



## Glance on preliminary nutritional data ORISCAV- LUX Survey

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LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de la Santé

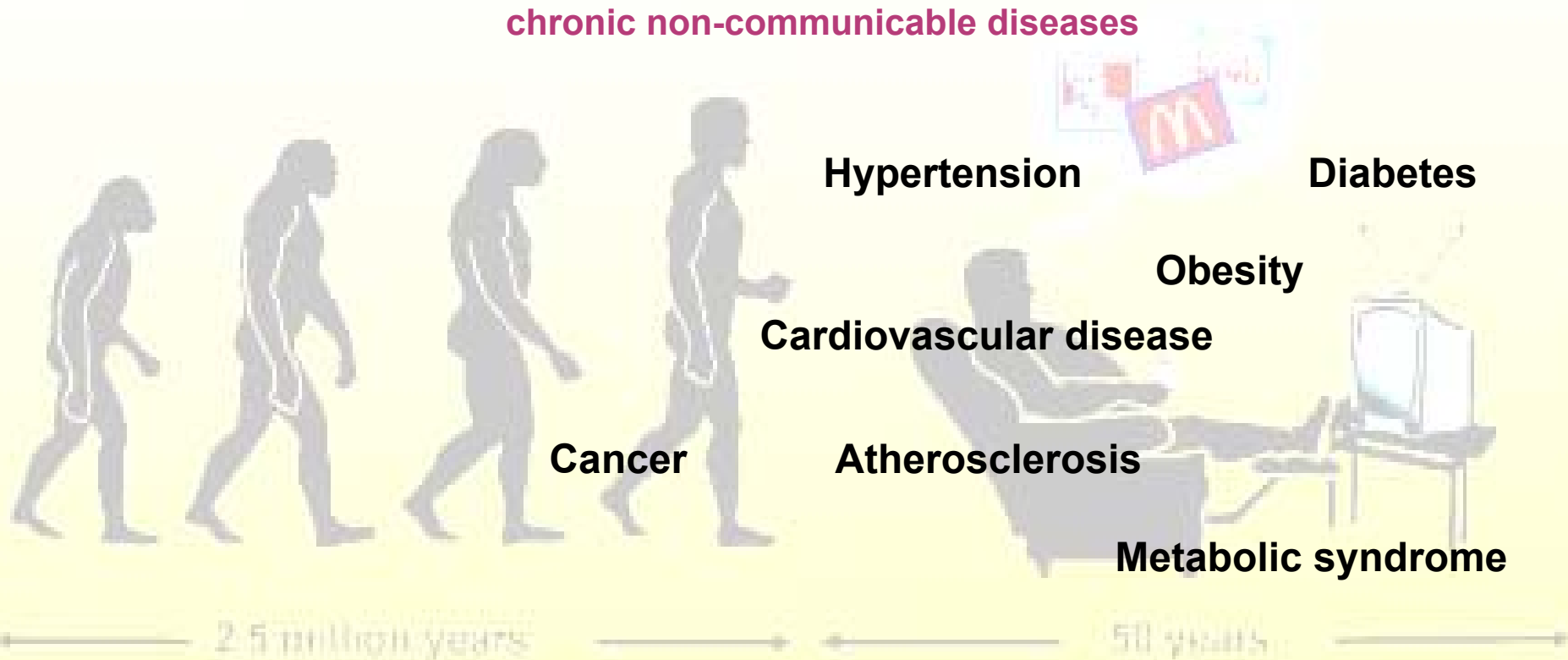


Université  
de Liège



LE GOUVERNEMENT  
DU GRAND-DUCHÉ DE LUXEMBOURG  
Ministère de la Culture, de l'Enseignement  
supérieur et de la Recherche

Evidence suggests that our modern **diet** and **lifestyle** are playing a substantial role in the ongoing epidemics of **chronic non-communicable diseases**



# Heavy burden

## Worldwide

- ✓ Chronic diseases account for **60%** of deaths worldwide (**35 million**), almost half of this deaths related to CVD

WHO Health report 2005

## Europe

- ✓ Each year CVD causes over **4.35** million deaths in Europe, nearly half of all deaths in Europe (**49%**)

European Cardiovascular Disease Statistics 2005

## Luxembourg

- ✓ CVD constitute the first leading cause of death: **1 478** deaths in 2006, **39.8%** of all causes

National mortality statistics 2006

## National Health Program to promote Healthy Alimentation and Physical Activity 2006-2012



**First cross-sectional, population-based, periodic survey**

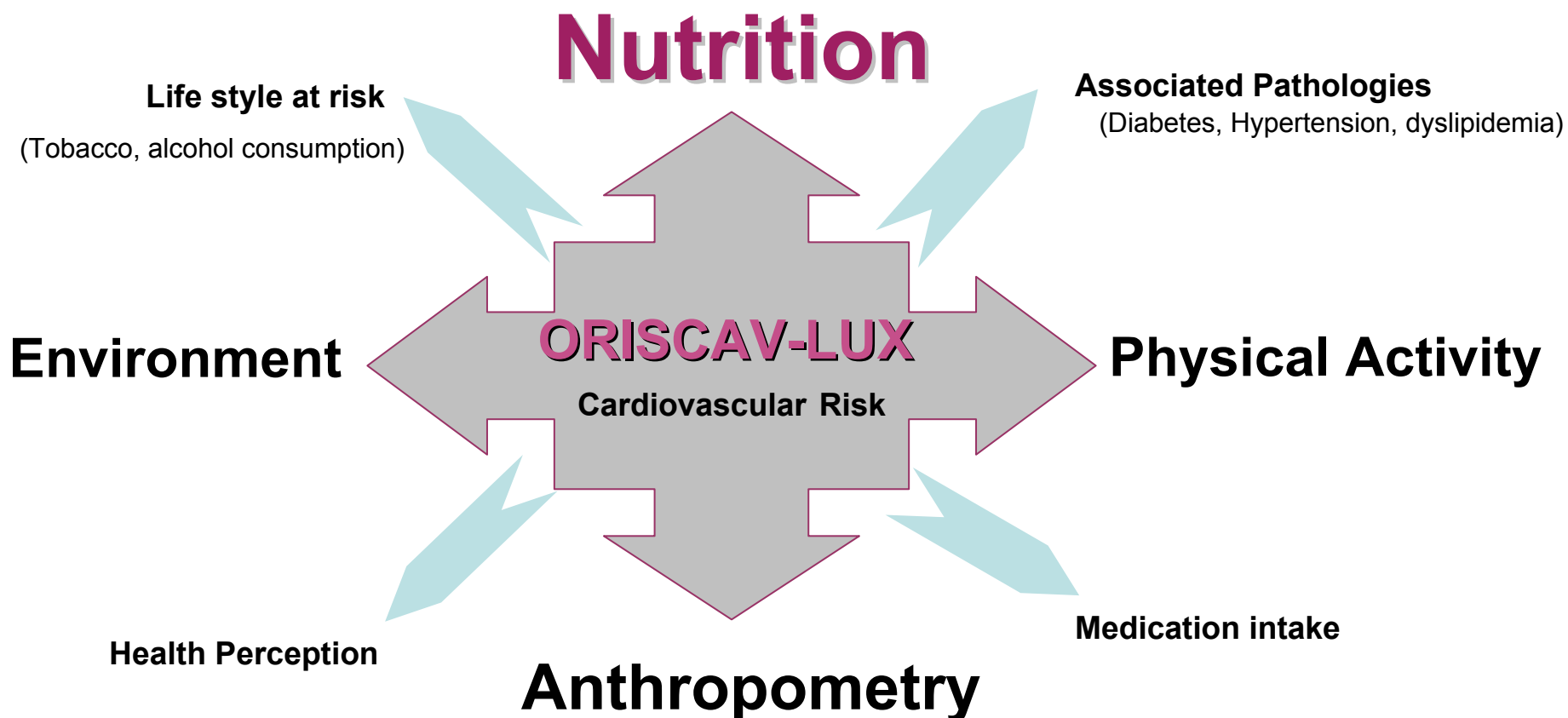
**First large scale nutritional study in Luxembourg**

