



National Health Index 2019–2021

Regional differences in morbidity and work disability are similar between wellbeing services counties: the best situation in Uusimaa and Ostrobothnia

MAIN FINDINGS

- National Health Index covers several indicators that replace the previous THL's Morbidity Index and Kela's Health Barometer. The indices bring together information on the Finnish population's health, functional capacity and work disability more widely than before.
- The healthiest Finns live in Ostrobothnia, in the wellbeing services counties of Uusimaa and in Helsinki, and the unhealthiest in North Savo and North Karelia.
- The widest regional differences are observed in the subindices of alcohol-related diseases, coronary diseases, musculoskeletal diseases and mental health.
- Work disability is the most common in Kainuu, North Savo and North Ostrobothnia, and the least common in West Uusimaa, Helsinki and the wellbeing services county of Vantaa and Kerava compared to the whole country.

National Health Index covers several indicators that replace the previous THL's Morbidity Index and Kela's Health Barometer. The morbidity index, work disability index and their subindices describe the prevalence of diseases and work disability relative to their prevalence in the total population (whole country = 100). The more common morbidity or work disability in the region, the greater the index value.

When comparing wellbeing services counties to the whole country in the years 2019–2021, the healthiest Finns lived in Ostrobothnia (total index on morbidity 85) and West Uusimaa (87) and the unhealthiest in North Savo (121) and North Karelia (115) (Figure 1). Examining by disease group specific subindices, the greatest differences between the healthiest and least healthy wellbeing services counties were observed in indices describing the prevalence of alcohol-related diseases (range 55–148), coronary disease (76–135) and musculoskeletal disorders (73–135), and in the mental health index describing severe mental health disorders (79–134). In addition, the indicators specific to disease groups in the morbidity index also describe the prevalence of cancers, cerebrovascular diseases, accidents, memory disorders, chronic respiratory diseases and diabetes.

Relative to the whole country level, work disability was the most common in Kainuu (total index 135), North Savo (135) and North Ostrobothnia (129), and least common in West Uusimaa (69), Helsinki (71) and the wellbeing services county of Vantaa and Kerava (74). The work disability index consists of three subindices, describing the prevalences of work disability pensions, sickness allowances and vocational rehabilitation. The total index on work disability takes into account all three types but gives the highest weight to the number of persons receiving work disability pension because it describes the most long-term work disability.

The calculation of the National Health Index indicators is based on national register data from different register keepers (Kela, Finnish Institute for Health and Welfare, Finnish Centre for Pensions and Statistics Finland).

Päivikki Koponen

firstname.lastname@thl.fi

Elsi Lindell

firstname.lastname@thl.fi

Kati Sarnola

firstname.lastname@kela.fi

Riitta Luoto

firstname.lastname@kela.fi

To be considered in this year's statistic

Indicator results of the new National Health Index statistics are published first for wellbeing services counties. Results for municipalities and collaborative areas are published later in 2023.

Compared to the previous THL's Morbidity Index, the number of disease groups considered, their definitions and data sources have changed. The results are therefore not directly comparable with the previously published THL's Morbidity Index (1, 2, Appendix table 1).

This statistical report presents the results of National Health Index for the period 2019–2021. Results for the periods 2017–2019 and 2018–2020 have also been published in Sotkanet Indicator Bank and Kela's Info Tray databases. More detailed region-specific data on the indices can also be found in Appendix table 3.

In the morbidity index, the prevalence of each disease group is weighted according to its significance in terms of mortality, work disability, quality of life and the costs of health and social service use (Appendix table 2).

The work disability index considers the benefit recipients aged 16–64 years and their proportion in the population of the corresponding age. Of recipients of work disability pension, the recipients of both earnings-related pension and Kela's pension in December each year are included. The weight given to recipients of partial disability pension is 0.5 in the general index. Of sickness allowance recipients, those who have received the allowance for at least 90 days per year have been taken into account. The weight given to recipients of a positive decision on vocational rehabilitation is 0.5 in the general index.

The index figures described in this report are age-standardised, which means that the impact of regions' varying age structures has been removed. Both age-standardised and non-standardised versions of the indices are published. Age-standardised results are suitable for comparisons between regions. The non-standardised index in turn describes the actual burden of disease or work disability in the region.

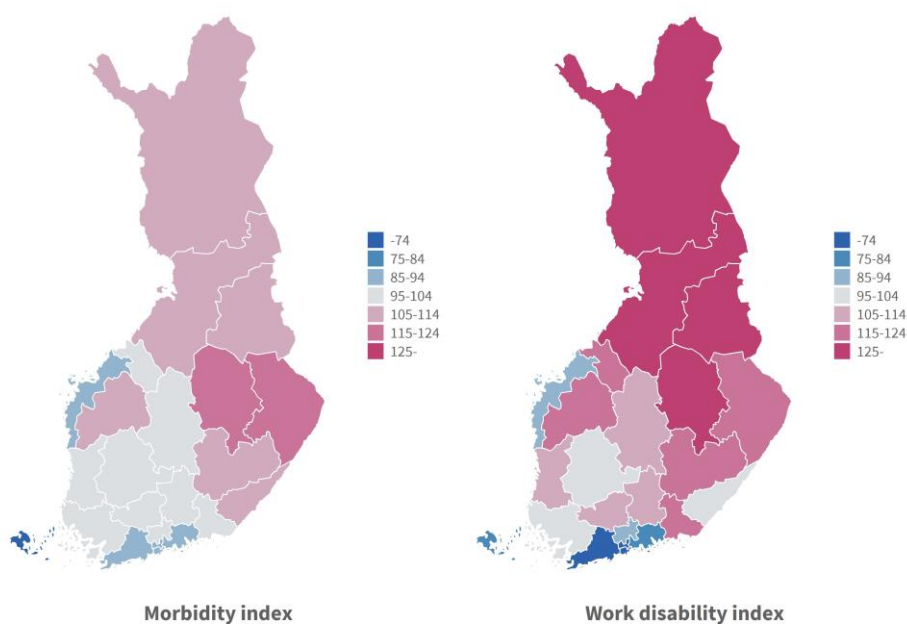


Figure 1. Differences in morbidity and work disability between wellbeing services counties 2019–2021, age-standardised indices (map: Statistics Finland 2023)

The most significant regional differences in morbidity are found in alcohol-related diseases, coronary disease, musculoskeletal disorders and mental health

The majority of the disease group-specific subindices describe the prevalence of chronic diseases, meaning that their calculation is based on the number of persons who have developed the disease and received a diagnosis. The indices describing diseases that require immediate and typically intensive treatment are calculated based on the disease incidence. These include, for example, a significant part of cancers as well as acute events described by the coronary disease and cerebrovascular diseases indices.

