

Prevalence of Autism (including Asperger Syndrome) in School Age Children in Northern Ireland

**Annual Report 2021** 





## Reader Information

| Author             | Heidi Rodgers and Jessica McCluney  |
|--------------------|---|
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|                    | Tel (028) 90522580 Email cib@health-ni.gov.uk DoH Statistics and research link  |
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| Purpose            | Data from this publication is used to:  • Monitor the delivery of related social care services to children;  • Inform and monitor related policy;  • Respond to parliamentary/assembly questions. |
|                    | The bulletin is also used by academics/ researchers, the voluntary sector, and those with an interest in the Autism Strategy and Action Plan.   |
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We gratefully acknowledge the assistance of colleagues working within the Department of Education, Demographic Statistics Branch (NISRA) and Public Health Information and Research Branch (Department of Health) in producing this publication.



Statistics and research for the **Department of Health** is provided by the Information and Analysis Directorate (IAD). IAD is responsible for compiling, processing, analysing, interpreting and disseminating a wide range of statistics covering health and social care.

The statisticians within IAD are out posted from the Northern Ireland Statistics & Research Agency (NISRA) and the statistics are produced in accordance with the principles and protocols set out in the Code of Practice for Official Statistics.



IAD comprises four statistical sections: Hospital Information, Community Information, Public Health Information & Research and Project Support Analysis.

This report is produced by Community Information Branch.

#### **About the Community Information Branch**

The purpose of Community Information Branch (CIB) is to promote effective decision making in children and adult social services and community health by providing quality information and analysis.

We collect, analyse and publish a wide range of community information that is used to help monitor the delivery of personal social services policy. Information collected by CIB is used to assess HSC Trust performance, for corporate monitoring, policy evaluation, and to respond to parliamentary/assembly questions.

Information is widely disseminated through a number of regular key statistical publications and ad hoc reports, details of which are available online.

DoH Statistics and research link

#### **Our Vision and Values**

- Provide up-to-date, quality information on children and adult social services and community health;
- To disseminate findings widely with a view to stimulating debate, promoting effective decisionmaking and improvement in service provision; and
- Be an expert voice on health and social care information.

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## Background

#### **Autism Spectrum Conditions**

Autism is a developmental disability that influences a person's ability to communicate and relate to other people, as well as affecting how they make sense of the world. It is a spectrum condition, meaning that while all people with autism will have similar problems, overall their condition will impact them in different ways. Some people may be able to lead independent lives while others will require a lifetime of specialist support.

Asperger Syndrome is a similar condition to autism; however these children do not generally experience the same language and learning disabilities associated with autism. They are more likely to have difficulties in the areas of social imagination, communication and interaction.

The need to develop and improve health and social care services for people of all ages who are affected by autism (including Asperger Syndrome) has been apparent for some time. In order to provide effective services, knowing the incidence and prevalence of this condition is clearly important. This report aims to show the prevalence of autism amongst children of compulsory school age (4–15 year olds at the start of the school year).

#### Prevalence and reporting of Autism in Northern Ireland

The introduction of the Autism Act (Northern Ireland) 2011, and the accompanying increase in awareness via campaigns and events, may well have contributed to a rise in the number of assessments carried out and positive diagnoses received.

The Health and Social Care Board have since 2014 had a routine monitoring process in place which identifies those children who have undergone an assessment for autism and those who have received a positive diagnosis.

These figures are reported quarterly by the Department and can be found at the following link: Autism Statistics.

#### Changes to the data collection

The information presented in this bulletin derives from the 'Northern Ireland School Census' collected by the Department of Education (NI). From 2019/20, the figures used to identify pupils with a diagnosis of autism are taken from the new electronic Medical register.

Historically, children with autism were recorded within the special educational needs (SEN) register. A review was undertaken by DE and The Education Authority to review current SEN categories and school guidance for recording children with SEN. The review highlighted a number of medical diagnosis anomalies where pupils with a medical diagnosis but no special educational needs were incorrectly categorised as having a SEN. This has been corrected with the creation of a medical register. All pupils with autism will have a medical diagnosis but not all will require assistance with their learning. From 2019/20 onwards, pupils with a diagnosis of autism should be recorded on the new electronic Medical register and consideration given to ascertain if a particular SEN is applicable. Only those who require special educational provision should be recorded on the SEN register. This change gives a more accurate recording of pupils with autism as well as the special support they need in the school.

