



**‘Feeding young children aged 1 to 5 years’**  
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**Annex 2**

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## **Annex 2: Summary of methodology used in the Diet and Nutrition Survey of Infants and Young Children and the National Diet and Nutrition Survey rolling programme**

1. The dietary data collection method for both the Diet and Nutrition Survey of Infants and Young Children (DNSIYC) and the National Diet and Nutrition Survey rolling programme (NDNS RP) was a 4-day diary. Parents or carers were asked to keep a detailed diary of all foods and drinks consumed by the child for 4 consecutive days. Quantities consumed were estimated using a combination of household measures and portion size photographs. Both surveys were designed to represent all days of the week equally.
2. A single blood sample was taken from each child with written consent of the parent or guardian. The proportion of children in this age group for whom a blood sample was obtained was relatively low so the cell sizes for blood analytes were much lower than for nutrient intakes. In NDNS blood samples were taken throughout the year while in DNSIYC blood samples were taken between February and August.
3. DNSIYC data were collected between January and August 2011 from 1275 children aged 12 to 18 months, part of a wider sample of children aged 4 to 18 months, designed to be representative of the UK population.
4. Each NDNS fieldwork year collects data on approximately 150 to 160 children aged 18 to 60 months as part of a wider annual sample of 500 children aged 18 months to 18 years designed to be representative of the UK population. For NDNS, estimates were based on fieldwork years 9 to 11 combined (2016/17 to 2018/19) for most analyses (macronutrient and micronutrient intakes, vegetables and fruit consumption and % contribution of food groups to energy and nutrient intake). These were the most recent data available from NDNS at the time of the analysis informing this risk assessment. The decision to combine the most recent 3 years of data for analysis was informed by the need to maximise the cell sizes available,

balanced with the need to use the most recent data and to avoid combining data over many years when there have been changes in intake over time.

5. The following secondary analyses used NDNS data from years 1 to 11 (2008/09 to 2018/19):
  - total dietary energy intake and body weight data were derived from years 1 to 11 to increase cell sizes and allow presentation in single year age bands
  - data on blood indices of nutritional status were derived from NDNS years 1 to 11 as the numbers of blood samples available are much lower than for intake data
  - energy and nutrient intakes, and body weight by index of multiple deprivation (IMD) quintile were derived from years 1 to 11 as larger numbers were needed in order to split the data into quintiles
  - time trend analysis of macronutrient and micronutrient intake
  - contributors to iron, zinc and vitamin A intake for children with intakes above the reference nutrient intake for all 3 micronutrients, in order to increase cell sizes enough to present results
  - contributors to each of iron, zinc, vitamin A and energy intake for children with intakes below and above the lower reference nutrient intake and above the reference nutrient intake for each micronutrient, in order to increase cell sizes sufficiently to present results.
  - analyses of characteristics of children with intakes of iron, zinc or vitamin A below the lower reference nutrient intake (LRNI) value for these micronutrients, in order to increase cell sizes enough to present results
6. For the majority of analyses food consumption, nutrient intakes and nutritional status are presented in 3 age bands:
  - 12 to 18 months (DNSIYC data)
  - 18 to 47 months (NDNS – 1.5 to 3 years age group)
  - 48 to 60 months (NDNS – data extracted from the 4 to 10 years age group).
7. Exceptions to this are energy intakes and body weight analyses which were presented for 5 age bands:
  - 12 to 18 months

- 18 to 23 months
- 24 to 35 months
- 36 to 47 months
- 48 to 60 months

and analyses on vitamin D intake by ethnic minority group and nutrient intakes by IMD quintiles which are presented for 18 to 60 months.

8. For vitamin D intake and status, data are presented by ethnic minority group (white or non-white) where available. Sample numbers were insufficient to analyse specific Black, Asian and other ethnic minority groups.
9. For analyses on IMD quintile, the upper and lower 5% confidence intervals around the mean for each estimate are included to indicate whether the differences between the quintiles are likely to be statistically significant.

