

# **Unhealthy Food**

## **The Biggest Cause of Death**

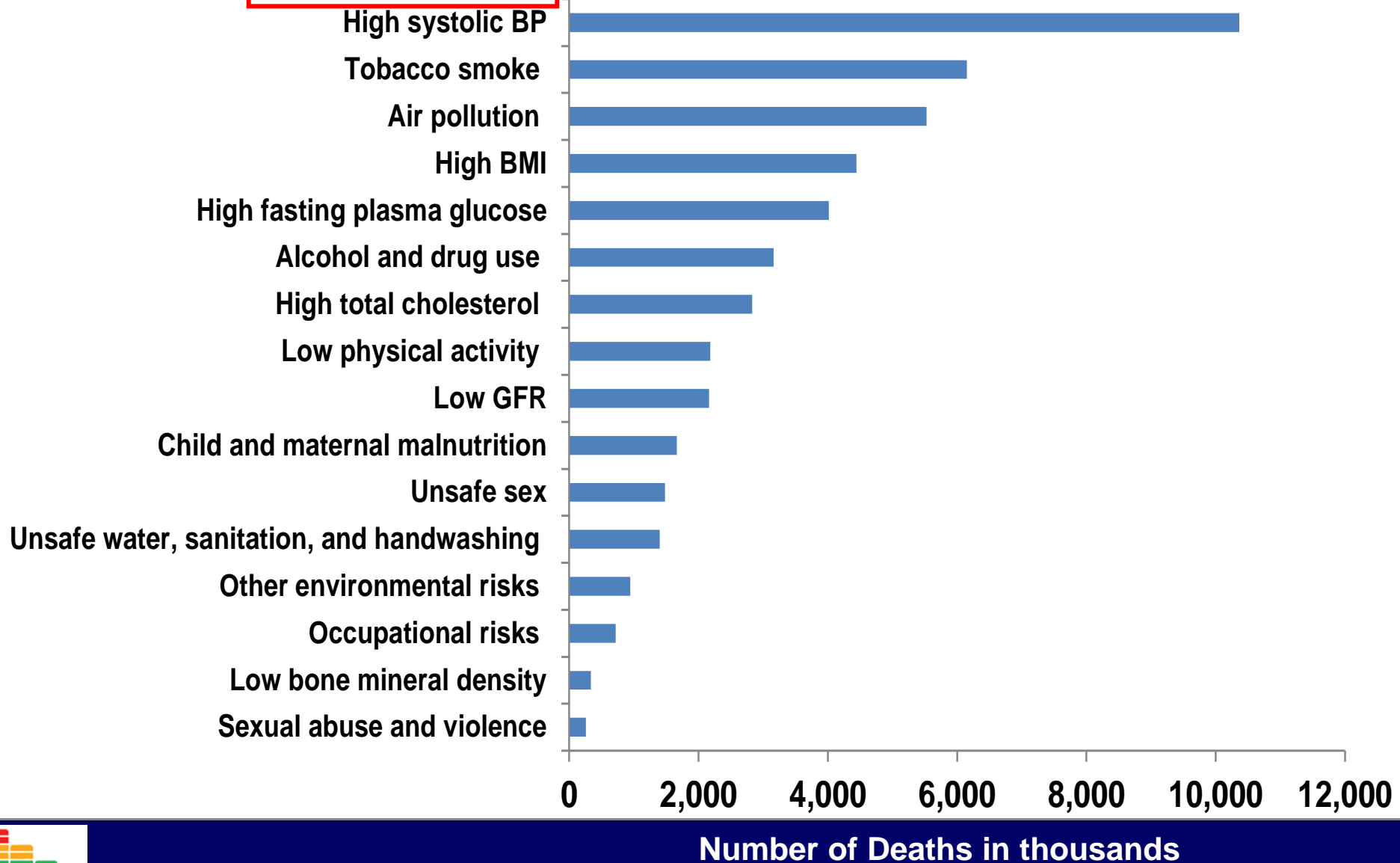
### **in Australia & UK**

**Graham MacGregor**  
**Professor of Cardiovascular Medicine**

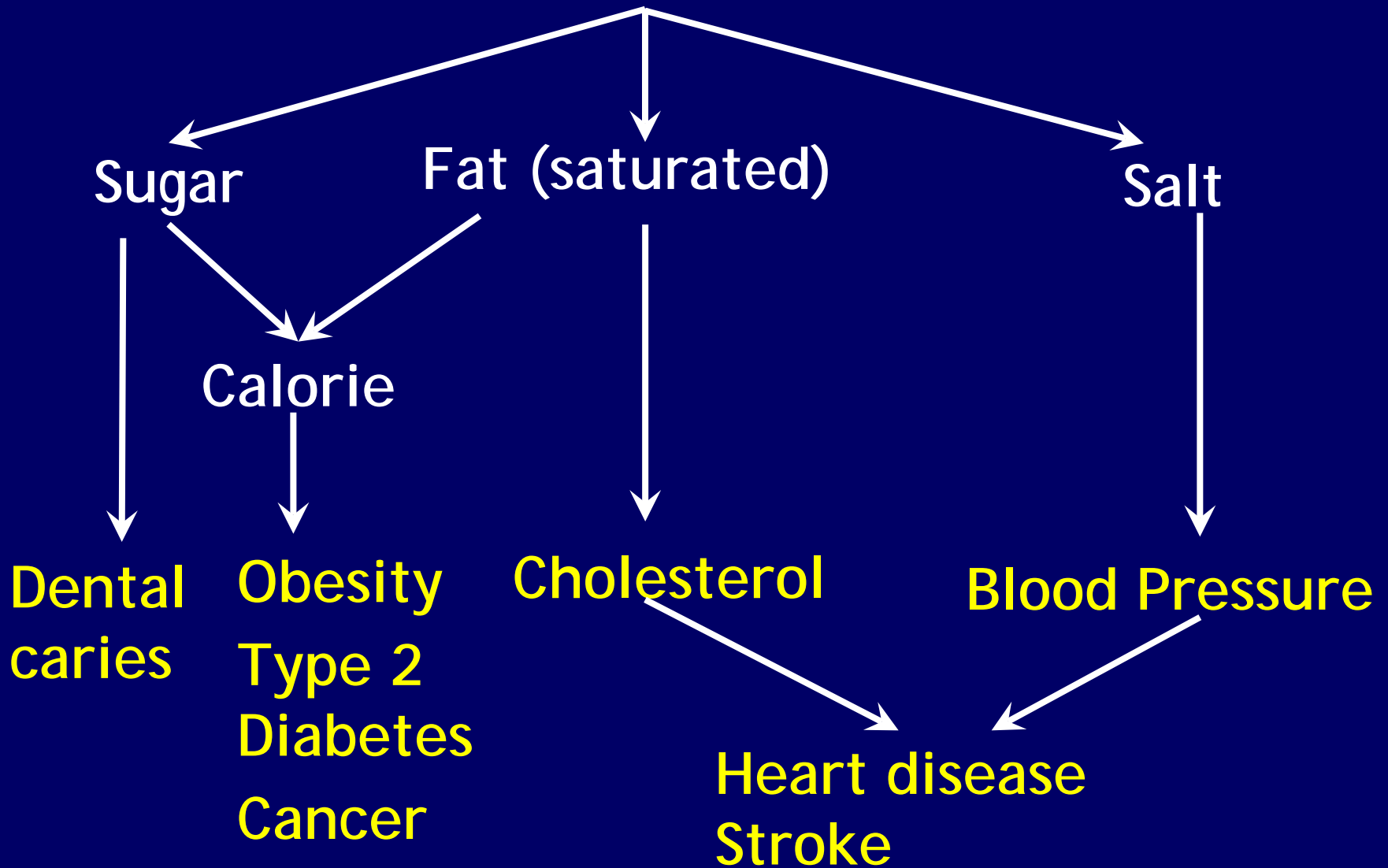
**Wolfson Institute of Preventive Medicine,  
Barts and The London School of Medicine & Dentistry,  
Queen Mary University of London, UK**

