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Good Practices in Social Security

Good practice in operation since: 2018

The Reduced-Earning Risk Index (RI-EMR): A procedure for the early identification of needs and implementation of appropriate rehabilitation strategies

German Federal Pension Insurance
Germany

Summary

The German Federal Pension Insurance (Deutsche Rentenversicherung – DRV) provides medical rehabilitation services based on the “rehabilitation before pension” principle. However, studies show that only every second recipient of a reduced earning capacity pension has made use of a rehabilitation benefit in advance.

In order to counter this problem, an index was developed that can predict the risk of reduced earning capacity. Data already stored in the pension insurance system, such as periods of incapacity to work or unemployment, are already being used. The risk index combines all this information into a predictive model. The prediction quality is high: Approximately 75 per cent of future reductions in earning capacity can be predicted with it.

Based on the risk index, it is possible to specifically contact those insured high-risk persons and draw their attention to rehabilitation benefits before the process of reduced earning capacity has progressed too far. This makes an efficient, target group-oriented strategy for preventing reduced earning capacity pensions possible.

The issue or challenge

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

In order to keep insured persons in the workforce in the long term, the statutory pension insurance offers medical rehabilitation benefits. Various studies in recent years have repeatedly shown that rehabilitation also pays off in economic terms. In Germany, the principle of “rehabilitation before pension” therefore applies. Nevertheless, almost half of those receiving reduced earning capacity pensions did not claim any rehabilitation benefits in advance.

Medical rehabilitation benefits are benefits that need to be claimed for, i.e. they require a conscious decision on the part of the person concerned to submit a claim. There is therefore obviously a latent need for rehabilitation which does not result in the relevant applications being made. In order to reach the affected cohort at an early stage and to be able to offer them potentially beneficial rehabilitation services, they must be identified and approached at the right time. The routine data already available to pension insurance companies could be used for this purpose.

The use of this data is based on the idea that information is available in the insured person’s accounts that can give an indication of the probability that they will develop a reduction in earning capacity in the future and could thus potentially apply for a reduced earning capacity pension. In this way, a risk group could be defined for which a relevant, economical, and target group-oriented communication strategy would be possible.

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.

The aim of the risk index for reduced earning capacity pensions was to identify German Federal Pension Insurance process data that is predictively significant for a reduction in earning capacity. The variables identified should be combined to form an index that can be used to identify problematic developments at an early stage and thus meet possible rehabilitation needs.

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.

A study should use a large sample of insured persons to analyze whether the routine data available in the insured person's account has a high predictive value for the risk of a future reduction in earning capacity.

For this purpose, individual employment histories from the process data of the German Federal Pension Insurance were evaluated. This included information on the claims and utilization of rehabilitation benefits and reduced earning capacity pensions as well as contribution payments. In order to identify risks, the sample included both persons without access to pensions (controls) and those with (cases). Corresponding stratification – known as a case-control study – ensures that the sample size is sufficient. Some 10,000 cases (i.e., recipients of reduced earning capacity pensions but without prior rehabilitation) and 10,000 control cases were evaluated. Using proportional hazard models (Cox regressions), the risks of reduced earning capacity were identified. The risks identified in this way formed the basis of the risk index.

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 selected sample showed that the information on the amount and origin of an insured person's contributions over the past three calendar years is 75 per cent accurate in terms of predicting that the insured person would receive a reduced earning capacity pension at some point in the following five years.

This combination of routine data was used to form the risk index for reduced earning capacity pensions, which ranges from 0 to 100 points and reflects the risk of a future reduced earning capacity pension. Higher values are associated with a correspondingly higher risk. In the above-mentioned study, insured persons with a risk index of over 60 points had an approximately 30-fold increased risk of a reduced earning capacity pension in the following five years compared to insured persons with less than 40 points.

On the one hand, this risk index can be used to provide experts with additional information regarding the risk in question (decision-making aid) for their assessments. Furthermore, it can be used to address insured persons who have an increased risk of reduced earning capacity according to the index, but who have not yet made use of rehabilitation benefits (proactive access).

Both strategies were then described in detail in a technical concept and the necessary IT development steps were defined. In addition, an intensive data protection review was carried out.

The underlying forecasting model is currently being revised in order to take into account as much up-to-date data as possible and to obtain more information on the size of the defined risk group (over 60 points). The update is based on a random selection of 1 per cent of all actively insured individuals registered in Germany ($n = 370,000$). This means that the index can be used in both the procedures described – as a decision-making aid and as a basis for proactive access.

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.

The risk index that has been developed shows that, based on previous employment history data, it is possible to make valid predictions as to whether a person is at risk of a reduction in earning capacity in the near future. Data on individual employment histories thus represents a valid alternative to health-related information, some of which is not available to all social service providers alike in a structured social system.

The pension insurance scheme in Germany is thus given the opportunity to advise people with a high risk of early exit from employment in good time and to offer them suitable rehabilitation strategies, if necessary. This is an even better response to the principle of “Rehabilitation before pension”. In addition, there is reason to assume that such a preventive approach would be able to prevent reduced earning capacity pensions in the medium term.

In previous pilot projects, it has been shown that the following factors in particular should be taken into account:

- Isolated application of the risk index is not conducive to identifying potential rehabilitation needs. It is necessary to examine the individuals identified in this way further in a subsequent step. However, the use of such an index makes it possible to use the costs for this as efficiently as possible.
- It is necessary to provide extensive advice to those identified by the risk index and to work with them to develop a plan for remaining in employment in the long term.