**Table A2.1 NDNS food groups and subsidiary food groups**

Food type	Food group	Subsidiary food group	Includes
<b>Cereals and cereal products</b>	Pasta, rice, pizza and other miscellaneous cereals	Pizza	All types
		Pasta manufactured products and ready meals	All types of products and ready meals based on pasta or noodles. Filled fresh and canned pasta
		Other pasta including homemade dishes	Plain pasta and noodles (fresh and dried), macaroni cheese
		Rice manufactured products and ready meals	All types of retail products and ready meals based on rice. Ready cooked rice
		Other rice including homemade dishes	Plain rice, rice noodles, homemade and takeaway dishes including fried rice, risotto
		Other cereals	Cous-cous, bran, oats, poppadoms, dumplings, Yorkshire pudding
	White bread (not high fibre; not multi-seed bread)	No subsidiary food groups	All types of bread made with white wheat flour; bagels, naan, garlic bread, English muffins, crumpets
	Wholemeal bread	No subsidiary food groups	All types of bread and bread products made with wholewheat flour
	Brown, granary and wheatgerm bread	No subsidiary food groups	Best of Both, 50:50, softgrain, high fibre white, multiseed
	Other bread	No subsidiary food groups	Breads made with non-wheat flour. Rye, oatmeal, gluten free
	High fibre breakfast cereals	No subsidiary food groups	All products with non-starch polysaccharide $\geq 4\text{g}$ per 100g
	Other breakfast cereals	No subsidiary food groups	All products with non-starch polysaccharide $< 4\text{g}$ per 100g
		Biscuits	Biscuits manufactured

Food type	Food group	Subsidiary food group	Includes
		Biscuits homemade	All types, sweet and savoury
	Buns, cakes, pastries, fruit pies	Fruit pies manufactured	All types, one and two crusts, individual and family, strudel
		Fruit pies homemade	All types
		Buns cakes and pastries manufactured	All types: Danish pastries, doughnuts, jam tarts, scotch pancakes, croissants, scones
		Buns cakes and pastries homemade	All types
	Puddings	Cereal based milk puddings - manufactured	All types: rice pudding, custard, Angel Delight, blancmange
		Cereal based milk puddings - homemade	All types
		Sponge puddings - manufactured	All types: steamed, canned, suet pudding
		Sponge puddings - homemade	All types
		Other cereal based puddings - manufactured	All others: trifle, pancakes, crumble, cheesecakes
		Other cereal based puddings - homemade	All others
	<b>Milk and milk products</b>	Whole milk (3.8% fat)	No subsidiary food groups
Semi skimmed milk (1.8% fat)		No subsidiary food groups	All types: pasteurised, UHT, sterilised, canned, with added vitamins
1% fat milk		No subsidiary food groups	1% and 0.75% fat milk
	Skimmed milk (0.5% fat)	No subsidiary food groups	All types: pasteurised, UHT, sterilised, canned, with added vitamins

Food type	Food group	Subsidiary food group	Includes
	Other milk and cream	Formula milks	All types of first formula, follow-on formula, 'growing up' milks, 'toddler' milks
		Cream (including imitation cream)	All types: dream topping, crème fraiche
		Other milks	Non-cows dairy milk, breast milk, evaporated, condensed milks, flavoured milk drinks, hot chocolate, plant based milk alternatives
	Cheese	Cheddar cheese	Includes reduced fat
		Cottage cheese	Includes flavoured
		Other cheese	All other types including plant based alternatives
	Yogurt fromage frais and dairy desserts	Yogurt	Includes yogurt drink, lassi, frozen yogurt, plant based alternatives
		Fromage frais and dairy desserts manufactured	Includes chocolate/fruit cream desserts, mousse, fruit fools, crème caramel, pannacotta, plant based alternatives
		Dairy desserts homemade	All types
	Ice cream	No subsidiary food groups	Includes ice cream desserts, choc ices, ice cream lollies, sorbet, plant-based alternatives
Eggs and egg dishes	Manufactured egg products including ready meals	All types of manufactured products based on eggs: ready meals, quiches, flans, scotch eggs, meringue, pavlova	
	Other eggs and egg dishes including homemade	All types of egg boiled, fried, poached, scrambled; omelettes. Homemade egg dishes	
<b>Fats and oils</b>	Butter	No subsidiary food groups	Salted and unsalted, butter ghee
	Polyunsaturated margarine and oils	Polyunsaturated margarine	Margarine claiming to be high in polyunsaturated fatty acids
		Polyunsaturated oils	Includes corn oil, sunflower oil,



