



Oral Health in Derbyshire:

With a focus on the Oral Health Survey of
five-year-old children (2017)

How is oral health measured?

Key terminology

D | **Decay**
 Tooth decay can occur when acid is produced from plaque which builds up on teeth.

M | **Missing**
 If the tooth is missing...

Tooth decay is preventable!

- To Keep gums and teeth clean we should:
- Visit the dentist regularly
 - Cut down on sugary & starchy foods & drinks between meals
 - Brush teeth twice a day
 - Adults should avoid smoking or drinking alcohol excessively

...refer to it as
Decay Experienced
 and
Decay Severity

...to as the
 teeth. Children have
 milk teeth, adults have 32.



Oral Health Survey of five-year-old children (2017)

Delivered by Public Health England (PHE) National Dental Epidemiology Programme (NDEP)

4th oral health survey of 5 year olds. However, changed to positive consent in 2012 so only have comparable data from 2012, 2015 and 2017.

National findings:



wide **variation** at both regional and local authority level for both prevalence and severity of dental decay

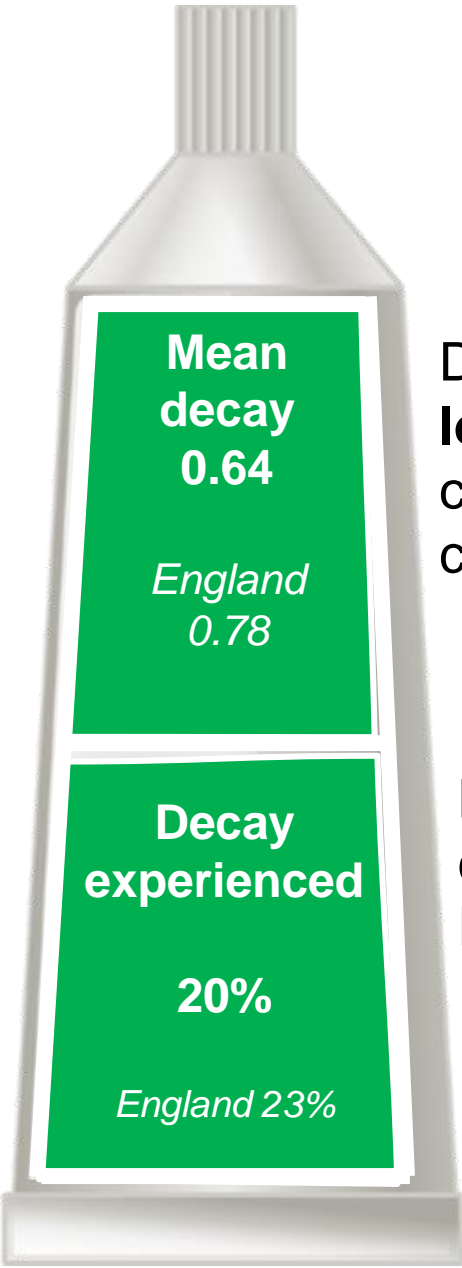


23.7% of 5 year old children in England had **experienced decay**



The last 3 surveys demonstrate a reduction in the number of children experiencing decay in one or more teeth

What's happening in Derbyshire?



Derbyshire had **significantly lower** decay in the number of children's teeth (**severity**) compared to England *(0-5 years, 2017)*



Derbyshire had a **significantly lower** percentage of children experiencing decay (**prevalence**) compared to England *(0-5 years, 2017)*



What's happening in Derbyshire?



0.6%

in Derbyshire
had dental
sepsis

Dental Sepsis

Dental sepsis at this age is generally caused by dental decay and was measured by the presence of a dental abscess or sinus.

Derbyshire had a similar percentage compared to the average for England (1.1%)



3%

in Derbyshire
had incisor
decay

Incisor Decay

Decay of the incisors can indicate long term use of bottle feeding with drinks containing sugar.

Derbyshire had a significantly lower percentage compared to the average for England (5%)



0.6%

in Derbyshire
had substantial
plaque

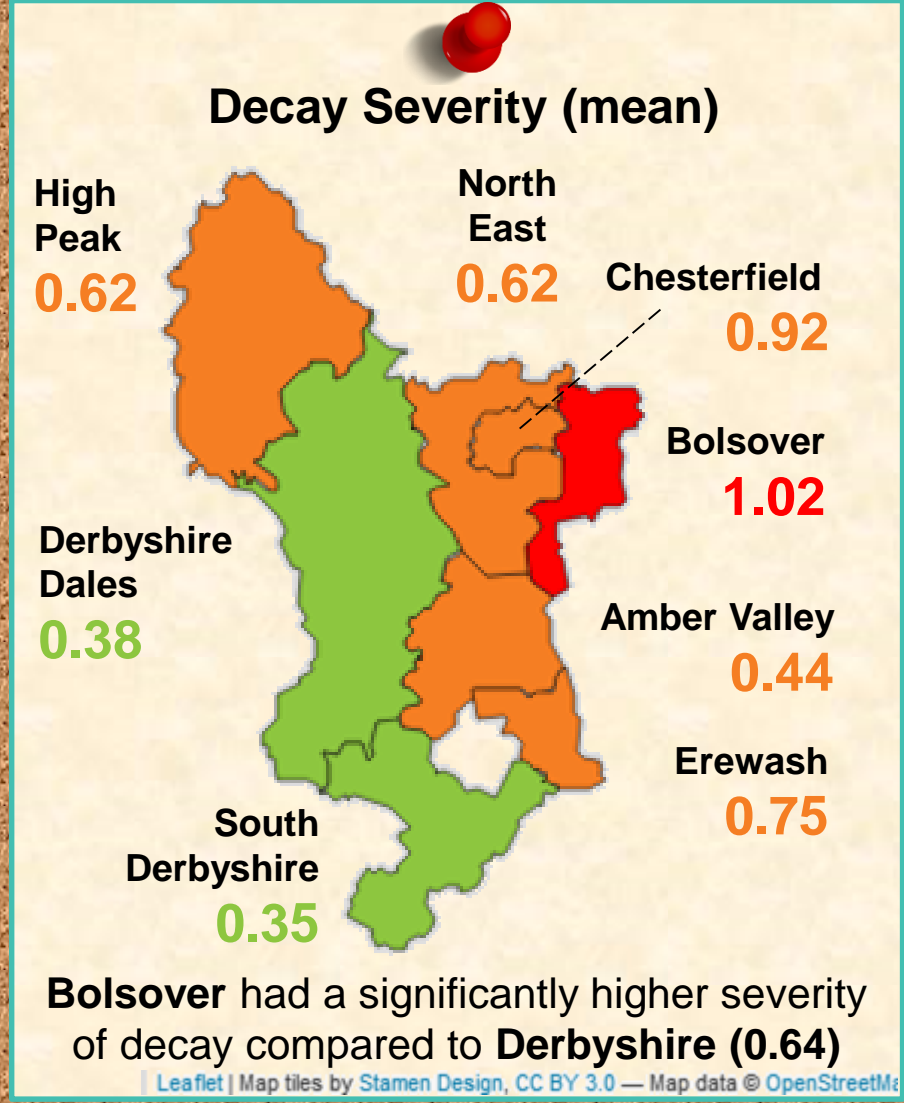
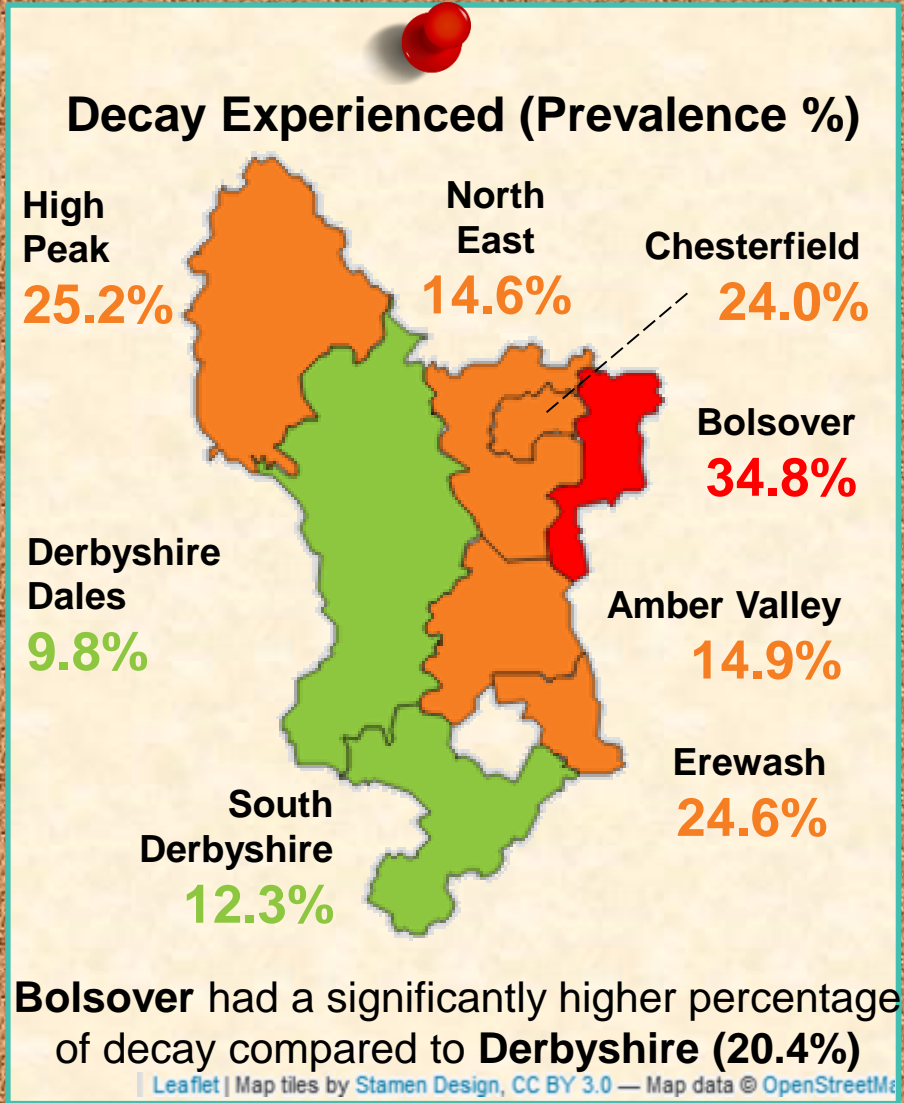
Substantial Plaque

Substantial plaque can indicate poor oral hygiene and may highlight the need for support with tooth brushing.

