# Supplementary Material

## Supplemental Material 1: Protocol

1. Identify common serve sizes for the takeaway meals.
   1. Use survey data if available, market research data or local knowledge.
   2. Use a fast-food menu or advertising to identify a meal that would be appropriate for the reference household of 2 adults and 2 children (aged 7, 14).
   3. The meal needs to be purchasable in the size priced, for example, whole not half pizza. Do not include beverages.
   4. The meal will contain two or more food groups.
2. Construct a home-made meal with similar components to the takeaway meal. Use popular recipe books for ideas.
   1. Match the meat/fish/chicken or alternative component, as this is often the most expensive. The serve size for the home-made meal should be similar to that recommended in food-based dietary guidelines and to the size in the popular recipes. This may be slightly smaller than the takeaway meal.
      1. Maximum raw weight: 125g red meat, 150g skinless poultry, 150g fish.
   2. The cooking methods between the healthy and takeaway meals may differ, for example, deep-fried compared to roast chicken.
   3. The home-made meal should a similar weight to the takeaway meal. The different takeaway meals do not need to be the same weight.
   4. Home-made meals may have more vegetables than a takeaway meal if they are a common part of the meal. Use seasonal vegetables. Have at least 2 serves of non-starchy vegetables per person if appropriate for the type of meal (600g per meal).
   5. Use core foods with at least two of the core food groups, preferably three.
   6. Have a starch, protein and vegetable component.
   7. Use ingredients low in sodium. A small amount of unsaturated fats or oils, sauces or condiments can be added for flavour or for cooking. Do not add salt.
   8. The preparation time and equipment required for the home-made meal should be feasible for most households.
   9. Estimate the time required to prepare the meal from a range of recipes. Do not include the cooking time. If the time is not provided, prepare the meal and record the preparation time.
   10. Record all ingredients and the time.
   11. Choose the cheapest product fit for the purpose.
3. Construct a similar home-assembled meal consisting of partially prepared ingredients purchased at a store.
   1. The items will need assembling and may need cooking, unlike a ready-to-eat meal that only requires heating. Examples of ingredients are pasta, pasta sauce, stir-fry sauce, prepared vegetables (coleslaw, oven chips), grated cheese, pizza base.
   2. Match the ‘meat/fish/chicken or alternative’ component. The serve size for the home-assembled meal should be similar to that recommended in food-based dietary guidelines and to the size in the popular recipes. This may be smaller than the takeaway meal.
      1. Maximum raw weight: 125g red meat, 150g skinless poultry, 150g fish.
   3. The cooking methods between the meals may differ, for example, deep-fried compared to rotisserie chicken.
   4. Home-assembled meals should a similar weight to the takeaway and home-made meal.
   5. Home-assembled meals may have more vegetables than a takeaway meal if they are a common part of the meal. Have at least 2 serves of non-starchy vegetables per person if appropriate for the type of meal (600g per meal).
   6. Use core foods with at least two of the core food groups, preferably three.
   7. Have a starch, protein and vegetable component
   8. The ingredients should be purchased in the package size required, for example a frozen pizza base, a jar of stir-fry sauce, or scaled if only part of a package is required. For some ingredients that are common to other meals (for example, grated cheese) the whole pack may not be consumed.
   9. A small amount of unsaturated fats or oils, sauces or condiments can be added to the home-assembled meal for flavour or for cooking if not already a meal component. Do not add salt.
   10. Estimate the time required to prepare the meal from the packaging. Do not include the cooking time. If the time is not provided, prepare the meal and record the preparation time.
   11. Record all ingredients and preparation time.
4. Analyse the nutrient composition of the meals using a nutrient analysis programme. If the takeaway and pre-prepared items chosen are not in the food composition database use nutrient data supplied by the food industry or the Nutrient Information Panel. Allow for yield and loss factors of ingredients to calculate the weight of the meal.
5. The home-made meals should meet the following targets:
   1. <24g saturated fat
   2. sodium <3600mg
   3. Minimum 20g protein

## Supplemental Material 2: Recipe development using the fish and chip meal as an example

**Home-made fish and chips**

As there were many fish recipes, fish with a coating was selected to be a similar product to the takeaway meal. Nine recipes were chosen to reflect the range of coatings in recipes (breadcrumbs, egg, flour, corn chips) and to incorporate the two major cooking methods in recipes, baked or pan-fried. Five recipes were not included as they were similar to other recipes. The weight of the meal was similar to the weight of the takeaway meal of 4 pieces of fish and 2 scoops of chips before 600g non-starchy vegetables were added.

Table 1: Home-made fish and chips meal

|  |  |  |
| --- | --- | --- |
|  | **Decision** | **Rationale** |
| Potato | 800g raw (625g cooked weight) | Based on amount in recipes and fish and chips takeaway meal. |
| Fish | 500g raw fish for recipes  Fish with a coating, no batter | Amount slightly less than meal targets but sufficient on testing, similar to 472g fish from takeaways.  Takeaway fish coated. Battered fish difficult to cook at home. Chose recipes to reflect range of coatings. Ingredients not readily available. |
| Ingredients | Recipes with polenta, lemongrass not selected.  Deleted salt, sugar  Standardised to canola oil | Not required  2 tablespoons oil sufficient when tested, canola oil common. |
| Vegetables | 300g cooked broccoli  300g cooked carrot | Common vegetables usually in season.  Amount to meet vegetable meal targets. |
| Cooking recipes | Four recipes cooked by two researchers | Adjustment made to standardise time for making breadcrumbs (3 minutes) and assembling food and equipment (1 minute).  Researchers may have differed in cooking times. |

### Home-assembled fish and chips

There were six combinations of the pre-prepared components of the fish and chips meal using a combination of three frozen, crumbed fish fillets, one brand of frozen oven-fries and two types of mixed vegetables.

Table 2: Home-assembled fish and chips

|  |  |  |
| --- | --- | --- |
|  | **Decision** | **Rationale** |
| Amount of potato | 625g | Match amount in other fish and chips meals |
| Type fries | Cheapest brand for any cut of fries with no added sodium.  No flavours | Price does not differ for different cut of same brand.  Only one brand had added salt. Flavoured chips have added sodium.  All use unsaturated oils. |
| Fish type | Target: crumbed, not battered fish, variations on crumb allowed. A fillet, not fish cake or finger, sodium < 400mg per 100g | Fish fillets used in other meals.  Home-made meal uses crumbed not battered fish.  Keep meal below maximum sodium |
| Fish amount | Three brands selected:  6x71g = 426g  6x80g = 480g  4x120g = 480g | The serve size varied as it was assumed only whole portions of fillets would be served. As some boxes contained 6 fillets, the whole box was included as some members of the family may have 2 fillets. |
| Vegetables | Cheapest frozen vegetable mix.  Cheapest mix with carrot and broccoli. | To represent the cheapest.  Similar to the vegetables in the home-made version. |
| Cooking recipes | Cooked two brands of fish, one type vegetables | Same process for each type of item as only required opening packet, placing on cooking dish, turn/stir and serve. |