

# Data and Public Health

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Chair of the Nottinghamshire Health and Wellbeing Board



# Aim

- To present a summary on what **key** data are available on Public Health and how this information is used to set priorities, inform interventions and identify health inequalities for people living in Nottinghamshire.



# Global Burden of Disease

## What is the GBD?

The Global Burden of Disease (GBD) study provides a comprehensive picture of mortality and disability across countries, time, age, and sex. It quantifies health loss from hundreds of diseases, injuries, and risk factors, so that health systems can be improved and disparities eliminated.

- 281,586 Data sources were synthesized to estimate mortality, health outcomes, and risks from the GBD 2019 study.
- 350+ Health outcomes and risk factors, providing a powerful basis for insights on global health trends and challenges.
- 10,000+ Individuals from over 160 countries and territories collaborate in vetting GBD data sources and estimates.
- Data for upper tier local authorities in England have been available since 2015.
- <https://www.healthdata.org/research-analysis/gbd>

## What data are available?

- Population forecast
- Population age structure
- Life expectancy at birth
- Fertility trends
- Health spending
- Health coverage
- Causes of death
- Mortality trends
- Causes of death and disability
- Age-standardized DALY rates
- Death and disability risk factors

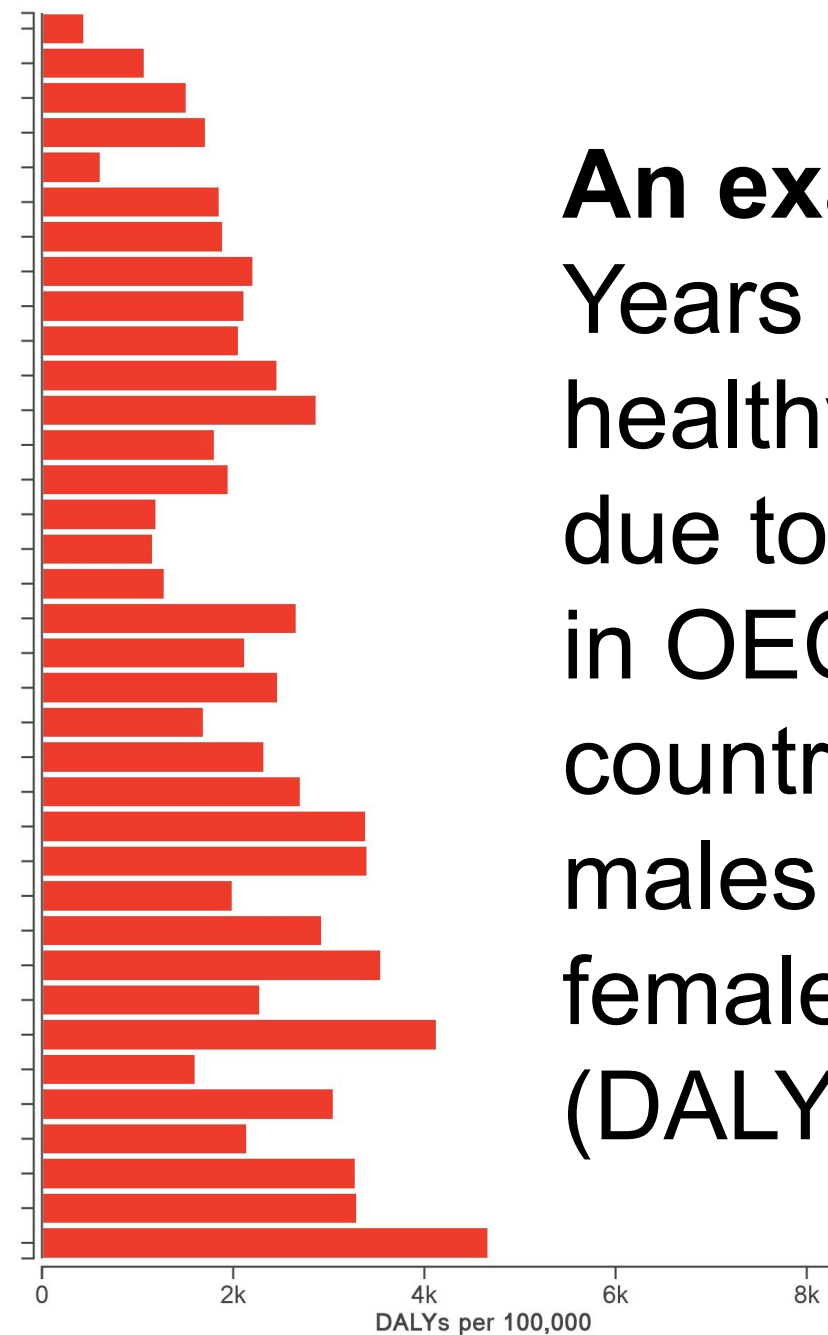
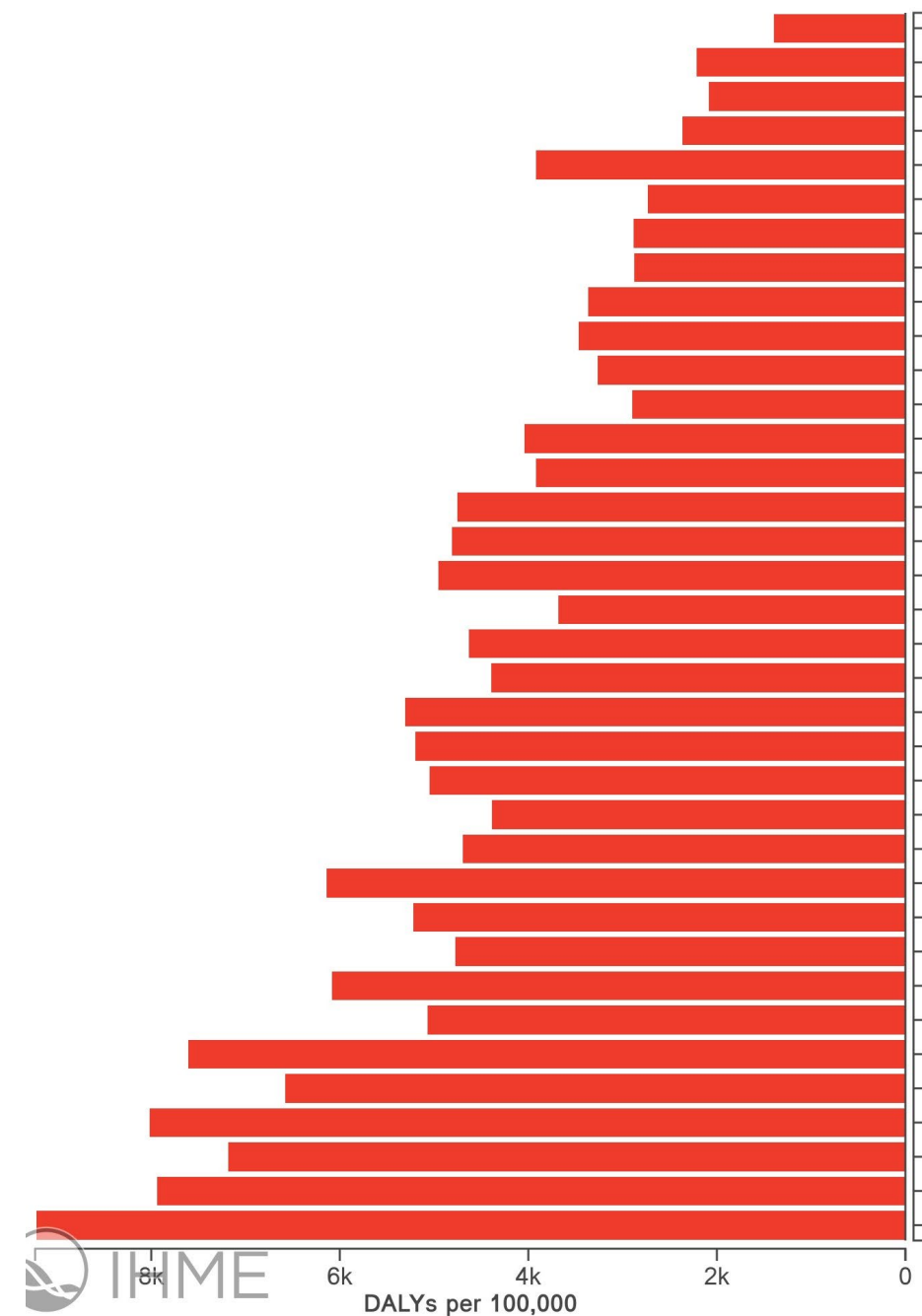


