

Intersecting Crises: Medical rehabilitation trajectories around Divorce

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1. Introduction and background

Rich empirical evidence suggests a negative effect of union dissolution, or more specifically, divorce on health and wellbeing (Ding et al. 2021; Monden et al. 2015; Kalmijn 2017). Other studies have assessed *health trajectories* of single health outcomes around divorce, most often using Fixed-Effects-Models suggesting drops of (mental) health just before (Tosi and van den Broek 2020; Lin et al. 2019; Metsä-Simola and Martikainen 2013; Hu et al. 2024) or in the year of divorce (Tosi and van den Broek 2020; Lin et al. 2019; Hu et al. 2024; Leopold 2018; Kravdal and Wörn 2023).

However, we still know little about the diversity and complexity of health trajectories across the divorce process, as previous approaches focus on mean changes within individuals. Given that some studies have identified heterogeneous health trajectories for mental and physical health (Leopold 2018; Kravdal and Wörn 2023), it is particularly important to examine how mental health and physical diagnosis evolve before, during, and after divorce. For example, are there subgroups of individuals who experience, for example, pronounced declines in mental health leading up to divorce but deteriorations in physical health afterward?

Furthermore, while many studies highlight gender differences in health around divorce, the evidence is mixed. While some studies, including Germany, do not find clear gender differences (Leopold 2018; Tosi and van den Broek 2020; Liu et al. 2019), other studies find more adverse health effects for women (Zulkarnain and Korenman 2019; Kravdal and Wörn 2023; Molina et al. 2025). Yet there is also evidence for men being more negatively affected when it comes to mental health (Kravdal and Wörn 2023; Metsä-Simola and Martikainen 2013) or mortality risks after divorce at advanced ages (Bulanda et al. 2016).

Applying rich and novel data sources for Germany, we assess: **What are the most common rehabilitation trajectories around divorce and how do they differ by gender?** The data allows us to focus on divorcees who experienced a rehabilitation stay in the years around divorce. Taking a life course perspective, we aim at identifying common patterns of rehabilitation trajectories around divorce with regard of the diagnosis, timing and order of rehabilitation experiences using Sequence and Cluster Analysis. Furthermore, we will analyze whether the rehabilitation trajectory patterns vary across other socio-demographics, thereby identifying particular risk groups among the divorced.

Our study makes three main contributions to the literature on health and divorce. First, we identify distinct rehabilitation trajectories around divorce, distinguishing between mental and different physical diagnoses. By using rehabilitation episodes as a proxy for severe and interruptive health events, we extend previous work that primarily relied on softer health measures such as medical consultations or self-rated health. Second, using high-quality administrative data from the German Pension Insurance, we provide register-based evidence for Germany on the interplay between divorce and severe health events. Third, we identify common health trajectories around divorce by gender, complementing and extending mixed prior research that emphasized gendered health consequences of marital dissolution. This thick descriptive study sheds light on the heterogeneity of health trajectories around divorce and thus provides a foundation for more in-depth exploration of the health inequalities associated with marital dissolution.

2. Data & Methods

Data. We used the *Combined Demographic Histories (CDH)*, a novel and rich administrative dataset for Germany covering the period from 2011 to 2024. The CDH combines information on medical rehabilitation stays and related diagnosis, family life events such as divorce, and employment biographies. The administrative records from the German Pension Insurance (*Deutsche Rentenversicherung*) are collected for everyone who is insured in the German Public Pension scheme (~90% of population). The uncovered population mostly consists of civil servants and most self-employed individuals.

Sample and observational period. We focus on the birth cohorts 1955-1965 and on individuals who experienced a divorce from 1992 on (using first divorces only to prevent duplicates). For now, we focus on the period starting from three years before until five years after divorce. 83% of individuals did not experience medical rehabilitation during the three years before until the six years after divorce. We focus on the remaining 17% of divorcees that did experience a rehabilitation within this period which leaves us with 10,098 men and 10,538 women.