In comparing the wellbeing services counties (Table 1), it was observed that in North Savo the index figures for mental health (134) and musculoskeletal disorders (135) were markedly higher than in other counties and nationally. The index for alcohol-related diseases was the highest in North Karelia (148). This subindex was also clearly higher than in the other regions in South Karelia (141), where also the coronary disease index (135) was observed the highest among counties.

Lower index figures than in the other counties and nationally were observed in several disease groups (index figures 55–93) in Ostrobothnia and in Helsinki. In cancer index, differences between the counties were smaller than in the other subindices (index figures 88–106). The greatest regional differences were detected in alcohol-related diseases (index figures 55–148). In this disease group in particular, as well as in memory disorders and in the information on attempted suicides included in the mental health index, regional differences in identifying these health conditions, access to treatment and in practices in recording medical information may contribute to the regional differences observed in morbidity.

Table 1. Regional variation of disease group-specific subindices 2019–2021

Subindex	Lowest index figure	Highest index figure
Cerebrovascular diseases	70.8 (Pirkanmaa)	123.5 (South Karelia)
Alcohol-related diseases	54.5 (Ostrobothnia)	148.4 (North Karelia)
Diabetes	84.8 (Helsinki)	117.5 (South Ostrobothnia)
Respiratory diseases	85.5 (Helsinki)	120.2 (Kainuu)
Mental health	78.8 (Ostrobothnia)	133.8 (North Savo)
Memory disorders	80.2 (Ostrobothnia)	120.0 (Central Ostrobothnia)
Coronary diseases	76.4 (Kanta-Häme)	134.8 (South Karelia)
Cancers	87.9 (Kainuu)	106.3 (Päijät-Häme and Kymenlaakso)
Musculoskeletal disorders	72.6 (Helsinki)	135.1 (North Savo)

Work disability index showed the most significant regional differences in the subindex of vocational rehabilitation

The total index on work disability takes into account three subindices (Table 2). The largest weighting in the total index is given to the number of persons receiving work disability pension because it is an indicator of the longest-lasting work disability. The subindices for sickness allowances (more than 3 months) and for vocational rehabilitation are given a smaller weighting because these indices mostly describe short term or temporary work disability.

Table 1. Regional variation in the subindices of work disability 2019–2021

Subindex	Lowest index figure	Highest index figure
Disability pensions	68,0 (West Uusimaa)	138,2 (North Savo)
Sickness allowances	60,0 (Helsinki)	130,9 (Central Ostrobothnia)
Vocational rehabilitation	38,4 (East Uusimaa)	242,1 (North Karelia)

When comparing the wellbeing service counties to the whole country, the number of persons receiving work disability pension is the highest in North Savo (138), Kainuu (138) and North Ostrobothnia (130), and the lowest in West Uusimaa (68) and in Vantaa and Kerava (71). Because the weighting of the total index on work disability emphasises work disability pensions, the regional variation of the total index is very similar to the work disability pensions index.

The subindex of sickness allowances describes the proportion of persons receiving sickness allowance for a period of more than three months. When comparing the wellbeing services counties to the whole country, receiving long-term sickness allowance was the most common in Central Ostrobothnia (131), Kainuu (130) and North Ostrobothnia (129), and the least common in Helsinki (66), West Uusimaa (73) and Vantaa and Kerava (83).

The subindex on vocational rehabilitation describes the proportion of persons who have been granted a positive decision on vocational rehabilitation. When comparing the wellbeing service counties to the whole country, the proportion of persons who have received a positive decision on vocational rehabilitation is the highest in North Karelia (242), North Savo (177) and South Savo (153), and the lowest in East Uusimaa (38) and Helsinki (50).

Of the subindices of work disability, the subindices of work disability pensions and sickness allowances are mainly in line with the total index. There are differences in the

subindex of vocational rehabilitation in comparison with the total index. The realisation of all the benefits described in the subindices depends on the sufficiency of health services, especially of medical practitioners, as receiving the benefits requires a medical certificate. The realisation of vocational rehabilitation is also affected by the employee's own motivation for rehabilitation and how actively people are guided to vocational rehabilitation by healthcare.

For example, receiving sickness allowance is common in Central Ostrobothnia (131), while the subindex of work disability pensions (111) and especially the subindex of vocational rehabilitation (103) in the county are closer to the national average. In this situation, absences due to illness often do not lead to long-term work disability or a need for vocational rehabilitation. In the background, there may be reasons related to employers' activity, employees' general better health, their low need for vocational rehabilitation, or reasons related to the realisation of rehabilitation that cannot be specified based on the available data. Sickness allowance is intended as a temporary compensation for work disability, and it is not meant to automatically lead to permanent disability pension.

In North Karelia, the figure of the subindex of vocational rehabilitation is high (242), while the subindex of sickness allowance is just below (99) and the disability index slightly above (119) the average. There is a great deal of work disability in the population of North Karelia. However, based on the statistics it has been very actively intervened in by means of vocational rehabilitation.

Many factors influence morbidity and work disability

Differences in morbidity and work disability are influenced by many factors that have an effect on functional capacity. Lifestyle, such as smoking, alcohol use, physical activity and dietary habits have an impact, but lifestyle in itself is affected by many factors. Unemployment, financial situation and education are reflected in the health and functional capacity of the population. The functioning of health and social services as well as cultural and genetic factors also play a role.