Males, All ages, 2019

Females, All ages, 2019

**An example:**  
Years of  
healthy life lost  
due to smoking  
in OECD  
countries for  
males &  
females  
(DALY)

Mexico  
Israel  
Chile  
Australia  
Republic of Korea  
Norway  
Iceland  
New Zealand  
Switzerland  
Luxembourg  
Ireland  
Sweden  
France  
Finland  
Portugal  
Turkey  
Japan  
Canada  
Italy  
Austria  
Spain  
Slovenia  
Belgium  
United Kingdom  
Netherlands  
Slovakia  
Germany  
United States of America  
Estonia  
Denmark  
Lithuania  
Czechia  
Latvia  
Poland  
Greece  
Hungary



What does the GBD tell us  
about health in  
Nottinghamshire?

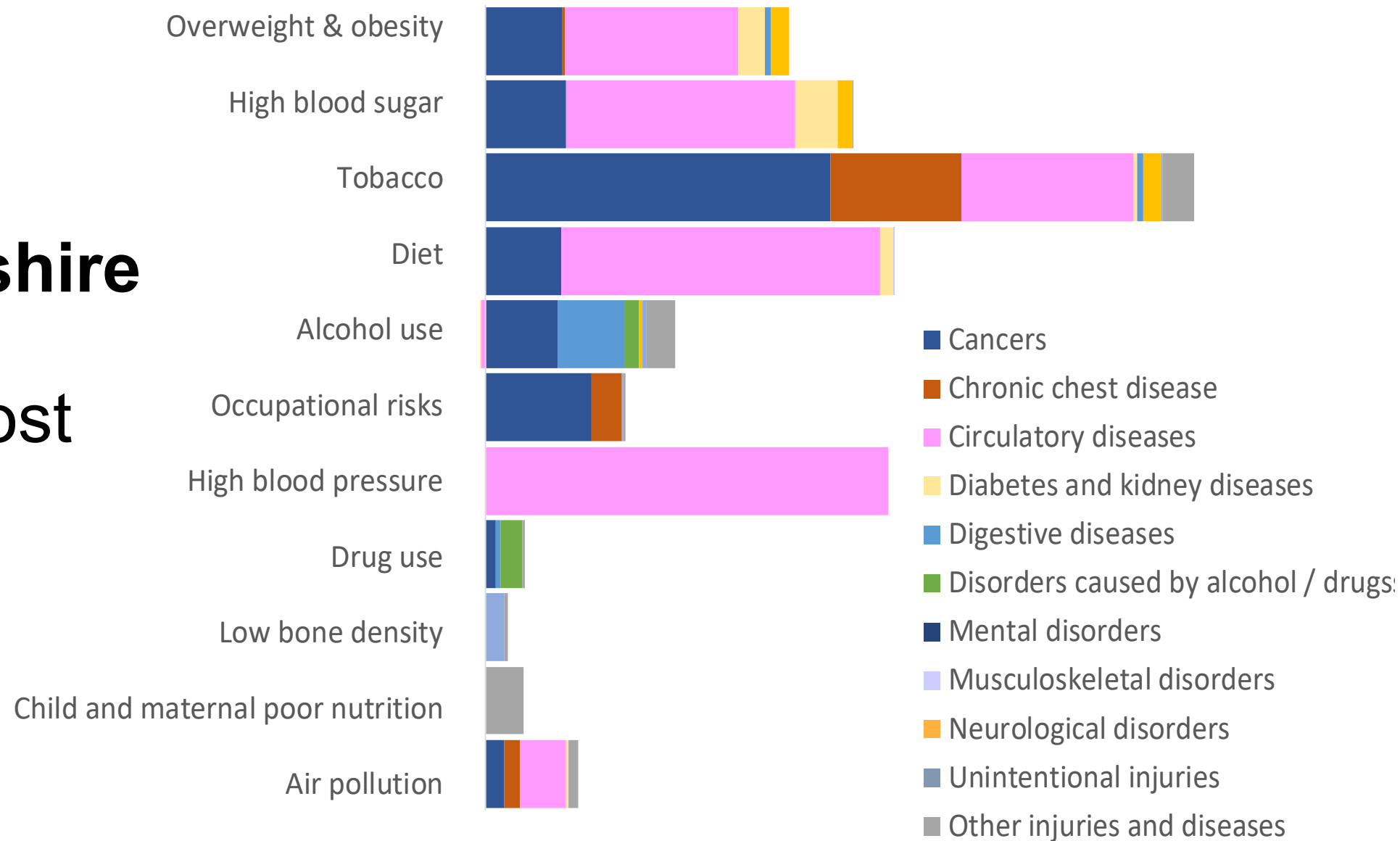


This horizontal stacked bar chart illustrates the contribution of various risk factors to global deaths in 2019. The risk factors are listed on the y-axis, and the legend on the right identifies the diseases and disorders associated with each color segment. The bars are ordered by the total number of deaths, with 'Overweight & obesity' having the highest total deaths and 'Air pollution' having the lowest.

