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Patterns and determinants in the use of occupational health services two years prior to depressive or anxiety disorder diagnosis: a sequence analysis

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Abstract

Depressive and anxiety disorders place a burden on working populations, yet little is known about employees' use of occupational health services (OHS) before receiving such diagnoses. This study examined patterns and determinants of OHS use during the two years preceding a depression or anxiety diagnosis, using Finnish national register-based data. Sequence analysis was used to identify patterns in OHS utilization. The sample included 55 207 individuals diagnosed within OHS between 2019 and 2022.

Four distinct OHS use patterns emerged. The largest cluster (54%) showed stable service use but had fewer individual contacts than other clusters, consisting more often of younger men with higher socioeconomic status working in smaller organizations. In contrast, 5% were frequent service users with higher contact rates, more physiotherapy visits, and a higher likelihood of lower education, employment in large organizations, and prior work disability benefits. Two additional clusters showed relatively frequent (27%) and moderately frequent (14%) service use and were composed of lower-level white collar employees in professional or administrative fields.

Across all clusters, psychological service contacts increased before diagnosis. Socioeconomic status was associated with service use patterns, with gender differences: men in the lowest income group were more often frequent service users than women. Employees in larger organizations used OHS more, likely reflecting better accessibility and more structured OHS practices.

The findings demonstrate that patterns of OHS preceding a mental health diagnosis diverge and are shaped by both employee and organizational characteristics. Recognizing early indicators of deteriorating mental health and offering timely support in OHS for employees is essential for preventing mental disorders.

Background

Common mental disorders burden both public health and the economy. They are among the leading causes of work disability worldwide and in Finland (Global, regional, and national burden…, 2022; Hakulinen et al., 2019; Pirkola et al., 2020). It has been estimated that the cost of lost work contribution due to long-term mental health-related sick leaves exceeds one billion euros per year in Finland (Blomgren & Rissanen, 2024). In 2024, among the most common causes for sickness absence from work in the national statistics for Occupational health services (OHS) were depression and anxiety disorders (11% and 9% of all sickness absence days, respectively) (Finnish Institute for Health and Welfare, n.d.).

OHS in Finland are designed to serve and improve employee health, well-being, and work ability. Regardless of the number of employees, employers are legally required to provide mandatory preventive OHS (Occupational Health Care Act 2001) These services are provided by multidisciplinary professionals including occupational physicians, nurses, psychologists, and physiotherapists. Finnish OHS providers deliver primary care that is similar in substance to international primary care standards but specifically targeted at the working population. The statutory responsibilities of OHS include evaluating work-related health risks, monitoring employee health and work ability, proposing and overseeing workplace improvements, advising and supporting employees, assisting employees with disabilities and referring them for rehabilitation, collaborating with other health care and social insurance services, engaging in activities to sustain work ability, and assessing the quality and impact of occupational health care initiatives. (Blomgren & Virta, 2020; Harkko et al., 2021).

Finnish employers can offer more extensive OHS than is legally required. As a result, approximately 80% of employees benefit from contracts that offer additional primary care services, including general or specialized medical care, as well as other health services. All employees within an organization have access to the same OHS provider, though the specific contents, like appointment types or number of available visits, can vary between employers according to the need of an employee. OHS is free of costs for employees. Entrepreneurs can also arrange OHS for themselves. The Social Insurance Institution (SII) of Finland reimburses 60% of the costs of preventive services and 50% of medical care costs if these are offered by employers (Health Insurance Law 1224/2004; Blomgren & Virta, 2020; Harkko et al., 2021; Harkko et al., 2020; Martimo & Mäkitalo, 2014). In 2023, 91% of employees were covered by OHS (Kela, 2023).

Although depressive and anxiety disorders pose a significant burden on the working population, little is known about the specific patterns and factors related to OHS use before receiving a mental health diagnosis. Several theoretical models have been developed to explore the various background factors influencing the use of health care services in general (Andersen, 1995; Hammer et al., 2024). These models suggest that economic, institutional, and cultural factors, for instance, influence the status of mental health, its relationship with work ability, and attitudes toward mental health care. Based on these models, it can be assumed that employees from different backgrounds differ, at least to some extent, in their use of OHS before receiving a mental health diagnosis.