<b>Food type</b>	<b>Food group</b>	<b>Subsidiary food group</b>	<b>Includes</b>
	Margarine and other fats and oils not polyunsaturated	Block margarine	All hard margarine and block fats (75-90% fat)
		Soft margarine not polyunsaturated	Tub margarine not claiming to be high in polyunsaturated fatty acids
		Other cooking fats and oils not polyunsaturated	Includes blended vegetable oil, suet, olive oil
	Reduced fat spread	Reduced fat spread polyunsaturated (41-75% fat)	Containing more than 40% and less than 80% fat, claiming to be high in polyunsaturated fatty acids. Includes cholesterol-lowering spreads
		Reduced fat spread not polyunsaturated (41-75% fat)	Containing more than 40% and less than 80% fat, not claiming to be high in polyunsaturated fatty acids. Includes cholesterol-lowering spreads
	Low fat spread	Low fat spread polyunsaturated (18-39% fat)	Containing less than 40% fat, claiming to be high in polyunsaturated fatty acids. Includes cholesterol-lowering spreads
		Low fat spread not polyunsaturated (18-39% fat)	Containing less than 40% fat, not claiming to be high in polyunsaturated fatty acids. Includes cholesterol-lowering spreads
	<b>Meat and meat products</b>	Bacon and ham	Ready meals and meal centres based on bacon and ham
Other bacon and ham including homemade dishes			Includes bacon and gammon joints, steaks, chops, rashers' all ham
Beef, veal and dishes		Manufactured beef products including ready meals	Includes canned beef products and pastrami

Food type	Food group	Subsidiary food group	Includes
		Other beef and veal including homemade dishes	Includes beef-based takeaway dishes
	Lamb and dishes	Manufactured lamb products including ready meals	Includes canned products
		Other lamb including homemade dishes	Includes lamb based takeaway dishes
	Pork and dishes	Manufactured pork products including ready meals	Includes all types(not ham or bacon). Includes canned pork products
		Other pork including homemade dishes	Includes pork-based takeaway dishes
	Manufactured coated chicken and turkey products	No subsidiary food group	All types, - retail and takeaway. Includes KFC, nuggets, drumsticks, kiev, burgers
	Chicken, turkey and dishes	Manufactured chicken and turkey products including ready meals	Include sandwich fillings, canned products
		Other chicken and turkey including homemade dishes	Includes chicken/turkey based takeaway dishes
	Liver and dishes	No subsidiary food group	Includes liver sausage, pate, liver-based ready meals and homemade dishes
	Burgers and kebabs	No subsidiary food group	All types of manufactured and takeaway burgers (with and without roll) and kebabs, grillsteaks, steaklets, Not homemade. Not chicken.
	Sausages	Ready meals based on sausages	Includes toad in the hole, sausage and mash