Most diseases are much more common in the elderly than in young people. Examples of diseases that become more common with older age include memory disorders, coronary disease and cancer. Although morbidity has declined and this positive trend seems to continue for the majority of diseases, the proportion of older people in the population is growing, which means that the overall number of people suffering from illnesses will increase.

When comparing the index figures, it should be noted that a higher figure in regions' morbidity may reflect a well-functioning healthcare system as diseases are screened, diagnosed and treated actively. Similarly, work disability is affected by the availability of health services, which depends on the coverage and extent of occupational healthcare services, among other things.

It is possible that the backlogs in services and treatment resulting from the COVID-19 epidemic and related restrictive measures affects the results of this statistical report. However, their effects cannot be distinguished from the results that are now published.

Terms and definitions

Age-standardisation: In age-standardisation, the age structure of the regions is calculated to be the same for all regions. The population structure of the entire country, determined using the three-year period 2019–2021, has been used in age-standardisation.

Indices: Regional index figures describe the prevalence of diseases and work disability compared to the same age group nationwide (entire country = 100). The more common morbidity or work disability in the region, the greater the index value.

Weighting factors: When calculating the total indices of morbidity and work disability, their different subindices are given a weighting factor. These are described in more detail in Appendix table 2.

Morbidity: In the National Health Index, morbidity is described in the different subindices depending on disease group either as incidence, meaning that the examination focuses on the number of new cases of the disease or new persons who have developed the disease, or as prevalence, which means that the examination focuses on the number of persons with the disease and of diagnosed cases, i.e. persons who have been treated or have received benefits (e.g., valid entitlement to special reimbursement for a medicine, paid disability pension, reason for the episode of care or reason for visit) on the basis of a certain diagnosis. (See Appendix table 1 for more details)

Work disability: Work disability is described as the number of persons who have received disability benefits during the time period examined. (See Appendix table 1 for more details.) The results are not necessarily similar to results from population surveys on how people perceive their work capacity themselves.

thl.fi/tilastot/terveysindeksi

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Quality description

National Health Index

Relevance of statistical data

The statistics are based on the Act on the National Institute for Health and Welfare (668/2008), under which THL's duties include studying and monitoring the welfare and health of the population (Section 2). As part of this work, THL and Kela produce the National Health Index which is a collection of statistical data on the prevalence of the main disease groups with public health importance and the prevalence of work disability in regions and municipalities. The dataset will be released regularly in cooperation with the Finnish Centre for Pensions and Statistics Finland as from 2023. The dataset of the National Health Index replaces the data of the previous THL's Morbidity Index (1,2) and Kela's Health Barometer.

The indices allow municipalities and regions to compare their disease burden and work disability among their own population to that of the entire country and other regions. This information helps wellbeing services counties and municipalities to prevent the development of problems and to take measures that best promote well-being and health.

On a national scale, the index data can be used to monitor the development and regional differences in the morbidity and work disability of the population. National Health Index is included in the indicators used for monitoring the achievement of the national healthcare and social welfare objectives between 2023 and 2026 (3). In addition, the index is a key indicator describing the regional need for services, which THL uses for the performance assessment of the health and social services system (4). The statistics of National Health Index is now published for the first time, and the morbidity and work disability indices and their subindices are available for the periods of 2017–2019, 2018–2020 and 2019–2021.

Methodology

The statistics of the National Health Index are divided into

- a) The total morbidity index and its subindices. The disease groups included in the morbidity index are cancers, coronary disease, cerebrovascular diseases, musculoskeletal disorders, mental health disorders, accidents, memory disorders, respiratory diseases (chronic diseases), diabetes and alcohol-related diseases (definitions in Appendix table 1). Index results describing the prevalence of accidents, included in the morbidity index, could not be produced in spring 2023 because of changes in the data definitions in the National Care Registers for Social Welfare and Health Care (Hilmo), among other things. For this reason, the data on the prevalence of accidents included in the morbidity index has been frozen to the level of 2019 in this statistical publication.
- b) The work disability index and its subindices, which include indices for the prevalence disability pensions, sickness allowances and positive decisions on vocational rehabilitation.

The indices describe the prevalence of illnesses and work disability in a specific age group compared to the morbidity and work disability of that age group nationwide (entire country = 100). The more common morbidity or work disability in the region, the greater the index value. The morbidity and work disability indices equal 100 for the entire country in the most recent three-year period of the statistics.

The disease groups of the morbidity index were selected to the previous THL's Morbidity Index (cancers, coronary disease, cerebrovascular diseases, musculoskeletal disorders, mental health disorders, accidents, memory disorders) in 2012 and, as a result of development work carried out in 2021–2023, the morbidity index was extended to cover three new disease groups (respiratory diseases, diabetes and alcohol-related diseases). The justification for including the diseases in the index was that they are major public health problems that cause the majority of deaths and disability pensions among Finns, they create a significant part of healthcare and social welfare costs, and reliable data on their prevalence is available in the national registers. In 2019, almost 79% of the years of life lost in people aged under 80 were caused by the disease groups included in the index (Appendix table 2).

The same year approximately 74% of work disability pensions were granted due to diseases included in the index. In addition, they accounted for approximately 55% of the costs of health and social services. Other important selection criteria included the availability of data for calculation, regular updating of datasets and suitability for describing morbidity in particular, instead of reflecting regional differences in practices of the service system. Age limits were chosen for each disease group if the disease in question is very rare among people who are younger than the selected age limit, making it not feasible to collect data on them.

In the total morbidity index, the prevalence of each disease group is weighted based on its significance in terms of mortality, work disability, quality of life and healthcare and social welfare costs. The purpose of the weighting is to highlight the societal burden related to morbidity or caused by it and the different impacts on an individual. In the calculation of the morbidity index, each of the four weighting factors (mortality, work disability, quality of life, social and healthcare costs) is given an equal proportion of the weighting (25%). The total morbidity index figure for the region is the weighted sum calculated from the subindices of morbidity. Mental disorders, which are key causes of work disability and a decrease in the quality of life, receive the greatest weight in the morbidity index. The data sources and methods used in determining the weighting factors are described in Appendix table 2.

