



Bwrdd Iechyd Prifysgol Caerdydd a'r Fro  
**Tim Iechyd Cyhoeddus**  
Cardiff and Vale University Health Board  
**Public Health Team**

# Cardiff and the Vale of Glamorgan Early Years Population Health Assessment

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**Owner:** Claire Beynon, Director of Public Health

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**Purpose and Summary of Document:**

*To summarise the methods and findings of an early years (0-5 years) population health assessment undertaken for Cardiff and Vale region in December 2024.*

## 1. Background

For the annual Director of Public Health report for Cardiff and the Vale of Glamorgan in 2024, a focus has been taken on children aged 0-5 years – the 'early years' – recognising the opportunity in this period to create healthy conditions that can have lasting impacts into the future.

This [report](#) identifies opportunities across a number of areas including vaccine-preventable diseases, healthy weight in children, oral health and breastfeeding, emphasising the importance of integrated, collaborative and upstream work across Cardiff and the Vale of Glamorgan if we are to make a difference to children and future generations.

To accompany the Director of Public Health report, a rapid early years population health assessment has been conducted, using data available from the NHS, local authorities and Welsh Government. Output for this report is available separately in data pack form; this document summarises the methods and datasets used and the assessment findings for the benefit of our stakeholders.

## 2. Methods

Health needs assessments are a traditional approach used by public health teams to explore and summarise the state of health of a population at one point in time.

The assessment typically combines quantitative (numerical) and qualitative (information from interviews, focus groups or text content) data as well as information from other sources, such as research, guidelines and other reports.

For this report, a rapid data analysis was chosen owing to capacity and time available. Summaries of research and best practice with respect to early years services and policy were identified, including the Academy of Medical Sciences report on prioritising early childhood<sup>1</sup> and the Royal Society for Public Health *Health of the Next Generation* report on good food for children<sup>2</sup>, in order to understand metrics that might best describe priority areas for children in this age group. Population health assessments from areas across the UK were reviewed<sup>3-4</sup>, as was a guideline from Public Health England published in 2021 for health visiting and school nursing service needs assessment<sup>5</sup>.

Following identification of a longlist of potential data measures (see appendix 1), stakeholders with access to data in Cardiff and the Vale of Glamorgan were invited to share anonymised or population data for analysis. Due to time and other barriers, granular data, necessary to explore or highlight variation and inequalities among the local population, was not available for a number of measures.

Table 1 below summarises the data measures used for the final data pack, including the source and any disaggregation by local authority, sex and population subgroup.

Inequalities were explored through disaggregation or breakdown of data by population group where available. For several measures, area deprivation through mapping of data to individual postcode deprivation at a small area (lower layer super output area/LSOA) was undertaken, using the Welsh Index of Multiple Deprivation 2019 method.

95% confidence intervals were generated where appropriate and possible, using standard methods of calculation of standard error for percentages, counts and rate measures, to highlight uncertainty and precision of data measures.

RStudio (v2024.04.1) was used for analysis with packages *tidyverse*, *readxl*, *fuzzyjoin*, *viridis* and *patchwork*. Code is available at [github.com/jonny-currie](https://github.com/jonny-currie).

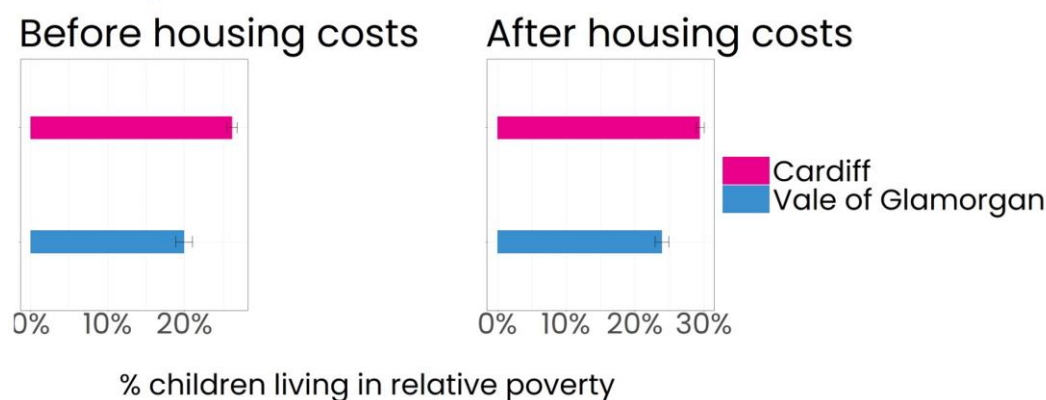
**Table 1 – Table of data measures used in the early years population health assessment, including source, breakdown and period**