Derbyshire had a significantly lower percentage compared to the average for England (1.5%)

Where has the most decay compared to the average for Derbyshire (districts)?

Significantly better Similar Significantly worse



Which Electoral Division has the most decay compared to the average for Derbyshire?

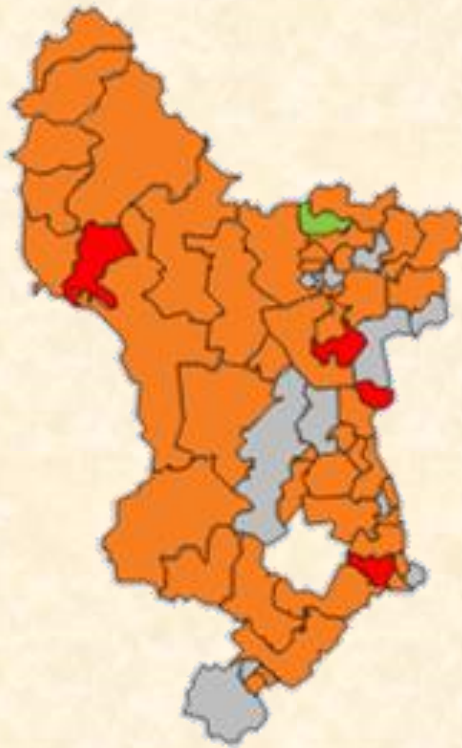
Significantly better

Similar

Significantly worse

Suppressed

Decay Experienced (Prevalence %)



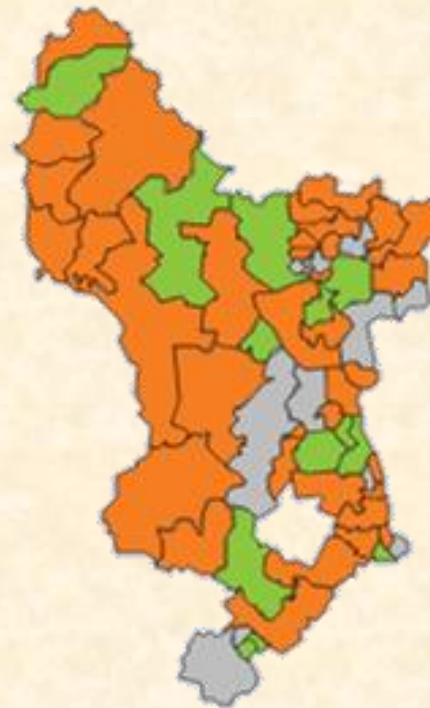
Significantly worse:

- Breaston
- Buxton North & East
- Clay Cross South
- South Normanton & Pinxton

Significantly better:

- Dronfield East

Decay Severity (Mean)



Significantly better:

- Bakewell
- Clay Cross North
- Dronfield West & Walton
- Etwell & Repton
- Glossop & Charlesworth
- Greater Heanor
- Heanor Central
- Horsley
- Matlock
- Sawley
- Sutton
- Swadlincote Central
- Swadlincote South

Dental health queries:

Where needs support with tooth brushing?

Districts had similar percentages of children with substantial levels of plaque.

However, Bolsover had a significantly higher prevalence and severity of decay.



Where had high levels of long term bottle feeding of sugary drinks (*dental decay affecting incisors*)?

Districts had similar percentages of children with dental decay affecting incisors

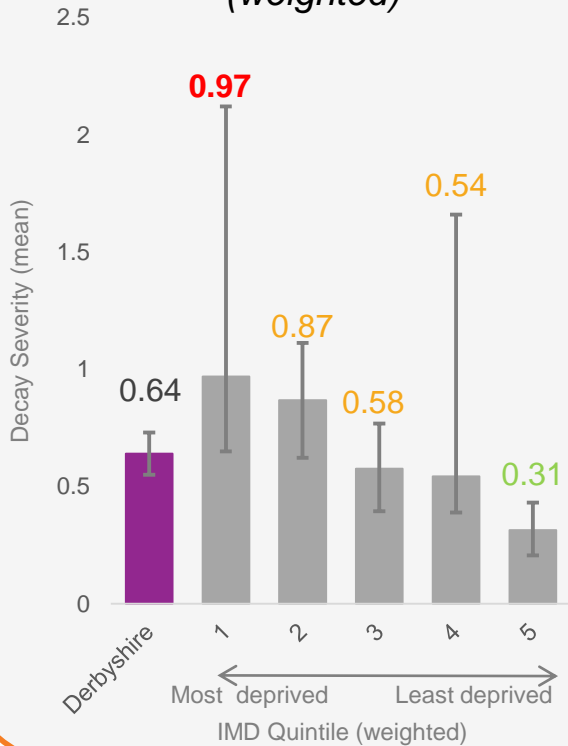
Do deprived children experience more dental decay?

The English Indices of Deprivation (2015), also known as IMD can be used to measure the presence of deprivation. It provides a score based on a range of domains. *Source: Gov.uk*



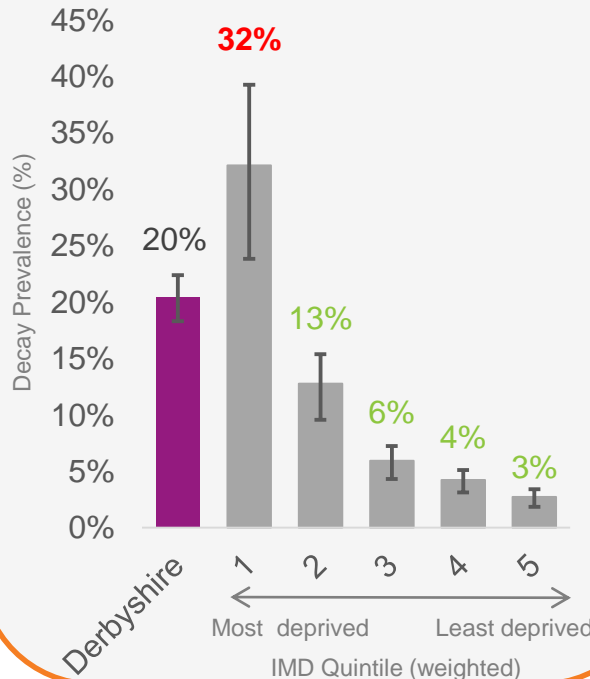
Most deprived area had a significantly higher severity of decay

compared to the average for Derbyshire (weighted)



Most deprived area had a significantly higher prevalence of decay

compared to the average for Derbyshire (weighted)



No significant difference for dental sepsis



No significant difference for substantial plaque



No significant difference for dental decay of incisors

In Derbyshire 134 children aged 0 – 5 years were admitted to hospital for an extraction due to decay (89 per 100,000, 2015/16 – 17/18)

Admissions may involve a general anaesthetic that can have **negative side effects**

It is **costly** for the NHS
The average cost of a tooth extraction in hospital for a child aged 5 and under is **£836**
(PHE England)

It often results in **lost days** at school and work

It is almost **entirely preventable**



A local look:

High Peak (219.5 per 100,000) and **North East Derbyshire** (169.9 per 100,000) had a significantly higher rate of hospital admissions compared to Derbyshire

Bolsover (156.5 per 100,000), **Derbyshire Dales:** (131.2 per 100,000) and **Chesterfield** (88.2 per 100,000) were similar.

Rates were suppressed for Amber Valley, Erewash, South Derbyshire: (<6 per year)

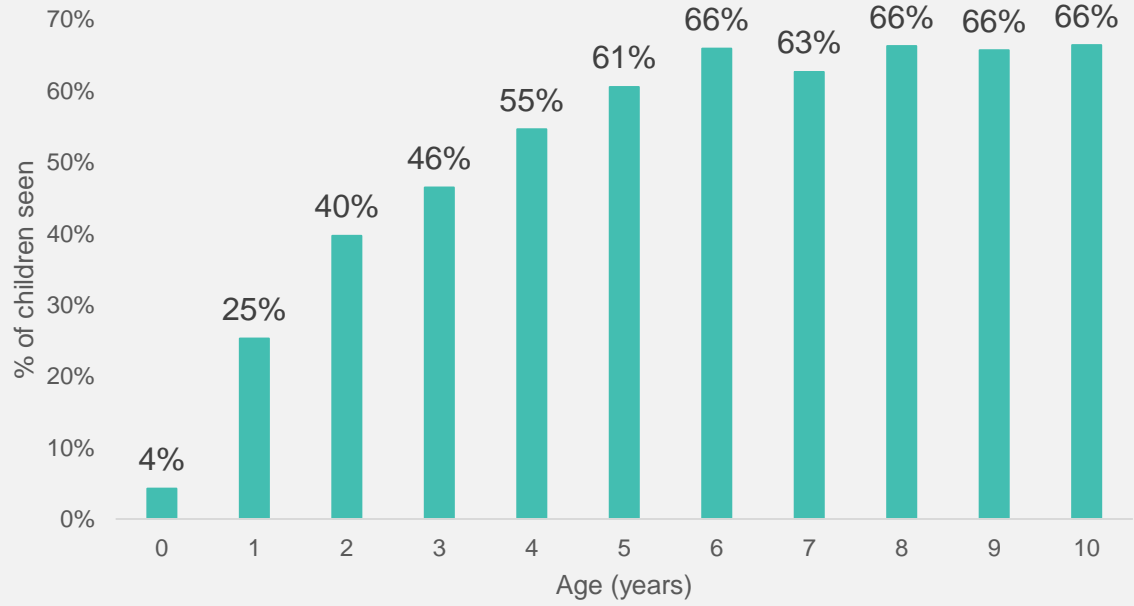
How many 5 year olds were seen in Derbyshire by a dentist in 2017?



