



issa

INTERNATIONAL SOCIAL SECURITY ASSOCIATION  
ASSOCIATION INTERNATIONALE DE LA SÉCURITÉ SOCIALE  
ASOCIACIÓN INTERNACIONAL DE LA SEGURIDAD SOCIAL  
INTERNATIONALE VEREINIGUNG FÜR SOZIALE SICHERHEIT

## Good Practices in Social Security

Good practice in operation since: 2017

---

### **Comparative quality analysis of rehabilitation facilities through a social security agency: An external quality assurance procedure as part of inpatient and outpatient medical rehabilitation following musculoskeletal injuries**

A case of the German Social Accident Insurance Institution for the administrative sector (VBG)

German Social Accident Insurance  
Germany

## Summary

*The procedure for “comparative quality analysis” (VQA) of the German Social Accident Insurance Institution for the administrative sector (Verwaltungs-Berufsgenossenschaft – VBG), a member of the German Social Accident Insurance, serves to ensure the external quality assurance of rehabilitation facilities in the field of medical rehabilitation. It is characterized by a multi-perspective longitudinal approach: The analysis is based on objective and subjective data obtained during the rehabilitation process by all actors involved in the rehabilitation process – rehabilitants, rehabilitation facilities and case managers.*

*The procedure was implemented nationwide in September 2017 for the external evaluation of complex therapeutic rehabilitation services for musculoskeletal injuries. It comprises result and process criteria that are collected by means of checklists and internationally established assessments, and serve as indicators for clinic-related quality comparisons. The aim of the VQA is to use the analysis of processes and outcomes to demonstrate the current status of rehabilitation medicine work, to evaluate the quality of therapy implementation with the aid of analysis criteria, and to provide sustainable impetus for further development. VQA supports the cooperation of rehabilitants, rehabilitation facilities, and case managers. The rehabilitation facilities participating in VQA receive a location sentiment and can use the results for their internal quality management. The ongoing analyses are intended to enable a fair comparison of the rehabilitation results for each institution.*

## The issue or challenge

*What was the issue or challenge addressed by your good practice? Please provide a short description.*

VBG directs insured persons with predominantly severe musculoskeletal injuries to special rehabilitation facilities. The aim of VQA is to systematically record and routinely document the quality of the rehabilitation services provided in such facilities. The greatest challenge here was to ensure a fair comparison of the facilities, as the insured persons are distributed among the facilities differently depending on the type and severity of the injury.

## Addressing the challenge

*What were the main objectives of the plan or strategy to resolve the issue or challenge? List and briefly describe the main elements of the plan or strategy, focusing especially on their innovative feature(s) and expected or intended effects.*

In order to ensure such a fair comparison between different rehabilitation facilities, the following main objectives were pursued:

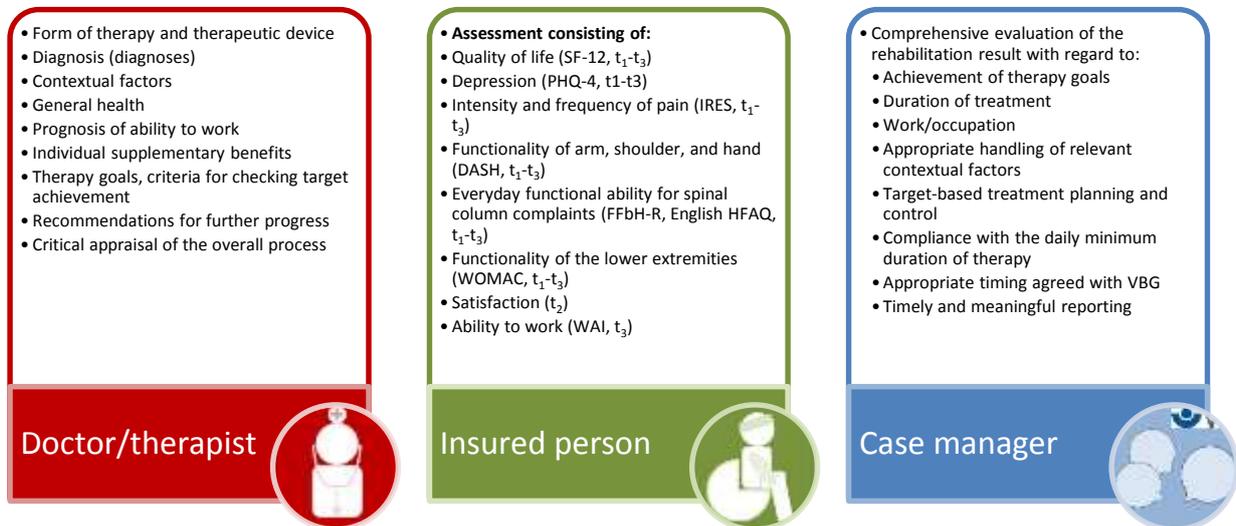
- In order to be able to chart the rehabilitation services provided, longitudinal data is required, since only such data allows the changes in the course of rehabilitation and for the period thereafter (follow-up) to be estimated. VQA should therefore be based on prospective data collected at the beginning of rehabilitation (t1), at the end of rehabilitation (t2), and three months thereafter (t3).

