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A Strategy for Europe on Nutrition, Overweight and Obesity-related health issues"

Workshop: How can Science support policy makers addressing the nutritional challenges of Europe?

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Structure of the presentation

- Summary of the "EU Strategy on Nutrition, Overweight and Obesity-related health issues"
- High Level Group on Nutrition and Physical Activity
- EU Platform for action on Diet, Physical Activity and Health
- Mid-term implementation progress report for the Nutrition Strategy
- Priorities for the period 2011 – 2013

Overweight and Obesity-related health issues

- Non-communicable diseases represent 77% of disease burden and 86% of mortality in the European region (WHO EURO Nov 2010)
- Obesity is a known risk factor for numerous non-communicable diseases (OECD, 2010c)
- Mortality increases sharply once the overweight threshold is crossed (OECD, 2010c)
- Globally, at least 2.8 million people/year die as a result of being overweight or obese (WHO, Global status report on non-communicable diseases 2011)
- Excess weight problems in childhood are associated with an increased risk of becoming an obese adult, and with other health concerns (OECD, 2010c; Currie *et al.*, 2008)

Why is prevention important?

- Eating a healthy diet, increasing physical activity and avoiding tobacco use can prevent:
  - 80% of premature heart disease,
  - 80% of type 2 diabetes cases, and
  - 40% of cancers.
    (World Health Organization, 2009)
- Lifestyles habits are forged at childhood, so childhood is an important period for forming healthy behaviours

Focus on overweight and obesity
Quick facts: adults

- More than half (50.1%) of the adult population in the European Union are overweight or obese
- The prevalence of overweight and obesity among adults exceeds 50% in no less than 15 of 27 EU countries
- The rate of obesity has more than doubled over the past 20 years in most EU countries for which data are available

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Focus on overweight and obesity

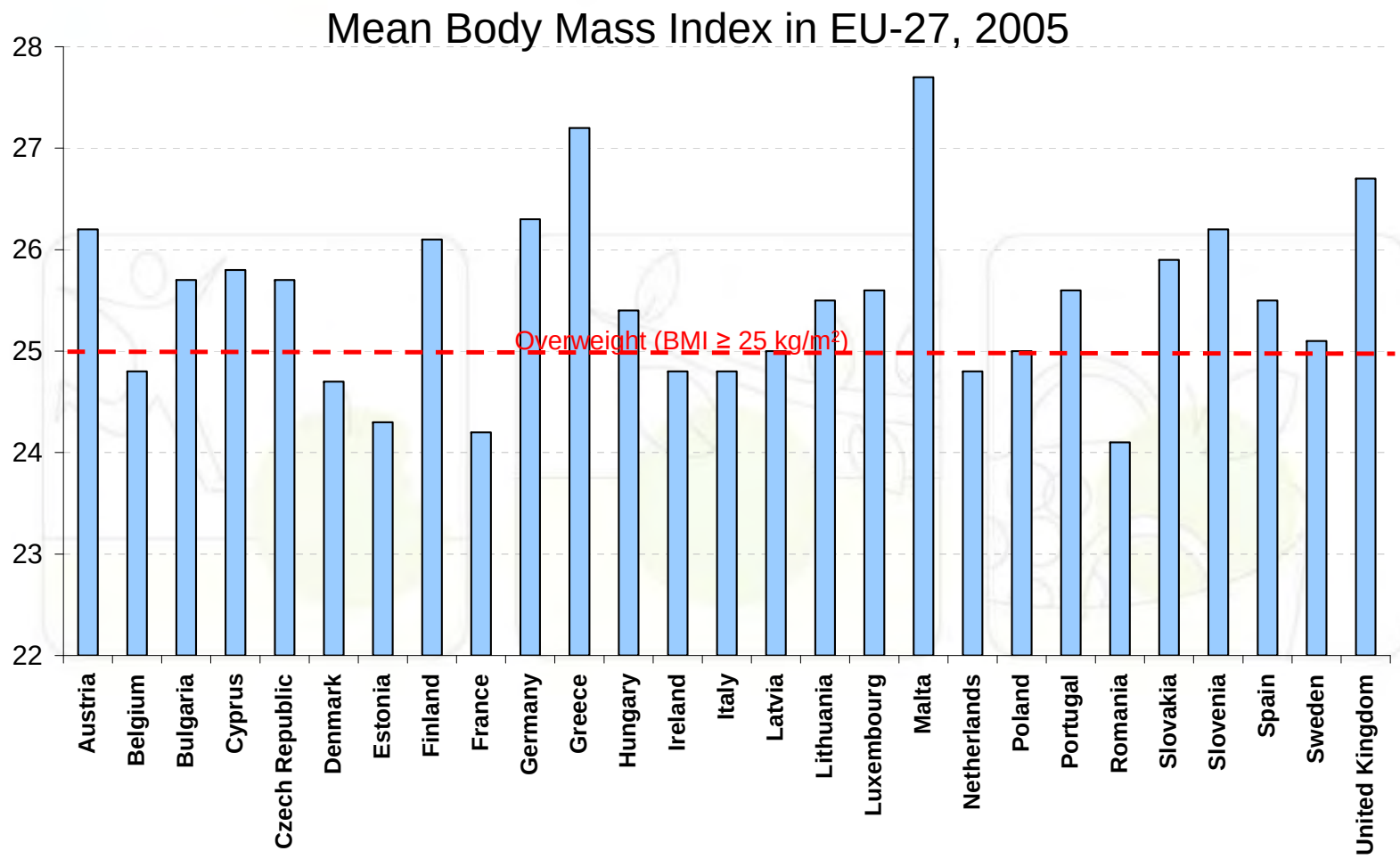
Quick facts: children

- On average 1 in 4 children aged 6-9 years old were overweight or obese
  (Measured data collected by WHO European Childhood Obesity Surveillance Initiative, COSI, 2008)

- Only 1 in 5 children (between 11 and 15 yrs) in EU countries report to undertake moderate-to-vigorous exercise regularly (Health Behaviour in School-aged children survey -WHO collaborative study 2006)

- Only around 1 in 3 boys and 2 in 5 girls aged 11-15 years ate at least one piece of fruit daily
  (Health Behaviour in School-aged Children (HBSC) survey (Currie *et al.*, 2008))

2007 - Where we were



Source: WHO (Global Infobase)

2007 - Where we were

- **In 2007**, the Commission had analyzed the results of a public consultation on: “Promoting healthy diets and physical activity: a European dimension for the prevention of overweight, obesity and chronic diseases”
- **In May 2007**, the Council adopts Conclusions on ‘Strengthening of health promotion and disease prevention by means of balanced nutrition and sufficient physical activity’, inviting the Commission to table a comprehensive strategy
- **In May 2007,** the Commission adopts the Strategy for Europe on Nutrition, Overweight and Obesity related health issues
- **In November 2007,** the High Level Group on Nutrition and Physical Activity has its first Plenary meeting

The European Commission's approach

- Our work is based on the **Strategy for Europe on Nutrition, Overweight and Obesity related health issues**, adopted in 2007

- A partnership for action at European level is vital:
  - High Level Group on Nutrition and Physical Activity
  - EU Platform for action on Diet, Physical Activity and Health

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The Strategy on Nutrition, Overweight and Obesity-related health issues – six priority areas

- Better informed consumers
- Making the healthy option available
- Encouraging physical activity
- Children and low socio-economic groups as priority
- Develop the evidence base to support policy making
- Developing monitoring systems

Mid term-review of the Strategy: implementation progress report

- Great deal of activity at EU level, among Member States, and by stakeholders
- But – level of implementation shows substantial variation, both between policy areas and Member States:
  - Information and education campaigns, encouraging PA and including PA in school curricula had highest level of implementation – frequency and duration of PA??
  - Encouragement of codes of conduct – advertising to children of HFSS foods – work in progress
  - External evaluation of Platform concluded with results achieved, in particular for self-regulatory activities – marketing and advertising to children and food reformulation
  - But – room for improvement, relevance and impact of Platform commitments

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Mid term-review of the Strategy: implementation progress report

- Little sign of change in the negative trends for overweight/ obesity
- And, challenging economic situation for many MS
- But – the impossibility of counterfactual evidence
- Public health initiatives developed through EU's Health Programme

➔ The Commission remains committed to tackle the crucial health issues related to nutrition, overweight and obesity, by promoting healthier diets and more PA

➔ Reduction of obesity can only be achieved through collaborative effort with national governments and with stakeholders

Mid term of the Strategy implementation: boosting action

- Renewed framework on reformulation of selected nutrients (saturated fat; trans fat; energy; total fat; added sugars; portion sizes, and consumption frequency)
- Renewed focus on children and vulnerable groups in Platform commitments
- Support to stakeholders' initiatives, i.e.
  - the Health Programme and
  - the EU School Fruit Scheme
- EU-wide study on local community approaches to reduce childhood obesity, including school based initiatives

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2010/2011: Where we are mid-term

- The EU Platform on Diet, Physical Activity and Health consists of 33 Platform Members.
- 78 active Platform Actors have implemented around 300 commitments.
- **In June 2010**, under the Spanish presidency, the Council adopted Conclusions calling Member States to actively participate in the development of salt reduction initiatives.

EU Platform on Diet, Physical Activity and Health

2010/2011: Where we are mid-term

- **In July 2010**, the external evaluation of the Platform showed a positive assessment of self-regulation initiatives in crucial areas such as responsible advertising to children and food reformulation
- **In December 2010**, the mid-term review of the Strategy for Europe on Nutrition, Overweight and Obesity-related health issues is discussed at a Presidency conference

Strategy for Europe
on nutrition, overweight and obesity
related health issues

Implementation progress report

December 2010

2010/2011: Where we are mid-term

- **In February 2011**, the High Level Group on Nutrition and Physical Activity adopts a framework for action on other nutrients
- **In February 2011**, the Platform renews its objectives for more focused commitments and reinforced working methods
- Commission - WHO monitoring structures are in place - The work started in 2007 and the first snapshot was done in 2008

Today's global political context

- **OECD**: Final Communiqué from the Health Ministerial meeting in Paris, October 2010
- **US**: Dietary Guidelines for Americans, 2010, released 31 January 2011. The Just Move campaign of the White House, launched 2010
- **Council of Europe:** Recommendation of the Parliamentary Assembly on 'Preventive health care policies', approved 28 January, 2011
- **Council Conclusions on chronic diseases** adopted under the Belgian Presidency, in December 2010, emphasising *inter alia* health promotion and disease prevention aspects

Today's global political context

- **WHO**: Focus on NCS, report April 2011
- **US**: Children's Food and Beverage Advertising Initiative (launched in November, 2006) announced uniform nutrition criteria in US 14 July 2011
- **UN:** High-Level Summit on Non-Communicable Diseases in New York, 19-20 September 2011

Combining regulatory and self-regulatory measures

- Helping informed choices with Regulations on food labelling and health claims
- High-Level Group on Nutrition and Physical Activity – salt reduction, and agreement on EU framework for national initiatives on selected nutrients
- EU Platform for action on Diet, Physical Activity and Health - Promoting multi-stakeholder action in food reformulation, marketing & advertising, consumer information and education

Regulatory measures – nutrition labelling

- **In January 2008 Commission <u>proposed to make nutrition labelling mandatory</u> on the front of pack for the majority of processed food**
- **Why?**
  - to respond to consumers interest and demand for such information
  - to provide information to enable informed choices
  - to encourage healthier dietary choices
  - it can also be an incentive for product reformulation

Where are we now?

- The new Regulation on food information to consumers was approved by the European Parliament in July 2011.
- This new law is a significant step forward to boost consumer empowerment. It can also contribute to the fight against obesity and chronic diseases.

Main features of the new Regulation

- Mandatory nutrition information (energy, fat, saturates, carbohydrate, sugars, protein and salt) must be provided on all pre-packed foods
- Mandatory information on allergens will ensure better protection of citizens' health. Allergens will be highlighted in the list of ingredients
- A minimum font size will apply to mandatory information
- Mandatory country-of-origin labelling of meat will be extended to meat from pigs, sheep, goats and poultry

Regulatory aspects - nutrition and health claims

- Nutrition and health claims on foods:
  should not be false, ambiguous, or misleading
- Regulation (EC) No 1924/2006, entered into force in January 2007
- The Commission is working on implementing measures to <u>ensure reliable and truthful information for consumers</u>
  - Revising the positive list for nutrition claims
  - Approving health claims:
    EFSA is assessing the evidence backing up health claims to ensure that claims are based on reliable scientific evidence not to mislead consumers
  - Setting nutrient profiles:
    claims are used to attract consumers attention, the concept of nutrient profiles was introduced to balance this marketing effect

High Level Group on Nutrition and Physical Activity

Self-regulatory measures – EU framework for national initiatives on salt reduction

- **EU framework for national initiatives on salt reduction** was agreed in 2008 with a common benchmark for overall salt reduction by minimum 16% over a period of 4 years, against individual country baseline levels for 2008 baseline levels
- **In June 2010**, under the Spanish presidency, the Council adopted Conclusions calling Member States to actively participate in the development of salt reduction initiatives

Self-regulatory measures - Renewed framework on selected nutrients

- Two expert meetings, one in November 2009, one in November 2010
- Agreement on a **general framework** in the High Level Group meeting 3 February 2011
- Selected nutrients and nutritional components include saturated fat; trans fat; energy; total fat; added sugars; portion sizes, and consumption frequency
- Flexible approach, which must take account of diet specificities in Member States, and efforts in the Platform context

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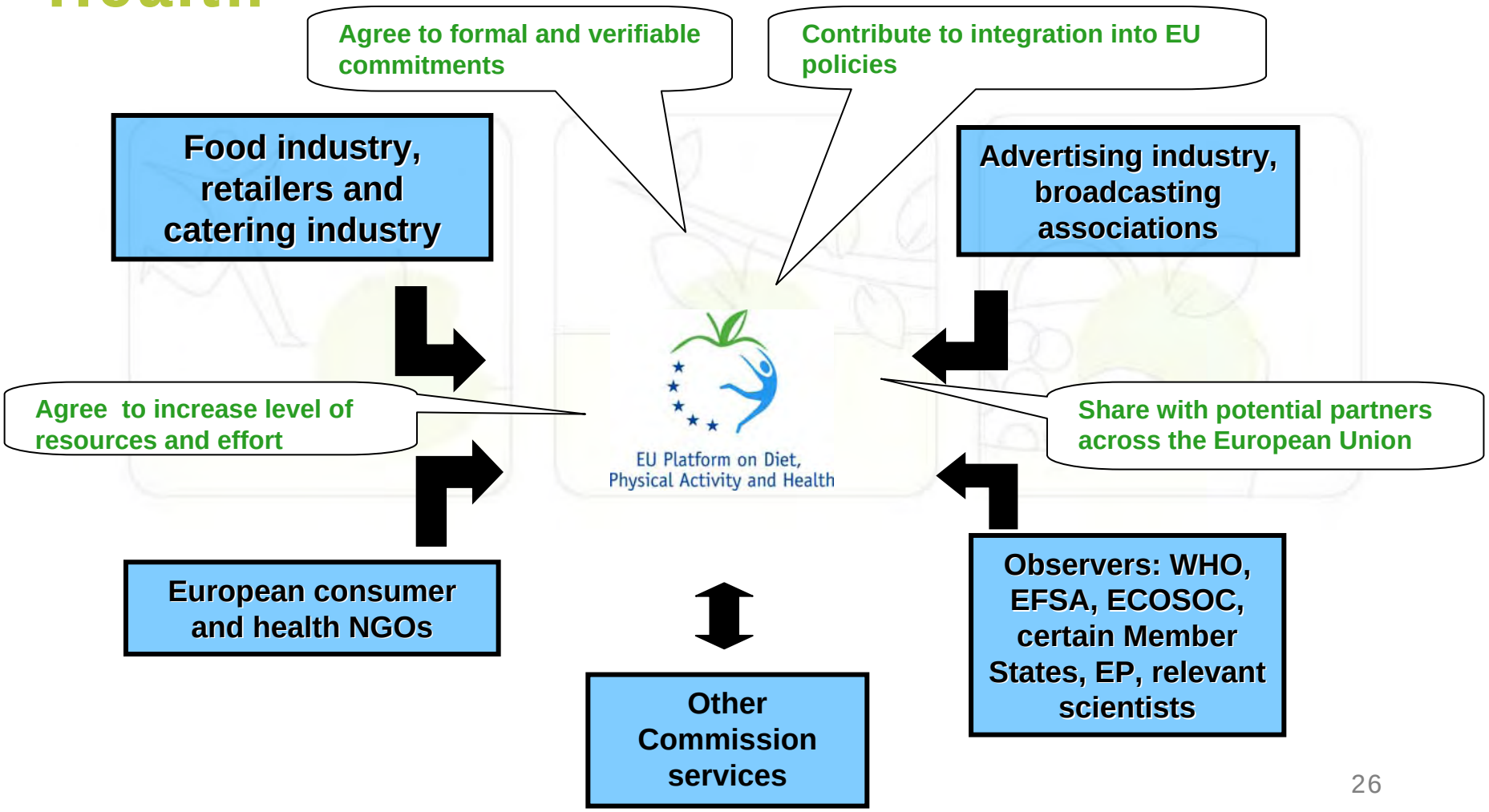
EU Platform on Diet, Physical Activity and Health



EUROPEAN COMMISSION

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euro coop

NGO

EUROPEAN HEART NETWORK

European Modern Restaurant Association EMRA

EuroCommerce

COGECA

EHFA EUROPEAN HEALTH AND FITNESS ASSOCIATION

IBFAN

COPA

CIAA Confédération des industries agro-alimentaires de l'UE Confederation of the food and drink industries of the EU

beuc

EuroHealthNet the European network for public health, health promotion and disease prevention

EVA European Vending Association

ferco

epha european public health alliance

COFACE

CPME COMITÉ PERMANENT DES MÉDECINS EUROPÉENS STANDING COMMITTEE OF EUROPEAN DOCTORS

egta association of television and radio sales houses

International Obesity TaskForc

EU Platform on Diet, Physical Activity and Health

ternational Diabetes Federation European Region

freshfel EUROPE

ESPGHAN Committee on Nutrition

eaca EUROPEAN ASSOCIATION OF COMMUNICATIONS AGENCIES

WFA World Federation of Advertisers

EBU·UER

EASO European Association for the Study of Obesity

EFAD EUROPEAN FEDERATION OF THE ASSOCIATIONS OF DIETITIANS

HOTREC Hotels, Restaurants & Cafés in Europe

EUFIC EUROPEAN FOOD INFORMATION COUNCIL

Renewed objectives of the Platform

- Agreement reached in Platform Plenary meeting 15 February 2011:
  - to step up action to tackle the growing problem of overweight and obesity related health problems;
  - to boost activities that contribute to the objectives of the Nutrition Strategy by 2013

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Priority areas and target groups 2011-2013 for Platform commitments

- Vulnerable groups, including children and adolescents and low socio-economic groups
- Improvements of already existing commitments in the area *of responsible advertising and marketing to children*
- Improvements of already existing commitments in the area of *reformulation*
- Physical activity and sports
- Reaching out to schools with the aim of increasing physical activity and making the healthy option available

Renewed objectives of the Platform

- In addition, Platform members approved consolidated working methods and minimum requirements for Platform commitments
- Agreed to reinforce the relation between the Platform and the High Level Group; to open up to other EU policies
- Agreed on a more structured approach to debate on the commitments

For more information:
http://ec.europa.eu/health/nutrition_physical_activity/policy/index_en.htm

Thank you!

A successful nutrition & lifestyle intervention

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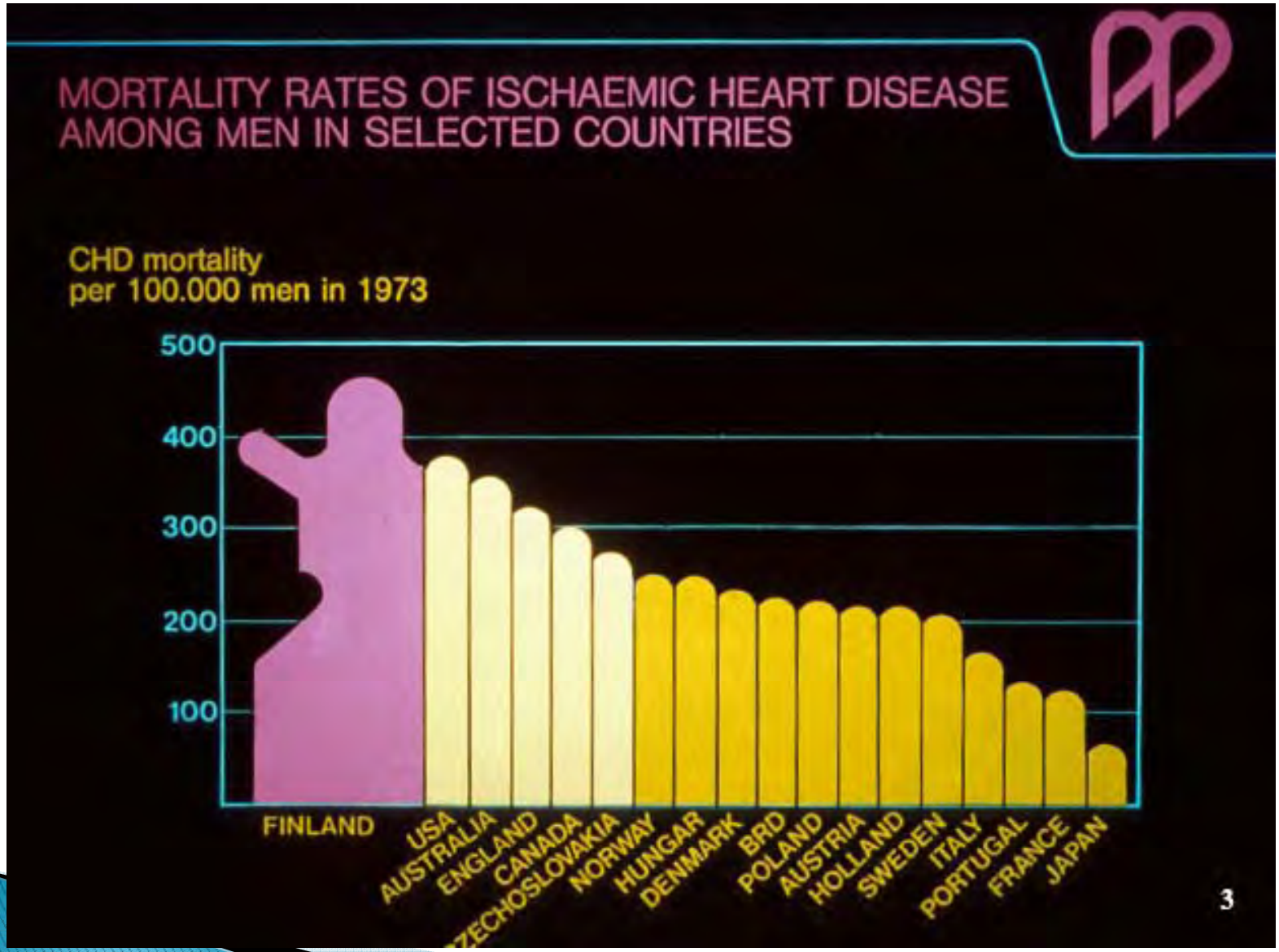
The Finnish experience

- How to influence?
- Main actions and actors in the Finnish nutrition policy
- Changes in food habits
- Case 1 – Fat quality
- Case 2 – Salt
- Changes in health and risk factors
- Summary

Gloomy inspiration for success



(Source: National Institute for Health and Welfare), THL

How to influence?

- Research and monitoring
- Nutrition policy – collaboration
- Legislation
- Education (nutritionists, dietitians, nurses, doctors, teachers, food scientists)
- Population interventions
- Nutrition recommendation and dietary guidelines
- Implementation programs of the recommendations and guidelines
- Enrichment of foods and fertilisers
- Food production
  - Catering services

Main actions and actors in the Finnish nutrition policy

Main Emphasis in Nutrition Policy in Finland

- Historically (since 1940's):
  preventing various deficiencies
  – e.g. free school lunches, fortification programmes

- Chronic disease prevention since 1970's:
  – reduction of blood cholesterol and blood pressure levels

- More recently:
  – also weight control and prevention of diabetes

Important bodies behind Finnish nutrition policy

- Government / Ministries – Legislation
- The National Nutrition Council since 1954
- Schools, universities (nutritional education since 1947), other educational institutions
- Primary health care
- Research and expert organisations, e.g. National Institute for Health and Welfare (former National Public Health Institute)
  – nutrition an health related research, monitoring and other activities since 1980s'
- Non-governmental organisations (e.g. the Finnish Heart Association, The Finnish Diabetes Association, The Medical Society Duodecim)
- Food industry, businesses
- Funding bodies of nutrition research

National Nutrition Council

- An expert body established in1954
- It is appointed by the Ministry of Agriculture and Forestry
- The members serve three-year terms
- The members are representatives of authorities handling nutrition issues, consumer, health promotion and catering organisations, food industry and agricultural organisations.
- Chair: Prof. Pekka Puska, secretary general Ms. Raija Kara since 2004 (raija.kara@evira.fi)

(Source: Finnish NNC)

Nutrition recommendations and dietary guidelines

- 1968 Nordic nutrition recommendations (adopted officially in 1978)
- 1981 National Committee on Diet and Health: Dietary guidelines
- 1987 National Nutrition Council (NNC): Dietary guidelines
- 1998 NNC: Nutrition recommendations and dietary guidelines
- 2003 NNC: Program on implementation of the Nutrition Recommendations
- 2005 NNC: Recommendations on dietary intake and physical activity
- 2008 NNC: Beverage report and guidelines

(NNC= National Nutrition Council)

Enrichment and supplementation procedures

- 1941 Enrichment of margarine with vitamins A and D
- 1949 Enrichment of salt with iodine
- 1959 Addition of fluorine to drinking water in Kuopio city
- 1974 Enrichment of milled wheat with thiamine and iron
- 1985 Selenium supplementation of all fertilizers
- 1992 Enrichment of skimmed and low-fat milk with vitamin D
- 1993 Addition of fluorine to drinking water in Kuopio finished
- 1994 Enrichment of milled wheat with thiamine and iron finished
- 1995 Finland became a member of the EU
- 1998 Ministry of Trade and Industry: Decision on Common rules for enrichment of foods with vitamins and other nutrients
- 2003 Enrichment of certain foods with vitamin D renewed
- 2010 Enrichment levels of certain foods with vitamin D increased

Examples of interventions

- The North Karelia Project (population based prevention program, S-Chol, RR, smoking)
- The Finnish Diabetes Prevention Study (DPS)
- The implementation project for the prevention of type 2 diabetes in Finland (FIN-D2D)
- Good ageing in Lahti region programme for good ageing – building a regional model for preventing type 2 diabetes.

Source: Puska/THL, Lindstrom et al 2010)

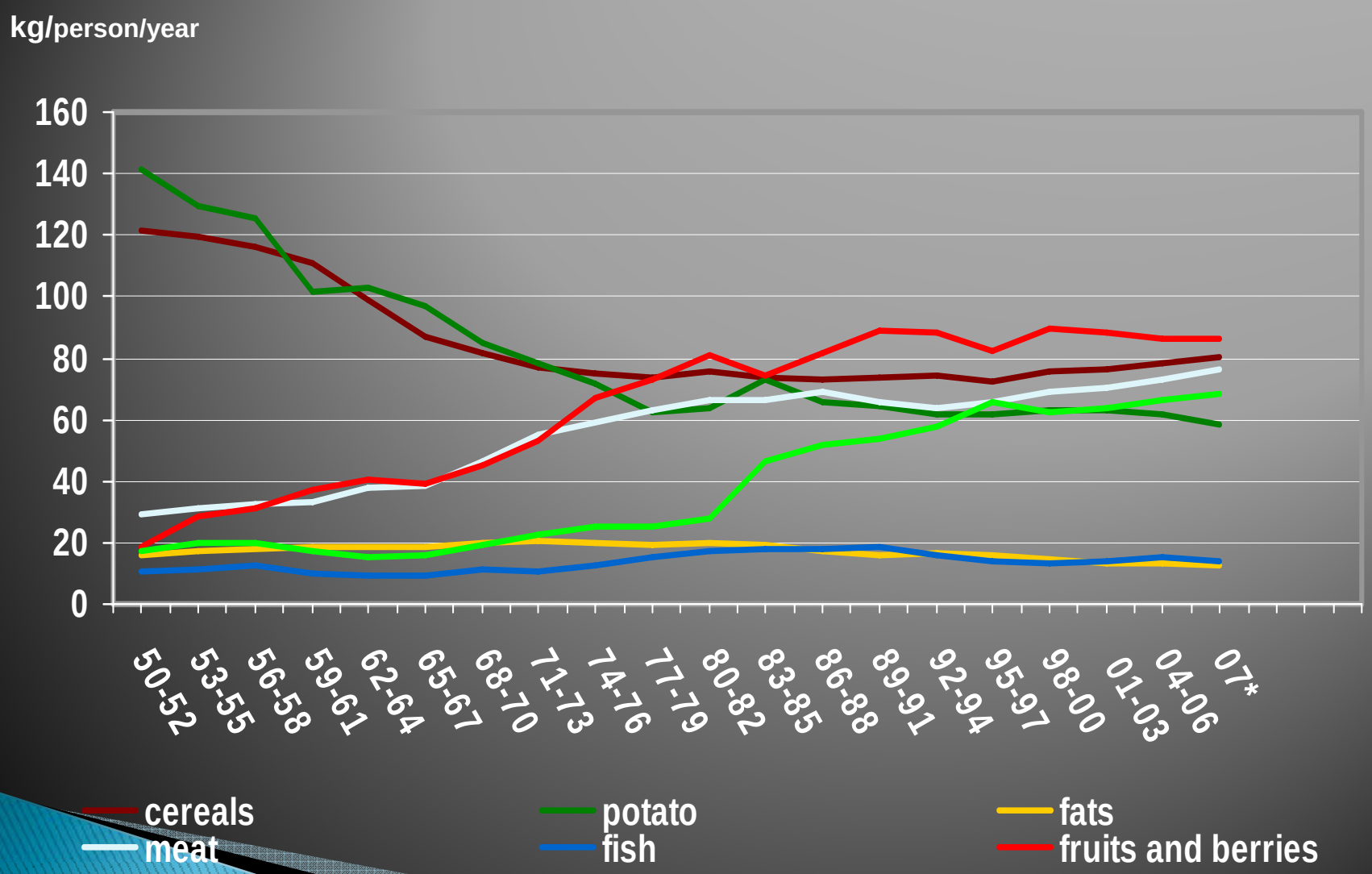
Why success in North Karelia

- Appropriate epidemiological and behavioural framework
- Restricted, well defined targets
- Good monitoring of immediate targets (behaviours, process)
- Flexible intervention
- Emphasis in changing environment and social norms
- Working closely with the community
- Positive feedback, work with media
- International collaboration, support from WHO
- Close interaction with national health policy, integration with National Public Health Institute
- Long term, dedicated leadership