In Derbyshire from June 2016/17, 61% of children aged 5 years old were seen by a dentist. This was higher than the average for England (58.2%)

That's 5231 5-year-olds in Derbyshire seen by a dentist.

Percentage of children seen by a dentist in Derbyshire (June 16 – 17)



It is best if children visit the dentist as soon as milk (baby) teeth start to appear.

Source: NHS digital

How many dental services are there in Derbyshire?

123 dental services in Derbyshire (including Derby City)

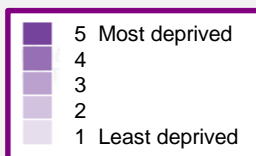
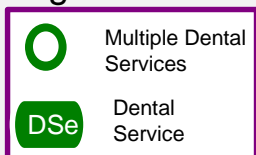
36 accepting children as new NHS patients

Source: NHS choices & Shape Atlas

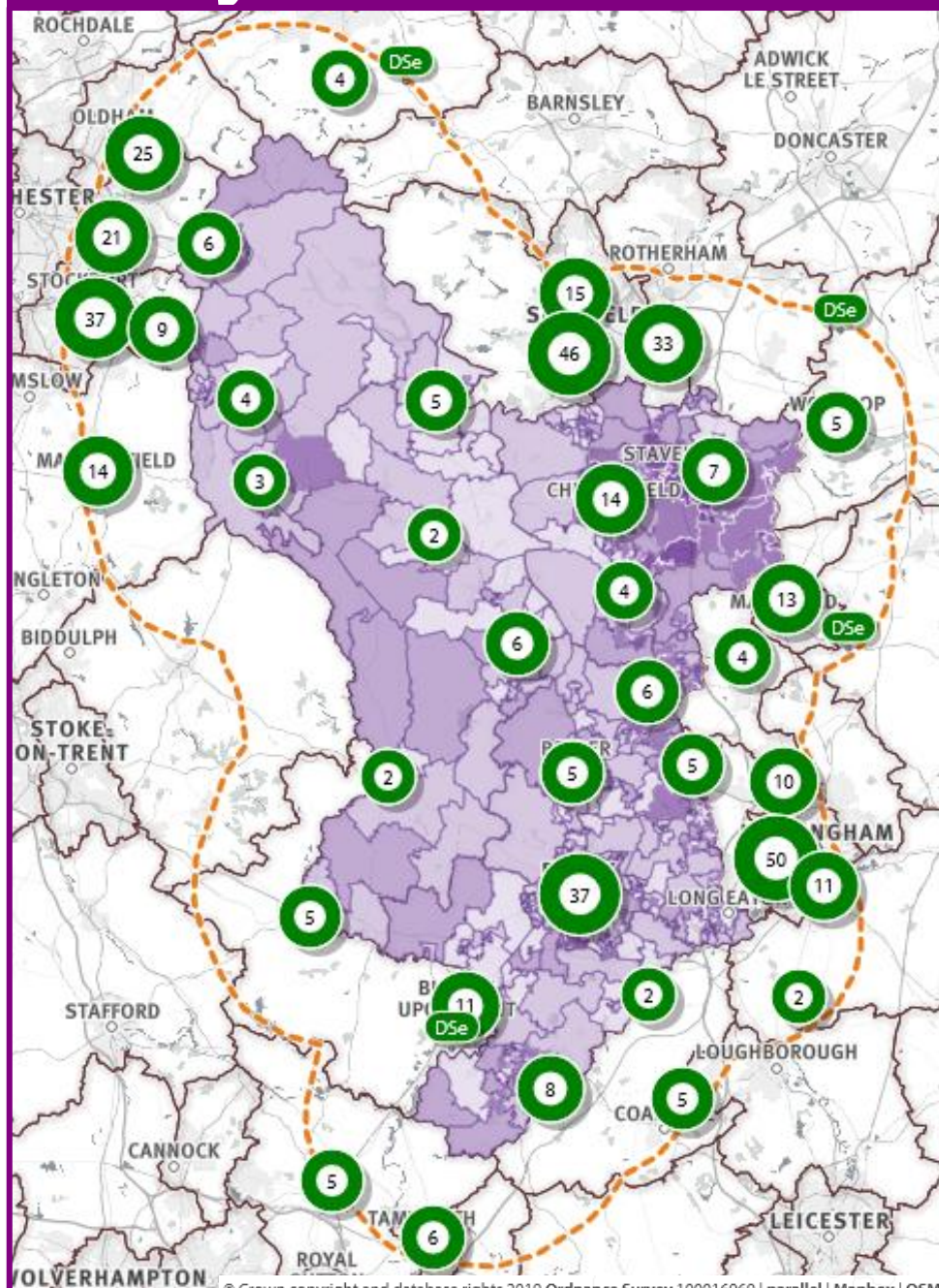
Where are the dental services?

This map explained:

- The **dotted orange line** represents a 10km buffer around Derbyshire. This is to highlight if people may be accessing services just over the border.
- The **green circles** represent dental services.
- The **purple** demonstrates the IMD quintile for that area.

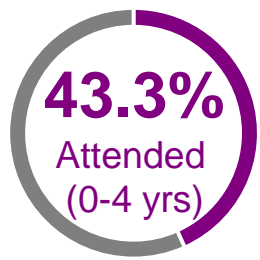


Derbyshire



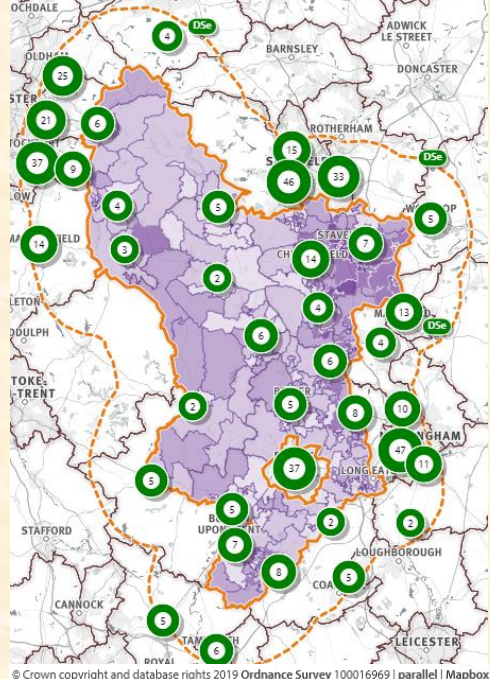
Derbyshire

43.3% of 0 – 4 year olds attended the dentist (2016/17 – 2017/18)



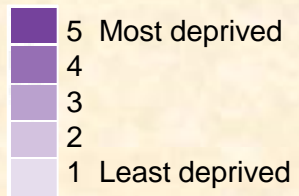
26
NHS dental services
accepting children

Deprivation: IMD (2015)

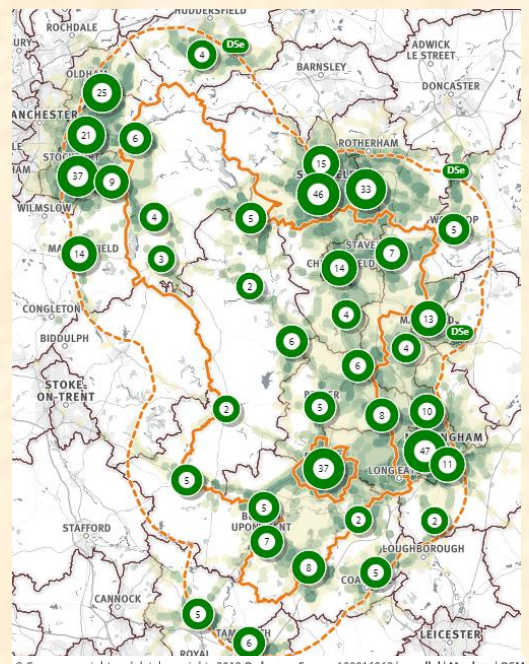


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The England – wide Index of Multiple Deprivation (IMD 2015)



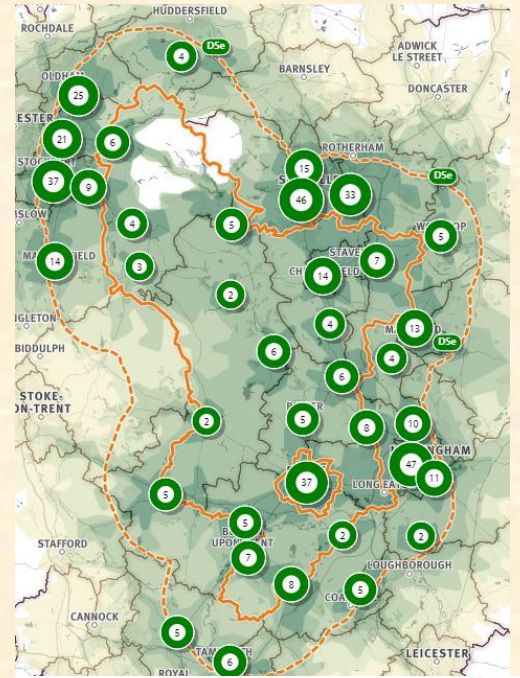
Travel time: public transport



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Population within 30 minutes: 763,587 (96%)
Population outside of 30 minutes: 28,379 (4%)

Travel time: car



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Population within 30 minutes: 791966 (100%)

Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

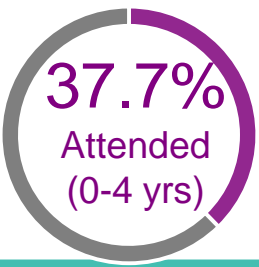
DSe Dental Service

Multiple Dental Services

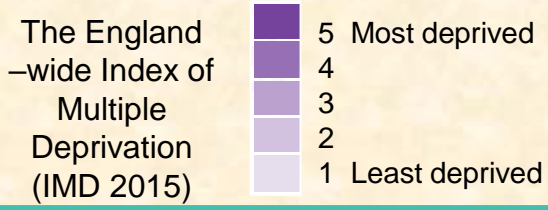
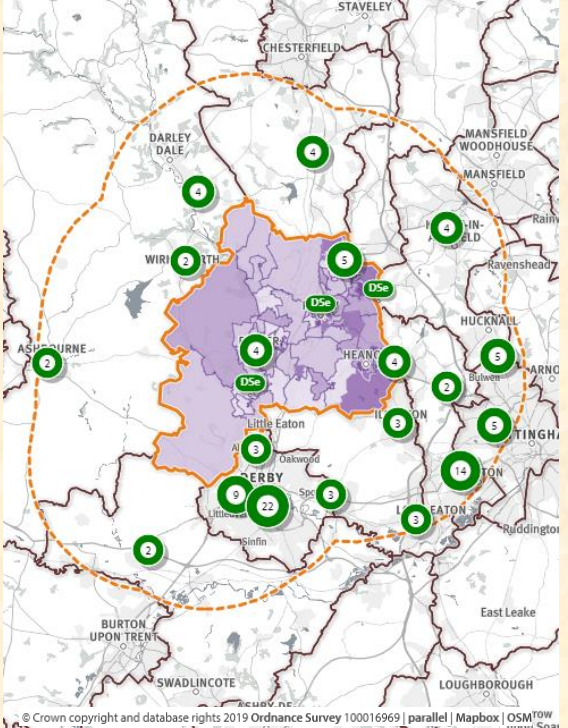
5 10 15 20 30 Travel minutes

Amber Valley

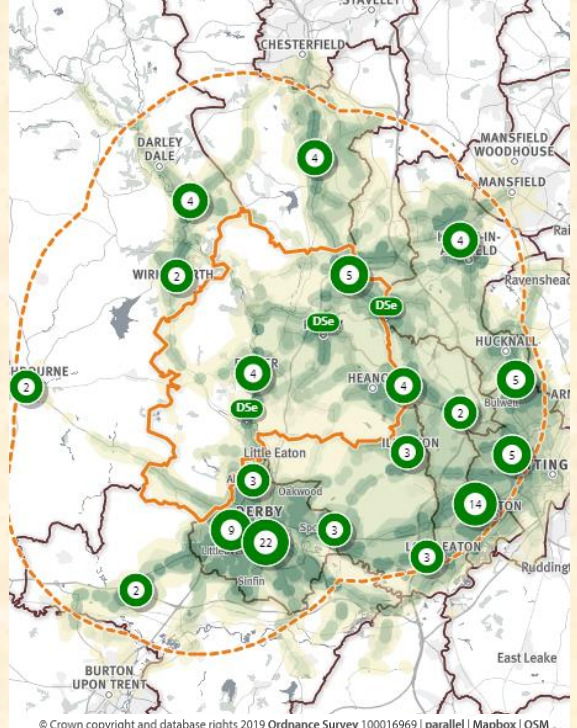
37.7% of 0-4 year olds attended the dentist.
 Lower compared to the Derbyshire average (2016/17 – 2017/18)



Deprivation: IMD (2015)

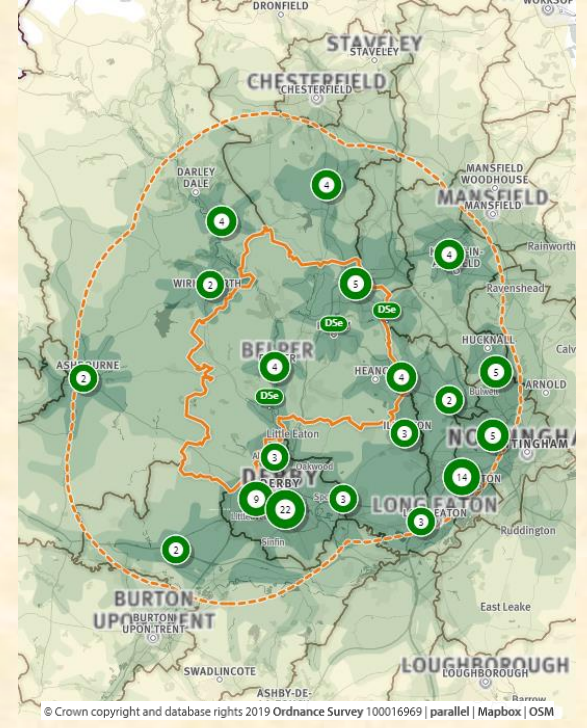


Travel time: Public Transport



Population within 30 minutes: 120,315 (96%)
 Population outside of 30 minutes: 5,583 (4%)

Travel time: Car



Population within 30 minutes: 125,898 (100%)

Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

DSe Dental Service

Multiple Dental Services

5 10 15 20 30 Travel minutes

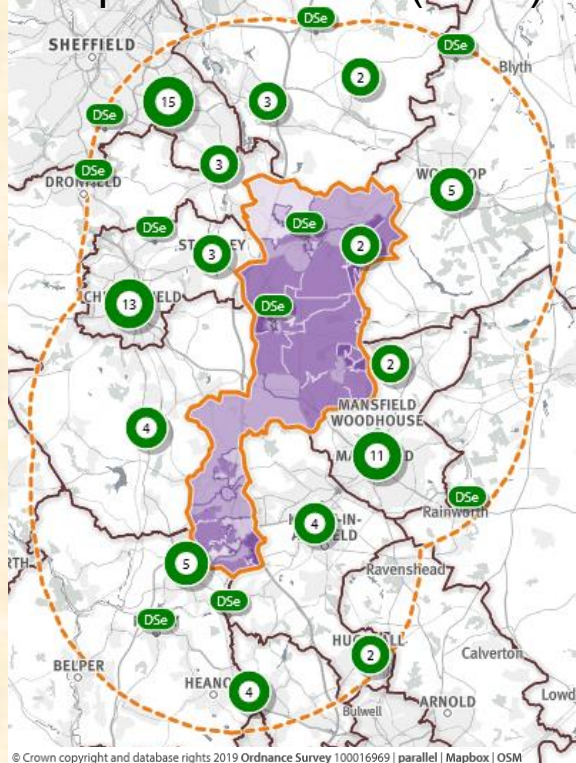
Bolsover

42.4% of 0-4 year olds attended the dentist.
 Lower compared to the Derbyshire average (2016/17 – 2017/18)

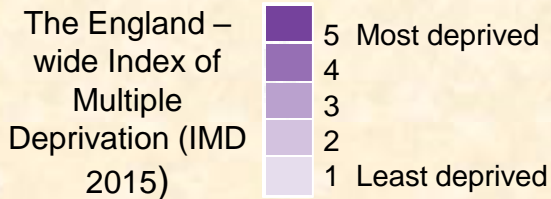
42.4%
 Attended
 (0-4 yrs)

2
 NHS dental services
 accepting children

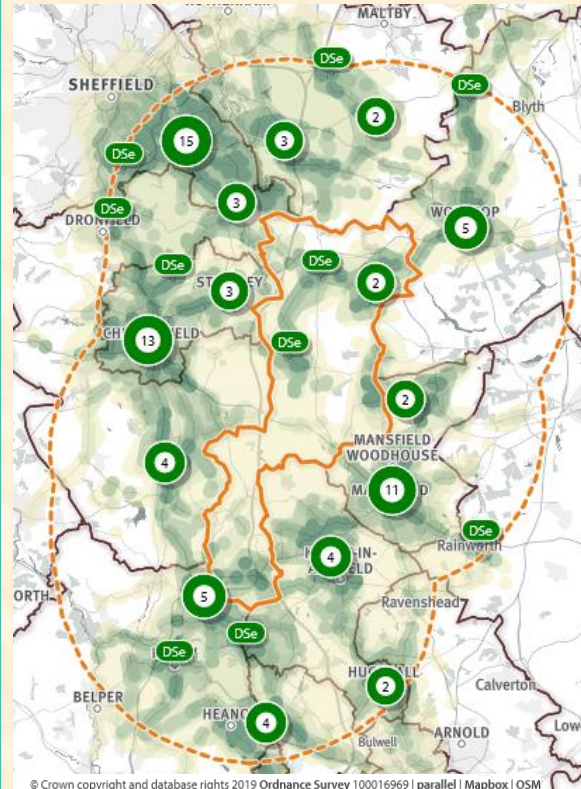
Deprivation: IMD (2015)



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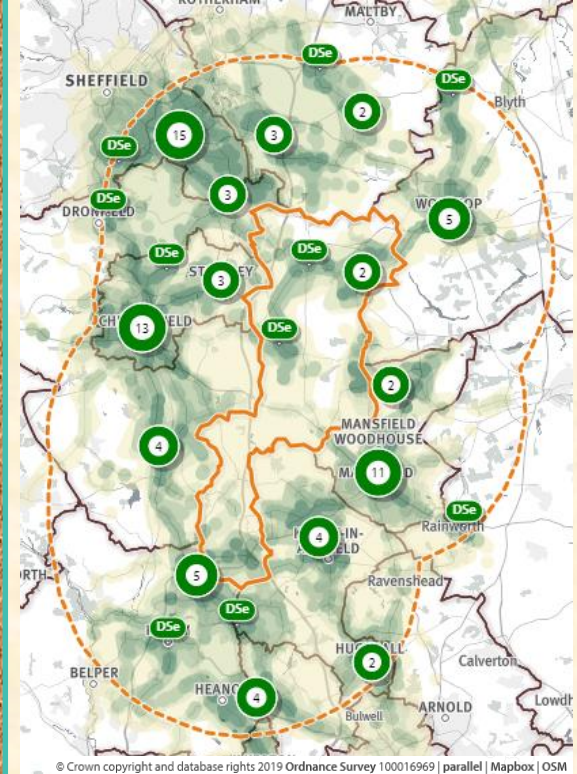
Travel time: public transport