Data measure	Source	Breakdown and period
Percentage of children living in relative poverty*, including adjustment for local housing costs	<i>Department of Work and Pensions and End Child Poverty</i>	Local authority, 2022-2023
Percentage and number of children born with low birth weight (<2.5kg)	<i>Office of National Statistics</i>	Cardiff & Vale region & Wales, 2017-2022
Percentage of pregnant women receiving antenatal booking appointment by 10 weeks	<i>StatsWales</i>	Cardiff & Vale region & Wales, 2023
Number and percentage of children not receiving full health visiting appointments during the COVID-19 period	<i>StatsWales</i>	Local authority, 2020-2023
Percentage of children with weight over the 95% centile	<i>Public Health Wales</i>	Local authority, WIMD quintile, 2023-24
Percentage of children aged 4-5 receiving full routine childhood immunisations	<i>Public Health Wales</i>	WIMD quintile, 2009-2022
Percentage of children seen by general dental service in previous 12 months	<i>Dental Public Health team, Public Health Wales</i>	WIMD quintile, 2023
Percentage uptake of Healthy Start vouchers among children and families	<i>NHS Business Authority (NHSBA)</i>	Local authority and Wales, 2021-2022
Percentage uptake of Flying Start childcare	<i>Local authorities</i>	Local authority, 2023-2024
Percentage of children achieving a good level of development at Foundation Phase period	<i>StatsWales, with modelling** of population subgroups</i>	Local authority, sex, ethnic group, 2019
Supply of childcare places for children aged 0-12 across settings	<i>Care Inspectorate Wales</i>	Local authority, 2023-2024
Rate of presentation to hospital emergency department among children aged 0-5 years	<i>Cardiff &amp; Vale University Health Board</i>	WIMD quintile, 2023-24
Availability of recreational greenspace per child aged 0-5 years	<i>Fields in Trust, using Ordnance Survey (OS) data</i>	Local authority and WIMD quintile, 2024
Percentage uptake of Statutory Paternity Leave	<i>Department of Work and Pensions</i>	Wales, England and Scotland, 2021

\*Less than 60% of median household income

### 3. Findings

1 in 3 (Cardiff) and 1 in 5 (Vale) children live in poverty in Cardiff and the Vale of Glamorgan



DWP and End Child Poverty, 2024.



Figure 1 – Charts showing proportion of children living in relative poverty in Cardiff and the Vale of Glamorgan in 2022/23, with the chart on the right including an adjustment for local housing costs.

#### Data

29.42% of children in Cardiff were living in relative poverty in 2022-23 after housing costs (95% CI 28.84-30%, and 23.91% of children in Vale of Glamorgan (95% CI 22.91-24.9%).

#### Public health relevance

Higher levels of child poverty are associated with worse child health outcomes. Children growing up in poverty in the UK experience a wide range of adverse child health and developmental outcomes, and are more likely to develop chronic conditions in childhood compared with more affluent children.<sup>6</sup>

## Low birth weight babies in CAV remain below national levels, but the gap is narrowing

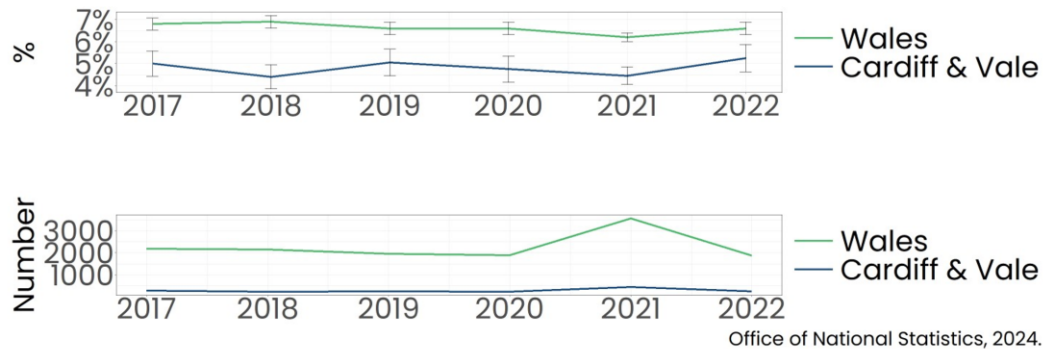


Figure 2 – Chart showing trend in proportion and absolute number of babies born with low birth weight (<2500g) in Cardiff and the Vale of Glamorgan and Wales, 2017-2022.

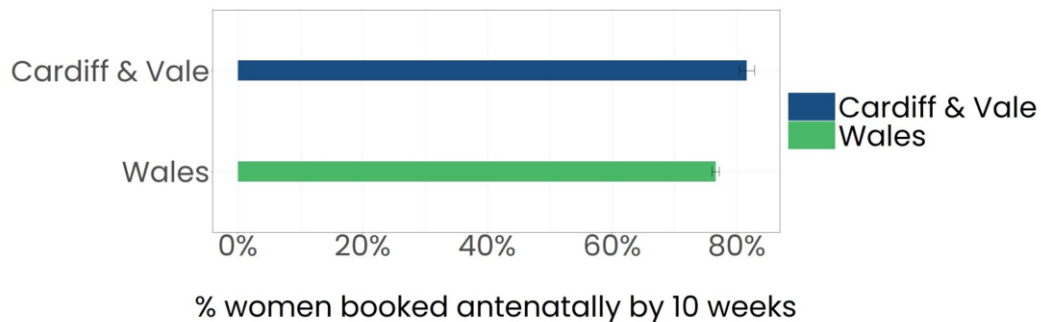
### Data

5.25% (total 252) of babies in Cardiff and Vale were born with low birth weight (less than 2500g) in 2022.