**Representative sample of resident population**

**Meet objectives and needs of “ National Health Program”**

**Financed by the Ministry of Health and Ministry of Research**





- ❖ Describe the nutritional profile (**daily dietary intake**) and compare it to the National Food Recommendations
- ❖ Characterize and identify the “**group at risk**” of population
- ❖ Evaluate the effects of consuming various **food compounds** on cardiovascular health aspects
- ❖ Estimate the prevalence of major potentially modifiable cardiovascular risk factors
  - ❖ tobacco consumption, excessive alcohol consumption, sedentary life style, alimentary habits, obesity, arterial hypertension, diabetes, hypercholesterolemia
  - ❖ metabolic syndrome
- ❖ Evaluate the adherence of the population to the national recommendations with regard to physical activity

# Population sample

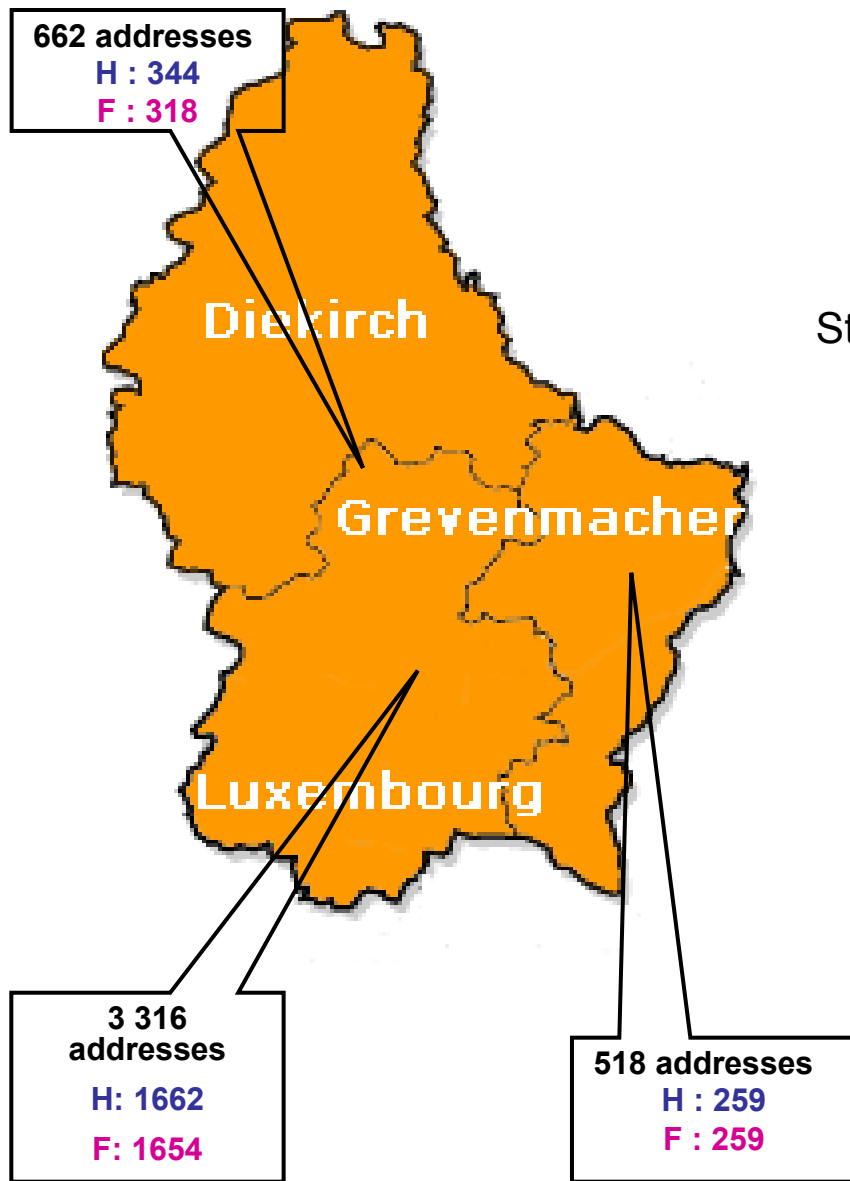
Selected by the "IGSS"

Stratified random sample : **age, gender and district**

**18 to 69** years

**4 496** subjects

- ✗ Pregnant ladies
- ✗ Institutionalized persons
- ✗ Physical or mental handicaps