Source: NATIONAL INSTITUTE FOR HEALTH AND WELFARE

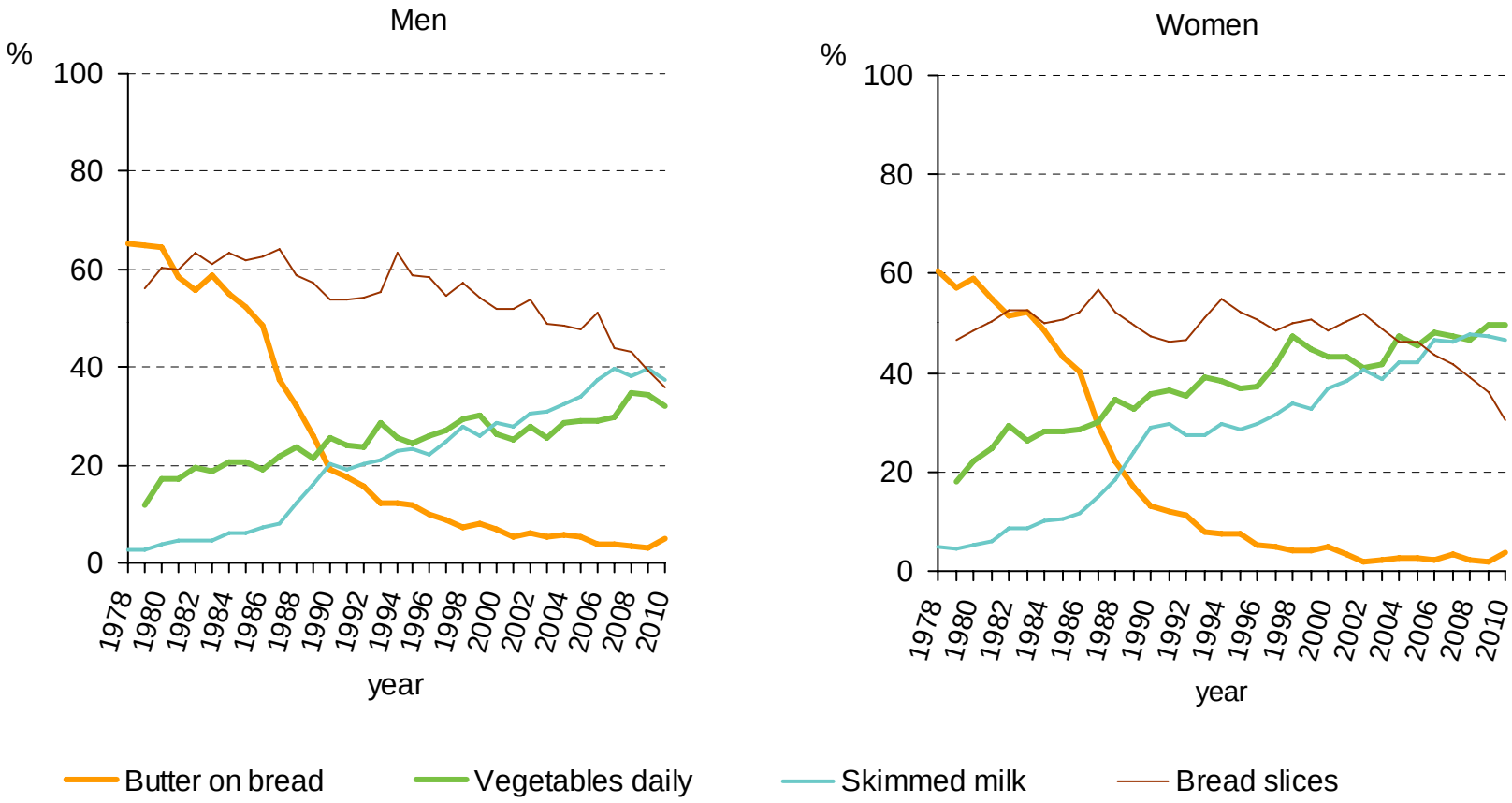
Changes in food consumption

Food consumption in Finland 1950–2005



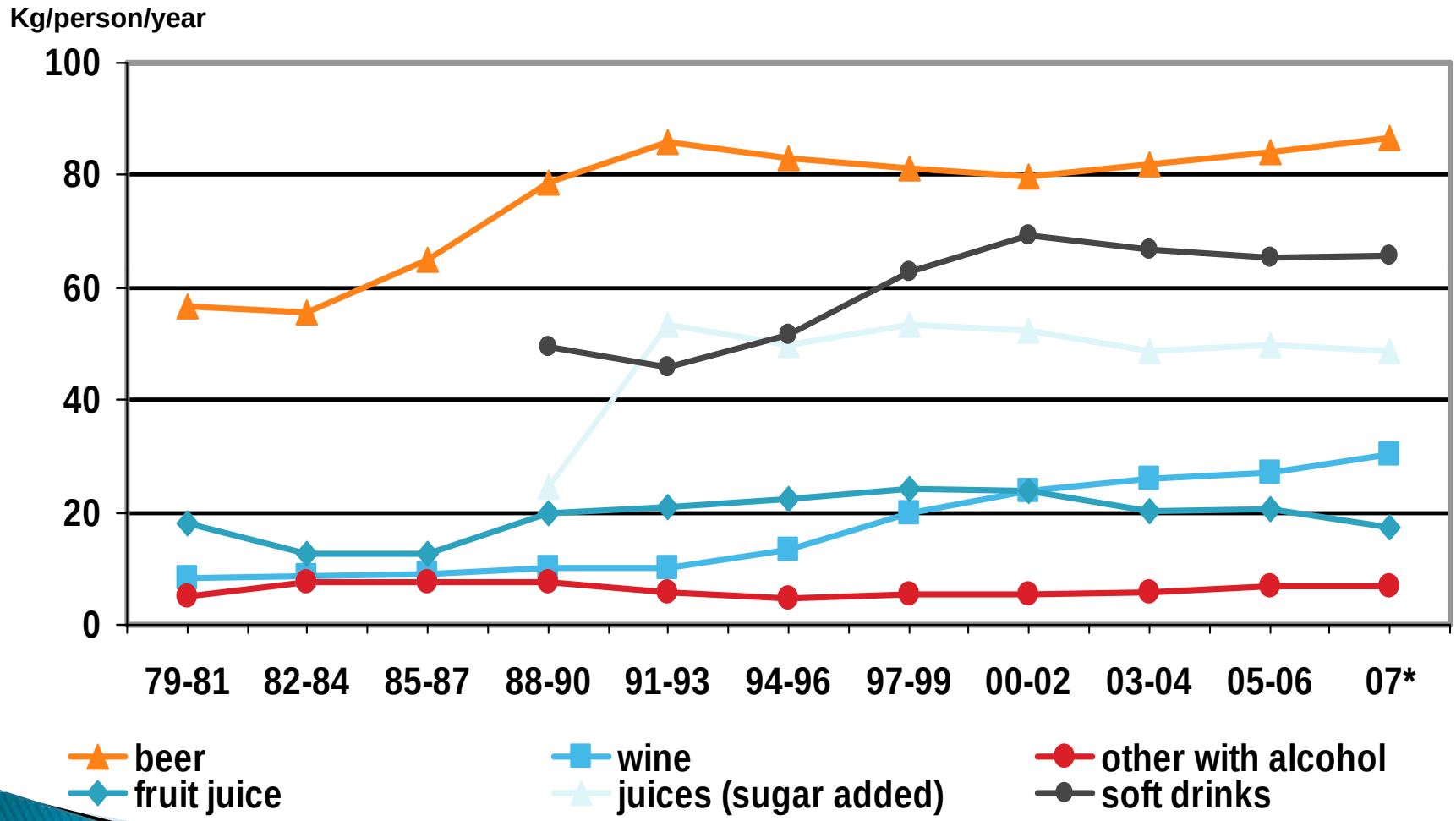
(Food balance sheets)

Food habits in the population aged 15–64 years in Finland in 1978–2010



Source: National Institute for Health and Welfare (THL), Health Behaviour and Health among the Finnish Adult Population -surveys 1978-2010

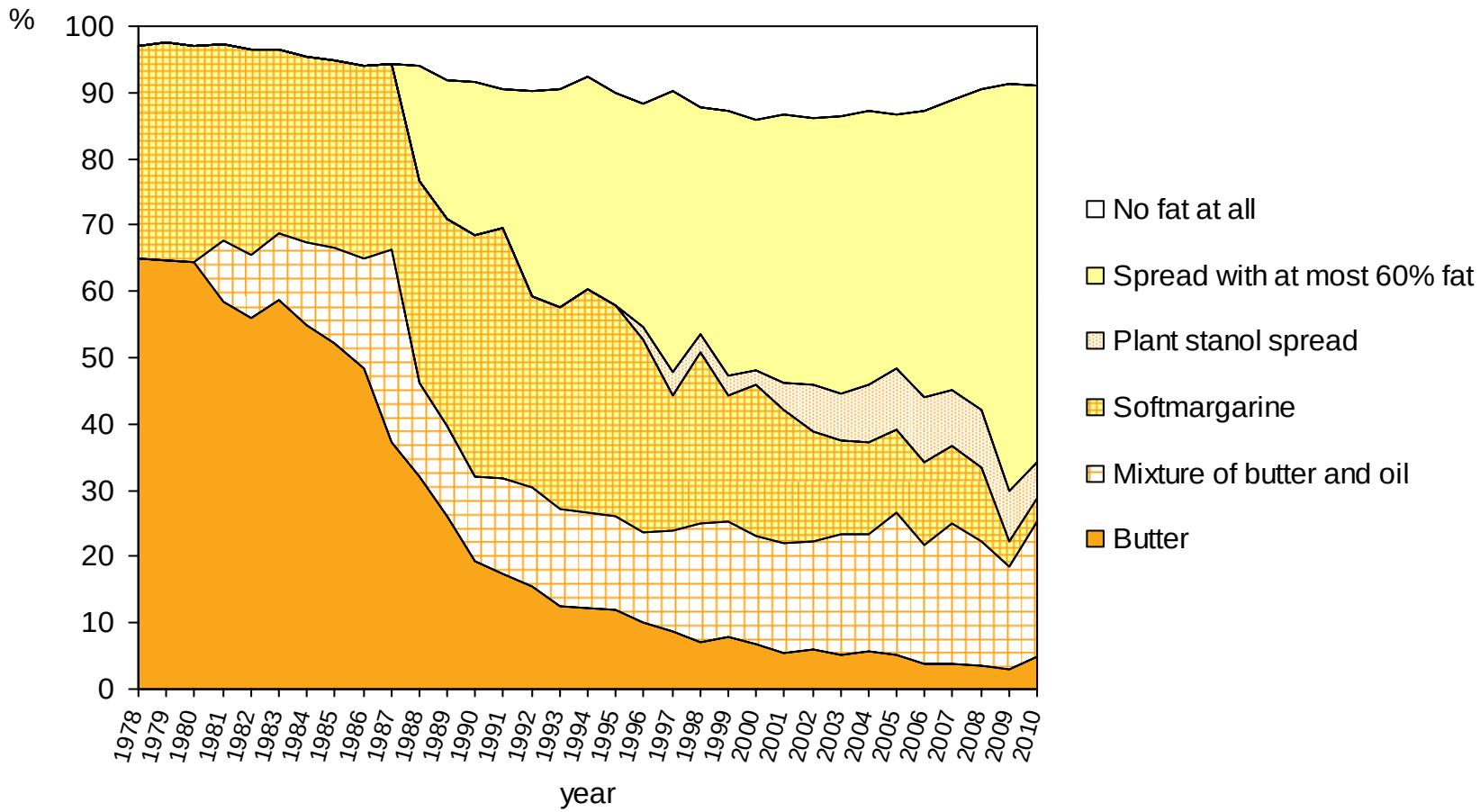
Beverage consumption in Finland



Source: Food balance sheets

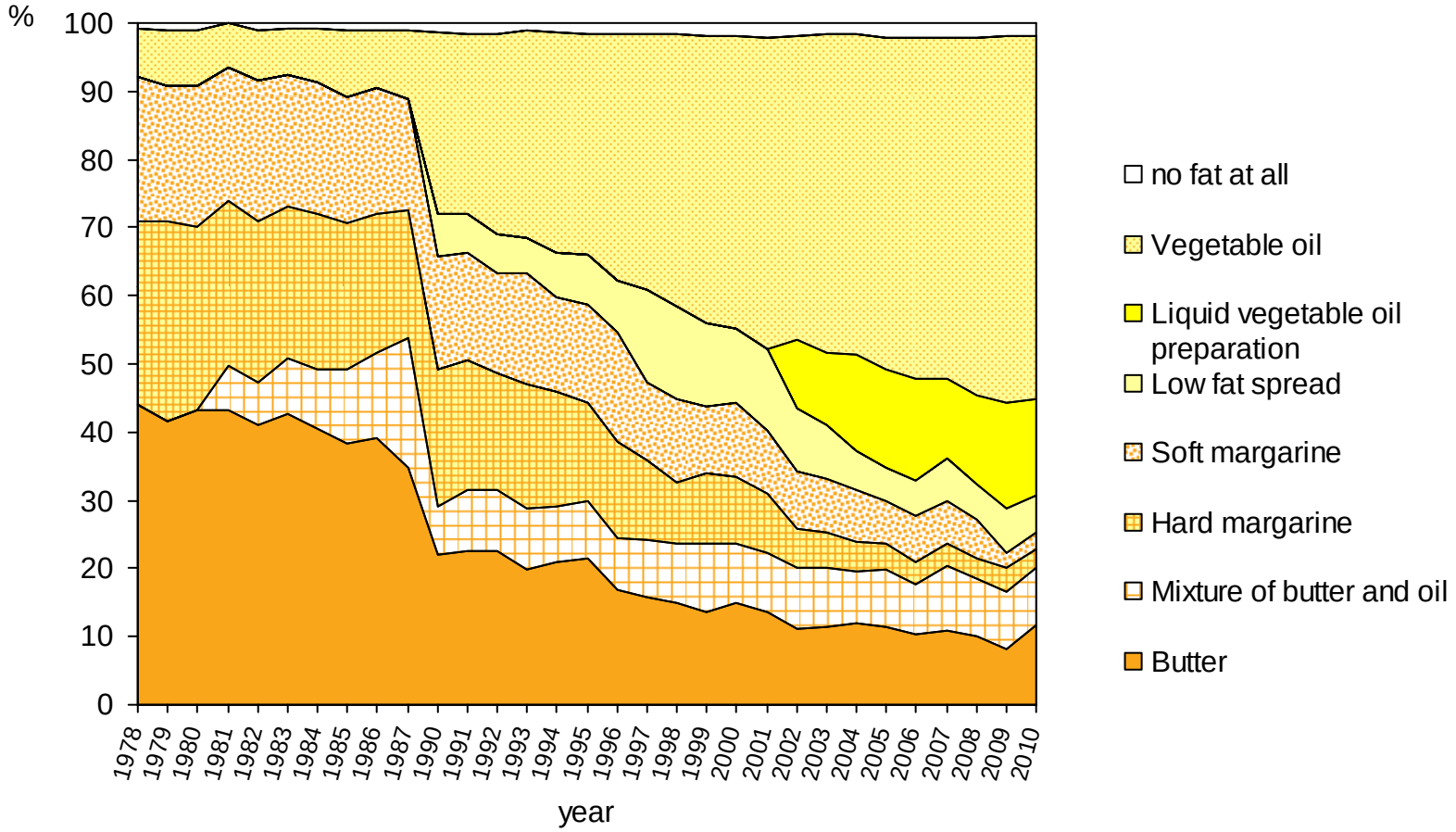
Case 1 – Fat quality

Type of bread spread in Finland, men 1978–2010



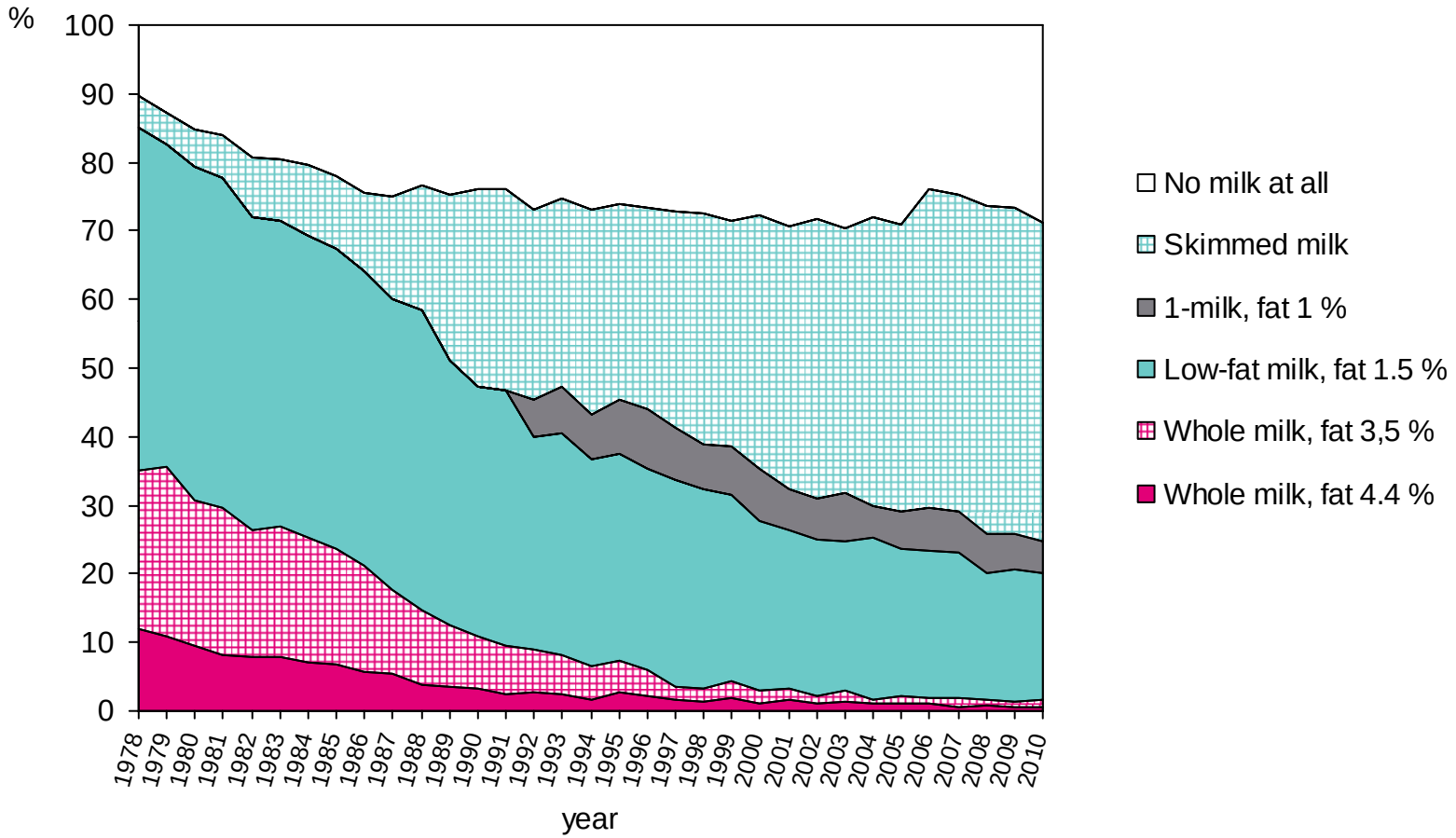
Source: National Institute for Health and Welfare (THL), Health Behaviour and Health among the Finnish Adult Population -surveys 1978-2010

Fat used for cooking at home in Finland in 1978–2010



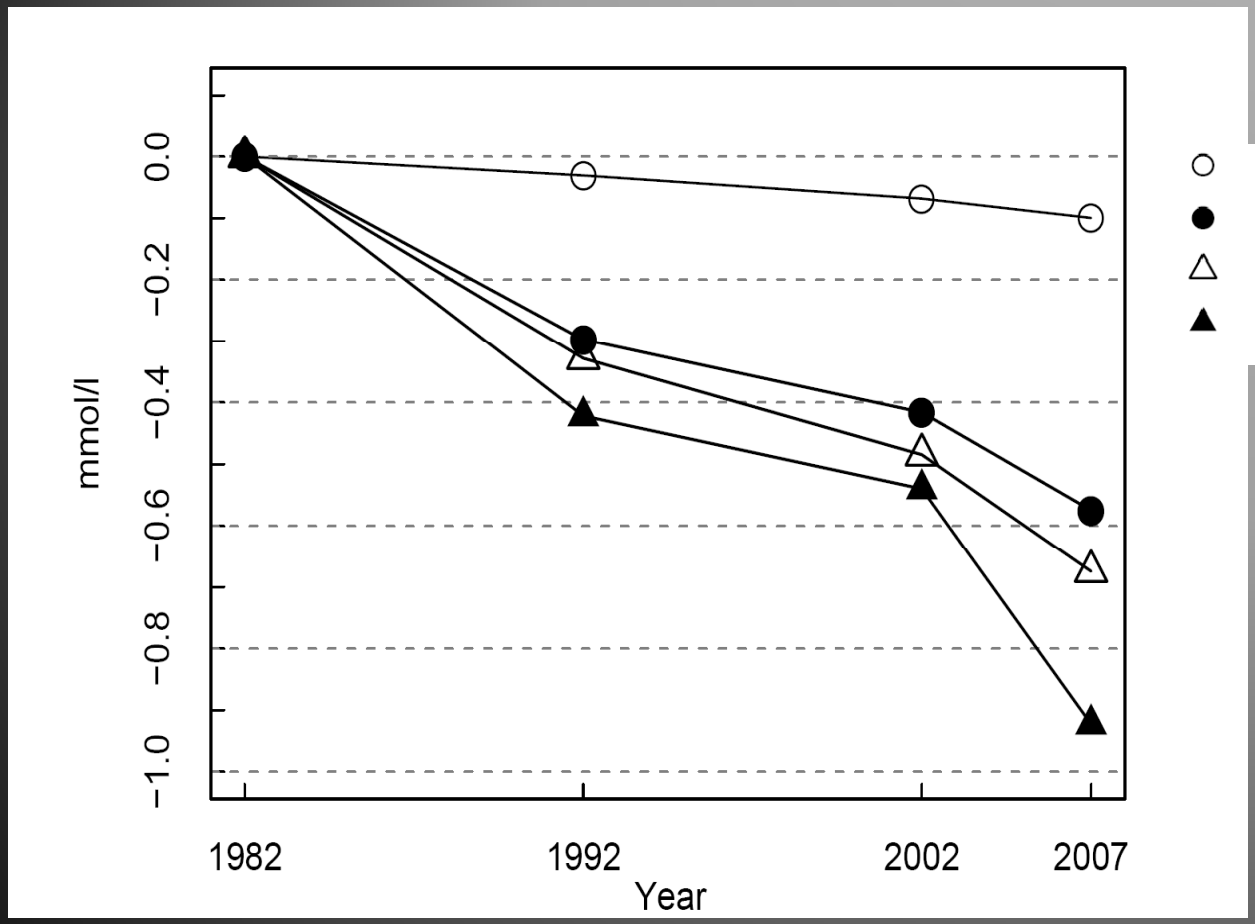
Source: National Institute for Health and Welfare (THL), Health Behaviour and Health among the Finnish Adult Population -surveys 1978-2010

Type of milk usually consumed in Finland in 1978–2010, women



Source: National Institute for Health and Welfare (THL), Health Behaviour and Health among the Finnish Adult Population -surveys 1978-2010

Dietary fats and medicines explaining the change in serum cholesterol levels



(Valsta et al. 2010)

Case 2 – Salt

Thirty years of systematic work

- Recommendation to reduce salt intake by the National Nutrition Council in 1978
- 1979–1982 The North Karelia Salt project with population surveys in 1979 and 1982
- Mass media campaigns, cooperation with food industry to reduce salt voluntarily, education of health care personnel
- Expanded after the 3-year project to the whole country
- The public became aware of salt and BP, regular monitoring was established at KTL, and the first national labelling decrees were launched in the 1980s

Salt reduction – an integrated approach

- **Research**: salt reduction interventions (North Karelia Salt Project, local projects, e.g. Turku area etc.)

- **Monitoring** (The National Public Health Institute, KTL, since 1.1.2009 The National Institute for Health and Welfare):

  24h sodium excretions studies, sodium in the food composistion database since early 1980s (updates).

Salt reduction and CVD

Tuomilehto et al. 2001:

- The 1982 and 1987 cohorts form North Karelia and Kuopio with 24-h urines with follow-up for CVD events
- 100 mmol higher Na increased risk of CHD by 51%, CVD mortality by 45 % and all-cause mortality by 26 %

Monitoring sodium excretion in Finland

24-h urinary collections:

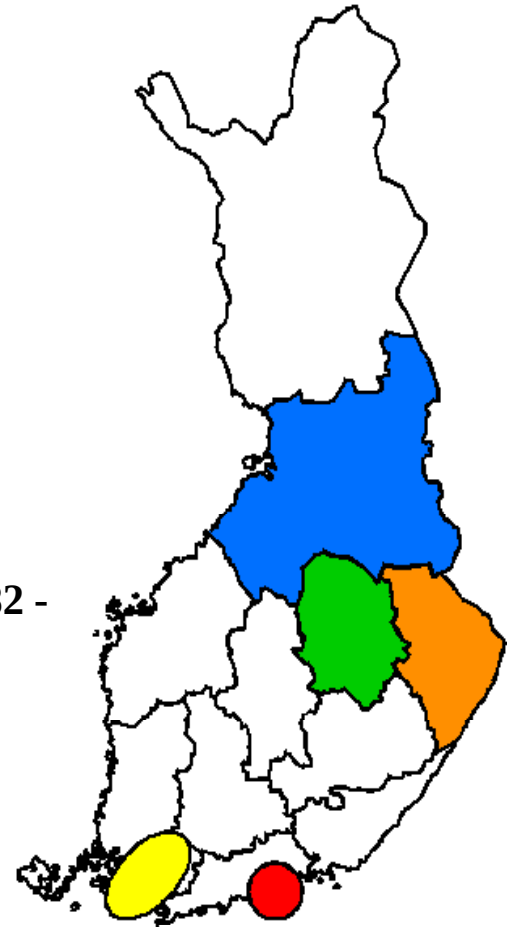
- 1979: North Karelia Salt Project
- 1982 and 1987: FINMONICA salt substudy
  - 2002: FINRISK salt substudy

Monitoring salt intake in dietary surveys and FBS

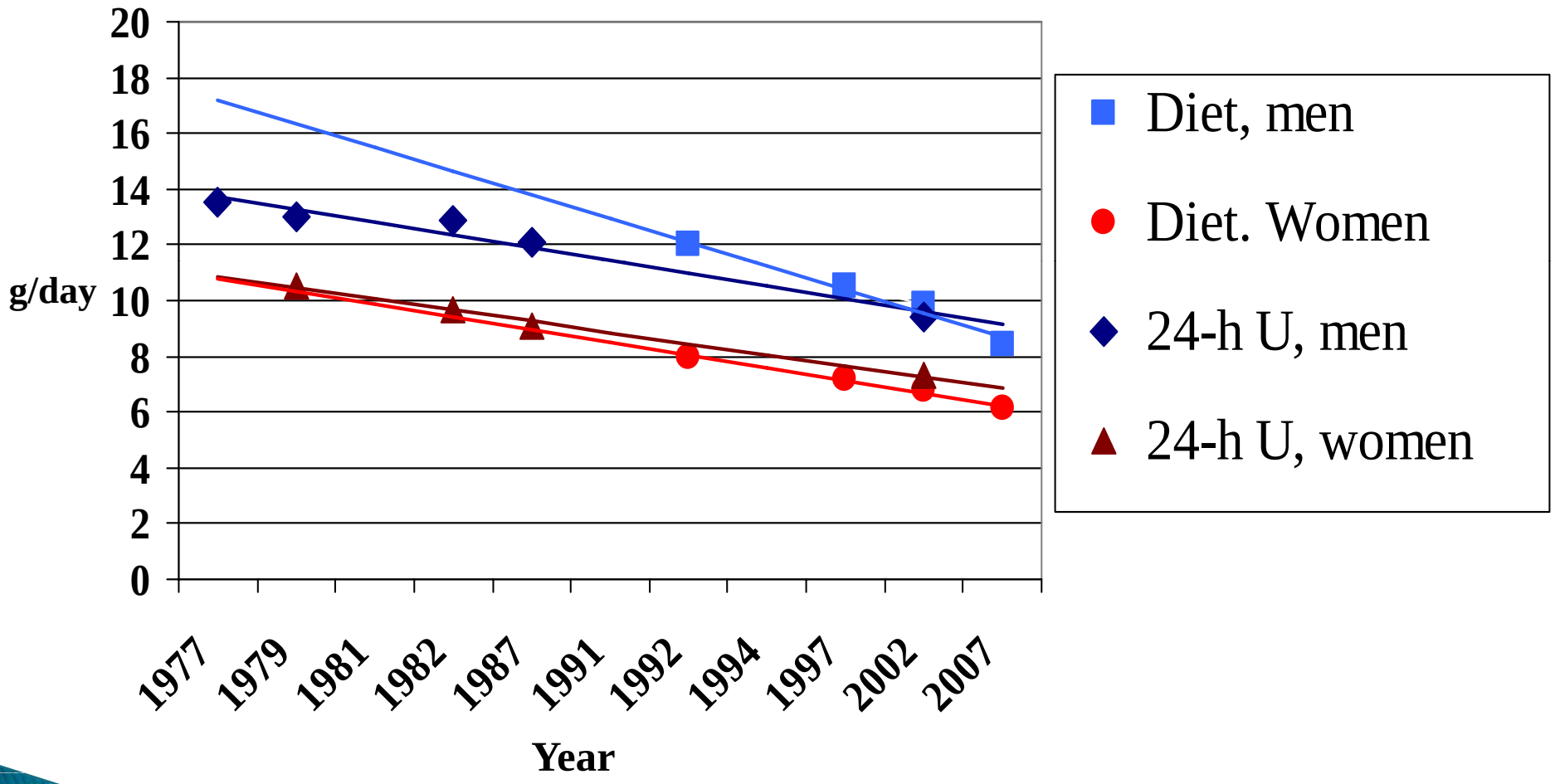
- Findiet studies
  - Dietary substudies of FINRISK surveys
  - 1992: 3 day food diary
  - 1997: 24-h recall
  - 2002: 48-h recall
  - 2007: 48-h recall
  - Area, 10-year age group and sex stratified random samples of the population aged 25-64 years
- Food Balance Sheets 1980, 1991 and 1997-1999

FINRISK study areas

- Oulu area 1997-
- Kuopio area 1982-
- North Karelia 1982-
- Southwestern Finland 1982 -
- Helsinki area 1992 -

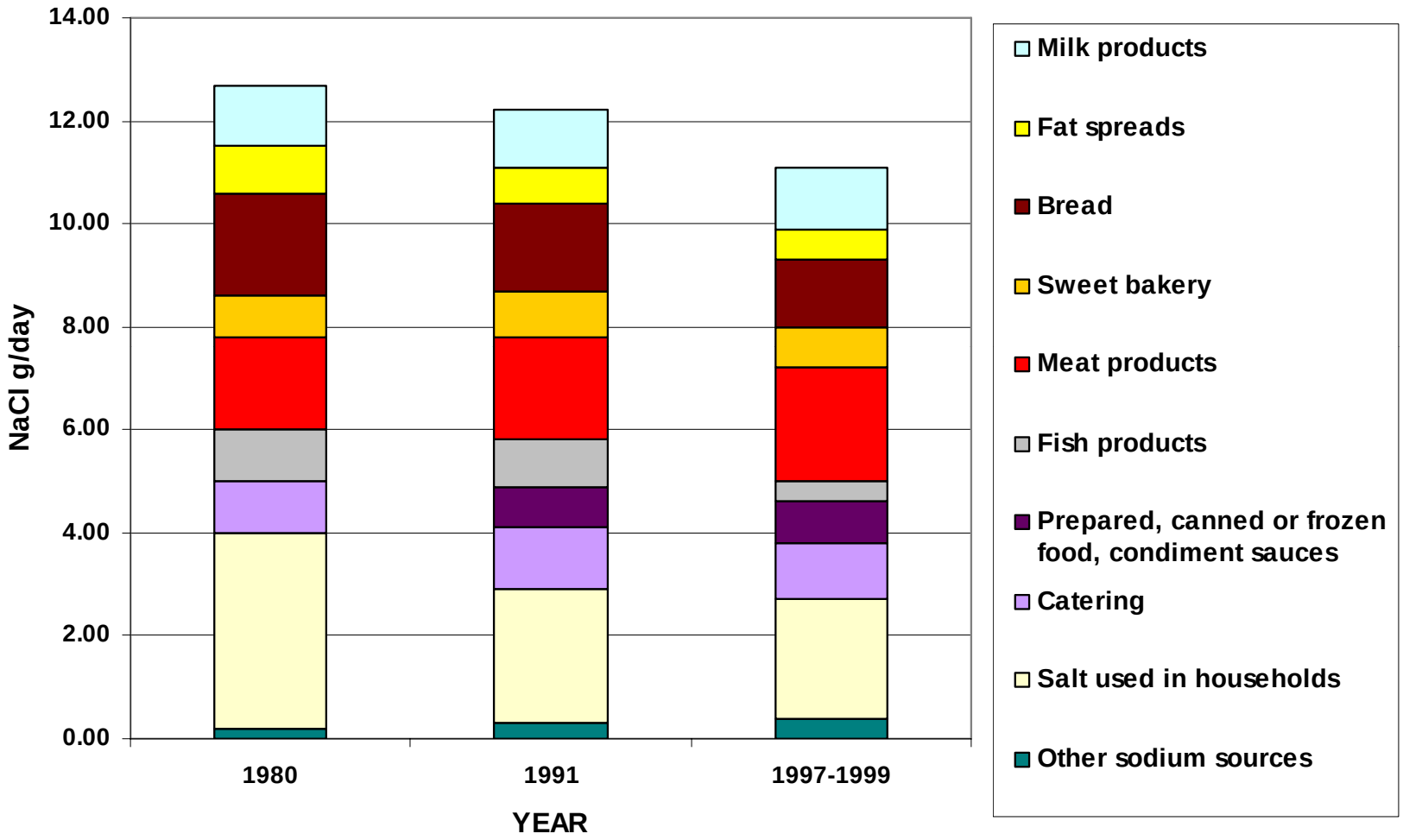


Salt intake in Finland 1977–2007



(Source: National Institute for Health and Welfare, THL)

Sources of salt. Food Balance Sheets 1980–1999.



