

Statistical bulletin

Health in England: 2015 to 2021

Insights into England's health during the coronavirus (COVID-19) pandemic at national, regional and local authority level, using the Health Index.

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Correction

6 September 2023 14:35

Data for the “cancer screening attendance” indicator have been updated to correct an error in calculation. Previously, cervical cancer screenings for women aged 25-49 were erroneously excluded from the indicator. Data for 2015-2021 for this indicator, its subdomain “protective measures”, the Healthy Lives domain and the overall Health Index score have been corrected to reflect this change.

Notice

9 January 2025

Following the Health and Social Care Statistical Outputs consultation commissioned by the Health and Social Care Statistics Leadership Forum, we are improving some of our statistical products, so they are more coherent and efficient. Additionally, we are ensuring that our resources are deployed in producing statistics for maximum possible benefit.

Full details of changes to this product, and our other health and social care products, are available in the Health and Social Care Statistical Outputs Consultation Response. We welcome user feedback on our releases. Please use the contact details on individual publication web pages to share feedback.

Table of contents

1. [Main points](#)
2. [Health in England in 2021](#)
3. [Different aspects of health in England](#)
4. [Healthy People domain: health outcomes](#)
5. [Healthy Lives domain: protective measures](#)
6. [Healthy Places domain: living conditions](#)
7. [Local health differences](#)
8. [Health in England data](#)
9. [Understanding the Health Index](#)
10. [Glossary](#)
11. [Measuring the data](#)
12. [Strengths and limitations](#)
13. [Related links](#)
14. [Cite this statistical bulletin](#)

1 . Main points

A score of 100 in the Health Index and its components represents health in England in 2015. A higher number always means better health and a lower number means worse health.

- The Health Index for England was improved in 2021 compared with 2020, though it remained below 2019 levels.
- The Health Index has three domains, covering different areas of health: Healthy People improved considerably in 2021 (by 2.1 points), but remained well below scores seen before the coronavirus (COVID-19) pandemic.
- The change in the Healthy People score in 2021 came from improvements to personal well-being, mortality and physical health conditions (up 7.7, 1.6 and 1.2 points respectively), which were partly offset by worsening difficulties in daily life and mental health (down 2.5 and 0.8 respectively).
- Healthy Lives declined in 2021 (down 1.1 points), having also declined a similar amount in 2020; it had improved between 2015 and 2019, but these latest declines almost return scores to 2015 levels.
- The decline in Healthy Lives in 2021 was mostly because of a decline in protective measures, coming from a reduction in cancer screening attendance, which saw the largest decline in score of any indicator (down 7.1 points).
- Within the Healthy Places domain, the living conditions subdomain increased (up 1.3 points); the main contribution to this was improved household overcrowding and air pollution.

Statistician's comment

"Today's release provides more insight on how the pandemic affected so many aspects of our health. In 2021, the Healthy People score improved on 2020, caused by improvements in personal well-being, mortality rates and physical health. This could partly reflect the easing of lockdown restrictions and the vaccine rollout.

"The Healthy Lives score, representing the behaviours and circumstances which affect our health, declined further in 2021. Meanwhile, the Healthy Places category saw continued improvement, largely due to a reduction in air pollution and household overcrowding.

"We will continue to gather and analyse the data to better understand health trends in 2021 and beyond. In the meantime, we encourage everyone to try our Health Index online tool to explore how health has changed in their area."

Greg Ceely, Principal Statistician, Health Index and Projections, Office for National Statistics

Estimates are experimental and still under development. For 21 of 56 indicators, change may have been expected in 2021 but could not be measured because of unavailable or inconsistent underlying data. This most affects the Healthy Places domain and the overall Health Index value. Scores represent our best current assessment; data that become available will be added to future releases.

2 . Health in England in 2021

Figure 1: Health in England in 2021

Figure 1 shows health in England in 2021, measured by Health Index scores. It shows results during the coronavirus (COVID-19) pandemic, which had substantial impacts on many aspects of health. Increased cost of living and other events may have also influenced scores.

