

# THE BRITISH HEART FOUNDATION CARDIOVASCULAR PRIZE

WHO ARE WE AND WHY THIS POSTER:

OUR PLAN: IT WILL CONSIST OF BOTH MEAL IDEAS AND MARKETABLE FOOD PRODUCTS

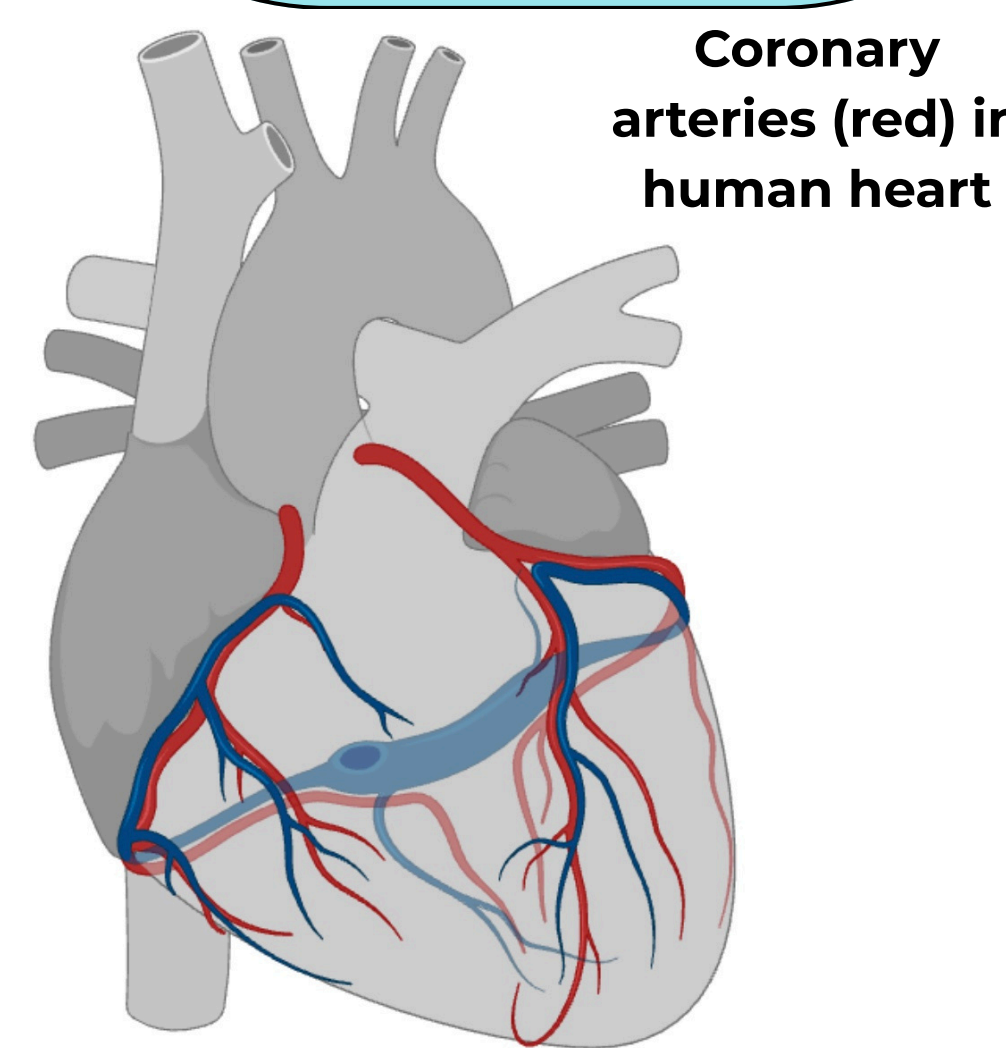


## Meet Us:

1. **Abhay Chimmalgli:** Group leader + Scientific foundations behind our plan + Meal planning and Food products
2. **Ishaan Acharya:** Clinical trial and evaluation of our plan + Creation of diagrams and graphics
3. **Agasthya Boorgula:** Marketing propositions for each category + Collaborated on clinical trial process
4. **Anishka Dattani:** Lead the creation of suitable meal plans + Collaborated on food products
5. **Varunkrishna Karthik:** Nutritional deficiencies that elevate heart disease + Collaborated on meal suggestions
6. **Sebastian Cazac:** Genetic predispositions that South Asians suffer from + Collaborated on scientific foundation behind plan