### Public health relevance

Low birth weight (under 2,500 grams) is associated with an increased risk of infant mortality, developmental problems in childhood and poorer health in later life. The risk of low birth weight is related to maternal smoking and substance use, nutrition and other pregnancy-related complications. At a population level, a high proportion of low birth weight babies is primarily related to poorer antenatal maternal health.<sup>7</sup>

## Most pregnant women are booked by 10 weeks, though there are likely inequalities



StatWales, 2024.



Figure 3 – Chart showing percentage of women booked and seen by antenatal services by 10 weeks in 2023 in Cardiff and the Vale of Glamorgan and Wales.

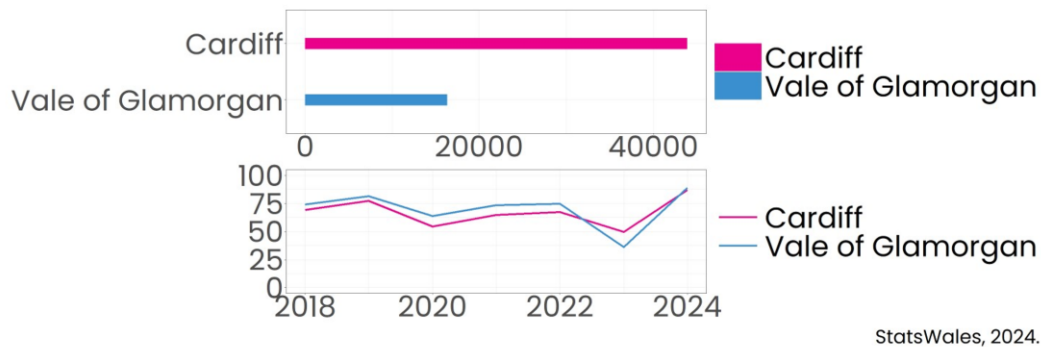
### Data

81.56% of pregnant women in Cardiff & Vale in 2023 were booked by antenatal services by 10 weeks.

### Public health relevance

The timely initiation of antenatal care is a key measure of maternity care access and has been linked to birth outcomes including maternal mortality.<sup>8</sup> The Confidential Enquiry into Maternal Deaths and Morbidity, shows delayed access to antenatal care ('late booking') has been linked to increased mortality and morbidity for mother and baby, with inequalities particularly highlighted among women from black and ethnic minority backgrounds.<sup>9</sup>

## 60220 children did not receive their health visiting appointments during the 2020-2023 (including COVID-19 pandemic) period



StatsWales, 2024.



Figure 4 – Charts showing the total number (chart above) of children not receiving their full recommended health visiting appointments between 2020-23, and the overall percentage (chart below) of children receiving their full appointments between 2018 and 2024, for Cardiff and the Vale of Glamorgan areas.

### Data

43895 children in Cardiff and 16325 in the Vale of Glamorgan did not receive their full health visiting appointments during the COVID pandemic period 2020-2023.

### Public health relevance

When sufficiently resourced, health visitors can provide a vital infrastructure of support for families with babies and young children and with benefits that accrue across the health, education and social care system.<sup>10</sup> Health visitors, as public health nurses, use strength-based approaches, building non-dependent relationships to enable efficient and effective working with parents and families to support behaviour change, promote health protection and to keep children safe.<sup>11</sup>

## Children in the most deprived areas are more likely to be living with obesity

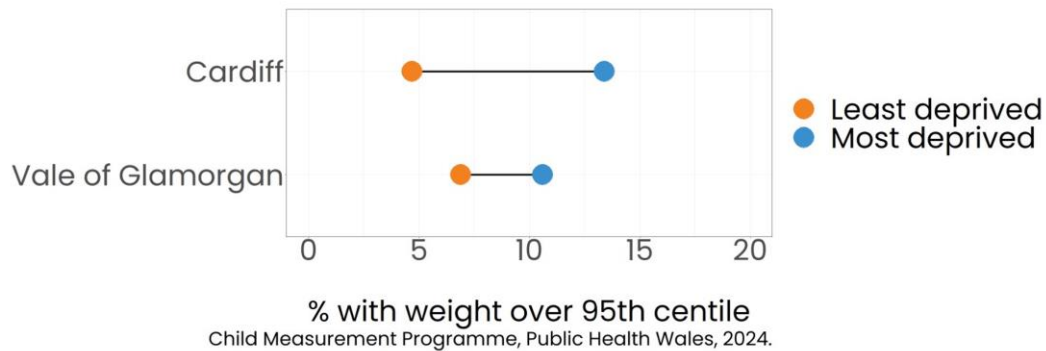


Figure 5 – Chart showing inequity in percentage of children in Cardiff and in the Vale of Glamorgan with a Body Mass Index over the 95% centile between the least and the most deprived areas in 2023/24.