- In a field such as medical rehabilitation, subjectivity plays a very special role, for example in the assessment of pain quality, intensity, and frequency, which can only be assessed by those affected themselves. Moreover, it is known from studies that the views of patients and physicians/therapists are quite different. Against this background, VQA should – in the sense of a multi-informant approach – use all those involved (rehabilitants, case managers, and rehabilitation facilities) as sources of information. VQA should therefore be based on subjective and objective quality indicators of process and outcome quality, which are collected in a multi-perspective, systematic, standardized, and continuous manner throughout the rehabilitation process.
- Since the insured persons are distributed among the rehabilitation facilities according to the type and severity of their injury, they should be compared on the basis of the quality indicators and “adjusted” for confounding variables such as age, sex, severity of the illness, etc.

Figure 1 gives an overview of the information and data sources bundled in VQA, which are briefly described below.

- Doctors and therapists document the key process and result parameters of the rehabilitation measure at fixed times in a specially developed standardized report. These include:
  - Information on general health status, key occupational, social, and personal context factors and predictions of earning capacity;
  - At the beginning of the therapy, the doctor/therapist and the patient jointly define realistic “SMART” goals and address the professional and social demands of everyday life in the patient's real life;
  - Information on the patient's current functional abilities, which are compared with those everyday requirements (mentioned above);
  - Information on the prognosis, recommendations on the next steps, and a critical appraisal of the overall course.
- To describe the initial status and to illustrate the course and success of rehabilitation, insured persons with internationally established assessments at the start of (t1), end of (t2), and three months after (t3) rehabilitation are interviewed.
- No later than two weeks after the conclusion of a case, the responsible case manager, as the key actor in process control, evaluates the quality of the therapy on the basis of a checklist comprising 12 elements.
- Routine data is used as benchmarking variables for comparing clinics, as statistical confounding variables (in the sense of a confounder) and as auxiliary variables (e.g. for calculating a date).

**Figure 1.** Multi-perspective data collection in the course of rehabilitation: Assessments and measurement times



Ultimately, VQA should not only serve external quality assurance:

- The results of the VQA should be made available to the participating institutions in an annual report for their in-house quality management. The report should state the quality indicators recorded in comparison to other rehabilitation facilities. On the one hand, this should enable the institutions to determine their position (in the sense of benchmarking) and, on the other hand, to identify fields of action and the potential for improvement in the clinic's own quality management. VQA can and wants to initiate quality-enhancing competition.
- In addition, VQA is to form the basis for an annual reciprocal feedback meeting at which both sides – the rehabilitation facility and the VBG – will examine through collegial dialog whether and how quality can be improved. The aim of such a *case review* is the continuous improvement of holistic, patient-oriented, and sustainable rehabilitative care.
- In the future, VQA will also be used for care management.