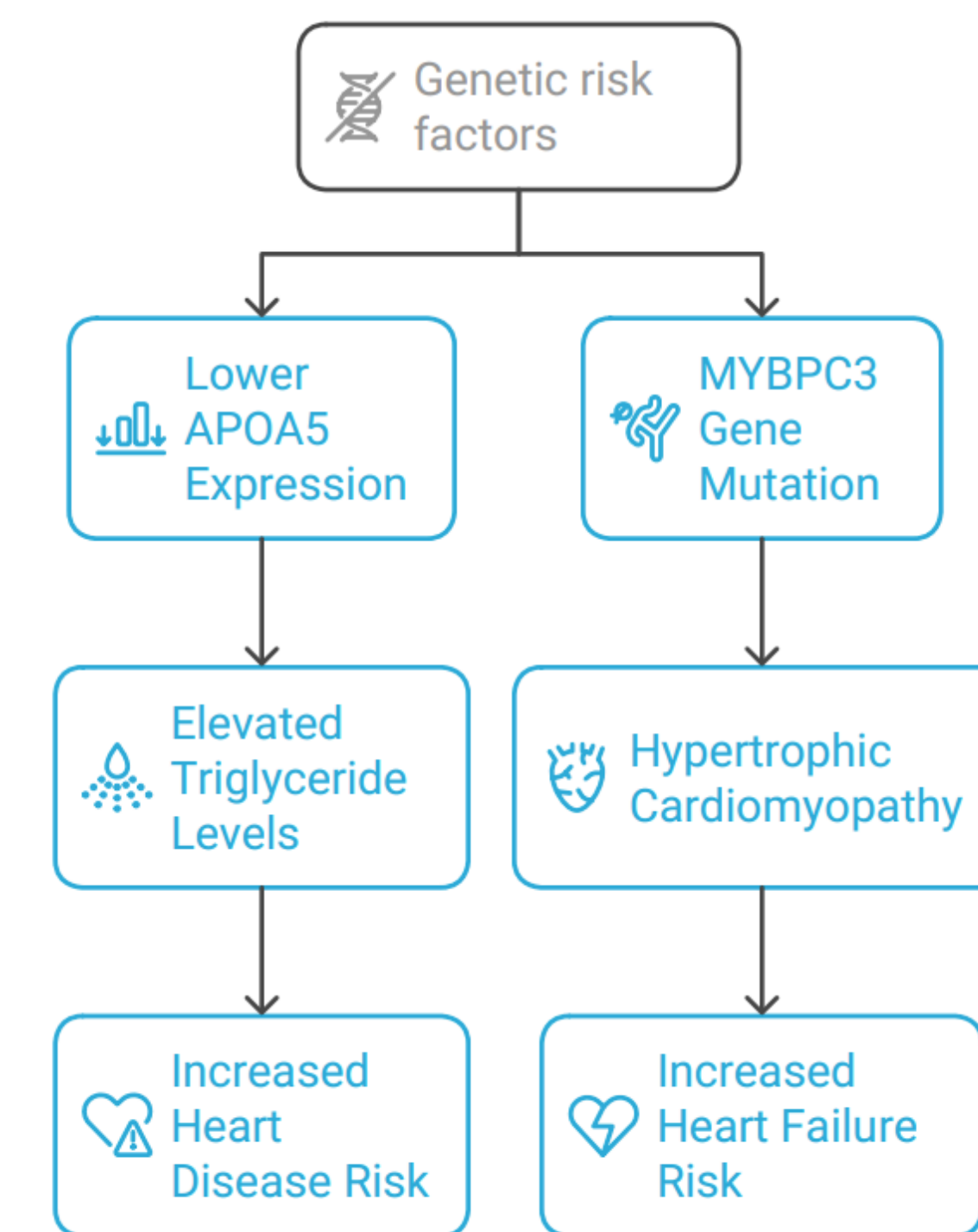
## Why this poster?

South Asians are twice as likely to develop coronary heart disease than White Europeans and they develop cardiovascular diseases, on average, 10 to 15 years earlier than other ethnic groups. So we want to tackle this problem through our nutrition based solution.