The work disability index takes into account the benefit recipients aged 16–64 years who live in Finland and their proportion in the population of the corresponding age. Of recipients of work disability pension, the recipients of both earnings-related pension and Kela's pension in December each year are included. The weight given to recipients of partial work disability pension is 0.5 in the total index. Of recipients of sickness allowance, those who have received the allowance for at least 90 days per year have been taken into account. The weight given to recipients of a positive decision on vocational rehabilitation is 0.5 in the total index.

To reduce random variation, the calculation of the indices is based on data from three consecutive years at all regional levels. For example, calculation of the 2021 indices is based on the data from the years 2019–2021. When looking at the time series of the morbidity indices, it should be noted that the index values for previous years also change with the new update. It should also be noted that the new index values are not comparable with the previous THL's Morbidity Index.

Accuracy and reliability of the data

Calculation of the indicators of National Health Index is based on the data from the national registers of THL, Statistics Finland, the Finnish Centre for Pensions, the Finnish Cancer Registry and the Social Insurance Institution of Finland (Kela). The correctness of the index data depends on the comprehensiveness and accuracy of these registers, described in their quality descriptions (Appendix table 1).

When looking at the time series, it should be noted that the values for previous years change each time when new statistics are released. Both an age-standardised and a non-standardised version of the index is produced, and their interpretations differ. Several diseases are heavily age-dependent, which means that the age structure of the population of a geographical area has a remarkable effect on the level of morbidity. The age-standardised index describes the difference in morbidity between various regions regardless of the age structure. The non-standardised index, on the other hand, provides a better description of the actual morbidity burden in the area. Age-standardisation is based on the indirect method (1).

The calculation of the population sizes and age-standardisation of the morbidity indices are carried using mid-year population statistics obtained from Statistics Finland's statistics on population structure. The population structure used in age-standardisation is that of the entire country and it is calculated from the most recent three-year period (2019–2021) in the statistics of National Health Index. For indices describing work disability, the population sizes and age-standardisation are implemented with Kela's population statistics, which are based on Finnish population at the end of January following the index year. For

each index, age-standardisation is carried out by using a dataset tabulated into five-year age groups.

The indicators of National Health Index have been developed to describe regional differences in the Finnish population's morbidity and work disability. There are many reasons behind the differences in morbidity and work disability. With regard to lifestyle, particularly smoking and heavy use of alcohol increase morbidity. The population's age structure, employment situation as well as educational and income level contribute to morbidity. Several health risks and illnesses tend to accumulate in population groups with a lower educational attainment, low income and long-term unemployment. Because of this, the index should not be used to draw conclusions on the performance of the healthcare system in various areas; other factors affecting morbidity, work ability and functional capacity that underlie regional differences should also be considered. The differences in work disability index are influenced by regional factors related to the provision of healthcare and social welfare, such as a shortage of doctors and the functioning of occupational health care as a factor preventing work ability problems and providing guidance.

There are also differences in healthcare practices, diagnostics of diseases, drawing up of the medical statements required for granting benefits and recording practices between regions that are independent of morbidity and the functional capacity of the population. These may explain some statistical anomalies especially in individual municipalities, but also in wellbeing services counties. For example, differences in the mental health index from one region to the next may simply be caused by varying practices in recording medical information. The healthcare system itself may also skew the findings: well-functioning health care may result in an apparently high morbidity that is actually due to more efficient screening, diagnosing and treating of diseases. Such factors may be reflected in the cancer index, for example: an index value higher than average may illustrate higher cancer morbidity or mean that the region is successful in the early diagnostics of cancer.

When looking at the time series of the work disability index, it should be noted that the index figures for municipalities and regions are influenced not only by the development of work disability in the region but also by the simultaneous development of the entire country. The age-standardised index describes the part of regional differences that are not due to differences in age structures. The non-standardised index in turn better reflects the prevalence of work disability in the region and, for example, the service need caused by it in comparison to the national level.

Timeliness and promptness of data

The new National Health Index combines the traditions of THL's Morbidity Index and Kela's Health Barometer. The index describes the prevalence of diseases of public health importance in Finland with an average delay of two years. This is due to the schedule of the completion of the causes of death register. However, changes in the incidence and prevalence of the main diseases included in the calculation of the indices cannot usually be observed over a short period of time. Only significant changes, for example, in the availability of screening or treatment could have an impact even in the short term.

Data on three consecutive years have been used in calculating the indices to ensure a sufficient number of cases even in regions with the smallest population size and to reduce the influence of random variation on the figure.

Availability and clarity of data

The index figures and their metadata will be published in THL's statistics and indicator bank Sotkanet and Kela's Info Tray, first by wellbeing services county. The statistics will be supplemented with municipality-specific data during 2023. The results for each statistical year are calculated based on the data for three consecutive years and recorded as the data for the last year of the three-year period (e.g. for 2021 for the period 2019–2021).

The statistics also have their own websites at [THL](#) and [Kela](#).

Comparability and coherence and of data

In connection with the update of the morbidity indices, the indices of all previous years are calculated again based on the most recent classification of municipalities. Other information is updated retrospectively as well, if it has changed.

Classifications describing a care event in healthcare and specialised healthcare in the Care Register for Health Care have been reformed with the reform applying since the data collection of the year 2019 (THL 2018). The reform applies to the register's variables for service sector and mode of arrival, which have been replaced with entirely new variables for contact mode and urgency. Because of this reform, it is possible that there are differences in the comparability of the morbidity indices in terms of time periods in some regions before and after 2019. This applies particularly to the indicators of the following disease groups, which are defined based on the incidence of hospitalisation episodes: coronary disease, cerebrovascular diseases and self-harm (as part of the dataset of the mental health index).

In those subindices where the data sources also include data from outpatient care in primary healthcare, it should be noted that comprehensive data has not been received from all health centres for all years because of problems with information systems, and there are deficiencies in the recording coverage of reasons for visit. It is known that especially in Helsinki and in the wellbeing services county of Vantaa and Kerava, there are deficiencies in the data accumulated in the Care Register system because of problems with the transfer of data in the patient information system. There may also be deficiencies in the data accumulated on specialised healthcare because of missing entries. The quality and coverage of the data may vary from one year to another and one region to another. A high index figure may indicate high morbidity and/or the fact that the diseases included in the calculation of the index are identified and treated particularly actively in the region.

