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Long-term sick leave and graded return to work: What do we know about the follow-up effects?



Udo Schneider*, Roland Linder, Frank Verheyen

WINEG, Scientific Institute of TK for Benefit and Efficiency in Health Care, Bramfelder Straße 140, 22305 Hamburg, Germany

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ABSTRACT

The implementation of a graded return-to-work (RTW) program to reintegrate those in long-term sickness started in Germany in 1971. Based on a return plan by the physician and insured, participants increase their working hours slowly over a specified period of time. Using data on sick leaves from claims data of the Techniker Krankenkasse, we consider sick-leave spells starting from October 2010 to January 2011 with a successful return to work within 517 days. We applied a propensity score matching between participants and non-participants to further analyze differences in sickness spells, medical demand and treatment costs in a follow-up period of 540 days and hence estimate the average treatment effect on the treated (ATT) for the RTW participation with respect to sickness time, sickness benefits and medical expenditures. We found significant but rather small differences in medical costs between treatment and control group. In detail, RTW participants showed slightly lower expenditures on hospitals but higher for ambulatory services and pharmaceuticals. Moreover, differences in expenditure were related to the condition of the initial sickness spell. Reasons behind this findings may be a different perception of the own health care status and a higher need for medical services. Overall, our findings differ between diagnosis groups of the initial sickness period.

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1. Introduction

Long-term sick leave puts an economic burden on employers, employees, health insurers and the economy as a whole. To allow for a faster return-to work (RTW), special programs by health insurers, sickness funds or the government are implemented in many European countries. The goal of such programs is an attended return under supervision of a physician in accordance with the employer. In Germany, the program in the statutory health insurance (SHI) is manifested in the Social Code Book V (SGB V) since the late eighties. The first attempts by individual sickness

funds to establish a return-to-work instrument go back to the early seventies. The physician typically proposes the participation in the program to the employee. After signing a return-to-work plan that is agreed by both, employer and sickness fund, the employee on sick leave who voluntarily takes part in the program gradually increases his working time over a predefined time span. If necessary, special arrangements between employer and employee concerning the type of work or workplace organization can be closed. During program participation, employees are still classified as incapacitated. Hence, they go on receiving sick leave benefits.

From a health insurer's perspective, quantifying program effects can rest on different factors: firstly, whether participants show a faster return-to work than non-participants. Secondly, whether they are in need of more

* Corresponding author.

E-mail address: dr.udo.schneider@wineg.de (U. Schneider).

medical services and thus show higher health expenditure and thirdly, whether they, after completing the return, do not exhibit higher relapse rates. With respect to the return-to-work progress there is international evidence that participants return faster on average after a specific duration of sick leave [1–5].

Evidence regarding RTW comes from different European countries. For the Danish graded-return-to-work program, participation shows a positive effect on returning to work for those individuals with sickness duration longer than eight weeks [1]. In the Netherlands, return-to-work policies by employers were studied with the result that for 65% of the employees in the sample a return-to-work plan was arranged and that a planned return showed a positive effect on the sickness duration [2]. Several studies for Sweden confirm these results [3–5]. They estimate the average treatment effect on the treated for the program participation. For sickness duration longer than 150 days, the probability of a successful return is 10% higher compared to non-participants. For mental disorders, only small effects for an immediate program start can be found but comparable large effects result when part-time sick leave starts after 60 days of full-time sick leave [6]. For Finland, data from a randomized controlled trial are analyzed with the result that individuals in the treatment group show a faster return to work on average and that total absence was 20% lower [7]. In a recent study using claims data from a large German sickness fund, individuals with long sickness episodes show a higher hazard returning to work [8]. The 'break-even point' is at about 120 days of sickness duration. Put differently, after this duration participants return earlier to work than non-participants. Controlling for the initial main diagnosis of the sickness period gives the result that the effect is even stronger for people with diagnoses from ICD-chapter 5 (mental disorders). In this group, the positive effect is present from about 90 days on.

With a closer look at the program effects after a successful return, there exists only evidence for Germany from the Statutory Pension Insurance who is responsible for the return-to-work program after a rehab treatment [9]. In 84% of all cases participants returned directly to work after completion of the RTW program. About 2% are still classified as being on sick leave one year after program completion and 5% are in early retirement. The remaining 9% return during the first year after completing the RTW program. As data of the study comes from the pension insurance, no information is provided about expenditure on medical services or repeated sickness periods.

The study at hand aims at filling this gap and providing some first evidence about the differences between participants and non-participants after a successful return to work. There are two issues to be addressed. First and more of methodological interest: how can we cope with the problem of selection into the RTW program? Second, what are the relevant outcome variables to be included in a follow-up study? By using a propensity score matching approach, we deal with the first issue. For the second issue, we focus on medical expenditures e.g., outpatient and inpatient care as well as for pharmaceuticals. In addition, we analyze differences between participants and non-participants regarding further sickness absence and sickness benefits.

The study is organized as follows. Section 2 describes the data source and methodological aspects. In Section 3, we present our core results that are discussed in depth in Section 4. In the last section, we summarize the findings and give an outlook on future perspectives.

2. Data and methods

To analyze the follow-up effects after returning to work, we build on the data used by Schneider et al. who investigated the effect of a return-to-work program with claims data from a large German sickness fund [8]. Originally, data were collected for accounting purposes but have become a large and valuable data source for scientific research on health services. The original analysis included 28,859 individuals with sickness absence longer than 42 days that started between October 2010 and January 2011. The 42-days threshold is selected because the RTW program aims at employees with a longer incapacity to work. In addition, after 42 days of work incapacity, wage continuation ends and sickness benefits start. Program participants are not selected through a special mechanism. As depicted, participation depends on the attending physician, the agreement of the employee and the employer for instance. There does not exist a universal schedule after which point in time a selection into the program is feasible. Instead, program selection is on an individual basis rest upon the assessment of physician and employer. For our participants in our matched sample mean time between beginning of the sick leave period and start of the RTW program was 139 days (sd: 95.85).

Participants in the RTW program and non-participants were surveyed until their full return to work or up to a maximum sick leave of 517 days. This period resembles the difference between the maximum observation data (30th June, 2012) and the latest entry into our sample, namely the 31st January, 2011. Individuals who did not return within this period were viewed as right-censored. This applies to 2083 individuals on sick leave. As these cases cannot be compared to those with a successful return with respect to occupational status, sick days and benefits as well as medical treatment, we concentrate on participants and non-participants who returned to work. Hence, the remaining 26,776 build the basis for the analysis at hand. To ensure that all these cases can be traced for the whole period, we included only those returners that were insured continuously throughout the time span. We end up with 26,608 individuals including 22 that died before the end of the 365 days. The follow-up period is set to 540 days after return to work, i.e., 6 ninety-day intervals or about 1.5 years. The reason behind this is that by this approach it is possible to identify variation in treatment effects over time. The interval length of 90 days is related to the quarter-based remuneration in the German outpatient sector even if our intervals are not calendar quarters but instead individual-specific.

To be able to compare participants and non-participants after their return to work, we have to account for a possible selection bias into the RTW program. This selection could be driven by individual-related characteristics, by the employer or by the attending physician. Among other

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