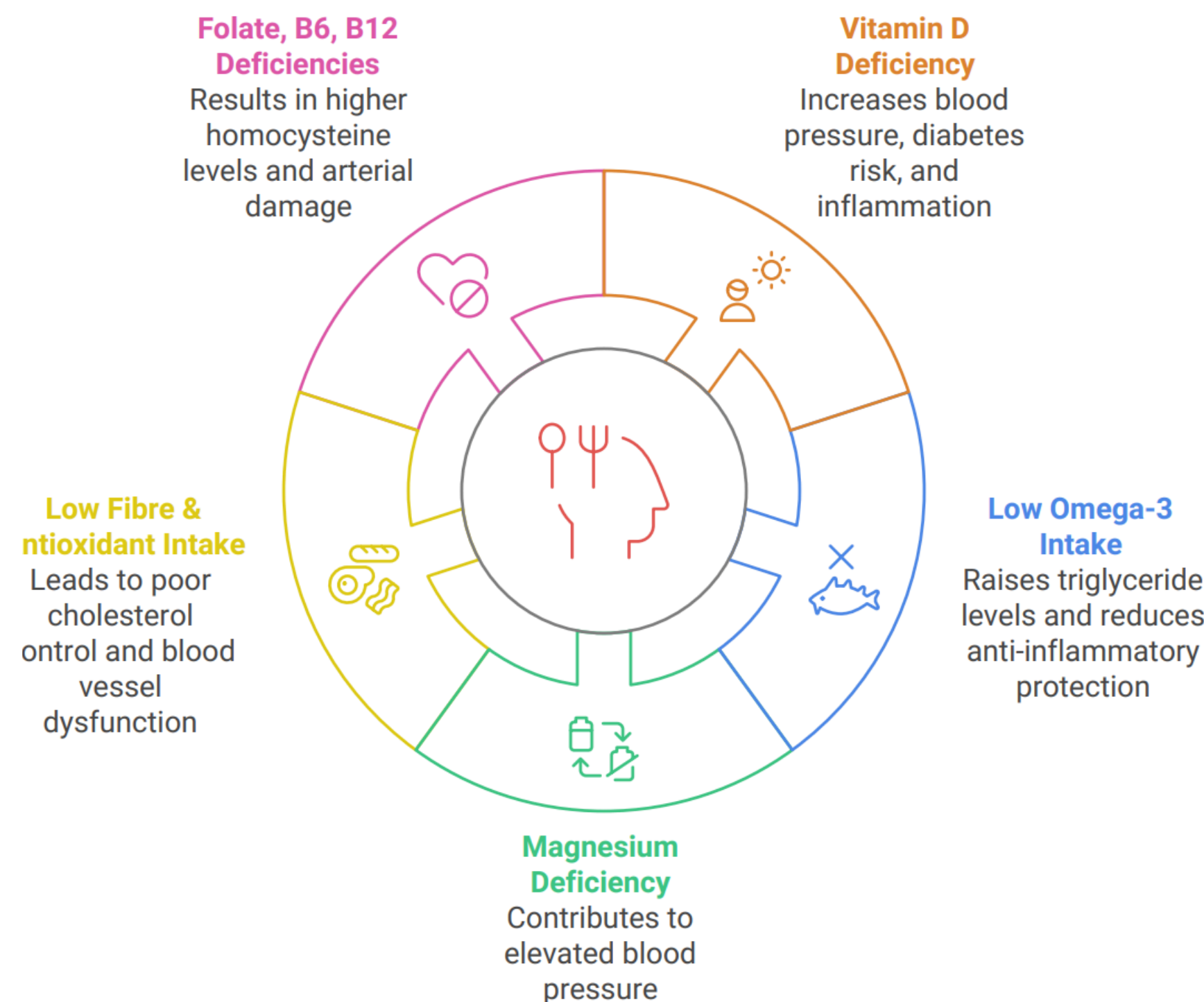


## RISK FACTORS FOR SOUTH ASIANS:

### Genetic Risk Factors for Heart Disease



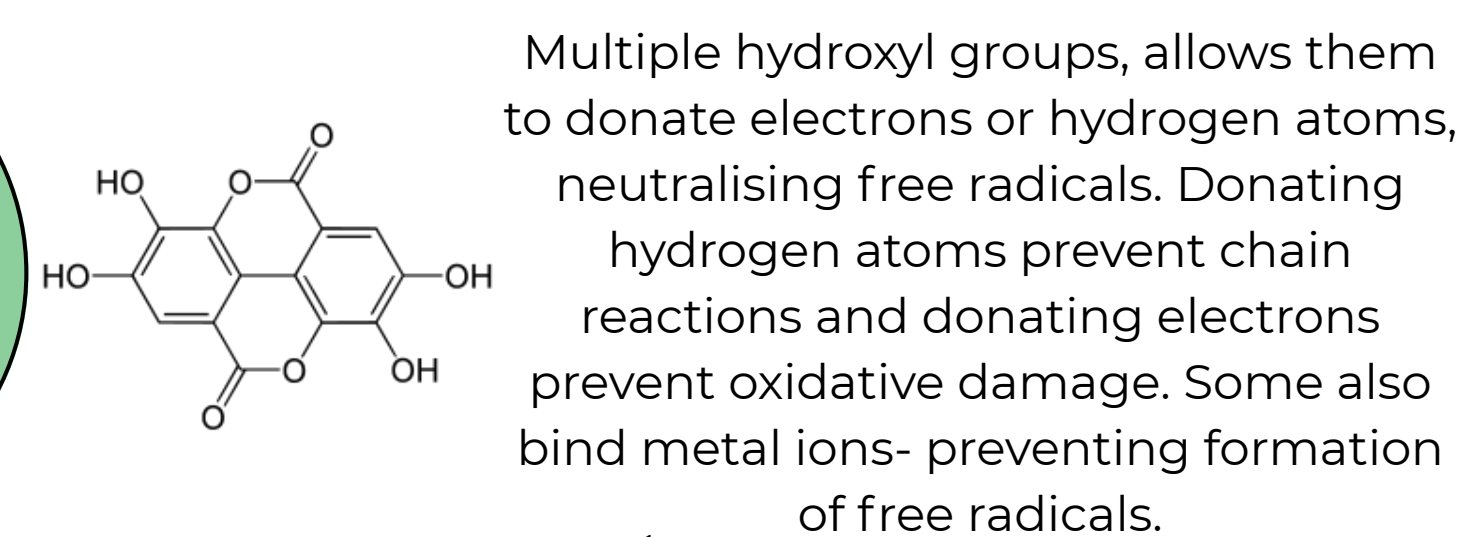
### Nutritional Deficiencies and Health Risks



## THE FOUNDATIONS FOR OUR PLAN: OUR PROPOSITION WILL BE HIGH IN...