(Reinivuo et al. Eur J Clin Nutr 2006)

Salt reduction – an integrated approach

- **Legislation, consumer information** (Ministry of Ariculture and Forestry/The Finnish Food Authority)
- **Product development**: e.g. mineral salt (Prof. Heikki Karppanen, Univ. Of Helsinki), meat products (Prof. Eero Puolanne, UH), bread (Prof. Hannu Salovaara, UH)
- **Salt seminars (publications)** for the nutrition experts and medical community (e.g. the Finnish Food Industry, Finnish Association for Nutrition Research etc.)
- **Information** on salt reduction: NGOs, e.g. The Finnish Heart Association, Consumer organisations

Lowest feasible sodium / salt levels / 100g

Food group	Sodium mg/100g f.w.	NaCl g/100g f.w.	Comment
Fresh bread	280	0.7	**Baking technology does not limit the sodium content - baking is possible also without added salt**
Crisp bread	480	1.2	
Whole meat products/cold cuts	760	1.9	
Cold cut sausages and other cooked sausages	600	1.5	**A lower sodium/salt content (560 mg sodium or 1.4 g salt) is reached, when mineral salt is used**
Processed foods of fish, meat and vegetables	400	1.0	
Ripened cheese and similar products	480	1.2	**Popular Emmental cheeses with sodium content of 300 mg/0.75 g salt**

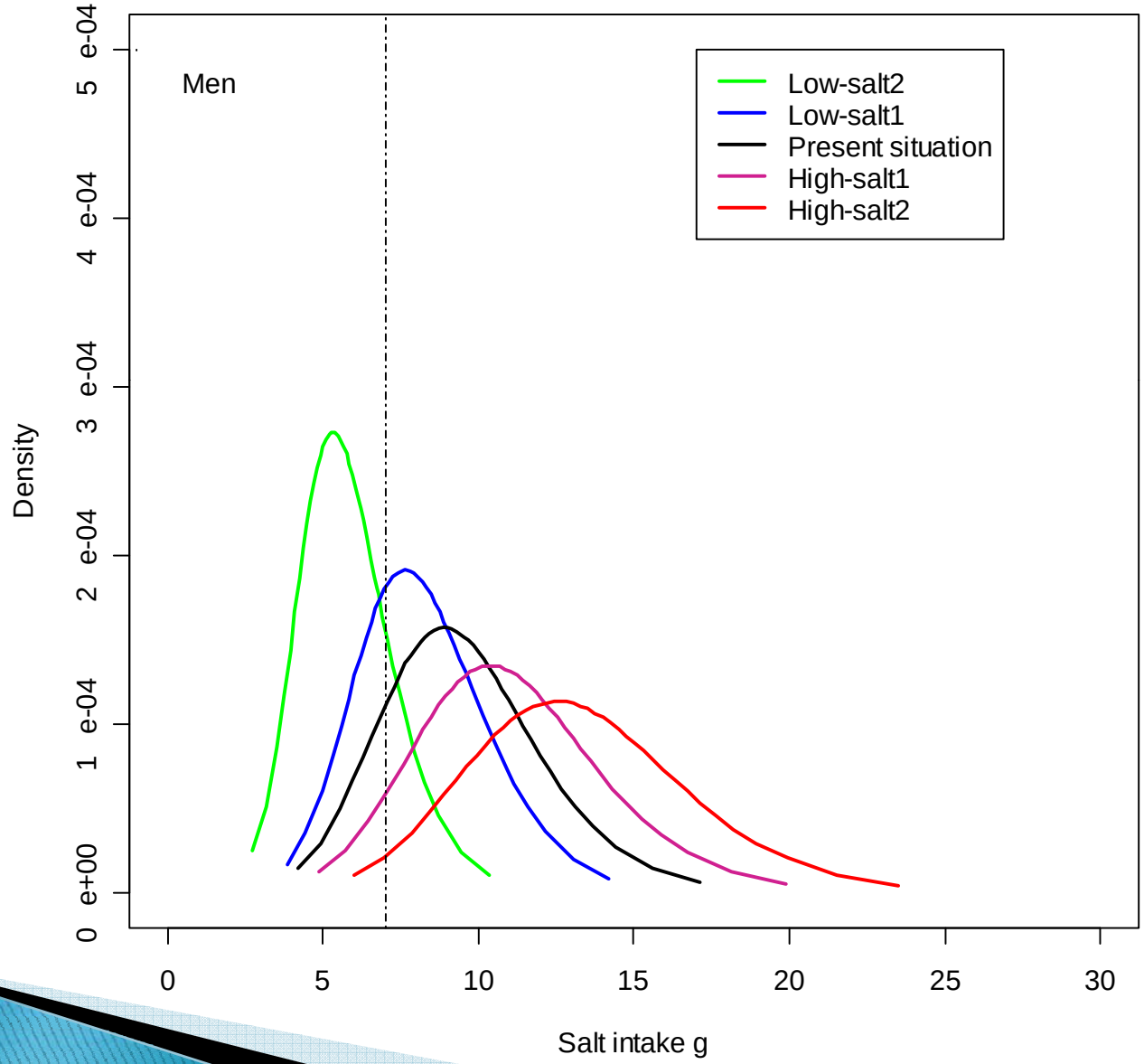
Compulsory labelling of salt:

- Cheese
- Sausages and other meat products
- Fish products
- Bread, crisp bread and thin crisp bread
- Broths, soups and sauces, also as powder and concentrate
- Other prepared or semi-prepared foods
- Mixed spices containg table salt

Labelling of salt after 1.7.2007 (1.7.2009)

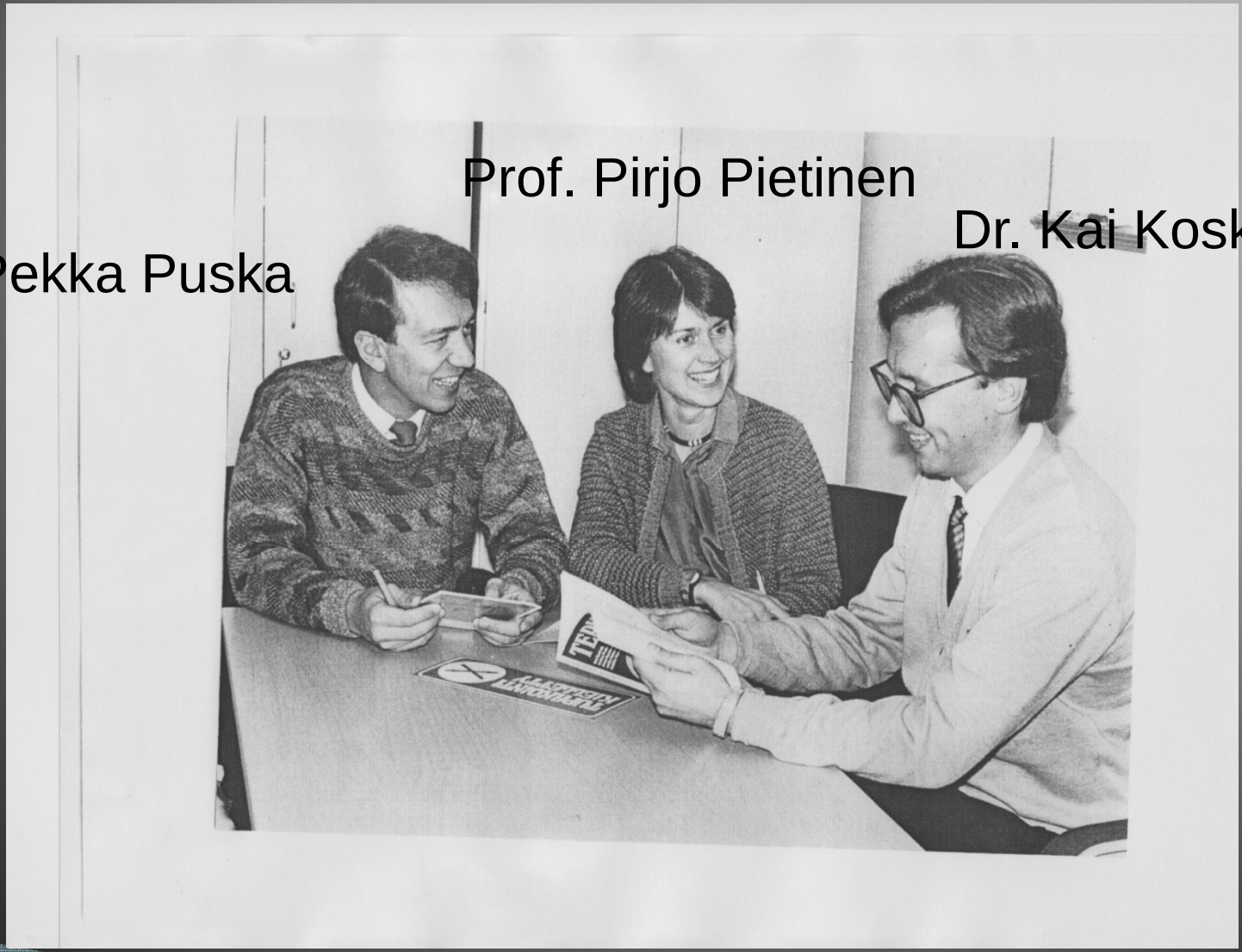
	NaCl % limits	
Food category	”Highly salty” (reduced by 0.1 %)	”Reduced salt” >25 % less salt than normal product
Fresh bread	>1.2	max 0.9
Crisp bread	>1.6	max 1.2
Cheese	>1.3	max 1.0
Sausages	>1.7	max 1.3
Cold whole meat cuts	>1.9	max 1.4
Breakfast cereals	>1.6	max 1.2
Soups, broths, sauces	>0.9	max 0.7
Prepared and semi-prepared foods	>1.1	max 0.8

Distribution of salt intake by choice of low or high-salt products (Findiet 2002, men)



(Source: Pietinen & al. 2007)

”The Keys of Health” on TV in ealry 1980s’



- About 800 ”Heart symbol foods” on the market
- More than 96 food companies
- The Heart Meal has also been launched
- Better choice in a food category (salt, total fat/ fat quality, sugar)
- In some food categories also fibre, sugar and cholesterol)
- Food group based criteria available: http://www.sydanmerkki.fi

(Source: www.sydanliitto.fi)

Conclusions

- Salt intake has decreased by about 30% in Finland since the end of 1970s.
- Intake is still far from the recommendations
- Reducing salt intake in the population requres long-lasting, systematic work
- National legislation works – especially setting maximum salt levels for normal products
- Consumer education is very important
- Overall agreement within Europe helps – food travels
- Challenges remain

Changes in health and risk factors

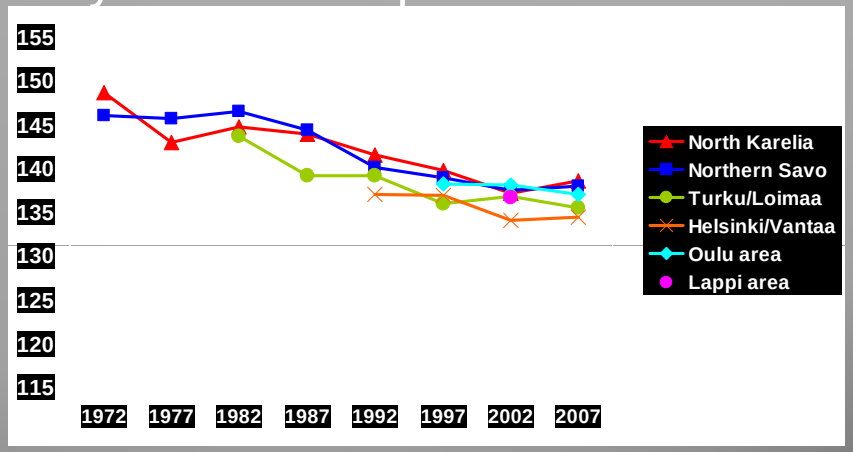
Health and risk factor changes in Finland since 1970

- 80% decrease in the age adjusted coronary heart disease (CHD) mortality among men

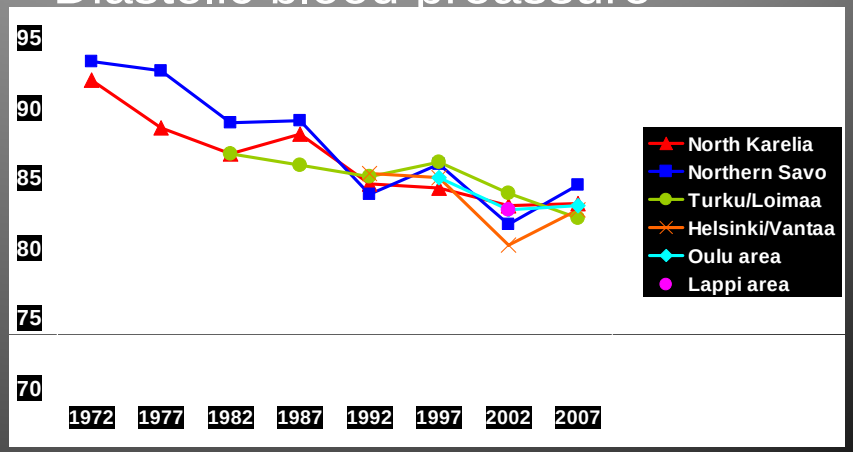
-75% decrease in age adjusted stroke mortality among men

- About 10% decrease in blood preassure

Systolic blood preassure

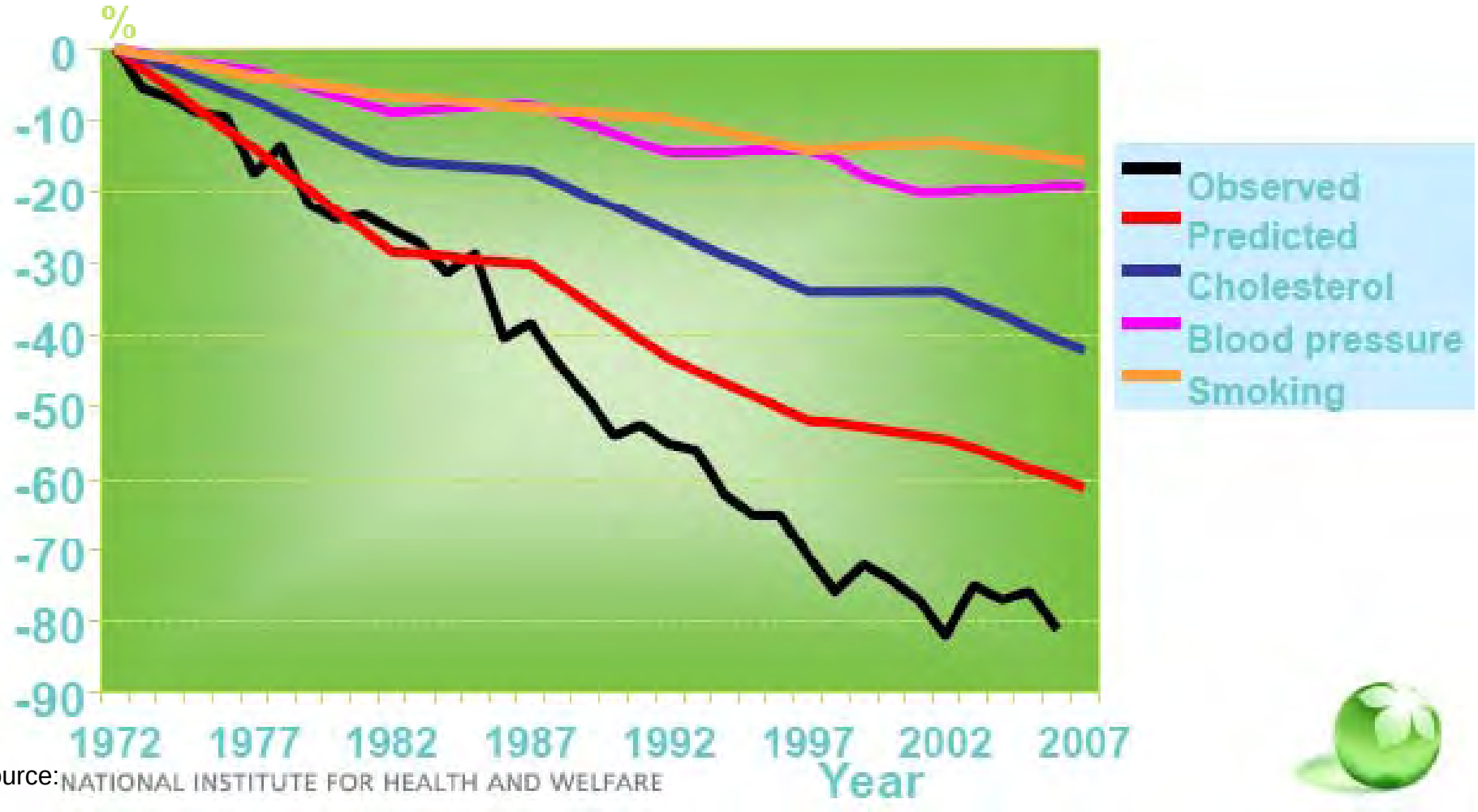


Diastolic blood preassure



(Source: National Institute for Health and Welfare, THL)

Observed and Predicted Declines in Coronary Mortality in Eastern Finland, Men

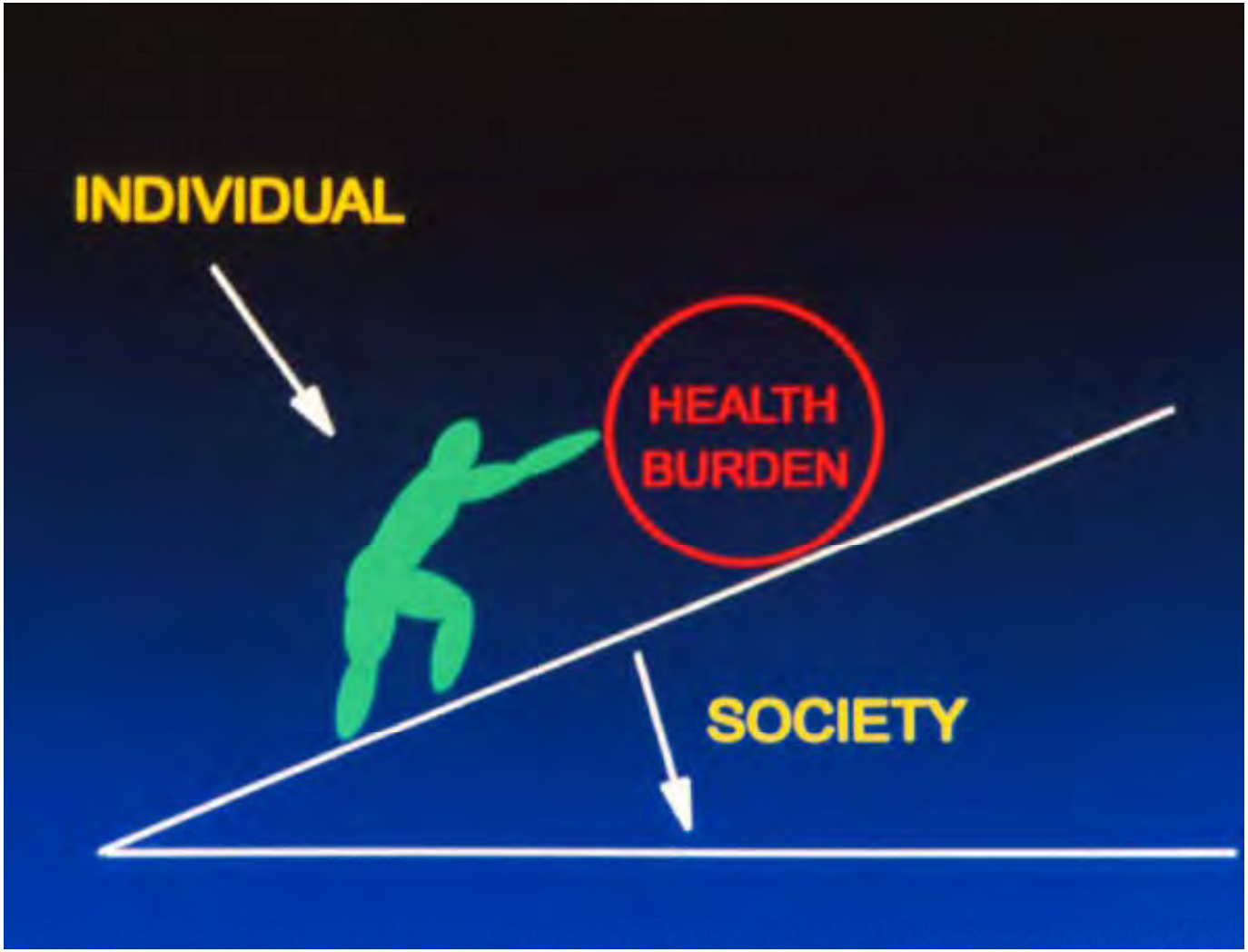


Source: NATIONAL INSTITUTE FOR HEALTH AND WELFARE

Summary 2

- Consumer education is important
- Society can support the consumers by making the healthy choises the easy ones. (Ottawa charter)
- Both public and high risk prevention strategies in use
- ”Health in all policies”

Both – more effective



(Source: Puska, P. National Institute for Health and Welfare, THL)

Finland Has Shown

- Prevention of major chronic diseases is possible and pays off.
- Population based prevention in the most cost effective and sustainable public health approach to chronic disease control.
- Prevention call for simple changes in some lifestyles (individual, family, community, national and global level action).
- Influencing lifestyles is a key issue.
- Many results of prevention occur surprisingly quickly (CVD, diabetes) and also at relatively late age.
- Comprehensive action, broad collaboration with dedicated leadership and strong government policy support

Source: Puska P. National Institute for Health and Welfare (THL)

Nutrition and consumer behaviour

Richard Shepherd

University of Surrey

FOOD, CONSUMER BEHAVIOUR & HEALTH RESEARCH CENTRE

Outline of presentation

- Types of policies and behaviour change
  - EURRECA project
- Consumer food choice
- Health claims
  - HEALTHGRAIN project
- Front of pack nutrition labelling
  - FLABEL project
- Concluding comments

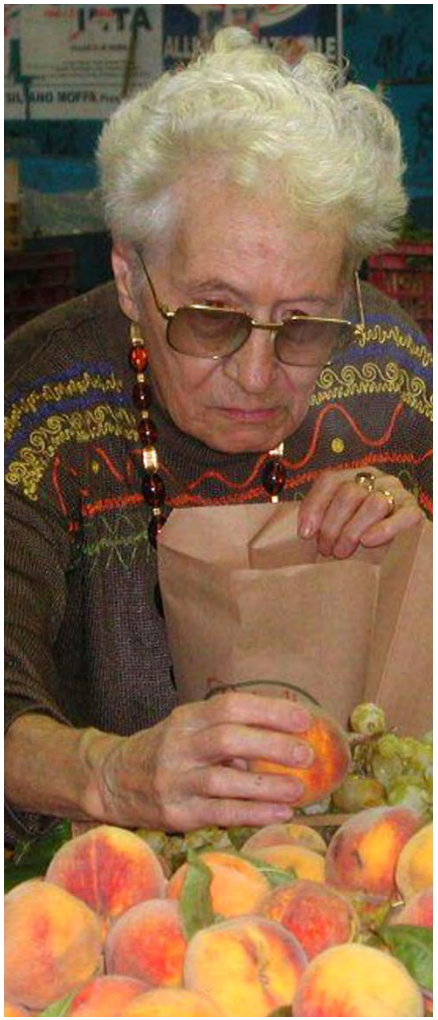
What is policy

What is policy – little agreement

- “what governments choose to do or not to do” (Dye, 2002, p.2)
- “a position taken on an issue by an organization or individual in a position of authority (Baggott, 2007, p.2)
- “a web of decisions and actions that allocate… values (Eston, 1953, p.130)

Central elements of policy (Colebatch, 2002)

- Systematic and consistent approach, that often changes over time
- Includes a statement of values
- It is legitimised by authority of individuals, offices or organisations
- Non-action and non-decision is also policy
- Those responsible for policy decisions rarely implement them



Renewed interest in behaviour change

- Recognition that increasingly global problems require partnerships and local solutions
- Focus is increasingly on prevention rather than treatment
- Move from “state in control” to “state as facilitator” – where the state’s role is to manage multiple interests and perspectives in society

The state is in control

- Assumption about rational choice basis of behaviour
- State as expert and moral guide
- Instrumental policies
- Trust: Competence and legitimacy of regulation largely unchallenged
- e.g. BSE crisis

The state as facilitator

- Plural influences and modes of reasoning and behaving
- State as facilitator, mediator and co-creator
- Governance rather than government
- Increasing scientific uncertainty and scrutiny, distrust of science/ need for long-term solutions
- e.g. regulation of mobile phones risk

Evidence from the social sciences

- What kind of behaviour is being targeted?
- How do behaviours and patterns of behaviour differ across population groups?
- What motivates behaviour and to what extent is it a conscious act as opposed to the matter of habit?
- In what way do scientists' and stakeholders' beliefs about consumer awareness, understanding of nutrition influence how recommendations are developed?

Prendergrast et al, 2008 [http://www.smf.co.uk/creatures-of-habit.html]

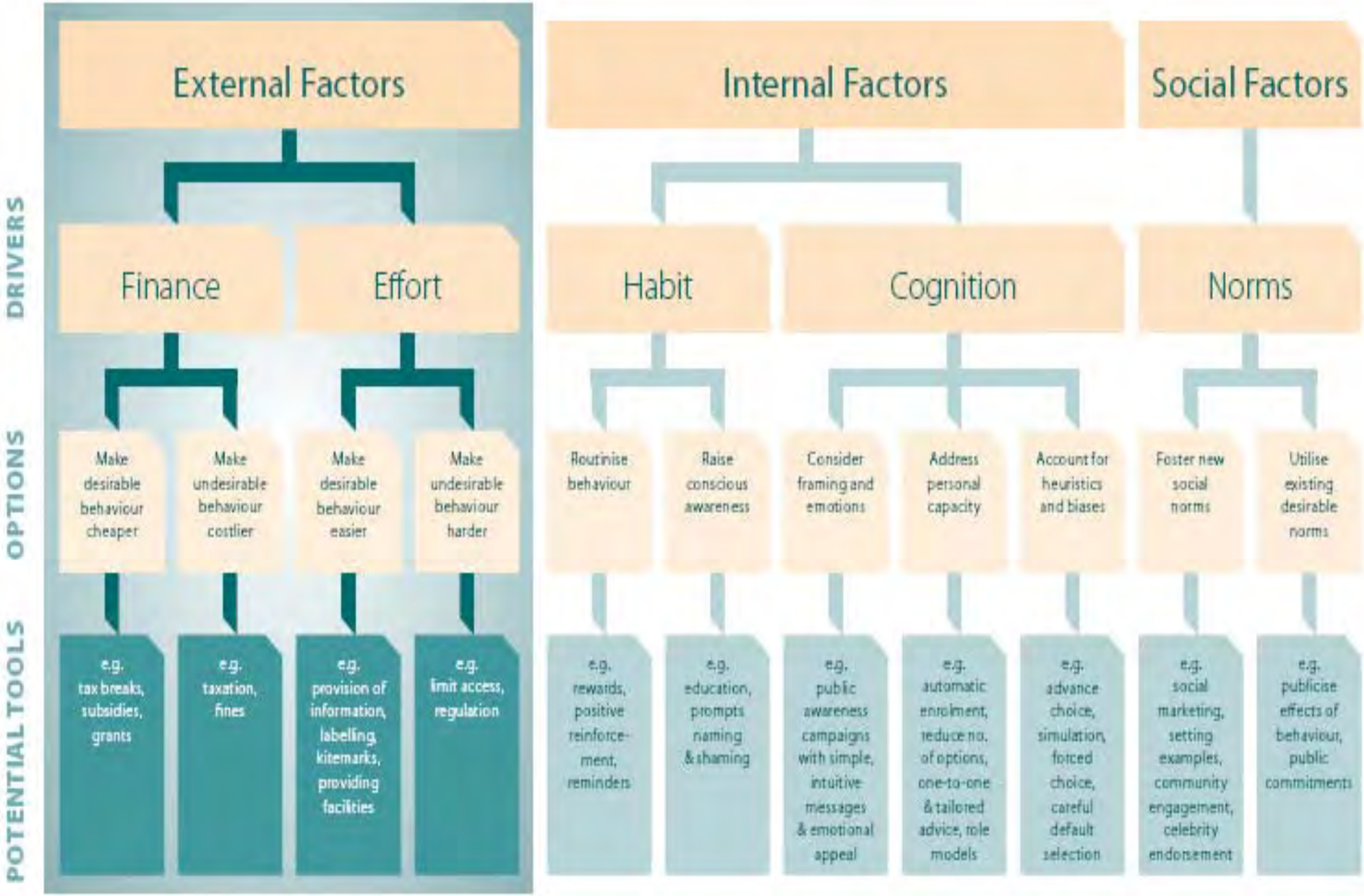


FIGURE 1 – FACTORS AFFECTING BEHAVIOURAL CHANGE

Types of policies

Inducements (proverbial carrots and sticks – threat of a penalty or a promise of reward); e.g. penalty for smoking in public places

Rules (commands to act or not act in certain way); e.g. legislation on labelling, on food safety, on health claims

Facts (information that will change people's mindset); e.g. information and education such as 5-a-day, breastfeeding campaign

Rights (are strategies that allow individuals or groups or organizations to invoke government power on their behalf) e.g. right to have access to secure food or free health service; consumer right of free choice

Powers (strategies that seek to alter the content of decisions by shifting the power of decision making to different people, e.g. shifting the decision-making from one part of government to another); e.g. separating the body regulating consumer and industry issues

Consumer behaviour: food choice

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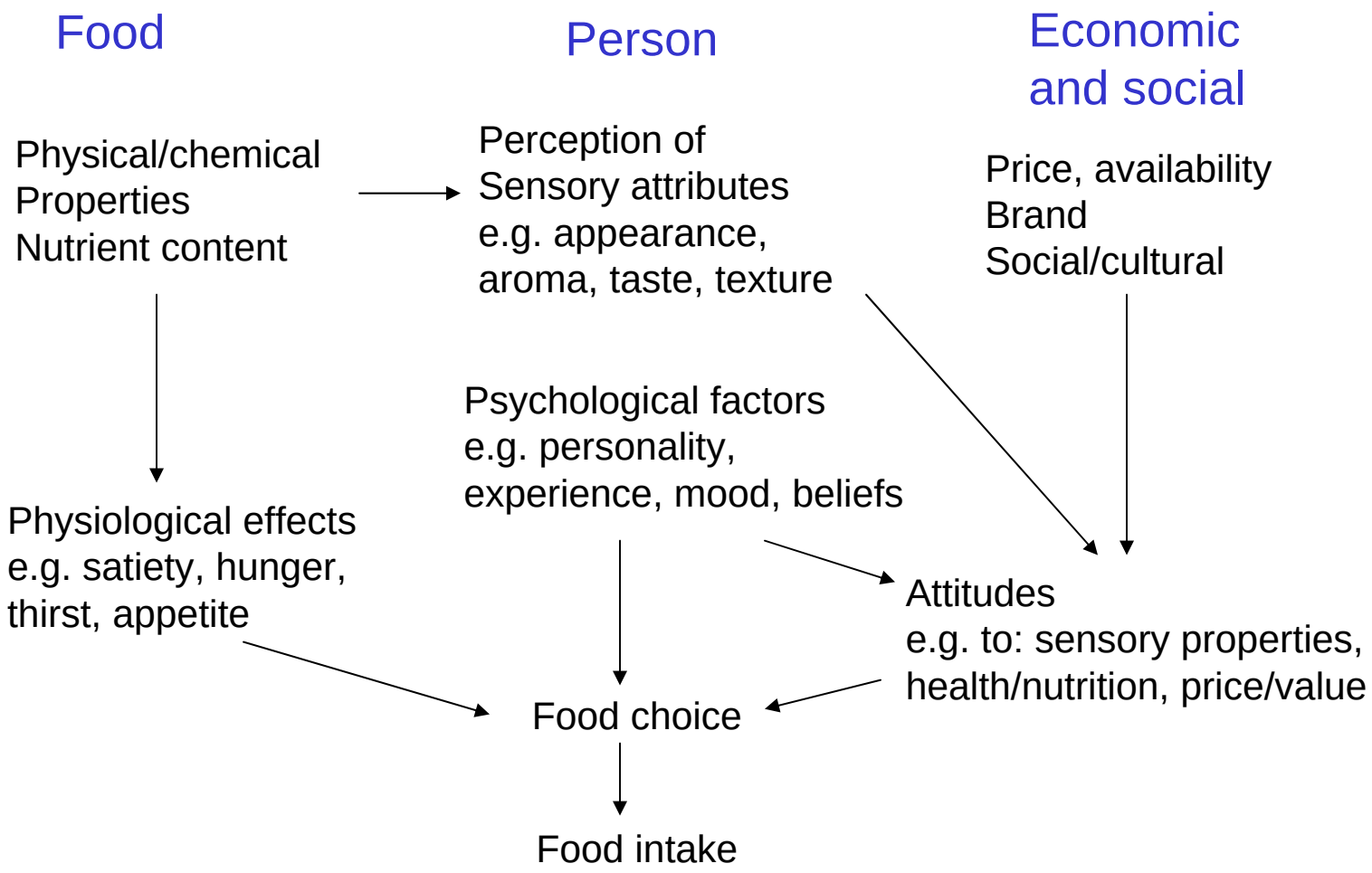
Factors affecting food choice



From Shepherd (1985)

Improving diet

- Information and understanding or something else?
- Change behaviour
  - Increase consumption of a healthy food (e.g. wholemeal bread, fruit and vegetables)
- Change foods
  - Functional foods, e.g. increase healthy components
- Still need to know the influences on choice even for functional foods

Health claims: consumer acceptance

- Base product is more important than type of claim (e.g. Bech-Larsen & Grunert, 2003)
- Consumers less likely to accept modification of products already seen as ‘healthy’, e.g. fruit juice, yogurt and organic (Bech-Larsen & Grunert, 2003)
- But in other studies (e.g. van Kleef et al., 2005) more ‘healthy’ products seen as more appropriate for functional claims:
  - Yogurt, margarine, brown bread and pills seen as appropriate for functional claims
  - Not chewing gum, ice cream and chocolate

HEALTHGRAIN project (en)

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Meet the HEALTHGRAIN Team!

