

Dietary Intake in Scotland's Children (DISH): An assessment of diets in children and young people aged 2 to 15 years living in Scotland, 2024

Summary briefing



1. Introduction

Poor diet is a leading contributor to poor health outcomes in Scotland. A Scotland where everyone eats well is a key public health priority, highlighted in [A Healthier Future: Scotland's Diet and Healthy Weight Delivery Plan](#). Efforts to address poor diets in Scotland include policy interventions aiming to improve Scotland's food environment, and UK-wide initiatives to protect children from unhealthy foods. For example:

- the [Good Food Nation \(Scotland\) Act 2022](#),
- the [Eating Out, Eating Well](#) initiative,
- the [Nutritional Requirements for Food and Drink in Schools \(Scotland\) Regulations 2020](#),
- the [2018 Soft Drinks Industry Levy](#) and
- the [forthcoming advertising restrictions](#) on TV and online for products high in fat, sugar or salt (HFSS).

Limited information on children and young people from the latest [Scottish Health Survey](#) suggests that poor diets continue to be a significant challenge. There is a lack of up to date detailed data on the diets of children and young people in Scotland, with the [most recent comprehensive survey last being conducted in 2010](#).

To obtain current evidence, a cross-sectional representative survey of 1,700 children and young people living in Scotland aged 2 to 15 years was conducted in 2024: the Dietary Intake in Scotland's CHildren (DISH) survey.

2. Key findings

- Most children and young people achieved the Scottish Dietary Goals for total fat, trans fat, total carbohydrate and red and red processed meat. Less than 1 in 5 met the Goals for energy density, saturated fat, fibre, free sugars and oily fish.
- On average, children and young people ate 272 grams per day of fruit and vegetables, compared to the recommended 400 grams per day for adults.
- Young people aged 11 to 15 years tended to have less healthy diets than children aged 2-10 years, with higher energy density, a greater percentage of calories from free sugars, lower fibre intake, and fewer portions of fruit and vegetables.
- Children and young people living in the least deprived areas of Scotland generally had healthier diets than those living in the most deprived areas, with higher intakes of fibre, fruit and vegetables.
- On average, overall, intake of protein and micro-nutrients was at or above the Reference Nutrient Intake (RNI) except for zinc, which was below the RNI. Intakes of several key nutrients in females and males aged 11-15 years old was too low on average.

- Overall, discretionary foods (confectionery, sweet biscuits, crisps and savoury snacks, cakes, sweet pastries, sugary drinks, puddings, ice cream, and dairy desserts) were found to contribute 21% of total energy and 41% of free sugar intakes.
- The contribution of sugar-containing soft drinks to free sugar intake rose significantly with age, while the contribution from yoghurts and dairy desserts significantly decreased.
- Children and young people living in the most deprived areas were significantly less like to consume cakes, pastries and puddings than those living in the least deprived areas. Sugar-containing soft drinks contributed to a higher proportion of free sugar intake among children and young people living in the most deprived areas, compared to the least deprived areas.
- 22% of parents/guardians reported being worried about running out of food due to a lack of money or other resources in the previous 12 months. Children and young people living in the most deprived areas were more than 7 times more likely to live in households experiencing food insecurity.

3. Survey methodology and participants

The survey was conducted from January to August 2024. Up to four 24-hour dietary recalls were collected from each child using an online platform called [Intake24](#). Diets were reported by parents/guardians for children in pre-school or primary school. Children in secondary school had the opportunity to report their own diets. Secondary school children were given the opportunity to report on their own diets, with the majority (61%) choosing to do so.

Of the 1,700 survey participants, 48% of participants were female whilst 51% were male. 20% of participants were 2 to 4 years old, 43% were 5 to 10 years old, and 37% were 11 to 15 years old. These proportions are comparable to [the mid-2022 population estimates of 2- to 15-year-olds living in Scotland](#).

4. Results

15% of children and young people met the energy density Goal, with those aged 11 to 15 years reporting significantly more energy dense diets than younger children. A lower proportion of children and young people met the saturated fat Goal (13%). Average free sugar intake was 11% of energy, with 8% of children and young people having met the Goal of $\leq 5\%$ of energy. Fibre intake was too low, with 16% of children and young people having met the Goal. Those aged 2 to 4 years had salt intakes exceeding the recommendation for their age group, whilst older children and young people had mean intakes below recommended levels. However, it should be noted that salt intake values in DISH do not take account of salt added during cooking or at the table.

