

# Nutrition

Birmingham Measurement Tools Webinar Series



# Introduction



Impact and outcome measurement should be a key part of any intervention.

Measuring the impact of what we do helps us demonstrate that what we are doing is making a difference. They help us demonstrate that an intervention is having an impact in a measurable way rather than using just stories.

- Using standard tools allows us to compare different interventions' impact.
- We can find out if different interventions are more effective for different groups of people by combining these standard measures with standard questions on people's identity.
- We can measure cost-effectiveness by looking at the impact an intervention had, the number of users who participated and the cost of the intervention.

Without clear impact and outcome measurements it is difficult to support funding for interventions or to justify that the approach used should be continued or scaled up.



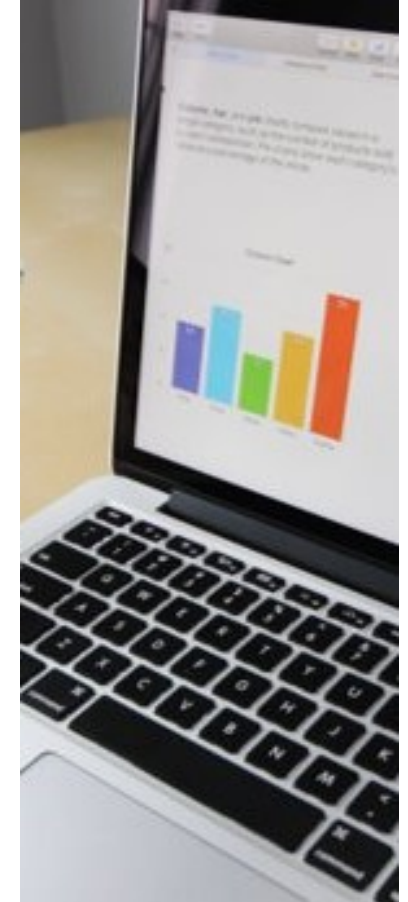
# Birmingham Public Health Measurement Toolbox

The Birmingham Public Health Measurement Toolbox has been developed to standardise impact and outcome measures for interventions that are trying to improve health and wellbeing across Birmingham.

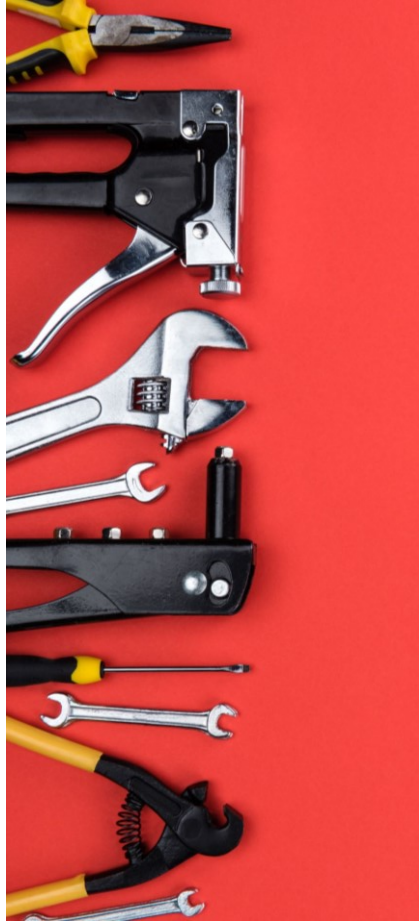
The Toolbox supports organisations when they are developing projects to build the appropriate measures into their service design.

It provides clarity and transparency on how to clearly assess and measure interventions based on their focus, which can then be demonstrated clearly when applying for funding.

It allows for accurate and meaningful comparisons between different programmes and interventions to help inform decision-making.