# Major Underlying Factors Causing Death - Worldwide

**Unhealthy diet**

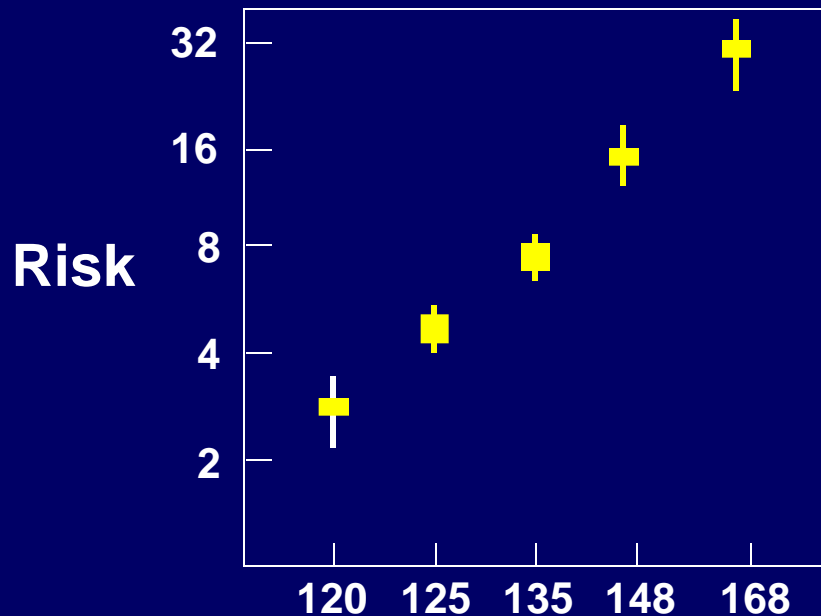


# Processed foods and soft drinks

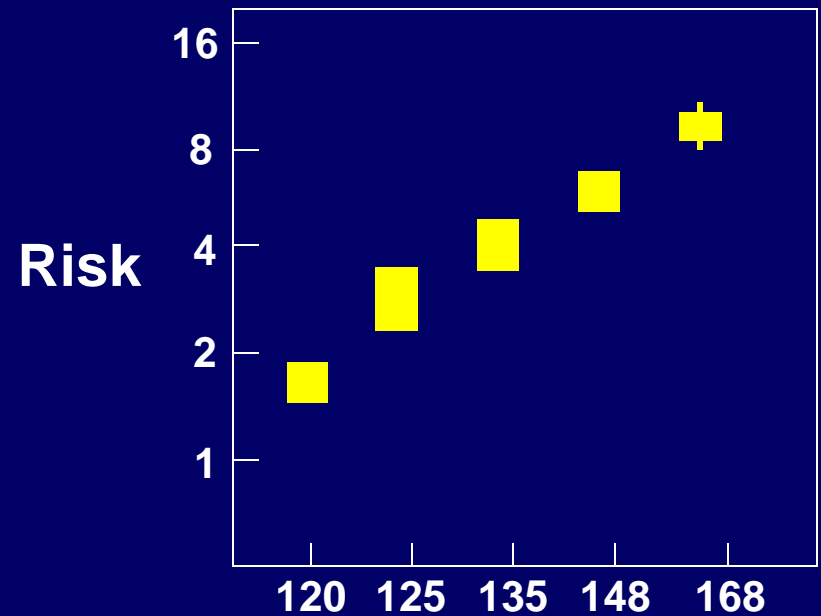


# Systolic BP and Risk of Death

## Stroke Deaths



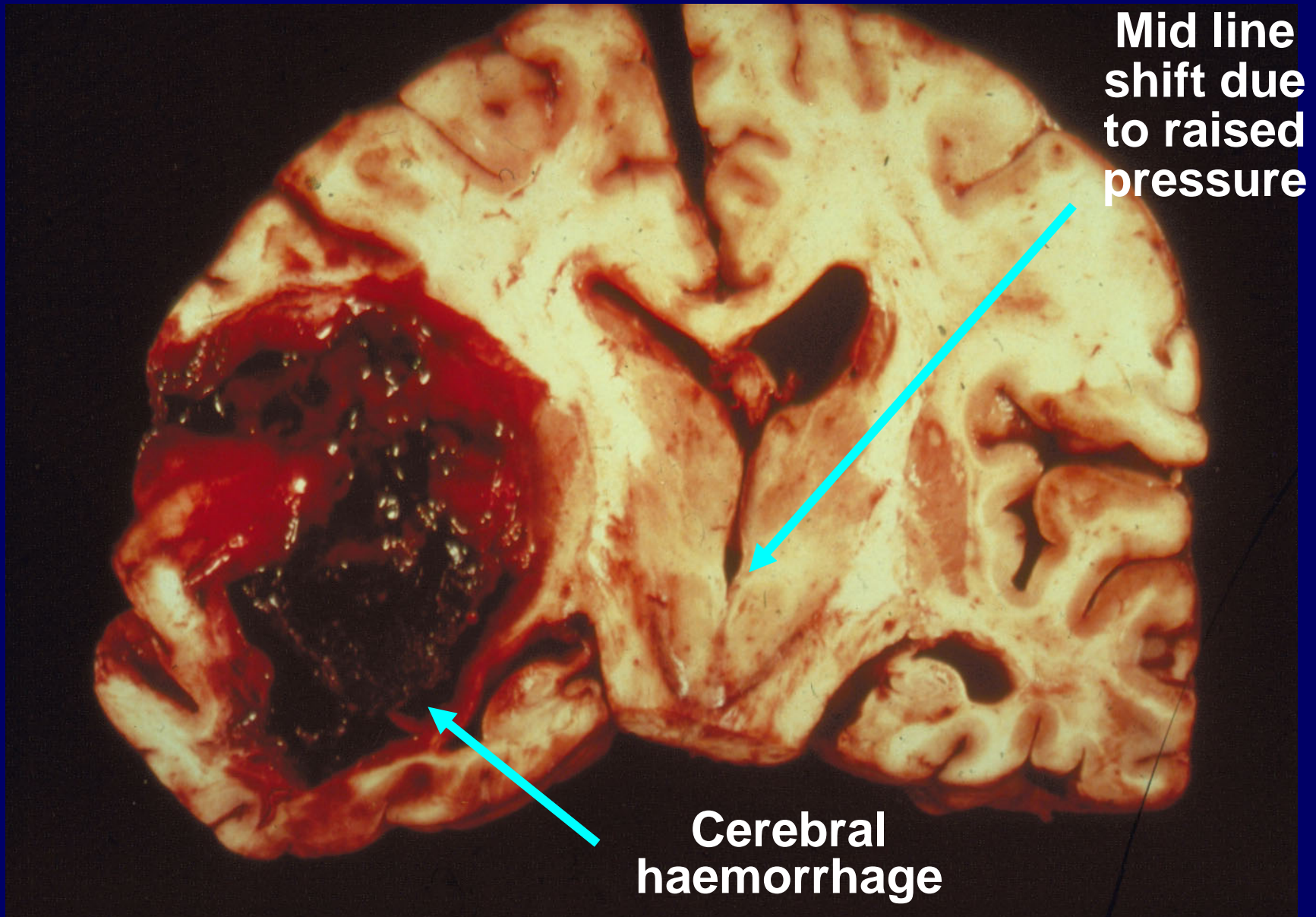
## Heart Deaths



Systolic Blood Pressure (mmHg)

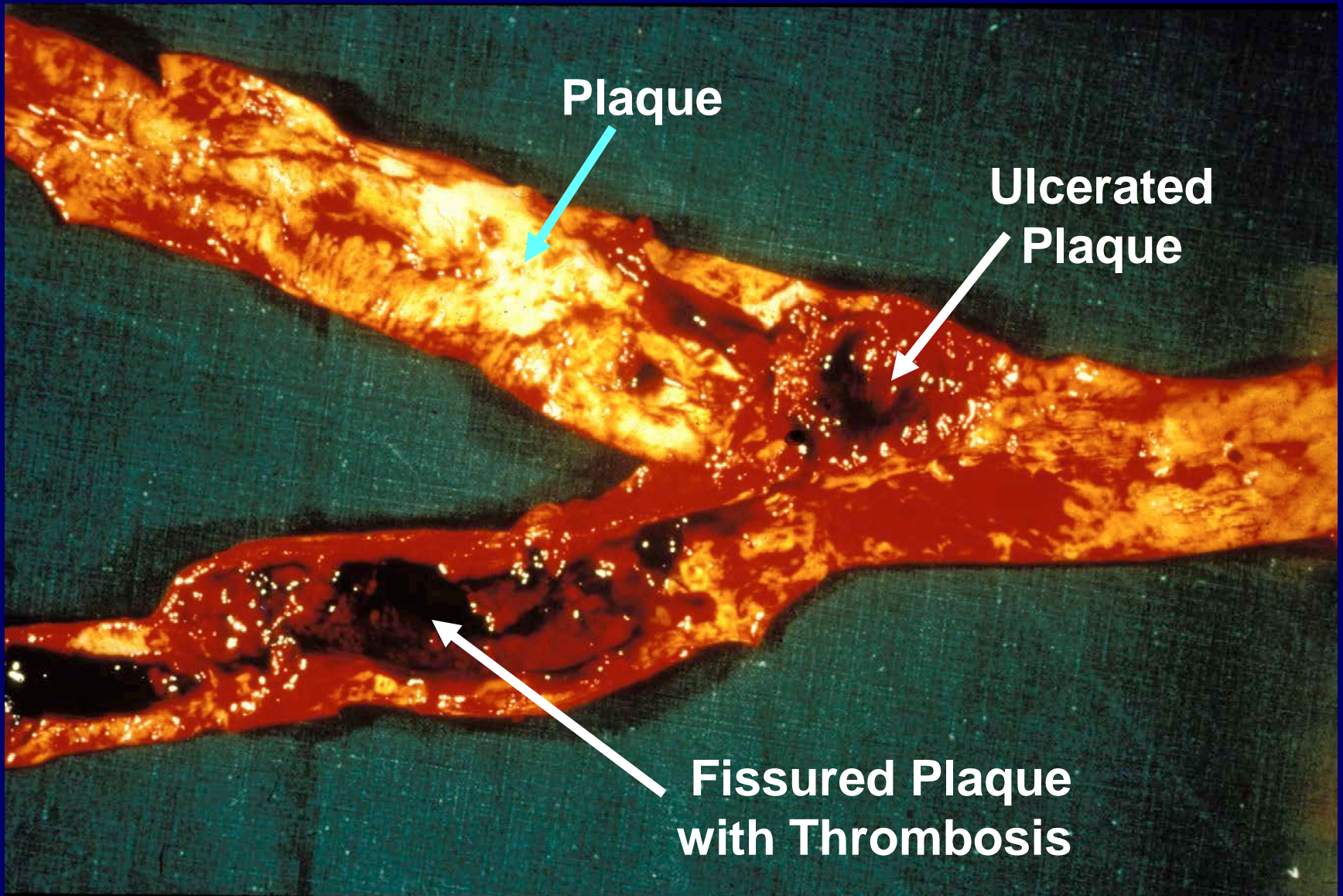
**The risk starts at systolic 115 mmHg (83% adults)**

# Brain (cross section)





# Atheroma in carotid artery



# What puts up BP?

- **Salt intake**
- **Potassium (lack of fruit and Veg)**
- **Weight**
- **Lack of Exercise**
- **Alcohol excess (transient)**

# Salt

## Current intake (9–15 g/d)

- ↑ Population BP, rise in BP with age, hypertension
- Other effects e.g. stomach cancer, stroke, LVH, kidney disease, osteoporosis etc

