

Article

Developing the Health Index for England: 2015 to 2018

Introducing a new experimental Health Index for England, providing a single value to measure the health of the nation. Includes detail on how the Health Index has been created and what it can be used for. This Beta release is provisional and covers the period 2015 to 2018.

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1 . Overview of the Health Index for England

- The Health Index for England is a new measure we are currently developing to understand the health of the nation.
- It uses a broad definition of health, including health outcomes, health-related behaviours and personal circumstances, and wider determinants of health that relate to the places people live, such as air pollution.
- The Health Index provides a single value for health showing how health changes over time, and can be broken down to focus on specific topics to show what is driving these changes.
- The Health Index also provides a measure of health for local authority areas (upper tier) and enables comparison between areas.
- Provisional findings suggest health in England has declined from 2017 to 2018, after remaining stable for a few years.
- Between 2015 and 2017, England's "Healthy Lives" score steadily improved, offsetting a stable decline in "Healthy People" and "Healthy Places" scores over the full period presented.
- The Health Index is still under development and a public consultation has been launched to gain views from potential users, which will help inform the next steps.

2 . Aims of the Health Index

Why we are developing the Health Index

The proposal for a Health Index was made in the 2018 annual report of the government's then Chief Medical Officer (CMO), Dame Sally Davies, entitled [Health 2040 – Better Health Within Reach](#). The report stated:

"We need to track progress in improving health and health outcomes, to and beyond 2040 with a new composite Health Index that reflects the multi-faceted determinants of the population's health and equity in support of ensuring health is recognised and treated as one of our nation's primary assets."

The proposal made clear the idea was to be inclusive in the concept of health, incorporating measurement not only of health outcomes, but also of factors that are known to contribute to health at both individual and collective levels.

At present this is being developed for England, but in future the aim is to extend this to the rest of the UK, if possible.

What the Health Index can be used for

The aims of the Health Index are:

- to improve the health of the nation by helping to focus public debate and policy attention across government on a broad concept of health and “healthiness”
- to do this by providing a highly visible, top-level measure of health, independent of specific policies and not limited to healthcare availability and quality
- to sustainably track change over time, with the potential to be broken down to monitor equity and better understand the drivers of health for different groups

The Health Index can be used by:

- the media and general public, as an indicator for how health is changing over time, and to demonstrate inequalities in health between different groups
- policy-makers in central and local government, to identify areas where health is not improving, encourage consideration of new policies’ impacts on health, and improve consistency in how these impacts are measured
- analysts and researchers in other settings, such as academics, think-tanks and charities, to expand the evidence base for topics related to health and improve analysis accordingly

Experimental Statistics

The current publication reports on the progress to date on developing a Health Index. The version of the Health Index presented is [experimental](#) and aims to illustrate the concept of a health index and its potential.

A [public consultation](#) was launched on the date of publication, to invite feedback from potential users while this is still under development. While data used to construct the Health Index are publicly available, and we encourage users to think about how they can link these data to their own research, users should avoid drawing firm conclusions about the results because of the experimental nature of the data transformations used to produce the results presented here.

Several aspects are not as refined as they will be for the final product. These include only using data that are publicly available and in a format that required little transformation; creating the Index using methods we have deemed appropriate, but with minimal testing of alternatives where those have been identified; and presenting it in a way that is less interactive than we intend for the final product.

While the data presented in this provisional version of the Health Index pre-date the coronavirus (COVID-19) pandemic, the virus provides a case study for how the Index can be used. In 2020, avoidable deaths have increased due to COVID-19, and the Healthy People domain of the Health Index will reflect this, reducing the overall Index score. The longer-term effects of the virus, such as the variety of symptoms referred to as “long COVID”, will also appear in this domain in future as an increase in respiratory conditions and difficulties completing activities of daily living.