# Population sample

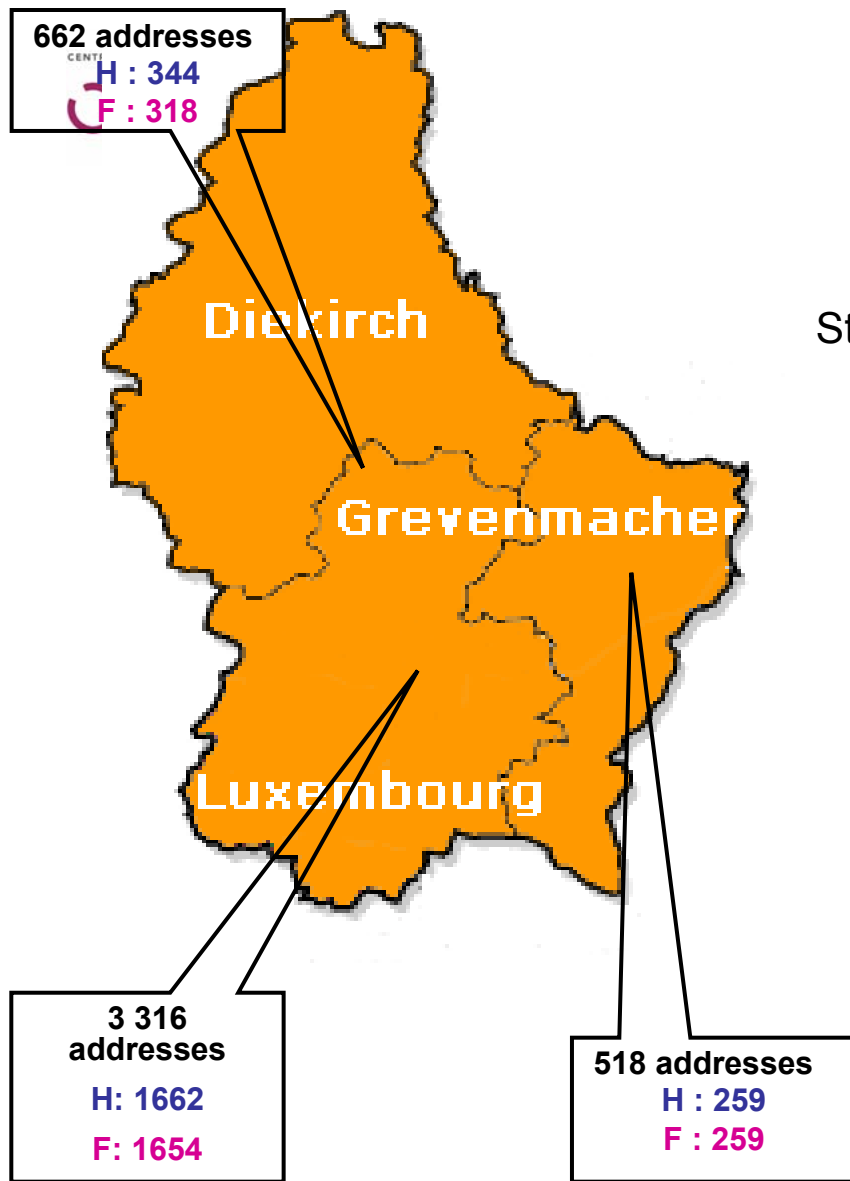
Selected by the “IGSS”

Stratified random sample : **age, gender and district**

**18 to 69** years

**4 496** subjects

**1432 recruited  
Subjects**  
November 2007 – January 2009



# Study design

Mailing  
(invitation/information)  
with coupon-answer  
pre-paid envelop



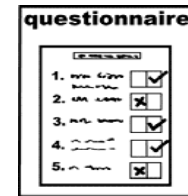
Phone contact



Appointement



In an investigation centre



1<sup>st</sup> step

2<sup>nd</sup> step

3<sup>rd</sup> step



Waist and hip circumferences



Weight



Height



Blood pressure



Urine



Blood



# Food Frequency Questionnaire FFQ

- ✓ Semi-quantitative,
- ✓ Self-administered tool,
- ✓ Developed by the **University of Liège**, Belgium,
- ✓ Assess the **usual dietary intakes** of the resident population in Luxembourg
  - ↪ Last 3 months
  - ↪ Global alimentation
    - ↪ **food and drinks**
    - ↪ **Week days, week-end**
    - ↪ **at home, at job, at restaurant**
    - ↪ **and all what consumed between meals**

9 food families

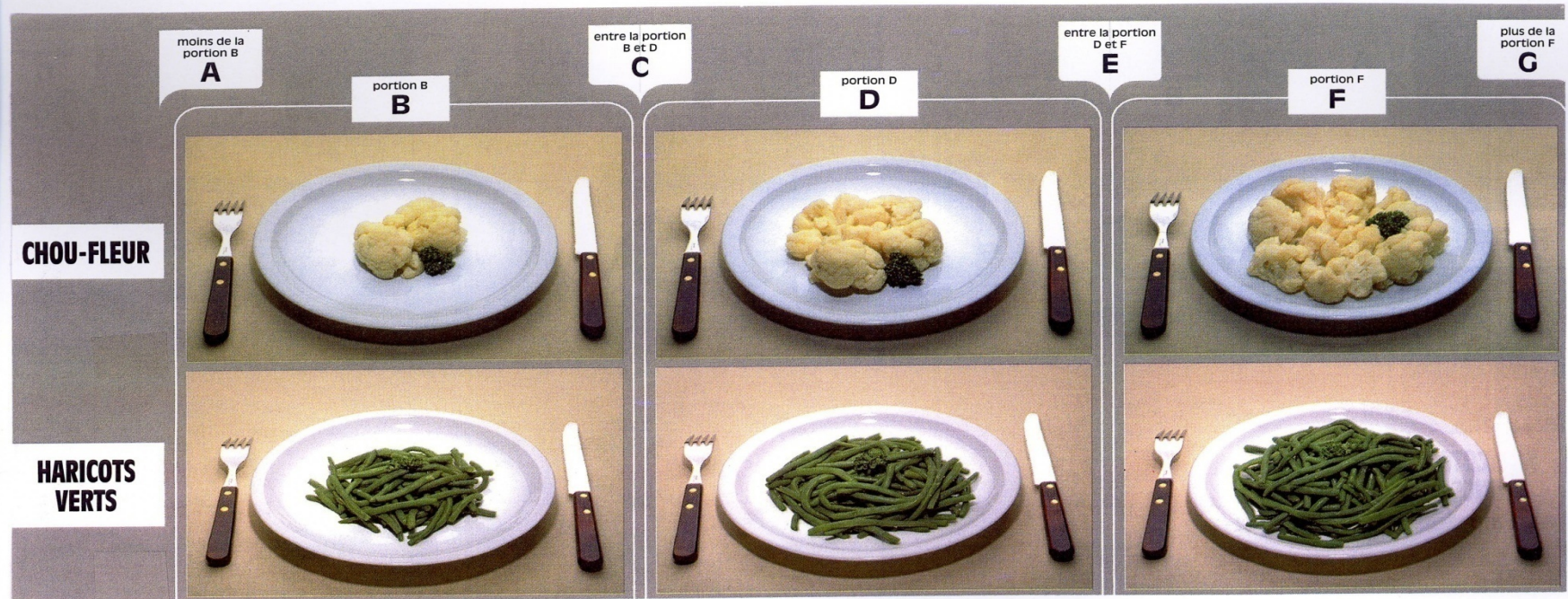
Sur les 3 derniers mois, qu'avez-vous habituellement consommé comme aliments et boissons et en quelle quantité ? Veuillez vous référer à la feuille de consignes que l'infirmière de recherche vous remettra.