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Appendix tables

Appendix table 1: National Health Index: Data content and data sources of the subindices

Appendix table 2: National Health Index: weighting factors by disease group and weighting in the work disability index

Appendix table 3: National Health Index: Index figures by region (wellbeing services counties) 2019–2021

Appendix table 1. National Health Index: data content and data sources of the subindices

Subindices of morbidity

Disease groups	Data content	Data source	Quality and coverage
<p>Cancers*</p> <p>Sotkanet: Cancer index (ind. 5643 and 5644)</p>	<p>Incidence of new cancer cases diagnosed during the year under review (excluding skin cancers other than melanoma), ICD-10 codes C00–96, D06, D09.0–1, D30, D32–33, D41–43, D45–D47, D76 and N87.2 in the entire population.</p>	<ul style="list-style-type: none"> • Cancer Registry (THL) • Population structure (Statistics Finland) 	<p>The Cancer Registry is a population-based and national register. Quality description: https://cancerregistry.fi/statistics/statistical-descriptions-quality-reports/</p> <p>Skin cancers other than melanoma were excluded because their burden on public healthcare is mainly low. The removal of a skin lesion is both diagnostic and therapeutic. Furthermore, the same persons have recurring skin cancers and no diagnostic confirmation is always received for them. This means that the coverage of the registry in terms of skin cancers other than melanoma is likely to be an underestimation.</p> <p>Restrictions:</p> <ul style="list-style-type: none"> • The index does not take into account the recurrence of cancers or the differences between the treatability of cancers and cancer mortality related to different cancers. • A cancer index higher than average may indicate high cancer morbidity and/or the fact that the area has succeeded in early diagnosing of cancer.

Disease groups	Data content	Data source	Quality and coverage
<p>Coronary disease*</p> <p>Sotkanet: Coronary disease index (ind. 5645 and 5646)</p>	<p>Incidence of acute coronary events that have led to hospitalisation (ICD-10 codes I20.0, I21–I22) or fatal events (ICD-10 codes I20–I25, I46, R96, R98) in the age group 35–79 years during the year of the review.</p>	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Causes of death (Statistics Finland) • Population structure (Statistics Finland) 	<p>Statistics on causes of death, quality description: https://www.stat.fi/en/statistics/documentation/ksyyt</p> <p>Statistics on specialised healthcare, quality description (in Finnish): https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh</p>
<p>Cerebrovascular diseases*</p> <p>Sotkanet: Cerebrovascular disease index, (ind. 5647 and 5648)</p>	<p>Incidence of first attacks of cerebrovascular disease that have led to hospitalisation or fatal attacks (ICD-10 codes I60–I64 except for I63.6) in the age group 35–79 years during the year of the review.</p>	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Causes of death (Statistics Finland) • Population structure (Statistics Finland) 	<p>Statistics on causes of death, quality description: https://www.stat.fi/en/statistics/documentation/ksyyt</p> <p>Statistics on specialised healthcare, quality description (in Finnish): https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh</p>

Disease groups	Data content	Data source	Quality and coverage
<p>Musculoskeletal disorders*</p> <p>Sotkanet: Musculoskeletal disorder index (ind. 5649 and 5650)</p>	<p>Of recipients of disability pension (in age group 16–64), pensions based on ICD-10 diagnosis code M00–M99 are taken into account in the index. Of entitlements to special reimbursement for medicines, codes 202, 313 and 281 are taken into account, i.e. those persons in the whole population who have been entitled to special reimbursement for antirheumatic medicines during the year of the review.</p>	<ul style="list-style-type: none"> • Statistics on pensions (Finnish Centre for Pensions and Kela): Recipients of disability pension • Statistics on reimbursement entitlements in respect of medicines (Kela) • Population structure (Statistics Finland) 	<p>The index covers persons who received disability pension either from the earnings-related or national pension system or from both systems.</p> <p>Statistics on Pensioners in Finland, quality description: https://www.etk.fi/en/research-statistics-and-projections/statistics/all-pension-recipients/</p> <p>Statistics on reimbursement entitlements in respect of medicines, quality description: https://tietotarjotin.kela.fi/en/statistic/2855926/statistics-on-reimbursement-entitlements-in-respect-of-medicine#quality-description</p> <p>Restrictions:</p> <ul style="list-style-type: none"> • The index describes the prevalence of long-term musculoskeletal disorders with the heaviest disease burden only with regard to disability pensions and entitlements to special reimbursement for antirheumatic medicines. • The data in the Care Registers did not provide sufficiently comprehensive information on musculoskeletal disorders, a significant part of which are excluded from the examination of this index.

Disease groups	Data content	Data source	Quality and coverage
Mental health disorders* Sotkanet: Mental health index (ind. 5651 and 5652)	A) Suicides: Persons who required medical treatment because of self-harm (ICD-10 codes X60–X84) or who committed suicide during the year of the review in the population aged 13 years and over.	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Causes of death (Statistics Finland) • Population structure (Statistics Finland) 	Statistics on causes of death, quality description: https://www.stat.fi/en/statistics/documentation/ksyyt Statistics on specialised healthcare, quality description (in Finnish): https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh Restrictions: <ul style="list-style-type: none"> • The data on attempted suicides in the Care Register should be treated with caution as regional differences may result from different practices in recording information on persons treated because of self-harm.
	B) Psychoses: Holders of entitlements to special reimbursement for medicines (Kela code 112) granted because of psychosis (severe psychoses and other serious mental health disorders) in the entire population in the year of the review.	<ul style="list-style-type: none"> • Statistics on reimbursement entitlements in respect of medicines (Kela) • Population structure (Statistics Finland) 	Statistics on reimbursement entitlements in respect of medicines, quality description: https://tietotarjotin.kela.fi/en/statistic/2855926/statistics-on-reimbursement-entitlements-in-respect-of-medicine#quality-description

