

Statistical bulletin

# Health in England: 2015 to 2020

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

Contact:  
Dr Sam Cockle, Greg Ceely  
Health.Data@ons.gov.uk  
+44 20 7592 8692

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# 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 declined from 100.5 in 2019 to 100.1 in 2020, taking it back to 2015 levels, although this decline was not seen for all areas of health.
- The Health Index has three domains, covering different areas of health: Healthy People declined considerably (by 4.2 points), Healthy Lives declined (by 0.6 points), and Healthy Places improved considerably (by 3.7 points) over the period 2019 to 2020.
- The decline in Healthy People was predominantly seen in the personal well-being and mortality subdomains: while mortality worsened by 4.8 points, personal well-being had the greatest subdomain decline in 2020 (of 12.0 points), within which was the greatest indicator decline in the whole index, for life satisfaction (13.8 point decline).
- Worsening mental health (falling by 0.9 points) also contributed to the declining Healthy People score, including a 2.5 point decline in children's social, emotional and mental health.
- The improvement in Healthy Places was largely because of the crime subdomain having the greatest subdomain improvement compared with its 2019 score (up 6.6 points), and air pollution in the living conditions subdomain showing the greatest year-on-year improvement of any indicator (15.7 points).
- Not every aspect of Healthy Places improved: economic and working conditions declined by 2.9 points, mostly because of worsening unemployment.

Data for 2020 are missing for some indicators because of the coronavirus (COVID-19) pandemic. This means some changes in 2020 may not be reflected. Estimates are experimental and still under development.

## 2 . 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".

For 8 of 56 indicators, change may have been expected in 2020 but could not be measured because of issues with underlying data. In such instances, 2019 data are used. This also affects the children and young people subdomain score. See Section 13: Strengths and limitations for more detail.

View our [Health Index contents and definitions article](#) 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.

## 3 . Health in England in 2020

## Figure 1: Health in England in 2020

Figure 1 shows health in England in 2020, using Health Index scores. It shows results during the earlier stages of the coronavirus (COVID-19) pandemic, which had substantial impacts on many aspects of health, but other events in 2020 may also have 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 as an overall figure measured by the Health Index declined slightly in 2020, when compared with 2019 (0.4 point decline). However, at 100.1 it remained a little above 2015 levels. The impact on different aspects of health within the Index was varied, as covered in more detail in Sections 4 to 8.

An interactive map in Section 9 shows local authority area Health Index results. The 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](#).

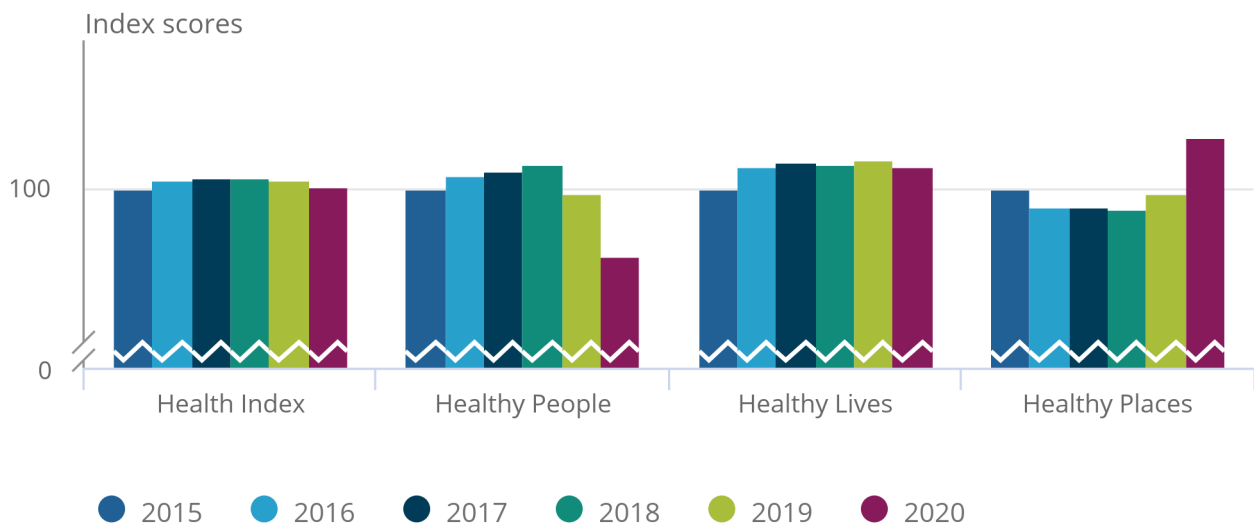
## 4 . Different aspects of health in England