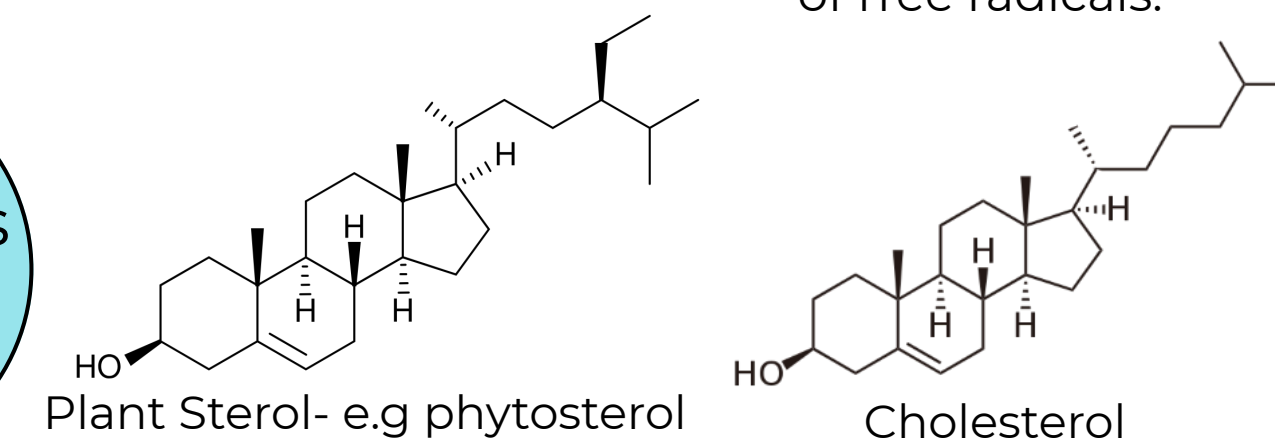
### Polyphenols

Powerful antioxidants; neutralise free radicals (which cause oxidative stress on heart tissue), reduce inflammation, improve endothelial function (blood vessel health). Lower LDL cholesterol and blood pressure.