∴ ↓ Salt from 9–15 to 5 g/d

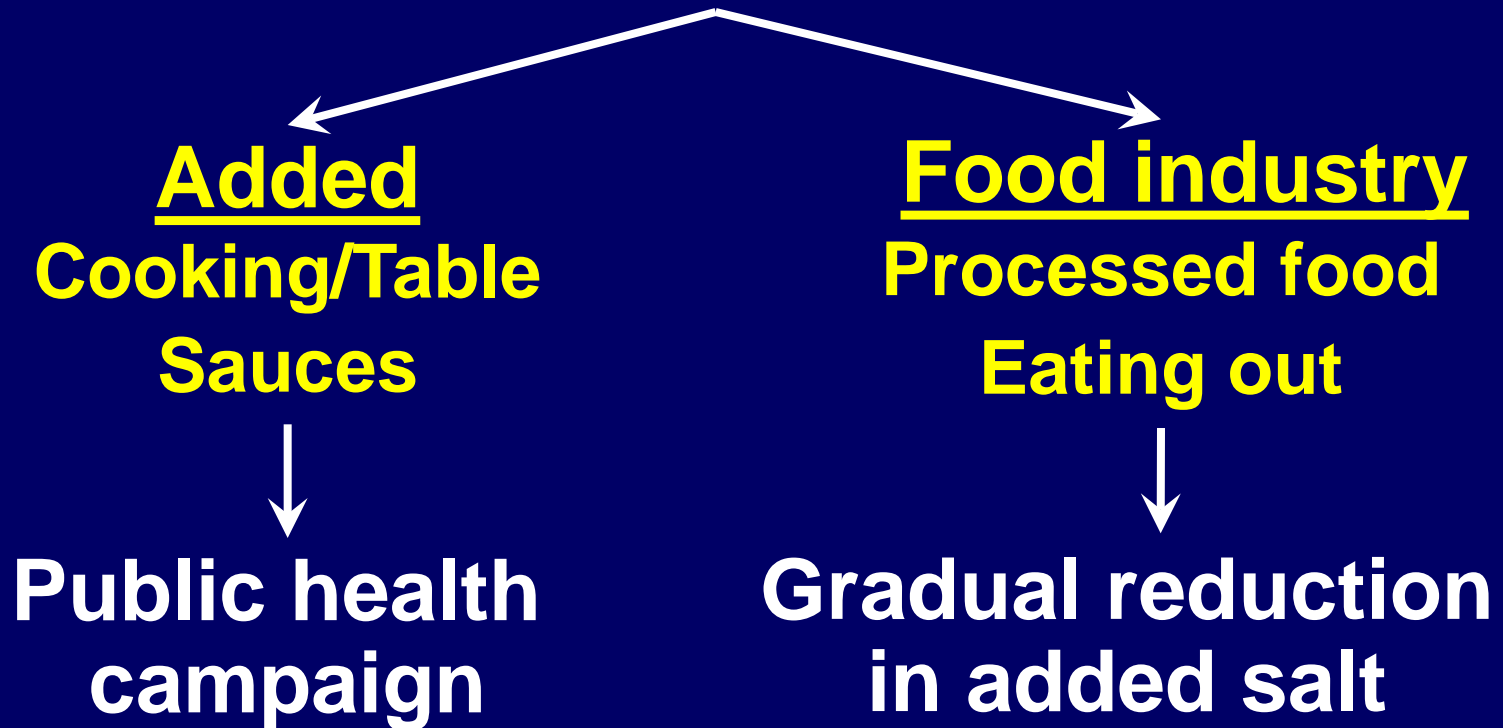
## How ?



# How to ↓ Salt Intake

Measure amount (24h UNa)

Sources of salt (dietary method)



# Salt added by Industry

- Incremental reformulation of all foods (**Most effective**)
- Labelling + public education (**Not effective**)
- Specific lower salt foods (**Not effective**)
- Avoid processed foods and eating out (**Not practical**)
- Tax on salt

# **Reducing salt intake - who is responsible?**

- **Public**
- **Government**
- **Food industry**

**Developed countries 60-80% salt passive**

**∴ Food industry is responsible & must take it out**



# HIDDEN SALT KILLING 40,000 A YEAR

HIGH levels of salt added to everyday By Victoria Fletcher Health Editor

## The hidden salt that could ruin your child's life

By Sean Poulter  
Consumer Affairs Editor

CHILDREN are being put at risk of suffering high blood pressure and strokes in later life by the hidden salt content of many popular foods.

Some brands of baked beans, sausages, breaded chicken and noodles have been labelled potential health hazards.

Some desserts also contain alarmingly high levels of salt.

Certain products contain virtually the entire daily limit for salt for a six-year-old in a single serving, according to research published today by campaign group Consumers Action on Salt and Health.

The Department of Health recommends an upper limit of 3g of salt per day for a child aged seven to ten, 3g for those aged four to six and just 2g for those aged one to three.

A portion of Morrisons Southern Fried chicken - one drumstick and one thigh - contains 2.8g of salt, 60 per cent of the maximum amount for a six-year-old for an entire day, as does half a can of the supermarket's own label baked beans.

Three Marks & Spencer potato



### HOW A SINGLE MEAL CAN SMASH THE DAILY LIMIT

Product name	Average portion size	Salt per portion	Percentage of daily 3g limit for child aged 4-6
Batchelors Super Noodles To Go	1 pot made up with water	4.05g	135%
Morrisons Southern Fried Chicken Portions	217g (1 drumstick and 1 thigh)	2.8g	93%
Morrisons Baked Beans in tomato sauce	Half a can (210g)	2.8g	93%
Tesco Thick Pork Sausages	2 sausages (grilled)	2.0g	67%
Marks & Spencer Potato Croquettes	3	1.0g	33%
Somerfield Spaghetti in tomato sauce	Half a can (205g)	1.9g	63%
Kraft Dairyfree Lunchables Ham 'n' Cheese Crackers	101.9g	1.8g	60%
Chicago Town Triple Cheese Individual small pizza	170g	1.8g	60%
Golden Vale Attack A Snack Ham	100g	1.77g	59%
Tesco quarterpounder beefburgers	1 burger	1.4g	47%
Morrisons salt and vinegar flavoured sticks	30g	1.3g	43%
Sainsbury's pork sausage rolls	1	1.2g	40%
Kingsmill Great Everyday Thick White Bread	2 slices	1.06g	35%
Sweet foods			
Butterkist 'The Simpsons' Honey Nut Popcorn	100g	1.25g	42%
Asda Boly Poly Pudding (fresh)	114g (1 pudding)	1.1g	36%
Tesco Banana Flavour Delight	Half pack	1.0g	33%
Heinz Treacle Sponge Pudding (tinned)	Quarter of tin	0.8g	27%
Kellogg's Rice Krispies	30g serving	0.65g	22%
Tesco and Sainsbury's Blueberry Muffin	1 muffin	0.6g	20%

# Scientists prove that salty diet costs lives

► 15-year study shows link to heart disease

► Calls grow louder for nationwide campaign

Nigel Hawkes Health Editor

Eating less salt reduces the chances of suffering a heart attack or stroke, the first long-term study of salt's impact on health confirms today.

The findings, from a 15-year study, offer the clearest evidence yet that cutting salt consumption saves lives by reducing the risks of cardiovascular disease. People who ate less salty food were found to have a 25 per cent lower risk of cardiac arrest or stroke, and a 20 per cent lower risk of premature death. The results, published in the *British Medical Journal*, underline the need for population-wide salt reductions in the diet, the scientists conclude.