Evidence also indicates that individuals differ both in their healthcare use and in how they manage mental health problems, shaped by their backgrounds (Blomgren & Virta, 2020; Rinne et al., 2022). For example, it is known that more frequent use of health care services for common mental disorders is associated with female gender (Roberts et al., 2018), and those with higher education are more likely to use psychotherapy (Leppänen et al., 2024; Selinheimo et al., 2024) and other non-physician services such as visits to psychologists or counsellors (Muwonge et al., 2025). The association between household income and receiving treatment for anxiety and mood disorders has previously been found to vary according to the type of treatment (Evans-Lacko et al., 2018) with higher income associated with specialist treatment. Our earlier study showed a small positive income gradient in the use of rehabilitative psychotherapy among women (Selinheimo et al., 2023). Accordingly, it is expected that individuals differ in seeking OHS before receiving a mental health diagnosis. For example, in larger Finnish work organizations, OHS agreements may cover a broader range of services, which could enable employees in these organizations to use services more frequently already in the pre-diagnostic phase compared to those working in smaller organizations, with limited services available.

The use of OHS has scarcely been studied. Sumanen et al. (2019) were able to differentiate between different trajectories of OHS use in young municipal employees in Finland. This study showed that lower-level occupational classes were associated with a higher propensity for 'High/recurrent' OHS utilization for both genders. In another Finnish study by Harkko et al. (Harkko et al., 2021), it was found that frequent OHS users more likely have mental disorder-related sickness absence. Reho et al. (Reho et al., 2020; Reho et al., 2019) reported that those who used OHS more frequently were more often women and worked in industries such as manufacturing, public administration, and social and health care. A study (Reho et al., 2024) investigating occupational health primary-care patients' use of other health-care services in Finland found that 10% and 13% of them used public primary care and private primary care as well, respectively. Especially women and older employees utilized multiple health-care sectors in parallel.

For clinicians and healthcare service providers to better predict, monitor and track development of common mental health problems, it may be beneficial to look for and understand potential patterns in the use of OHS (Carr, 2020; McIntosh et al., 2016). In this study, we used nationwide register data on OHS clients to identify patterns in the use of OHS in the two years preceding a diagnosis of depressive or anxiety disorder. We additionally examined whether the use of OHS was associated with sociodemographic background factors of the employees and structural factors of work organizations.

Methods

Population and data

We utilized extensive individual-level register data comprising administrational data from Terveystalo Plc., Finland's largest OHS provider, and several other nationwide registers. The dataset includes all clients of Terveystalo OHS from 2017 to 2022, totaling 1 609 762 working individuals of whom 67% had at least one OHS visit during the period. For this study, we selected individuals who had received their first diagnosis of depression or anxiety disorders (ICD-10 codes F32-33 and F40-F43) between 2019 and 2022 (125 294 individuals). We further restricted the analyses to those who had no sick leave due to depression or anxiety during the five years before the diagnosis, who were employed, and had used OHS during the two years preceding the diagnosis, resulting in 55 207 individuals in the final sample (Figure 1.).

Data included information on all visits or contacts to OHS, covering both statutory and medical care visits, as well as the processes that support work ability in, such as health check-ups and consultations along with their timing. These data have been linked to information from the national sickness insurance register of the SII, including data on all sickness benefit periods (granted from the 10^{th} day of sickness absence onwards) with their start and end dates. The register data from the Finnish Centre for Pensions provided information on all disability pensions. Sociodemographic background factors were drawn from the registers of the Statistics Finland. Data drawn from these three registers were linked based on Finland's unique personal identity codes assigned at birth.