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Population within 30 minutes: 79,098 (100%)

Travel time: car



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Population within 30 minutes: 79,098 (100%)

Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

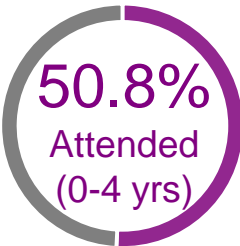
DSe Dental Service

Multiple Dental Services

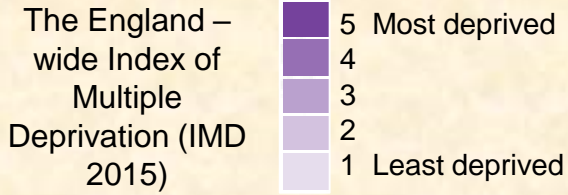
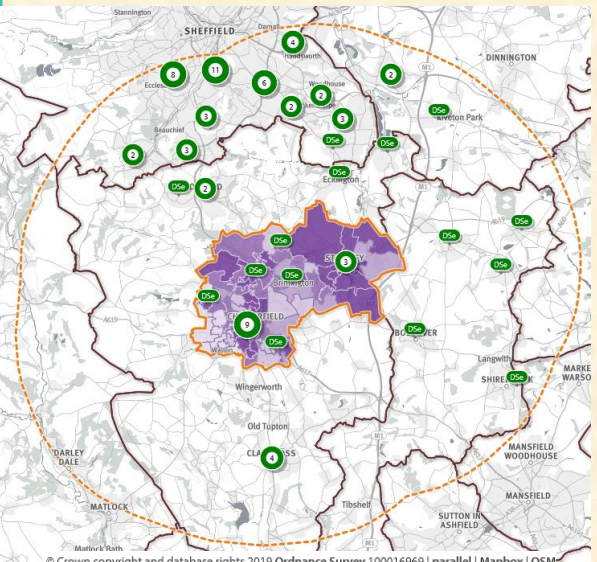
5 10 15 20 30 Travel minutes

Chesterfield

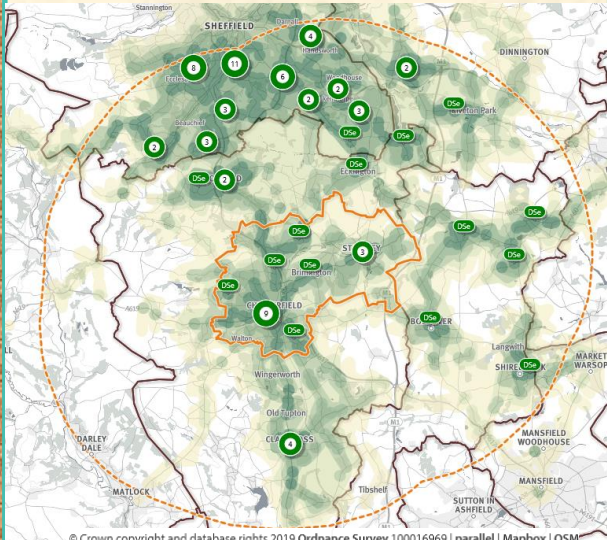
50.8% of 0-4 year olds attended the dentist
 Higher compared to the Derbyshire average (2016/17 – 2017/18)



Deprivation: IMD (2015)

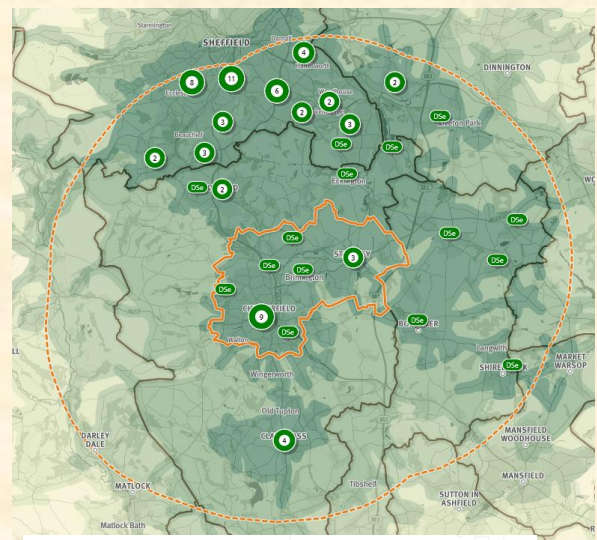


Travel time : public transport



Population within 30 minutes: 104,579 (100%)

Travel time: car



Population within 30 minutes: 104,579 (100%)

Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

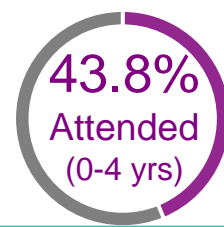
DSe Dental Service

○ Multiple Dental Services

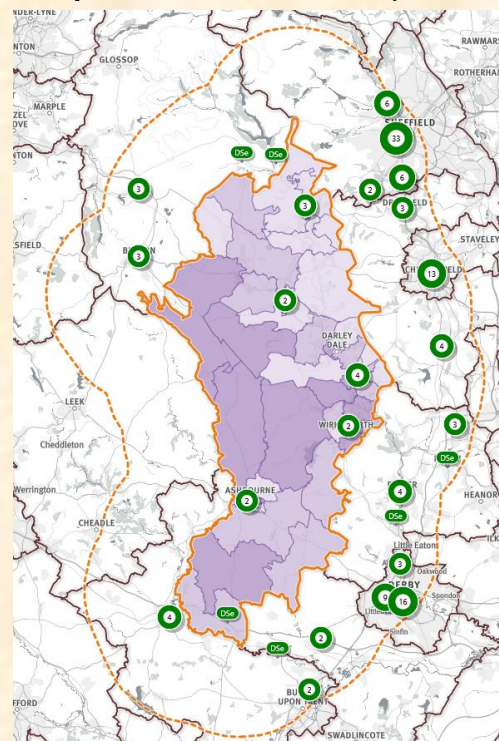
5 10 15 20 30 Travel minutes

Derbyshire Dales

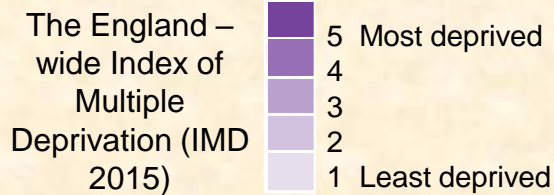
43.8% of 0-4 year olds attended the dentist
Higher compared to the Derbyshire average (2016/17 – 2017/18)



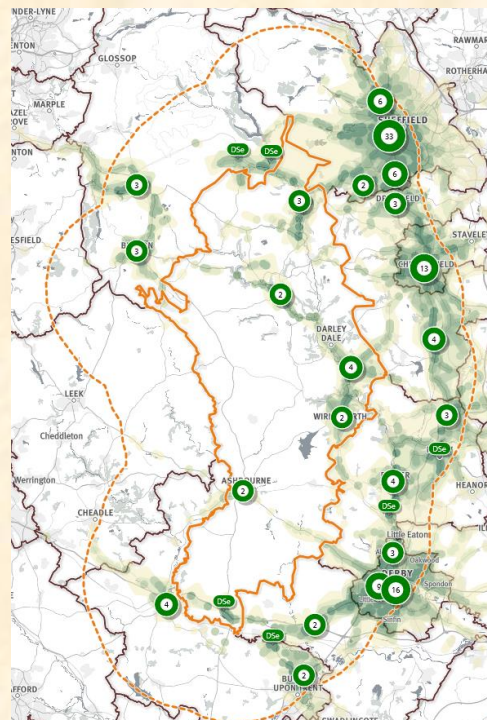
Deprivation: IMD (2015)



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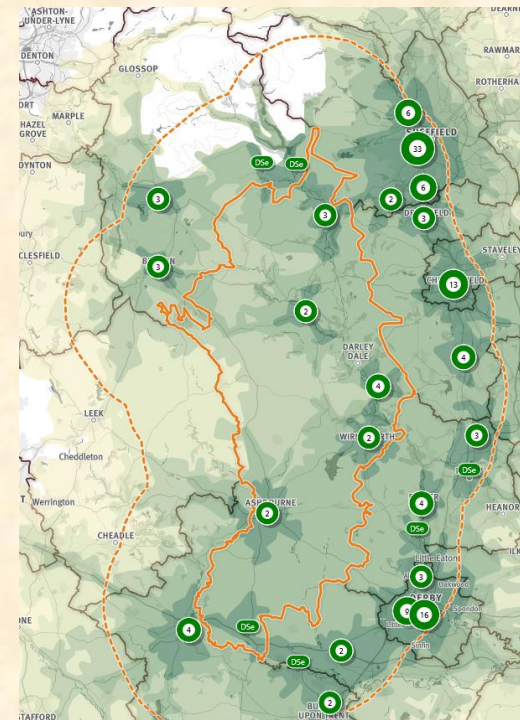
Travel time: public transport



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Population within 30 minutes: 58,059 (81%)
Population outside of 30 minutes: 13,790 (19%)

Travel time: car



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Population within 30 minutes: 71,849 (100%)

Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

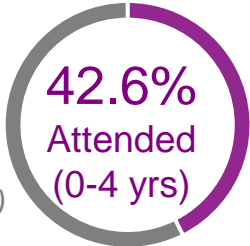
DSe Dental Service

Multiple Dental Services

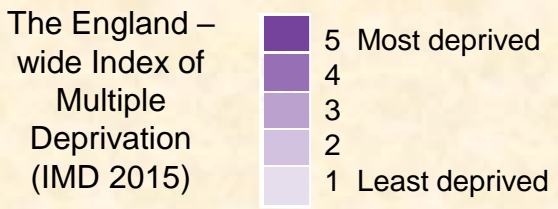
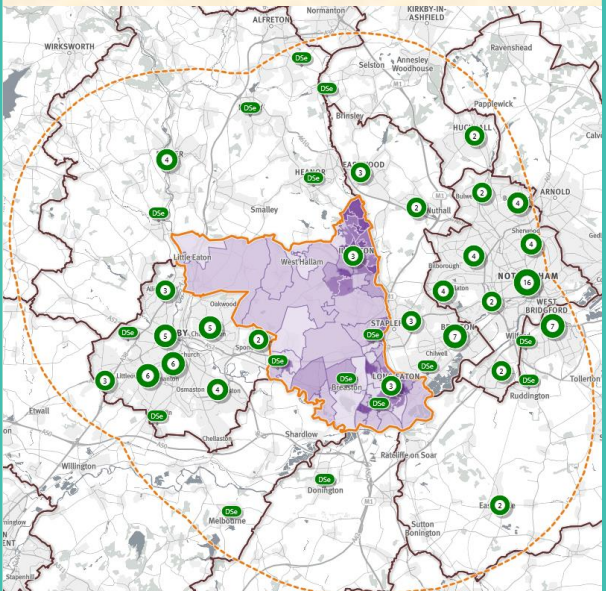
5 10 15 20 30 Travel minutes

Erewash

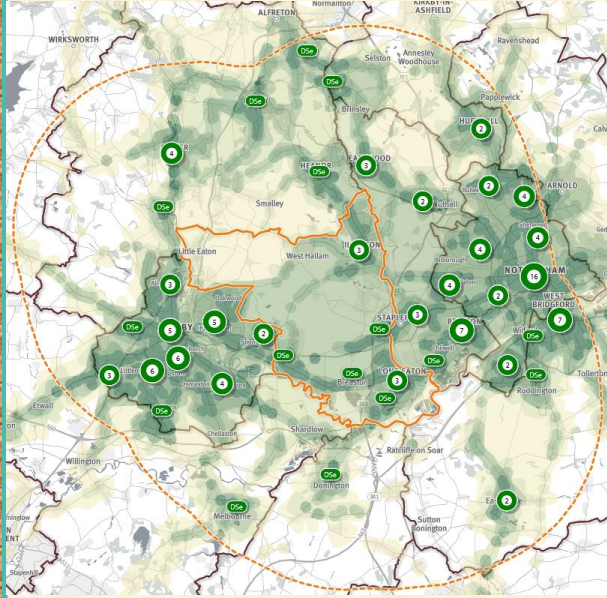
42.6% of 0-4 year olds attended the dentist
 Lower compared to the Derbyshire average (2016/17 – 2017/18)



Deprivation: IMD (2015)

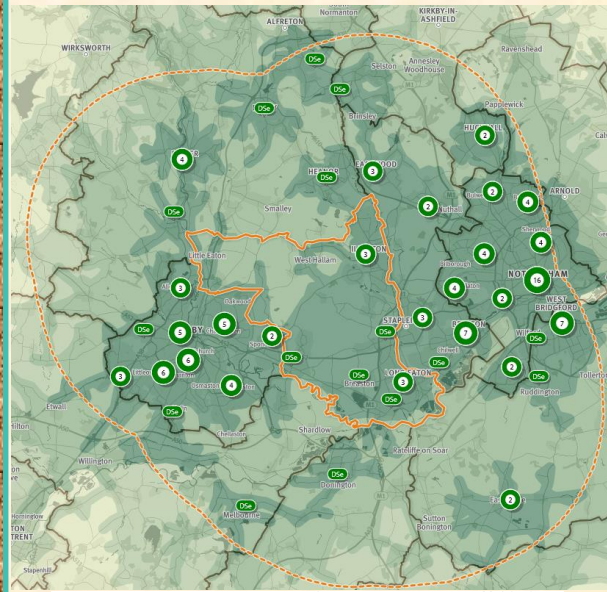


Travel time: public transport



Population within 30 minutes: 115,314 (100%)

Travel time: car



Population within 30 minutes: 115,314 (100%)

Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

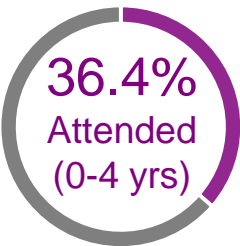
DSe Dental Service

Multiple Dental Services

5 10 15 20 30 Travel minutes

High Peak

36.4% of 0-4 year olds attended the dentist
 Lower compared to the Derbyshire average (2016/17 – 2017/18)



3
 NHS dental services
 accepting children

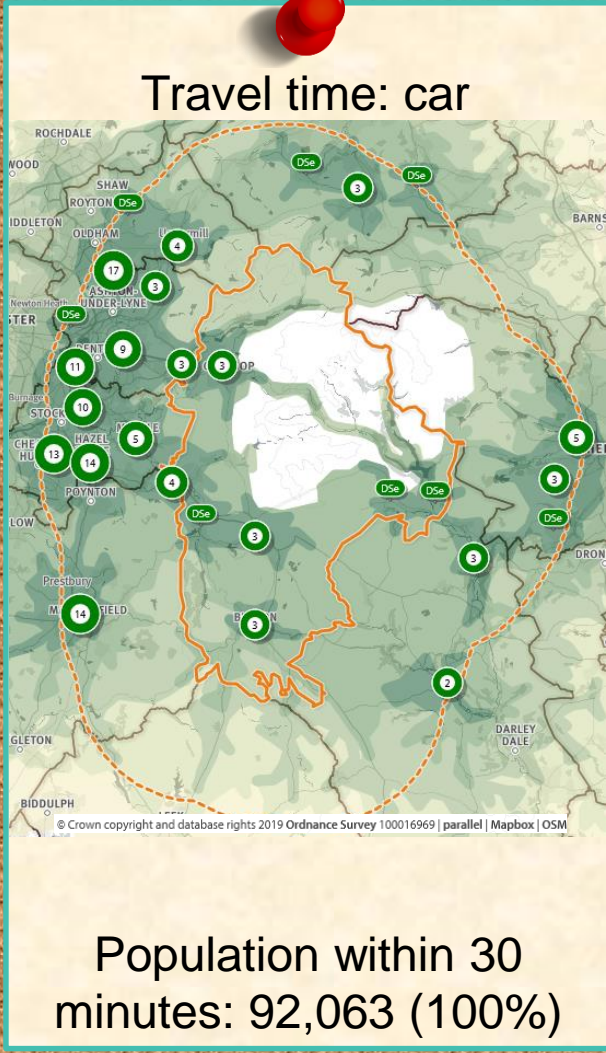
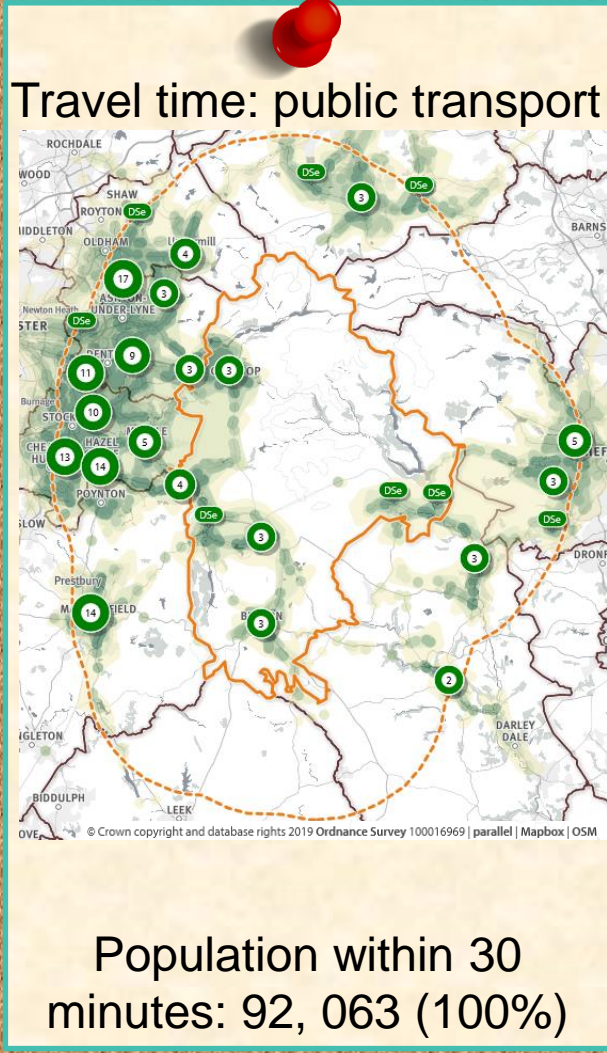
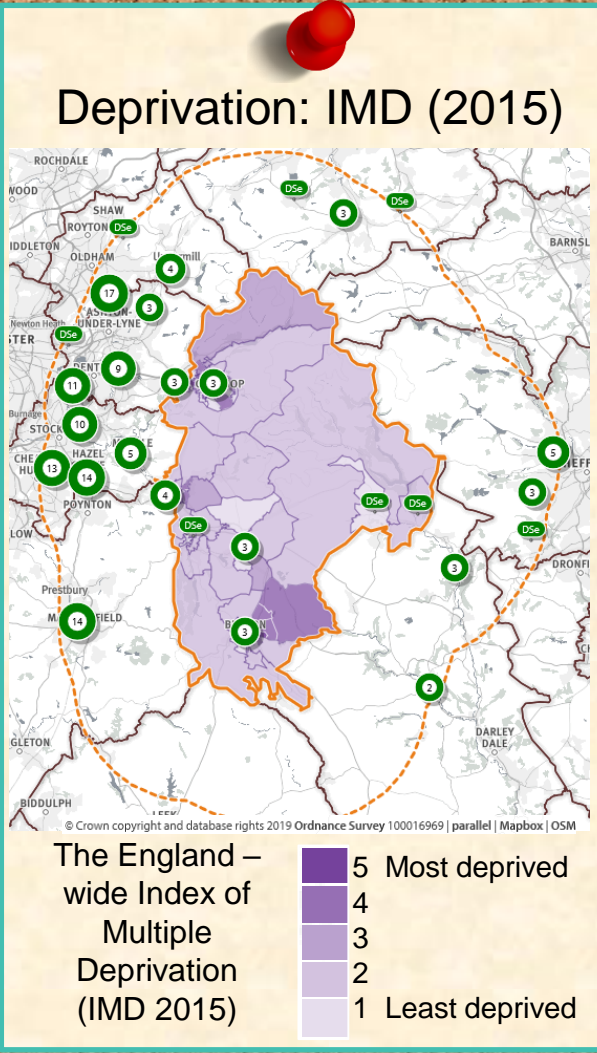