Risk Factor	Associated Diseases and Disorders
Overweight & obesity	Cancers, Chronic chest disease, Circulatory diseases, Diabetes and kidney diseases, Digestive diseases, Musculoskeletal disorders, Neurological disorders
High blood sugar	Cancers, Circulatory diseases, Diabetes and kidney diseases, Neurological disorders
Tobacco	Cancers, Chronic chest disease, Circulatory diseases, Diabetes and kidney diseases, Digestive diseases, Musculoskeletal disorders, Neurological disorders, Unintentional injuries, Other injuries and diseases
Diet	Cancers, Circulatory diseases, Diabetes and kidney diseases
Alcohol use	Cancers, Chronic chest disease, Circulatory diseases, Diabetes and kidney diseases, Disorders caused by alcohol / drugs, Mental disorders, Musculoskeletal disorders, Unintentional injuries, Other injuries and diseases
Occupational risks	Chronic chest disease, Musculoskeletal disorders, Unintentional injuries, Other injuries and diseases
High blood pressure	Circulatory diseases, Diabetes and kidney diseases
Drug use	Disorders caused by alcohol / drugs
Low bone density	Unintentional injuries, Other injuries and diseases
Maternal poor nutrition	Other injuries and diseases
Air pollution	Chronic chest disease, Circulatory diseases, Diabetes and kidney diseases



## Years of life lost in Nottinghamshire





# Top 5 risk factors affecting length of life and quality of life in Nottinghamshire.

## LENGTH OF LIFE

1. Tobacco
2. Diet
3. High blood pressure
4. High blood sugar
5. Overweight and obesity

## QUALITY OF LIFE

1. Overweight and obesity
2. High blood sugar
3. Tobacco
4. Diet
5. Alcohol





# The Health Index

## What is the Health Index?

It is a summary measure of the health of the nation that was proposed by the Chief Medical Officer in 2017 (it covers Lower-tier and upper-tier authorities, regions and England).

It uses a broad definition of health, including:

- Health outcomes
- Health related behaviours and personal circumstances
- Wider drivers of health related to the places that people live

It provides a consistent set of indicators is used to enable changes over time to be tracked.

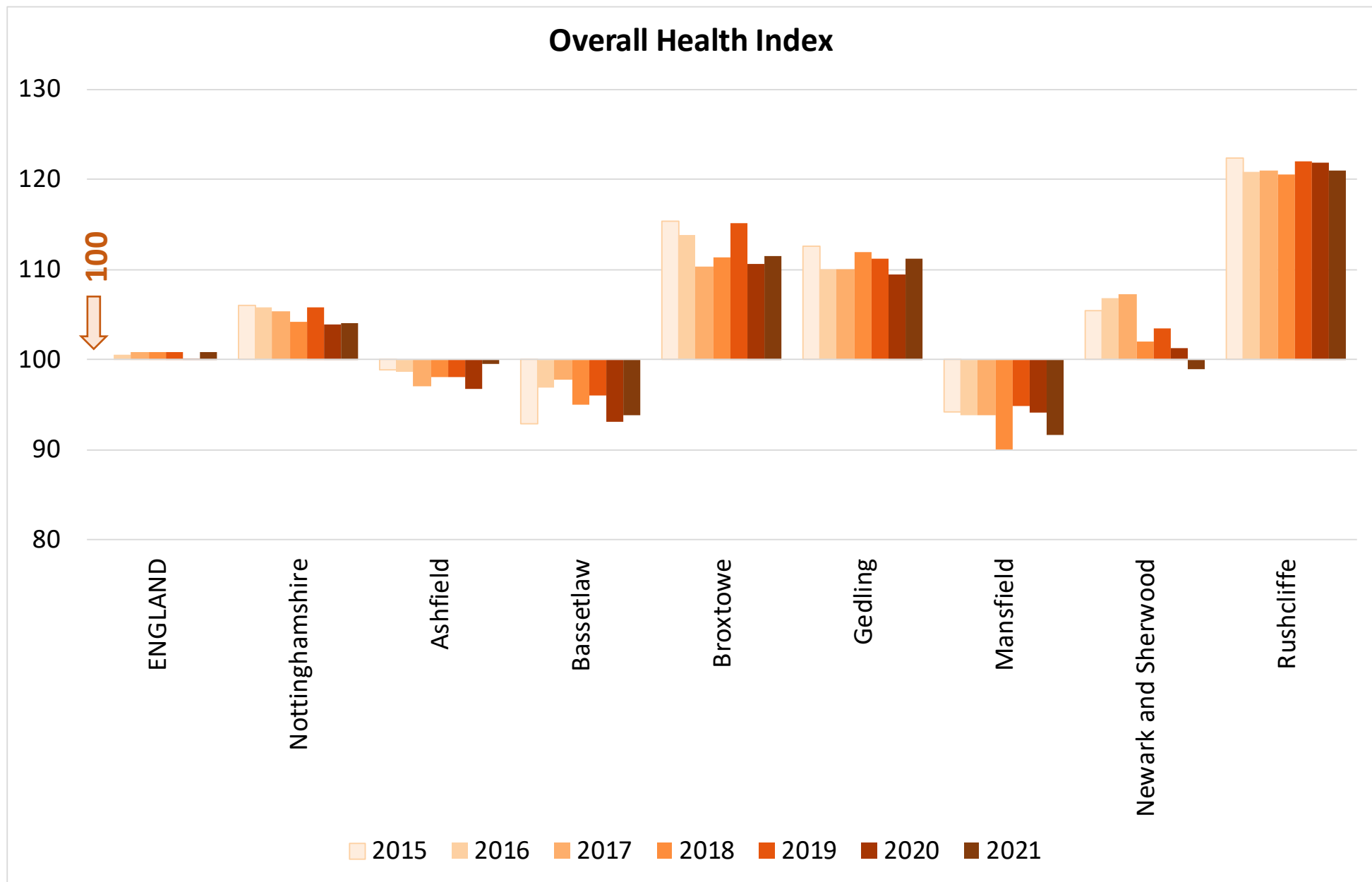
## What data are available?

An overall Health Index score (2015 – 2021) and three domains:

- Healthy People
- Healthy Lives
- Healthy Places
- All the measures are indexed so that England in 2015 is fixed at 100. This allows easy comparison by place and over time.
- 58 indicators are used.