Welcome to HEALTHGRAIN!

HEALTHGRAIN is the acronym for *"Exploiting Bioactivity of European Cereal Grains for Improved Nutrition and Health Benefits"*, an Integrated Project of the European Union's Sixth Framework Programme.

HEALTHGRAIN continued till June 2010. HEALTHGRAIN related activities are now continued in the HEALTHGRAIN Forum association (www.healthgrain.org). Organisations supporting the aims of the forum are welcome to join as member. The Forum is maintaining the HEALTHGRAIN project website www.healthgrain.eu, with its weatlh of information as an archive.

HEALTHGRAIN leaflet 2010 Start of HEALTHGRAIN Forum

Information brochure about HEALTHGRAIN

Grain based food and health - results, impact and perspectives

Press releases, published on 5 May 2010 in Lund

Events:

Successful final HEALTHGRAIN Conference

May 5-7, 2010,
Lund, Sweden

Presentations now available!

Project:

The HEALTHGRAIN Book (Final HEALTHGRAIN Conference, Lund)

Download for free
(PDF file, 190 pages)!

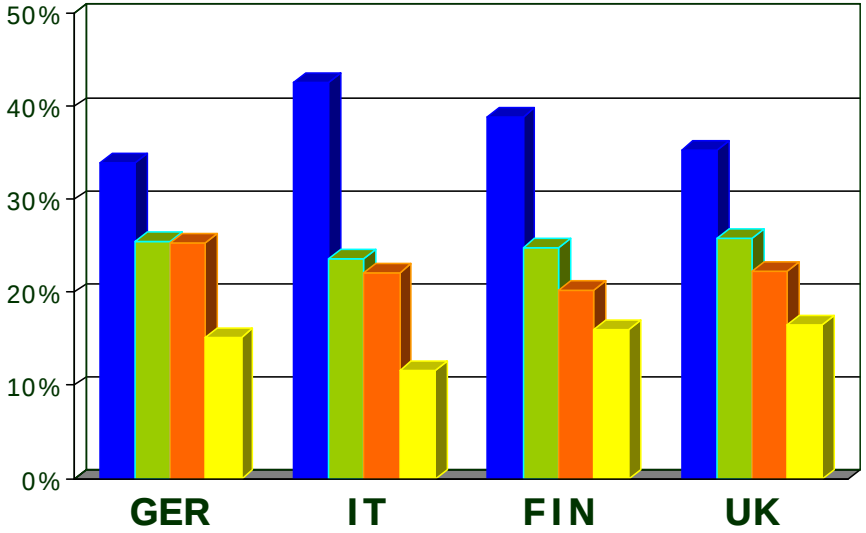
Conjoint plan: fractional factorial design

4 attributes and 11 levels (9 cards):

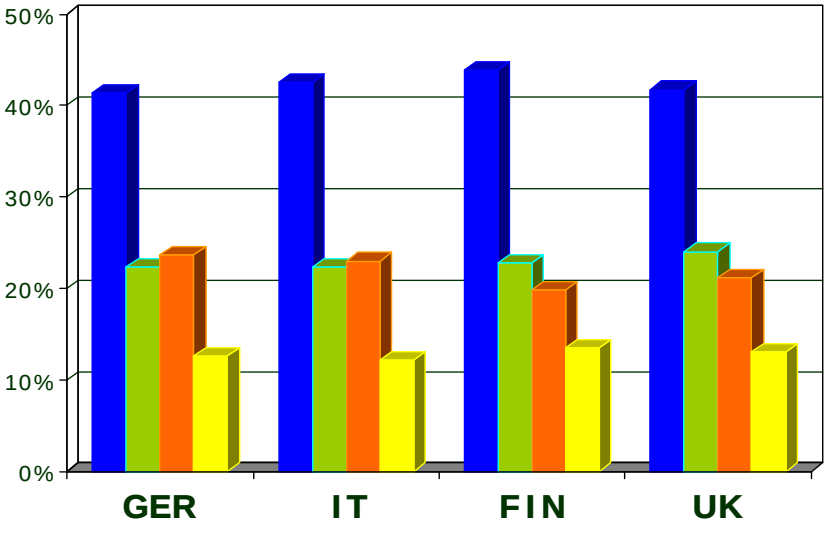
- **Product**
  - bread
  - yoghurt with added cereals
  - cake
- **Claim**
  - no claim
  - weak claim
  - strong claim
- **Cue factor (symbol)**
  - no cue
  - Natural
  - medical
- **Wholegrain label**
  - no wholegrain
  - contains wholegrain

Relative importance of base-product, claim, visual cue, wholegrain on perception of:

"healthy product"



"likelihood to buy the product"



base product claim cue wholegrain

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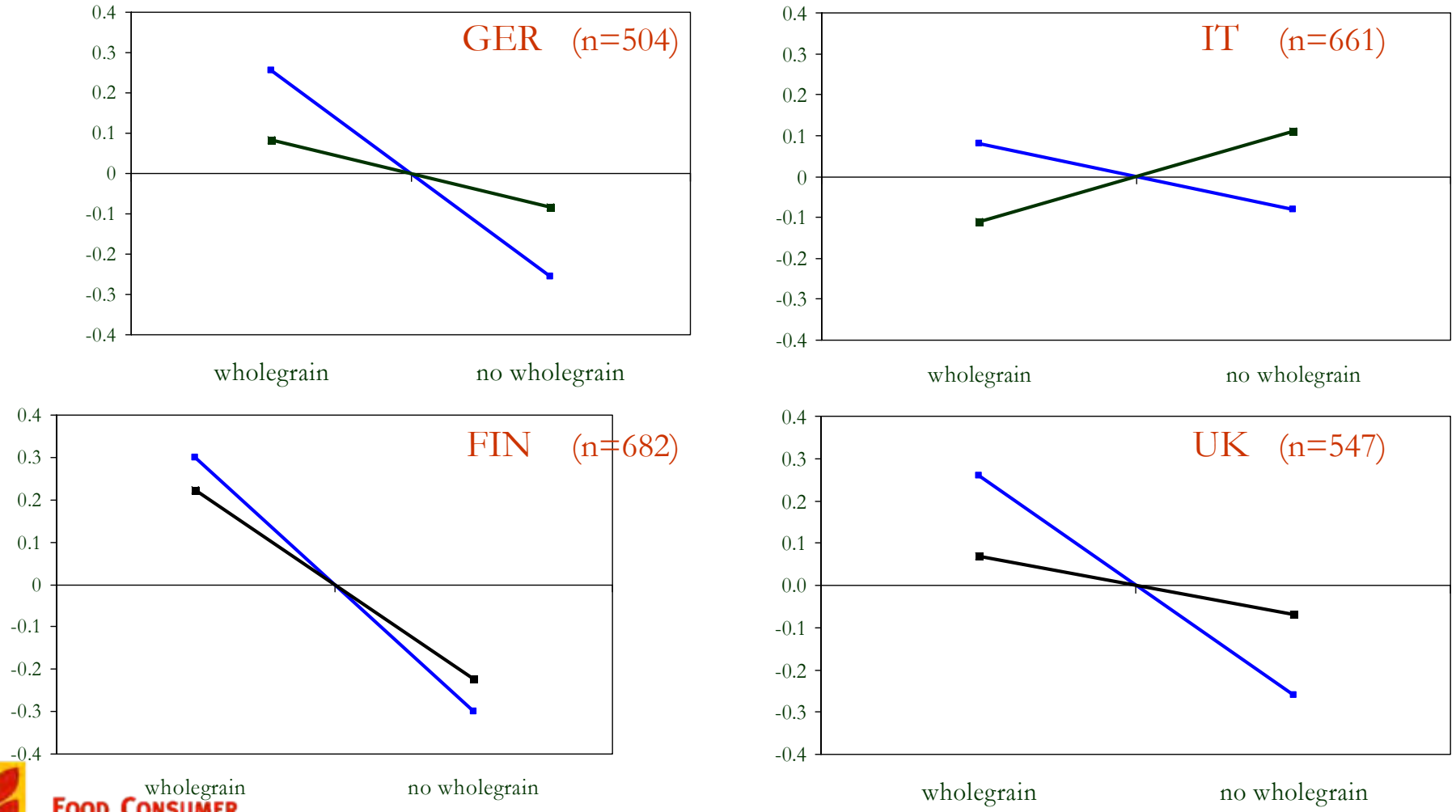
Importance of wholegrain on perception of "healthy" and "likelihood of buying"



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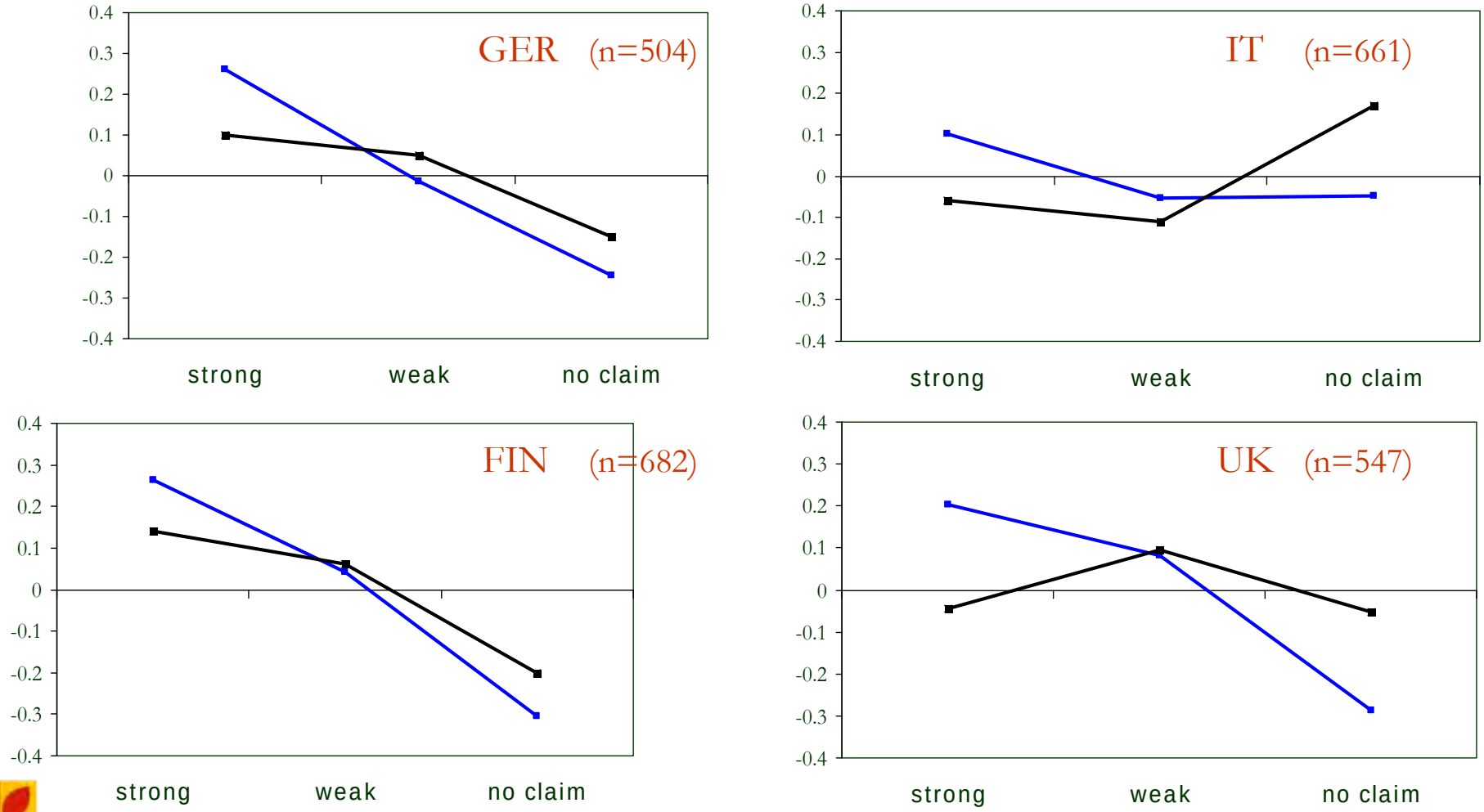
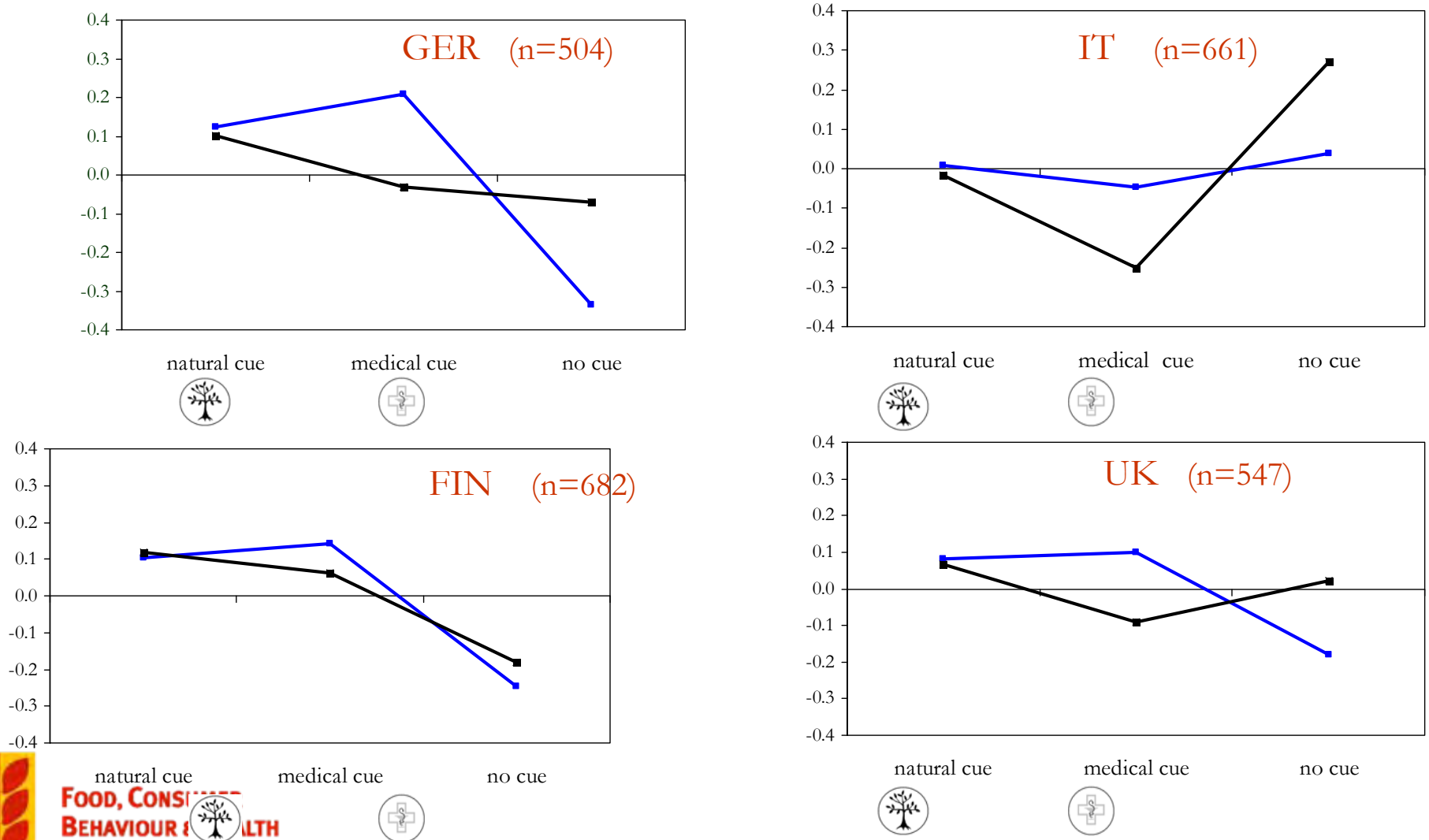
Importance of each level of claim on perception of "healthy" and "likelihood of buying"



healthy

likelihood of buying

Importance of each level of cue on perception of "healthy" and "likelihood of buying"



Introducing FLABEL - Windows Internet Explorer

http://www.flabel.org/en/

www.flabel.org

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Introducing FLABEL

Food Labelling to Advance Better Education for Life

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Introducing FLABEL

Welcome to the project website of FLABEL (Food Labelling to Advance Better Education for Life). Here you can find all relevant information and latest news from the EU-funded research consortium that is dedicated for 3 years (2008 – 2011) to establish the role of and identify what can be achieved when communicating nutrition information to consumers via food packaging labels.

Click here to download the FLABEL project leaflet

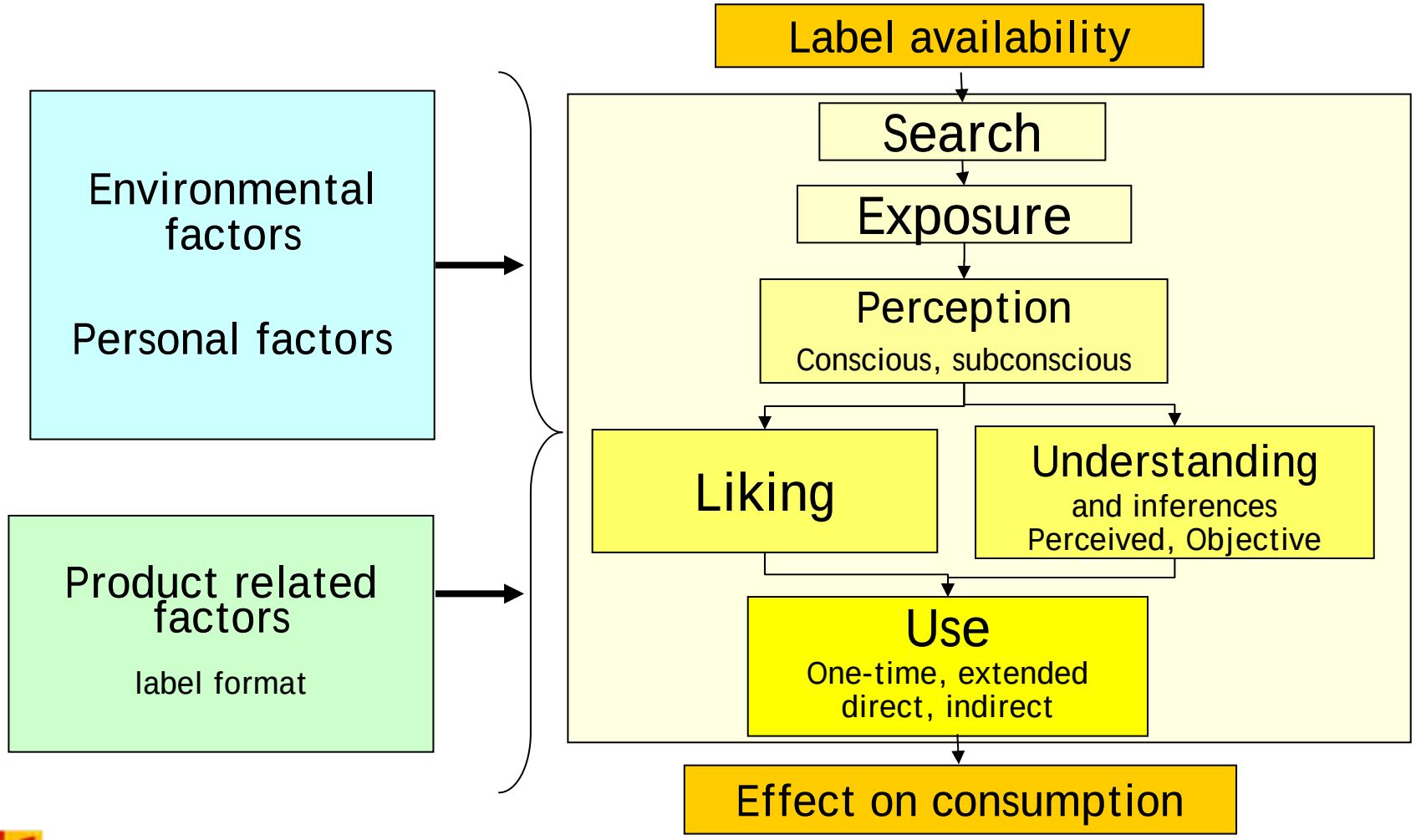
NEW - Status of the FLABEL project at mid-point

FLABEL reached its mid-point at the end of January 2010, and a status of the different work packages is available in the form of a summary report. To review the achievements so far, please click here.

First FLABEL results now available

The first results from the FLABEL project are now available. Following 6 months of research, in 28 countries (27 EU Members States & Turkey), more than 37,000 products have been audited to determine the penetration of nutrition labelling in Europe today.

Conceptual framework



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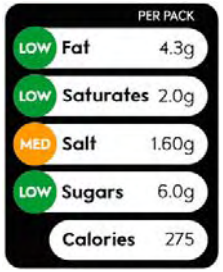
Consumer derived labelling typology

Directive

e.g. Simple and graduated Health logos

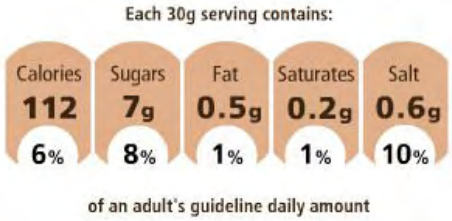
Semi-directive

e.g. Traffic light labels, hybrid labels and nutrition tables overlaid with traffic lights

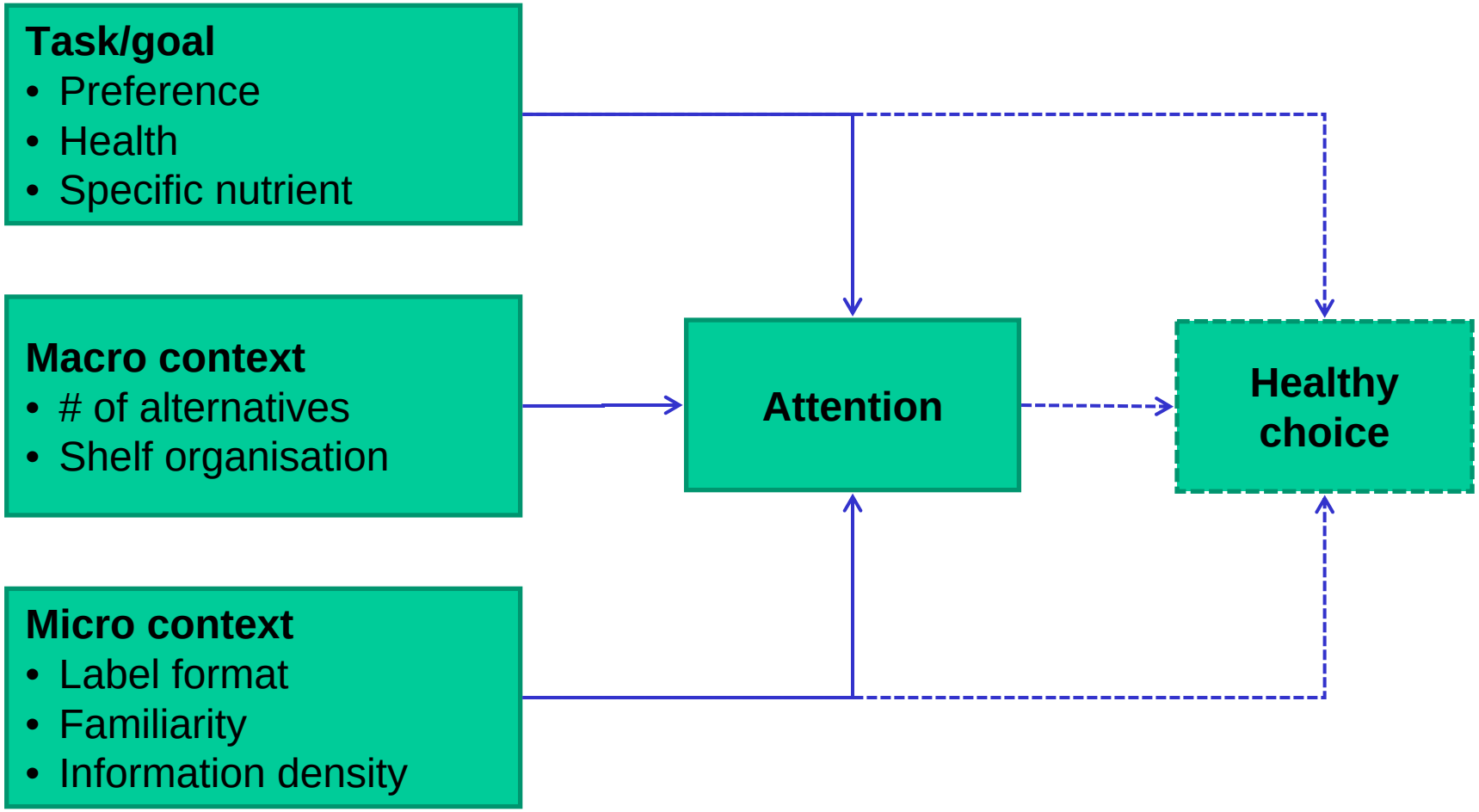


Non-directive

e.g. % GDA systems and nutrition tables with and without % GDA information.



Attention to, and reading of labels



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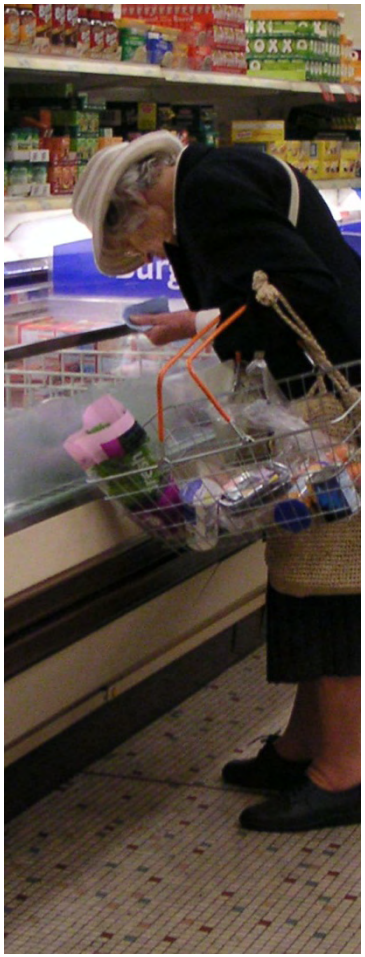
Attention and reading – findings

- **Healthy mindset** improves label attention and usage, especially for **nutrition-specific** goals
- Label in **low density area** of pack improves label attention
- **Consistency** (in exposure and location) improves attention to labels
- **Time pressure** reduces attention for nutrition labels, but not for simple directive logo
- Attention increases with **directiveness** (i.e., is highest for simple directive logo)
- **Inspection time** longer for more complex as opposed to simple directive logo
- Mixed results for **impact on choice –** simple directive logo worked best in Netherlands and Turkey, but results were more mixed in Poland and Germany

Attention and reading – conclusions

- Nutrition labels should
  - Cater for general as well as (nutrient-) specific health goals
  - Be easily attended to
  - Be intuitive in terms of information processing
  - Reach a high level of awareness
  - Effectively impact on choice behaviour
- Combination of simple directive and analytical (semi-directive or non-directive) label



Liking and attractiveness of labels

Label format
- Non-directive; Semi-directive; Directive
- 5 formats in total

Type of product
- Hedonic
- Utilitarian

Consumer characteristics

Liking and attractiveness

Liking and attractiveness – conclusions

- The GDA/TL hybrid system receives the highest scores for both liking and intended use
- There is some correspondence between awareness and preferences
- Very small differences in the monadic evaluation

- Labels with the highest amount of information and complexity are liked most, and liking depends on previous exposure

Understanding and health inferences from labels

UNIVERSITY OF SURREY

Label format
- Non-directive
- Semi-directive
- Directive

Type of product
- Hedonic
- Utilitarian

Consumer characteristics

Correctness of health inferences

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Understanding/health inferences - stimuli

Each 150g portion (one pot) contains

Calories	Sugar	Fat	Saturates	Salt
105	11.7g	2.3g	1.4g	0.3g
5%	13%	3%	7%	5%

of your guideline daily amount

Each 150g portion (one pot) contains

Calories	MED	LOW	LOW	LOW
105	Sugar 11.7g	Fat 2.3g	Saturates 1.4g	Salt 0.3g

Each 150g portion (one pot) contains

	MED	LOW	LOW	LOW
Calories 105	Sugar 11.7g	Fat 2.3g	Sat Fat 1.4g	Salt 0.3g
5%	13%	3%	7%	5%

of your guideline daily amount

Each 150g portion (one pot) contains

Calories	Sugar	Fat	Saturates	Salt
105	11.7g	2.3g	1.4g	0.3g

Healthy Choice

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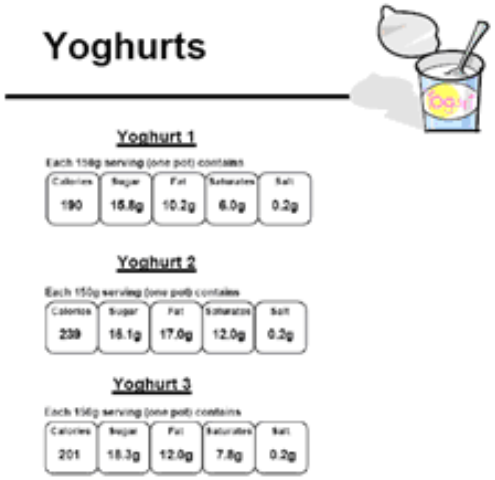
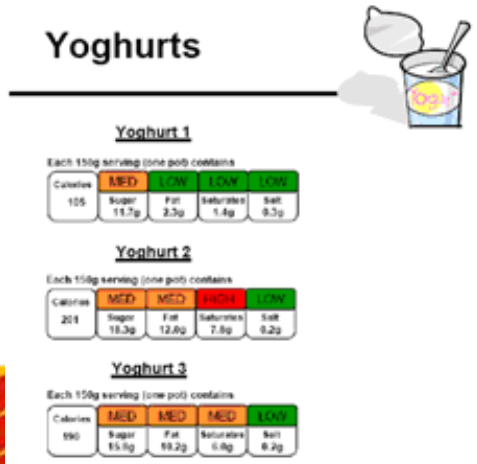
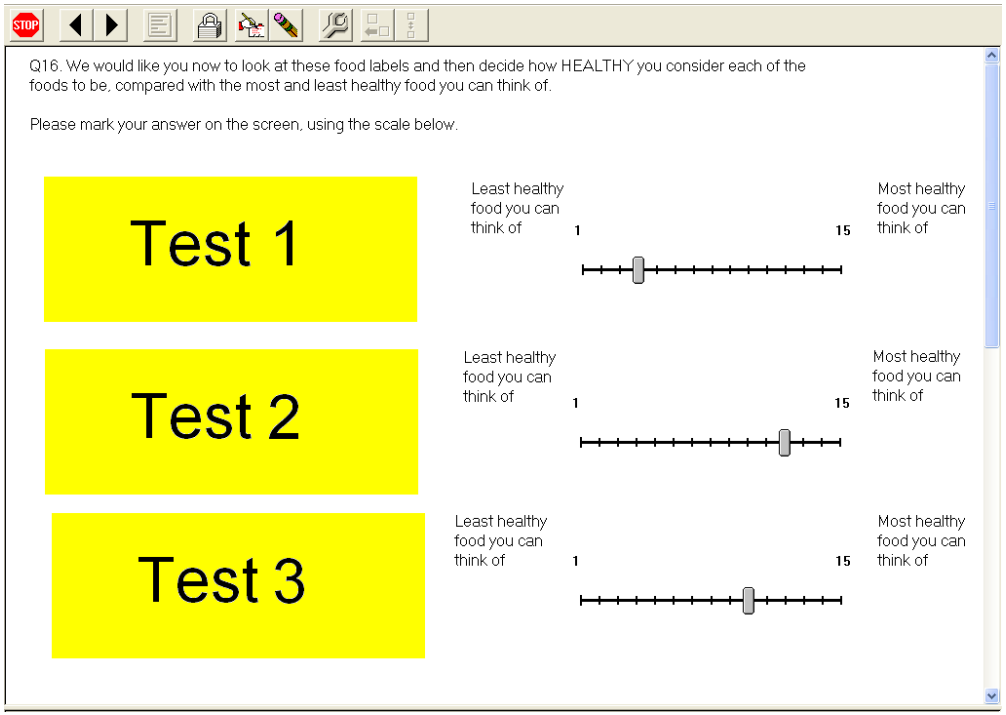
Understanding/health inferences - approach