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

Health Index and health domain scores, England, 2015 to 2020

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

Health Index and health domain scores, England, 2015 to 2020



Source: Office for National Statistics - Health Index for England

### Notes:

1. The Health Index is comprised of 56 indicators, summarised into 14 subdomains, 3 domains and then the overall score for each geographical area. The results presented here are for the overall Health Index 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.

[Healthy People](#) declined considerably between 2019 and 2020, in the earlier stages of the coronavirus (COVID-19) pandemic. It went from 99.6 in 2019 to 95.4 in 2020, a fall of 4.2. This follows a smaller but still notable decline in 2019 (1.9 point decline).

There had been some slight improvements between 2015 and 2018, with this aspect of health reaching a peak of 101.6 in 2018. The more recent declines mean that in 2020 this aspect of health was much below 2015 levels. Figure 3 shows all changes at subdomain level across all three domains, and changes within Healthy People are explored in more detail in [Section 5](#) and [Section 6](#).

[Healthy Lives](#) was lower in 2020 (101.4), compared with 2019 (102.0) but remained higher than 2015 levels. This followed a general trend of improvement between 2015 and 2019.

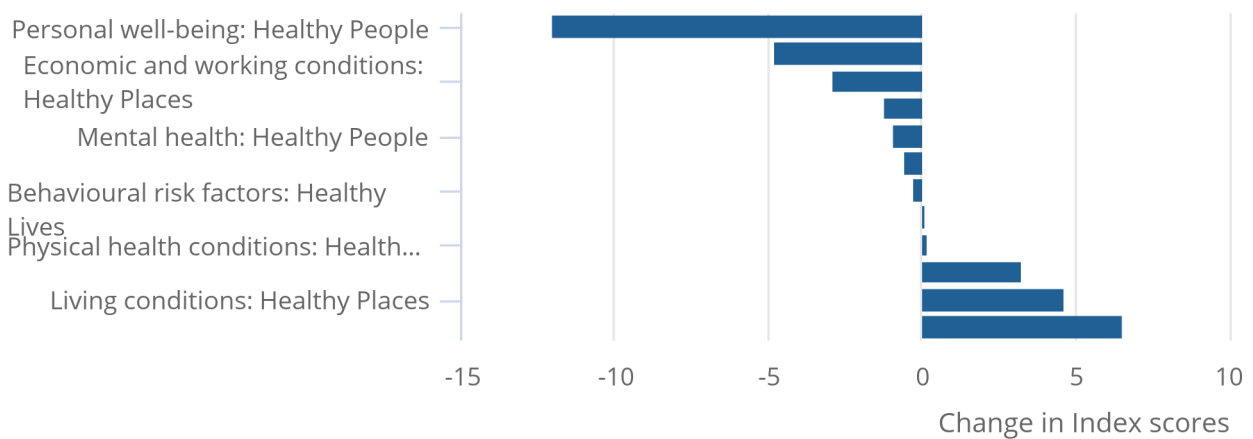
[Healthy Places](#) improved considerably in 2020 (3.7 point improvement), and was much higher than 2015 levels, at 103.4. Not all subdomains within Healthy Places improved in 2020, as shown in Figure 3. Between 2015 and 2018 there were some declines in this domain, reaching a minimum of 98.6, but 2019 saw an increase back to the 2015 level.