Outcome

The primary outcome was the use of OHS (types and frequency of visits and contacts) during the two years before the first diagnosis of depression or anxiety disorder (ICD-10 codes F32-33 and F40-F43) between 2019 and 2022. The visits or contacts in OHS were categorized according to professionals into physicians (general practitioners, specialists in occupational health and other specialists), nurses (specialists in occupational health and other specialists), physiotherapists or psychologists specialized in occupational health, nutritionists, social workers, psychotherapists and others. For the analysis, visits or contacts primarily for preventive purposes and general or specialized medical care were grouped according to these categories. If a client had two or more appointments at OHS on the same day, those visits were grouped into the category of multiple services.

Sociodemographic characteristics and work disability benefits

Sociodemographic characteristics were obtained one year preceding the diagnosis. Education was grouped into low (comprehensive school and upper secondary school), intermediate (vocational education) and high (university of applied sciences and university). Occupational status was coded according to socioeconomic groups into upper-level white-collar employees (higher administrative, managerial, and professional occupations), lower-level white-collar employees (administrative and clerical occupations) and manual workers. Additionally, we used information on individuals' annual gross incomes from the Finnish Centre for Pensions register, categorizing individuals into annual income quartiles. Information on sickness benefit periods and disability pensions were analyzed during the previous five years

Workplace characteristics

Data on workplace characteristics from the Terveystalo Plc. registers included information on employers, such as company size and industry. Company size was categorized into micro (<10 employees), small (10–49 employees), medium-sized (50–249), and large enterprises (>250). Industry was categorized according to the Standard Industrial Classification TOL 2008 and grouped into: i) manufacturing, technical service, transportation, ii) accommodation and service, iii) information and financial activities, iv) education, v) health and social work, vi) professional and administrative activities, and vii) other.

Statistical analyses

We used sequence analysis to identify patterns in the use of OHS. Sequence analysis, originating from social sciences, is a method used to explore ordered sequences of healthcare events and categorize individuals into groups with similar care use patterns. The key steps in sequence analysis include choosing an appropriate set of symbols to represent different states and time intervals, defining measures to assess dissimilarity or distance between sequences, and clustering these sequences based on the calculated dissimilarity (Abbott & Tsay, 2000; Mathew et al., 2024).

For each individual, the day a diagnosis of depressive or anxiety disorder first appeared on their record was set as day zero, and their daily use of OHS was tracked for two years preceding that date. Due to the large dataset of 55 564 individuals with sequences spanning 730 days, we divided the data into four

equal-sized partitions and analyzed each separately. We had no prior hypotheses for the differences in states (use of OHS) and therefore we used optimal matching with constant distance in the sequence analysis. Thereafter, we examined screen plots to find the optimal number of clusters. For each of the four data partitions, the optimal number of clusters varied between 4 and 6. On all partitions, the clusters were nearly identical for any cluster solutions. As the six-cluster solution did not provide any more meaningful interpretability over the four-cluster solution, we used the four-cluster solution for the remaining analysis.

After clusters were defined for each partition, we combined the data for further analysis. Finally, we used multinomial regression analysis to examine whether sociodemographic and workplace characteristics were associated with each cluster. Analyses were conducted with R (4.3.1) and packages Tidyverse (2.0.0), TraMineR (2.2-10) and nnet (7.3-19).

Results

The four identified clusters of OHS use were: Cluster 1 (54%) Average use of services (N = 29 762), Cluster 2 (27%) Relatively frequent use of services (N = 15 182), Cluster 3 (14%) Moderately frequent use of services (N = 7 547), and Cluster 4 (5%) Frequent use of services (N = 2 716). The descriptives of sociodemographic and workplace characteristics for each cluster are shown in Table 1. Cluster-specific average numbers of OHS visits or contacts per individual during follow-up are presented in Table 2. Adjusted associations between these characteristics and cluster memberships are shown in Table 3.