## Targets to be achieved

*What were the quantitative and/or qualitative targets or key performance indicators that were set for the plan or strategy? Please describe briefly.*

In the course of concept development, data, survey routines, procedures, and instruments should be identified and described that are capable of recording and routinely documenting the quality of outpatient and inpatient rehabilitation facilities (in the sense of comparative quality analyses). Particular importance was attached to the following:

- The identification of suitable assessments as part of a scientific research project;

- The clarification of the feasibility within the procedures of the rehabilitation facilities as well as VBG, as quality assurance is easier to achieve in the care practice the lower the associated additional expenditure is (increase in acceptance);
- The provision of an instrument that promotes the cooperation of all participants on the basis of jointly defined rehabilitation goals, thus enabling continuous patient orientation as well as continuous monitoring of progress and results;
- Creating a basis for a structured dialog in which subjective and objective process and result indicators from different perspectives – insured persons, case managers, doctors/therapists – are recorded and summarized;
- The provision of a quality report which enables the localization of one's own treatment quality (case-based rehabilitation work, documentation quality, etc.) and thus the identification of one's own strengths and need for action.

## Evaluating the results

*Has there been an evaluation of the good practice? Please provide data on the impact and outcomes of the good practice by comparing targets vs actual performance, before-and-after indicators, and/or other types of statistics or measurements.*

The results reported here are based on the first interim evaluation. Until November 2018, 74 institutions participated in VQA, which reported n=2,142 insured cases. The results for the ongoing patient survey are reported as examples below.

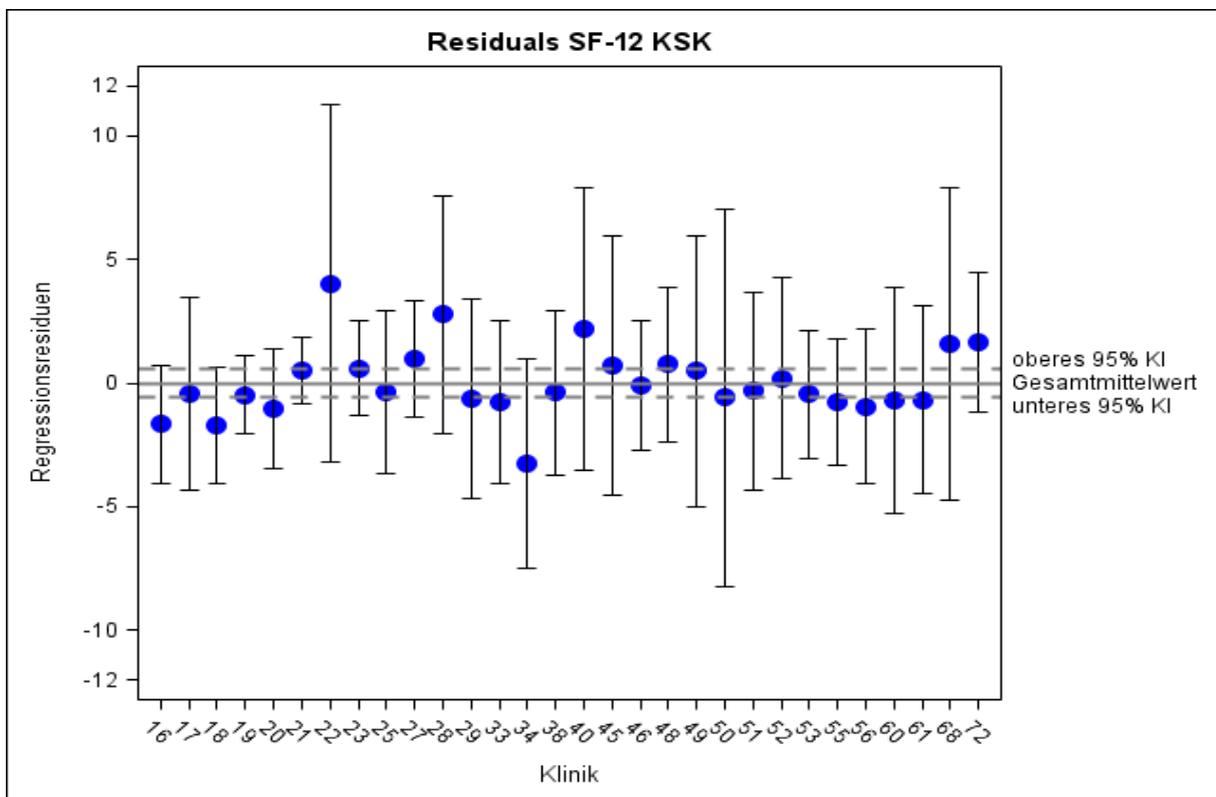
Only the cases from the 30 institutions that contributed at least n=10 cases were included in the analyses. Table 1 shows the sociodemographic characteristics of the n=1,342 cases included in these institutions. About two thirds of the insured persons are men; the mean age is 46.8 years (see Table 1).