Although the current Scottish Dietary Goals do not specify a portion size for fruit and vegetables, on average, children and young people ate 272 grams per day of fruit and vegetables, compared to the recommended 400 grams per day for adults.

25% of children and young people living in the least deprived areas of Scotland met the fibre Goal, compared to 11% in the most deprived areas. Similarly, those living in the least deprived areas had significantly higher fruit and vegetable consumption compared to those living in the most deprived areas (305 g/day versus 229 g/day).

On average, children and young people consumed 41 grams per day of red and red processed meat, which is below the of all ages met the Goal for adults of ≤ 70 g/day. Less than one-fifth of children and young people of all ages consumed oily fish at least once per week.

Intake of protein and micro-nutrients was at or above the Reference Nutrient Intake (RNI) except for zinc, which was below the RNI. In both females and males aged 11 to 15 years old, vitamin A, iron, calcium, magnesium, potassium and selenium were below the RNI, with some below the Lower Reference Nutrient Intake (LRNI). Additionally, folate and iodine were below the RNI in females of this age group.

The Scottish Government's consultation on [proposed regulations to restrict the promotion of high fat, salt or sugar products](#) includes detail on the foods that would be subject to restriction. The list of foods includes 'discretionary' foods and drinks, which includes confectionery, sweet biscuits, crisps and savoury snacks, cakes, sweet pastries, sugary drinks, puddings, ice cream, and dairy desserts. Overall, discretionary items were found to account for 21% of total energy and 41% of free sugar intakes. Cakes, pastries and puddings, and Crisps and savoury snacks were the top contributors to discretionary foods.

The consultation also proposes ['additional' categories captured by existing promotional restrictions in England](#): breakfast cereals, sweetened yogurt and fromage frais, pizza, ready meals, and roast potatoes, chips and similar potato products. Items from additional categories accounted for 16% of total energy and 17% of free sugar intake. Breakfast cereals were the top contributors to the additional foods.

The contribution of sugar-containing soft drinks to free sugar intake rose significantly with age, from 3% to 13% in females and 4% to 15% in males. Conversely, the free sugar contribution from Yoghurts and dairy desserts significantly decreased with age from 9% to 3% in females and 10% to 3% in males.

47% of children and young people living in the most deprived areas consumed Cakes, pastries and puddings compared to 69% of those living in the least deprived areas. Sugar-containing soft drinks contributed to 12% of free sugars intake among children and young people living in the most deprived areas, compared to 5% in the least deprived areas.

54% of young people in secondary school reported buying food or drink off school grounds during their lunch break at least once in a usual school week, with most of whom did so 1-2 days a week.

74% of young people in secondary school reported never drinking energy drinks, whilst 10% of young people reported drinking energy drinks weekly.

22% of parents/guardians reported being worried about running out of food due to a lack of money or other resources in the previous 12 months. This was significantly higher in those living in the most deprived areas, where 44% of parents/guardians reported worrying about running out of food, compared to 6% in the least deprived areas.

5. Limitations

Underreporting of energy intake is a limitation of DISH and other dietary surveys. The specific foods and drinks that are likely to be underreported, as well as the extent to which they are underreported, remain unknown. The Intake24 database lacks brand specificity and doesn't reflect 2024 industry formulations, potentially causing inaccurate nutrient measurements, especially for packaged and out-of-home foods. While sample weighting ensured representativeness in sex, age, and SIMD, other population characteristics may not be fully represented.

6. Summary and conclusion

Overall, the findings demonstrate that poor diets remain a significant challenge among children and young people living in Scotland, particularly those aged 11 to 15 years old. Diets were found to be too energy-dense and high in salt, saturated fat, and free sugars, while being too low in fibre, fruits, vegetables, and oily fish. The findings demonstrate the need for a collective effort by policymakers, the food industry, schools, and communities to support healthier diets through improvements to the food environment. Additionally, the report highlights the importance of addressing food insecurity in households with children and young people, especially among the most vulnerable families.