Individuals in Cluster 1 were more often men, younger, highly educated, and upper-level white collar employees, and they tended to work in smaller organizations than those in the other clusters. Clusters 2 and 3 were rather similar to each other in terms of background factors; individuals were most often lower-level white collar employees working in professional and administrative sectors. Individuals in Cluster 4 worked more often in larger companies than those in other clusters, were more frequently manual workers, had lower educational level, and less often belonged to the lower income classes. They had also been granted more all-cause sickness benefit periods and disability pensions than those belonging to other clusters. When we looked in more detail at the discrepancy between the gradients of different socioeconomic indicators in predicting cluster membership (Table 3), income class showed the most consistent association with cluster membership in contrast to education and occupational class, with less significant associations. We also detected a significant two-way interaction between gender and income class. Men in the lowest income class were among frequent service users in OHS (Cluster 4) more often than women Similarly, men with occupational status other than upper-level white collar workers belong more often to Cluster 4 (Appendix, Table 1).

Figure 2 presents the chronograms, which depict the daily proportional distributions of OHS use for each cluster. Two clusters, Cluster 1 (Average use of services) and Cluster 4 (Frequent use of services), stood out from each other more than from the others. Cluster 1 was described by a more constant total OHS use per day (Fig. 2) and less frequent use per individual (Table 2) than the other three clusters. In the last six months, the relative frequency of use of psychological services increased steadily, as had the overall use of OHS (Fig. 2). Individuals in Cluster 4 visited or contacted all studied OHS professionals during the follow-up period of two years more often than individuals in the other clusters. Among frequent service users, the daily relative frequency of physiotherapy visits of all visits was larger than in the other clusters. Clusters 2 and 3 positioned between the profiles of Clusters 1 and 4. The profiles of visiting or contacting OHS were roughly similar in these clusters (Table 2 and Fig. 2).

Discussion

In this register-based study, we analyzed occupational health service (OHS) utilization during the two years preceding a diagnosis of depressive or anxiety disorders and identified four distinct patterns of service use. These patterns were further differentiated by employees' sociodemographic characteristics and organizational structural factors. Although most individuals used OHS relatively consistently throughout the two-year period, the relative frequency of psychological service use increased across all clusters during the six months prior to diagnosis. This common increase suggests a critical window for earlier detection and intervention. Two clusters diverged most clearly: the largest cluster (Cluster 1, the Average use of services) comprised somewhat younger men with higher socioeconomic status who contacted OHS less often. In contrast, frequent service users (Cluster 2) showed substantially higher overall service use, a greater proportion of physiotherapy contacts and were more often employees with lower educational attainment, employed in larger organizations, and with more prior work disability.

Our findings align with earlier findings demonstrating that healthcare utilization is closely linked to socioeconomic status even after adjusting for need (Blomgren & Virta, 2020). Consistent with previous Finnish studies (Reho et al., 2020; Reho et al., 2019; Sumanen et al., 2019), lower socioeconomic status, in terms of education and occupational group, and female gender were associated with more frequent OHS contacts. Similarly, the small proportion of frequent users contributing to a large share of daily visits parallels earlier observations (Reho et al., 2019). These results are also consistent with theoretical models suggesting that OHS utilization prior to a mental health diagnosis varies across sociodemographic groups. Income emerged as a particularly strong predictor of cluster membership in our study. Earlier findings indicate that higher-income employees are more likely to rely on OHS or combine OHS with private care, while lower-income employees rely more on public health services or not access care at all (Blomgren & Virta, 2020). Notably, in our study, the association between income and cluster membership differed somewhat by gender. Within the lowest income group, men exhibited a higher likelihood of being frequent service users compared to women. This result may be related to gender-segregated labor markets and to differences in opportunities to access mental health care through OHS. Further, this may refer to the need for gender-sensitive analyses in the study of OHS and mental health.

Organizational context was also associated with service use: employees in larger companies used OHS more often, reflecting structural differences in OHS contractual arrangements (Nissinen et al, 2024). In Finland, smaller employers typically provide only the legally mandated preventive OHS, whereas larger employers more often contract for voluntary services and have greater capacity to implement structured early-support practices and systematic reporting. This can lead to unequal possibilities to use services among employees in organizations of different sizes. OHS contracts may also shape use patterns by

incentivizing certain services while restricting others, potentially resulting in both under- and overtreatment. For example, free services can encourage high-volume use with low clinical value, whereas more restrictive OHS contracts may constrain access to needed services.