All scores are relative to the 2015 baseline of 100. To allow comparison across all parts of the Health Index, scores have been calculated so that a higher score on any aspect is better for health. Figure 1 shows the overall Health Index scores, as well as scores for three areas of health (or domains) within it:

- Healthy People
- Healthy Lives
- Healthy Places

It also shows the subdomains within those, and the indicators in each subdomain.

Health in England overall improved slightly in 2021 (0.7 point improvement on 2020). This represents changes in only the indicators that could be updated.

The impact on different aspects of health within the Index was varied. We cover this in more detail in Sections 3 to 6. Please see Section 9 for information on understanding the Health Index.

View our [Health Index contents and definitions methodology](#) for more detail on the areas of health included in the index.

Our [Health Index methods and development article](#) provides information on how the Health Index is made.

An interactive map in Section 7 shows local authority area Health Index results. Our separate [How health has changed in your local area article](#) highlights some of the main findings in each area. Results for integrated care systems are provided in our [Health Index datasets](#).

3 . Different aspects of health in England

Figure 2: The Health Index has three domains, covering different areas of health; Healthy People improved, Healthy Lives declined, and Healthy Places improved

Notes:

1. The Health Index has 56 indicators, summarised into 14 subdomains, 3 domains and the overall Health Index score. Results presented here are for the overall score and the three domains.
2. A score of 100 means health is equal to England's health in 2015. A score higher than 100 means health is better; a score lower than 100 means health is worse.
3. There may be small inconsistencies when comparing changes in scores on this chart with changes presented elsewhere in the bulletin because of rounding.
4. The change in the Healthy Places score is based on updates to only 6 of 17 indicators within the domain.

[Healthy People](#) improved considerably in 2021, up 2.1 points. There was a large decline in 2020 (4.1 points), meaning 2021 remained well below levels from before the coronavirus (COVID-19) pandemic.

[Healthy Lives](#) declined by 1.1 points in 2021, following a similar decline in 2020. It had improved between 2015 and 2019 to a peak of 102.4. The recent declines mean the 2021 score is back to around 2015 levels (100.2).

[Healthy Places](#) contains a lot of indicators that could not be updated in 2021, which means the change in score is based on 6 indicators of 17. This shows an improvement in 2021 (up 0.8 points). We do not know if this would be the case if all indicators could be updated.

4 . Healthy People domain: health outcomes

In the [Healthy People](#) domain, [personal well-being](#) was the largest contributor to the increase in 2021. This followed a large decline in 2020, meaning that personal well-being was still below levels observed in all years before the pandemic.

[Mortality](#) improved in 2021, compared with 2020 (up 1.6 points). This followed a decline of 4.8 points in 2020, so at 99.8 it is still below previous levels. Between 2015 and 2019 this subdomain had been steadily improving to a high of 102.9.

[Physical health conditions](#) similarly increased in 2021, meaning fewer people reported living with the conditions. It was up 1.2 points to 101.2, though not all conditions saw improvement and mental health conditions were reported more than in 2020.

There are a few reasons we might see a reduction in reporting of physical health conditions during years affected by the coronavirus (COVID-19) pandemic. Diagnostic services were reduced while healthcare services were reorganised to tackle the pandemic. People may have been less likely to seek help with symptoms because of concerns about overwhelming health services, or risk of COVID-19 infection if attending in-person appointments. Many of the health conditions measured in the Health Index put people at greater risk of COVID-19 mortality, so fewer people living with these conditions could unfortunately be a result of deaths involving COVID-19.