# Contents

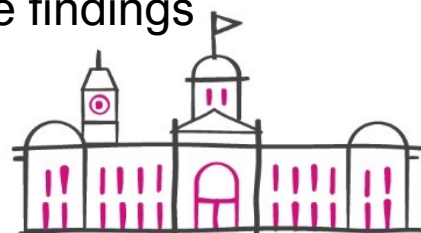


The Toolbox is a developing set of resources to support measurement related to different areas of health and wellbeing, these include:

- Physical activity
- Smoking
- Mental Wellbeing
- High Blood Pressure/Hypertension
- Long-acting Reversible Contraception
- HIV and Hepatitis Risk Reduction

The Nutrition Toolkit will cover:

- What is nutrition?
- The national and local context
- Measuring nutrition and different outcome measures
- The decision-making process when collecting data and evaluating a project
- Example measurement tools
- How to use the tools and evaluate the project process
- Risks and issues to consider
- How to report the findings



# NUTRITION TOOLKIT

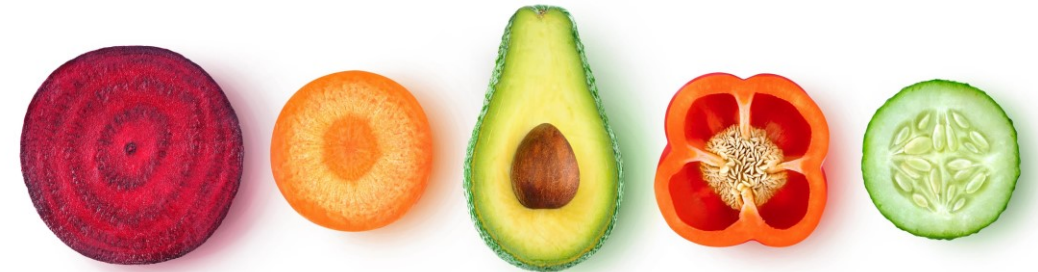


# What is Nutrition?

Nutrition all about how we provide the body with the nutrients it needs for growth and for good health.

It can be described as how we nourish our bodies via the food and drinks we consume.

Eating a healthy and balanced diet is vital for our bodies to work at their best, and to have the best chance at fighting disease.



# National and Local Context

## National

- The National Diet and Nutrition Survey is used to collect data on what people in the UK eat and drink.
- We eat more fat, sugar and salt than the government recommendations.
- We eat less fibre, fruit and vegetables, and oily fish than the government recommendations.
- In England, around two thirds of adults are above a healthy weight and 1 in 3 children leaving primary school are overweight or living with obesity.

## Local

- The proportion of people in Birmingham eating the recommended '5 a day' of fruits and vegetables is lower than the England average.
- The percentage of adults who are overweight or obese is higher than the England average of 63.5%.
- Food insecurity disproportionately affects the most vulnerable groups of our city, with too many citizens having to make difficult choices between buying healthy food or paying bills.