Although individuals actively engage with psychological support services, we do not know about the sufficiency and appropriateness of the interventions provided. A key question concerns whether the support targets only individual-level symptoms or whether it also attends to work-related determinants that may contribute to the development or exacerbation of mental health conditions. Despite the receipt of support, a formal mental health diagnosis was eventually made at a later stage, suggesting that initial identification may have occurred too late. This pattern indicates that early manifestations of psychological difficulties may remain unrecognized or insufficiently addressed within existing service structures.

During two-year period before mental health diagnosis, the use of occupational physiotherapy was even more common than use of psychological services. Mental health challenges can sometimes be masked by physical symptoms such as pain or musculoskeletal problems, which may delay recognition of the underlying psychological issues. Identifying mental health-related components earlier within these presentations could enable timely, comprehensive interventions that help prevent or shorten periods of work disability. At the same time, ongoing limitations in physical functioning may themselves heighten the risk of later mental health problems. If this is the case, preventive care models could be strengthened by incorporating structured psychological support into physiotherapy and other early rehabilitation services, addressing interconnected physical and psychological risk pathways before more complex problems develop (Jurado-González et al. (2024); Barkow et al. (2004)).

By utilizing linked administrative registers, this study is among the first to describe patterns of OHS use preceding common mental disorder diagnoses. Register-based approaches are increasingly recommended for strengthening the prediction and monitoring of mental health problems (Carr, 2020; McIntosh et al., 2016). Although administrative registers were not originally designed for research, their quality in Finland and other Nordic countries is high (Gissler & Haukka, 2004), enabling comprehensive analyses of service use patterns at the population level. The gathered dataset represents a significant portion of Finnish employees and workplaces across various industries in a longitudinal study setting. On the other hand, a notable limitation is that register data do not include information on many factors related to health, behaviour, or the psychosocial work environment, which may also be associated with the use of occupational health services.

The findings point to opportunities for strengthening and developing early mental health intervention within OHS. The rise in psychological service use before diagnosis suggests that early assessment and support procedures, routine follow-ups when contact frequency increases, could improve timely detection. Socioeconomic and organizational differences indicate inequities in access, particularly in smaller organizations. Policies that promote more uniform OHS contracts, more uniform criteria for health check-ups and screening of symptoms that would enhance stratified care for work disability issues, better integration between OHS and public health services and ethically governed databased monitoring could enhance equity and continuity of care across workforce groups. Future research should clarify how OHS trajectories connect with public healthcare to identify effective pathways to care. A more detailed examination of the organizational factors and workplace conditions that precede a mental health diagnosis is also needed. In addition, we do not know about the content of the services and how it has affected the diagnosis made.

Conclusions

This study shows that employees follow separate occupational health service use patterns in the years preceding a diagnosis of depression or anxiety, with socioeconomic and organizational differences shaping access and utilization. The rise in psychological contacts before diagnosis indicates an opportunity for earlier identification and support. Inequities linked to income, gender, and company size emphasize the need for more consistent OHS practices and integrated care pathways. Strengthening early assessment procedures, improving equity in service availability, and understanding of how organizational factors influence care pathways will be essential for improving timely mental health intervention within occupational health services.

Declarations

Competing Interests

JK, AVU, OK, HJ have no competing interests. AVÄ was funded by independent research foundations (The Finnish Research Impact Foundation, The Research Council of Finland). As part of the funding conditions, collaboration with a private company was required. In this case, the health service company (Terveystalo Plc) contributed to the research by providing a portion of the research data and participating in collaborative aspects of the study. SS works as a part-time (10%) self-employed occupational health psychologist at Terveystalo Plc. JA works as a data-analyst and as a self-employed occupational psychologist at Terveystalo Plc. Neither the authors' institutions nor Terveystalo Plc influenced the design, execution, analysis, or reporting of the research. The researchers acted independently and followed academic research ethics. The content and conclusions of the study are not directed at or approved by either the authors' institutions or Terveystalo Plc.