Disease groups	Data content	Data source	Quality and coverage
	<p>C) Disability pensions: Persons who received disability pension from the earnings-related or national pension system because of mental health disorders and behavioural disorders (ICD-10 codes F03–F99, excl. F10 and F70–F79) in age group 16–64 years in the year of the review.</p>	<ul style="list-style-type: none"> • Statistics on pensions (Finnish Centre for Pensions and Kela): Recipients of disability pension • Population structure (Statistics Finland) 	<p>Disability pensions include pensions granted until further notice and fixed-term rehabilitation subsidies.</p> <p>Statistics on Pensioners in Finland, quality description: https://www.etk.fi/en/research-statistics-and-projections/statistics/all-pension-recipients/</p>

Disease groups	Data content	Data source	Quality and coverage
<p>Memory disorders*</p> <p>Sotkanet: Memory disorders index (ind. 5655 and 5656)</p>	<p>The prevalence of memory disorders in the population aged 30 years and over in the year of the review. The index takes into account the following diagnosis codes from the ICD-10 classification: F00–F03, F05.1, F10.73, F11.73, F14.73, F16.73, F18.73 and F19.73, G30.0–G30.9, G31.0–G31.8 and G91.2. With regard to doctor’s appointments in primary healthcare, ICPC-2 reason for visit code P70 is also taken into account. Of data on medicine purchases, drug code N06D in the ATC classification is taken into account.</p>	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Dispensed medicines reimbursable under the National Health Insurance scheme (Kela) • Population structure (Statistics Finland) 	<p>Statistics on specialised and primary healthcare, quality descriptions (in Finnish):</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/perusterveydenhuolto</p> <p>Dispensed medicines reimbursable under the National Health Insurance scheme, quality description:</p> <p>https://tietotarjotin.fi/en/statistic/2857522/statistics-on-dispensed-medicines-reimbursable-under-the-national-health-insurance-scheme#quality-description</p>

Disease groups	Data content	Data source	Quality and coverage
<p>Respiratory diseases</p> <p>Sotkanet: Lung diseases index (ind. 5657 and 5658)</p>	<p>Prevalence of asthma, chronic obstructive pulmonary disease and sleep apnoea in the population aged 20 years or over in the year of the review. ICD-10 diagnosis codes J44–J45 and G47.3 are taken into account in the index. Of doctor’s appointments in primary healthcare, ICPC-2 reason for visit codes R95 and R96 are also taken into account. Of holders of entitlements to special reimbursement for medicines, entitlement codes 203, 251, 297, 344, 395 and 348 are taken into account.</p>	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Statistics on reimbursement entitlements in respect of medicines (Kela) • Population structure (Statistics Finland) 	<p>Statistics on specialised and primary healthcare, quality descriptions (in Finnish):</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/perusterveydenhuolto</p> <p>Statistics on reimbursement entitlements in respect of medicines, quality description:</p> <p>https://tietotarjotin.kela.fi/en/statistic/2855926/statistics-on-reimbursement-entitlements-in-respect-of-medicine#quality-description</p>

Disease groups	Data content	Data source	Quality and coverage
<p>Diabetes</p> <p>Sotkanet: Diabetesindex (ind. 5661 and 5662)</p>	<p>Prevalence of diabetes in the entire population in the year under review. ICD-10 diagnosis codes E10–E14 are taken into account in the index. Of outpatient visits to primary healthcare, ICPC-2 reason for visit codes T89 and T90 are also taken into account. Of medicine purchase data, ACT drug code A10 is taken into account, and of entitlements to special reimbursement for medicines, entitlement codes 103, 215, 250, 285, 295, 346, 3011 and 3022.</p>	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Dispensed medicines reimbursable under the National Health Insurance scheme (Kela) • Statistics on reimbursement entitlements in respect of medicines (Kela) • Population structure (Statistics Finland) 	<p>Statistics on specialised and primary healthcare, quality descriptions (in Finnish):</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/perusterveydenhuolto</p> <p>Dispensed medicines reimbursable under the National Health Insurance scheme, quality description:</p> <p>https://tietotarjotin.fi/en/statistic/2857522/statistics-on-dispensed-medicines-reimbursable-under-the-national-health-insurance-scheme#quality-description</p> <p>Statistics on reimbursement entitlements in respect of medicines, quality description:</p> <p>https://tietotarjotin.kela.fi/en/statistic/2855926/statistics-on-reimbursement-entitlements-in-respect-of-medicine#quality-description</p>

Disease groups	Data content	Data source	Quality and coverage
<p>Alcohol-related diseases</p> <p>Sotkanet: Alcohol morbidity index (ind. 5659 and 5660)</p>	<p>Persons who received treatment because of a disease or condition related to excessive use of alcohol in the entire population during the year under review. The following ICD-10 diagnosis codes are taken into account in the index: F10, E24.4, G40.51, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.00, K86.01, K86.08, Q86.0, Y91, T51 and X45. Of outpatient visits to primary healthcare, ICPC-2 reason for visit codes P15 and P16 are taken into account, and reason for seeking treatment code 71 from the Care Register for Social Welfare. Of data on medicine purchases, ATC drug codes N07BB01, N07BB04 and N07BB05 are taken into account.</p>	<ul style="list-style-type: none"> • Care Registers for Social Welfare and Health Care (THL) • Dispensed medicines reimbursable under the National Health Insurance scheme (Kela) • Population structure (Statistics Finland) 	<p>Statistics on specialised and primary healthcare, quality descriptions (in Finnish): https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/esh</p> <p>https://thl.fi/fi/tilastot-ja-data/aineistot-ja-palvelut/tilastojen-laatu-ja-periaatteet/laatuselosteet/perusterveydenhuolto</p> <p>Dispensed medicines reimbursable under the National Health Insurance scheme, quality description: https://tietotarjotin.fi/en/statistic/2857522/statistics-on-dispensed-medicines-reimbursable-under-the-national-health-insurance-scheme#quality-description</p>

*A change in the data content and/or the definitions of the data in the Care Registers limits the comparability of the data with the previous subindex of THL's Morbidity Index.