1. Les féculents		Jamais ou rarement	1 à 3 X / mois	1 à 2 X / semaine	3 à 5 X / semaine	1 x / jour	2 x et plus / jour	Consultez le manuel photos pour voir un exemple de portion	Lettre photo choisie / Nombre de pièce(s) ou de portion(s)
1	Pains blancs en tranche, pain à toaster, pain de mie							photos 1	
2	Pains blancs de type baguette, petit pain, pain long,...							photos 2	
3	Pains gris (céréales, campagne, de seigle) en tranche								
4	Pains gris de type baguette, petit pain,...								
5	Biscottes / Galettes de riz : krisproll, pain grillé industriel, wasa, cracotte,...							photos 3	
6	Céréales non sucrées : cornflakes, rice krispies, Spécial K, Fitness,...							photos 4	
7	Céréales sucrées : céréales au miel, céréales au chocolat, ...							photos 4	
8	Muesli							photos 5	
9	Viennoiseries : Croissant, pain au chocolat, escargot (schneck), huit au pudding (aachtchen)							1 pièce	
10	Pâtisseries de type feuilletée, sablée, cake, moka, gaufre, galette, frangipane, chausson aux pommes, gâteau aux amandes,...							1 pièce	
11	Pâtisseries de type éclair, brioche, crêpe, bave, tarte, gaufre aux fruits,...							1 pièce	
12	Pommes de terre nature, robe des champs, vapeur, purée							photos 6	
13	Riz / Pâtes : pâtes, riz, semoule de blé, Ebly, boulgour,...							photos 7	
14	Fritures : toutes les préparations à base de pommes de terre à la poêle ou à la friteuse et gratin dauphinois							photos 8	

Frequency of consumption  
 Never or rarely  
 1 - 3 x / month  
 1 - 2 x / week  
 3 - 5 x / week  
 1 x / day  
 2 x and more /day

Quantity of serving portion

134 sub-categories



- ✓ Validated by study SU.VI.MAX
- ✓ Use of habitual household measures (tea spoon, coffee spoon)

Daily dietary intake



Soft ware program  
ULG

***Nutritional value x frequency of consumption x portion size***

**French Food Composition Table / SU.VI.MAX Study**

## Average daily dietary intake/person

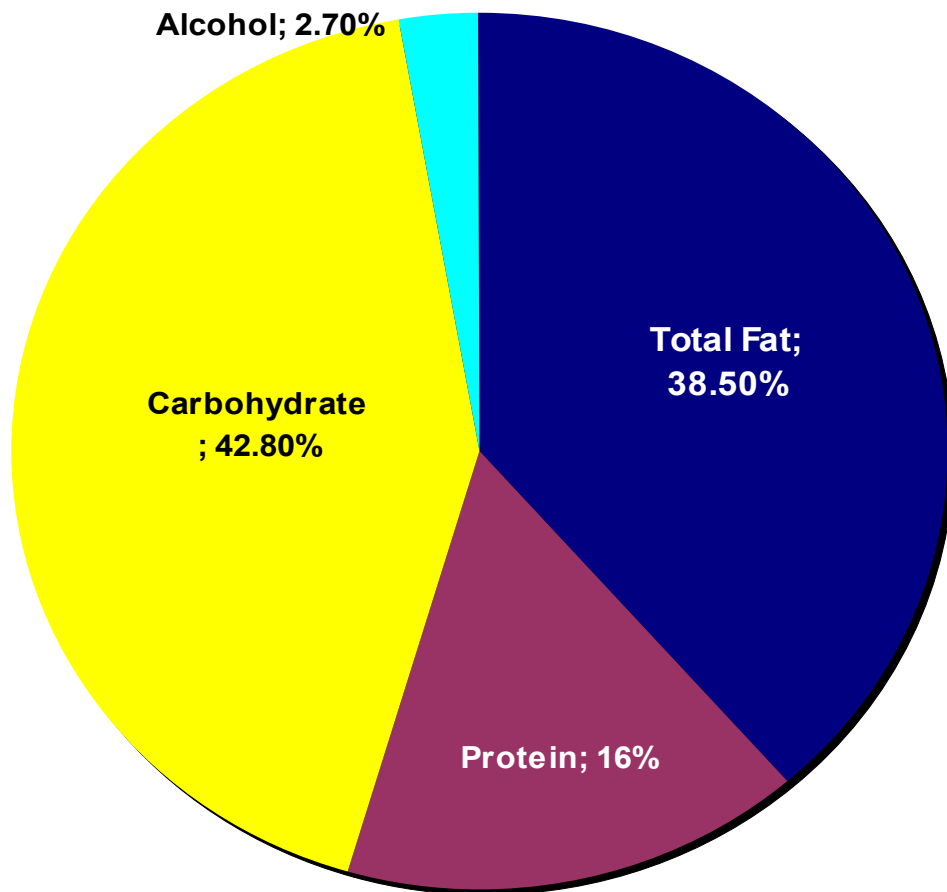
### Nutrients

- ❖ **Total Energy** in kcal/d
- ❖ **Total Proteins** in g/d (vegetal or animal base)
- ❖ **Total Fat in g/d** (SFA, MUSFA, PUFA, Cholesterol)
- ❖ **Total Carbohydrates** (starch, simple sugar and added sugar)
- ❖ **Alcool** in g/d
- ❖ **Non-energy nutrients** (Water, fibers in g/d)
  
- ❖ **Vitamins**  
Vitamin A (retinol) in µg, Vitamin E in mg, Vitamin C in mg, folic Acid in µg.
- ❖ **Minerals**
  - Calcium in mg
  - Iron in mg
  - Iodine in µg
  - Sodium in mg
  - Magnesium in mg