The Multilevel Model (MLM) analysis, in which both the patient level (level 1) and the clinic level (level 2) are taken into account, included the data of n=635 cases for which at least the questionnaires were available at the start of rehabilitation (t1) and at the end of rehabilitation (t2) at the time of the evaluation. Figure 2 shows the residuals of the total physical value of SF-12 (KSK SF-12) predicted for t2. The baseline values (t1) of KSK SF-12 and PHQ-4, age, and sex were used as predictors. It was found that about seven percent of the variance in the data can be explained by the hospital level and thus attributed to differences between the rehabilitation facilities.

**Table 1.** Sociodemographic characteristics of the patient survey: Number, mean age, and proportion of male respondents by rehabilitation facility ( $n=30$  facilities,  $n=1,342$  cases).

Klinik	N	Alter MW (STD)	Mann (in %)
16	45	43,2 (14,2)	77,8
17	71	50,8 (10,9)	76,1
18	27	44,7 (13)	81,5
19	83	50,0 (10,1)	60,2
20	73	47,7 (12,3)	64,4
21	206	46,5 (12,2)	61,2
22	24	48,2 (10,4)	62,5
23	196	44,8 (13,3)	62,8
25	52	46,6 (12,2)	73,1
27	54	41,3 (15,6)	59,3
28	28	44,3 (14,4)	50,0
29	13	56,1 (12,1)	61,5
33	39	55,7 (13,9)	66,7
34	23	43,3 (13,1)	78,3
38	28	45,3 (10,6)	64,3
40	27	42,3 (13,2)	77,8
45	15	40,5 (13,9)	53,3
46	47	48,0 (12,6)	70,2
48	29	42,7 (14,1)	96,6
49	26	51,9 (8,6)	53,9
50	11	41,1 (13,8)	63,6
51	11	44,5 (13,2)	72,7
52	30	38,9 (14,3)	73,3
53	29	47,3 (13)	75,9
55	56	48,4 (12,6)	66,1
56	25	52,7 (12,6)	72,0
60	19	41,9 (11,1)	36,8
61	24	52,8 (12,3)	66,7
68	14	50,4 (11,7)	50,0
72	17	51,9 (13,5)	41,2