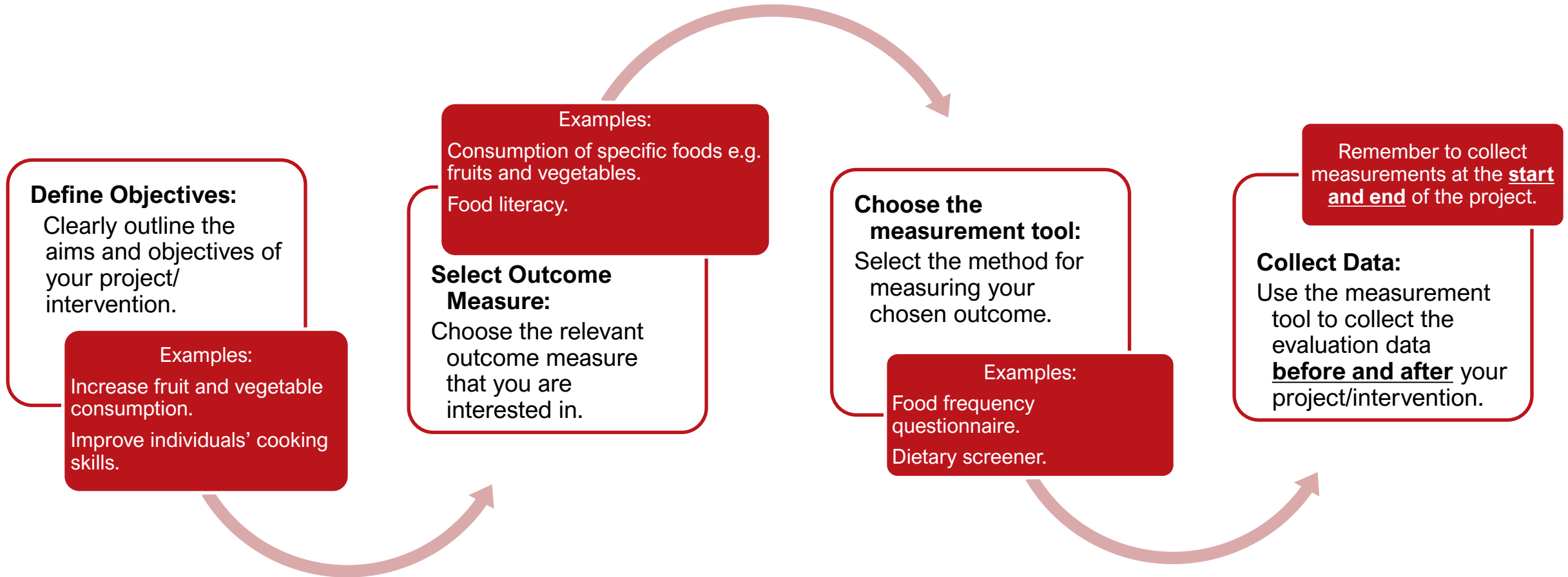
# Measuring Nutrition

- There is no one-size fits all approach to measuring nutrition.
- There are lots of different outcomes that can be measured when evaluating a project/intervention:
  - **Overweight and obesity** – e.g. BMI.
  - **Consumption of specific foods/nutrients** – e.g. fruits and vegetables, food high in fat, salt and sugar.
  - **Overall dietary intake** – food frequency questionnaires, dietary recalls.
  - **Food literacy** – the ability to understand and make informed decisions about food, including knowledge of nutrition, cooking skills and the social and environmental impact of food choices.
  - **Food insecurity** - a term used to describe when someone is unable to access or afford nutritious and safe food, which is also socially and culturally acceptable, in order to live a happy, healthy and active life.





# Decision Making Process



# Example – Measuring Overweight and Obesity

- Body Mass Index (BMI) is a measure which uses your weight and height to work out if your weight is healthy.
- The calculation divides an adult's weight in kilograms by their height in metres squared.
- It is slightly different for children and young people as it also takes into account their age.
- Follow this link to the NHS BMI calculator: [Calculate your body mass index \(BMI\) - NHS - NHS \(www.nhs.uk\)](https://www.nhs.uk/weight-and-height/bmi-calculator)

| BMI         | Classification |
|-------------|----------------|
| < 18.5      | Underweight    |
| 18.5 – 24.9 | Healthy Weight |
| 25 – 29.9   | Overweight     |
| 30 – 39.9   | Obese          |



# Example – Fruit and Vegetable Intake

- Diets high in fruits and vegetables are associated with positive health outcomes.
- Dietary screeners are used to obtain basic information about a limited number of food or drinks over a period of time.
- The [Five-a-day Community Evaluation Tool \(FACET\)](#) is a self-completion questionnaire that focuses on intake of fruit and vegetables.

Q.2 Have you eaten any of the following foods in the last 24 hours ?

**PLEASE "X" THE NUMBER OF PORTIONS OF FOODS EATEN FOR EVERY ROW**

**FOR EXAMPLE:**

|                    | 0                        | 1                                   | 2                        | 3                        | 4+                       |
|--------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Fruit as a dessert | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

|  | NUMBER OF PORTIONS       |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|  | 0                        | 1                        | 2                        | 3                        | 4+                       |
| Breakfast cereal   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Fruit for breakfast, e.g. on cereal  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Crisps   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Fruit as a between meal snack  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A glass of pure, unsweetened fruit juice (not squashes or fruit drink)                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Fruit as a starter to a meal   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A baked potato   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A bowlful of home-made style vegetable soup  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Portions of vegetables with main meals (include baked beans and pulses as vegetables but not potatoes) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Any type of meat   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| A vegetable based meal   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Any type of fish   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| + A bowlful of salad   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Fruit as a dessert   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |



# Example – Food Literacy

**Food literacy** is the ability to understand and make informed decisions about food, including knowledge of nutrition, cooking skills and the social and environmental impact of food choices.

- The [OzHarvest’s six-week NEST \(Nutrition Education and Skills Training\)](#) program produced a pre and post survey which included questions to measure food literacy, confidence and self-efficacy, and food behaviours.
- Questions included assessing understanding of food labels and basic nutritional knowledge.
- These questions could be used as the basis for assessing the success of a project in improving food literacy.