### Data

13.4% (95% CI 13.4-15.6) of children living in the most deprived areas of Cardiff in 2023-24 had a weight over the 95th centile, compared with 4.7% (95% CI 3.4-6.5%) of children in the least deprived areas.

### Public health relevance

Obesity is associated with poor psychological and emotional health, and many children experience bullying linked to their weight. Children living with obesity are more likely to become adults living with obesity and have a higher risk of morbidity, disability and premature mortality in adulthood.<sup>12</sup>

## Child vaccination by age 4-5y in more deprived areas is below the level known to protect from infections such as measles

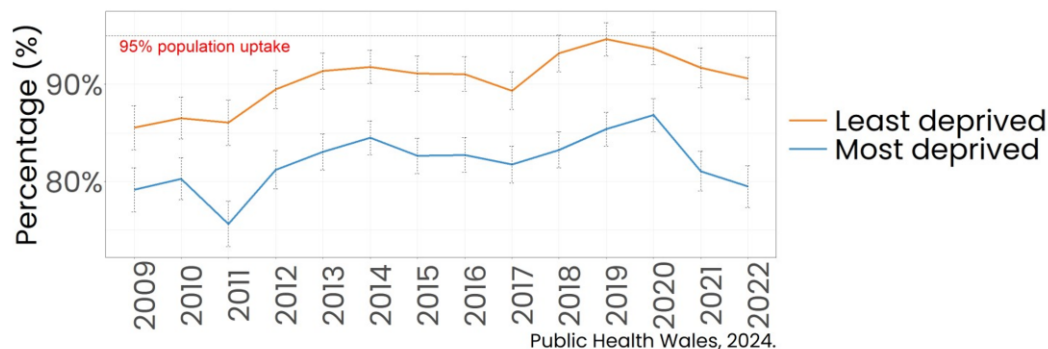


Figure 6 – Chart showing trends in inequality in childhood routine vaccination between children aged 4-5 years living in the most and least deprived areas in Cardiff and the Vale of Glamorgan, between 2009-2022.

### Data

79.49% of children aged 4-5, (95% CI 77.32-81.65%) in the most deprived areas in Cardiff & Vale were fully vaccinated in 2022, compared with 90.61% of children aged 4-5, (95% CI 88.44-92.77%) in the least deprived areas.

### Public health relevance

The direct benefits of childhood vaccination in reducing the burden of disease morbidity and mortality in a cost-effective manner are well-established. By preventing episodes of vaccine-preventable diseases, vaccination can also help avert associated out-of-pocket medical expenses, healthcare provider costs, and losses in wages of patients and caregivers. Studies have associated vaccines positively with cognition and school attainment, suggesting benefits of long-term improved economic productivity.<sup>13</sup>

## Children in most deprived areas accessed less dental services in 2023, though progress has been made in prioritisation

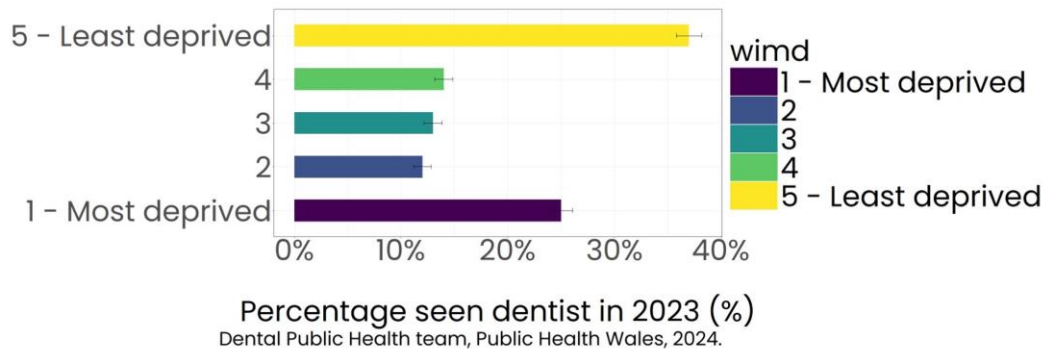


Figure 7 – Chart showing inequalities in utilisation of general dental services in Cardiff and the Vale of Glamorgan in 2023, by Welsh Index of Deprivation (WIMD 2019) quintile.

### Data

25% of children, (95% CI 23.92-26.08%) in the most deprived areas in Cardiff & Vale in 2023 accessed dental services, compared with 37% of children (95% CI 23.92-26.08) in the least deprived areas.

