehabilitative medicine.

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