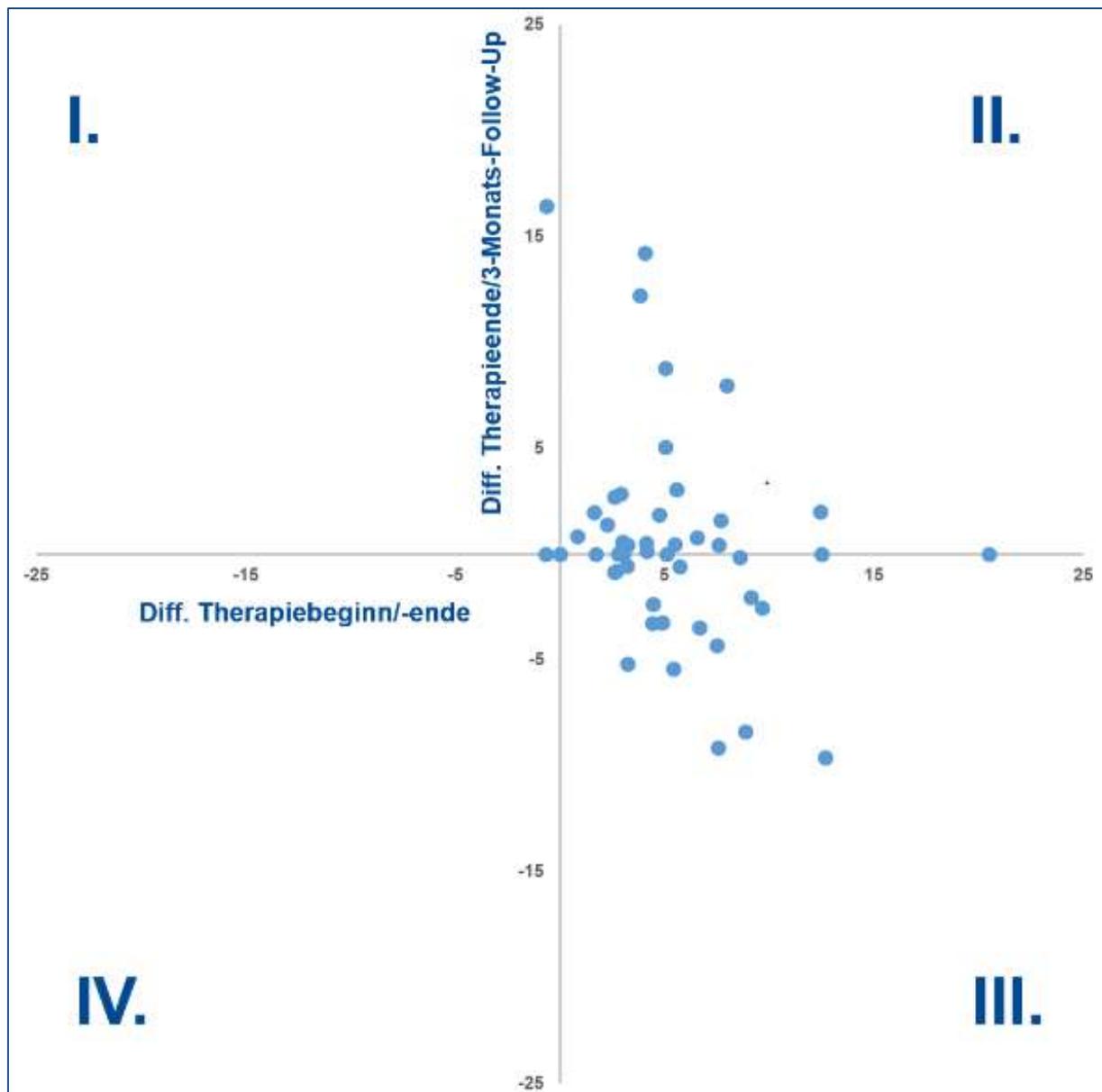
**Figure 2.** Results of the multi-level analysis ( $n=30$  facilities,  $n=635$  cases). Criterion: KSK SF-12 ( $t_2$ ), predictors: KSK SF-12 ( $t_1$ ), PHQ-4 ( $t_1$ ), age, sex.



*Legend:* Positive residuals indicate that better values were achieved in the rehabilitation facility than could be expected, taking into account the included predictors. Negative residuals indicate that the rehabilitation facility achieved worse values than expected.