<b>Food type</b>	<b>Food group</b>	<b>Subsidiary food group</b>	<b>Includes</b>
		Other sausages including homemade dishes	All types of sausages and sausage meat. Not sausage rolls
	Meat pies and pastries	Manufactured meat pies and pastries	Includes samosas, pancake rolls, sausage rolls
		Homemade meat pies and pastries	All types
	Other meat, meat products and dishes	Other meat products manufactured including ready meals	Includes pepperami, corned beef, luncheon meat, meat paste, meat loaf, black/white pudding, faggots, haggis, salami, haslet, tongue, garlic sausage
		Other meat including homemade dishes	Includes game (venison, grouse, rabbit, pheasant), duck, goose, pigeon, offal (not liver), giblets, oxtail
<b>Fish and fish products</b>	White fish coated or fried including fish fingers	No subsidiary food group	Any type – retail or takeaway. Includes fish cakes, scampi
	Other white fish, shellfish, fish dishes and canned tuna	Manufactured white fish products including ready meals	Includes white fish in sauce
		Other white fish including homemade dishes	All types
		Manufactured shellfish products including ready meals	Includes canned shellfish
		Other shellfish including homemade dishes	Includes shellfish-based takeaway dishes
		Manufactured canned tuna products including ready meals	Includes tuna-based sandwich fillers
	Other canned tuna including homemade dishes	Includes homemade dishes	

<b>Food type</b>	<b>Food group</b>	<b>Subsidiary food group</b>	<b>Includes</b>
	Oily fish	Manufactured oily fish products including ready meals	Includes canned, pickled, sushi, pate, paste
		Other oily fish including homemade dishes	All types
<b>Vegetables and potatoes</b>	Salad and other raw vegetables	Carrots raw	Carrots raw
		Salad and other raw vegetables	All types of raw vegetables. Includes coleslaw, tzatziki, guacamole, fresh herbs
		Tomatoes raw	Tomatoes raw
	Vegetables (not raw) including vegetable dishes	Peas not raw	Includes canned, dried, mushy peas, mange tout
		Green beans not raw	Includes French, green, runner. Includes canned
		Baked beans	Includes baked beans with additions (such as sausages)
		Leafy green vegetables not raw	All types
		Carrots not raw	Includes canned
		Tomatoes not raw	Includes canned, sundried, passata
		Beans and pulses including ready meal and homemade dishes	All types including manufactured and takeaway.
	Meat alternatives including ready meals and homemade dishes	Includes TVP, soya mince, Quorn, tofu	

<b>Food type</b>	<b>Food group</b>	<b>Subsidiary food group</b>	<b>Includes</b>
		Other manufactured vegetable products including ready meals	Includes vegetable samosas, pancake rolls, stir fries
		Other vegetables including homemade dishes	All other cooked vegetables. Includes takeaway dishes
	Chips, fried and roast potatoes and potato products	Chips purchased including takeaway	All types
		Other manufactured potato products fried or baked	Includes roast, hash browns, croquettes, waffles, wedges
		Other fried or roast potatoes including homemade dishes	Any
	Other potatoes, potato salads and dishes	Other potato products and dishes - manufactured	Includes instant potato, canned, potato salad, potato-based ready meals
		Other potatoes including homemade dishes	Includes boiled, mashed, baked, potato salad
<b>Crisps and savoury snacks</b>	Crisps and savoury snacks	No subsidiary food group	All potato and cereal based snacks, plain and savoury popcorn, pork scratchings
<b>Nuts and seeds</b>	Nuts and seeds	No subsidiary food group	Includes fruit and nut mixes, coconut, salted peanuts, nut butters, tahini, Bombay mix
<b>Fruit</b>	Fruit	Apples and pears not canned	Includes baked, stewed, dried, apple sauce
		Citrus fruit not canned	All types
		Bananas	Includes baked, banana chips
		Canned fruit in juice	Includes canned in water
		Canned fruit in syrup	All types
		Other fruit not canned	Includes fruit pie fillings, dried fruit, fruit salad