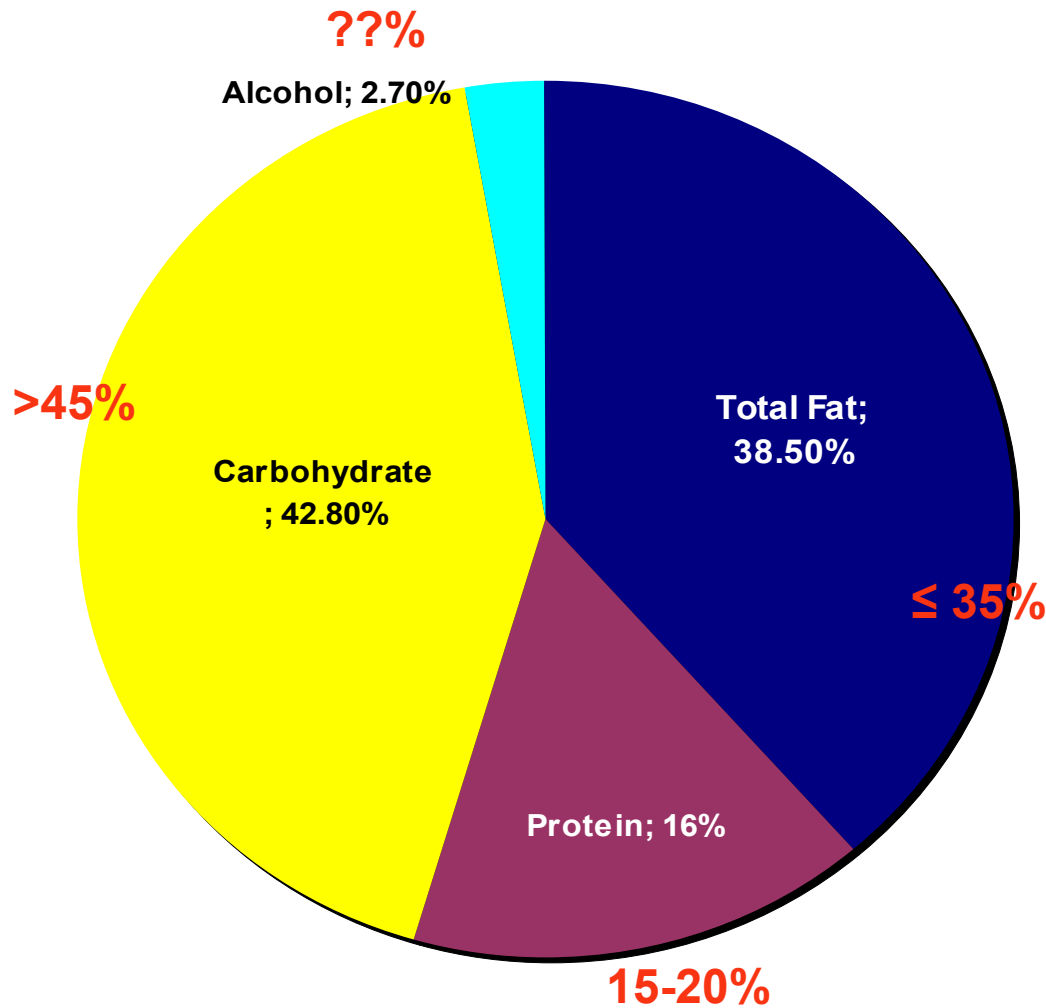
### Food components

- ❖ **Fruits**
- ❖ **Vegetables**
- ❖ **Meat**
- ❖ **Grains**
- ❖ **Dairy products**

## Macronutrients contribution in energy intake



# Macronutrients contribution in energy intake



Goal in % of total Daily Energy Intake



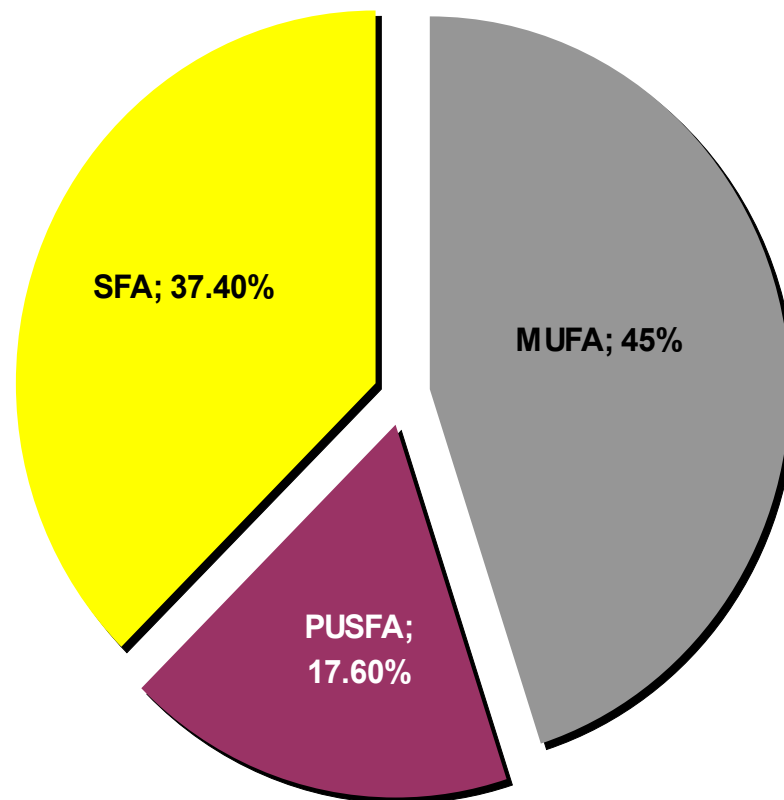
↑ Fat

↓ Carbohydrate

~ Protein

# Dietary fat intake according to type of fatty acids

**SFA is highly elevated = 13.4% of DEI in diet ⇒ (<10%)**



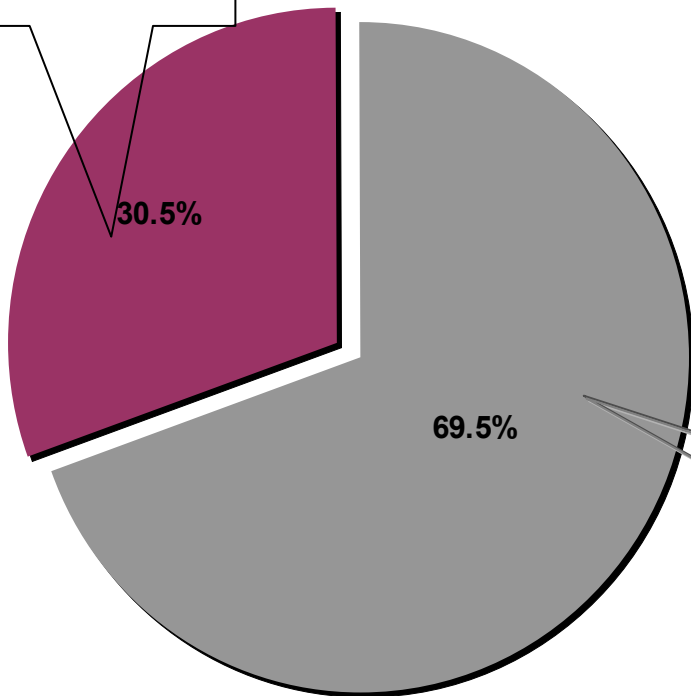
**SFA: Saturated Fatty Acids**

**MUFA: Monounsaturated Fatty Acids**

**PUFA: Polyunsaturated Fatty Acids**

# Hidden and visible fat in diet

Added oils, margarine, frying and roasting products..