[ONS Health Index](#)

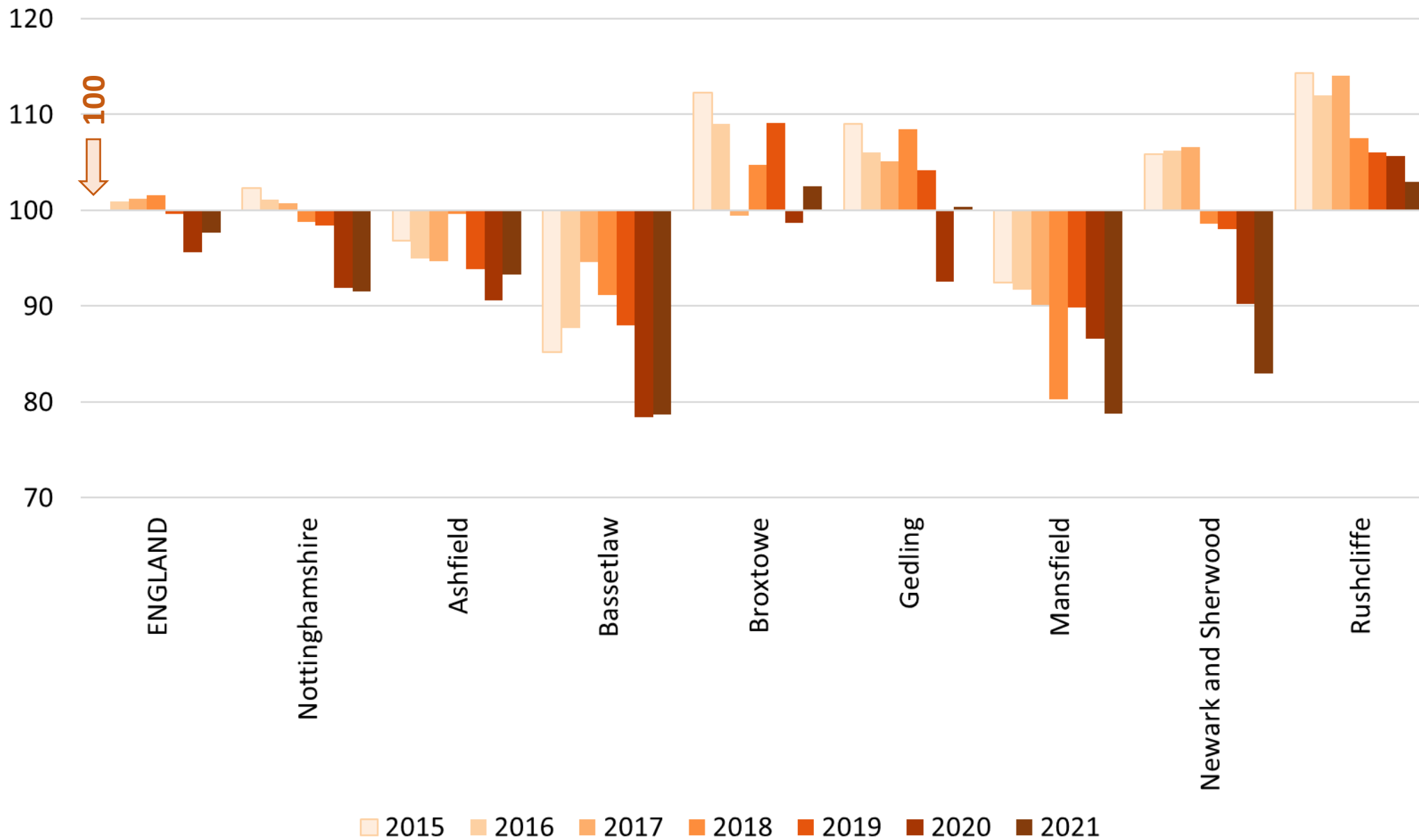
What does the Health Index  
tell us about health in  
Nottinghamshire?



- Overall score in Nottinghamshire has declined since 2015 but remains better than England.
- Scores for Ashfield & Mansfield consistently lower than England.
- Newark & Sherwood has experienced the largest change over time.
- The range of values illustrates the health inequalities across Nottinghamshire County.



## Healthy People Domain



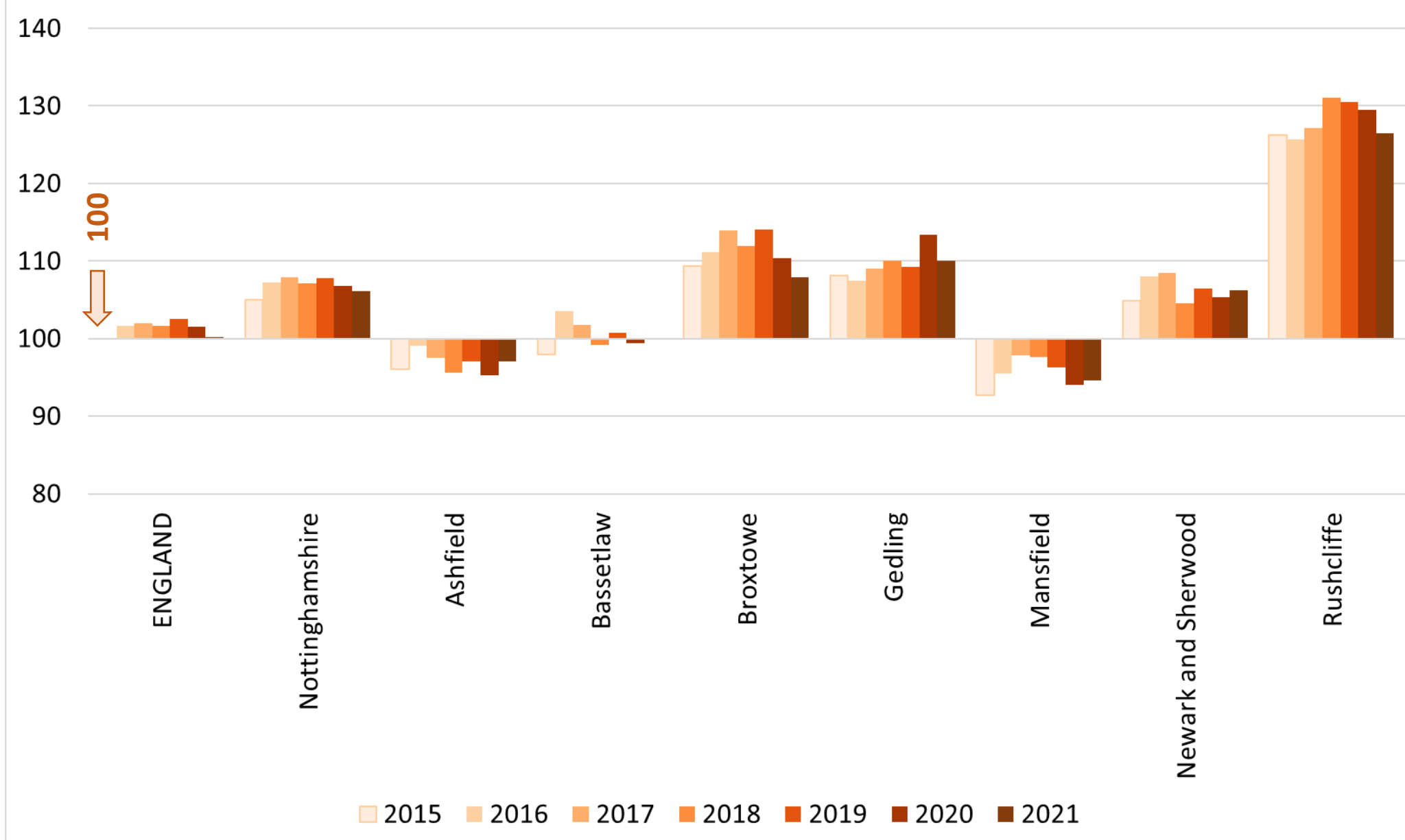
This includes measures for personal well-being, mortality and physical health conditions.