Because of this change in recording, figures from 2019/20 are not directly comparable with previous years. To illustrate this, in graphs that include previous years data, a red line has been added to distinguish between figures before and after 2019/20.

For the purposes of this report, children previously identified as having Asperger Syndrome were included in all calculations of autism prevalence. Going forward, all HSC Trusts will use the ICD10 diagnosis coding, which will no longer diagnose Asperger Syndrome separately from autism.

# **Key Findings**

|   |   | 2020/21 |
|---|---|---------|
| 1 | Prevalence rate of autism for school aged children in Northern Ireland <sup>1</sup>                             | 4.5%    |
|   | Prevalence rate of autism in females  | 2.2%    |
|   | Prevalence rate of autism in males  | 6.7%    |
|   | Proportion of children with autism who had no special educational needs   | 14%     |
|   | Prevalence of autism was 37% higher in the <b>most deprived</b> decile compared to the Northern Ireland average | 37%     |

### **Overall Prevalence**



Figures extracted from the 2020/21 Northern Ireland School Census show that 13,401 school aged children had been diagnosed with autism. This represents an estimated autism prevalence rate 4.5% within the school aged population. This was 0.3 percentage points higher than in 2019/20.

Due to a change in the way the school census collect autism data<sup>2</sup>, the figures from 2019/20 onwards are not directly comparable to previous years. However, the general increasing prevalence rate among school aged children over recent years is mirrored by the increasing number of children (all ages) diagnosed with autism, recorded by the Health and Social Care Trusts<sup>3</sup>. In 2020, services such as autism assessments were reduced or suspended during the early part of the COVID-19 pandemic, due to the need for adherence to public health guidelines. This may have had some impact on the prevalence rate as captured by the school census.

The historic annual increase in prevalence of children with autism since 2008/09 has been observed against a background of a relatively static school population. Please see Appendix C for further details.

(2008/09 - 2020/21)Prevalence rate 5% 4.5% 4.2% 3.3%, 2.9% 2.2% 2.3% 2.5% 2.9% 1.2% 1.3% 1.5% 1.6% 1.8% 2.0% 2.2% 2.3% 2.5% 4% 3% 2% 1% 0% 08/09 09/10 10/11 11/12 12/13 13/14 14/15 15/16 16/17 17/18 18/19 19/20 20/21 Year

Figure 1: Autism Prevalence in School Aged Children

Source: Northern Ireland School Census

- - Please note that due to a change in the data collection, the years up to and including 2018/19 are not directly comparable with 2019/20 figures onwards.

<sup>2 -</sup> Please see Appendix A.

<sup>3 -</sup> Quarterly Autism Statistics, https://www.health-ni.gov.uk/articles/autism-statistics.

### Gender



#### Males were 3 times more likely to have a diagnosis of autism than females.

In the information derived from the 2020/21 Northern Ireland School Census, 6.7% of males were identified with autism compared with 2.2% of females. This ratio is similar to that reported by the National Autistic Society (NAS) who have stated the most recent estimate for male-to-female autism ratio is nearer to 3:1.4.

The figures for 2019/20 and onwards are not directly comparable to previous years; however, the prevalence rate between 2008/09 and 2018/19 has been consistently higher for males than females. Furthermore, it has increased for both males and females with the gender gap inflating over the years.

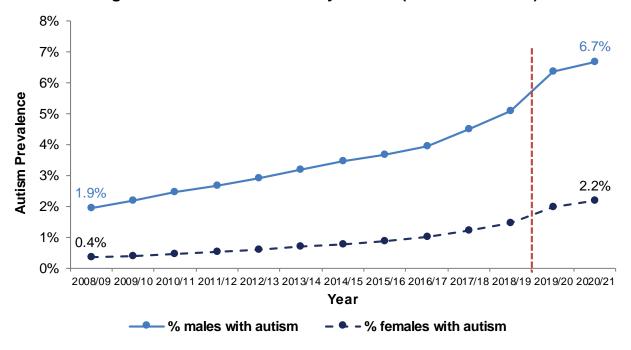


Figure 2: Autism Prevalence by Gender (2008/09 - 2020/21)

Source: Northern Ireland School Census

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools.

--- Please note that due to a change in the data collection, the years up to and including 2018/19 are not directly comparable with 2019/20 figures onwards.

<sup>4 -</sup> National Autistic Society, https://www.autism.org.uk/about/what-is/gender.aspx.