Author Contribution

Conceptualization and methodology: JK, JA, SS, OK, AVu, HJ, AVä; writing–original draft preparation: JK, JA; writing–review and editing: all authors. All authors have read and agreed to the published version of the manuscript.

Data Availability

The study was register-based and used no identifiable individual´s material or data. The data was used according to the Act on the Secondary Use of Health and Social Data (552/2019), meaning that the customer and register data created during health and social service sector activities are used for scientific research purposes, other than the primary reason for which the data was originally saved. More information: https://stm.fi/en/secondary-use-of-health-and-

social-data, legislation (only in Finnish or Swedish) https://www.finlex.fi/en/legislation/collection/2019/552. Finnish Social and Health Data Permit Authority and Statistics Finland have approved this study.

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Tables

Table 1. Descriptive statistics of the study population (N=55 207) by cluster status (%).

		Cluster 1 (54%) **Average use of services** (N=29 762)	Cluster 2 (27%) **Relatively frequent use of services** (N=15 182)	Cluster 3 (14%) **Moderately frequent use of services** (N=7 547)	Cluster 4 (5%) **Frequent use of services** (N=2 716)
N		29 762	15 182	7 547	2 716
Gender (%)					
	Men	42.8	35.5	34.7	32.3
	Women	57.2	64.5	65.3	67.7
Age, mean (sd)		40.6 (11.3)	42.3 (11.4)	42.7 (11.6)	44.1 (11.5)
Education (%)					
	Low	46.0	45.3	46.4	53.2
	Intermediate	10.6	12.4	13.3	13.7
	High	43.4	42.3	40.3	33.1
Occupational group (%)					
	Upper-level white collar employees	26.9	25.9	24.4	19.7
	Lower-level white-collar employees	43.0	46.6	47.0	46.4
	Manual workers	20.8	20.0	21.3	25.0
	Self-employed	1.9	1.0	1.1	0.8
	Others	7.4	6.5	6.3	8.1
Industry (%)					
	Manufacturing. technical service. transportation	18.0	16.7	17.1	18.0
	Accomodation and services	31.2	29.8	31.1	30.8
	Education	5.3	5.3	5.0	4.1
	Health and social work	8.4	8.4	8.2	8.2
	Information and financial activities	7.6	8.1	6.8	6.1
	Professional and administrative activities	24.4	26.6	26.3	26.6
	Other	5.1	5.2	5.4	6.1
Company size (number of employees)					
	<10	6.6	3.8	3.7	2.1
	10–50	17.3	15.0	15.7	12.9
	50–250	24.2	25.5	24.8	23.4
	>250	51.9	55.7	55.8	61.5
Gross income per yesr, quartile (%)					
	1 Lowest	6.1	3.5	3.8	4.9
	2	28.6	28.6	30.0	34.6
	3	35.1	37.5	36.5	34.5
	4 Highest	30.2	30.4	29.7	25.9
Number of sickness benefit periods (all cause), mean (sd)		0.3 (1.9)	1.1 (4.1)	1.7 (5.3)	5.1 (9.4)
Disability pension (all cause) in two years preceding the diagnosis (%)		0.7	1.6	1.8	6.4
Disability pension (all cause) in 2–10 years preceding the diagnosis (%)		1.3	2.6	2.4	5.5

OHS visits by professional, N (%)					
	Doctor	23149 (78)	11461 (75)	5902 (78)	2046 (75)
	Nurse	2984 (10)	1355 (9)	625 (8)	199 (7)
	Psychologist	355 (1)	229 (2)	125 (2)	40 (1)
	Physiotherapist	173 (1)	108 (1)	65 (1)	27 (1)
	Psychotherapist	8 (0)	26 (0)	9 (0)	4 (0)
	Other	9 (0)	6 (0)	9 (0)	-
	Several	3084 (10)	1997 (13)	812 (11)	399 (15)

Table 2. Average number of visits or contacts in OHS **per individual during follow-up** by cluster.