**Figure 3: Personal well-being and mortality worsened the most between 2019 and 2020 while crime and living conditions improved most**

**Changes in Health Index subdomain scores, England, 2019 to 2020**

Figure 3: Personal well-being and mortality worsened the most between 2019 and 2020 while crime and living conditions improved most

Changes in Health Index subdomain scores, England, 2019 to 2020



Source: Office for National Statistics - Health Index for England

Notes:

1. The Health Index is comprised of 56 indicators, summarised into 14 subdomains, 3 domains and then an overall score for each geographical area. The results presented here are the change in score between 2019 and 2020 for the subdomains.
2. The children and young people and access to green space subdomains are not included here as no change could be measured between 2019 and 2020. See [Section 13: Strengths and Limitations](#) for other data notes.
3. A positive score means health is better than the previous year; a negative score means health is worse.

## 5 . Healthy People domain: personal well-being and mental health

## Personal well-being

[Personal well-being](#) fell sharply in 2020, declining by 12.0 points. This decline is more than double any decline in subdomain score seen between 2015 and 2019.

Personal well-being was the biggest contributor to the decline in the [Healthy People](#) – or health outcomes – domain in 2020. It had both the largest change in score between 2019 and 2020 of any of the 14 subdomains within the Health Index and the lowest subdomain score for 2020, at 87.4.

All indicators within the subdomain saw large declines in 2020, but life satisfaction was the biggest driver of decline for the personal well-being subdomain, falling by 13.8. This was also the largest decline of any indicator across the whole Health Index.

The nature of the measure means that this will respond more quickly to change than many other aspects of health covered in the Health Index. However, this still suggests a large impact on personal well-being during the earlier stages of the coronavirus (COVID-19) pandemic.

Personal well-being had improved between 2015 and 2018, reaching 103.5, but then declined by 4.2 in 2019 before the even larger decline in 2020.

## Mental health

[Mental health](#) also declined in 2020. At 0.9, the decline was smaller than for some other subdomains, but still contributed to the fall in the Healthy People score. This follows declines in 2018 and 2019.

Between 2015 and 2017 mental health saw improvements, with a score of 101.0 in 2017. The declines since mean that 2020 scores were much lower than 2015 levels, at 97.5. The largest drivers of the decline in 2020 were children's social, emotional and mental health, and mental health conditions in adults, which declined by 2.5 and 1.4, respectively.

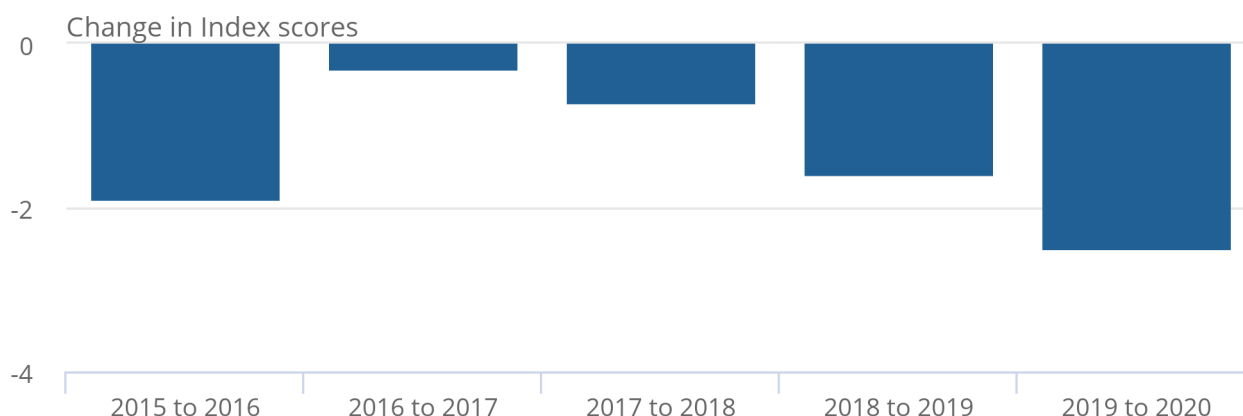
The data for mental health conditions in adults are collected between January and March each year, so results for 2020 for this indicator represent the period before the first coronavirus lockdown and other measures were introduced.