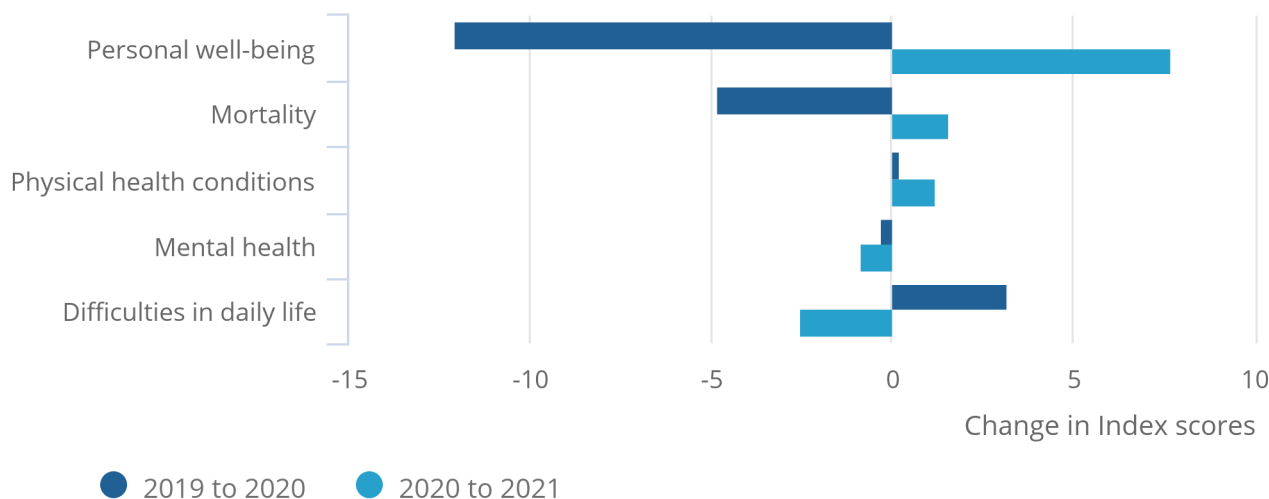
Conversely to the overall Healthy People trend, the [difficulties in daily life](#) subdomain saw a 2.5 point decrease because of increased disability. The [mental health](#) score also declined by smaller amounts in both 2020 and 2021.

Figure 3: Improvements in 2021 partly offset the declines in 2020 in personal well-being and mortality

Changes in Healthy People subdomain scores, England, 2019 to 2020 and 2020 to 2021

Figure 3: Improvements in 2021 partly offset the declines in 2020 in personal well-being and mortality

Changes in Healthy People subdomain scores, England, 2019 to 2020 and 2020 to 2021



Source: Health Index for England from the Office for National Statistics

Notes:

1. A positive change in score means health is better than the previous year; a negative score means health is worse.

5 . Healthy Lives domain: protective measures

[Healthy Lives](#) covers health-related behaviours and personal circumstances.

The decline in the Healthy Lives domain in 2021 was mostly because of a fall in the [protective measures](#) subdomain. This reduced from 100.3 in 2020 to 97.4 in 2021 (down 2.9 points).

The change comes from declined cancer screening attendance, with the score worsening by 7.1 points, taking it to 95.2. This is the largest decline in any indicator score across the whole Health Index in 2021. It is based on screening attendance for bowel, breast and cervical cancer. While others worsened, the underlying data show that attendance for bowel screening improved. This is potentially because interventions have targeted previously low rates for bowel screening. Additionally, home testing means there is no need to visit a medical setting, which is not the case for other screening types.

6 . Healthy Places domain: living conditions

The [Healthy Places](#) domain covers the wider influences on health that relate to the places where people live.