Government’s interventions to tackle COVID-19 may have impacts on wider health determinants beyond transmission of the virus, and the Health Index can provide information about these. For example, the Health Index allows us to quantify the impact that access to green space and sports or leisure facilities have on health overall, both of which have been affected by actions to reduce infection this year. In this way the Index can estimate how health is impacted by these measures, and where in England has been worst hit, helping select and target future policies to minimise the negative side-effects these have on health.

3 . Structure of the Health Index

The Health Index is more than a single value for health

The main aim of the Health Index is to provide a single value representing a broad definition of health. The Index aligns with the World Health Organization's [definition of health](#), that health "is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity".

The topics that are covered include health outcomes such as health conditions, risk factors such as health-related behaviours and personal circumstances (for example, smoking, employment and social support), and wider determinants of health that relate to the places people live (for example, air pollution).

As well as providing the headline measure of health, the Index can be broken down into domains and further into sub-domains. This is to allow users to better understand any changes over time or differences between areas, as well as to focus on a particular aspect of the index if that is what is required.

At present, the domains split the index into three broad areas:

- Healthy People – focusing on health outcomes
- Healthy Lives – health-related behaviours and personal circumstances
- Healthy Places – wider determinants of health, environmental factors

Each of these domains contains sub-domains that cover topics relevant to the domain. Each sub-domain is made up of several indicators that represent it. In total across the whole Health Index there are 58 indicators. The details of the sub-domains and indicators within each domain are as follows:

Healthy People

- Mortality: healthy life expectancy, avoidable deaths
- Physical health conditions: dementia, musculoskeletal conditions, respiratory conditions, cardiovascular conditions, cancer, kidney disease
- Difficulties in daily life: disability that impacts daily activities, difficulty completing activities of daily living (ADLs), frailty
- Personal well-being: life satisfaction, life worthwhileness, happiness, anxiety
- Mental health: suicides, depression, self-harm

Healthy Lives

- Physiological risk factors: diabetes, overweight and obesity in adults, hypertension
- Behavioural risk factors: alcohol misuse, drug misuse, smoking, physical activity, healthy eating
- Unemployment: unemployment
- Working conditions: job-related training, low pay, workplace safety
- Risk factors for children: infant mortality, children's social, emotional and mental health, overweight and obesity in children, low birth weight, teenage pregnancy, child poverty, children in state care
- Children and young people's education: young people's education, employment and training, pupil absence, early years development, GCSE achievement
- Protective measures: cancer screening, vaccination coverage, sexual health

Healthy Places

- Access to green space: public green space, private outdoor space
- Local environment: air pollution, transport noise, neighbourhood noise, road safety, road traffic volume
- Access to housing: household overcrowding, rough sleeping, housing affordability
- Access to services: distance to GP services, distance to pharmacies, distance to sports or leisure facilities
- Crime: personal crime

This structure may change with further development, based on feedback and more detailed explorations of how different aspects of the content relate to each other.

4 . Measuring changes to health over time

The Health Index shows how health changes over time

The Health Index shows how health changes over time, aiming to see whether health improves or declines as years pass. It will show this for the headline measure of health, but can also be broken down into the different topics, or domains, sub-domains and even individual indicators, to see what is driving the overall change.

Figure 1 illustrates what this looks like for the years 2015 to 2018 in the current experimental version of the Health Index. A score of 100 in any year means health levels are equal to the health of England in 2015. A higher score means health is improving, and a lower score means health is declining. For every 10 points higher or lower than 100, a score is 1 standard deviation above or below England's 2015 score.

Figure 1: The nation's health over time

Health Index Beta headline and component scores, England, 2015 to 2018 (provisional)

This provisional version of the Health Index suggests overall health in England has remained broadly stable between 2015 and 2017, but declined to below 2015 levels as of 2018. Healthy People and Healthy Places scores have steadily declined over the years presented, but a steady improvement in Healthy Lives score had previously stopped health overall from declining.

5 . Measuring health in local authority areas

The Health Index provides a measure of health for local authority areas and allows comparison between areas

As well as showing how health in England changes over time, the Health Index provides measures of health for upper-tier local authority areas. This allows users to see how healthy smaller geographical areas are, how these change over time, and what is driving the changes relevant to that area. It will also allow comparisons to be made between areas.