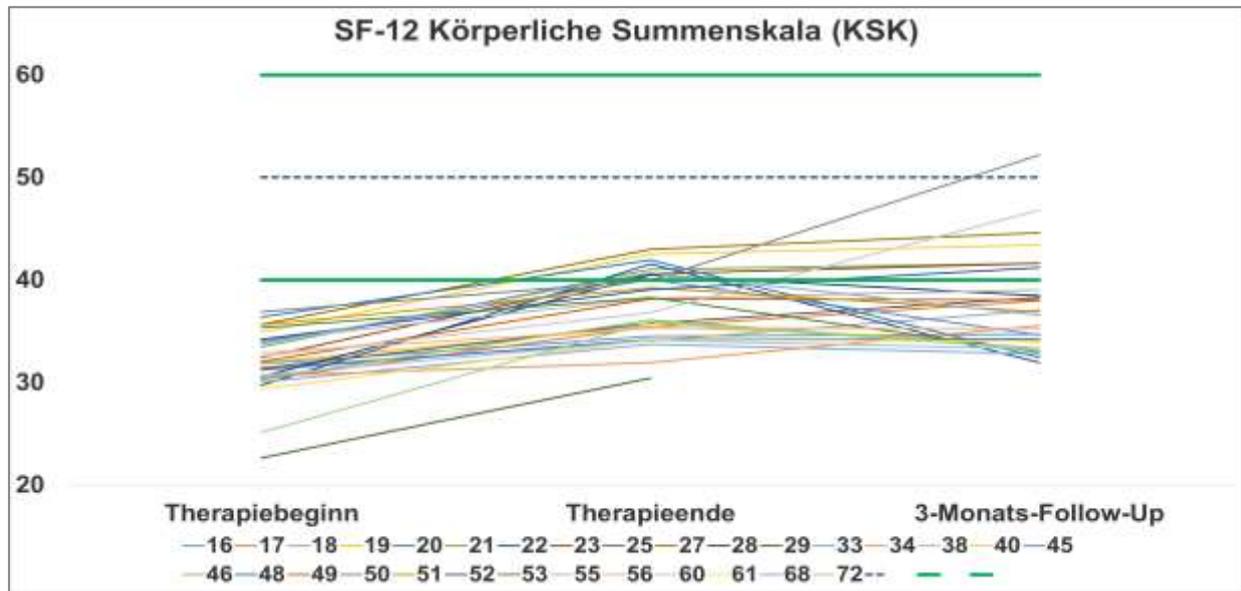
The analyses of the rehabilitation facilities, from which patient questionnaires were available at all three measuring points (t1, t2 and t3), show that most patients improved continuously over the course of the rehabilitation and thus from t1 to t2 and from t2 to t3 (Figures 3 and 4): In four quadrants, Figure 3 shows the mean value of the differences of the physical sum scale of the SF-12 between the measurement times of all patient evaluations. This shows that almost all patients improve by the end of rehabilitation. The largest group of patients were those who showed an improvement in the 3-month catamnesis (t3), thus indicating a stabilization of the rehabilitation successes achieved (quadrant II). The resulting differences in the sustainability of rehabilitation successes across institutions are illustrated in Figure 4.

**Figure 3.** Mean value of the differences between the measurement times of all patient evaluations of the KSK SF-12 (n=30 rehabilitation facilities).



*Legend:* Quadrant I: -/+ worsening from t1 to t2 but improvement from t2 to t3; Quadrant II: +/+ improvement from t1 to t2 and from t2 to t3; Quadrant III: +/- improvement from t1 to t2 but worsening from t2 to t3; Quadrant IV: -/- worsening from t1 to t2 and from t2 to t3.

**Figure 4.** Facility-related mean values of the physical sum scale of the SF-12 (n=30 rehabilitation facilities (number with colour code)) by time of measurement



## Lessons learned

*Based on the organization's experience, name up to three factors which you consider as indispensable to replicate this good practice. Name up to three risks that arose/could arise in implementing this good practice. Please explain these factors and/or risks briefly.*

Factors to ensure the replicability and success of VQA:

- The practical suitability of VQA was tested during a two-year field trial in order to include the rehabilitation facilities in the transfer into practice (e.g., feasibility check and identification of pitfalls) from the very beginning. In several parallel workshops, improvement potentials were jointly identified and *good practice* strategies exchanged and developed within the framework of field trials.
- A common language (e.g., glossaries explaining the indicators (items) to be assessed with the checklists) was established to create a common basis for understanding. Questions arising during the implementation of VQA can be clarified directly with VBG.

Risks associated with the implementation of VQA arise in:

- The definition and selection of unsuitable benchmarking variables, so that analyses comparing facilities cannot be carried out meaningfully, and
- Overlooking confounders at the facility and/or patient level, who can influence the therapy outcome and thus the comparative evaluation of the patient survey across clinics.