The Healthy People Index has declined in England & all areas of Nottinghamshire over time.

Changes in 2020 and 2021 are likely pandemic related.



# Healthy Lives Domain

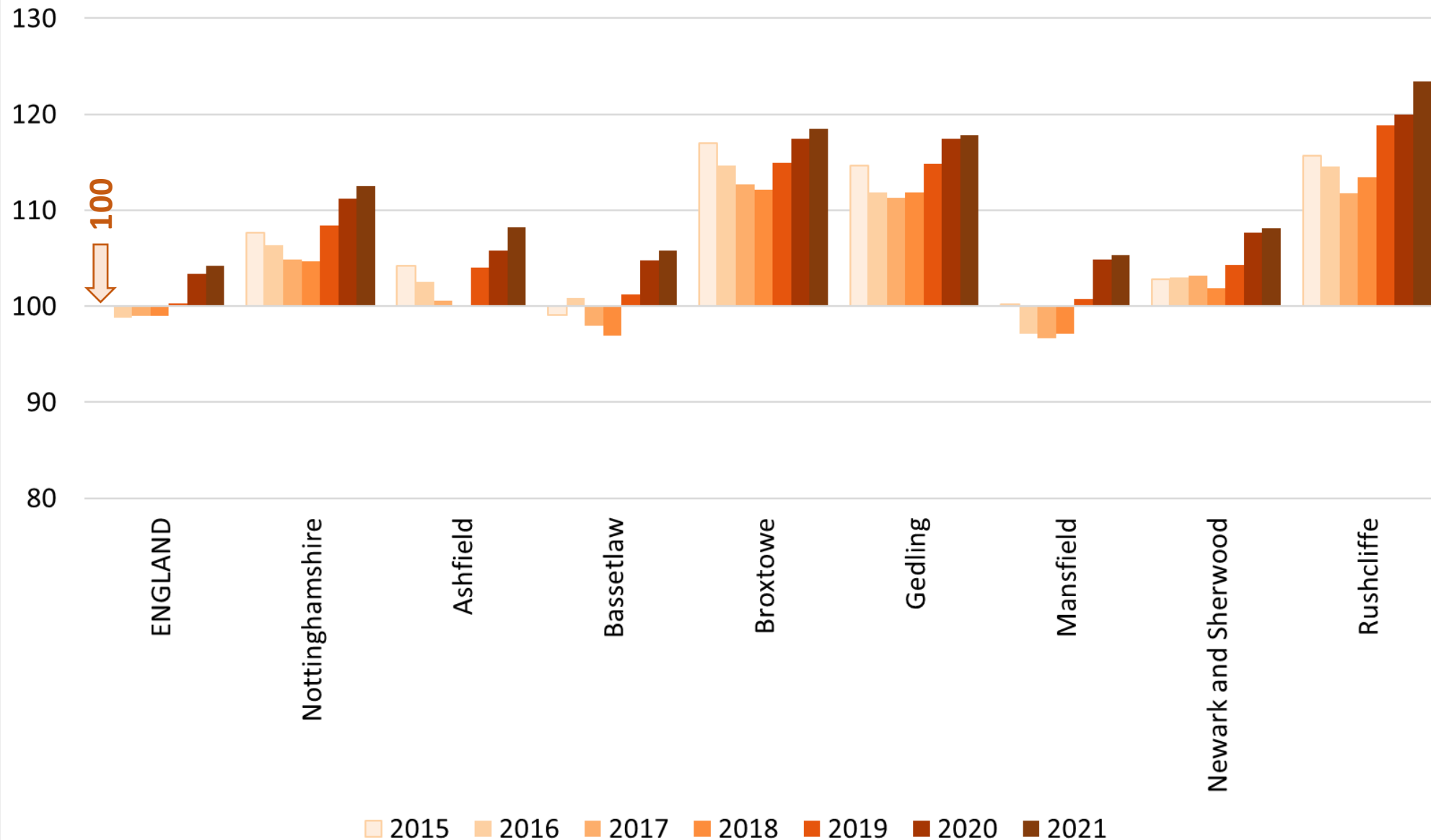


The Healthy Lives Domain includes measures for behavioural risk factors, children and young people, physiological risk factors and protective measures.

The Healthy Lives Index has remained relatively consistent over time.



## Healthy Places Domain



The Healthy Places Domain includes measures for access to green space, access to services, crime, economic and working conditions & living conditions.

The Healthy Places index score has increased in each local authority, Nottinghamshire and England over time.

Every District & Borough has scored better than England since 2019.



# Public Health Outcomes Framework (PHOF)

## What is the PHOF?

- This data tool currently presents data for available indicators at England and local authority levels, collated by the Office for Health Inequalities and Disparities.
- Data are updated annually
- Data are presented for the most recent period available and accompanying trend data where possible. Inequalities data are provided where these are available.
- Indicators in PHOF are National Statistics

## What data are available?

**182 indicators** that are monitored and grouped into the below topic areas:

- Wider determinants of health
- Health Improvement
- Health Protection
- Healthcare and Premature mortality