The map in Figure 2 illustrates what this would look like for these local areas, for the years 2015 to 2018.

Figure 2: How health differs across the nation

Health Index Beta headline and component scores by upper tier local authority, England, 2015 to 2018 [provisional]

While in these provisional results Healthy People as a domain has declined at a national level from 2015 to 2018, this has not occurred uniformly for all local authorities. London, the South East and the East of England have generally improved in this domain up to 2018. The greatest declines in Healthy People score were in the North East and North West.

Within Healthy People, London is the only region to show improvements in physical health conditions and mental health in 2018 compared with 2015 levels, but is also the only region to not observe an overall improvement in personal well-being. Most other regions, especially in the north and the west, have shown increases in self-reported well-being indicators, but otherwise health has declined across physical health, mortality and mental health. Changes in health in some of these areas could be driven by an ageing population.

Very few local authorities score highly on all three domains of health in the Health Index's provisional results. Only 12 local authorities have health above the England 2015 base in all three domains in 2018. Three of these are in Yorkshire and The Humber: the East Riding of Yorkshire, North Yorkshire and York. Three more are in the South East: Bracknell Forest, Hampshire and Wokingham.

6 . Developing the Health Index and its methods

Data and methods used to create the Health Index

The data that have been selected to develop the Index at this stage have come from already published sources as this means certain quality standards will already have been met. The data have also been checked to ensure they meet the needs for the Index, using the following criteria:

- data must be available for enough years to make comparisons over time, which at this stage means 2015 to 2018; there may be some exceptions to this where it is reasonable to assume that big changes would not occur from year to year
- there must be reasonable certainty that the data will continue to be produced into the future, to ensure comparisons over time are based on consistent data as far as possible
- data must be available for upper-tier local authority areas (UTLAs), as this is the smallest area available for most data sources; this is to allow Health Index numbers to be seen both for England as a whole and for smaller geographical areas, and for comparisons to be made between areas where of interest
- the availability of equivalent data for the other nations of the UK has been considered where possible

Once the publicly available data were collected, they needed some changes so they could be used in the Index. A change of note is that data have been transformed so that they are all in the same direction in terms of their relationship with health, to the extent that a higher value in the Index represents better health. For example, data on the number of people who smoke has been transformed into data on the number of people who do not smoke, so that a higher number in the Index means fewer people smoke, which is better for health.

Full details of the data and methods used to create the Health Index are available in the Methodology Report.

7 . Future developments

Consultation and development into the final index

The version of the Health Index presented here gives an illustration of what a health index could look like and aims to show how it might be useful. On the date of publication, a [public consultation](#) was launched with the aim of understanding how people may use the Health Index and to gain feedback about its development.

Following this consultation, the Index will be reviewed and refined, to produce a final version that will be made available for use. At present, the aim is for that version to be published in the first half of 2021 but this may be subject to change. The plans for this development include:

- incorporating more data
- refining methods
- further development of the presentation and visualisation; Lane Clark and Peacock LLP have developed a [web tool](#) for exploring the Health Index further, which illustrates the type of presentation possible for the Health Index and its findings
- enabling breakdowns of results by age or sex
- developing a Health projections model to be able to provide forward projections of Health Index values (to follow the final version of the Index)

Further detail on these plans is available in the consultation documentation. The consultation invites feedback on how important each aspect is, and if there are additional areas we should focus on and improve.

8 . Related links

[Methods used to develop the Health Index for England: 2015 to 2018](#)

Methodology report | Released 3 December 2020

The Health Index is a new tool to measure a broad variety of health outcomes and risk factors over time, and for different geographic areas. This methodology article explains how the Health Index has been constructed.

[Health state life expectancies, UK 2016 to 2018](#)

Statistical bulletin | Released 11 December 2019

The number of years people are expected to spend in different health states among local authority areas in the UK.