### Plant Sterols

Similar to LDL cholesterol in structure; block LDL absorption in the gut as they are in direct competition, leading to greater excretion and lower blood levels of LDL.



### Omega-3 Fatty Acids and Allicin

Anti-inflammatory; reduce triglycerides, prevent blood clotting. High triglycerides increase heart disease risk.

### Flavonoids

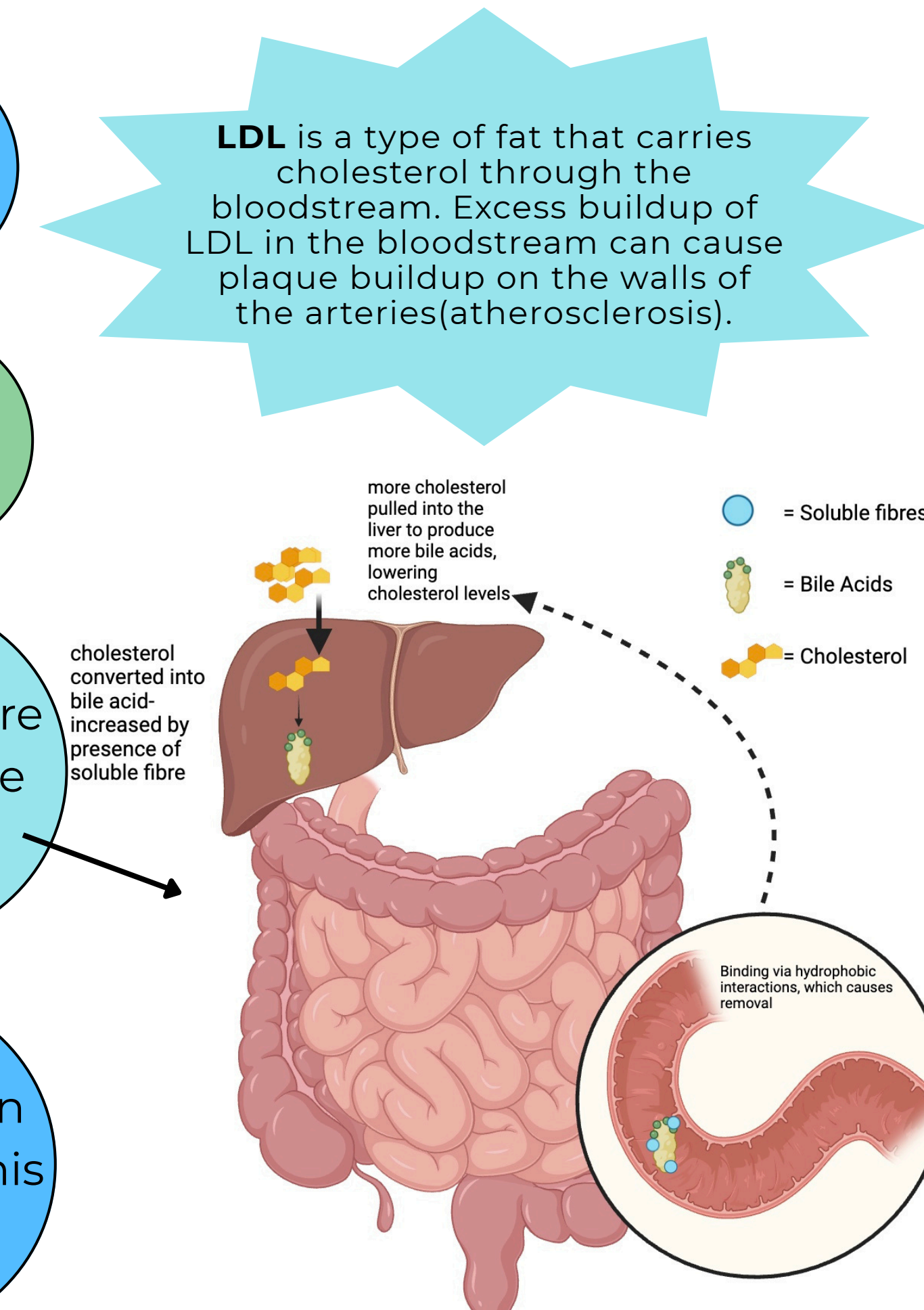
Help dilate blood vessels, reduce blood pressure, and decrease platelet stickiness, reducing clot risk.