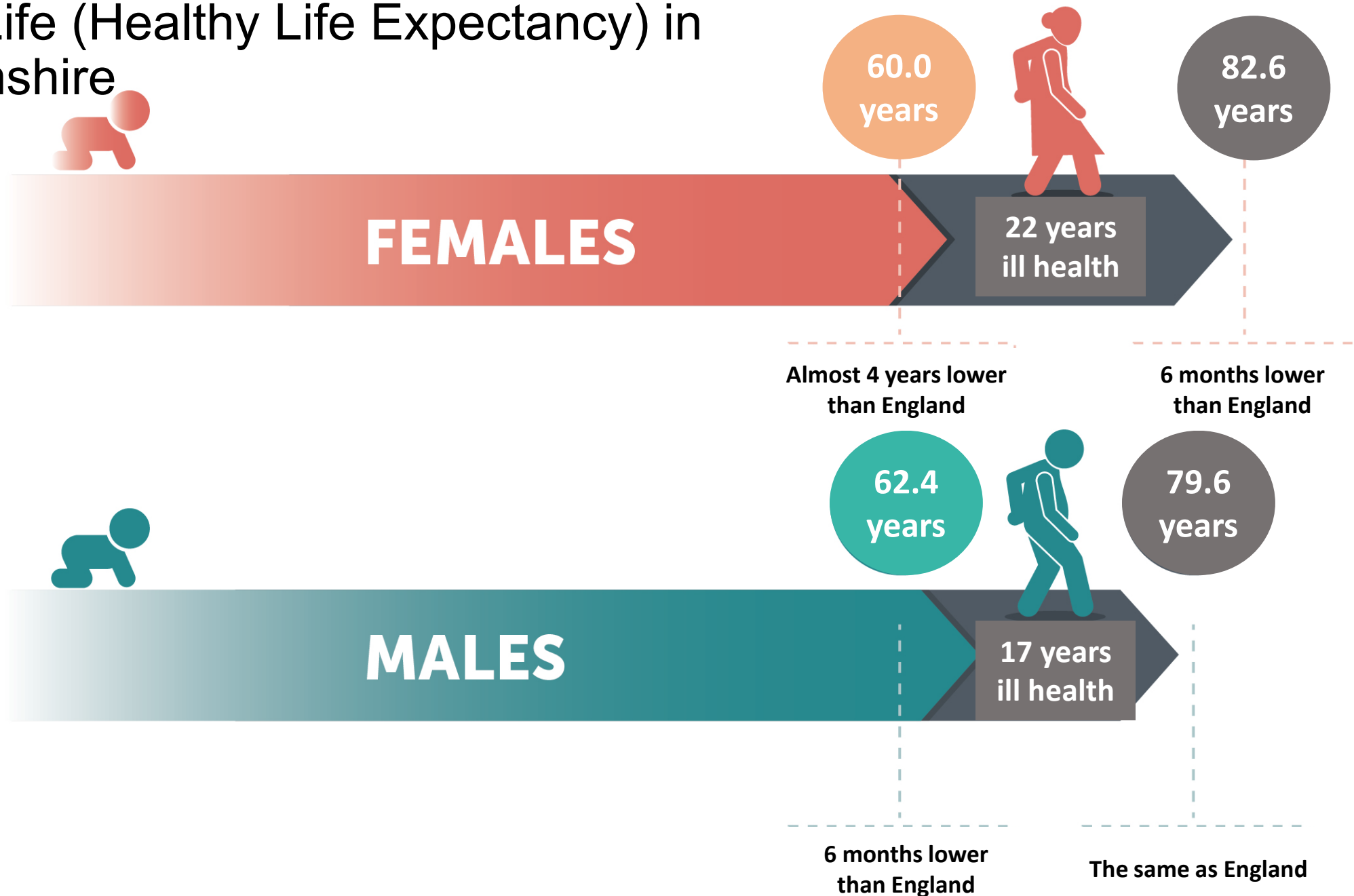
These can be broken down into County, City, District boundaries.

<https://fingertips.phe.org.uk/profile/public-health-outcomes-framework>

What does the PHOF tell us  
about health in  
Nottinghamshire?



# Length of Life (Life Expectancy) and Quality of Life (Healthy Life Expectancy) in Nottinghamshire





# Nottinghamshire PHOF rapid overview

In what areas of health does Nottinghamshire perform worse than England?

## Overarching measures

- **No** life expectancy / healthy life expectancy measures are significantly better than England
- *Significantly worse than England:*
  - Females; HLE & DFLE at birth and at age 65
  - Males; LE, HLE at age 65

## Wider determinants *(sig worse than England)*

- Children in low income families
- NEET
- Adults with LD/ SMI – employment and accommodation
- Social isolation & carers
- Work sickness absence
- Incidents and crimes – domestic abuse
- Violent / sexual offences

## Healthcare & premature mortality *(sig worse than England)*

- Cancer deaths age U75
- Inequality gap – U75 deaths with / without SMI
- Preventable sight loss – AMD
- Hip fractures aged 80 & older

## Health improvement *(sig worse than England)*

- Smoking status at time of delivery
- Breastfeeding (first feed & 6-8 weeks)
- New-born checks
- Serious injury aged 15 to 24
- Successful treatment – alcohol, opiates & non-opiates
- Engagement - substance misuse treatment after prison
- Alcohol related admissions
- Adult overweight/ obesity
- Cancer diagnoses at stages 1 or 2

## Health protection *(lower than 'achievable' coverage)*

- Booster/ 2<sup>nd</sup> dose age 5
- All first or 2<sup>nd</sup> dose in primary / secondary school age (flu or HPV)
- Shingles vaccination



# Local Health

- What is Local Health?

- It provides quality assured small area health-related data visualised in maps, charts, area profiles, and reports.
- It looks at OHID and other data tools and profiles.
- It can analyse health at local authority level from counties to wards.

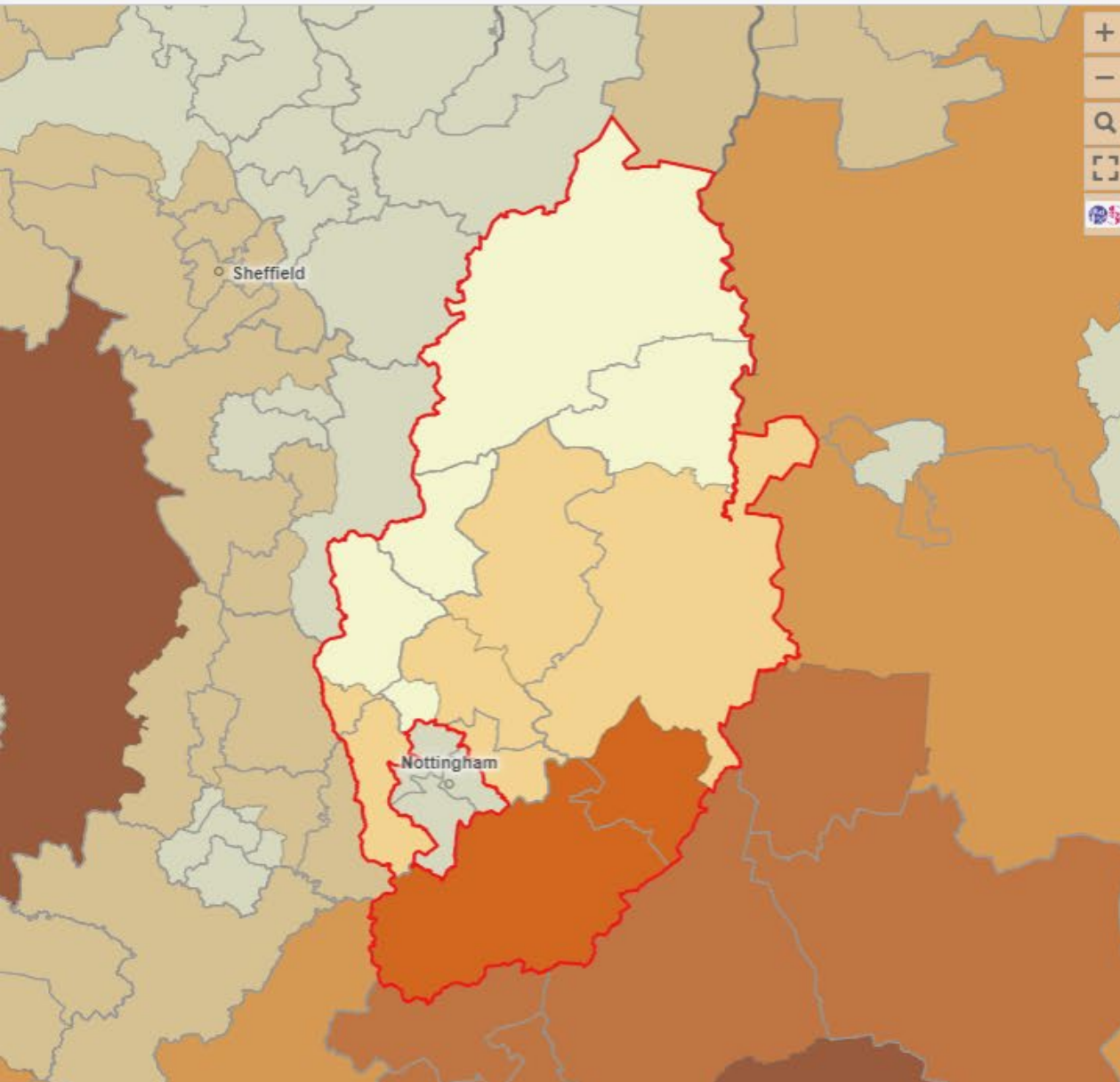
- What data are available?