Despite campaigns to reduce salt

## Salty bread 'risking 7,000 lives'

HIGH levels of salt in supermarket bread are putting up to 7,000 lives a year at risk, claims a damning study by health campaigners.

Bread is the largest source of salt in the UK diet and excessive consumption can lead to increased blood pressure and a

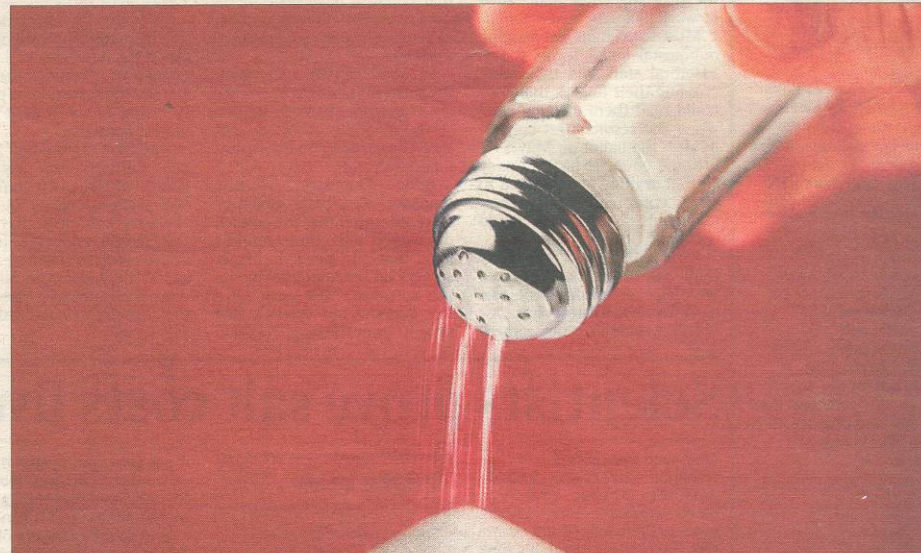
By Sean Poulter  
Consumer Affairs Correspondent

salt levels above the Government's target of 1.1g per 100g. The highest level was in Morrison's The Best Farmhouse Malted Bread, which had 1.5g per 100g or 0.7g per slice.

total of 15 out of 18 Warburton products had a salt content higher than the Government's target, but all the Sainsbury's and Waitrose breads surveyed were below.

Professor Graham MacGregor, chairman of Cash and an expert on cardiovascular medi-

O'Connor, said: 'The BHF would like all breads to contain as little salt as possible. People who are at risk of heart disease caused by high blood pressure need to be able to quickly and accurately choose lower salt options when shopping.' The charity is calling for the industry to adopt the health



## Salt gives 4-year-olds high blood pressure

By Sean Poulter  
Consumer Affairs Editor

CHILDREN as young as four are suffering from raised blood pressure because they are eating too many salty processed foods, researchers say.

Campaigners claim this puts youngsters at increased risk of hypertension in later life - potentially leading to heart disease, strokes and an early death.

The study, by St George's University Hospital in London, drew a direct correlation between the level of salt in the diet of children aged between four and 18 and higher blood pressure.

The findings will heap pressure on the manufacturers of children's snacks and ready meals to reduce the salt levels in their

recipes. A single packet of instant noodles can contain more than the recommended daily maximum salt intake for a child aged four to six. A pack of salt and vinegar crisps is likely to have more than a quarter of a child's salt quota.

The study looked at the salt intake of more than 1,600 children and teenagers over a seven-day period and then measured their blood pressure.

The authors, writing in *The Journal of Human Hypertension* today, found that for each extra gram of salt eaten there was a

related 0.4mmHg increase in systolic blood pressure. This is a small but significant increase, according to health campaigners.

Government experts recommend that children aged four to six should not be eating more than 3g of salt a day, while the figure for youngsters aged seven to ten is 5g. However, many children are thought to be regularly consuming 9-10g of salt a day, which is up to three times the recommended maximum.

Nutritionist Jo Butten said: 'It may be difficult for parents to tell their children they can't have crisps every day, or that they need to eat a different breakfast cereal, but surely it's a small price to pay to reduce their risk of a heart attack or stroke when they are older.'



## Jamie Oliver feels the heat over salt levels in meatballs



Rosemary Bennett Social Affairs Correspondent  
Published at 12:01AM, March 11 2013

Jamie Oliver: he has  
disputed the findings



# Strategy for Reducing Salt

Source	Salt intake g/day	Reduction needed	Target intake g/day
Table/Cooking (15%)	1.5 g	50% reduction	0.75 g
Natural (5%)	0.5 g	No reduction	0.5 g
Food industry (80%)	8.0 g	53% reduction	3.75 g
Total 10 g			Target 5 g

∴ The food industry & government need to slowly reduce salt content of all foods by over 50% by setting incremental target