### Soluble Fibre

The liver uses cholesterol to make bile acids for fat digestion. Soluble fibre binds and removes these acids through hydrophobic interactions, so the liver pulls more cholesterol from the blood to replace them, lowering LDL.

### Potassium

Supports healthy blood pressure by relaxing blood vessel walls and when potassium intake increases, the kidneys excrete more sodium in urine. This lowers blood sodium levels, reducing water retention and therefore lowering blood pressure



MEALS	DESCRIPTION AND BENEFITS
<b>Breakfast: Masala Oats with Flax Seeds &amp; Garlic</b>	A warm, spiced porridge combining oats, flax seeds, garlic, and colourful vegetables. <ul style="list-style-type: none"><li>• Oats provide soluble fibre (<math>\beta</math>-glucan) to lower LDL cholesterol.</li><li>• Flax seeds offer omega-3s to reduce inflammation and triglycerides.</li><li>• Garlic delivers allicin, which lowers blood pressure and acts as a natural blood thinner.</li><li>• Vegetables and spices add antioxidants and support healthy circulation.</li></ul>
<b>Breakfast: Chickpea Chilla with Coriander and Onions</b>	A protein-rich savoury pancake made with chickpea flour, onions, and spices. <ul style="list-style-type: none"><li>• Chickpeas provide plant sterols that reduce cholesterol absorption.</li><li>• Coriander delivers polyphenols to combat oxidative stress.</li><li>• Onions are rich in flavonoids that improve blood flow and lower blood pressure.</li></ul>
<b>Breakfast: Vegetable Upma with Methi &amp; Turmeric</b>	A South Indian semolina dish packed with methi and spices. <ul style="list-style-type: none"><li>• Methi provides soluble fibre to lower LDL and improve blood sugar control.</li><li>• Turmeric offers curcumin, a powerful anti-inflammatory that protects blood vessels.</li></ul>
<b>Breakfast: Flax Seed and Berry Smoothie (with oats)</b>	A refreshing blend of berries, flax seeds, and oats in milk. <ul style="list-style-type: none"><li>• Berries provide polyphenols (anthocyanins) that reduce arterial inflammation.</li><li>• Flax seeds add omega-3s to lower lipids and fight inflammation.</li><li>• Oats offer soluble fibre that helps remove cholesterol.</li></ul>
<b>Lunch: Brown Rice with Okra and Garlic Tadka Dal</b>	A fibre-rich South Asian meal with lentils, okra, and garlic. <ul style="list-style-type: none"><li>• Okra &amp; dal: 3-5g soluble fibre to lower LDL cholesterol.</li><li>• Garlic (3g): Provides allicin, shown to reduce blood pressure and act as a natural blood thinner.</li><li>• Brown rice: Low glycemic index; helps maintain stable blood sugar and reduce cardiovascular risk.</li><li>• Mustard seeds &amp; turmeric: Anti-inflammatory polyphenols that support endothelial function.</li></ul>
<b>Lunch: Chana Masala with Turmeric and Onions, served with Barley Roti</b>	A hearty South Asian meal rich in fibre and bioactive compounds. <ul style="list-style-type: none"><li>• Chickpeas (70g): ~70mg plant sterols to block cholesterol absorption.</li><li>• Turmeric (1g): Curcumin lowers CRP and other inflammatory markers.</li><li>• Onions (30g): Source of quercetin, a flavonoid that supports vasodilation and lowers blood pressure.</li><li>• Barley roti (50g): Adds 3-4g soluble fibre to reduce LDL cholesterol.</li></ul>
<b>Lunch: Mackerel Curry in Mustard Oil with Steamed Vegetables</b>	A coastal-style curry featuring omega-3-rich mackerel in mustard oil, paired with steamed seasonal vegetables. <ul style="list-style-type: none"><li>• Mackerel (100g): ~1.5-2 g of omega-3s help reduce triglycerides and arterial inflammation.</li><li>• Mustard oil (10g): Provides ALA omega-3s and supports healthier cholesterol profiles.</li><li>• Garlic, turmeric, and ginger: Offer anti-inflammatory and blood pressure-lowering effects.</li><li>• Vegetables: Add fibre and antioxidants for improved vascular health.</li></ul>
<b>Dinner: Moong Dal and Spinach Curry with Garlic and Turmeric</b>	A protein-rich dosa combining green moong dal and oats, paired with a tangy onion chutney. <ul style="list-style-type: none"><li>• Oats: Provide 2-3g of soluble fibre to lower LDL by binding cholesterol in the gut.</li><li>• Onions: Supply flavonoids that promote vasodilation and reduce clot formation.</li><li>• Moong dal: High in plant protein and low in fat, supporting heart-friendly nutrition.</li></ul>
<b>Dinner: Barley and Vegetable Pulao with Coriander and Onions</b>	A wholesome one-pot dish with barley, vegetables, and aromatic spices. <ul style="list-style-type: none"><li>• Barley: Delivers 3-4 g of soluble fibre to reduce LDL cholesterol.</li><li>• Coriander: Rich in polyphenols that protect blood vessels from oxidative stress.</li><li>• Onions: Provide flavonoids that enhance circulation and help lower blood pressure.</li></ul>
<b>Dinner: Sesame-Crusted Paneer with Stir-Fried Okra and Methi</b>	A heart-healthy dish of golden sesame-crusted paneer paired with fibre-rich okra and methi. <ul style="list-style-type: none"><li>• Sesame seeds: Supply ~50 mg of plant sterols to reduce cholesterol absorption.</li><li>• Okra &amp; methi: Offer ~3 g soluble fibre, promoting LDL removal and blood sugar control.</li><li>• Paneer: Adds protein while the fibre and sterols support lipid and metabolic balance.</li></ul>