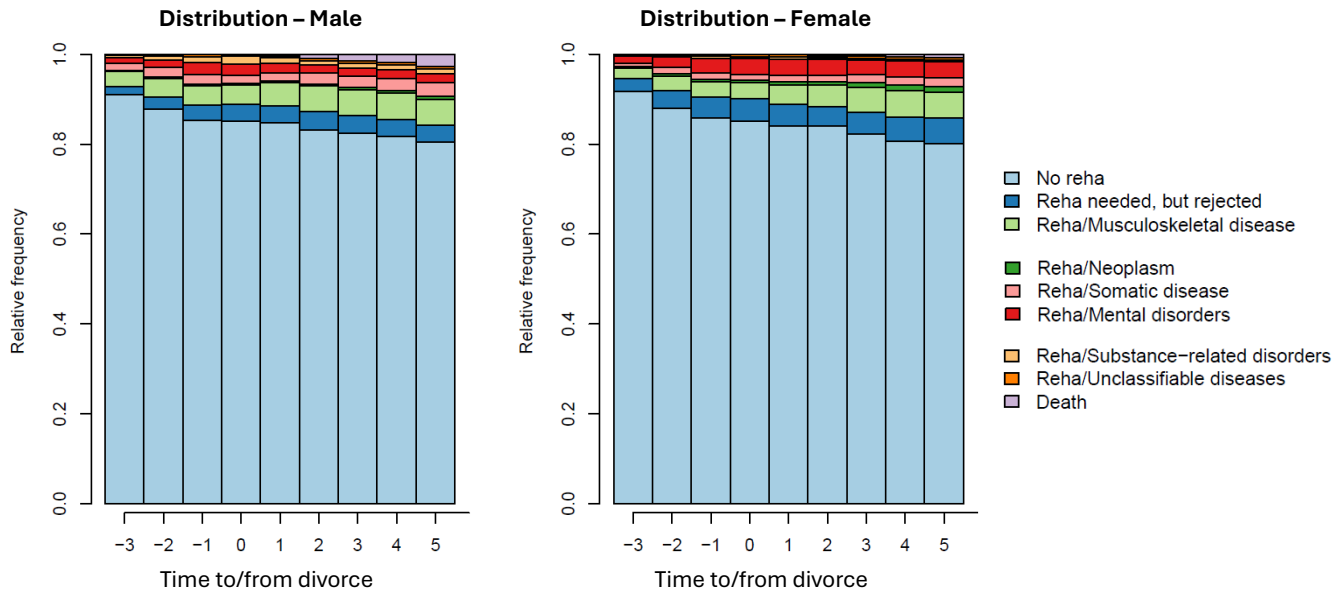
Operationalisation. We categorize rehabilitation, our proxy for severe health, into nine mutually exclusive categories based on whether individuals have applied for rehabilitation or finished one, including their diagnosis.: 1: No reha, 2: Reha needed, but rejected, 3: Reha/Musculoskeletal disease, 4: Reha/Neoplasm, 5: Reha/Somatic disease, 6: Reha/Mental disorders, 7: Reha/Substance-related diseases, 8: Reha/Unclassified diseases, 9: Death. Note that category 2 is based on recorded applications for rehabilitation that were rejected. As individuals can only apply after a doctor has approved the need for rehabilitation, we use this as proxy for rehabilitation need.

Method. First, we describe the prevalence as well as most frequent trajectories around divorce. Second, Sequence and Cluster Analysis allows us to identify common, distinct patterns of severe health in the period of three years before until the six years after divorce. We run the analysis by gender to identify gender-specific trajectory patterns.

3. First results

First, Figure 1 reveals the prevalences of rehabilitation and related diagnosis in the years around divorce by gender. Much higher shares of women compared to men experience rehabilitation due to mental health issues, especially in the year of and the years after divorce. Furthermore, the prevalences of mental health related rehabilitation of women do not decrease much after divorce, while they do so for men. However, men experience an increase of rehabilitations due to substance-related disorders (such as alcohol disorder) until divorce, which peaks in the year of divorce and decreases afterwards. For women, such trend is not evident and their prevalences of rehabilitations due to substance-related disorders is clearly lower at all observed years. This is in line with survey data for regular drinking in Germany (Leopold 2018). Both genders increasingly applied for rehabilitation that were not approved, until the year of divorce, with prevalences being higher for women compared to men for all years. For both, men and women, we observe the largest prevalence of rehabilitation due to musculoskeletal diseases, which peak in the years after divorce. Most likely, these are related to, partly age-related, sport and bone injuries.