# Reformulation of unhealthy food

e.g. processed, fast, takeaway, restaurant food

**Food industry slowly reduce salt, sugar & fat**  
**- No rejection by public**

**Fantastic for Public Health**

**Very little  
cost**

**↓ BP, obesity  
& cholesterol**

**No need to  
change diet**

# **Incremental reformulation (Example from UK)**

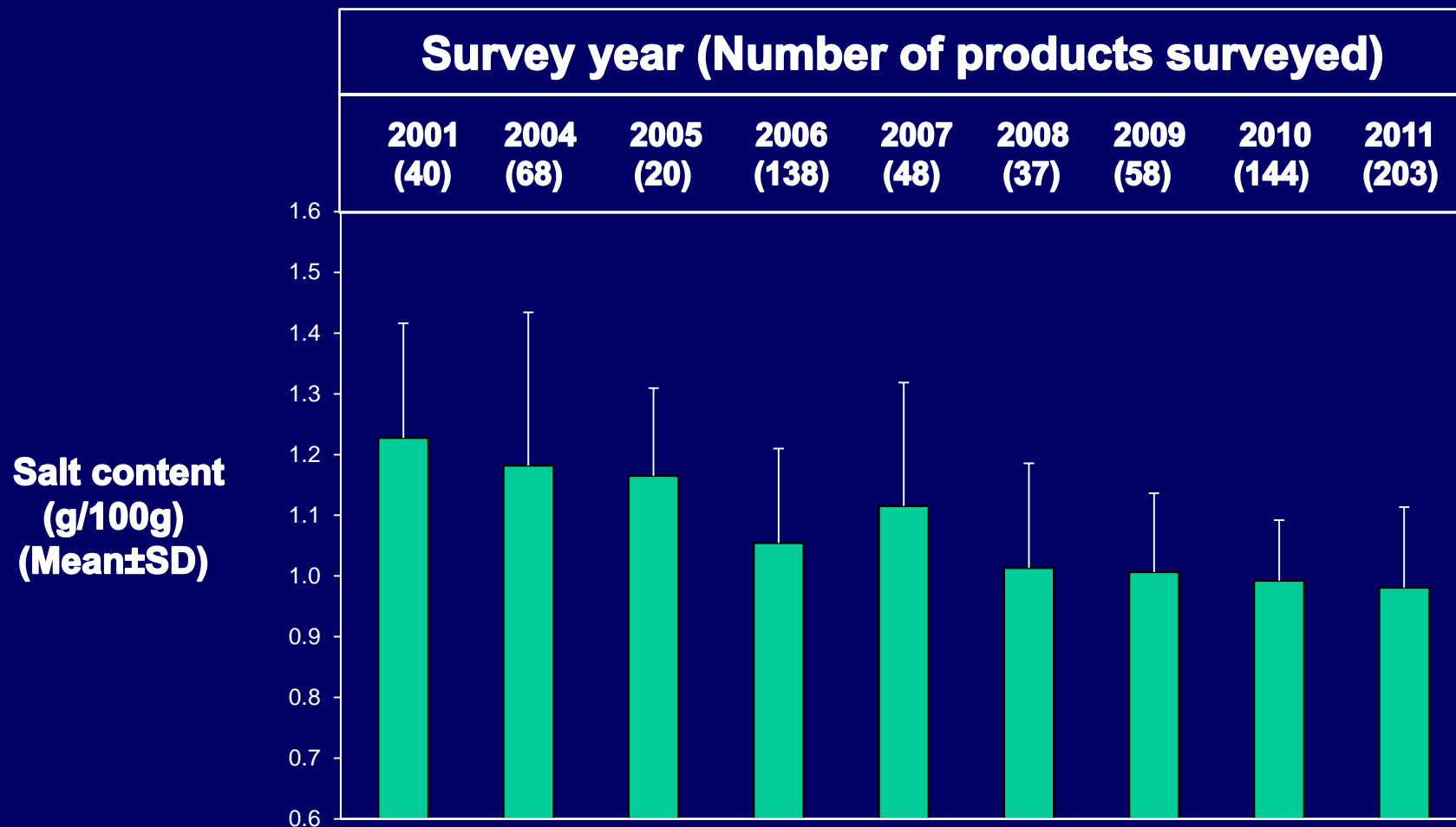
- **Progressive salt reduction targets have been set, i.e. 2005, 2008, 2014 for over 80 categories of food**
- **Gradual reduction, 10-20% a year. No rejection by public, i.e. progressive gradual reformulation**

# Incremental salt targets (UK) re-set every 2-3 years

Main Product Category	FSA	FSA	DoH
	2010 Targets (g salt or mg sodium per 100g)	2012 Targets (g salt or mg sodium per 100g)	2017 Targets (g salt or mg sodium per 100g)
Bread	1.1g salt or 440mg sodium (average)	1.0g salt or 400mg sodium (average)	0.9g salt or 360mg sodium (average)
			1.13g salt or 450mg sodium (maximum)

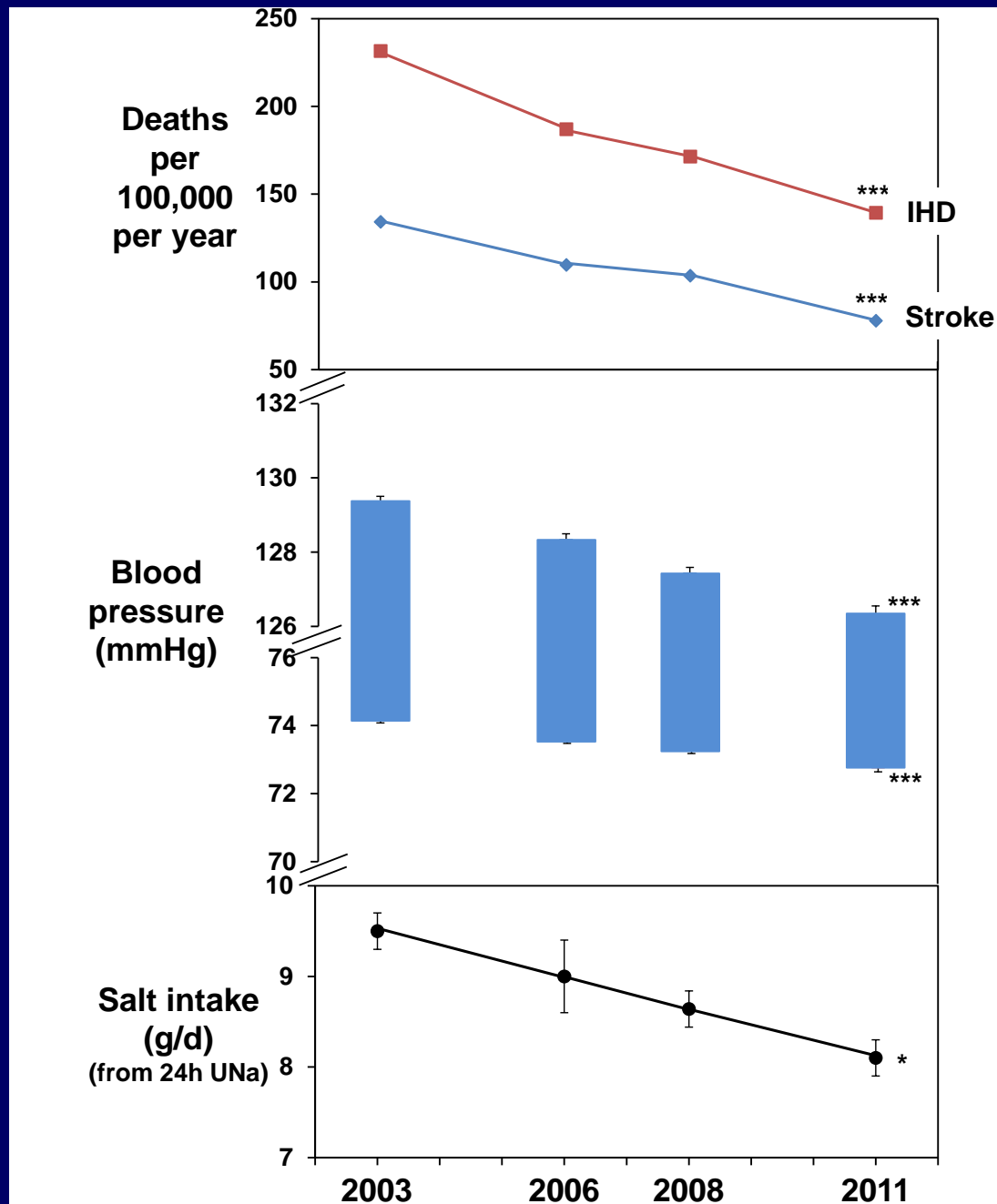
**A level playing field - all companies work to the same target**