### Public health relevance

Oral health is important to general health and wellbeing. Poor oral health can be painful. It can also affect people's ability to eat, speak and socialise normally. Poor oral health can lead to absences from school and workplaces. It can also affect the ability of children to learn, thrive and develop.<sup>14</sup>

## 2021-22 data suggests most children are benefiting from Healthy Start vouchers

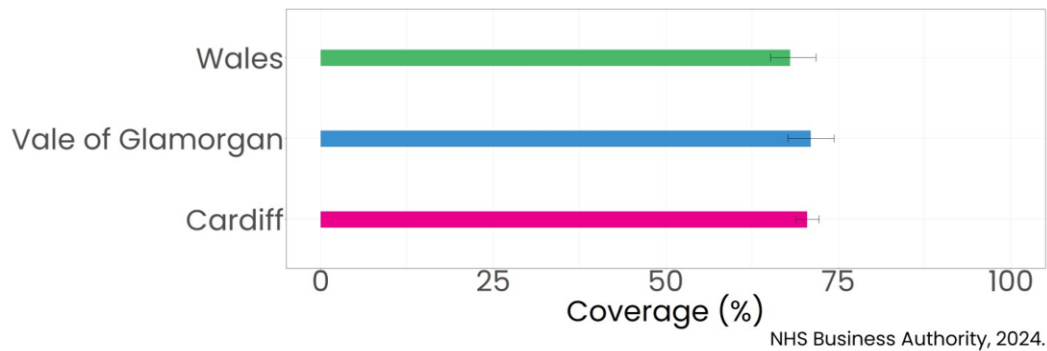


Figure 8 – Chart showing uptake of Healthy Start vouchers in Cardiff, the Vale of Glamorgan and Wales in 2021/22.

### Data

70.5% of families, (95% CI 68.79-72.22%) in Cardiff entitled to Healthy Start vouchers benefited from the entitlement in 2021-22. 71% of families entitled to the benefit, (95% CI 67.65-74.35%) in the Vale of Glamorgan benefited.

### Public health relevance

Families with the lowest incomes spend a greater proportion of their household budget on food than those with higher incomes. Since the cost of living crisis, food insecure households are more likely to cut back on healthy foods including fruit, vegetables and dairy.<sup>15</sup> Healthy Start vouchers are a government scheme offering a financial payment card and free vitamins to families experiencing low-income, allowing pregnant women and families with children under 4 to use vouchers to buy fruit, vegetables, cows' milk, infant formula and pulses, potentially improving diet and nutrition at an early age.

## Most eligible families are benefiting from Flying Start childcare, with likely benefits for child development and health

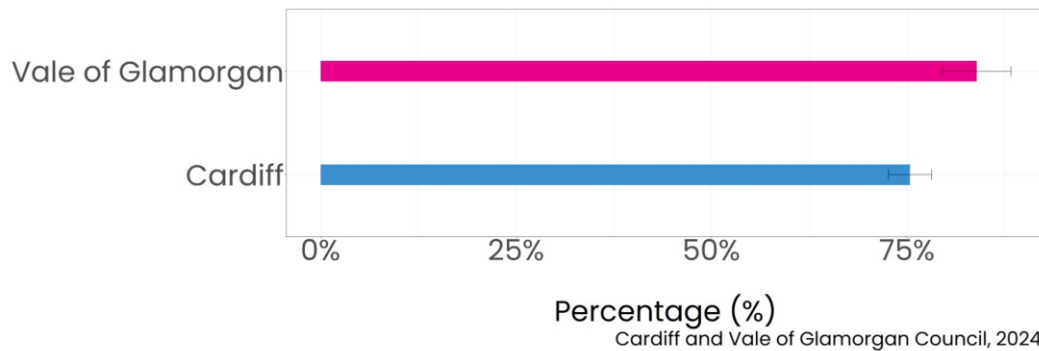


Figure 9 – Chart showing percentage of eligible families utilising free Flying Start childcare in Cardiff and the Vale of Glamorgan areas in 2023/24.

### Data

75.39% (95% CI 72.61-78.16%) of eligible children in Cardiff in 2023-24 participated in Flying Start early years childcare. 83.9% (95% CI 79.53-88.28%) of eligible children in the Vale of Glamorgan participated.

### Public health relevance

Research indicates that quality childcare can have a positive effect on children's educational, cognitive, behavioural and social outcomes, in both the short and long term. Quality childcare can also play a positive role in raising attainment and closing the gap between outcomes for children from disadvantaged backgrounds and other children.<sup>16</sup>

## School readiness data last published in 2019 suggested significant inequalities between social and gender groups

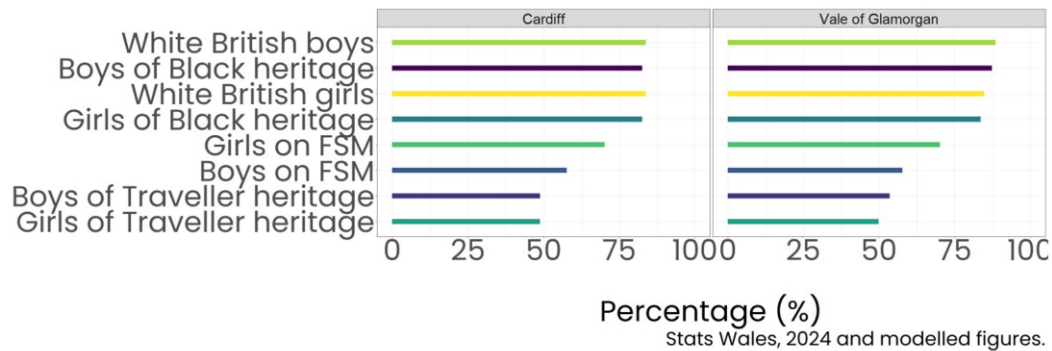


Figure 10 – Chart showing modelled data for the percentage of children in differing population groups achieving a good level of development as measured by the Foundation Phase curriculum, using national data from Stats Wales for 2019 for these groups and data at local authority level for that period for girls and boys,

### Data

The population group with the highest percentage of children assessed as ready for school in 2019 in Cardiff were boys of White British ethnicity (83.79% school ready). The population group with the lowest percentage of children assessed as ready for school in this period in Cardiff were girls from traveller backgrounds (48.91% school ready).