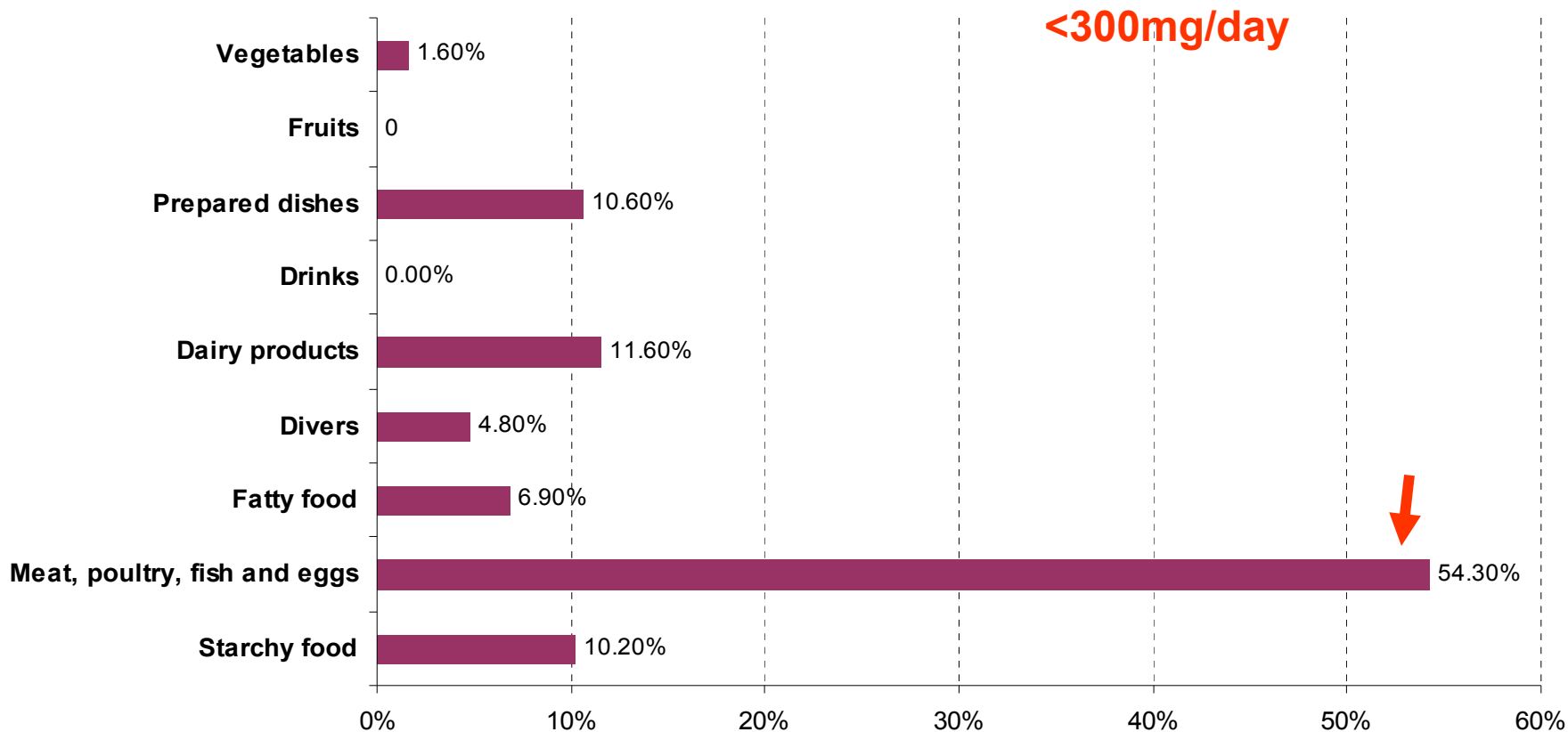
■ Hidden Fat  
 ■ Visible fat



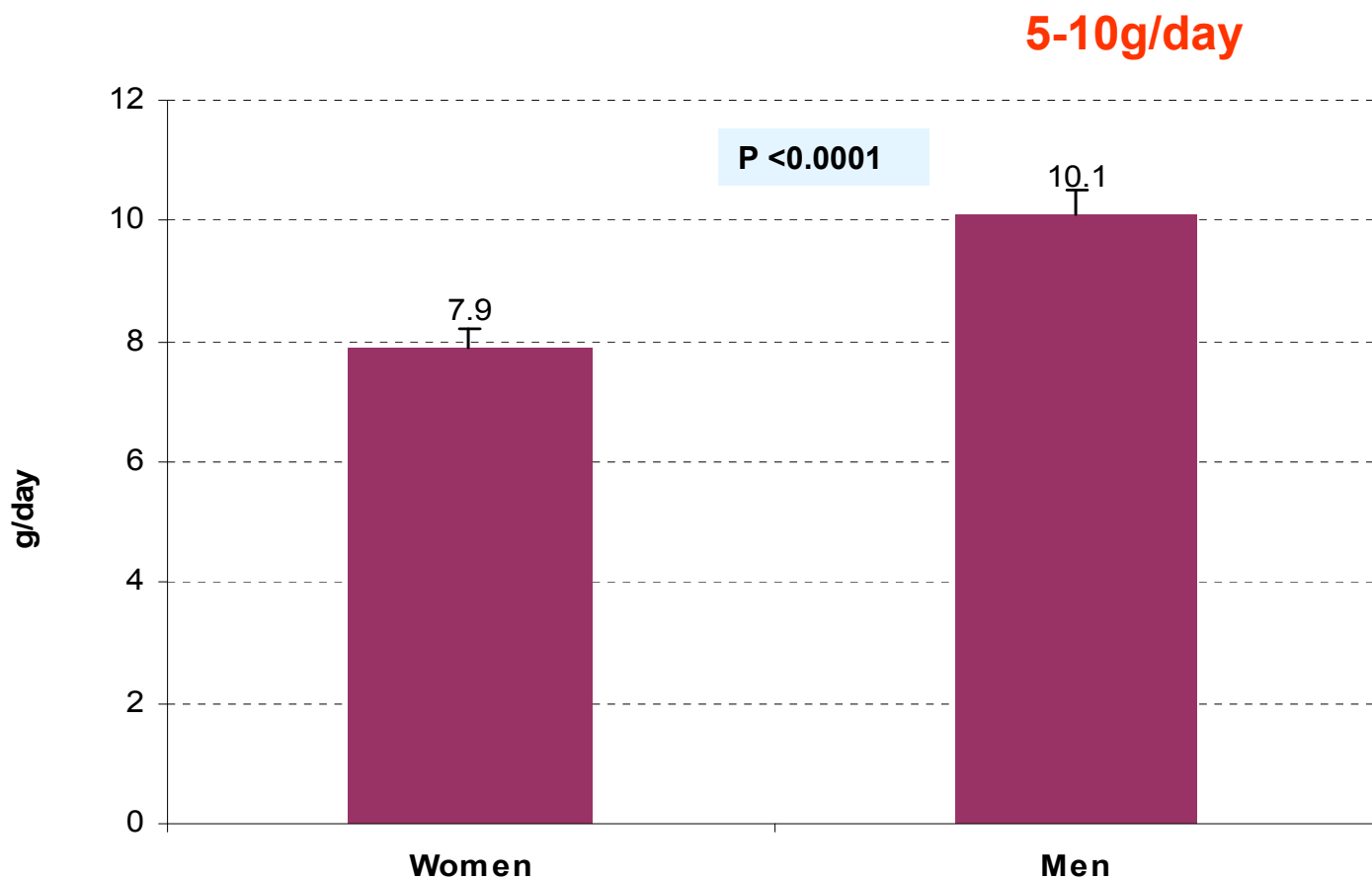
**20%** from meat, poultry, fish, eggs  
**11.7%** from starchy food  
**11.5%** from dairy products  
**9.4%** from prepared dishes (pizza, quiche,  
 ...