- FOP labelling systems tested across 12 food products representing 3 levels of healthiness within each of 3 food categories; pizzas, yoghurts, biscuits thus testing the full flexibility of each system
- Participants required to provide subjective healthiness ratings for 3 product variants in a given food category with baseline labelling system prior to being exposed to same 3 foods with FOP labelling
- Comparison of subjective health ratings with SSAg/1 as a benchmark
- N=2000 across 4 countries (UK, Germany, Poland, Turkey)

Understanding/health inferences - approach







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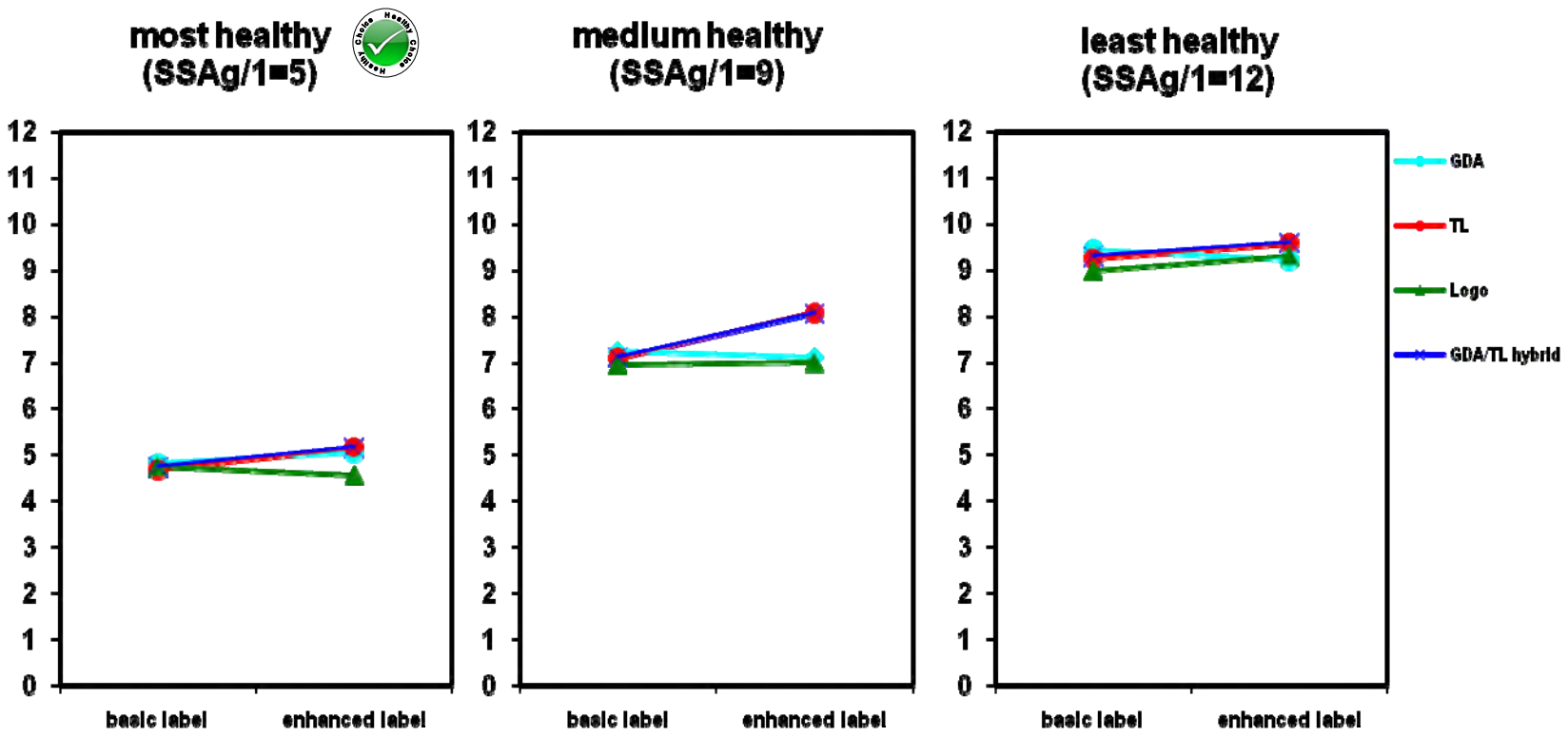
Understanding/health inferences - biscuits



Conclusion: Improvement in correct health inferences (as measured by SSAg/1) brought about by labelling systems beyond baseline label is very small

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In-store use of labels

Label format
- Existing formats
- Basic/augmented label

Types of decision-making

Consumer characteristics

Attention
Arousal
Choices

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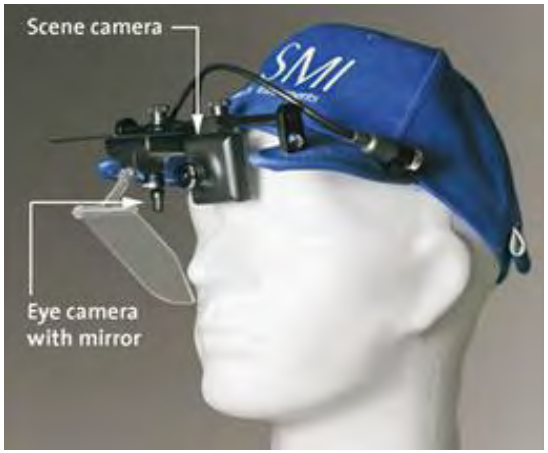
In-store use of labels - methodology

Obtrusive and unobtrusive methods

- Mobile eye tracking, electrodermal response
- Point of sale interviews
- Hidden observations
- Sales figures from scanner data



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FOP labelling: Preliminary conclusions

- Provision of information on energy and key nutrients (fat, saturated fat, sugar, salt), in calories/grams per 100g, in a consistent way in terms of position, font, size, colour and background, combined with a health logo, will improve attention to food labelling, lead to good understanding, and facilitate healthy choices
- Additional label elements such as GDAs, colour coding, and provision of text “low/medium/high” will not increase attention and will not result in major improvements in understanding, but will increase consumer liking of the label and may nevertheless facilitate healthy choices
  - Working hypotheses as to why could label elements beyond the baseline label have an effect on healthy choice
    - ***prime the health motive***
    - ***increase perceived self-efficacy in making healthy choices***

Overall concluding comments

- Consumer behaviour important in implementing policy
- Consumer food choice is influenced by a range of different factors
- Health claims have an impact on how healthy products are seen but this does not necessarily translate to intention to buy
- Front of pack nutrition labelling can have an impact but there is little difference in the impact of different formats

Acknowledgements

- Financial support from the European Commission for funding on EURRECA, HEALTHGRAIN, FLABEL

- Websites
  - HEALTHGRAIN: www.healthgrain.eu
  - EURRECA: www.eurreca.org
  - FLABEL: www.flabel.org

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Increasing the access of children and adolescents to evidence based prevention services for Non Communicable diseases (NCDs) in Romania- physical activity and healthy nutrition

Dr. Cristina Vladu, former Project Leader

September 29th , 2011

ISPBA, IPC

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OUR OBJECTIVES

TO DEVELOP **PRIMORDIAL PREVENTION POLICIES FOR NONCOMMUNICABLE DISEASES THAT ARE BASED ON EVIDENCE;**

TO SUPPORT **HEALTHY CHILDREN TO REMAIN HEALTHY ADULTS**

MINISTERUL SĂNĂTĂȚII

OUR OBJECTIVES - continuation

TO DEFINE

METHODOLOGIES, PATTERNS FOR ACTION THAT SHALL BE USED BY PUBLICLY FUNDED

BEHAVIOR CHANGE

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OUR PARTNERS

- THE ROMANIAN MINISTRY OF EDUCATION, RESEARCH, YOUTH AND SPORTS
- THE NORVEGIAN INSTITUTE OF PUBLIC HEALTH
- THE ASSOCIATION OF HEALTH PSYCHOLOGY
- THE EUROPEAN COMMISSION JOINT RESEARCH CENTER- INSTITUTE FOR HEALTH AND CONSUMER PROTECTION

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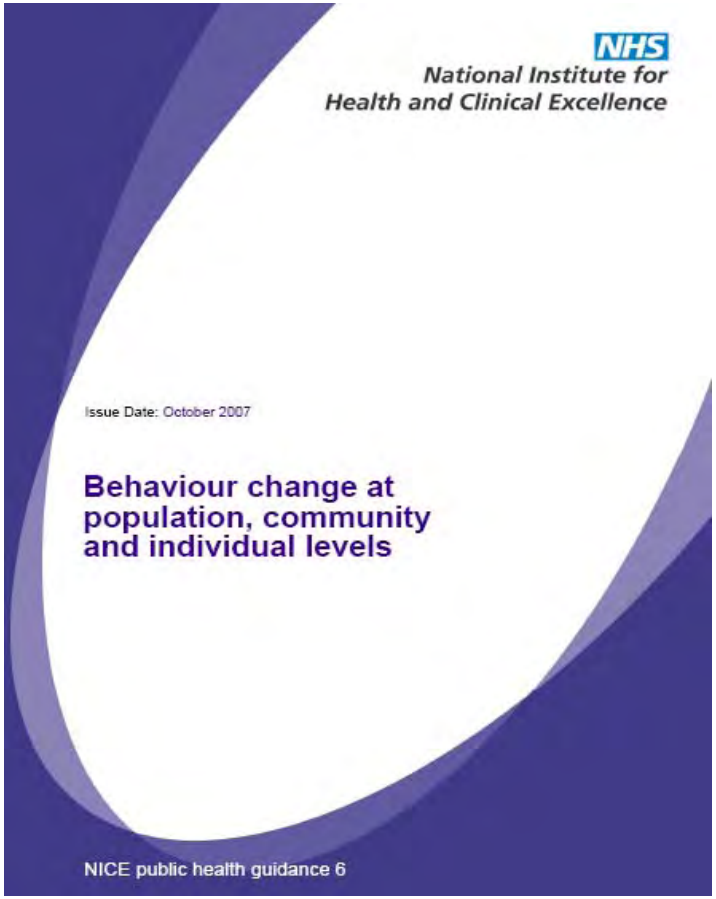
REFERENCES WE HAD STARTED FROM

GUIDELINES FROM THE NATIONAL INSTITUTE OF CLINICAL EXCELLENCE, UNITED KINGDOM

For being effective, policies and programs that are aiming to change behaviors should address simultaneously more levels:

- **POPULATIONAL**
- **COMUNNITY**
- **INDIVIDUAL**



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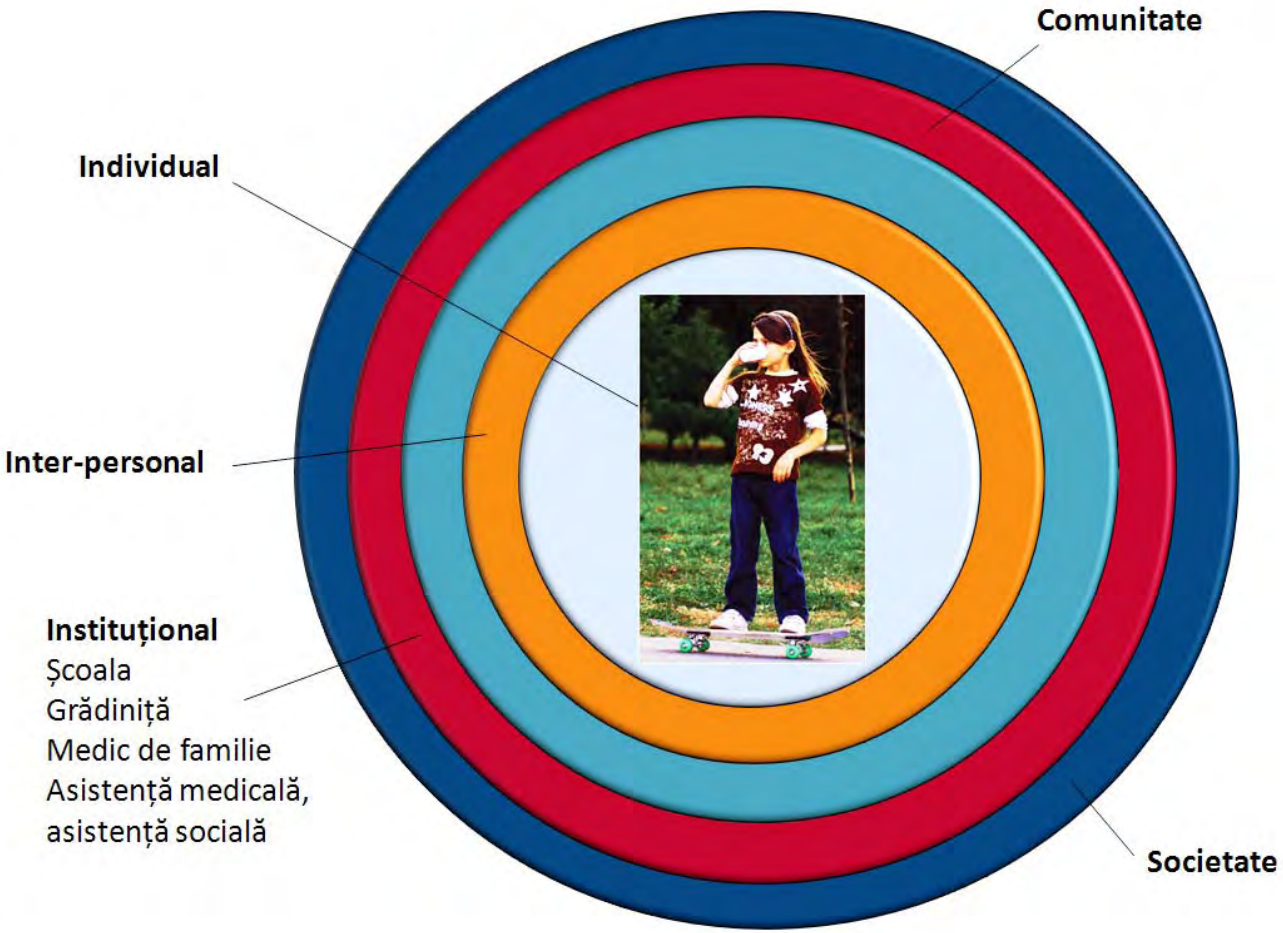
What was the key of our approach?

TO SEND THE SAME MESSAGE THROUGH MORE CHANNELS AT MORE LEVELS IN A SIMULTANEOUS, ORCHESTRATED WAY



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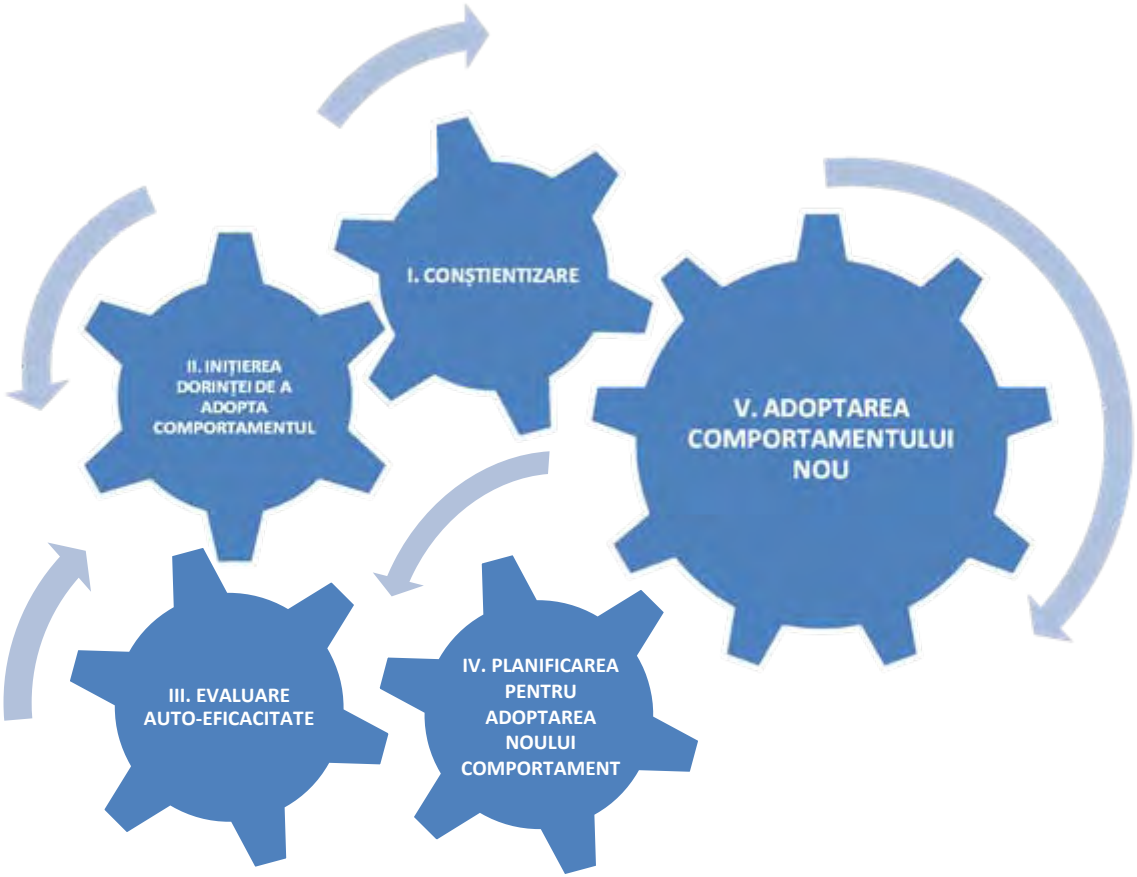
STEPS OF A BEHAVIOR CHANGE PROCESS



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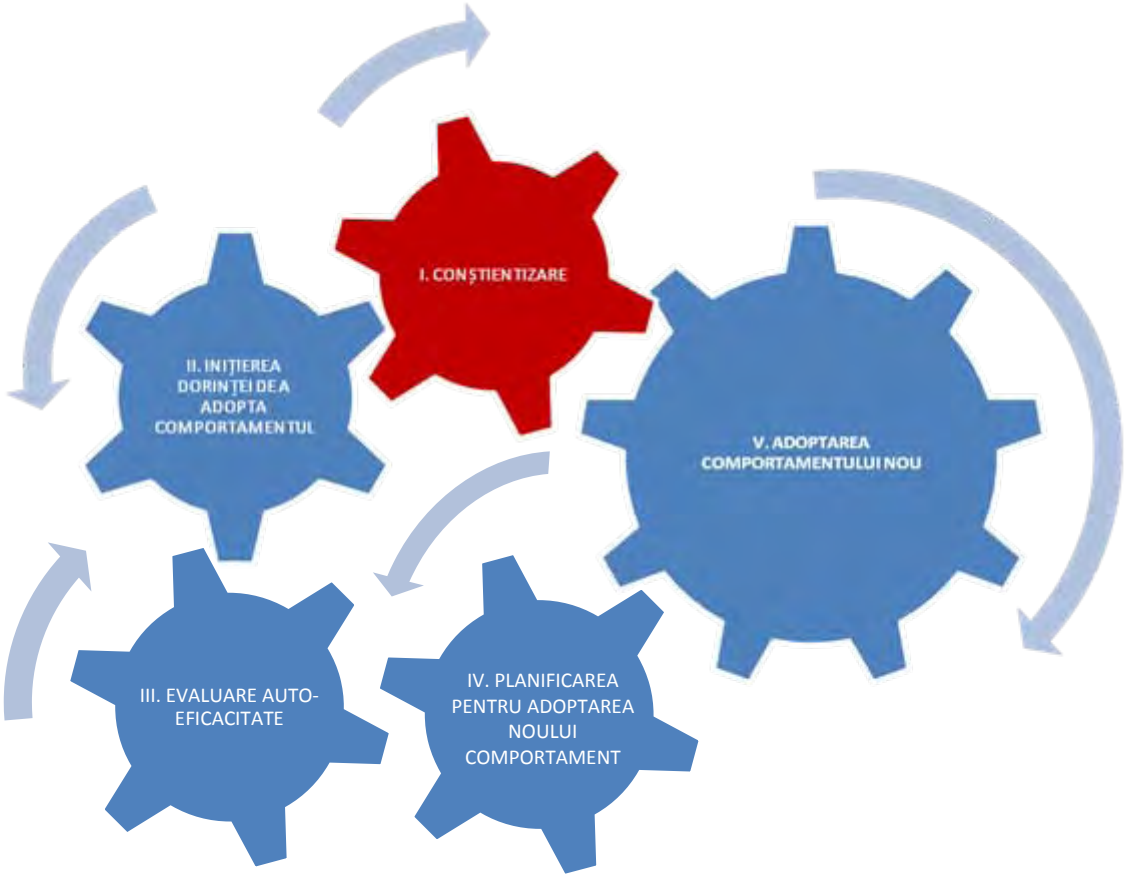
campania VIAȚA

SĂNĂTATEA LA... POZITIV

LEVEL THAT MOST OF THE CAMPAIGNS ARE FOCCUSING



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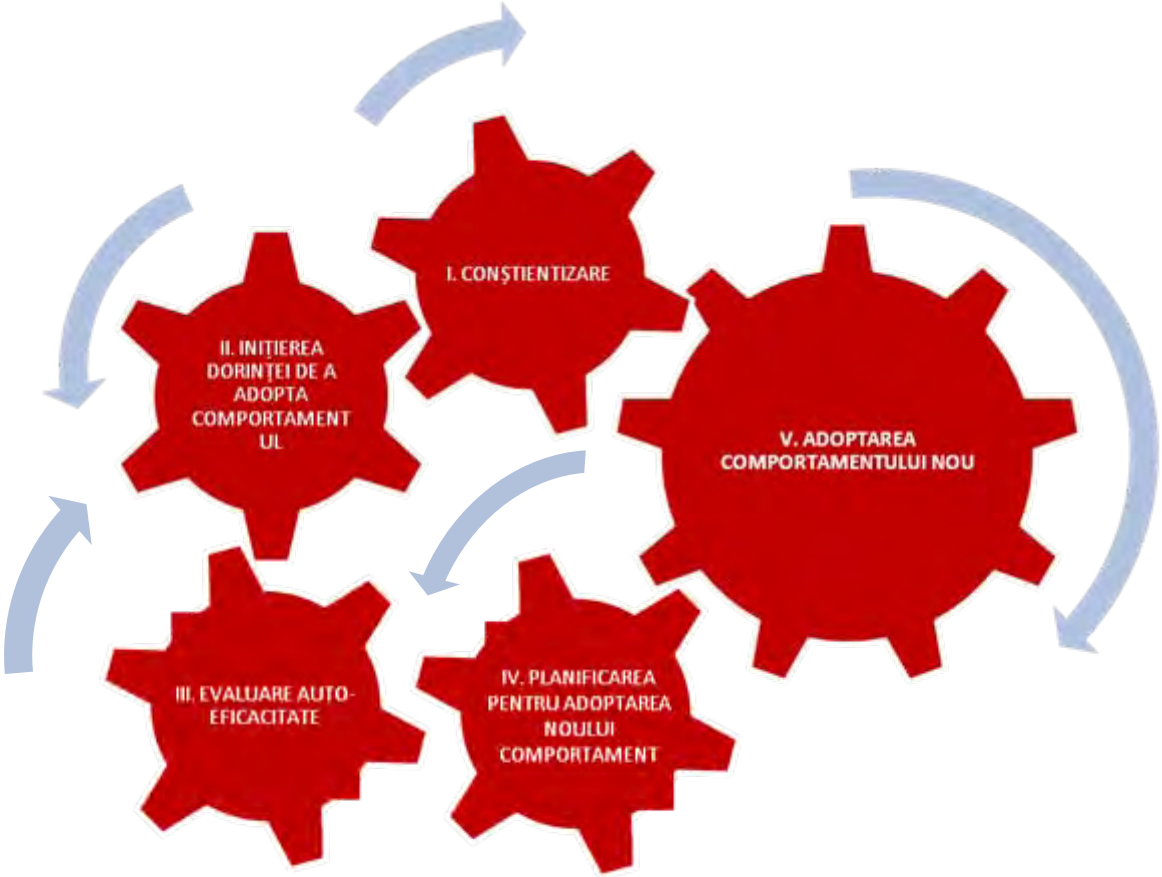
LEVELS OF ACTION FOR THE CAMPAIGN



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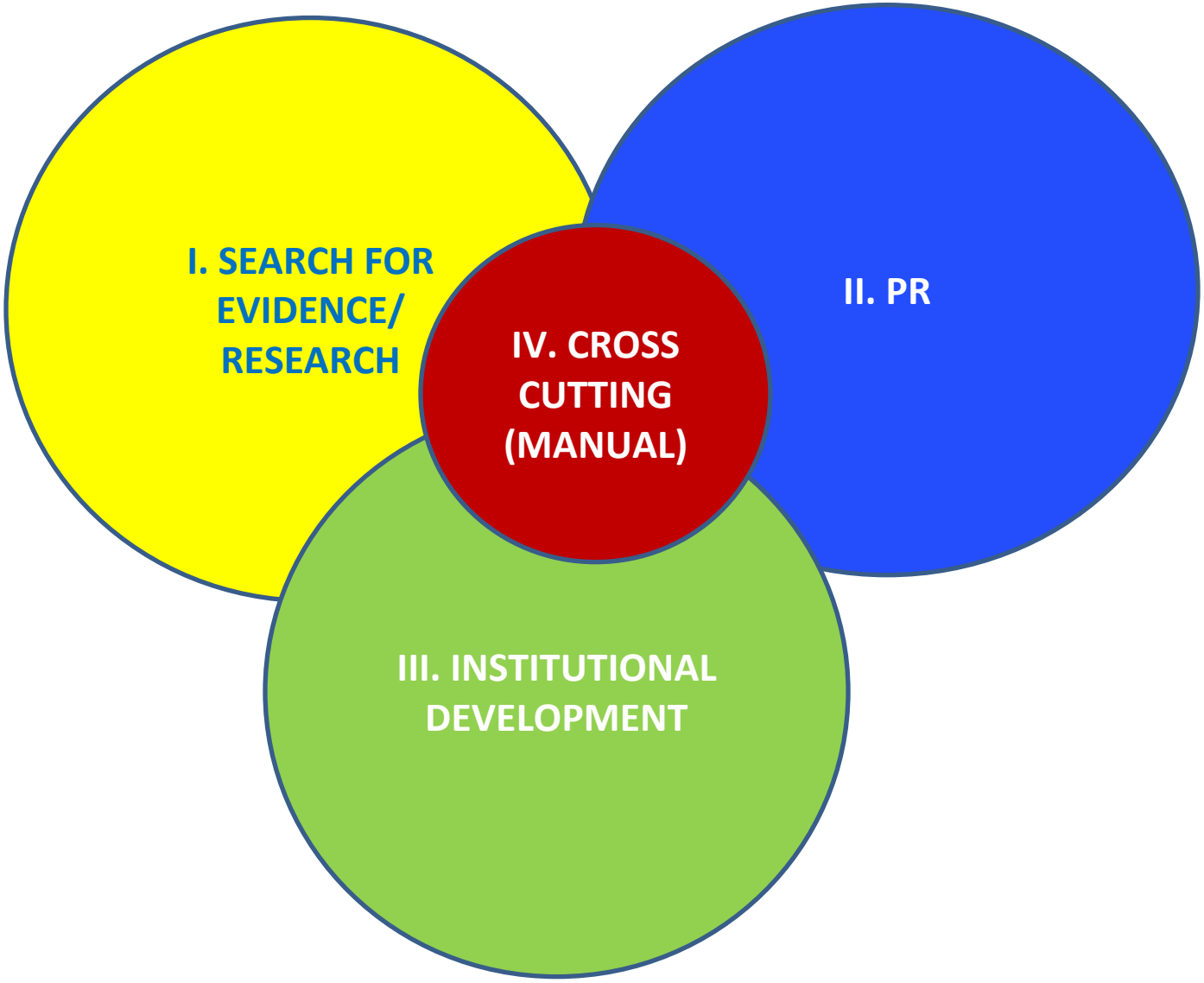
CAMPANIA VIAȚA - PROJECT COMPONENTS



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I. RESEARCH

- HBSC 2010
- SOCIAL MARKETING RESEARCH
- EVALUATION RESEARCH

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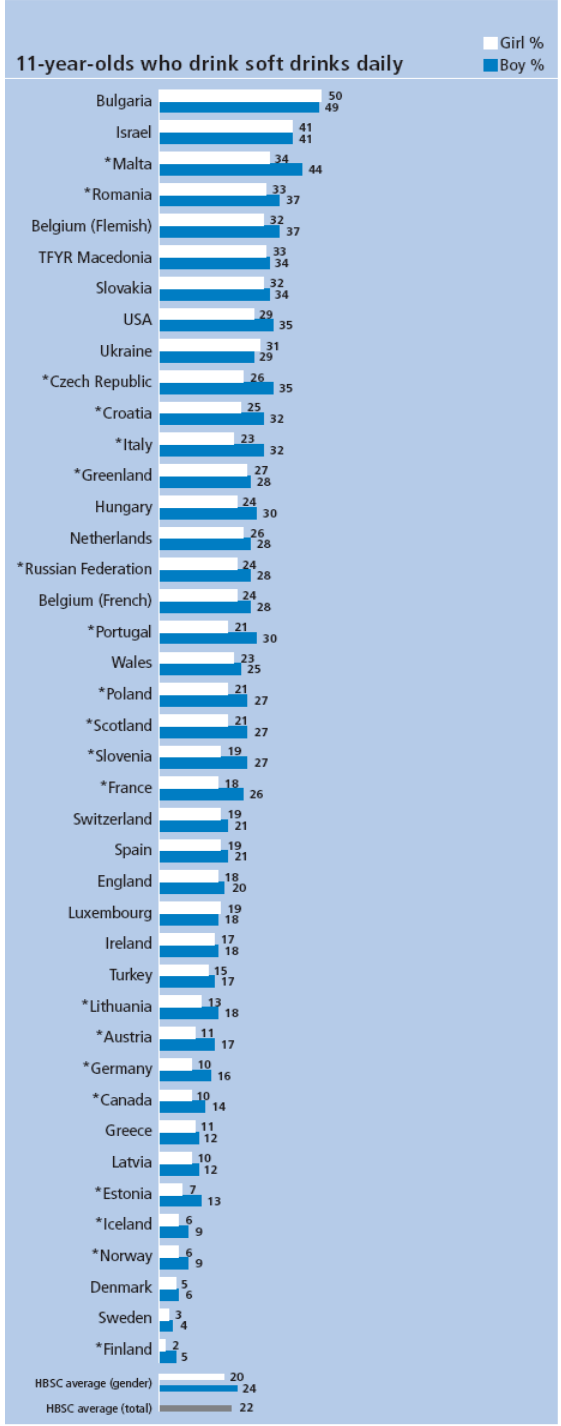
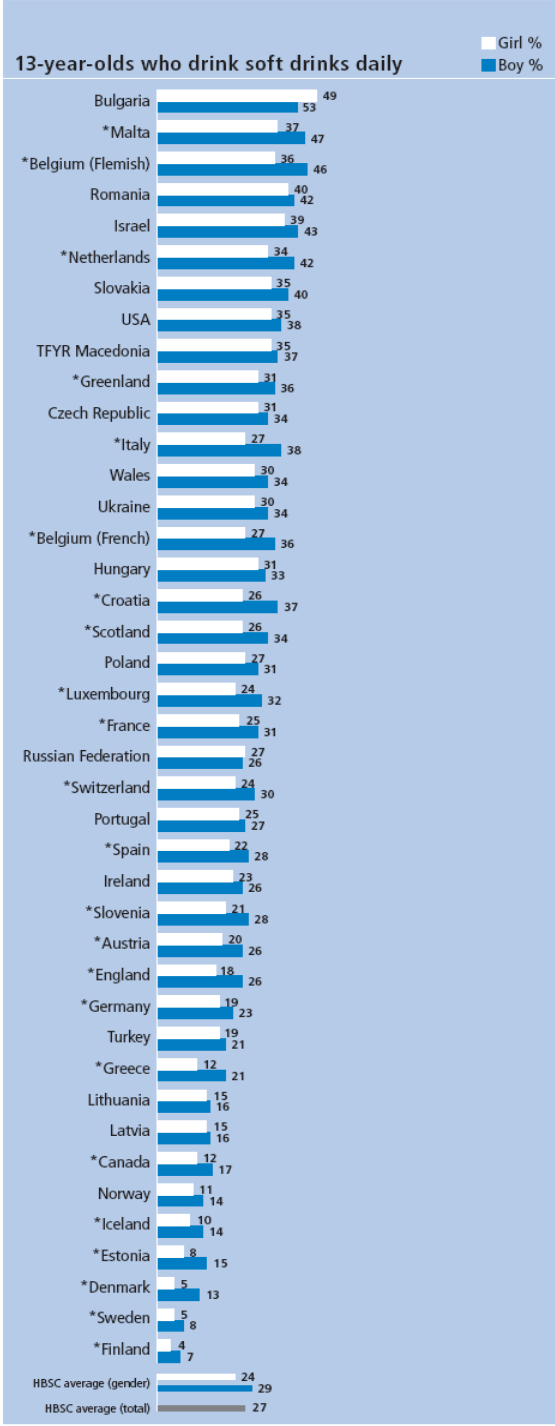
Soft drink consumption in children of 11 and 13 years old in Europe, HBSC 2005-2006





* indicates a significant gender difference (at p<0.05).