## NUTRITION PANEL

Please use the Nutrition Information Panel to answer the following questions:

29. What is the main ingredient in the product? \* *Mark only one.*

- Sugar     Honey  
 Rice     Salt  
 Cereals     Not sure

30. In this product is there more sugar or rice? \*

*Mark only one.*

|            |           |            |
|------------|-----------|------------|
| More sugar | More rice | Don't know |
|------------|-----------|------------|

31. In 100 grams of this product, how many grams of sugar are there? \* *Mark only one.*

- 11.8 grams     1.2 grams  
 21.2 grams     1.3 grams

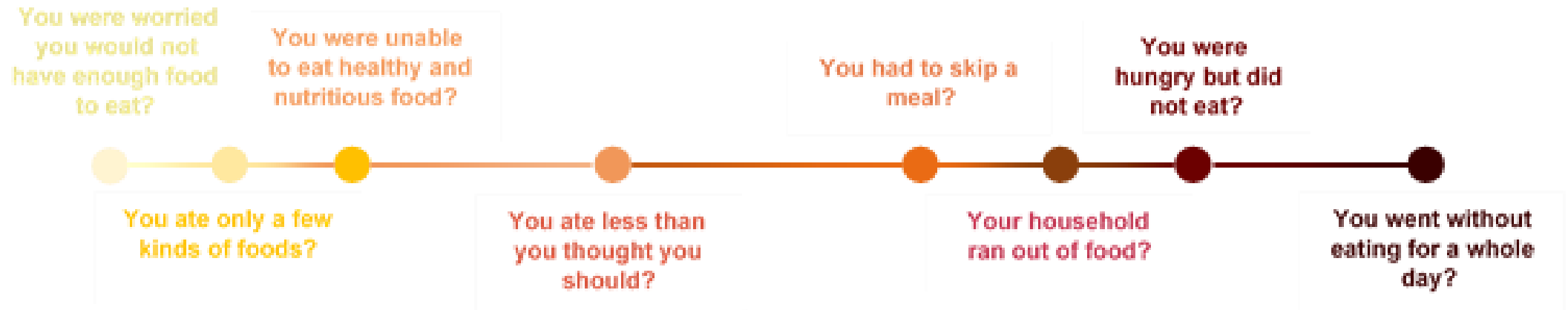
| Nutrition Information  |              |               |
|--|--------------|---------------|
| Servings per package – 16  |              |               |
| Serving size – 30g (2/3 cup)   |              |               |
|  | Per serve    | Per 100g      |
| <b>Energy</b>  | <b>432kJ</b> | <b>1441kJ</b> |
| <b>Protein</b>   | 2.8g         | 9.3g          |
| <b>Fat</b>   |              |               |
| Total  | 0.4g         | 1.2g          |
| Saturated  | 0.1g         | 0.3g          |
| <b>Carbohydrate</b>  |              |               |
| Total  | 18.9g        | 62.9g         |
| Sugars   | 3.5g         | 11.8g         |
| <b>Fibre</b>   | 6.4g         | 21.2g         |
| <b>Sodium</b>  | 65mg         | 215mg         |
| <b>Ingredients:</b> Cereals (76%) (wheat, oatbran, barley), psyllium husk (11%), sugar, rice, malt extract, honey, salt, vitamins. |              |               |

Figure 1: Eat for Health - Eating well food label



# Example – Food Insecurity

- The **Food Insecurity Experience Scale (FIES)** consists of 8 questions about people’s access to food.
- It asks about experiences of difficulty in accessing food.
- More information about the tool can be found by following this link: [Food Insecurity Experience Scale](#).



# Using the Tools



Make sure that you have participants' consent before collecting any data.



If measuring BMI, remember that height and weight can be sensitive to discuss. Individuals may feel more comfortable self-reporting this information, rather than having it measured for them. If measuring height and weight for an individual, try to do this in a private setting.



You can read more about weight stigma [here](#).



Consider what the best way to deliver the tool is e.g. online or paper format.



Test using your tool with someone from your target group beforehand and consider if the questions are easy to understand or if someone would need to support a participant with answering the questions.



Make sure to take measures **before** **and after** the project or intervention. This means that you can compare them when reporting your findings.