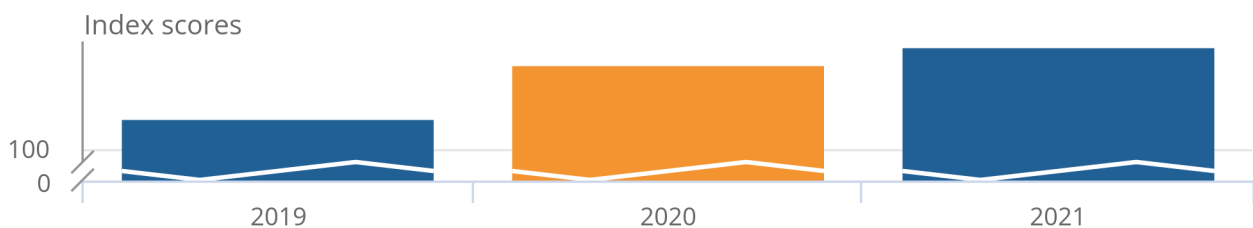
The [living conditions](#) subdomain was the main contributor to the change in the Healthy Places score in 2021.

Figure 4: Living conditions continued to improve in 2021

Living conditions subdomain scores, England, 2019 to 2021

Figure 4: Living conditions continued to improve in 2021

Living conditions subdomain scores, England, 2019 to 2021



Source: Health Index for England from the Office for National Statistics

Notes:

1. A score of 100 means health is equal to England's health in 2015. A score higher than 100 means health is better; a score lower than 100 means health is worse.
2. There may be small inconsistencies when comparing changes in scores on this chart with changes presented elsewhere in the bulletin because of rounding.

The living conditions subdomain increased considerably between 2019 and 2021, up a total of 5.3 points. The change from 2020 to 2021 came from improved household overcrowding (up 3.8 points). The only indicator in this subdomain to worsen considerably in 2020 or 2021 was noise complaints (by 6.1 points in 2020).

The household overcrowding indicator uses data from the 2011 Census and Census 2021. Improvements over the ten years are treated as though they happened equally each year, but this may not be the case.

7 . Local health differences

Select a local authority area in the interactive map in Figure 5 to view results for the Health Index overall, as well as the different domains, subdomains and indicators within it. Our separate [How health has changed in your local area article](#) highlights some of the main findings in each area. Results for integrated care systems are provided in our [Health Index datasets](#).

Figure 5: Select an area to view its Health Index results

8 . Health in England data

[Health Index scores, England](#)

Dataset | Released 16 June 2023

Health Index scores at national, regional, and upper- and lower-tier local authority level for England, including indicator details to construct the Index.

[Health Index scores integrated care systems, England](#)

Dataset | Released 16 June 2023

Health Index scores for integrated care systems in England, including indicator details to construct the Index.

[Health Index underlying data, England](#)

Dataset | Released 16 June 2023

Underlying data used to construct the Health Index for England including indicator details.

9 . Understanding the Health Index

The Health Index provides a single value for health in England and local authorities each year that can be broken down into different areas of health. This allows users to understand any changes over time or differences between areas.

The index uses a broad definition that aligns with the [World Health Organization's \(WHO's\) definition of health](#): "health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity".

10 . Glossary

Experimental Statistics

Experimental statistics are official statistics that are in the testing phase and not yet fully developed. They potentially have a wider degree of uncertainty than official statistics without this label. The Health Index for England has this label because new methods are still being tested and are subject to modification.

Healthy People

The [Healthy People](#) domain covers health outcomes that include mortality, and the impact of physical and mental health conditions.

Healthy Lives

The [Healthy Lives](#) domain covers risk factors for health that relate directly to individuals. This includes risk factors that can be modified or changed by individuals, and social factors that cannot always be controlled by individuals but affect the population at the individual level.

Healthy Places

The [Healthy Places](#) domain includes social and environmental risk factors that affect the population at a collective level. These relate to circumstances that can influence health outcomes and risk factors. However, they often cannot be addressed solely at the individual level.

View our [Health Index contents and definitions article](#) for more detail on the domains, subdomains and the indicators within the Index.

11 . Measuring the data

Data sources

Data for each of the Health Index's 56 indicators come from publicly available sources. Most are produced by the Office for National Statistics (ONS) or other government departments, so certain quality standards have already been met.