Professional	Cluster 1 (54%) **Average use of services** (N=29 762)	Cluster 2 (27%) **Relatively frequent use of services** (N=15 182)	Cluster 3 (14%) **Moderately frequent use of services** (N=7 547)	Cluster 4 (5%) **Frequent use of services** (N=2 716)
Doctor	3.2	8.6	10.7	19.8
Nurse	0.9	2.2	2.8	6.2
Psychologist	0.3	0.9	0.9	1.4
Physiotherapist	0.2	1.3	1.9	5.1
Psychotherapist	0	0	0.1	0.3
Other	0	0	0	0.1
Several professionals	0.5	1.6	2	4.9

OHS = Occupational Health Services

Table 3. Results from multinomial regression analysis. Reference = Cluster 1 (**Average use of services** N=29 762)

		Cluster 2	Cluster 3
		Relatively frequent use of services (N=15 182)	**Moderatel**
Variable		OR (95 % CI)	OR (95% C
Gender	Men	0.77 (0.72; 0.82)	0.70 (0.65;
Age (by 10 years)		1.05 (1.02; 1.08)	1.07 (1.03;
Education	Ref: High		
	Intermediate	1.02 (0.94; 1.12)	1.08 (0.97;
	Low	1.01 (0.94; 1.08)	1.03 (0.94;
Occupational group	Ref: Upper-level employees with administrative, managerial, professional and related occupations		
	Lower-level employees with administrative and clerical occupations	1.12 (1.03; 1.20)	1.14 (1.03;
	Manual workers	1.17 (1.05; 1.29)	1.24 (1.09;
	Self-employed	0.75 (0.58; 0.97)	0.73 (0.53;
	Others	1.07 (0.94; 1.21)	0.95 (0.80;
Income quartile	Ref: Q4 (Highest)		
	Income_Q3	0.96 (0.90; 1.03)	0.88 (0.81;
	Income_Q2	0.84 (0.77; 0.91)	0.84 (0.76;
	Income_Q1 (Lowest)	0.47 (0.40; 0.55)	0.49 (0.40;
Industry	Ref: Accomodation and services		
	Education	0.94 (0.82; 1.07)	0.88 (0.75;
	Health care	0.84 (0.76; 0.93)	0.77 (0.68;
	Information and financial activities	1.12 (1.00; 1.26)	0.89 (0.77;
	Manufacturing, technical service, transportation	0.95 (0.87; 1.03)	1.01 (0.91;
	Professional and administrative activities	0.98 (0.87; 1.11)	1.00 (0.86;
	Other	0.99 (0.92; 1.06)	0.94 (0.86;
Size of organization	Ref: number of employees +250		
	Number of employees 50–250	1.01 (0.95; 1.08)	1.00 (0.92;
	Number of employees 10–50	0.85 (0.79; 0.92)	0.92 (0.83;
	Number of employees <10	0.57 (0.50; 0.66)	0.57 (0.48;
Number of sickness benefit periods (all cause)		3.22 (2.89; 3.58)	4.38 (3.92;
Disability pension (all cause) in two years preceding the diagnosis (%)		1.20 (0.94; 1.52)	1.03 (0.78;
Disability pension (all cause) in 2–10 years preceding the diagnosis (%)		1.51 (1.27; 1.80)	1.28 (1.03;