## **School Year**



5.8% of children in Year 8 had an autism diagnosis.

In 2020/21, the highest prevalence rate recorded was 5.8% for those in Year 8 (children aged 11-12), and the lowest was 1.8% for those in Primary 1 (children aged 4-5).

Generally there is a steady rise in the prevalence rate of autism from Primary 1 up to Year 8 (4-12 year olds) in 2020/21. This has also been seen in previous years and may link in with children being diagnosed with autism during their school years.

5.8% 6% 5.3% 5.3% 5.2% 4.8% 4.7% 5% 4.7% 4.6% 4.5% 4.2% **Autism Prevalence** 4% 2.8% 3% 1.8% 2% 1% 0% 1 2 3 4 5 6 7 8 9 10 11 12 **School Year** 

Figure 3: Autism Prevalence by School Year (2020/21)

Source: Northern Ireland School Census

Note: Figures include all pupils in primary (including nursery, reception and Primary 1-7 classes), post primary and special schools.

## **Special Educational Needs Stage**



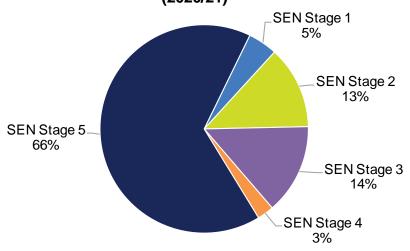
# 14% of children with autism did not have any Special Educational Needs

The Code of Practice on the Identification and Assessment of Special Educational Needs (SEN) implements a 5 stage approach to the identification of children with learning difficulties, the assessment of their educational need and the making of any special educational provision necessary to meet those needs<sup>5</sup>. Stages 1-3 are completed by the school, while stages 4 and 5 are of shared responsibility with the school and Education Authority. Children are reviewed on a yearly basis and may move up or down the assessment scale, depending on performance<sup>6</sup>.

Of all children diagnosed with autism in 2020/21, 14% were not identified as having any special educational needs, same proportion as in 2019/20.

Of those identified with Special Educational Needs, two-thirds (66%) were at SEN Stage 5. Please note that, as the SEN process is dynamic, with children moving between stages, the SEN stages must be treated as a 'snapshot' at the time of the NI School Census.

Figure 4: Children diagnosed with autism who also have a Special Educational Needs (SEN), by SEN stage (2020/21)



Source: Northern Ireland School Census

Note: Figures include all pupils in primary (including nursery, reception and Primary 1-7 classes), post primary and special schools.

 $<sup>{\</sup>bf 5-Special\,Educational\,Needs\,Code\,of\,Practice\,Link}.$ 

<sup>6 -</sup> The stages of the SEN process are detailed in Appendix B.

## **Health and Social Care Trust**

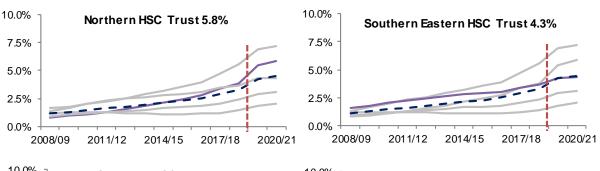
During 2020/21, the highest autism prevalence rate was observed in the Belfast HSC Trust, at 7.2% and the lowest in the Southern HSC Trust, at 2.1% The Belfast, and Northern HSC Trusts had a prevalence rate higher than the Northern Ireland average of 4.5%. The South Eastern, Western, and Southern HSC Trusts were below this average.

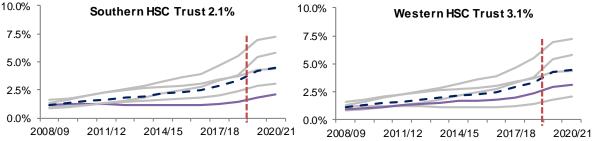
The prevalence rate of autism has risen in all Trusts in recent years, however the gap between the Trust rates have also increased. This disparity has been raised in the May 2020 NI assembly committee debate where it was noted that further investigations into the reasons behind the disparity should be taken forward.

10.0% 10.0% Belfast HSC Trust 7.2% Northern Ireland average 4.5% 7.5% 7.5% 5.0% 5.0% 2.5% 2.5% 0.0% 0.0% 2008/09 2011/12 2014/15 2017/18 2020/21

2020/21

Figure 5: Prevalence of autism in school age children by HSC Trust





Source: Northern Ireland School Census

2008/09

2011/12

2014/15

2017/18

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools. - - - Please note that due to a change in the data collection, the years up to and including 2018/19 are not directly comparable with 2019/20 figures onwards.