# Measuring the Process

- You can also measure the process of the project, by noting down what went well and what could be improved if you were to do the project again.
- Some questions to consider are:
  - Were the objectives of the project met? If so, how? If not, why?
  - Were there any challenges or barriers to implementing the project?
  - Have any adjustments or modifications been made as the project progressed?
  - What feedback have participants provided about their experiences?
  - Is the change maintained over time? E.g. is weight loss maintained 3 months after the project is completed?



# Specific risk and issues to consider

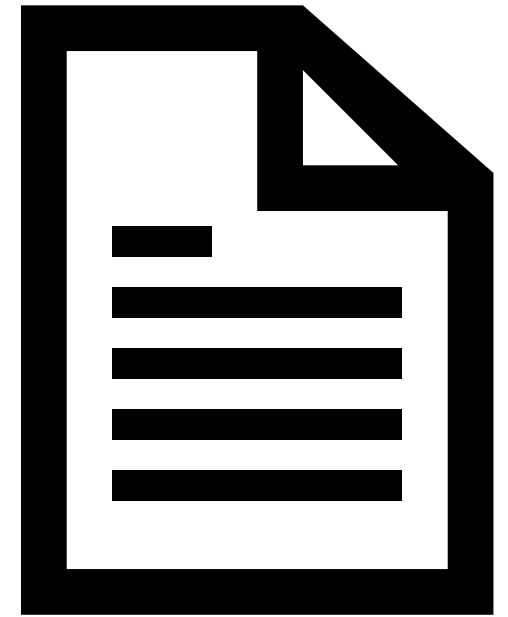
- It is important to define your objectives and select the right tool before you begin your work.
- Consider that the tools you use may have to be adapted based on the group you are working with, e.g. children or adults.
- People often don't answer all of the questions when a survey takes a long time to complete, therefore try to make the survey as short as possible.





# How to Report the Findings

- Introduce the project that took place.
- Give information about the target population of your intervention.
- Give information about the number of people who participated and their demographics (e.g. age, ethnicity etc.) and whether this matched your target population.
- Make sure to anonymise the data, so that participants aren't identifiable.
- Describe the data collected before the project started e.g. number of people in each BMI category.
- Describe the data collected after the project completed.
- Highlight any changes in the data.
- Report findings for each group of interest to give a clear understanding of whether the intervention was more or less effective for different demographics (e.g. age, ethnicity etc.)
- In cases of small sample size, small number suppression should be used in order to keep results confidential – e.g. if only one or two respondents give the same answer just report this as <5 in any report.
- Also, remember to acknowledge small numbers are a limitation in being able to make strong conclusions.
- Reflect on learnings from the project and data collection process.



# Case Study

## A school and family-based healthy lifestyle programme

1. 12-month programme that encouraged healthy eating and physical activity. Included daily 30-minute physical activity opportunity, 6-week interactive football skill programme, signposting of local physical activity opportunities every 6 months, and termly school-led family workshops on healthy cooking skills.
2. Aimed at Year 2 (6- and 7-year-olds) in schools within a 30-mile radius. Identified 200 schools and approached them in turn with the aim to recruit 54. They approached 143 to recruit 54. They planned for 20% dropping out once the intervention began. They also had control schools to compare results to where there was no intervention and had usual practice. Data was captured on the number of schools, number of children, free school meal uptake, ethnicity and school size.
3. Primary outcome measure was obesity (BMI measured at baseline, 15 months and 30 months). Additional follow-up BMI measurements taken in a small group at 39 months.
4. Secondary outcomes were waist measurement, skin folds, body fat percentage, blood pressure, dietary, physical activity, and psychological measurements measured at baseline, 15 months and 30 months.
5. Additional measures and process evaluation were delivered through questionnaires for school staff and parents, interviews with teachers, focus groups with parents and children, teacher logbooks, and observation by the researchers. Schools were rated on how well they adhered to the intervention so they could explore if this impacted how effective the intervention was.
6. Captured and reported quotes to demonstrate what teachers, parents and children thought of the intervention, the process and how effective it was.
7. The intervention had no effect. They gave possible reasons for this including there needing to be wider support in other environments, and not just at school.



# Additional Resources

- [Nutritools](#)
- [DAPA Measurement Toolkit \(measurement-toolkit.org\)](#)