**69 indicators** that are monitored and grouped into the below topic areas:

- Our community
- Behavioural risk factors and child health
- Disease and poor health
- Life expectancy and causes of death

These can be broken down into County, City, District and Ward boundaries.

<https://www.localhealth.org.uk/#c=home>



Code	Label	Life expectancy at birth for females
E07000170	Ashfield	81.7
E07000171	Bassetlaw	82.1
E07000172	Broxtowe	83.0
E07000173	Gedling	83.0
E07000174	Mansfield	81.2
E07000175	Newark and Sherwood	82.8
E07000176	Rushcliffe	84.6

## An Example –

Life Expectancy for females within Nottinghamshire:

HIGHEST: Rushcliffe – 84.6 years old (dark)

LOWEST: Ashfield – 81.7 years old (light colour)

What does Local Health tell  
us about health in  
Nottinghamshire?



# Inequalities in Nottinghamshire

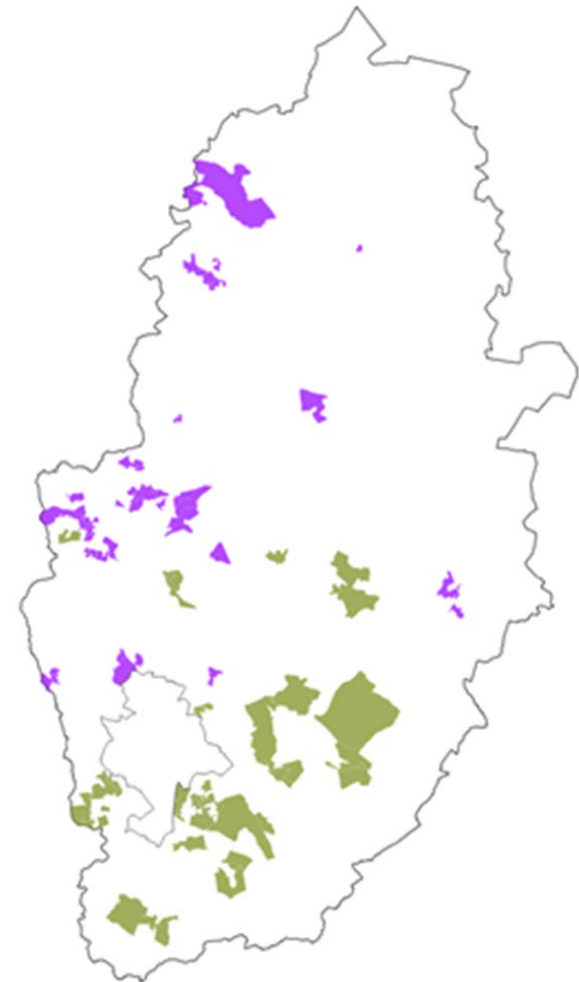
## Gap between **most** and **least** disadvantaged areas

### Life expectancy

- Over 7.7 years shorter in the **most deprived areas**

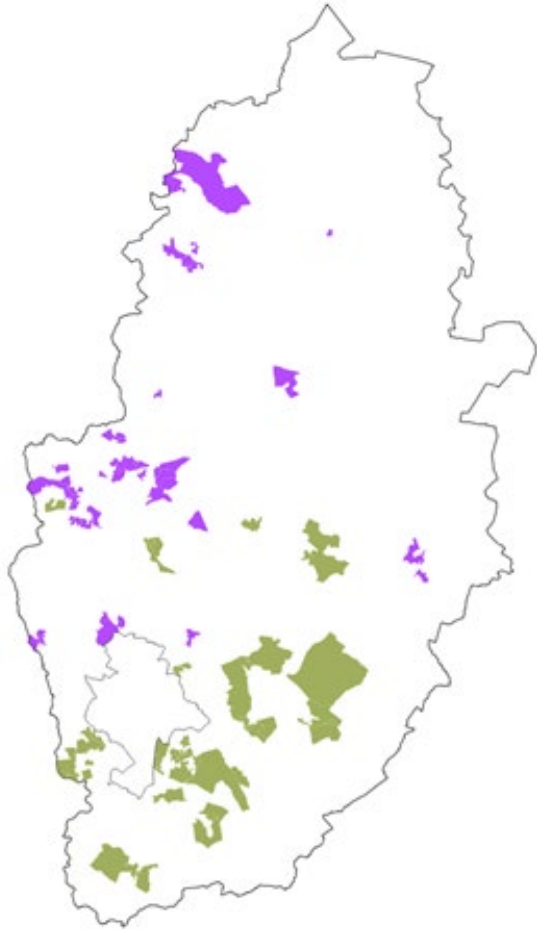
### Healthy life expectancy

- People can expect to be in poor health over 14 years earlier in the **most deprived areas**





# Other examples



*\* Preventable deaths are defined by ONS as those which could be prevented through Public Health and civic intervention*

Inequalities within Nottinghamshire are among the highest 25% in England for:

## Children and young people

- Childhood overweight and obesity
- Childhood hospital stays for injury

## Adults

- Urgent admissions to hospital for:
  - chronic chest disease
  - any cause
  - hip fracture
- Percentage reporting long term limiting illness

## Deaths

- Preventable deaths\*, ages under 75
- Deaths caused by chest disease
- Early deaths – any cause



# Joint Strategic Needs Assessment (JSNA)

## What is the JSNA?

The Joint Strategic Needs Assessment for Nottinghamshire provides an overview of the health and wellbeing needs in the County.