## Food components contribution in **cholesterol** intake

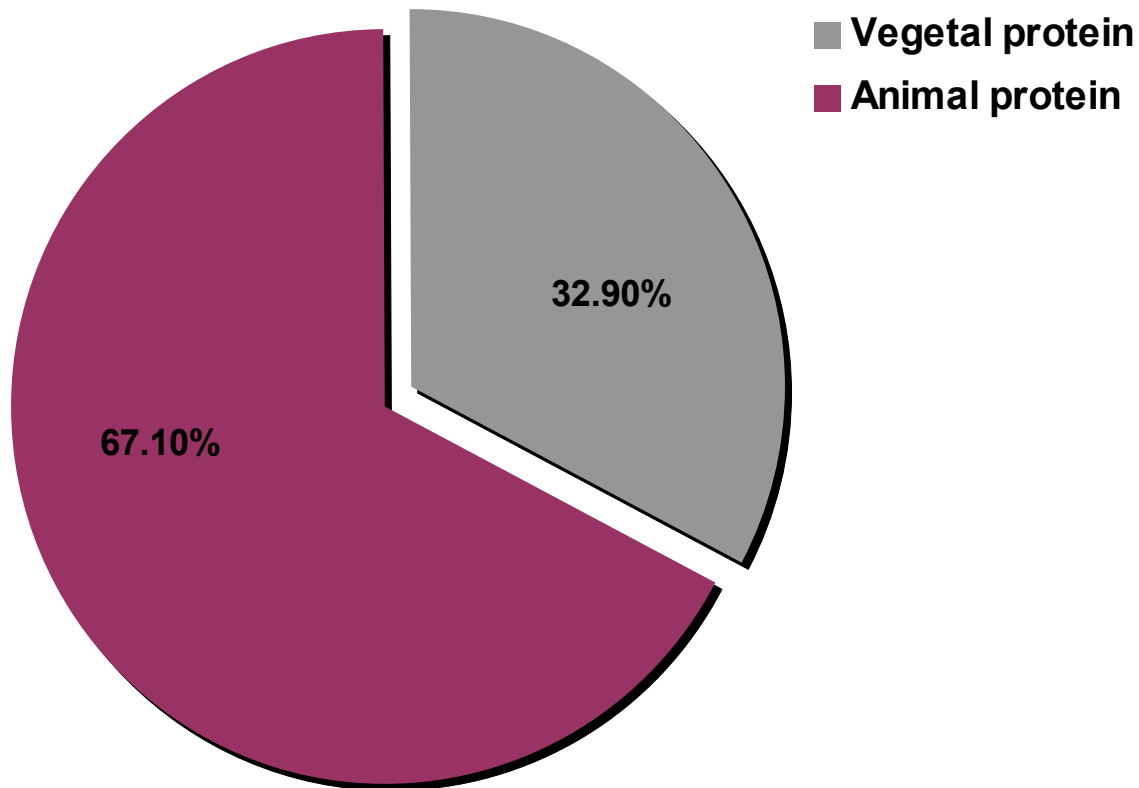
Average cholesterol = 353,6mg/day



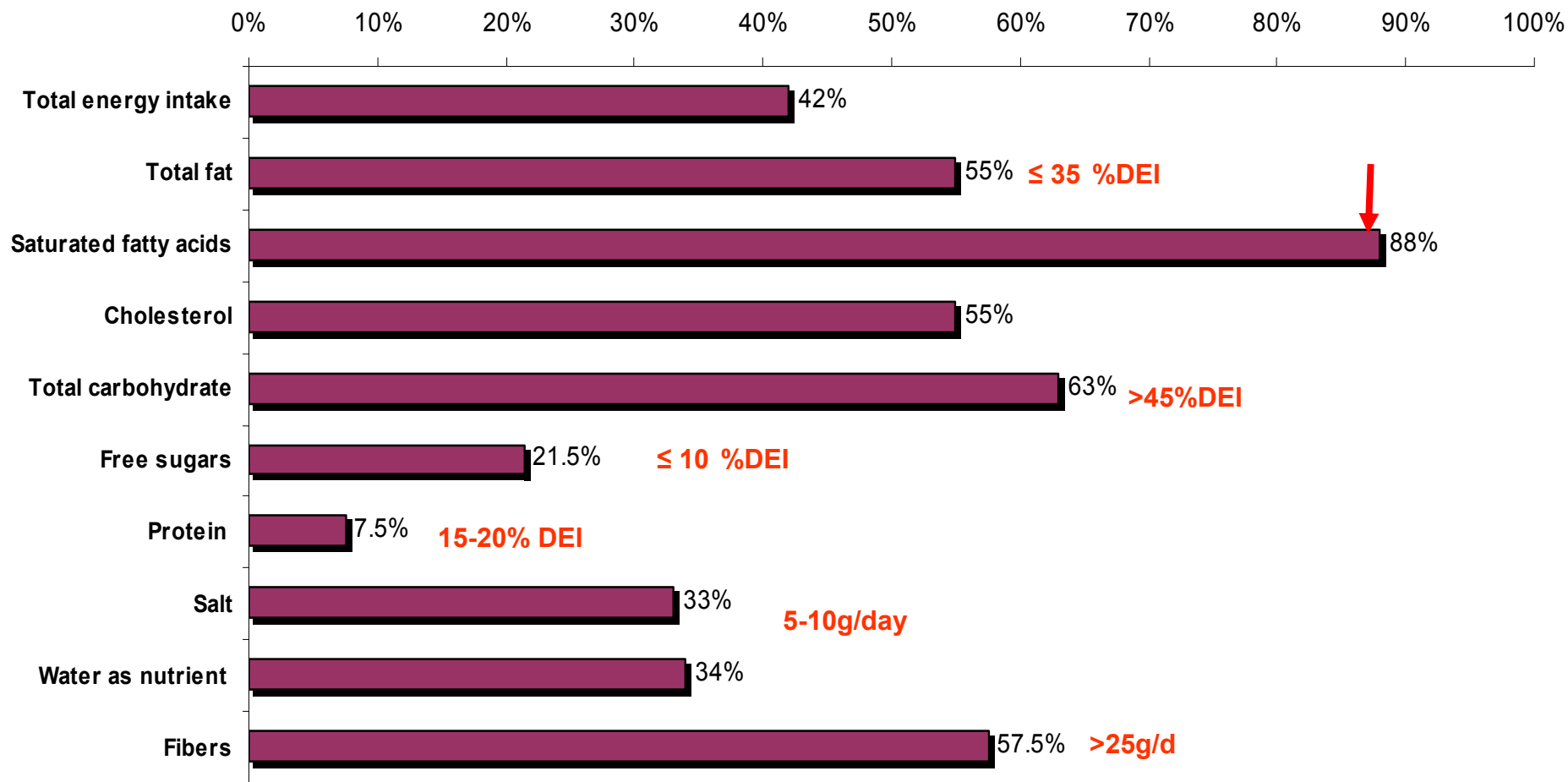
# Daily salt intake (g/day)



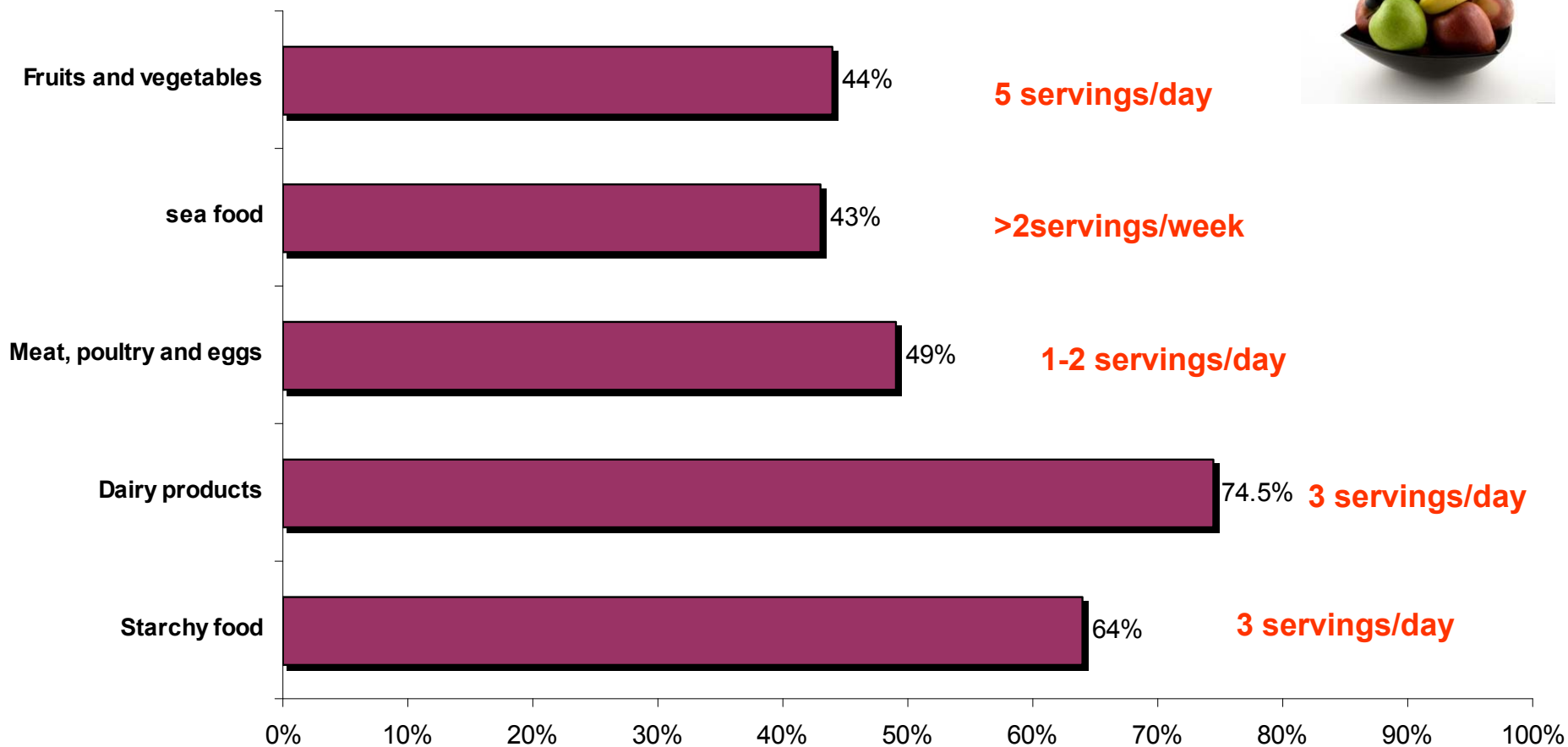
# Proportion of vegetal and animal protein



# % of population deviated from nutrient intake goals



# % of population deviated from food intake goals



MyPyramid

MyPyramid.gov

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*Thank you for your attention*