## **Urban/Rural Location**

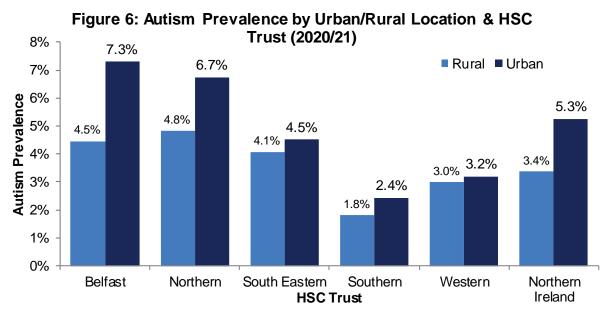


5.3% of children in urban areas have been diagnosed with autism.

The autism prevalence rate was higher in the urban population than in the rural population with a difference of 1.9 percentage points in 2020/21. The difference in the proportion of children identified with autism in urban and rural areas at a regional level was statistically significant. This means that it is unlikely that the difference has occurred by chance alone.

In 2020/21, the HSC Trust with the largest difference in autism prevalence rates between the urban and rural populations was the Belfast HSC Trust. It should be noted that this HSC Trust has the highest overall prevalence rate and is almost exclusively urban which has a large impact upon the Northern Ireland figure. Generally, in the other HSC Trusts, there was a more even split between the autism prevalence rate in the urban and rural populations; however this gap does appear to be widening in the Northern HSC Trust.

The difference in prevalence rate between urban and rural areas was statistically significant during 2020/21 for all but the Western HSC Trust<sup>7</sup>.



Source: Northern Ireland School Census

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools.

Note: The Belfast HSC Trust has a very small proportion of rural areas and therefore this figure should be treated with caution.

**7 –** Appendix D shows the statistical significance trends for each HSC Trust.

## **Area Deprivation**



14% of children identified with autism were living in the most deprived decile of Northern Ireland.

During 2020/21, 14% of school aged children identified with autism were from the most deprived Multiple Deprivation Measure (MDM) decile in Northern Ireland<sup>8</sup>, while 8% of children identified with autism were located in the least deprived decile of the country<sup>9</sup>.

A statistical significance relationship has been found between the proportion of children identified with autism and MDM Decile. This means that it is unlikely that the difference has occurred by chance alone.

The autism prevalence rate was higher than the Northern Ireland average for the two most deprived deciles, whereas all other deciles were either similar to or below the regional average.

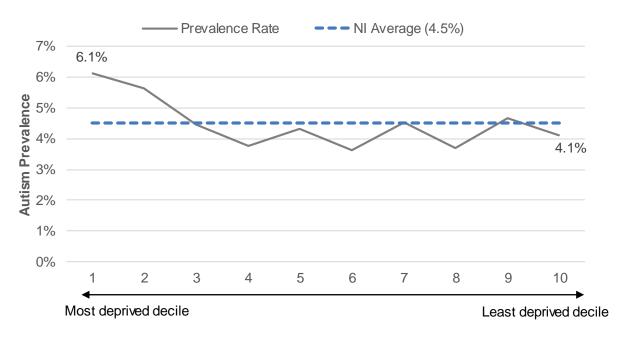


Figure 7: Autism Prevalence by M DM Decile (2020/21)

Source: Northern Ireland School Census

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools.

<sup>8 -</sup> Information on the Northern Ireland Multiple Deprivation Measure can be found here.

<sup>9 -</sup> Maps showing the most and least deprived deciles of Northern Ireland can be found in Appendix E.

## **Inequality Gap**



The rate of autism in school aged children in the 10% most deprived areas was 37% higher than the NI average.

The following analysis of the autism inequality gap was carried out through the NI Health & Social Care Inequalities Monitoring System (HSCIMS) within Department of Health which provides in-depth assessment of inequality gaps across a range of health and social care indicators.

The simple gap analysis shows that the rate of autism in school aged children in the 10% most deprived areas in Northern Ireland stood at 6,133 cases per 100,000 population in 2020/21. This was almost two-fifths (37%) higher than the regional average, 4,490 cases per 100,000 population, and one and a half times the rate in the 10% least deprived areas (4,101 cases per 100,000 population).