It is regularly updated with chapters and recommendations presented to the Health and Wellbeing Board for approval and implementation.

The Board has a statutory duty to produce a JSNA that is used to determine what actions local authorities, the NHS and other partners need to take to meet health and social care needs and address the wider determinants that impact on health and wellbeing.

## What data are available?

Locally for Nottinghamshire (this does not include Nottingham City) there are 45 chapters to the JSNA covering 4 themes:

- Cross cutting themes
- Children and Young People
- Adults and Vulnerable Adults
- Older adults

Each year partners identify areas of need or priority to be added to the JSNA.

<https://nottinghamshireinsight.org.uk/>





## Cross Cutting themes:

- Air quality.
- An assessment of the impact of housing on health and wellbeing.
- Carers.
- Diet and nutrition.
- Excess weight in children, young people, and adults.
- Health and Homelessness.
- Infection prevention and control.
- Physical activity.
- Road safety.
- Self-harm.
- Sexual Health and HIV.
- Substance Misuse: Young people and adults.
- Suicide prevention.
- Oral Health.
- Tobacco control.

## Children and young people:

- 1001 days: From conception to age 2.
- Avoidable injuries in children and young people.
- Breastfeeding and healthy start programme.
- Child poverty.
- Early years and school readiness.
- Emotional and Mental Health of Children and Young People.
- Excess weight in children, young people, and adults.
- Teenage pregnancy.
- Youth offenders.
- SEND.

## Adults and vulnerable adults:

- Autism.
- Cancer.
- Domestic Abuse.
- End of life care for adults.
- Adults and Vulnerable People.
- Learning Disabilities.
- Mental health (adults and older people).
- Sexual abuse.
- Stroke.
- Viral hepatitis.

## Older people:

- Dementia.
- End of life care for adults.
- Falls and bone health.
- Older people- Loneliness and social isolation in older people.
- Winter warmth and excess winter deaths.



What does the JSNA tell us  
about health in  
Nottinghamshire?

The JSNA provides an analysis and set of recommendations to inform commissioning decisions and service delivery. Each chapter is shared with range of health and care partners.


New Dashboards under development to bring together data insight for Nottingham and Nottinghamshire ...


Current proposed dashboards include;

- Health and Wellbeing
- Children and Young People
- Ageing Well & Long Term Conditions
- Health Behaviours
- Building blocks of health
- Health Protection

<https://app.powerbi.com/view?r=eyJrIjoiaNDgzZTMzMmEtMzYyZS00NTY4LWFjMGMtZDg4NmQ2MjFmZDIzliwidCI6ImQ2M2ZjZDg2LTlkYTctNGI4OS04OTkA3LWU3NjE3MjY2YmNhZiJ9>

Nottingham & Nottinghamshire JSNA

 Nottingham City Council

 Nottinghamshire County Council

Contents

<div>Dashboard Description</div> <div>This chapter of the Nottingham &amp; Nottinghamshire JSNA Dashboards contains information about Population, Ethnicity, Deprivation, Life Expectancy and Healthy Life Expectancy.</div> <div><div>Contains public sector information licensed under the <a href="#">Open Government Licence v3.0</a>.</div><div>United Kingdom Census 2021. Office for National Statistics. [Online]. Available at: <a href="https://www.nomisweb.co.uk/datasets/c2021m032">https://www.nomisweb.co.uk/datasets/c2021m032</a> [Accessed: 11/05/2023].</div><div>Office for National Statistics sources licensed under the Open Government Licence v.3.0</div><div>Contains OS data © Crown copyright and database right [2022]</div><div>Office for Health Improvement &amp; Disparities. Public Health Profiles. 2022 <a href="https://fingertips.phe.org.uk">https://fingertips.phe.org.uk</a> © Crown copyright 2022</div></div>	<div>Chapter 1 - Health and Wellbeing</div> <div>1.1 Population Profile</div> <div>1.2 Population Profile - Ward Level</div> <div>1.3 Population Change</div> <div>1.4 Ethnicity</div> <div>1.5 Life Expectancy</div> <div>1.6 Healthy Life Expectancy</div> <div>1.7 Deprivation</div> <div>1.8 Deprivation - Ward Level</div>
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# How is this all this information used in Public Health?

This data on public health has been used, alongside citizen insight, to set the priorities for the system outlined in their strategic plans.

*(see next slides)*

Each of these plans have data dashboards that monitor progress on delivering against the identified priorities using the intelligence discussed on previous slides.



# Joint Health & Wellbeing Strategy 2022 - 2026









# Dashboard (62 indicators) -

## Nottinghamshire County Health and Wellbeing Strategy Indicators

Key for trend: ↑ getting better, ↓ getting worse, ↔ no trend detected, — not calculated

Indicator	Latest data	Latest value	England comparison	Trend	Recent data
<b>Strategic Vision - Living Longer</b>					
Life expectancy at birth   Female   All ages	2018 - 20	82.6	Worse	—	
Life expectancy at birth   Male   All ages	2018 - 20	79.5	Similar	—	
<b>Strategic Vision - Living Healthier</b>					
Healthy life expectancy at birth   Female   All ages	2018 - 20	60.0	Worse	—	
Healthy life expectancy at birth   Male   All ages	2018 - 20	62.4	Similar	—	

# Integrated Care Strategy 2023 – 2027



**Integrated  
Care System**  
Nottingham & Nottinghamshire

*“Every person will enjoy their best possible health and wellbeing”*

Improve  
outcomes in  
population  
health and  
healthcare

Tackle  
inequalities  
in outcomes,  
experiences  
and access

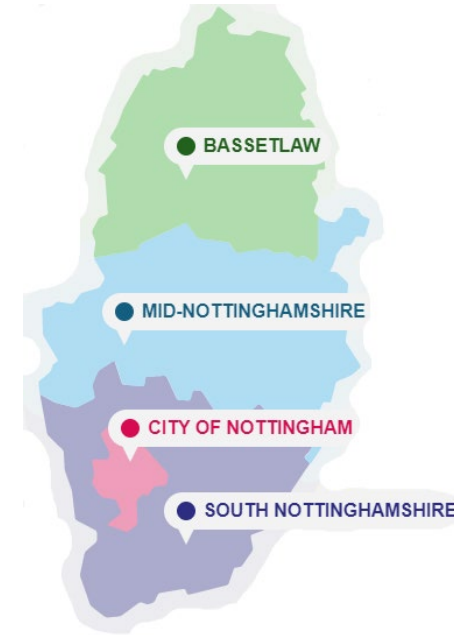
Enhance  
productivity  
and value  
for money

Support  
broader social  
and economic  
development

*Prevention is better than cure*

*Equity in everything*

*Integration by default*



**1.2 million  
residents**

# Questions