The population group with the highest percentage of children assessed as ready for school in 2019 in the Vale of Glamorgan were boys of White British ethnicity (88.49% school ready). The population group with the lowest percentage of children assessed as ready for school in this period in the Vale of Glamorgan were girls from traveller backgrounds (49.91% school ready).

### Public health relevance

School readiness encompasses cognitive, social, and emotional aspects and indicates if a child can achieve at an appropriate level in formal school.<sup>17</sup> Educational attainment is one of the main markers for wellbeing through the life course and so it is important that no child is left behind at the beginning of their school life.

## Childcare supply in the Vale appears greater than that available in Cardiff

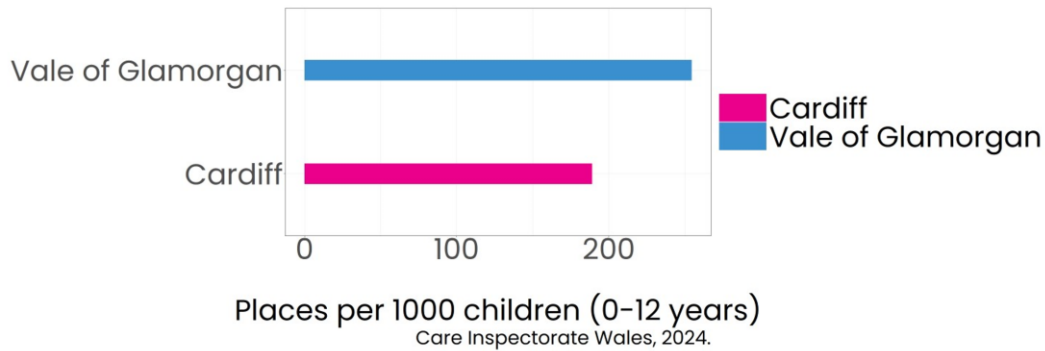


Figure 11 – Chart showing numbers of childcare places per 1000 children in Cardiff and in the Vale of Glamorgan in 2023/24.

### Data

Childcare place provision in Cardiff in 2023-24 was 189.07 per 1000 children. Provision in the Vale of Glamorgan in 2023-24 was 254.53 per 1000 children.

### Public health relevance

Research indicates that quality childcare can have a positive effect on children's educational, cognitive, behavioural and social outcomes, in both the short and long term. Quality childcare can also play a positive role in raising attainment and closing the gap between outcomes for children from disadvantaged backgrounds and other children.<sup>18</sup> Ensuring a supply of affordable childcare can improve public health and support parental income generation.

## A&E attendances for children aged 0-4 years in 2023-24 by WIMD quintile in Cardiff and Vale

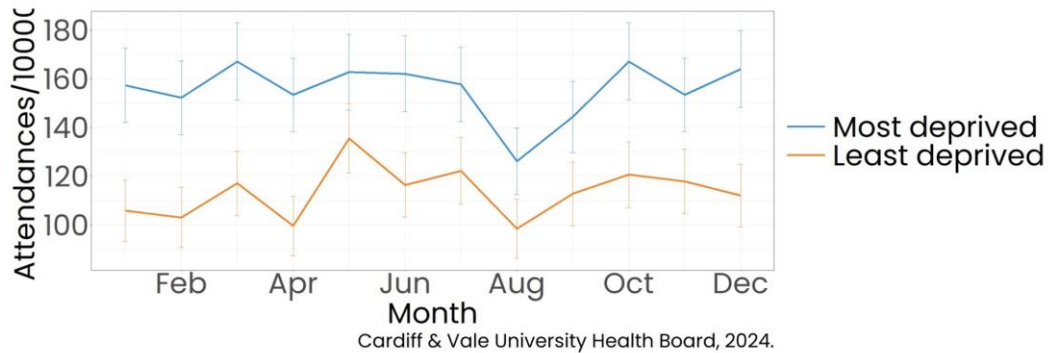


Figure 12 – Chart showing inequality between children 0-4 years living in the most and least deprived areas in Cardiff and the Vale of Glamorgan in visits to the Accident and Emergency in 2023/24.

### Data

Presentations to the Emergency Department in Cardiff & Vale for children living in the most deprived areas in the latest month of 2023-24 were 163.93 per 10,000 children (95% CI 148.25-179.61). The rate of presentation for children in the least deprived areas were 112.02 per 10,000 children (95% CI 99.06-124.98).

### Public health relevance

Inequalities in presentation to hospital between socioeconomic groups highlights higher levels of health need among those in more deprived areas, as well as highlighting the importance for accessible, equitable and quality community services.