### Figure 4: Children's social, emotional and mental health declined every year between 2015 and 2020, with the change in 2020 being the largest

Changes in Health Index scores for the children's social, emotional and mental health indicator, England, 2015 to 2020

Figure 4: Children's social, emotional and mental health declined every year between 2015 and 2020, with the change in 2020 being the largest

Changes in Health Index scores for the children's social, emotional and mental health indicator, England, 2015 to 2020



Source: Office for National Statistics - Health Index for England

#### Notes:

1. The Health Index is comprised of 56 indicators. The results presented here are for the children's social, emotional and mental health indicator.
2. A positive change means health is better than the previous year; a negative score means health is worse.

## 6 . Healthy People domain: mortality

The decline in the [Healthy People](#) domain was also driven by higher [mortality](#) in 2020 than 2019, with this subdomain score declining by 4.8. Between 2015 and 2019 mortality improved to 102.9, but in 2020 it was much worse than 2015 levels, at 98.2.

The mortality subdomain of the Health Index consists of four indicators, for which the impact of 2020 and the coronavirus (COVID-19) pandemic will be seen to different degrees.

The avoidable mortality and life expectancy indicators use data that combine three years, as explained in Section 13. This means the impact of 2020 specifically is reduced for these indicators. In addition, avoidable mortality does not capture deaths of those aged 75 years and over, who experienced a substantial health impact from COVID-19.

Mortality from all causes based on individual years of data is added alongside these indicators to give the complete picture, while maintaining the detail the other measures provide. Figure 5 shows how the indicators within the mortality subdomain have changed between 2015 and 2020. This new indicator clearly shows much worsening mortality in 2020, with a fall of 11.4. Other indicators are less immediately responsive, with some showing smaller, but still considerable declines.

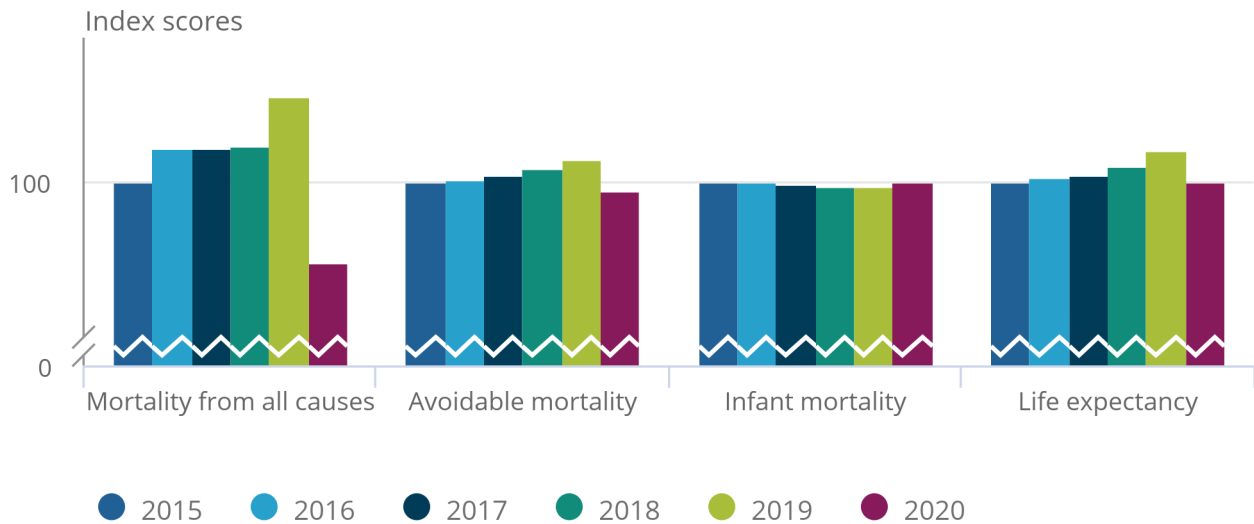


## Figure 5: Mortality from all causes worsened considerably in 2020

Health Index scores for the indicators within the mortality subdomain, England, 2015 to 2020