The calculation of the population proportion and the age-standardisation of the indices of morbidity are based on the mean population obtained from Statistics Finland's statistics on population structure. The population structure of the entire country, determined using the most recent three-year period of the National Health Index statistics (2019–2021), has been used in the age-standardisation. Age-standardisation has been carried out with a dataset classified using 5-year age groups.

Statistics on population structure, quality description: https://stat.fi/til/vaerak/laa_en.html

Work disability index

Index	Data content	Data source	Quality and coverage
<p>Work disability index</p> <p>Sotkanet: Disability index (ind. 5663 and 5664)</p>	<p>Persons aged 16–64 year who have lived in Finland during the index year and received full disability pension, partial disability pension, sickness allowance for a period of at least 3 months or a positive decision on vocational rehabilitation.</p> <p>Population and age-standardisation have been carried out with data from the population statistics compiled by Kela. The population statistics includes the situation at the end of January of the year following the index year. Age-standardisation has been carried out by using five-year age groups.</p> <p>The index year consists of the average of the data for the statistical year and the previous two years. In municipal mergers,</p>	<p>Statistics on Pensioners in Finland (OSF) – Finnish Centre for Pensions (etk.fi)</p> <p>Statistics on sickness allowances Kela's Info Tray</p> <p>Statistics on the rehabilitation benefits provided by Kela Kela's Info Tray</p> <p>Kela's population information</p>	<p>Statistics on Pensioners in Finland, quality description: https://www.etk.fi/en/research-statistics-and-projections/statistics/all-pension-recipients/</p> <p>Statistics on sickness allowances, quality description: https://tietotarjotin.fi/en/statistic/2856248/statistics-on-sickness-allowances#quality-description</p> <p>Statistics on the rehabilitation benefits provided by Kela, quality description: https://tietotarjotin.fi/en/statistic/2708137/statistics-on-the-rehabilitation-benefits-provided-by-kela#quality-description</p> <p>An individual is recorded in only one part of the index, in the following order of precedence:</p> <ol style="list-style-type: none"> 1. Recipients of full disability pension 2. Recipients of partial disability pension 3. Persons who received sickness allowance for a period of at least 3 months 4. Recipient of a positive decision on rehabilitation <p>Restrictions:</p> <ul style="list-style-type: none"> • The weight given to the recipients of both partial disability pension and positive decision on vocational rehabilitation is only 0.5 in the calculation of the index.

	<p>the municipality has been taken into account in accordance with the index year.</p>		<ul style="list-style-type: none">• Does not include persons who have not lived in Finland permanently during the year under review.• As the largest group in the index is the recipients of disability pension, this group has the highest weight in the index. The number of those who have received a decision on vocational rehabilitation is clearly the lowest and their weight in the index is 0.5, so vocational rehabilitation has the least effect on the value of the index.
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Appendix table 2. National Health Index: Weighting factors by disease group and weighting in the work disability index.

Disease groups in the morbidity index

Disease groups	Mortality		Work disability		Decline in health-related quality of life		Costs		Total
	Share of all years of life lost (%)	Weight in the index	Share of all disability pensions (%)	Weight in the index	Share of the decline in the quality of life ³	Weight in the index	Share of all costs (%)	Weight in the index	Weight in total ²
Cancers	29.2	9.3	2.9	1.1	-	0.0	6.3	2.8	13.1
Coronary disease	10.8	3.4	0.9	0.3	-	1.2	1.0	0.5	5.4
Cerebrovascular diseases	3.5	1.1	2.0	0.7	-	3.2	4.7	2.1	7.1
Musculoskeletal disorders	0.3	0.1	20.1	6.8	-	3.5	4.9	2.2	12.7
Mental health disorders	9.7	3.1	40.2	13.7	-	5.7	13.0	6.0	28.4
Accidents	9.5	3.0	3.3	1.1	-	0.5	6.6	3.0	7.6
Memory disorders	2.7	0.8	1.2	0.4	-	0.0	12.9	5.8	7.1
Respiratory diseases	1.9	0.6	0.8	0.3	-	3.2	0.9	0.4	4.6
Diabetes	1.5	0.5	1.0	0.3	-	3.7	3.3	1.5	5.9
Alcohol-related diseases	9.6	3.0	1.2	0.4	-	3.9	1.7	0.8	8.2
Coverage¹ within the area of the phenomenon	78.7	-	73.7	-	-	-	55.3	-	-
Weight in the index (%)	-	25.0	-	25.0	-	25.0	-	25.0	100

¹ The share of all the reviewed disease groups in the phenomenon in question (e.g. years of life lost between ages 0–80).

² The weight of the disease group in the general index is obtained by summing up its aspect-specific weights, which are obtained using the formula 0.25^* (an individual disease group's share of the phenomenon in question (e.g. of years of life lost) / share of all the reviewed disease groups together of the phenomenon in question).

³ Could not be determined using the data of the FinHealth 2017 study (see methods and sources of data).

Methods and sources of data used in producing the weighting factors:

To prevent the impacts of COVID-19 from being reflected in the weighting, mainly data concerning the year 2019 were used in determining the weighting criteria.

1) Mortality: Determining the weight coefficients for mortality is based on the share of years of life lost calculated by disease group from all years of life lost between the ages of 0–80 years. The dataset used was the data of the statistics on causes of death for the year 2019 and the underlying cause of death in the statistics was taken into account in determining the cause of death. The lost years of life were determined by using the PYLL index (*Potential Years of Life Lost*). The maximum age limit used in the calculation is based on the life expectancy in Finland. In the PYLL index, weight is on deaths occurring at a young age.

2) Work disability: Determining the work disability caused by morbidity was based on recipients of disability pension from the earnings-based or national pension system in 2019. All persons who had during the year received disability pension granted as partial or full pension and until further notice or for a fixed term were taken into account in determining it.