## Children in more deprived areas in Cardiff and Vale have lower access to recreational green space

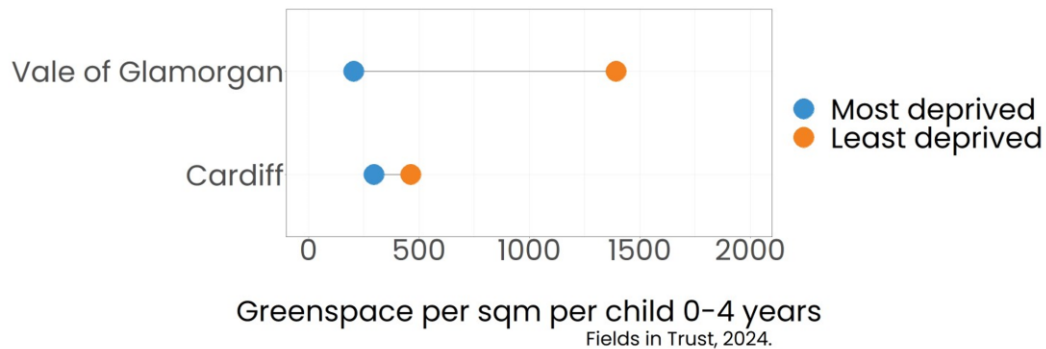


Figure 13 – Chart showing inequalities in access to recreational greenspace between children living in the most and least deprived areas of Cardiff and the Vale of Glamorgan in 2024.

### Data

Children living in Cardiff in the least deprived areas have access to 463.98 square metres of recreational greenspace per person, compared with 297.94 square metres per person in the most deprived areas. Children living in the Vale of Glamorgan in the least deprived areas have access to 1393.48 square metres of recreational greenspace per person, compared with 206.61 square metres per person in the most deprived areas.

### Public health relevance

Greenspace is important for public health given the multiple benefits to mental and physical health, air quality, as well as the opportunity for child play and development.

## Uptake of Statutory Paternity Leave in Wales in 2021 was higher than England, but lower than Scotland, with only around 1 in 3 using the entitlement

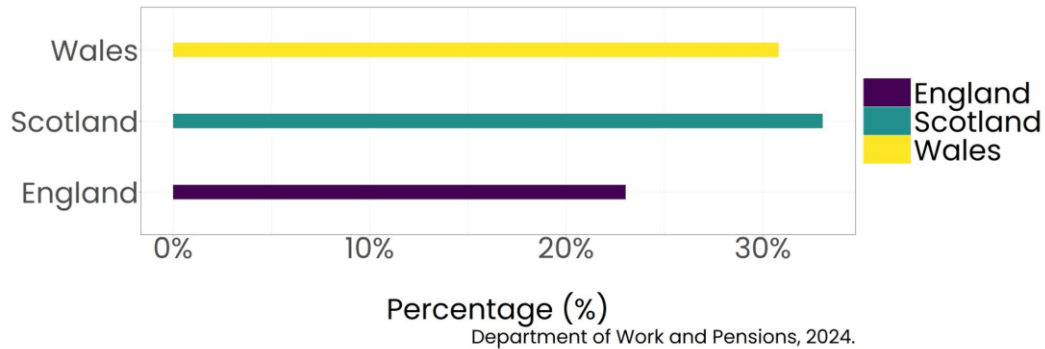


Figure 14 – Chart showing the percentage of fathers utilising their Statutory Paternity Leave entitlement in 2021, with breakdown between Wales, Scotland and England.

### Data

30.82% of fathers in Wales used their 2 week Statutory Paternity Leave entitlement in 2021, compared with 33.06% of fathers in Scotland, and 23.02% of fathers in England.

### Public health relevance

Adequate paternity leave can support child development, breastfeeding, family dynamics and the mental health of fathers.

#### **4. Recommendations for stakeholders**

Data from this early years population health assessment is intended to be used by Cardiff and Vale University Health Board and partners to inform strategic planning by early years services and organisations.

Our analysis highlights a stark picture where for many measures – including child poverty, inequalities in childhood obesity, school readiness and the impacts of the COVID pandemic on early years services – the life chances of children are being severely and unfairly limited. On the other hand however, it is clear, particularly for a number of public services, that progress to delivering and meeting children’s health and other needs is being prioritised by local partners, evidently addressing and mitigating some of the unequal gaps created by national policy and social systems.

One major limitation of the data analysed is granularity: while for several of the indicators there appears to be positive progress, without disaggregated or more local data, we are unable to interrogate further where there are underlying inequalities for that measure.

Dialogue is ongoing between the local public health team and with colleagues in data intelligence including Digital Health and Care Wales and the Cardiff and Vale Regional Partnership Board, to understand how data measures identified in this assessment could be routinely analysed, and potentially publicly available, in future through real-time digital platforms.

Table 2 below summarises recommendations from the accompanying Director of Public Health report relevant to this population health assessment. Further recommendations will be generated following discussion and feedback from stakeholders and partners (see below).

