Proceedings of the Nutrition Society (2024), **83 (OCE4)**, E265 doi:10.1017/S0029665124005032

Nutrition Society Congress 2024, 2–5 July 2024

Using school food purchase data as a method to assess food group and nutrient intakes in secondary school-aged pupils

J. Bradley[1] and S. Spence[1]
[1]*Human Nutrition and Exercise Research Centre, Population Health Sciences Institute, Faculty of Medical Sciences, Newcastle University, UK*

Obtaining data on pupils' school food intakes often relies upon self-reported dietary assessment methods, which can be subject to reporting errors[(1)]. Online tools offer an engaging, streamlined method, however reporting errors still exist. Furthermore, gaining access into schools to conduct research is challenging[(2)]. School food purchase data may offer an alternative approach. Objective data on individual-level school food purchases can be obtained for the whole school day owing to cashless canteens. The use of school food purchase data as a method to assess dietary intakes in secondary school pupils warrants exploration. The aims of the study were to assess the information available in school food purchase data and explore its potential in assessing food group and nutrient intakes.

Individual pupil-level purchase data was obtained from five secondary schools over a four-week period. Following data cleaning and manipulation in excel and Stata v18, the proportion of food and drink items that were assigned an Intake24 food group and linked to a UK Nutrient databank code(s) was calculated.

Ethical approval was obtained from the Faculty of Medical Sciences Ethics Committee, Newcastle University (ref: 2482/26614). Data protection impact assessment was created to ensure efficient transfer of data.

The data captured school food purchases in 3466 pupils; this equated to approximately 80% of total pupils purchasing at least one item at school across the four-week period. A total of 119125 purchases were made by pupils. There were 367 different food and drink item descriptions. Ninetytwo percent ($n = 338$) of these were able to be assigned to a food group, for example 'veg/salad' and 'hot meat baguette'. This accounted for 82% ($n = 97821$) of total purchases. Of these, 258 food and drink items (60% of total purchases) contained enough information for a nutrient code to be assigned, for example 'flapjack' and 'Radnor Fizz drink'.

Eight percent ($n = 29$) did not have enough information to assign either a food group or nutrient code. These included items such as 'Main Dish' and 'Packed Lunch Deal'. These accounted for 18% ($n = 20954$) of total purchases across the four-week menu cycle.

Pupil-level purchase data is a novel and feasible approach to obtaining objective food intake data on a large scale, maximising generalisability of findings. Obtaining intake data on >3000 pupils in a short time frame would be unachievable using traditional dietary assessment methods. There are some limitations in the use of pupil purchase data to assess pupils' nutrient intakes, for example, missing portion size information. However, the use of average portions warrants investigation. Future work to compare purchases with self-reported data to assess agreement with validated dietary assessment methods is required.

References

1. Livingstone MBE (2022) *Br J Nutr* **127**(9), 1426–7.
2. Oates C, Riaz NN (2016) *Educ North* **23**(2), 53–74.