Image source: Shape Atlas

Key: The dotted orange line represents a 10km buffer

DSe Dental Service

Multiple Dental Services

5 10 15 20 30 Travel minutes

North East Derbyshire

48.4% of 0-4 year olds attended the dentist
 Higher compared to the Derbyshire average (2016/17 – 2017/18)

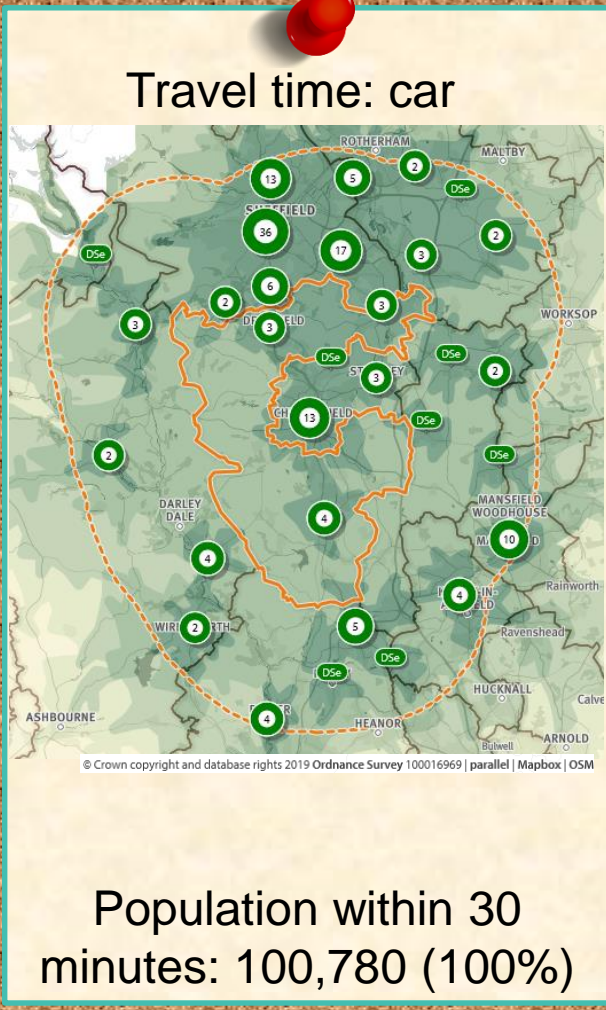
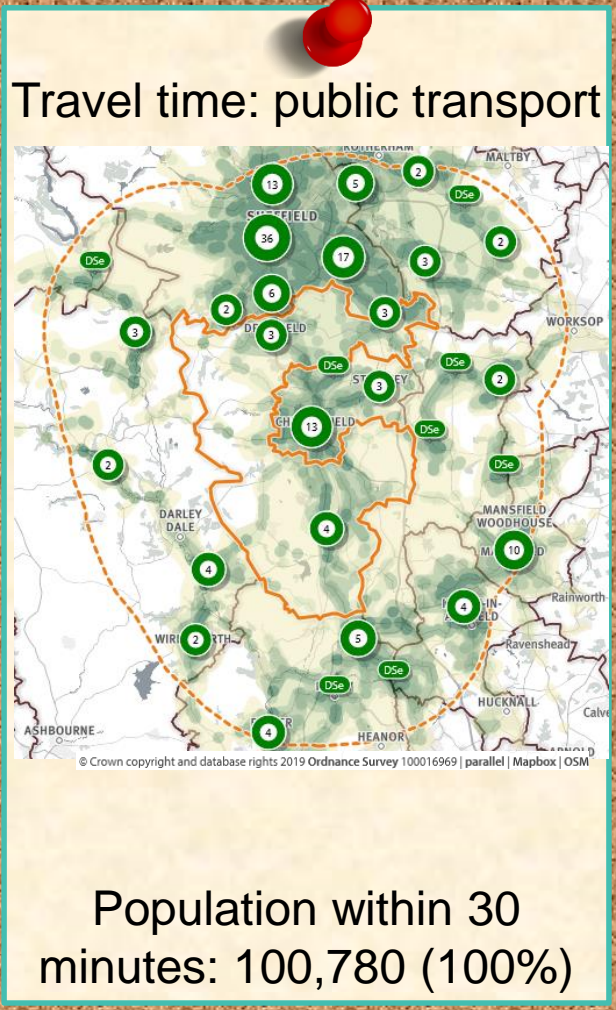
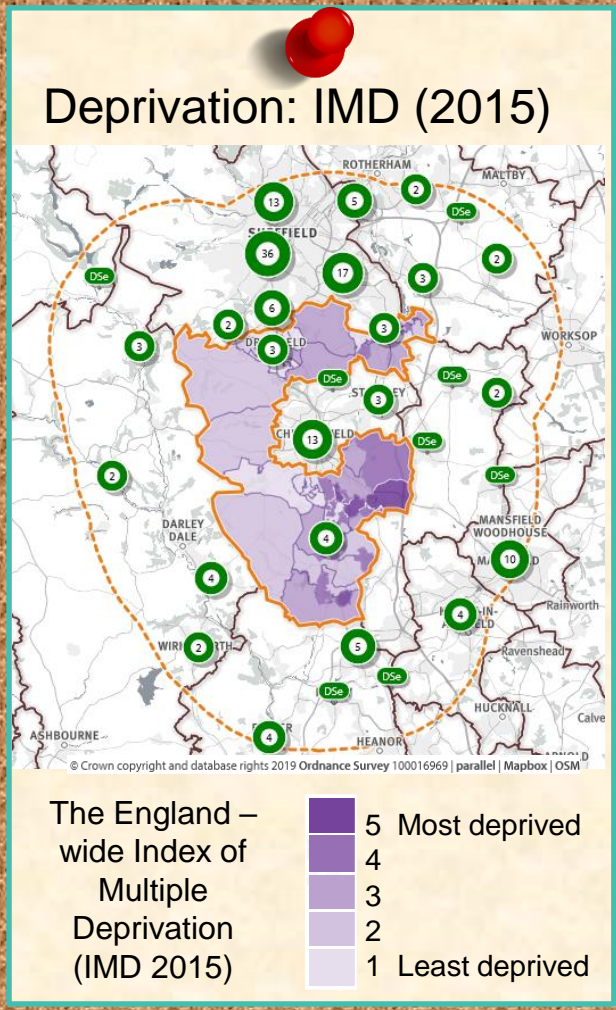
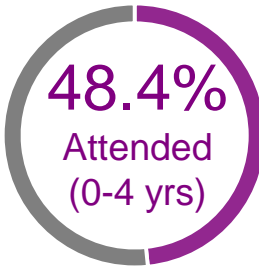


Image source: Shape Atlas

South Derbyshire

44.8% of 0-4 year olds attended the dentist
 Higher compared to the Derbyshire average (2016/17 – 2017/18)