To meet the needs of the Health Index, we checked:

- enough years of data were available to make comparisons over time
- there was reasonable certainty that data would continue to be available into the future, to ensure that comparisons over time are based on consistent data as far as possible
- data were available for lower-tier local authority areas (LTLAs)

For further information on data sources, see our [Health Index contents and definitions article](#) and our [Health Index datasets](#).

Method

For use within the Health Index, data required imputation to fill missing values, and transformation so that statistical analysis could meaningfully group indicators into domains and subdomains. All techniques used follow standard statistical procedures, which were reviewed for suitability by experts.

We used statistical tests (called factor analysis) to understand which indicators should be placed together in domains and subdomains. They were also used to decide what weights indicators should be given, that is, how important they are in measuring health.

We used the results to produce values for:

- individual indicators
- subdomains
- domains
- the single Health Index number

Values were calculated for local authorities, then combined with respect to population size to give values for regions and for England as a whole.

Read more about the methodology used to construct the Health Index in our [Health Index methods and development: 2015 to 2021 article](#).

Acknowledgements

The data identification, acquisition, processing, analysis and interpretation required to produce the Health Index was performed by the Health Index and Projections Team:

- Ben Bowen
- Greg Ceely
- Dr Sam Cockle
- Will Hoyles
- Dr Leah Kelly
- James Roberts
- Dr Claire Sellwood Green

12 . Strengths and limitations

Strengths

The Health Index presents a collection of indicators representing how health changes over time. Data are selected to represent specific topics considered to be relevant to health.

We calculate index scores using time-indexed normalisation. This means every score can be compared with the same base of 100 representing England's health in 2015. At every level a score greater than 100 means health is better than England's health in 2015, and a score lower than 100 means health is worse than England's health in 2015.

The Health Index can be broken down to different geographic and topic levels, and every level uses this scale. All aspects of the Health Index are presented with this same base of 100 for England in 2015, meaning comparisons can be made between scores over time and between different geographies.

Limitations

Availability of data

Some aspects of health cannot currently be included in the Health Index because no suitable data are available. Other topics included could be represented more fully if more comprehensive data were available.

There are sometimes challenges with the underlying data which mean we cannot update certain indicators, more so during the coronavirus (COVID-19) pandemic. For details of the affected indicators, see our [Health Index methods and development: 2015 to 2021 methodology](#).

Timeliness

We are working to improve the timeliness of the index. Data for 2019 were published in March 2022, and for 2020 in November 2022, while 2021 data are now being published in June 2023. The future availability of data may affect the extent to which we can improve the timeliness of the release, but we are exploring timeliness improvements, such as publishing provisional data more regularly than annually.

13 . Related links

[How health has changed in your local area: 2015 to 2021](#)

Digital article | Released 16 June 2023

Use our interactive tool to explore how health has changed in each local authority area across England between 2015 and 2021.

[Health Index contents and definitions](#)

Methodology | Released 16 June 2023

Descriptions of the indicators used to create the Health Index for England, which measures the health of the nation.

[Health Index methods and development: 2015 to 2021](#)

Methodology | Released 16 June 2023

The Health Index measures health outcomes and risk factors over time, for different geographic areas. This methodology explains how we have constructed this tool.

[Personal well-being in the UK: April 2021 to March 2022](#)

Bulletin | Released 31 October 2022

Estimates of life satisfaction, feeling that the things done in life are worthwhile, happiness and anxiety at the UK, country, regional, county, local and unitary authority level.

[Subnational indicators explorer](#)

Interactive tool | Last updated 31 August 2022

Use our interactive tool to find out more about your local authority.

[Mortality statistics](#)

Webpage | Updated as and when data become available

Mortality statistics on deaths registered by age, sex and underlying cause of deaths, including data and analysis on deaths involving coronavirus (COVID-19).

14 . Cite this statistical bulletin

Office for National Statistics (ONS), released 16 June 2023, ONS website, statistical bulletin, [Health in England: 2015 to 2021](#)