3) Decline in health-related quality of life: The share of a disease group included in the morbidity index of the decline in the quality of life caused by the key chronic diseases, based on the dataset of the FinHealth 2017 study. The quality of life was measured with the the EUROHIS-QOL 8-item index, which in the linear regression model was explained with data on chronic diseases obtained from the survey and the Care Register for Health Care and adjusted with age, gender, marital status and education. (1) Disease-specific weight coefficients were obtained by dividing the disease group-specific estimate of the regression factor by the sum of these estimates and multiplying this by 25.

4) Costs: When determining the cost weighting factors, the cost data describing the health and social service use for the year 2019 was utilized, compiled in connection with the standardisation of the healthcare and social welfare funding. (2) The dataset is based on the data on the service use of the entire population in the Care Registers, combined with cost data mainly on national average unit costs. In addition, prescription medicine costs in outpatient care, rehabilitation reimbursed by Kela and the costs of the use of private healthcare services within the scope of Kela reimbursements were also taken into account when determining the cost weights of the National health index. The aim was to account for such costs related to diseases and their treatment incurred by individuals and the service system that are not covered by the Care Registers.

The costs related to morbidity were estimated by using a regression model in which the observed costs of the individual were explained with the morbidity background. Factors related to age, gender and socio-economic status were taken into account in standardisation. The disease classification developed in a study on the standardisation of the healthcare and social welfare funding was applied in determining the morbidity background.

Sources

1 Jääskeläinen et al. 2023, unpublished manuscript.

2 Holster, T., Haula, T. and Korajoki, M. 2022. Sote-rahoituksen tarvevakiointi: päivitys 2022. Terveysten ja hyvinvoinnin laitos. THL työpäperi 26/2022. Helsinki.

Work disability index

The index describes the work disability of the working-age population in municipalities and regions in relation to the national level. Three different groups have been taken into account in the index:

- Recipients of disability pension in December.
- Persons who have received sickness allowance for a period of at least 3 months during the year.
- Persons who have been granted a decision on vocational rehabilitation during the year.

The weight given to recipients of partial disability pension and a decision on vocational rehabilitation is 0.5.

Appendix table 3. National Health Index: Index figures by region (wellbeing services counties) 2019–2021

Region	Total work disability	Disability pension subindex	Sickness allowance subindex	Vocational rehabilitation subindex	Morbidity index	Cerebrovascular diseases index	Alkohol-related diseases index	Diabetes-index	Respiratory diseases index	Mental health disorders index	Memory disorders index	Coronary disease index	Cancer index	Musculo-skeletal disorders index
North Savo	134,5	138,2	118,1	177,4	120,6	109,7	125,1	110,7	112,5	133,8	112,3	119,9	95,8	135,1
North Karelia	118,8	119,3	98,8	242,1	115,4	102,7	148,4	112,4	116,9	111,1	104,4	128,3	93,2	125,3
North Ostrobothnia	129,4	129,9	129,3	121,8	110,8	96,8	94,3	104,8	104,7	122,0	115,7	112,9	96,9	120,5
Lapland	126,4	126,8	126,8	115,2	110,7	112,4	99,4	103,4	106,9	115,7	102,7	123,3	97,0	115,0
South Ostrobothnia	120,5	120,7	121,5	110,5	108,6	107,0	99,0	117,5	113,0	104,4	106,0	121,3	103,0	113,8
South Savo	123,7	127,8	108,1	153,0	107,5	110,8	115,3	106,7	100,8	109,0	104,0	127,2	91,2	109,3
Kainuu	134,8	137,5	130,2	116,1	107,0	110,9	124,1	105,7	120,2	100,3	116,0	114,4	87,9	123,1
South Karelia	102,6	105,0	99,8	77,6	105,2	123,5	140,5	99,6	92,0	98,4	92,9	134,8	100,1	95,8
Päijät-Häme	107,2	107,8	110,6	74,7	104,1	122,1	116,3	87,4	99,2	102,6	105,0	96,2	106,3	102,0
Kymenlaakso	120,8	125,0	114,8	82,9	104,1	115,7	110,4	101,4	91,3	99,9	113,0	102,3	106,3	111,4
Central Finland	108,0	108,7	103,3	128,2	103,5	117,1	105,1	102,1	108,3	102,7	96,1	107,9	93,4	102,6
Central Ostrobothnia	115,9	111,2	130,9	103,4	103,4	113,6	107,5	109,6	115,6	88,9	120,0	127,8	100,1	93,4
Whole country	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Pirkanmaa	102,9	99,5	106,2	141,5	97,9	70,8	104,3	102,6	107,1	100,9	96,5	87,8	97,1	103,7
Southwest Finland	103,2	101,0	109,8	98,9	97,9	97,1	90,6	96,0	97,0	101,2	96,0	90,5	105,1	100,5
Satakunta	112,0	112,9	109,7	111,9	96,6	112,6	99,4	104,9	93,5	86,6	88,0	101,7	98,9	100,8
Central Uusimaa	84,9	82,2	93,6	76,2	96,0	89,6	97,6	105,2	111,7	87,4	103,7	96,8	102,2	87,9
Kanta-Häme	105,5	102,8	110,8	119,9	95,9	92,5	92,5	102,8	108,1	88,6	92,8	76,4	99,6	108,4
Helsinki	70,5	73,2	66,0	49,7	92,2	94,9	88,2	84,8	85,5	99,4	100,8	83,9	104,6	72,6
Vantaa and Kerava	74,4	71,3	82,8	76,4	92,1	94,0	95,3	102,3	96,0	89,8	102,4	79,7	100,3	82,5
East Uusimaa	77,4	77,4	83,5	38,4	90,6	96,7	103,6	97,2	98,0	79,5	97,1	95,0	103,0	86,2
West Uusimaa	68,5	68,0	72,6	50,6	87,3	96,9	86,9	95,0	85,7	81,5	88,4	77,6	102,5	79,0
Ostrobothnia	87,2	83,8	99,5	68,1	84,6	89,4	54,5	88,6	92,7	78,8	80,2	101,4	100,1	84,7
Åland	75,4	61,2	121,6	27,3	56,1	27,7	35,4	63,2	70,9	43,7	36,7	65,8	109,5	61,0