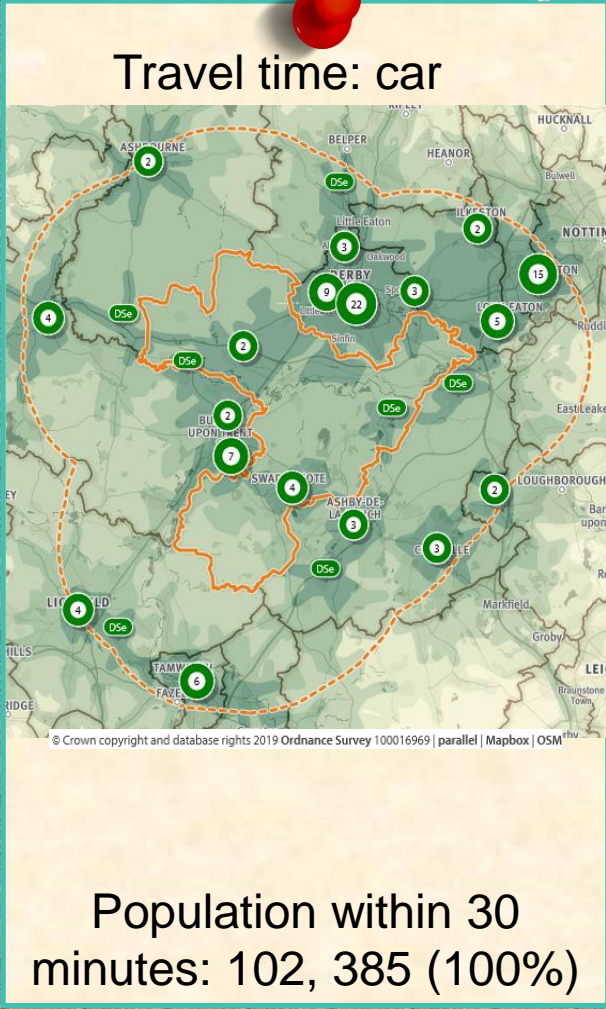
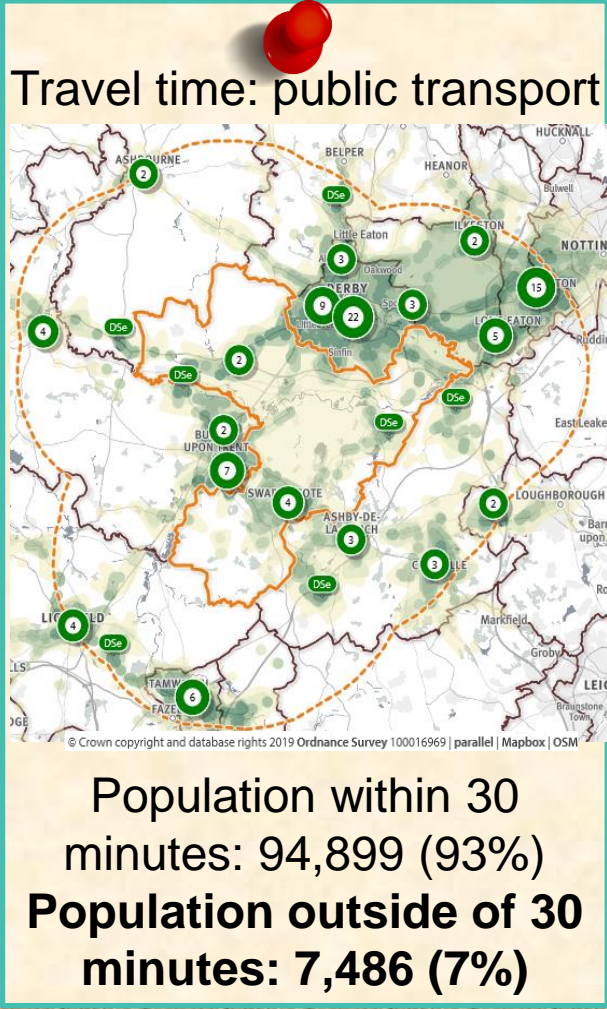
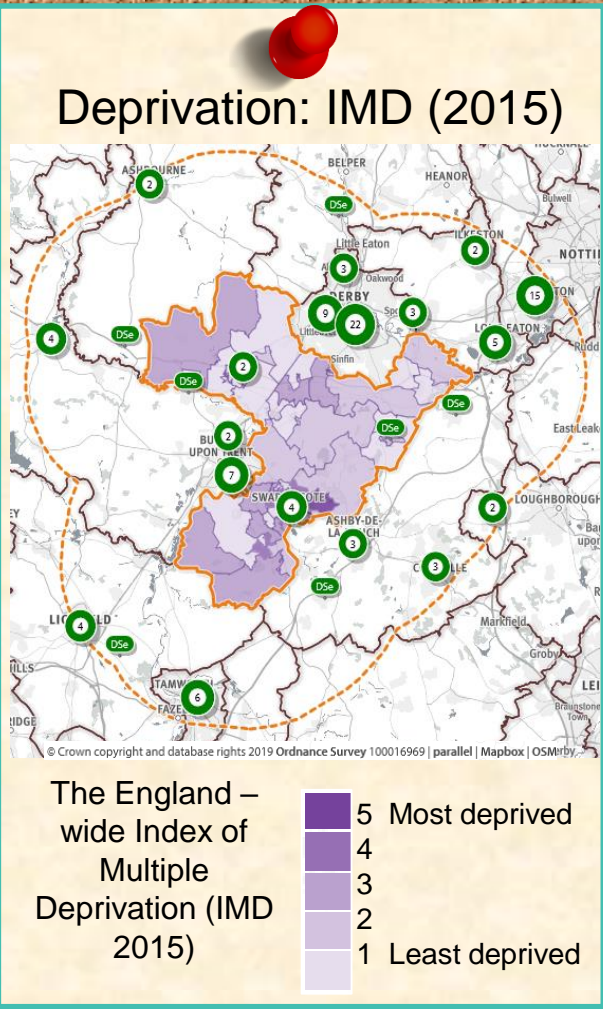
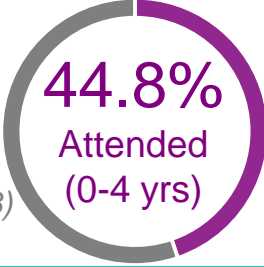
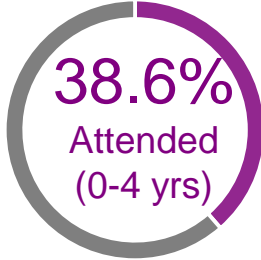


Image source: Shape Atlas

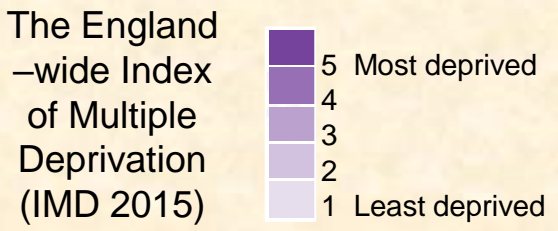
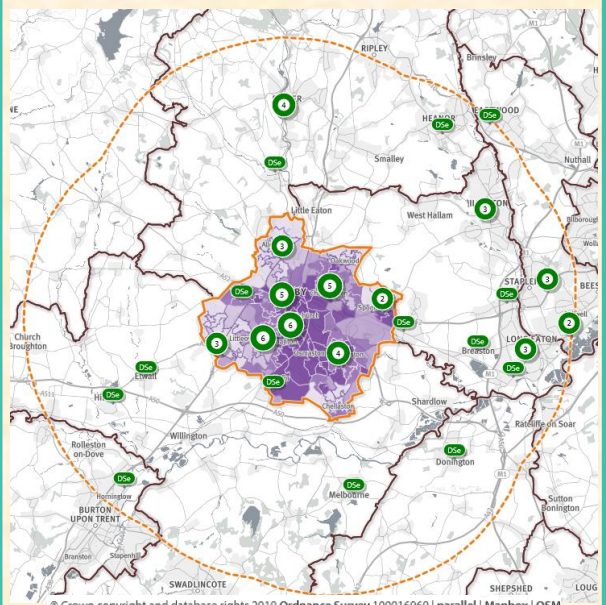
Derby

38.6% of 0-4 year olds attended the dentist (2016/17 – 2017/18)

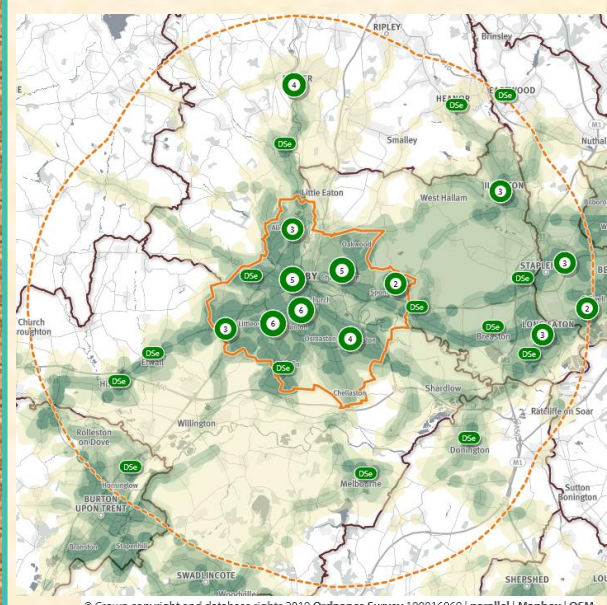


11
NHS dental services
accepting children

Deprivation: IMD (2015)

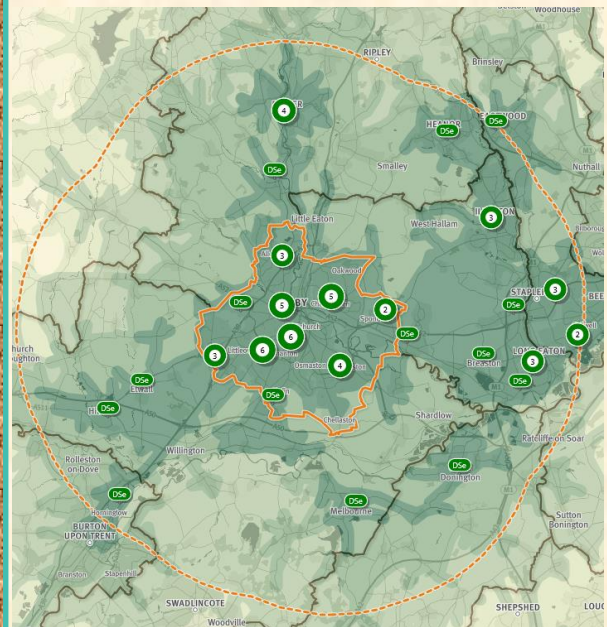


Travel time: public transport



Population within 30 minutes: 257,034 (100%)

Travel time: car



Population within 30 minutes: 257,034 (100%)

Image source: Shape Atlas

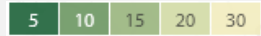
Key: The dotted orange line represents a 10km buffer



Dental Service



Multiple Dental Services



Travel minutes

Take home messages:



Children aged 5 in Derbyshire (who took part in the survey) **had fewer Decayed, Missing or Filled Teeth** compared to England.



More families need to be **encouraged to take their children to the dentist** as soon as teeth start to appear .



The areas with the **most deprivation had significantly higher levels of decay prevalence and severity** compared to the average for Derbyshire.



Bolsover and some electoral wards have increased levels of decay compared to the average for Derbyshire. These areas may benefit closer scrutiny and a potential intervention about tooth brushing habits.