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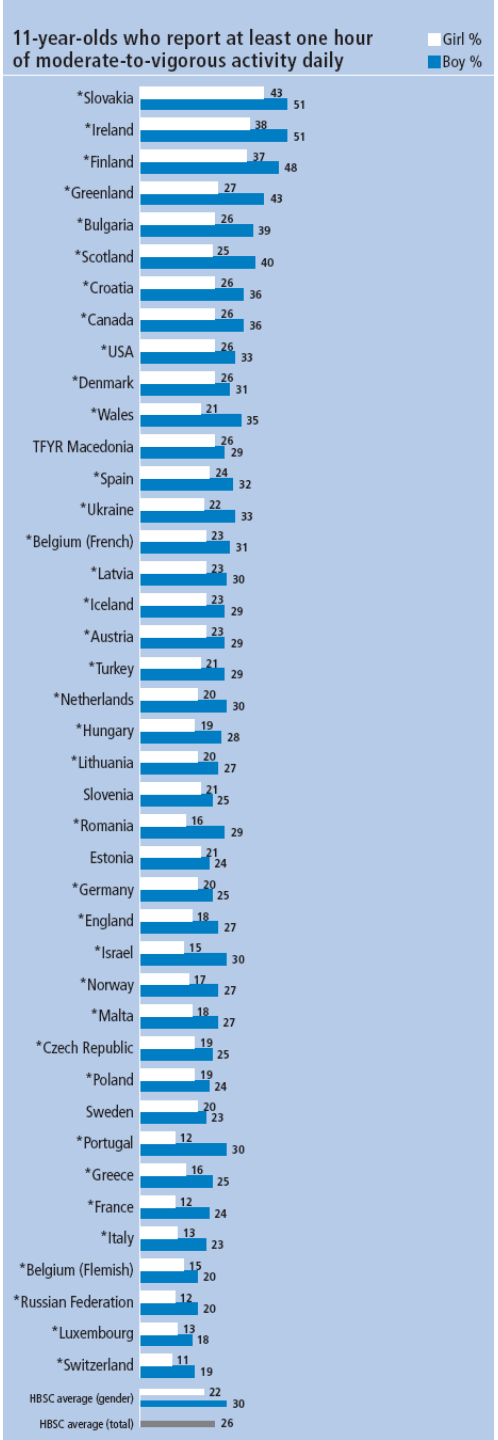
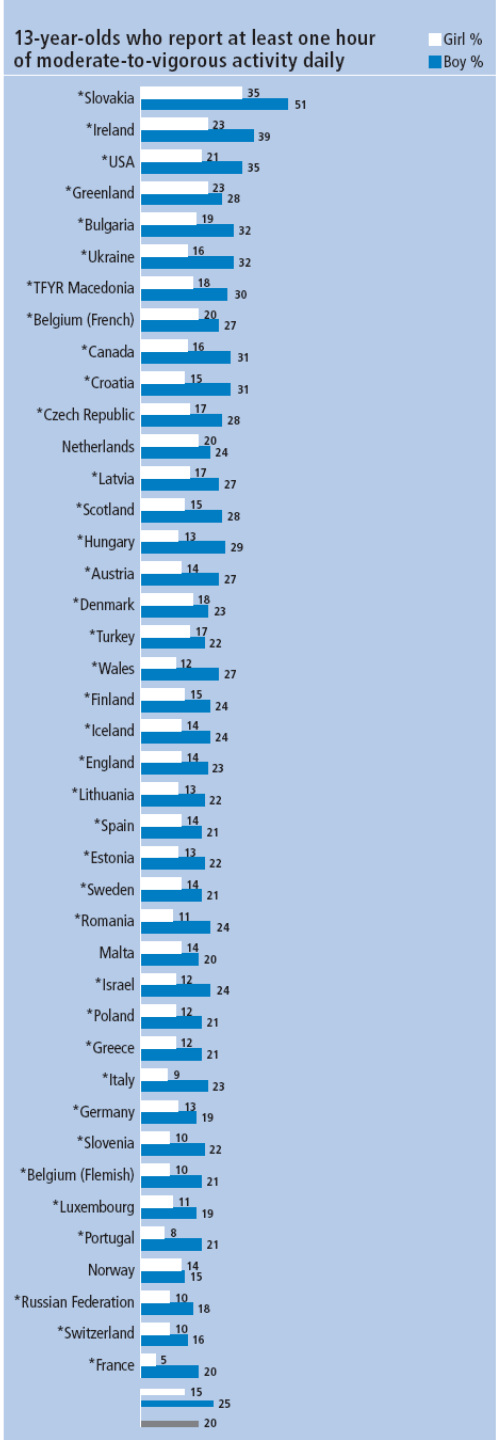
Moderate to vigorous physical activity of at least one hour in children of 11 and 13 years old in Europe, HBSC 2005-2006





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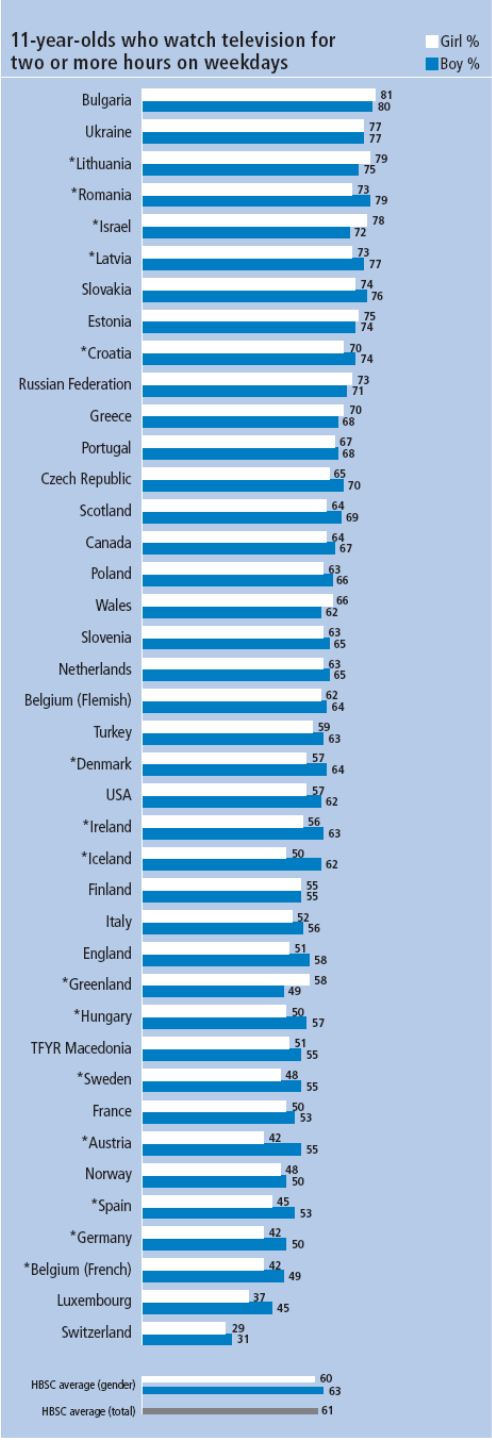
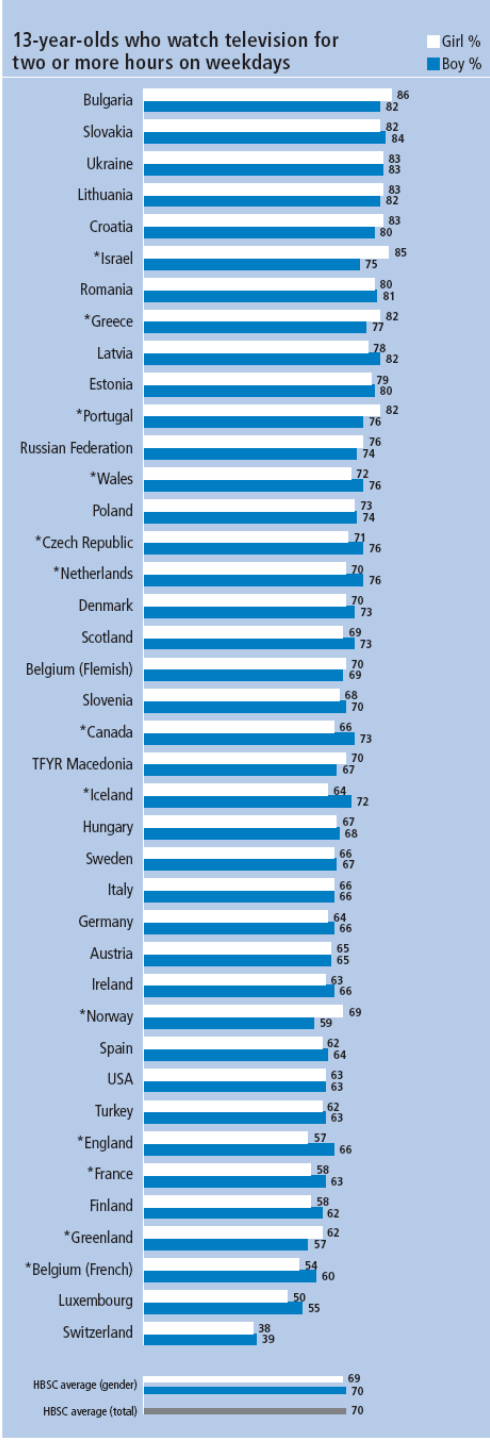
Screen time (TV, computer) in children of 11 and 13 years old in Europe , HBSC 2005-2006





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II. PROMOTION CAMPAIGN

DEVELOPMENT OF:

- LOGO VIATA
- CAMPAIGN MESSAGES, 3 VIDEOSPOTS AND 4 RADIO SPOTS
- PRINTED MATERIALS, POSTERS, ETC
- DEDICATED PROEJCT WEB SITE

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TARGET BEHAVIORS IDENTIFIED AND PROMOTED THROUGH THE CAMPAIGN VIAȚA

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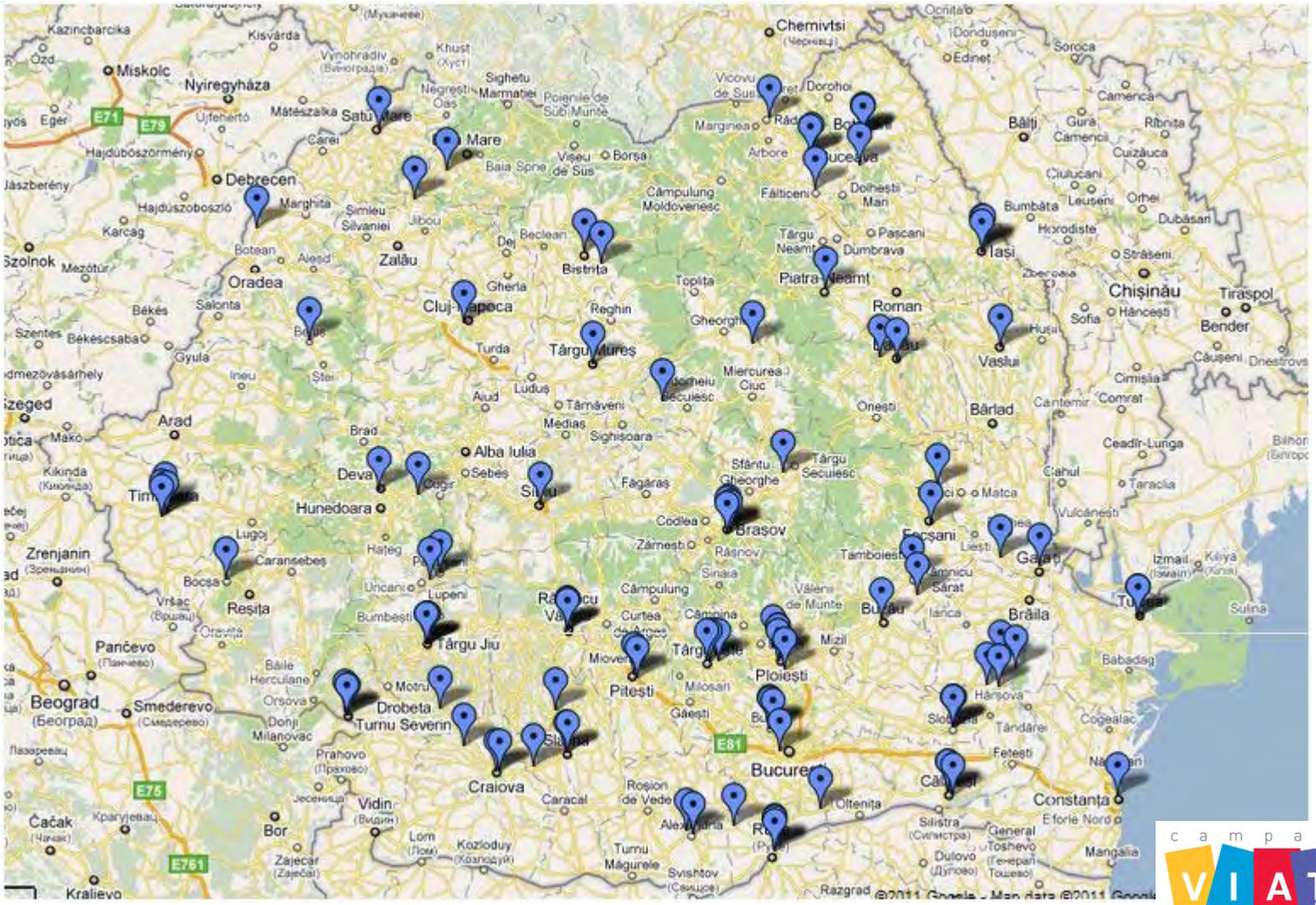
III. INSTITUTIONAL DEVELOPMENT

- FACILITATION OF INTERINSTITUTIONAL PARTNERSHIP AND ACTION PLANS DEVELOPMENT AT COUNTY LEVEL;
- IDENTIFYING DEMONSTRATIVE (101) AND STANDARD (400) MICRO-PROJECTS IN SCHOOLS AND KINDERGARTENS
- TRAINING OF DECISION MAKERS AND PROFESSIONALS

DEMONSTRATION MICROPROJECTS



campania VIAȚA

vitalitate | imunitate | armonie | tonus | alimentație sănătoasă

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IV. CROSS CUTTING

DEVELOPMENT OF A GUIDE FOR ACTION

- CHAPTER 1 - DOCUMENTING EVIDENCE (JRC, NIPH, NIPH OSLO, RESEARCH TEAM);
- CHAPTERS 2, 3 (Project & Research Team)
- CHAPTERS 4, 5 WORKING WITHIN THE SCHOOLS AND KINDERGARTENS (Research Team, teachers, educators)
- CHAPTER 6 – WORKING WITH FAMILY DOCTORS (National Center for Research in Family Medicine)

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THE DOWRY VIAȚA

- 42 PARTNERSHIPS SIGNED AT THE COUNTY LEVEL
- 1 RESEARCH ON BEHAVIOURS ON REGIONAL/NATIONAL SAMPLE AND 1 RESEARCH ON SOCIAL MARKETING
- 1 MANUAL FOR INTERVENTIONS ON COMMUNITY LEVEL
- OVER 800 PROFESSIONALS TRAINED FOR APPLYING THE MANUAL AT GRASS ROOT LEVELS

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THE DOWRY VIAȚA

- **INTERVENTION MODELS (501 MICRO-PROJECTS FOR IMPLEMENTING THE COUNTY ACTION PLANS)**
- **42 ACTION PLANS AT THE LEVEL OF EACH COUNTY**
- **CAMPAIGN INSTRUMENTS DEVELOPED**
  - **IDENTITY AND COMMON MESSAGES**
  - **RADIO AND VIDEO SPOTS**
  - ***WWW.COMUNITATE-SANATOASA.MS.RO – ON-LINE RESOURCE CENTER FOR VIATA CAMPAIGN 2011-2015***
  - ***POSTERS, OTHER PR RELATED MATERIAL***

MINISTERUL SĂNĂTĂȚII

THE DOWRY

Capacity building/ education

- 900 teachers / educators trained in chapters 4 and 5 of the manual
- 120 decision makers at county level trained in project/ programme planning/ monitoring/ supervision
- 12 decision makers at national level trained in prevention health policies

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NEXT IMPLEMENTATION STEPS

-THE ADOPTION/ LAUNCHING OF THE NATIONAL PLAN FOR ACTION/ NATIONAL RENEWED PARTNERSHIP BETWEEN MoH, MoEDUCATION, MoCULTURE, etc, LAUNCHING OF THE CAMPAIGN MANUAL - OCTOBER- NOVEMBER 2011

- THE ADOPTION OF COUNTY LEVEL ACTION PLANS FOR HEALTHY NUTRITION AND PHYSICAL ACTIVITY AS PART OF THE SUSTAINABLE DEVELOPMENT PLANS THOUGH COUNTY COUNCILS DECISIONS (2011- 2013)

- THE ADOPTION OF A COHERENT HEALTH BEHAVIOR RESEARCH AND MONITORING STRATEGY AT COUNTY AND NATIONAL LEVEL

- THE ADOPTION OF THE CAMPAIGN METHODOLOGY AS A MODEL FOR PUBLIC CAMPAIGNS AIMING TO CHANGE BEHAVIORS

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CONCLUSIONS:

•Expert knowledge alone represent a first step, a little drop in the ocean if one wishes to follow the journey of effective behavior change.

• there is a need for strong leadership / coordination/ orchestration from top down and strong ownership from bottom up.

•International expert / politicaladvice is crucial in following an evidence based path

•Monitoring and evaluation of the actual implementation of the Campaign VIATA should be performed with close attention; lessons learned should result in continuous refinement of the campaign.

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TU EȘTI

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vitalitate | imunitate | armonie | tonus | alimentatie sanatoasa

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WE ARE WAITING FOR YOU ON …

www.comunitate-sanatoasa.ms.ro

www.facebook.com/ComunitateSanatoasa

Nutritional challenges – Research opportunities and funding by the European Commission

European Commission

Directorate-General for Research and Innovation

Laura ALEXANDRESCU

Unit E3 - Food, Health and Well-being

Directorate E - Food, Agriculture and Biotechnology

Presentation outline

- Context of nutrition research today - why and how?
- EU Programmes which fund nutrition research
- FP7 – Theme 2 – what kind of research is funded?
- Policy initiatives which require support from nutrition research
- Future funding possibilities

Global challenges with impact on nutrition research

Climate change

Economic and financial crisis

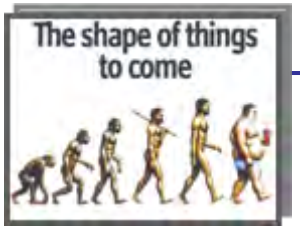
Unemployment

Globalisation

Increasing world Population, poverty and migration

Ageing population

Functional and cognitive decline



Malnutrition and diet-related diseases

Metabolic Disorders, Allergies, Obesity,…

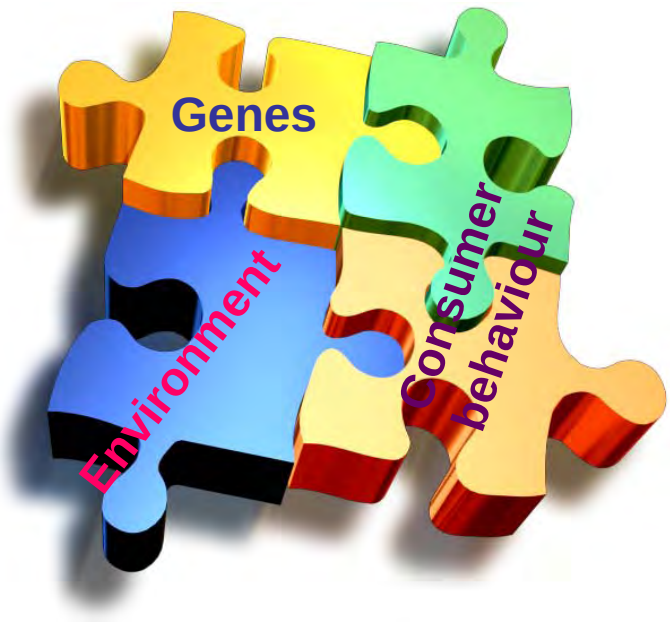
Nutrition research at EU level

Objectives

- Filling the gaps of scientific knowledge
- Addressing socio-economic issues
- Fostering innovation
- Support policies
- Considering the entire life span

Obstacles

- Complex regulations and interactions
- Insufficient research investment
- Fragmentation of research efforts
- Lack of appropriate infrastructures



Factors influencing nutrition research

Social challenges

Environmental challenges

Economic challenges

Consumers Influence & determinants

NUTRITION TRENDS: Taste, Health, Convenience

FOOD AVAILABILITY

Healthy eating & dietary habits

FOOD KNOWLEDGE

FOOD ACCESSIBILITY

INDIVIDUAL CHOICES

NEEDS AND TASTE

FAMILY PRACTICES

EU programmes of interest

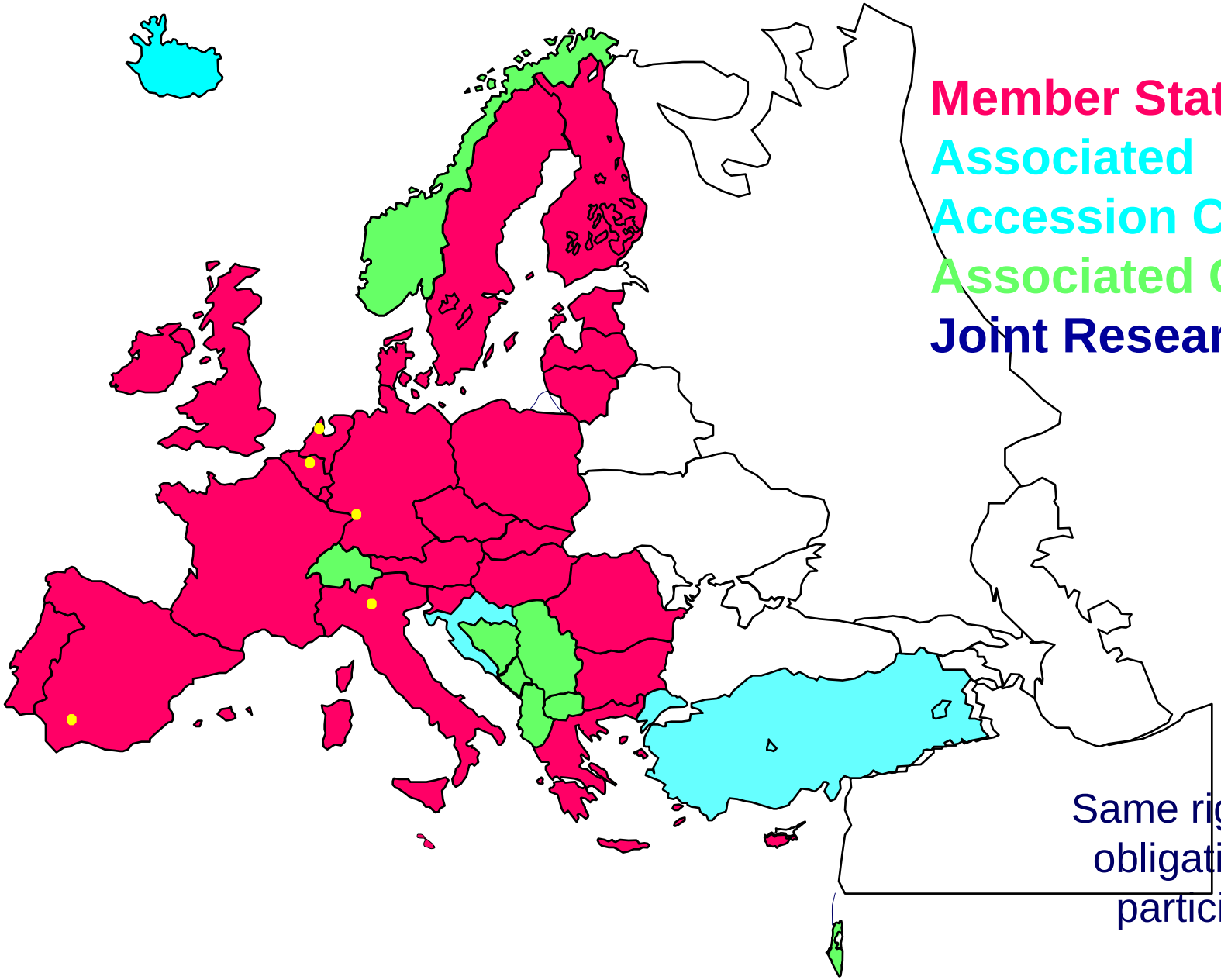
Research Framework Programme
- funding research

Executive Agency for Health and Consumers

Health Programme 2008-2013
– support to public health

Structural Funds & Cohesion Fund
- funding research infrastructures and networks

FP7 - Who May Participate?



Member States

Associated

Accession Countries

Associated Countries

Joint Research Centres

Same rights and obligations for participants

Relevant FP7 specific programmes

- Cooperation – collaborative research

  - Theme 1 – Health

  - Theme 2 – Food, Agriculture and Fisheries and Biotechnology

  - Theme 8 - Socio-Economic Sciences and the Humanities
- Ideas – basic and frontier research
- Capacities – infrastructure and SMEs programme
- People – individual training and trainings networks

Prevention
Area 2.2.1 Consumers

Focus:

Understanding consumer behaviour and preferences

Consecutive research:

- Consumer perception and attitudes towards food
- Societal and cultural trends
- Identifying determinants of food choice and consumer access to food

Potential outcome:

Inform and empower consumers to make the healthy choice

Prevention

Area 2.2.2 Nutrition

Consecutive research:

- Investigation of new dietary strategies;
- Development and application of new technologies;
- Study interactions between nutrition physiological and psychological functions

Focus:

- Prevention of diet-related diseases including obesity
- Healthy aging
- Quality of life

Potential outcome:

- Reformulation of processed foods
- Innovative developments of:

- novel foods & ingredients
- dietetic foods
- foods with nutritional & health claims

Running projects

Determining factors and critical periods in food habit formation and breaking in Early childhood - http://www.habeat.eu/index.php

- **epidemiological** work - several cohorts from 4 European countries

- **experimental** part in two sections:
  - identifying the key mechanisms of learning
  - new strategies for changing from poor to healthy habits

Running projects

Molecular Targets Open for Regulation by the gut flora – New Avenues for improved Diet to Optimize European health - http://www.fp7tornado.eu/

- Increase knowledge of the impact of diet on the gut flora and the impact of gut flora and specific groups of micro-organisms on the immune system and the interaction with other organ systems

- Provide first class scientific data to substantiate health claims

Contribution to policy initiatives at EU level in Nutrition

- White Paper ‘A Strategy on Nutrition, Overweight and Obesity-related Health issues’
- European School Fruit Scheme
- EU Platform on Diet, Physical Activity and Health
- Regulation on Nutrition and Health Claims/Food Labelling
- ETP ’Food for life’
- EIP on active and healthy ageing
- JPI ‘A healthy diet for a healthy life’

Future tendencies

Content wise:

- Societal challenges/impact oriented research
- Programme approach (as opposite to project approach)

Implementation:

- Funding through the Joint Programming Initiative “A healthy diet for a healthy life”
- EIPs/EIT/JTIs/Article185/ERA-nets/ERA-nets plus;
- P2Ps – Public-Public Partnerships;
- PPPs – Public-Private Partnerships

FAHRE – Food and Health Research in Europe (FP7 project)

Foresight study - to be done

Useful links

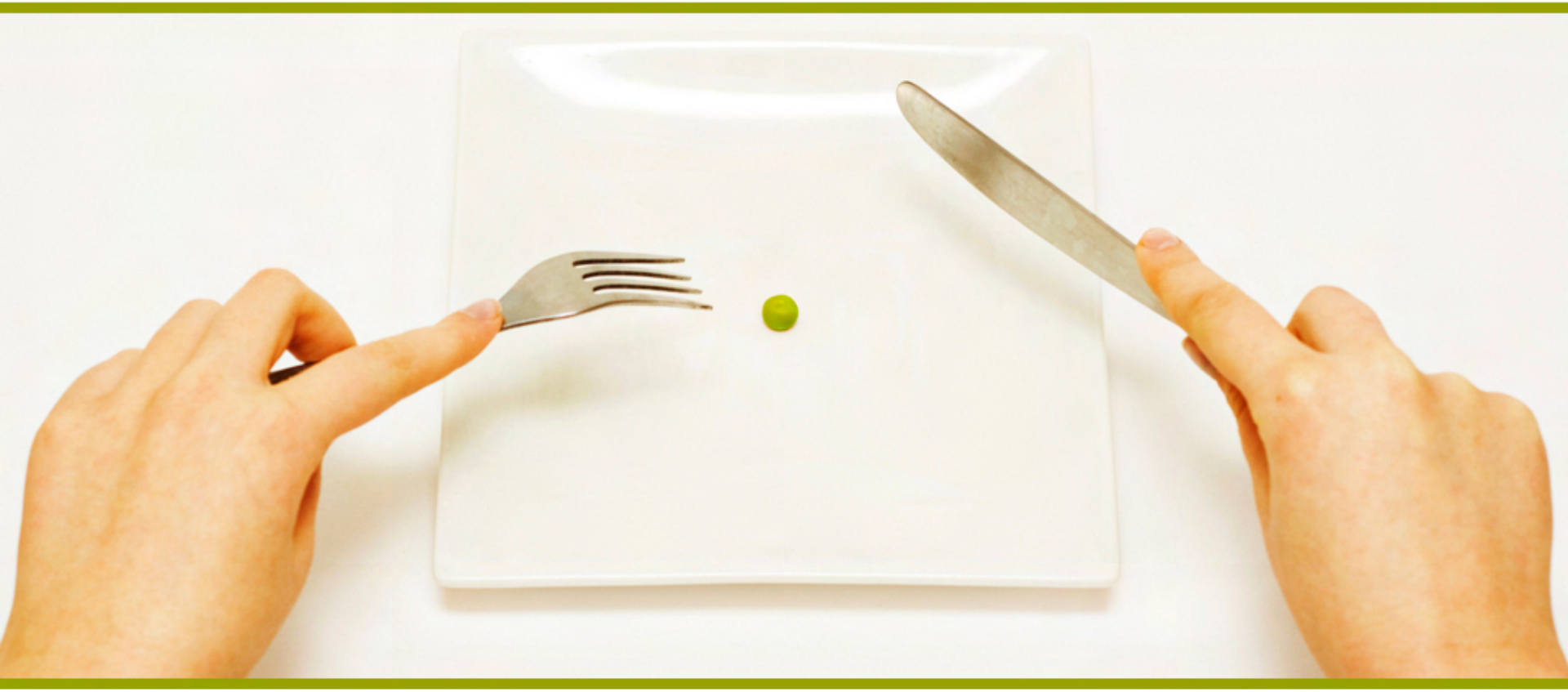
- All published calls http://ec.europa.eu/research/participants/portal/page/fp7_calls
- Research Executive Agency (REA) - manages FP7-People, FP7-Capacities for SME-targeted projects: http://ec.europa.eu/research/rea/
- European Research Council (ERC) - manages FP7-Ideas: http://erc.europa.eu
- FP7 National Contact Points: www.cordis.europa.eu/fp7/ncp.en.html/
- FP7 Helpdesk: www.eu.europa.eu/research/enquiries
- SME service: http://ec.europa.eu/research/sme-techweb/index_en.cfm

Food, Agriculture and Fisheries, and Biotechnology

Knowledge-Based Bio-Economy (KBBE)

Thank you!