Figures

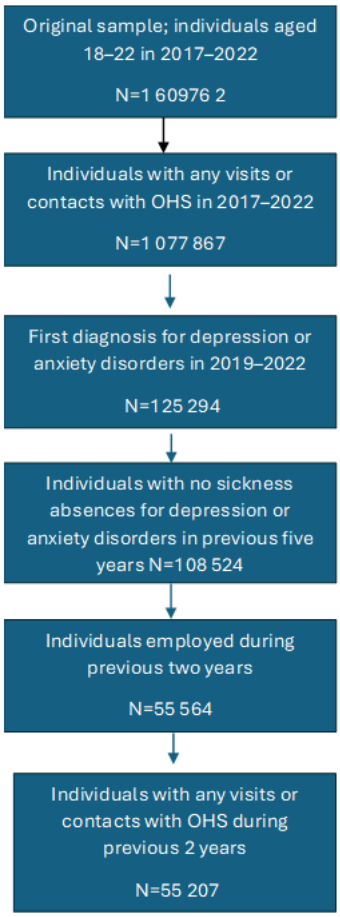


Figure 1

Sample flowchart

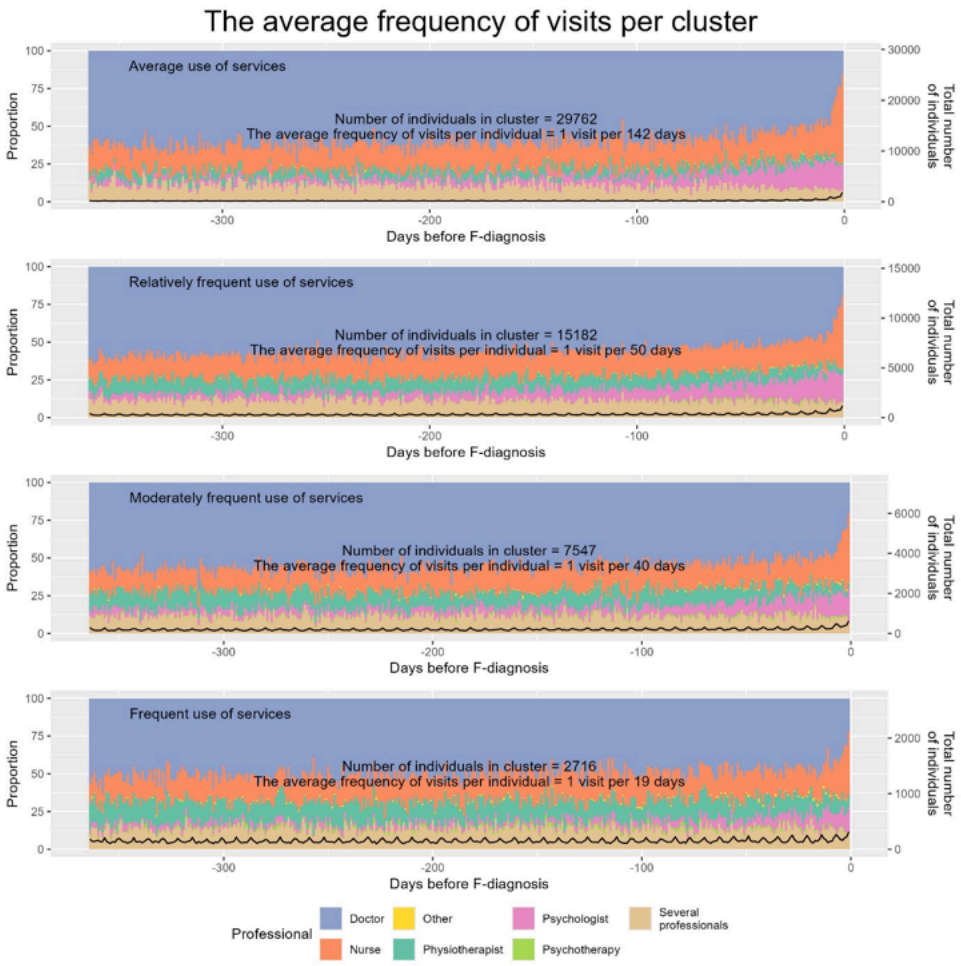


Figure 2

Sequences by cluster. The day of the first diagnosis for depression or anxiety disorders is marked with 0, and the OHS use is tracked daily for the previous one year (x axis). Colored bars represent the proportion of each service used daily (left y-axis) in each cluster. The black line depicts the number of individuals who used the services on a given day (right y-axis). Also, the average frequency of visits per individual is given for each cluster. For clarity, only a one-year follow-up period is shown.

Supplementary Files

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- Appendix.docx