Figure 1. Prevalence of rehabilitation and related diagnosis around divorce by gender



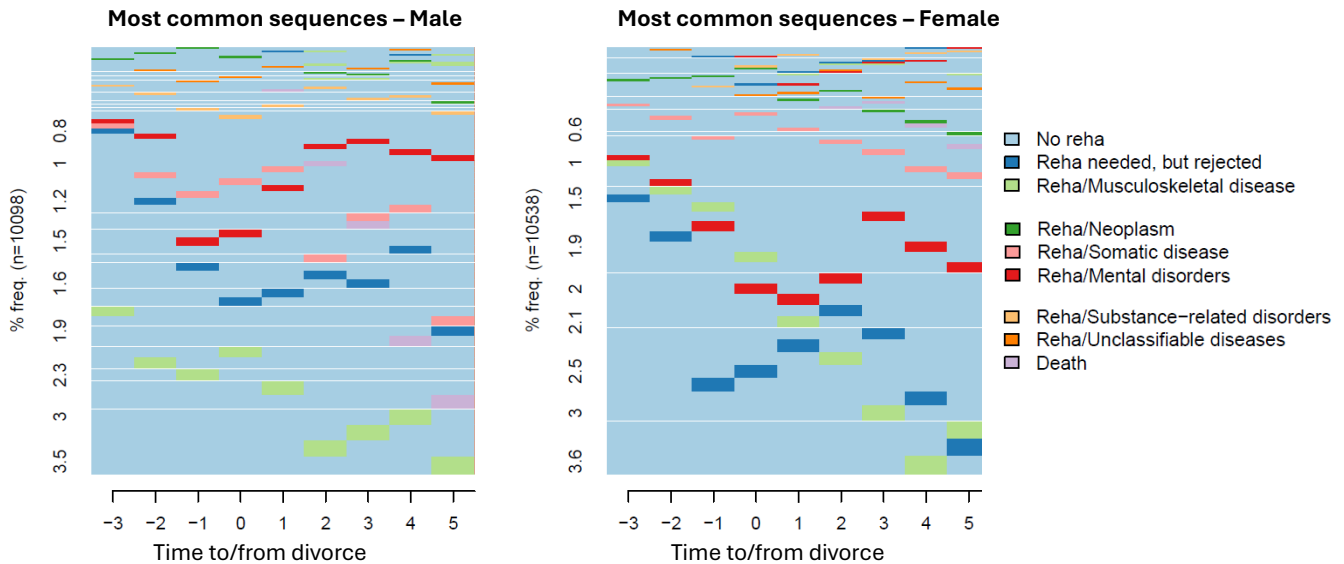
Source: CDH2011-2024, own calculations.

In Figure 2, we reveal the 70 most frequent rehabilitation trajectories around divorce, separately for women and men. First, we find that the ~50 most frequent trajectories are characterized by only one single rehabilitation event that differs in the diagnosis and timing. Second, focusing on the timing, we clearly observe that among women many more of the most frequent trajectories have their rehabilitation event in the years close to divorce (especially the year of divorce or up two years before or after). Third, these frequent trajectories are driven by mental health diagnosis as well as rehabilitation applications that were not approved, highlighting again that our preliminary results suggest women to be more affected by severe mental health conditions around divorce compared to men. These gender-specific health trajectories, showing more adverse mental health effects among women, are in line with previous studies that used less severe health indicators and found greater overall mental health declines for women (Zulkarnain and Korenman 2019; Kravdal and Wörn 2023). However, they contrast with the limited evidence from Germany based on self-reported mental health (Leopold 2018).

4. Next steps

Next, we will apply Sequence Analysis with cluster analysis to uncover typical rehabilitation trajectories around divorce by gender. This will provide a typology of the most common rehabilitation trajectories that men and women experience around divorce enabling a deeper understanding of gender differences in severe health experiences during divorce. Furthermore, using regression techniques, we will identify whether the rehabilitation trajectory patterns vary across other socio-demographics and the marital biography (long vs. short marriages). In the future, we will also consider employment and earnings trajectories, that are recorded in the register data as well, to further disentangle the potential interactions (selection, mediation) of divorce, health and employment characteristics.

Figure 2. 70 most frequent rehabilitation trajectories around divorce by gender



Source: CDH2011-2024, own calculations.

5. References

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