## Food products



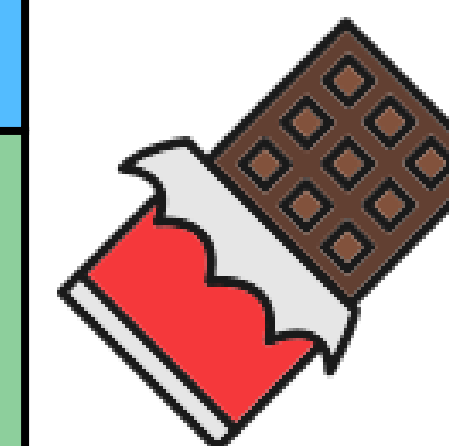
### Spiced Tea Bags

- Ingredients: Dried turmeric, black tea leaves, green tea, coriander seeds, ginger, and freeze-dried garlic extract (for allicin)
- High in polyphenols, antioxidants, and vasodilators



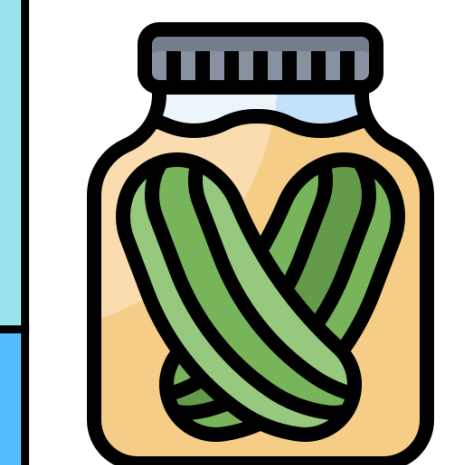
### Plant Sterol Enriched Yogurt

- Yogurt with added plant sterols from soy and sunflower- berry and citrus flavour
- Reduce LDL cholesterol absorption



### Dark Chocolate Squares

- Ingredients: 80% dark chocolate, walnuts, berry extract. Contains flavonoids, omega-3s, polyphenols
- Improves endothelial function, reduces platelet aggregation



### Pickle – Rich in Antioxidants

- Fermented mixed veg pickle
- Ingredients: Amla (Indian gooseberry), blackberries, turmeric, mustard oil. Contains high levels of polyphenols, flavonoids, omega-3



### Garlic Shot Sachets

- Powdered sachets to mix with water
- Ingredients: Freeze-dried garlic powder (allicin), lemon powder (vitamin C), honey granules, turmeric and cayenne extract (vasodilator)
- Allicin lowers blood pressure and LDL, lemon enhances antioxidant action

## PUBLIC MARKETING STRATEGIES AND EVALUATION

### Ages 30-50:

We will use digital engagement through social media, to promote and educate users about the nutritional benefits, especially of our food products. Furthermore, we will aim to promote our products on creditable fitness apps such as Fitbit to increase the national awareness of our nutritional solutions.