Mediterranean Diet as a concept for obese Croatia and EU countries



Irena Colić Barić, Full Professor

Department for Food Qualithy Control and Nutrition
University of Zagreb Faculty of Food Technology and Biotechnoloby, Zagreb, Croatia

Donatella Verbanac, Assistant Professor

Center for Translational and Clinical Research
University of Zagreb School of Medicine, Zagreb, Croatia
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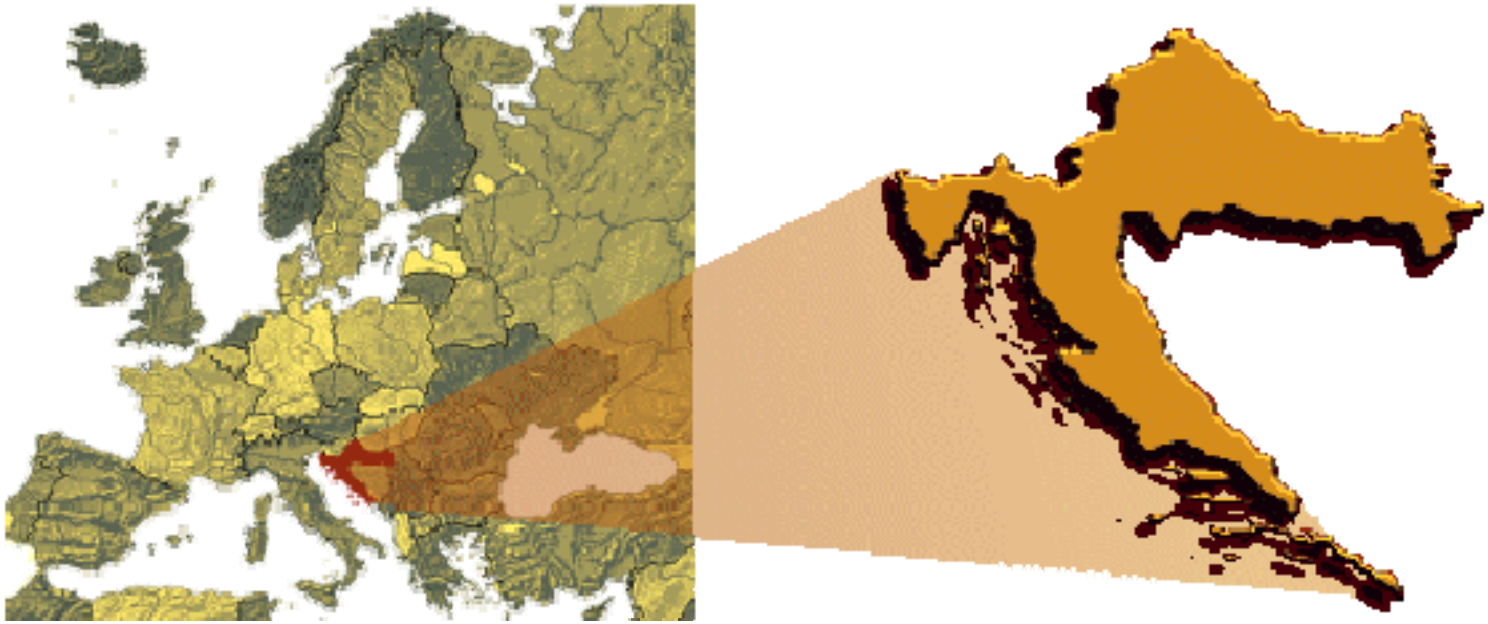
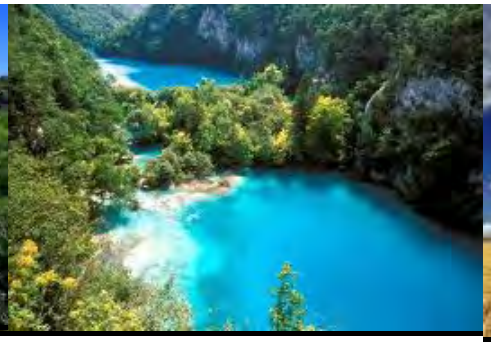
CROATIA

Republic, 4.5 million people, independent since 1991.





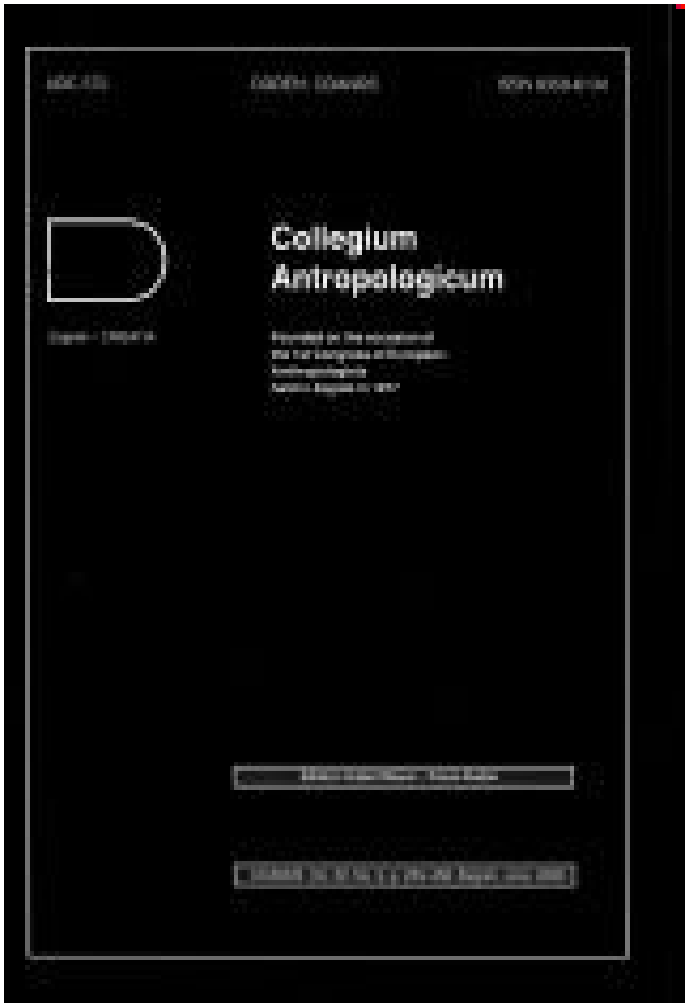
Evidence…

Top 10 Fattest Countries in the world, based on national health surveys WHO compiled between 2000 and 2008

(% of overweight population)

1. American Samoa - 93.5
2. Kiribati - 81.5
3. USA - 66.7
4. Germany - 66.5
5. Egypt - 66.0
6. Bosnia-Herzegovina - 62.9
7. New Zealand - 62.7
8. Israel - 61.9
9. **Croatia - 61.4**
10. UK – 61.0

What do we know about obesity in Croatia?



Coll Antrop 2009, *33* (Suppl 1)

Cardiovascular diseases are the leading cause of death in Croatia. However, the available data suggests that there is a substantial lack of relevant information on the prevalence of various cardiovascular risk factors and other information that could be useful in decision making and health policy creating. In an attempt to provide more information for policy, Andrija Stampar School of Public Health, Canadian Society for Statistics, Croatian National Institute for Public Health and Croatian Ministry of Health and Social Welfare have launched Croatian Adult Health Survey, a large cross-sectional survey of the adult population of Croatia. The survey was initiated in 2001 and the first cycle was carried out in 2003. The survey sampled a total of 9,070 respondents from all regions of Croatia, providing the common platform for public health research, with focus on cardiovascular diseases and risk factors prevalence.

This issue of Collegium Antropologicum provides an overview of the cardiovascular health in Croatia, with the main focus on the results from the Croatian Adult Health Survey 2003 (CAHS). It consists of a total of 27 articles that were written by a total of 72 authors, and covers wide range of topics related to cardiovascular health and other relevant public health topics. These cover the ten-year cardiovascular morbidity and mortality trends, regional patterns of various cardiovascular risk factors prevalence, studies that investigate the association of cardiovascular risk factors and behavioral patterns and psycho-social determinants, as well as other relevant topics, including e.g. a study which investigates and compares the prevalence of cardiovascular risk factors in the mainland and island populations or a study that analyzes the legal and organizational aspects of cardiovascular disease prevention in Croatia.

Although the results presented here are mainly from the cross-sectional nature of the data, Croatian Adult Health Survey was not designed as a one-off project. The Croatian Ministry of Science, Education and Sports has provided funding for the project continuation. The second project cycle begun in 2008, but the basic study design has changed into a follow-up study, by re-surveying the original 2003 CAHS sample. By doing this not only that we will continue providing relevant information for policy, but also we will be able to provide better answers on the general health of Croatian population, and be able to suggest where the biggest problems in terms of cardiovascular risk factors are.

I would sincerely like to thank to all the colleagues who were or currently are involved in this project for their sincere willingness to contribute and develop it further, and perhaps, as a principal investigator, I may be allowed to hope that it may one day become a regular survey of the Croatian adult population. Also, I have to thank to the Editor-in-Chief and the Editorial Board of Collegium Antropologicum for the offer to present the results in this supplement of Collegium Antropologicum.

Silvije Vuletić and Ozren Polašek

What do we know about nutrition vs. longevity in Croatia?

Newest facts about obesity in Croatia – secondary prevention is lacking

Cardiovascular risk factors in Croatia: struggling to provide the evidence for developing policy recommendations

Summary points

- Cardiovascular mortality is the leading public health problem in Croatia
- Prevalence of cardiovascular risk factors is generally high, but the hierarchy varies between regions and by sex
- The prevalence of hypertension in all regions exceeds 50% in men and 44% in women
- Public health programmes should be targeted at reducing the prevalence of hypertension, obesity, smoking, and alcohol drinking, and promoting physical activity and healthy diet
- Local governments should adjust the national recommendations to fit the specifics of their region

Kern J, Strnad M, Coric T, Vuletic S. Cardiovasular risk factors in Croatia: struggling to provide the evidence for developing policy recommendations.. BMJ 2005; 331; 208

What do we know about nutritional habits in Croatia?

Evaluation of diet quality with the mediterranean dietary quality index in university students

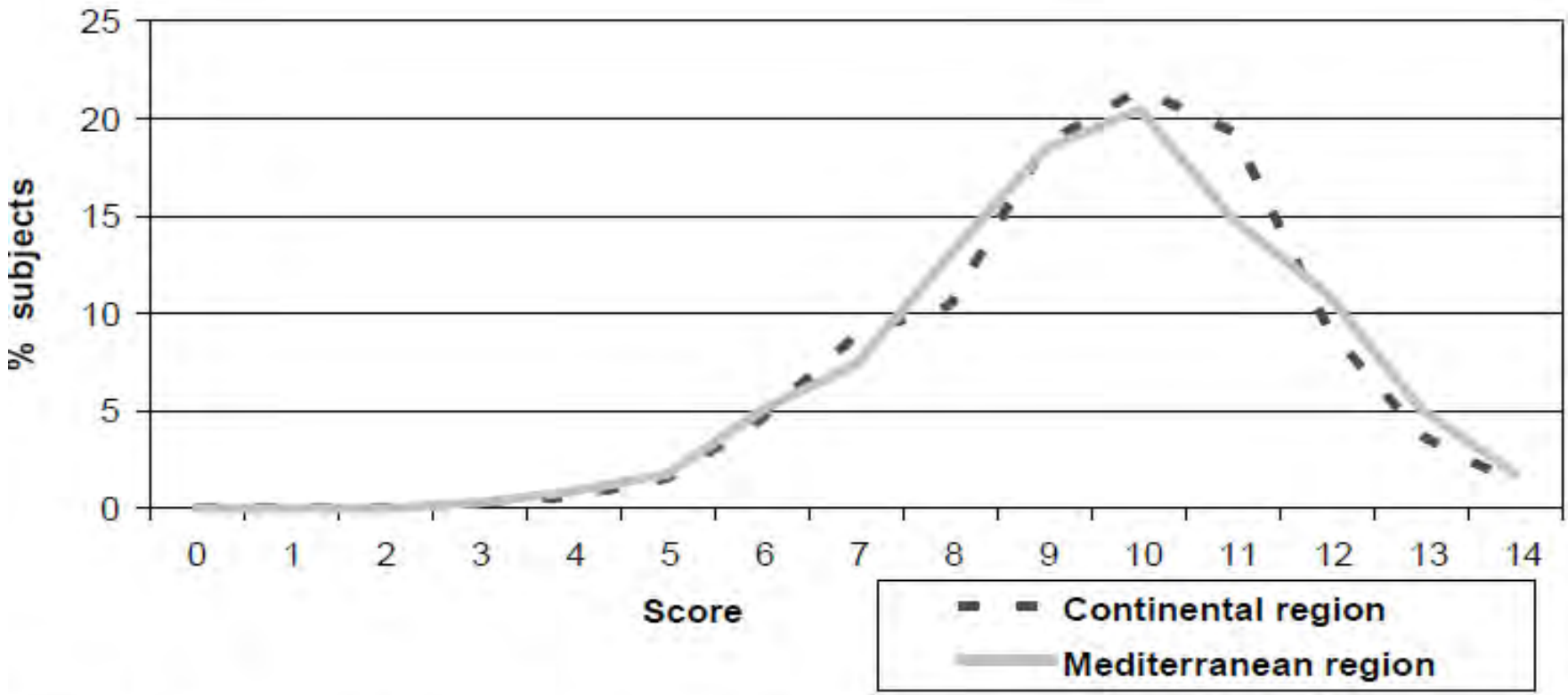


Figure 1. Distribution of subjects according to the score for the M-DQI (% subjects) ($n = 663$).

Šatalić Z, Colić Barić I, Keser I, Marić B. Evaluation of diet quality with mediterranean dietary quality index in universithy students. *Int. J. Food Sci & Nutr.* 2004; 55: 589.

What do we know about consumers habits in Croatia?

Differences between younger and older populations in nutrition label reading habits

Table I. Nutrition label reading when purchasing food during the last 12 months

	n	Per cent
Total	1,011	100
Never	360	35.6
Rarely	251	24.8
Always	190	18.8
Sometimes	156	15.4
Only at first-time purchasing food	40	4.0
Do not know/do not want to tell	14	1.4

Table III. Reasons for nutrition label reading of "label users" (per cent)

	n	Per cent
Total	638[a]	
Curiosity	222	34.8
Wish for healthy eating	188	29.5
Having had nutrition counselling	105	16.5
Other	46	7.2
Product comparisons	27	4.2
Family member habits	22	3.4
Do not know/ do not want to tell	16	2.5
Other special diets (vegetarian, vegan etc)	12	1.9

Notes: [a]"Label users" answered always, sometimes, rarely and only at first-time purchasing food had read nutrition label, when purchasing food during the last 12 months

Ranilović J, Colić Barić I. Differences between younger and older populations in nutrition label reading habits. *BFJ* 2011; 113:109.

What do we know about attitudes to healthy eating in Croatia?

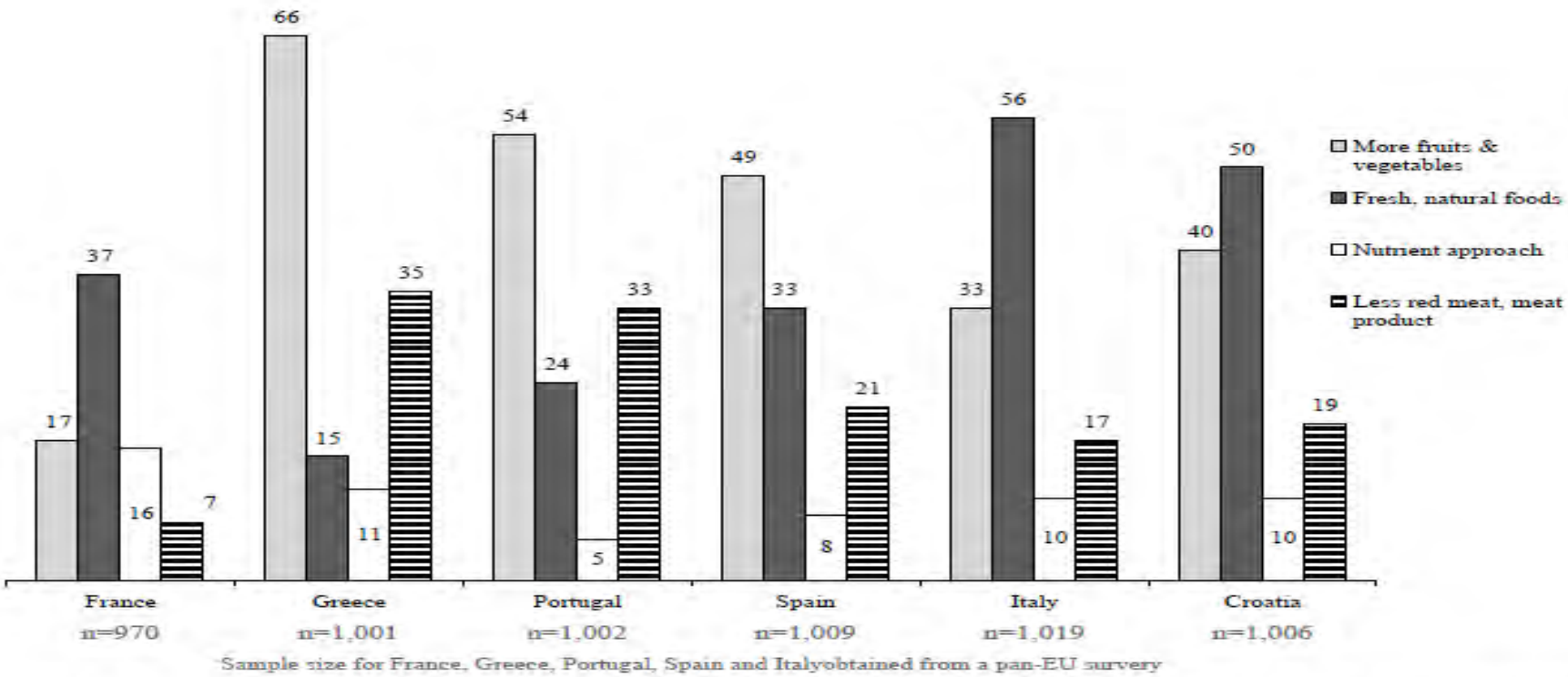


Figure 1. Percentage of subjects defining healthy eating as 'more fruit and vegetables', 'fresh, natural foods', 'nutrient approach' and 'less red meat': a comparison between Croatia and Mediterranean countries. Note: Sample size for France, Greece, Portugal, Spain and Italy obtained from a pan-EU survey (Margetts et al. 1997).

Ranilović, J., Markovina, J., Žnidar, K., Colić Barić, I. Attitudes to healthy eating among a representativ sampling of Croatian adults: A comparison with Mediterranean countries *Int. J. Food Sci & Nutr.* 2009; *60*: 11-29.

Croatia – measures to fight obesity

Action plan for prevention and reduction of overweight

29.07.2010., Croatian Times

Ministry of Health and Social Care

- The Croatian government has approved an action plan to combat obesity (BMI > 30) that affects 21 % of Croatians
- The Plan would include various measures aimed at combating the epidemic
- The government will start the plan by labeling healthy foods on the shelves of the shops and eliminating "junk food" from vending machines. Most measures are expected to be implemented by 2012.
- Part of the plan involves encouraging a healthy lifestyle, raising awareness about the importance of healthy weight and the prevention of harmful habits

1st Civil Society for prevention of overweight in Croatia, *since October 2002.*

Croatia

Obesity facts and measures

Croatian Obesity Society (COS), member of the European Association for the Study of Obesity (EASO)

- **4th guidelines on diagnosis and treatment of obesity (2010)**

Croatian action on salt and health (CRASH) (2007) - *Less salt-more health*

Academy of Medical Sciences

Croatian Society of Hypertension

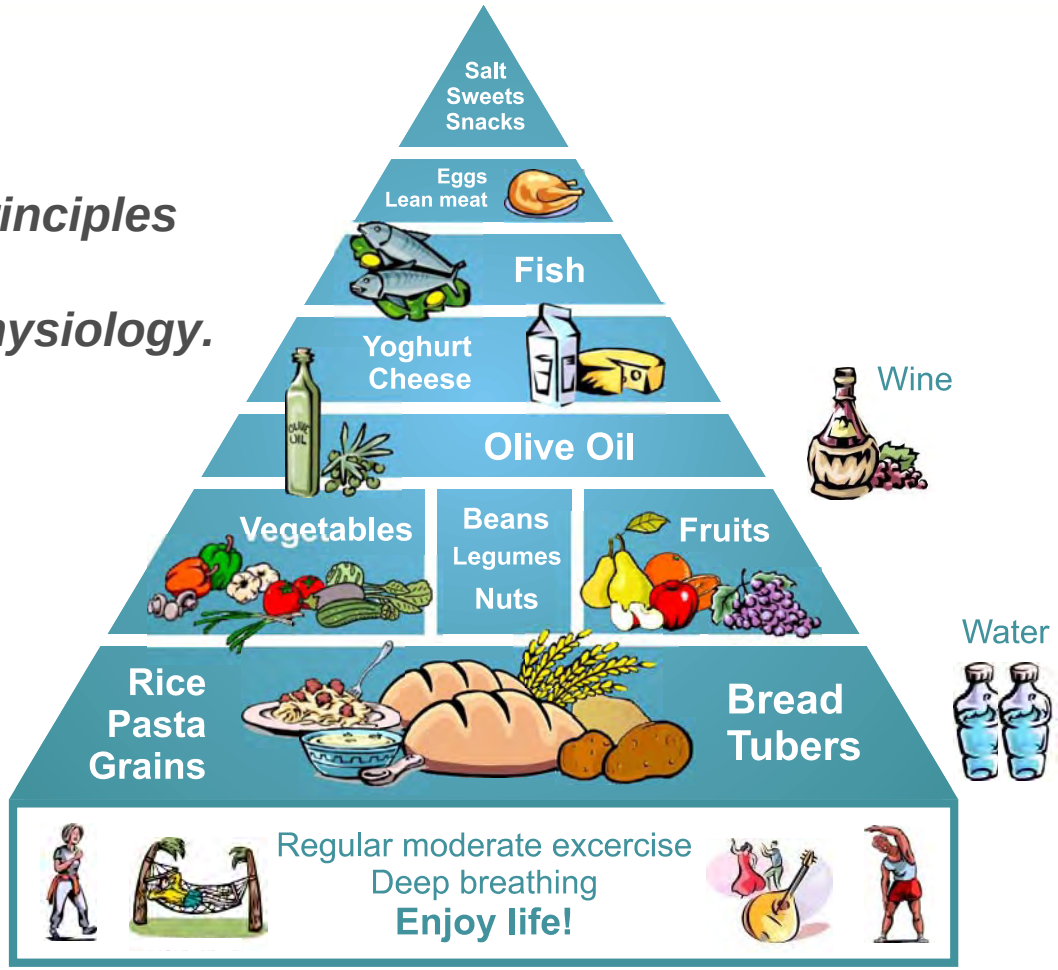
Croatian Atheroskleorosis Society

Croatian Cardiac Society

Croatian Food Agency

Croatia – raising awarenes about well-being

The new "Holistic Food Pyramid",
optimised according to the basic principles
of the Mediterranean diet,
our metabolic needs and cellular physiology.



Designed by: J. Parish, M. Perić, H. Čipčić Paljetak, M. Matijašić, D. Verbanac, Perid. Biol. 2011 in press

Some outputs…

Croatian National Institute of Public Health

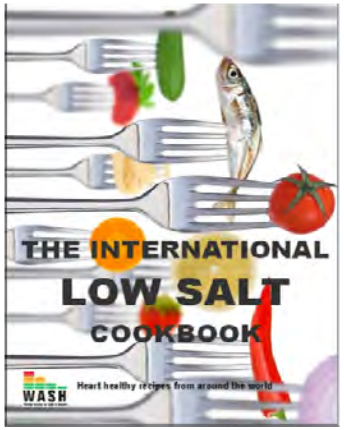
http://www.hzjz.hr/epocetna.htm

Ministry of Health and Social Care

Conferences

Public Innitiatives

Outreach activities



http://www.worldactiononsalt.com/publications/books.htm

HAH 2005 2010 CROATIAN FOOD AGENCY 5 YEARS

http://www.hah.hr/

HRVATSKI LIJEČNIČKI ZBOR HRVATSKO DRUŠTVO ZA SPORTSKU MEDICINU CROATIAN SPORTS MEDICINE SOCIETY CROATIAN MEDICAL ASSOCIATION

http://www.pbn.hr/en/aboutsoc.html

http://www.hlz.hr/portal/index.php

Zagrebački maslinarski institut Zagreb Olive Institute

www.zagreboliveinstitute.hr

Questions!

Institute for Health and Consumer Protection
29-30th September 2011 Ispra Italy

How can science support policy makers addressing the nutritional challenges of Europe?

Nutrition in Iceland

Professor Inga Thorsdottir, Unit for Nutrition Research
Faculty of Food Science and Nutrition
University of Iceland & Landspitali University Hospital

HÁSKÓLI ÍSLANDS

Food based dietary guidelines and recommendations for nutrients (PHI, INC)

Gróf brauð og annar trefjaríkur kornmatur
Aukin neysla grófra brauða og annars trefjaríks kornmatar er talin æskileg með hollustuna í huga.

innsta kosti
u eða oftar

Olía eða mjúk fita í stað harðrar fitu
Mjúk fita hækkar ekki kólesteról í blóði.

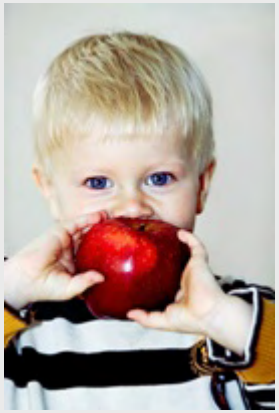
Grænmeti og ávextir daglega
Ráðlagt er að borða 5 skammta eða minnst 500 grömm af grænmeti, ávöxtum og safa á dag, þar af a.m.k. 300 grömm af grænmeti og 300 grömm af ávöxtum. Einn skammtur getur verið einn meðalstór ávöxtur, 75-100 grömm af grænmeti (þ.e. 1 desilítri af soðnu grænmeti eða 3 desilítrar af salati) eða glas af hreinum ávaxtasafa. Börn að 10 ára aldri þurfa þó heldur minni skammta.

Vatn er besti svaladrykkurinn
Vökvaþörf er breytileg meðal manna og ræðst meðal annars af aldri, líkamsstærð, veðri og því hversu mikið menn hreyfa sig.

Þorskalýsi eða annar D-vítamingjafi
D-vítamín gegnir meðal annars mikilvægu hlutverki í kalkbúskap líkamans og er nauðsynlegt fyrir uppbyggingu beina.

Fituminni mjólkurv
Hæfilegt er að fá sér tvö glös, diska eða dósir af mjólk eða mjólkurmat á dag. Best er að ve fitulítiar og lítið sykraðar vöru

Salt í hófi
Með því að minnka saltneyslu má draga úr hækkun blóðþrýstings en háþrýstingur er einn af áhættuþáttum hjarta- og æðasjúkdóma.



Unit for Nutrition Research

www.rin.hi.is

- **UNR have performed and coordinated large intervention studies, validation studies on methods used in the nutritional sciences and cross sectional studies**

- Diet in infancy and health is one of the key research fields of the UNR

- UNR also studied food habits and nutrition of other age groups such as children, adolescents and the elderly, as well as nutrition in pregnancy and it's effects on health of mother and child

- UNR has a widespread network of international collaborators

Nutrition in Infancy – longitudinal to the age of 6 yrs

Studies:

1995-7.....2001-3

2005-6.....2011

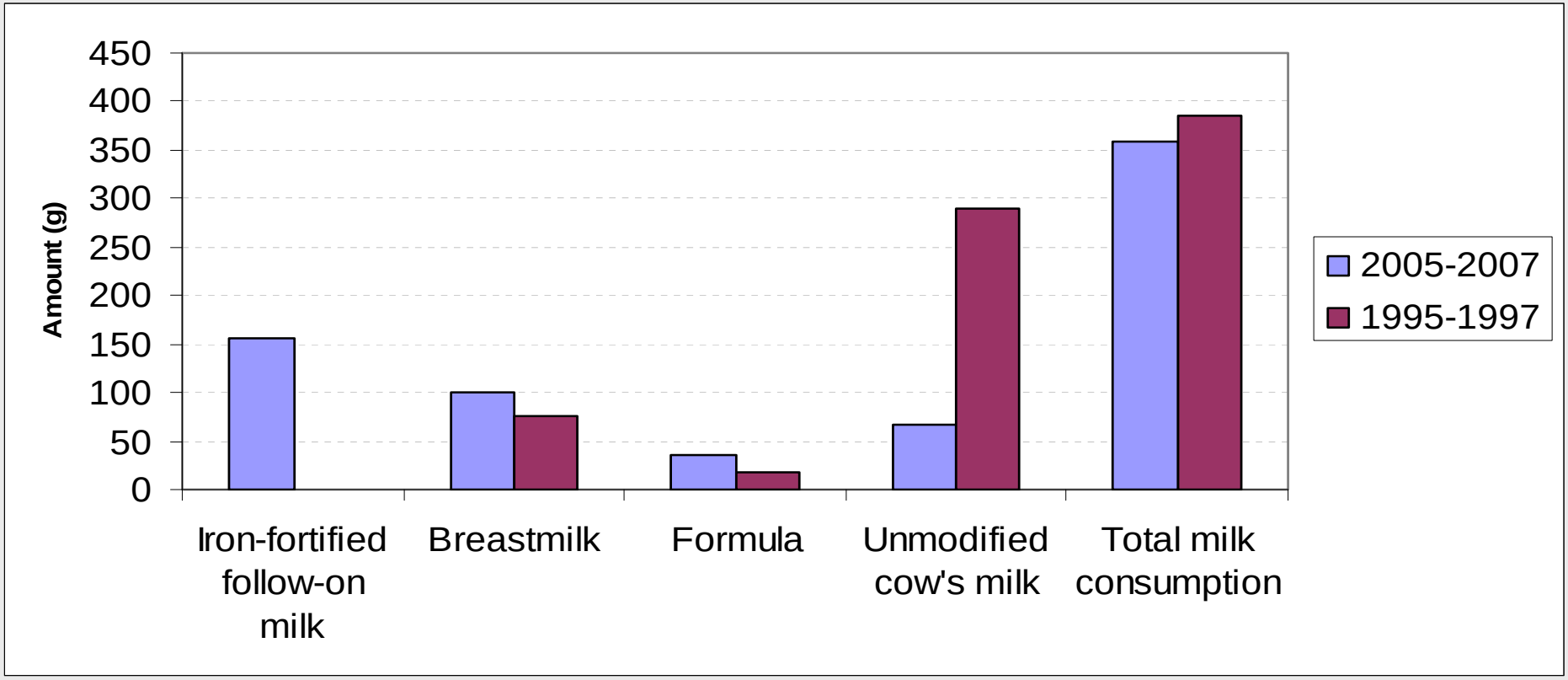
Iron status

Comparison

- Iron deficient anaemia (Hb<105 µg/l, MCV<74 fl, SF<12 µg/l)
  - 2.7% → 0
- Iron deficiency (MCV<74 fl, SF<12 µg/l)
  - 20% → 1.4%
- Low iron stores (SF<12 µg/l)
  - 41% → 5.8%
- Hb & SF were significantly higher now than in prior study ($p<0.001$)

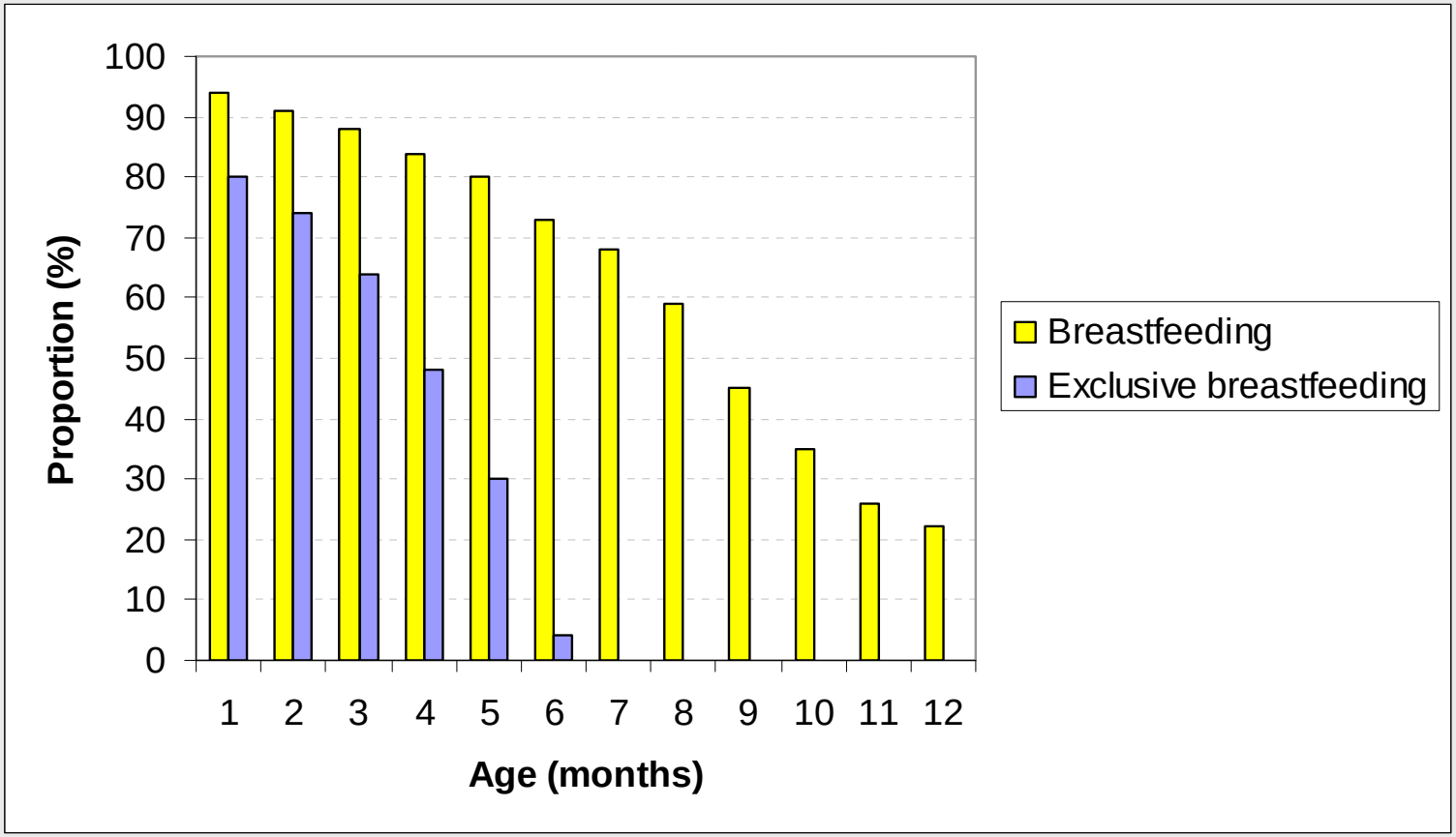
Mean consumption of milk

Comparison



Results

Breastfeeding 2005-2006



Conclusion

- Iron status has improved
- Icelandic parents follow the recommendations for infant nutrition
- Socioeconomic factors have impact on compliance to public health recommendations
- Iron-fortified follow-on milk has largely replaced unmodified cow´s milk
- Fruit consumption has increased
- Vitamin C intake has increased
- Compliance to breastfeeding and other factors needs further improvement
- New public health recommendations can improve infants nutritional status