In the years prior to 2013/14, rates were slightly higher in the least deprived areas than in the most deprived areas. However, since then the rate of autism amongst children in the most deprived areas has increased at a faster rate than in the least deprived. This has resulted in higher rates of autism being seen in the most deprived areas and a widening of the deprivation inequality gap<sup>10</sup>.

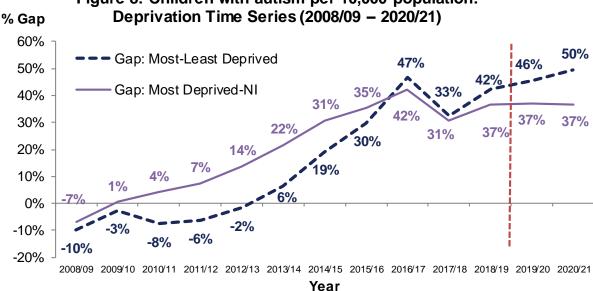


Figure 8: Children with autism per 10,000 population:

Source: Northern Ireland School Census

Note 1: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools. - - Please note that due to a change in the data collection, the years up to and including 2018/19 are not directly comparable with figures for 2019/20 and onwards.

10 - Further analysis using the Slope Index of Inequality (Sii) and the Relative Slope of Index (Rii) can be found in Appendix F.

## Appendix A – Technical Notes

#### **Data Collection**

The information presented in this bulletin derives from the 'Northern Ireland School Census' collected by the Department of Education (NI). All pupils on the rolls of grant-aided primary, post-primary and special schools were included in this return comprising each child who was a registered pupil in a school in October of each given year and who attended for at least one day.

The Census collects a large amount of information including demographic data, free school meal entitlement, looked after children numbers, newcomer children numbers and assessment data. This includes disability and a breakdown of those children identified with autism.

The data extracted from the 'Northern Ireland School Census' for use in this publication includes the number of children identified with autism (including Asperger's Syndrome) by gender, school year, Health and Social Care (HSC) Trust, area deprivation and urban/rural split.

#### Changes to data collection

Historically, children with autism were recorded within the special educational needs (SEN) register. However, from 2019/20, the SEN register only refers to those that require assistance with their learning.

Pupils with a diagnosis of autism will now be recorded on the new electronic <u>Medical register</u>. All pupils with autism will have a medical diagnosis but not all will require assistance with their learning. Only those who require special educational provision should be recorded on the SEN register.

Because of this change in recording, figures from 2019/20 are not directly comparable with previous years. To illustrate this, in graphs that include previous years data, a red line has been added to distinguish between figures before and after 2019/20.

#### **Data Quality**

There are a number of limitations to the data in this study and its use in establishing prevalence figures for autism.

Data is sourced from the school census is presently the most comprehensive data source available, however it only covers those children of school age attending school.

The data only captures those children identified with autism and at any time there may be additional children who may be progressing through the full assessment process. It is therefore possible that a number of children may be identified as having autism at a later date in the school year.

It should also be noted that there are many factors which can lead to variances in the apparent prevalence rates within the different breakdowns commented on in this bulletin. In this regard, care should be taken when considering the findings, i.e. it is likely that at least some of the observed variation in prevalence may be attributable to differences in organisational structure and arrangements in place between/within HSC Trust areas.

#### **Rounding Conventions**

Percentages have been rounded and as a consequence some percentages may not sum to 100. A figure of 0% may reflect rounding down of values under 0.5%.

#### **Revisions Policy**

This data is revised by exception. If this occurs the circumstances of the revision are reported on our website and the dates figures are revised are noted both on the website and within the publication. The full revisions policy for statistics published by Information and Analysis Directorate is published on the Department's website.

#### **Related Publications**

Data is published on the Department of Health website each quarter on the number of children referred for an assessment for autism and the number of children diagnosed with autism. Figures are provided for Northern Ireland and each HSC Trust area. This data can be found at the following link: <u>Autism Statistics link</u>.

#### **User Engagement**

If you have any comments on this publication please contact: cib@health-ni.gov.uk
Tel: 028 9052 2579

#### **Next Release**

The next release of these statistics is scheduled for May 2022. The publication release dates for statistical bulletins produced by Community Information Branch are available from the Department of Health's <u>Statistical Releases Calendar</u>.