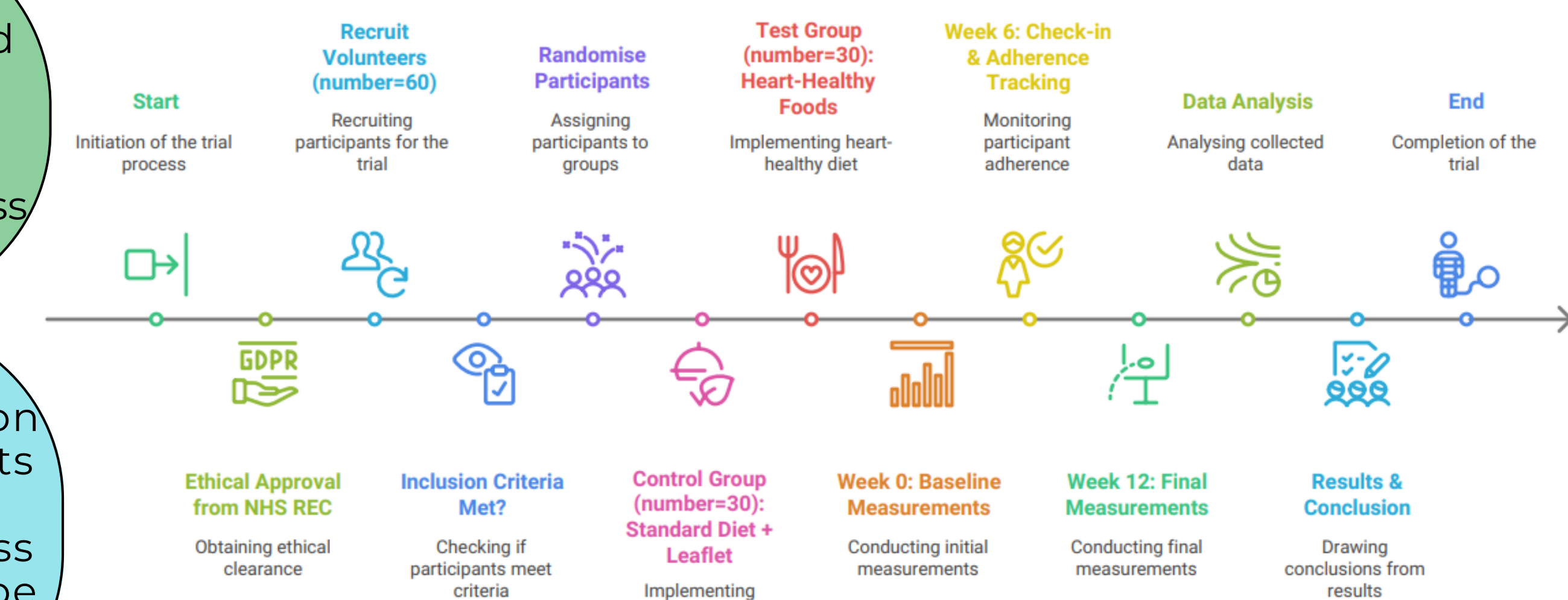
### Ages 50-70

We will use a trust building approach in marketing our proposition to this age group through free samples, first time buyer discounts and a money back guarantee, to drive customer acquisition. Moreover, we would aim to partner with nutritionists and wellness magazines who would show how following our approach would be an efficient way at combatting cardiovascular health issues by showing data from clinical trials.

### Ages 70+

We aim to provide a simple yet effective way of conveying key nutritional information through the use of information leaflets which will be frequently provided to care homes. We would also manufacture recipe boxes, so users can familiarise themselves with our recipes and ingredients as we feel a clear sequence of steps and conveying essential nutritional information is the best way to promote our product.

### Trial Process



### How will we evaluate the success of our trial?

We will primarily track key health markers such as cholesterol, blood pressure, blood sugar, and waist circumference before and after the intervention of the participants. Dietary changes will be monitored using food intake surveys, focusing on the integration of our products like garlic shots, spiced tea bags and yogurt into their lifestyle. Physical activity will be assessed through questionnaires, while consumer satisfaction will be gathered via feedback on taste, convenience and effectiveness. Additionally, sales data and small scale community trials will help validate the impact and real world adoption of the plan.