# Change in salt content in UK bread from 2001 to 2011





# Changes in Salt Intake, BP and CVD Mortality in England 2003 - 2011



\*  $P < 0.05$   
\*\*\*  $P < 0.001$

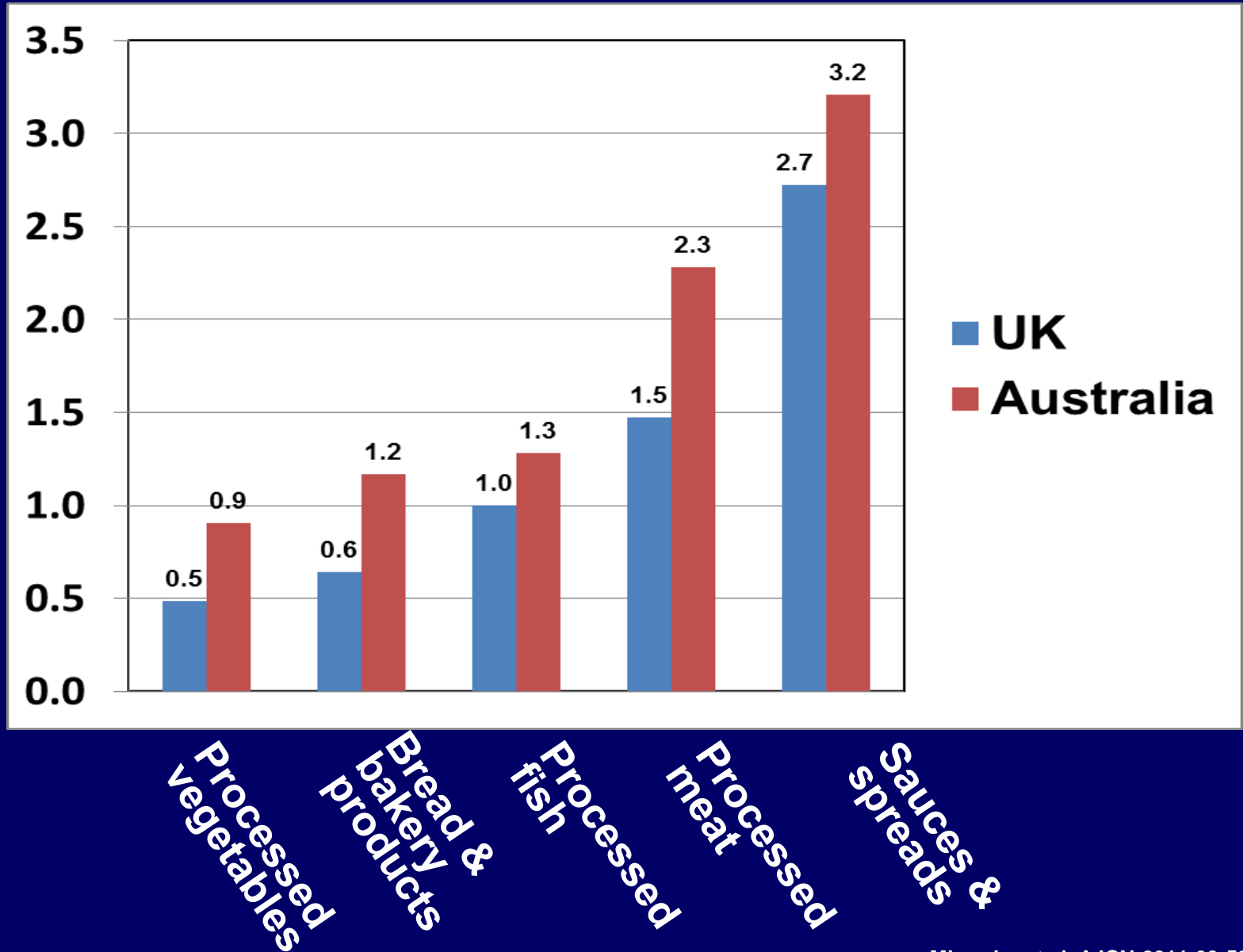
# **Cost-effective Analysis UK (NICE)**

**Cost of salt campaign  $\approx$  £5 million per year**

**Healthcare savings  $\approx$  £1.5 billion per year**

# Australia vs UK

**Salt**  
(g/100g)



# Added Sugar Similar to Salt

- **Pure, white**
- **Makes inedible food palatable**
- **Only recently part of human diet**
- **Sensitivity of taste receptor depends on intake**
- **Hidden**

# Sugar- Impact on health

- **The only cause of dental decay (caries)**
- **Major source of hidden calories**
- **Leads to obesity & diabetes**





# *Why are we getting so fat?*



A Big Mac, large \_\_\_\_\_ 11 bananas or 18 oranges  
chips and coca cola \_\_\_\_\_ or half a marathon

# Food/soft drink industry

Calorie-dense  
Cheap  
Profitable

Transient  
satiation/  
fullness

“Brilliant” marketing  
Any time  
Everywhere

**Eat more**

**Calorie intake ↑**

**Obesity/type 2 diabetes ↑**

# Portion size increase over time

1954  
Burger King



2.8 oz  
202 calories

2004



4.3 oz  
310 calories

1900  
Hershey's



2 oz  
297 calories



7 oz  
1,000 calories

1916  
Coca-Cola



6.5 fluid oz  
79 calories



16 fluid oz  
194 calories

1955  
McDonald's



2.4 oz  
210 calories



7 oz  
610 calories

1950s  
Movie popcorn



3 cups  
174 calories



21 cups (buttered)  
1,700 calories

# What can we do?

- Tax - High salt, sugar, fat foods
- Subsidise healthy food, e.g. fruit & veg
- Ban unhealthy food advertising
- Restrict availability
- Reduce portion size
- Reformulation

# What is practical?

- Big food – very powerful
- Biggest industry & employer
- Strong ties to & influence on government
- Similar to tobacco (took 50 yrs)



# Hidden Sugar (tsp)



Starbucks caramel Frappuccino with whipped cream and skimmed milk (Tall)



Mars Bar (51g)



Cadbury Hot Drinking Chocolate with semi-skimmed milk (200ml)



Sharwood's Sweet & Sour Chicken with Rice (375g)



Yeo Valley Family Farm 0% Fat Vanilla Yogurt (150g)



Coca-Cola Original (330ml)



Heinz Classic Tomato Soup (300g)



Kellogg's Frosties with semi-skimmed milk (30g)



# Incremental sugar targets like salt

- Sugar-sweetened soft drinks **immediately**
- Foods with added sugar (NB: No replacement.  
Solid foods ↓portion size)
- Incremental targets, i.e. 10% reduction per year  
(50% reduction within 5 yrs)
- Reduce artificial sweeteners, i.e. ↓sweetness

**This will → ↓calorie intake by 100 Kcal per day**

# For sugar reduction to work (like salt)

1. Must provide level playing field
2. Slow & unobtrusive reformulation so no rejection by public. Taste receptor adjusts.
3. Mandatory policy with strong enforcement & clear & transparent monitoring programme
4. Continuous media exposure