## Appendix B – Definitions

#### Asperger Syndrome

Asperger Syndrome is similar to autism; however people with this condition do not generally experience the same language and learning disabilities associated with autism. They are more likely to have difficulties in the areas of social imagination, social communication and social interaction.

#### **Autism**

Autism is a lifelong developmental disability that affects how a person communicates with and relates to other people and how they experience the world around them. Autism is often described as a 'spectrum disorder' because the condition affects people in many different ways and to varying degrees.

#### Autism Act (Northern Ireland) 2011

The Autism Act (Northern Ireland) 2011 required the Department of Health, Social Services and Public Safety to lead on the development; implementation; monitoring and reporting of a cross-departmental Autism Strategy. The Autism Strategy (2013 – 2020) and Action Plan (2013 – 2016) was subsequently approved by the Northern Ireland Executive and launched in January 2014.

#### **Inequalities**

Statistical techniques such as the slope index of inequality and the relative index of inequality have been used to analyse socioeconomic inequalities between children identified with autism. More information on these can be found in appendix F.

#### Prevalence

In order to establish the prevalence of autism within the compulsory school age population, the number of children who were attending school and had been identified with autism was divided by the total number of compulsory school age children attending school. This gave the proportion of children within the cohort who were identified with autism.

#### School Age

Children aged 4 – 15 years at the start of the school year are of compulsory school age.

#### Special Educational Needs (SEN) Assessment Stages

Stage One: Teachers identify and register a child's special educational needs and, working with the schools special educational needs (SEN) co-ordinator, take initial action.

Stage Two: The (SEN) co-ordinator leads in collecting and recording information and for co-ordinating the child's special educational provision.

Stage Three: Teachers and the SEN co-ordinator are supported by specialists from outside school. Stage Four: The Education Authority considers the need for a statutory assessment and may make a multi-disciplinary assessment.

Stage Five: The Education Authority consider the need for a statement of special educational needs; if necessary it makes a statement and arranges, monitors and reviews provision.

#### **Statistical Significance**

In order to test whether or not the relationship between two variables was statistically significant we used the chi-square test.

# Appendix C – Number of children identified with autism

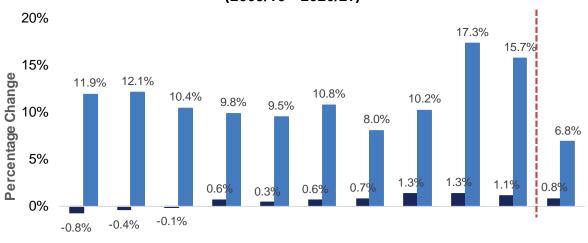
Table 1: Number of children identified with autism in Primary 1 - Year 12

| HSC Trust        | Number of children with autism in 2020/21 |
|------------------|---|
| Belfast          | 3,744                                     |
| Northern         | 4,283                                     |
| South Eastern    | 2,438                                     |
| Southern         | 1,401                                     |
| Western          | 1,503                                     |
| Unknown          | 5   |
| Northern Ireland | 13,401                                    |

Source: Northern Ireland School Census

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools. Note: Figures for years prior to 2020/21 can be found in previous publications.

Figure 9: Annual percentage change in school and autistic populations (2009/10 – 2020/21)



2009/10 2010/11 2011/12 2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2020/21

■% change school population ■% change autistic population

Source: Northern Ireland School Census

-5%

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools. Note: The percentage change in the autism population between 2018/19 and 2019/20 is not shown as it may be influenced by new recording methodology.

# Appendix D – Statistical Significance Trends: Urban/Rural autism

Table 2: Urban/Rural autism statistical significance trends by HSC Trust (2009/10 – 2020/21)

|         |         |          | HSC Trust        |          |         | Northern |
|---------|---------|----------|------------------|----------|---------|----------|
| Year    | Belfast | Northern | South<br>Eastern | Southern | Western | Ireland  |
| 2009/10 | No      | No       | No               | Yes      | Yes     | Yes      |
| 2010/11 | No      | No       | No               | Yes      | No      | Yes      |
| 2011/12 | No      | No       | No               | Yes      | No      | Yes      |
| 2012/13 | No      | Yes      | No               | Yes      | No      | Yes      |
| 2013/14 | No      | Yes      | No               | Yes      | No      | Yes      |
| 2014/15 | No      | Yes      | No               | Yes      | No      | Yes      |
| 2015/16 | No      | Yes      | Yes              | Yes      | No      | Yes      |
| 2016/17 | No      | Yes      | Yes              | No       | Yes     | Yes      |
| 2017/18 | Yes     | Yes      | Yes              | Yes      | No      | Yes      |
| 2018/19 | Yes     | Yes      | Yes              | Yes      | No      | Yes      |
| 2019/20 | Yes     | Yes      | Yes              | Yes      | No      | Yes      |
| 2020/21 | Yes     | Yes      | Yes              | Yes      | No      | Yes      |

Source: Northern Ireland School Census

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools.