### Figure 5: Mortality from all causes worsened considerably in 2020

Health Index scores for the indicators within the mortality subdomain, England, 2015 to 2020



Source: Office for National Statistics - Health Index for England

#### Notes:

1. The Health Index is comprised of 56 indicators, summarised into 14 subdomains, 3 domains and then an overall score for each geographical area. The results presented here are for the indicators within the mortality subdomain.
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.

## 7 . Healthy Places domain: crime

The [crime](#) subdomain improved considerably in 2020, and was better than 2015 levels, at 102.5. The change of 6.6 was the largest in the [Healthy Places](#) domain, and this was the most improved subdomain across the whole Health Index. It was among the highest scoring subdomains in the index.

The subdomain includes measures of personal crime and low-level crime. The subdomain does not include fraud, which has been widely reported as increasing during 2020.

The improvement in crime as measured in the Health Index in 2020 follows a smaller improvement of 0.7 in 2019. Before this, crime had worsened between 2015 and 2018, to a low of 95.2. It was the lowest scoring subdomain across the whole Health Index between 2016 and 2019.

## 8 . Healthy Places domain: living, economic and working conditions

### Living conditions

The [living conditions](#) subdomain of [Healthy Places](#) also improved considerably in 2020 (4.7 point increase), driven largely by improvements in air pollution. The 2020 score was much higher than 2015 levels, at 104.9. Air pollution's score increased by 15.7, making it the most changed indicator across the whole of the Health Index. Rough sleeping also improved in 2020 so that it was above 2015 levels, at 103.3.

For both indicators, this is the first time they have been above 2015 levels. It can reasonably be expected that the 2020 results are because of changes made during the pandemic. These changes include the campaign to provide accommodation to homeless people to reduce infection risk, which reduced rough sleeping; and restrictions affecting travel and transport, business and industry, which will have impacted air pollution levels.

Between 2015 and 2019 the living conditions subdomain scores ranged from 98.7 in 2016, to 100.1 in 2019. The year-on-year changes were smaller than the change in 2020, however the decline in 2016 was still considerable (1.3 point decline).

### Economic and working conditions

Although Healthy Places improved overall, this was not universal. [Economic and working conditions](#) were considerably worse in 2020 than 2019 (2.9 point decline), though at 100.5 they remained above 2015 levels. The decline in 2020 was driven by worsening unemployment and job-related training, which fell by 6.8 and 1.8 points, respectively.

Child poverty and workplace safety are both included in this subdomain but 2020 data could not be included in the Health Index, so 2019 data have been used in their place. Therefore, this change in the subdomain does not reflect any change in child poverty or workplace safety in 2020.

Economic and working conditions saw steady improvements between 2015 and 2019.

## 9 . Regional and local health differences

Health in most regions of England remained relatively stable in 2020, but four regions saw slight declines. The largest decline was in the South East region, which saw a slight decline of 0.9, followed by the North West with a decline of 0.8.

At domain level, the score for the [Healthy People](#) domain – or health outcomes – in the West Midlands saw the largest decline in domain score for any region (5.0 point decline). The score for the Healthy Places domain in Yorkshire and The Humber saw the largest improvement in domain score for any region (5.7 point increase).