#### **5. Next Steps**

A workshop is being arranged in early 2025 to present findings from the assessment and accompanying DPH report, with the opportunity for partners to contextualise the data with their own and beneficiaries’ experience.

Table 2

#	Recommendation	Domain	Owner
1	Create a publicly available, real-time digital platform to illustrate ongoing progress towards equity and improvement in early years population health indicators.	Data and intelligence	Cardiff and Vale Public Health Team, Cardiff and Vale University Health Board, Digital Health and Care Wales and the Cardiff and Vale Regional Partnership Board
2	Explore options for improving intelligence on inequalities in child development and school readiness between population groups, including collaboration if appropriate with Digital Health Care Wales	Education	Cardiff and Vale Public Health Team, Education, Health visiting and paediatric colleagues
3	Provide community-based vaccination opportunities, to make it easier for families to access children's vaccinations conveniently.	Vaccination	Cardiff and Vale University Health Board
4	Work with communities with lower uptake of early childhood vaccinations to support and address vaccine hesitancy using methods such as face-to-face information sessions and tailored communications	Vaccination	Cardiff and Vale University Health Board
5	Engage with and influence the national process of development of a single Welsh Immunisation System (WIS) for all vaccines in order to improve data access, quality and completeness.	Vaccination	Cardiff and Vale University Health Board

6	Work more closely with GP practices where uptake is particularly low to provide tailored support aimed at improving uptake	Vaccination	Cardiff and Vale University Health Board
7	Review local strategic plans and policies to identify opportunities to maximise support for good food and movement, for example, strengthening strategic policies within the Local Development Plan (LDP).	Healthy child weight	Good Food and Movement Leadership and Enabling Change Group
8	Develop a shared understanding of current resource and training available and explore the opportunities and challenges for the early years workforce to; have healthy conversations, promote food related benefits and embed play and physical literacy.	Healthy child weight	Cardiff and Vale Public Health Team, together with a wide range of partners
9	Collaborate with communities and partners to identify and improve public spaces for play in targeted areas.	Healthy child weight	Cardiff and Vale Public Health Team with Public Health Dietetics and PIPYN Reference Group
10	Undertake insight work to develop a public campaign on the importance of outdoor play.	Healthy child weight	Cardiff and Vale Public Health Team with partners including Play Wales and play teams
11	Advocate for 'Healthy Start' vouchers to be automatically provided, rather than having to apply for this.	Child nutrition	Cardiff and Vale Public Health Team
12	Explore how to create more capacity within primary care for proactive co-ordinated	Child oral health	Cardiff and Vale University Health Board

	preventive dental care for children.		
13	Monitor the dental service access rate and inequity in access for children including 0-5 year old children.	Child oral health	Cardiff and Vale University Health Board
14	Understand the experiences of families on challenges to accessing regular preventive dental care.	Child oral health	Cardiff and Vale University Health Board

## Appendix 1 – Table of data measures identified during scoping

Data measure	Disaggregation	Source
<b>Live births with low birth weight</b>	Local authority	NHS, Office of National Statistics
<b>Children aged 0-5 years</b>	Local authority	Office of National Statistics
<b>Children aged 0-5 living in poverty</b>	Local authority	Department of Work and Pensions
<b>Infant mortality rate</b>	Local authority	NHS, Office of National Statistics
<b>Child mortality rate</b>	Local authority	NHS, Office of National Statistics
<b>Children up to date by aged 4-5 with routine childhood immunisations</b>	Welsh Index of Multiple Deprivation quintile	Public Health Wales
<b>Teenage pregnancy rate</b>	Local authority	NHS
<b>Maternal smoking rate</b>	Local authority	NHS
<b>Percentage of children seen in general dental services in last 12 months</b>	Welsh Index of Multiple Deprivation quintile	NHS
<b>Percent of children with healthy weight at reception (4-5 years) age</b>	Welsh Index of Multiple Deprivation quintile	Public Health Wales
<b>Rate of attendance at Emergency Department and admissions to hospital among children aged 0-5 years</b>	Welsh Index of Multiple Deprivation quintile	NHS
<b>Percent of pupils achieving a good level of development at reception (4-5 years) age</b>	Local authority, sex, children on Free School Meals, sex, ethnicity	Local authority, Education services
<b>Children in families who are or are at risk of homelessness</b>	Local authority	Local authority
<b>Percentage of women who are pregnant receiving first booking antenatal appointment by 10 weeks</b>	Welsh Index of Multiple Deprivation quintile	NHS
<b>Proportion of children aged 0-5 years receiving full health visiting appointments</b>	Local authority, Welsh Index of Multiple Deprivation quintile	NHS
<b>Health visiting workforce data</b>	Local authority	NHS
<b>Uptake of Healthy Start vouchers</b>	Local authority, Welsh Index of Multiple Deprivation quintile	NHS
<b>Uptake of Flying Start childcare entitlement</b>	Local authority	Local authority
<b>Total spending on early years services</b>	Local authority	NHS, Local authority
<b>Availability of school breakfast clubs</b>	Local authority	Local authority
<b>Proportion of parents utilising Statutory Paternity Leave</b>	-	-

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