## Appendix E – Deprivation Maps

Figure 10: The Most (Red) and Least (Blue) Deprived Areas in Northern Ireland (MDM 2017)

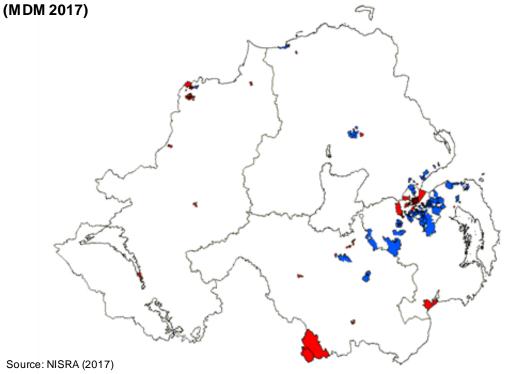
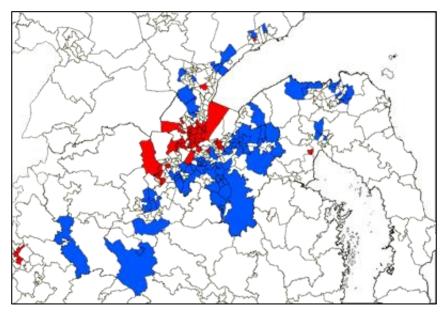
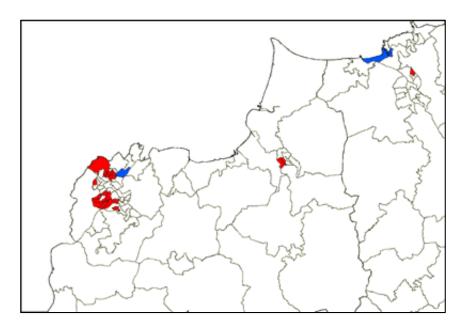


Figure 11: The Most (Red) and Least (Blue) Deprived Areas in the Belfast Metropolitan Urban Area



Source: NISRA (2017)

Figure 12: The Most (Red) and Least (Blue) Deprived Areas in the Derry Urban Area



Source: NISRA (2017)

## Appendix F – Further Information

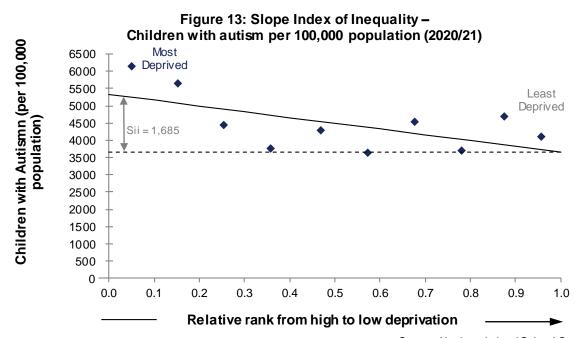
#### **Social Gradient**

In addition to the simple deprivation gap analysis presented in this publication, the following social gradient analysis has been undertaken to provide a fuller assessment of inequalities across all socioeconomic groups in Northern Ireland. Health and social care inequalities are often considered in terms of the gap between the most and least deprived quintiles/deciles of the population. Despite this, it does not account for those areas of intermediate levels of deprivation that may also be relatively disadvantaged in terms of their health status. This is reflected in the Marmot Review<sup>11</sup> which demonstrated that there is a social gradient in health, and its wider determinants that run from top to bottom of the socioeconomic spectrum, meaning that health inequalities affect everyone.

Absolute gap (most-least deprived gap): This measure describes the absolute difference between the extremes of deprivation. It has the advantage that it is intuitive and straightforward to explain; however it only focuses on the extremes of deprivation, and does not take account of patterns of inequalities observed across the intermediate groups.