<b>Food type</b>	<b>Food group</b>	<b>Subsidiary food group</b>	<b>Includes</b>
<b>Sugar, preserves and confectionery</b>	Sugars, including table sugar, preserves and sweet spreads	Sugar	Includes glucose, golden syrup, treacle, maple syrup
		Preserves	Includes jam, fruit spreads, marmalade, honey, lemon curd. Includes low sugar types
		Sweet spreads fillings and icing	Includes ice cream topping sauce, chocolate spread, glace cherries, icing, marzipan
	Sugar confectionery	No subsidiary food group	Includes sweet popcorn
	Chocolate confectionery	No subsidiary food group	All types
<b>Non-alcoholic beverages</b>	Fruit juice	No subsidiary food group	All types. Includes vegetable juice
	Smoothies 100% fruit and/or juice	No subsidiary food group	All types except smoothies with dairy
	Soft drinks, not low calorie	Soft drinks not low calorie concentrated	Includes squashes and cordials
		Soft drinks not low calorie carbonated	Includes tonic water and carbonated energy drinks
		Soft drinks not low calorie ready to drink still	All types
	Soft drinks, low calorie	Soft drinks low calorie concentrated	All types - no added sugar, sugar free
		Soft drinks low calorie carbonated	Includes slimline tonic water. Sugar free energy drinks. Not carbonated mineral water
			Soft drinks low calorie ready to drink still
Tea, coffee and water		Coffee (made-up weight)	Includes decaffeinated, latte, cappuccinos, mochas
		Tea (made-up weight)	Any

Food type	Food group	Subsidiary food group	Includes
		Herbal tea (made-up weight)	Includes fruit tea
		Bottled water still or carbonated	Excludes sweetened drinks and tonic water
		Tap water only	Any. Tap water used to make soft drinks, coffee or tea is reported under those groups
<b>Alcoholic beverages</b>	Spirits and liqueurs	Liqueurs	Any
		Spirits	70% proof (brandy, gin, rum, vodka, whisky)
	Wine	Wine	Includes sparkling wine
		Fortified wine	Port, sherry, vermouth, martini
		Low alcohol and alcohol free wine	Any
	Beer, lager, cider and perry	Beers and lagers	Any
		Low alcohol and alcohol free beer and lager	Includes shandy
		Cider and perry	All types
		Low alcohol and alcohol free cider and perry	All types
		Alcoholic soft drinks	Includes fruit flavoured and spirit-based drinks and low calorie versions
<b>Miscellaneous</b>	Miscellaneous	Soup manufactured	Includes dried, condensed, canned, chilled
		Soup homemade	Any
		Beverages dry weight	Includes drinking chocolate, cocoa, Ovaltine, Horlicks, milk shake powder
		Nutrition powders and drinks	Includes Complan, Slimfast, Ensure, protein powders and meal replacement drinks.

Food type	Food group	Subsidiary food group	Includes
		Savoury sauces pickles gravies and condiments	Includes tomato ketchup, sauces, marmite, pickles, chutneys, stuffing, gravy, ,mayonnaise, dressings
<b>Commercial baby foods and drinks</b>	Commercial baby foods and drinks	Commercial baby drinks	Includes powdered, concentrated and ready to drink beverages marketed at young children
		Commercial baby foods	Includes instant and ready to eat meals and snacks marketed at young children
<b>Dietary supplements</b>	Dietary supplements	Evening primrose oil and other plant oils	
		Cod liver oil and other fish oils	including products with vitamins A, D, E.
		Folic acid	
		Iron only or with vitamin C	
		Calcium only or with vitamin D	
		Vitamin C	
		Other single vitamins/minerals	Excludes folic acid, iron, calcium, vitamin C
		Vitamins (two or more including multivitamins) no minerals	
		Minerals (two or more including multiminerals) no vitamins	
		Vitamins and minerals (including multivitamins and minerals)	
		Multivitamins and/or minerals with omega 3	



<b>Food type</b>	<b>Food group</b>	<b>Subsidiary food group</b>	<b>Includes</b>
		Non-nutrient supplements (including herbal)	Includes echinacea, aloe vera, St Johns wort, garlic capsules
		Other nutrient supplements	Includes kelp, glucosamine, royal jelly, cranberry, lecithin, brewers yeast, amino acid powders, caffeine
<b>Artificial sweeteners</b>	Artificial sweeteners	No subsidiary food group	Includes granulated table top sweeteners, tablet, liquid or mini cube sweeteners.