Select a local authority area in the interactive map in Figure 6 to view results for the Health Index overall and the different domains, subdomains and indicators within it. The 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 6: Select an area to view its Health Index results**

## 10 . Health in England data

### [Health Index scores, England](#)

Dataset | Released 9 November 2022

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 9 November 2022

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

### [Health Index underlying data, England](#)

Dataset | Released 9 November 2022

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

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

## 12 . 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 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), the smallest geographical breakdown available for most health data sources suitable for the index's needs

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, and to support our groupings more broadly. 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 the local authorities, then combined with respect to population size to give values for regions and England as a whole.

Read more about the methodology used to construct the Health Index in [Health Index methods and development: 2015 to 2020](#)

## 13 . 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 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.

Statistical tests used to group indicators involve subjective decision-making, and interpretation of what these groups (the index's subdomains) represent. All subjective decisions are tested with statistical analysis and checked with expert advisors to maximise validity.

## Limitations

### Coverage and timeliness

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.

We are working to improve the timeliness of the index. Data for 2019 were published in March 2022, while 2020 data are now being published in November 2022. The future availability of data may affect the extent to which we can improve the timeliness of the release.

### Availability of 2020 data

There were several challenges with data in 2020. Some publications were cancelled or significantly delayed, and others that were published cannot be compared over time because of the effects of the coronavirus (COVID-19) pandemic on data collection and production. For the following eight indicators, change may have been expected in 2020 but could not be measured:

- child poverty
- early years development
- household overcrowding
- noise complaints
- pupil absences
- pupil attainment
- smoking
- workplace safety

Data for 2019 were used in place of missing 2020 data for these indicators, except for household overcrowding where 2011 Census data were used. This is consistent with our standard approach for handling missing data.

The largest effect is on the children and young people subdomain in Healthy Lives, where three of five indicators are missing. To avoid the remaining two indicators having undue influence and potentially being misleading, the 2019 subdomain value has been used in place of 2020.

The access to services subdomain includes measures of distance to the nearest GP practice, pharmacy and sports and leisure facilities. This did not account for whether those services were open at the time during in 2020, which many services were not.

Access to green space is unchanged across the Health Index because only one year of data are available. Large year-on-year differences are unlikely, so the data are still suitable for use but will not contribute to change at this time.

Some indicators use data that combine three years. For example, 2020 data may be based on 2018 to 2020. This is so we can produce findings for individual local authority areas. For more information see our [Health Index methods and development article](#). The impact of a single year of change is reduced for these indicators. The Health Index can be used to gain an understanding of longer-term trends, keeping in mind that each year in the index also considers the previous two years. The indicators are:

- avoidable mortality
- infant mortality
- life expectancy
- suicides

For specific year-on-year changes for England, refer to the source publications, as detailed in our [Health Index datasets](#).

Data for some indicators are based on hospital admissions. For example, the indicator for alcohol misuse consists of alcohol-related hospital admissions. While this does not measure all alcohol misuse, it shows the pattern and trend expected to be present in alcohol misuse as a whole. For 2020, these may be less representative as people may have been more likely to avoid seeking help at hospital because of fears of coronavirus infection or overwhelming services. This also applies to the frailty and self-harm indicators.

## 14 . Related links

### [How health has changed in your local area: 2015 to 2020](#)

Digital article | Released 9 November 2022

Use our interactive tool to explore how health has changed in each local authority area across England between 2015 and 2020.

### [Health Index contents and definitions](#)

Methodology | Released 9 November 2022

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 2020](#)

Methodology | Released 9 November 2022

The Health Index is a new tool which measures a broad variety of health outcomes and risk factors over time, and for different geographic areas. This methodology article explains how we have constructed the Health Index.

### [A blueprint for a Local Health Index \(PDF, 838 kB\)](#)

PDF | Released November 2022

Read the case study about our collaboration with Northumbria Healthcare NHS Foundation Trust where we used the Health Index tool to create a local experimental version, the Northumbria Local Health Index.

### [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 the coronavirus (COVID-19).

## 15 . Cite this statistical bulletin

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