Slope index of inequality (SII): This measure describes the gradient of health observed across the deprivation scale. While the absolute gap shows the difference between two large groups, SII measures the difference in health outcomes between the theoretical most and least deprived individuals, according to linear regression across health outcomes for all deprivation deciles. SII therefore has the advantage of being sensitive to the experience of the entire population, rather just the extremes of deprivation. For example, an equal rate across all deprivation categories would give a horizontal line with a slope of zero (SII=0) indicating that there is no evidence of inequality. The level of inequality is shown by the magnitude of the gradient, regardless of direction.

The slope of index of inequality (Sii) shows that the absolute gap in the rate of autism amongst children between the most and least deprived was 1,685 cases per 100,000 population in 2020/21.



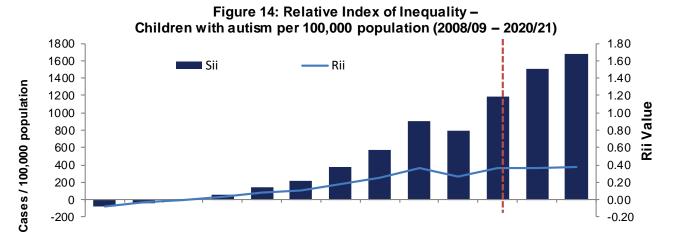
Source: Northern Ireland School Census

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools.

11 – Fair Society, Healthy Lives: The Marmot Review can be accessed at http://www.marmotreview.org.

Relative index of inequality (RII): The RII describes the gradient of health observed across the deprivation scale, relative to the average for the observed population (by dividing the Slope of Index of Inequality (SII) by the mean). The value of RII tells you the magnitude of inequality in relation to the mean thus representing the proportionate change in the health outcome across the population. It allows inequalities to be compared and contrasted across a number of different health indicators, and also to be monitored over time. As with SII, a value of zero for RII indicates no evidence of inequality. The higher the RII value is, the higher the level of inequalities that exist in the population.

The relative index of inequality (Rii) gives a proportionate gap of 0.38 in 2020/21 i.e. the Sii gap (1,685 cases per 100,000 population) is equivalent to 37% of the average rate of autism amongst children in NI. As with the simple gap analysis, Rii indicates that the deprivation gap has changed from negative (higher rates in least deprived than most deprived) to positive (higher rates in most deprived than least deprived) over the analysed period. It should be noted that despite the simple gap indicating that this change in direction has only occurred more recently, Rii shows that this change occurred much earlier and that the deprivation gap across the entire social gradient had been gradually widening since 2010/11.



2008/09 2009/10 2010/11 2011/12 2012/13 2013/14 2014/15 2015/16 2016/17 2017/18 2018/19 2019/20 2020/21

Year

Source: Northern Ireland School Census

Note: Figures for 2018/19, and 2017/18, have been amended since the previous publication.

Note: Figures relate to children in Primary 1 to Year 12 in grant-aided primary, post-primary and special schools. Please note that due to a change in the data collection, the years up to and including 2018/19 are not directly comparable with figures from 2019/20.

Table 3: Slope index of inequality and relative index of inequality (2008/09 – 2020/21)

| Year    | Simple Gap (MD-LD) | Sii     | Rii   |
|---------|--------------------|---------|-------|
| 2020/21 | 50%                | 1,685.2 | 0.38  |
| 2019/20 | 46%                | 1,510.7 | 0.36  |
| 2018/19 | 42%                | 1,189.6 | 0.36  |
| 2017/18 | 33%                | 793.6   | 0.27  |
| 2016/17 | 47%                | 909.1   | 0.36  |
| 2015/16 | 30%                | 569.8   | 0.25  |
| 2014/15 | 19%                | 380.8   | 0.18  |
| 2013/14 | 6%                 | 216.2   | 0.11  |
| 2012/13 | -2%                | 146.1   | 0.08  |
| 2011/12 | -6%                | 61.3    | 0.04  |
| 2010/11 | -8%                | 1.9     | 0.00  |
| 2009/10 | -3%                | -45.2   | -0.03 |
| 2008/09 | -10%               | -84.4   | -0.07 |

For further information regarding the Social Gradient of Health and its methodology, please refer to the Health Inequalities Annual Report:

Health inequalities statistics |
Department of Health

For further information on "The Prevalence of Autism (including Asperger's Syndrome) in School Age Children in Northern Ireland", please contact:

Community Information Branch Department of Health Annexe 2, Castle Buildings Stormont BT4 3SQ, Belfast, Northern Ireland

or email cib@health-ni.gov.uk.