# “Cameron’s obesity plan”

## 5 essential actions from Action on Sugar

### 1. Incremental reduction\*

Sugar (free) 50% ↓  
Fat (Sat) 20% ↓

→ in 5 yrs

### 2. Only healthy foods to be promoted and/or advertised\*

### 3. 20% sugar duty — soft drinks ✓ & confectionery

### 4. All public sector food must meet strict guidelines\*

### 5. Uniform colour-coded labelling\*

\*Enforced by independent nutrition agency eg FSA

# Summary

**Reduction in calorie intake per person per day**

**Sugar      100 Kcal**

**Fat          100 Kcal**

**Other      50-100 Kcal**  
(↓marketing, portion size, tax, etc)

**Total      ≈250 Kcal**

**This will prevent obesity & type II diabetes**

# Conclusion

- **↓ Salt – very cost-effective in preventing CVD**
- **Australia needs a comprehensive and effective strategy to ↓ salt & sugar**
- **Many thousands of strokes & heart disease will be prevented**



# World Action on Salt & Health

[www.worldactionsalt.com](http://www.worldactionsalt.com)

[wash@qmul.ac.uk](mailto:wash@qmul.ac.uk)

@washsalt



# Consensus Action on Salt & Health

[www.actiononsalt.org.uk/](http://www.actiononsalt.org.uk/)

[cash@qmul.ac.uk](mailto:cash@qmul.ac.uk)

@cashsalt

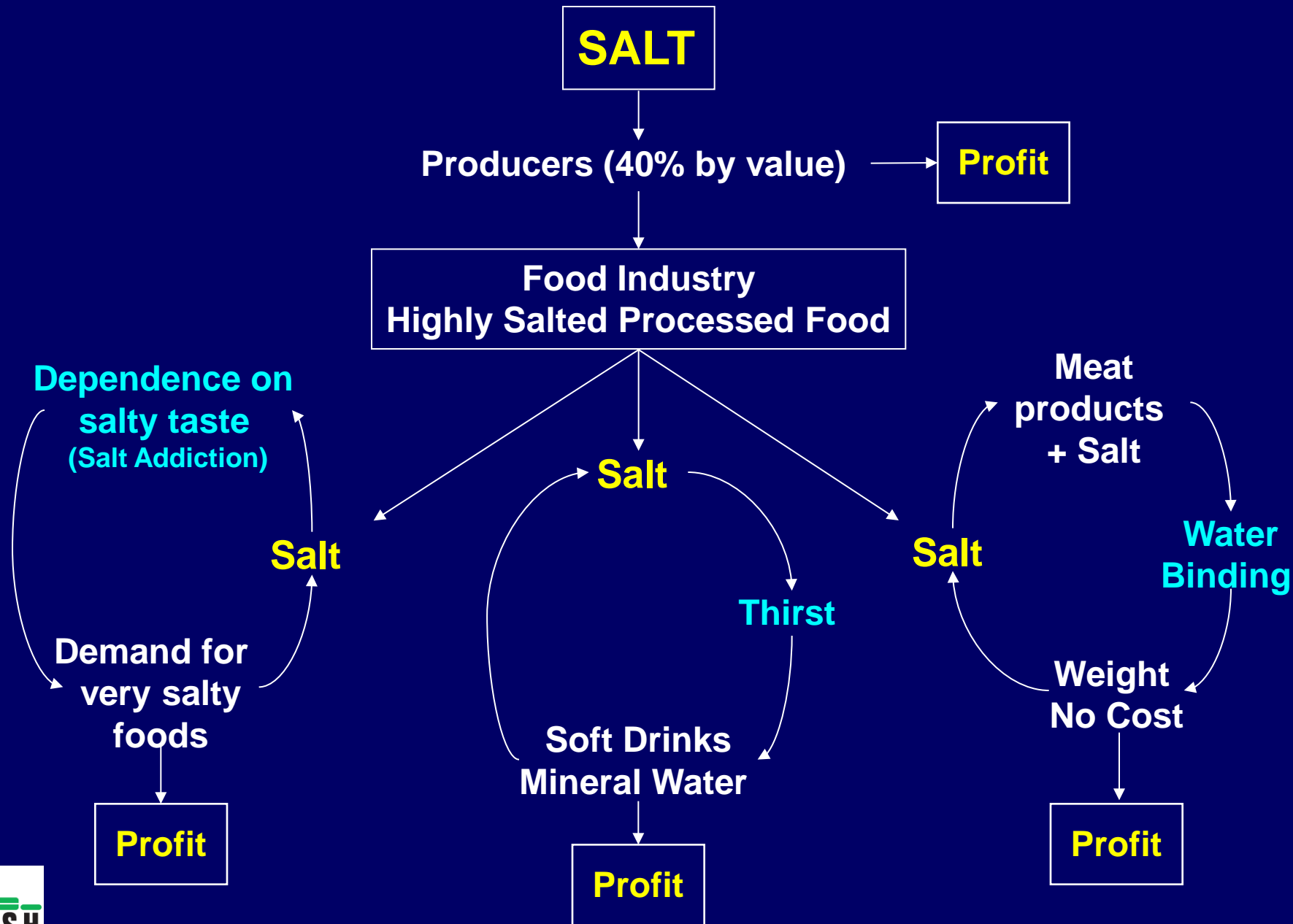


# Perceived Barriers

1. Taste
2. Food technology
3. Safety
4. Commercial



# Hidden Salt – Its Commercial Value





# Why was it successful?

## **a. FSA (2000-2010 Food Standards Agency)**

1. Independent scientific board, not subject to political/food industry pressure
2. Transparent effective monitoring

## **b. CASH (1996- )**

Forceful scientific advocacy

# **DoH (2010-2015 Department of Health)**

## **‘Responsibility Deal’**

- 1. Subject to political and food industry pressure**
- 2. Industry responsible to themselves! (Mad)**
- 3. No effective monitoring**
- 4. No transparency**
- 5. Most companies refused to sign up**

# **FSA v DoH**

- 1. FSA - voluntary policy worked, but slow and constant reinforcement by CASH**
- 2. Responsibility Deal, no level playing field. Did not work. Rejected by industry, closed**
- 3. The body representing supermarket (BRC) has called for targets to be regulated**
- 4. Cameron in his obesity plan will include sugar, fat and salt reformulation**

## Voluntary

Quicker

Continuous media  
pressure

Acceptable to  
government

Big reduction - difficult

## Regulation/legislation

Slower

No need for media  
pressure

Party in power may  
change

Big reduction - possible

**Food industry needs “level playing field”**

# How to sustain salt reduction

- Independent agency with government support
- Mandated/regulated targets
- Independent expertise in food technology
- Persistency (bloody mindedness) with powerful NGO