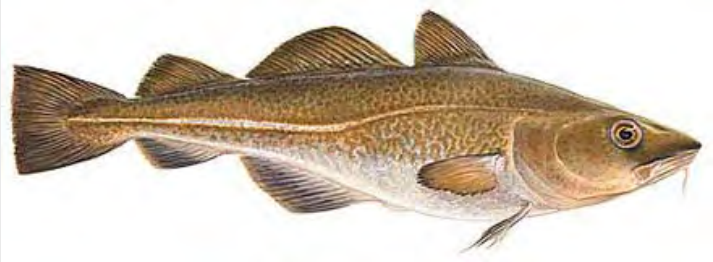
Nutrition in School Children

Promotion of Healthy Eating

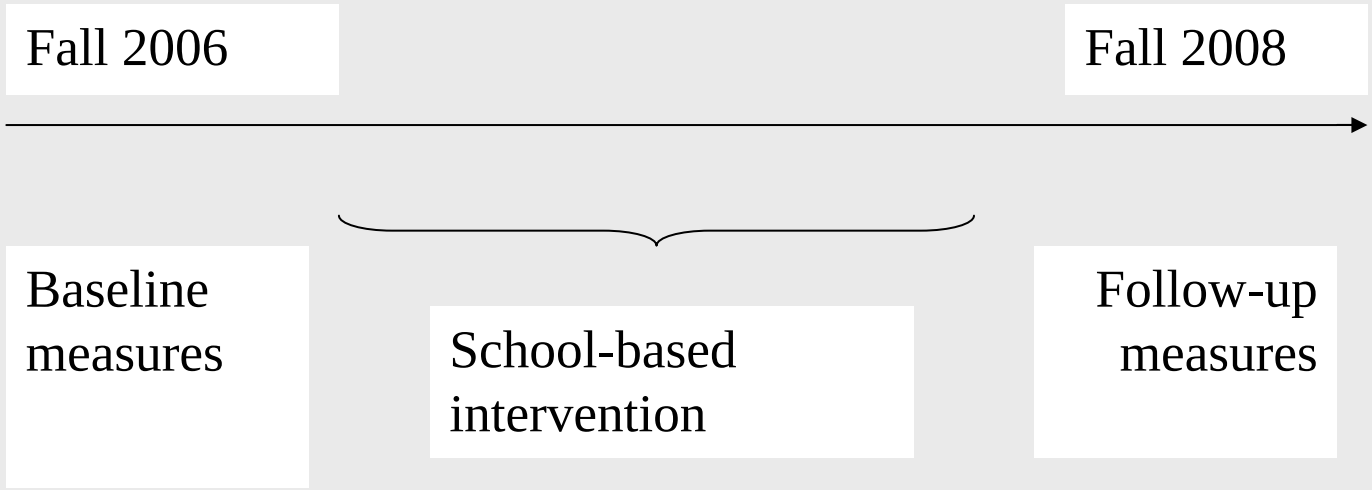
7-9 yrs old

Food-Based Dietary Guidelines (FBDGs)

- **F**ruits & **V**egetables, at least 200 g **F** and 200 g **V**
- Fish, at least twice a week
- Fish liver oil, teaspoon a day
- Milk, 2 portions per day



School based intervention on 7-9-year-olds

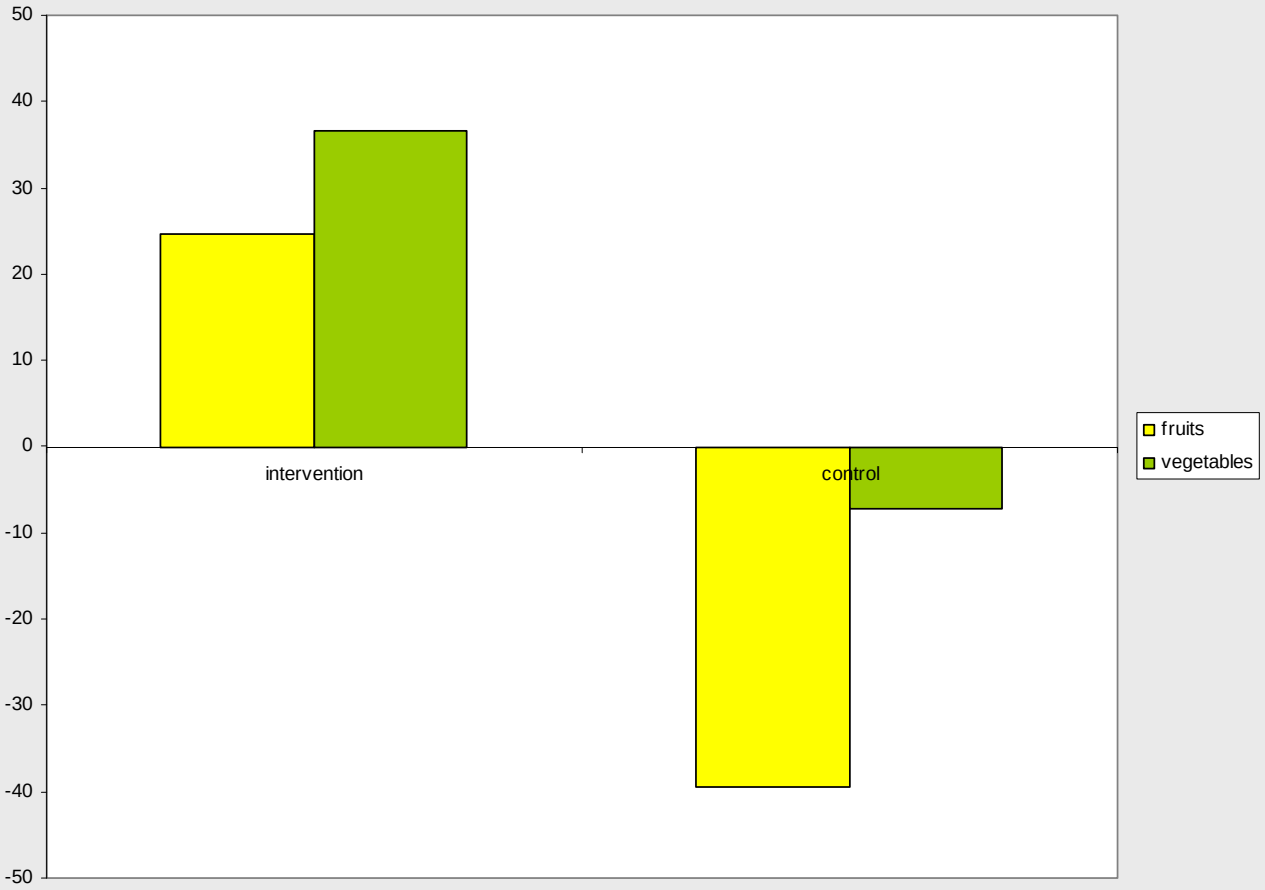


Food intake was assessed with 3-day-weighed dietary records at baseline and follow-up.

Evaluation of the nutrition intervention

- Increased fruit and vegetable intake in the intervention schools.
- Increased fish intake in both intervention and control schools.
- The changes in food intake were mirrorred in macro and micronutrient intake.

Effects of the intervention on fruit and vegetable intake among 7-9 year olds

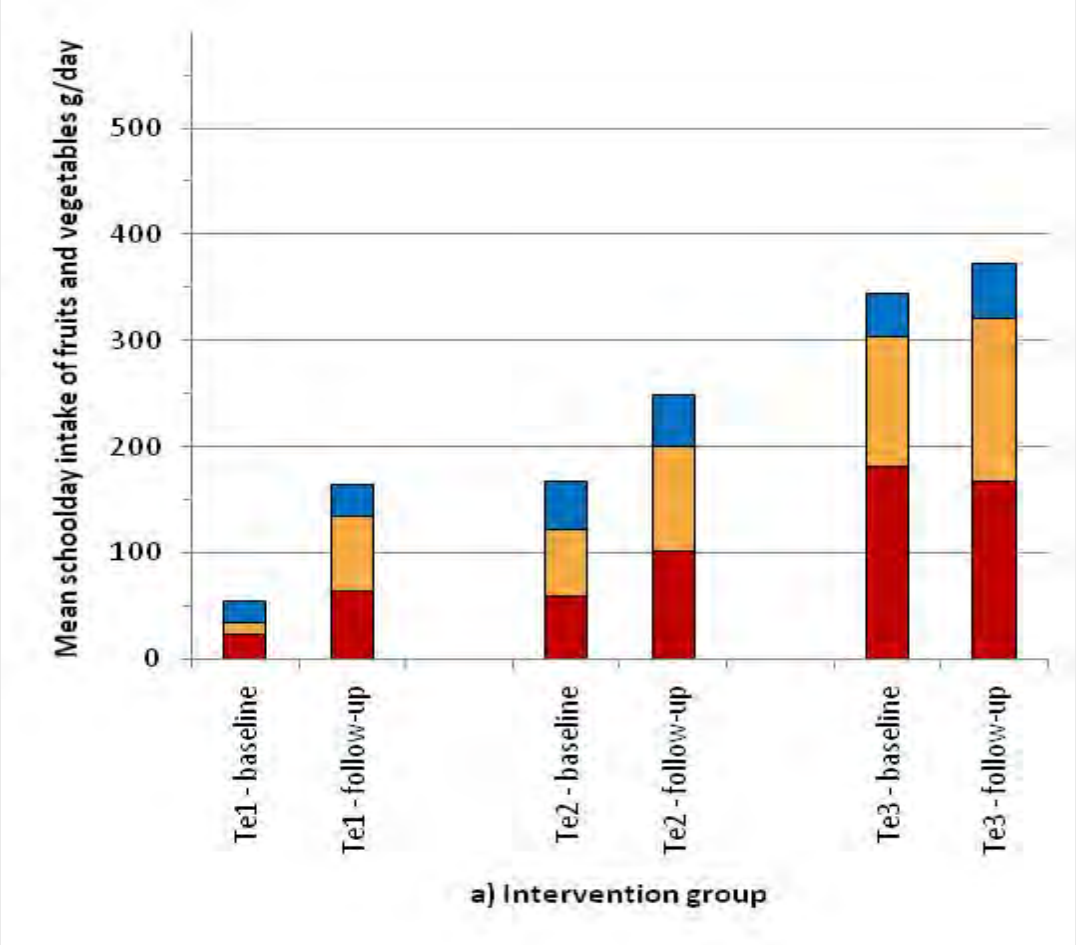


School based intervention on 7-9-year-olds

Intervention components

- Classroom component ++
- Family component ++
- School canteen component -

Total consumption of F & V in tertiles accord. to baseline values



Conclusions

The results of the 7-9 year old intervention suggest that a multi-component intervention can improve the quality of the diet of school children.

It should also be considered that large national school programs may have the potential of reaching almost **all** children.

This is especially relevant, given that promoting healthy eating in school children is expected to have positive effects on health in the whole population.

Nutrition in Iceland

How can science support policy makers addressing the nutritional challenges of Europe?

Institute for Health and Consumer Protection

29-30th September 2011 Ispra Italy

Laufey Steingrímsdóttir professor
Unit for Nutrition Research
Faculty for Food Science and Nutrition
University of Iceland and Landspitali University Hospital

HÁSKÓLI ÍSLANDS

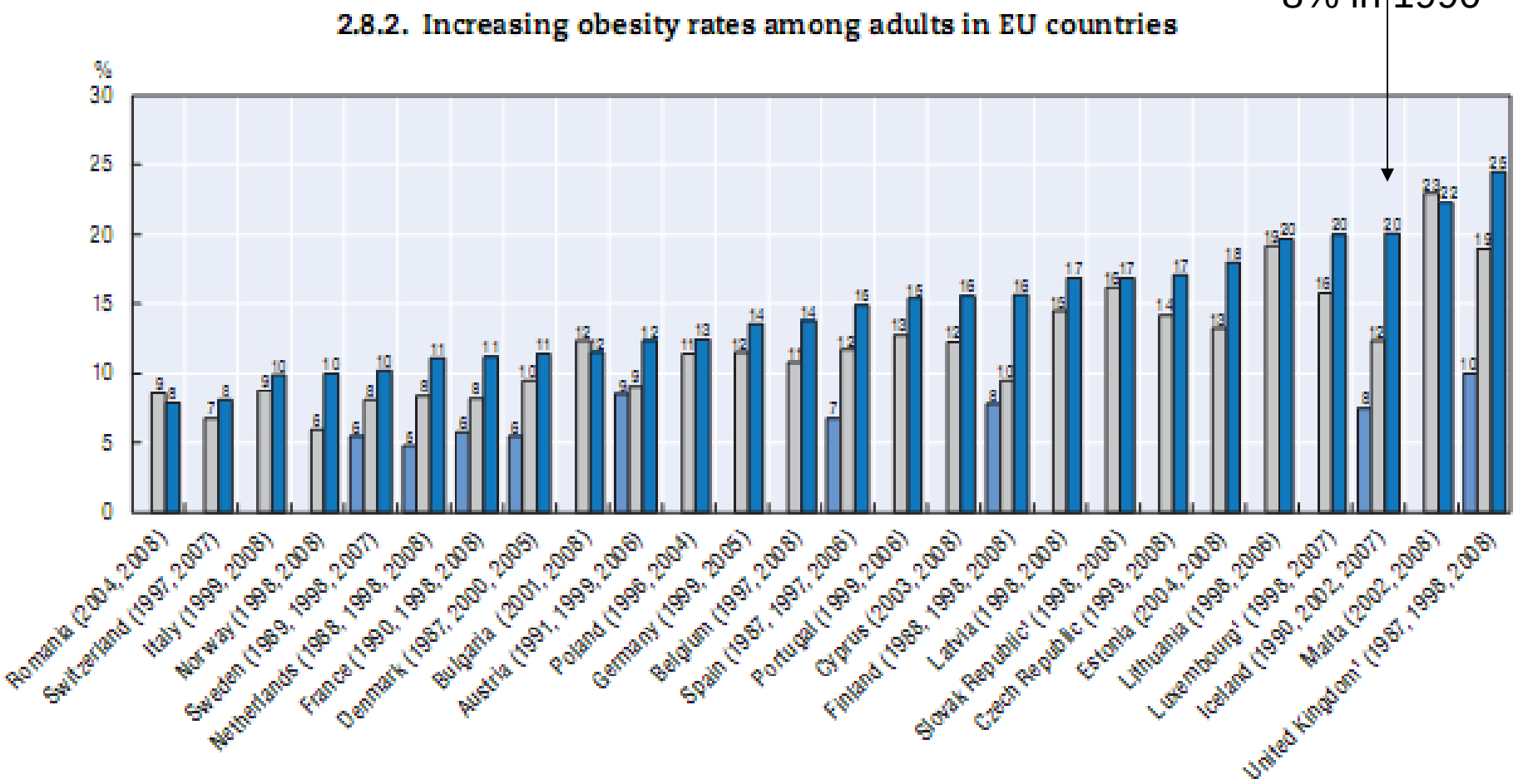
LANDSPÍTALI

Nutrition related challenges in Iceland

- Obesity
- Reversal of favorable trends in vegetable and fruit intake after bank collapse
- Inequity and emerging poverty
- High salt intake
- Poor vitamin D status

OECD Health at a Glance, Europe 2010

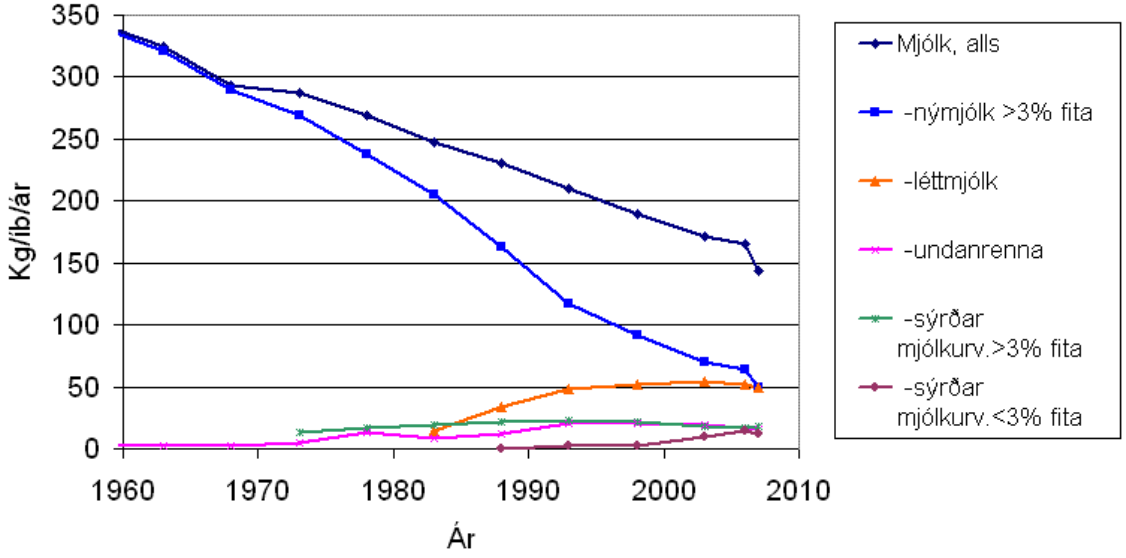
20% in 2007
12% in 2002
8% in 1990



Dietary changes in Iceland

Sharp decline in whole milk, butter, margarine, lamb, mutton and fish. Mainly replaced by chicken, pork, vegetable oils as well as increased fruit and vegetable consumption

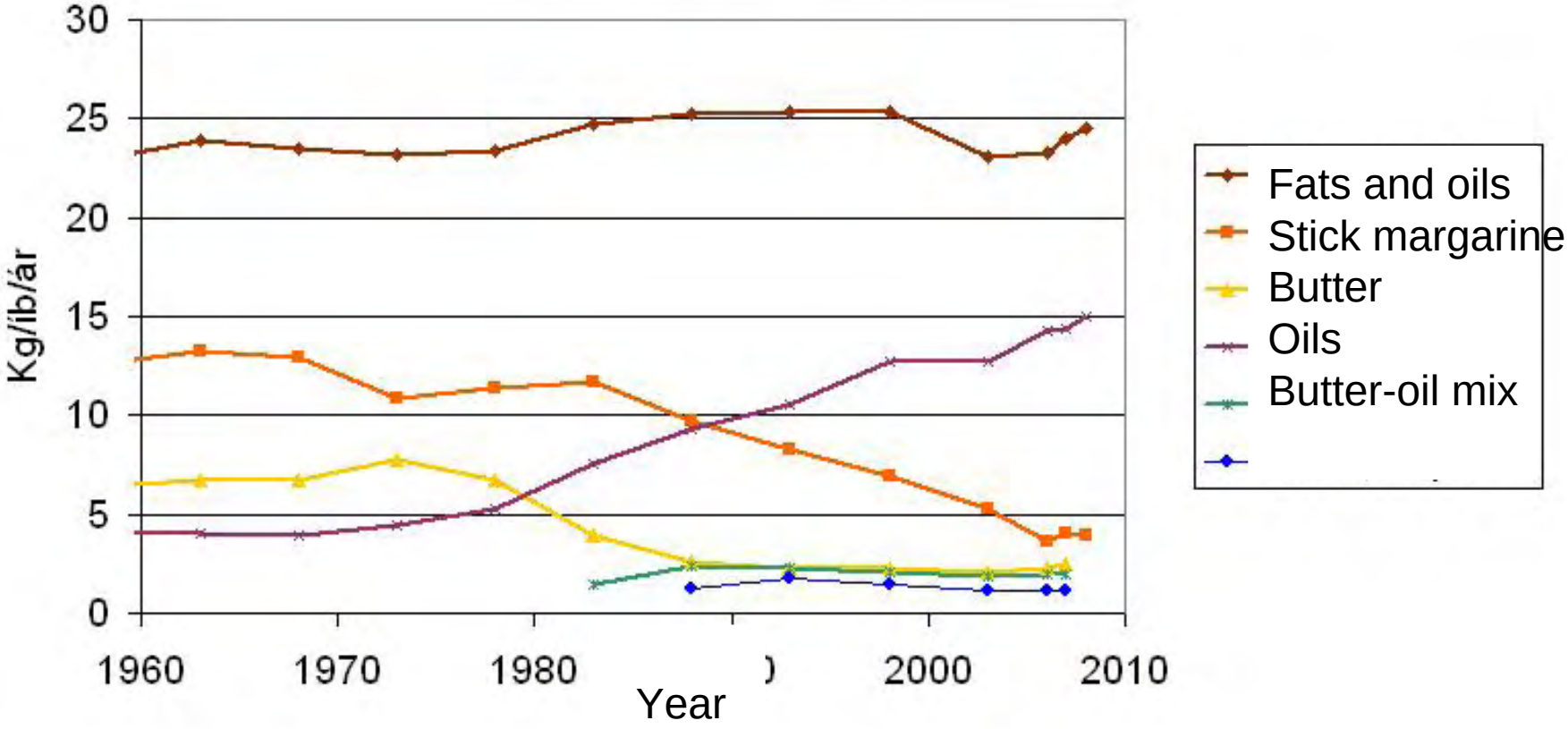
MILK



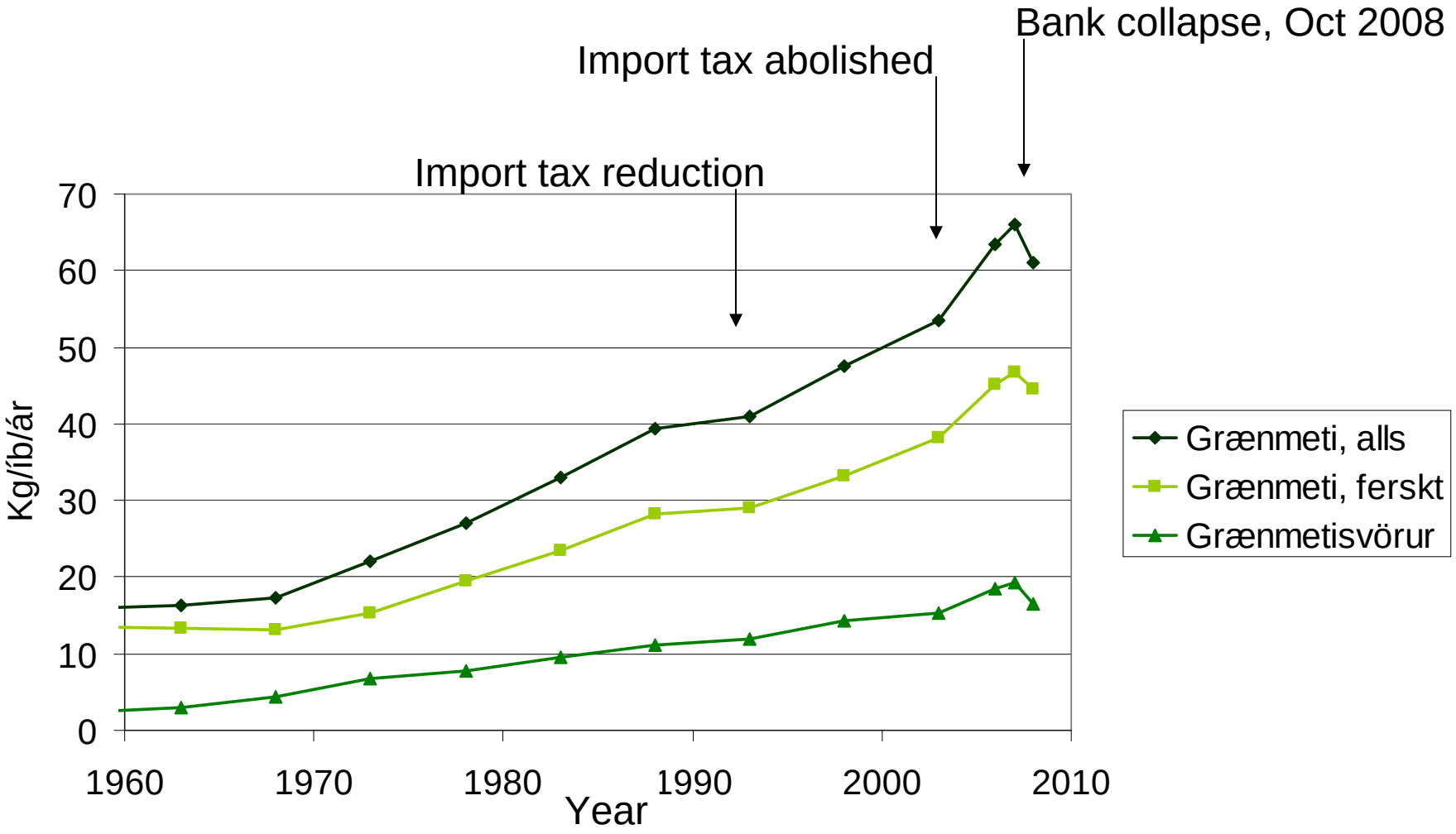
Food supply
kg/person/year

National food and nutrition policy introduced in 1987
Emphasized decreased intake of saturated fat and increased fruit and vegetablea intake

Fats and oils, kg/person/year

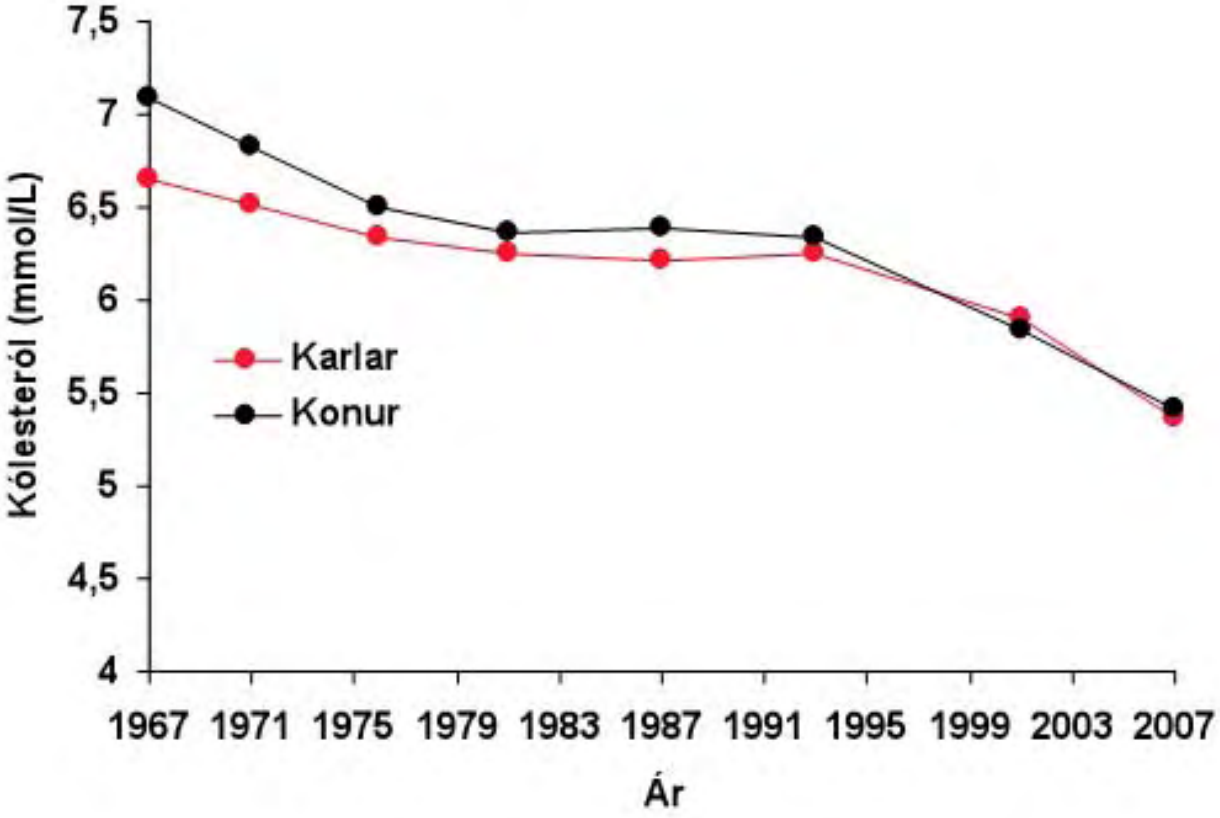


Vegetable consumption - Food statistics, kg/pers/year



People having difficulties making ends meet increased from 10% in 2005 to 31% in 2010

Serum cholesterol
Men and women 45-64 years of age
1967-2007



Niðurstöður úr 40 ára rannsóknum Hjartaverndar

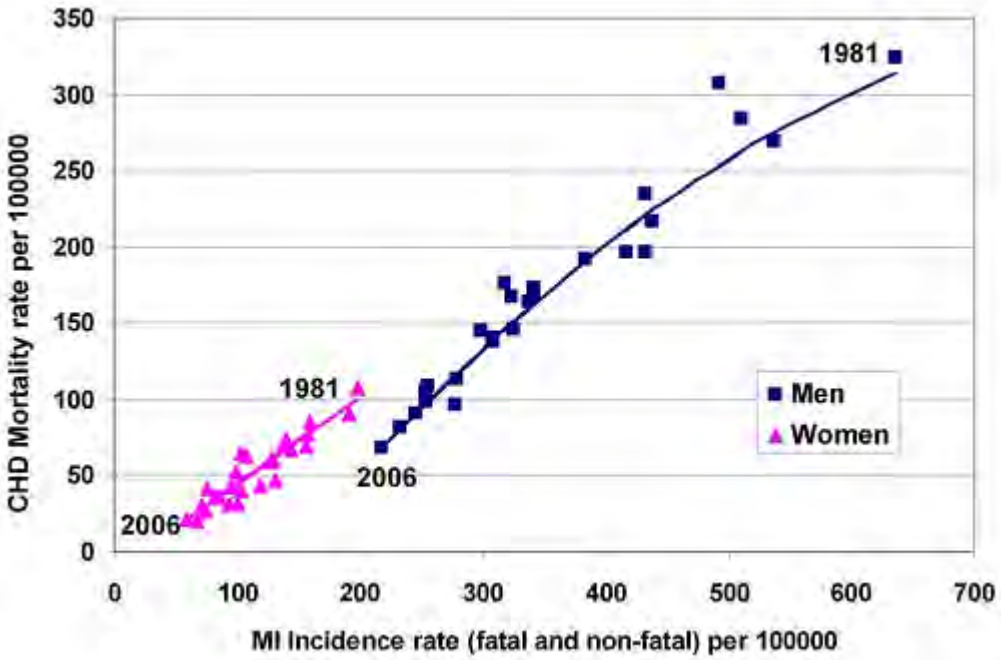
OPEN ACCESS Freely available online

PLoS one

Analysing the Large Decline in Coronary Heart Disease Mortality in the Icelandic Population Aged 25-74 between the Years 1981 and 2006

Thor Aspelund[1,2], Vilmundur Gudnason[1,2*], Bergrun Tinna Magnusdottir[1], Karl Andersen[2,3], Gunnar Sigurdsson[1,3], Bolli Thorsson[1], Laufey Steingrimsdottir[2], Julia Critchley[4], Kathleen Bennett[5], Martin O'Flaherty[6], Simon Capewell[6]

1 Icelandic Heart Association, Kopavogur, Iceland, 2 University of Iceland, Reykjavik, Iceland, 3 Landspitali University Hospital, Reykavik, Iceland, 4 Institute of Health and Society, University of Newcastle, Newcastle upon Tyne, United Kingdom, 5 Department of Pharmacology and Therapeutics, Trinity Centre for Health Sciences, St James's Hospital, Dublin, Ireland, 6 Division of Public Health, University of Liverpool, Liverpool, United Kingdom



73% of mortality decrease attributed to changes in population risk factors:
Cholesterol 32%
Smoking 22%
Systolic blood pressure 22%
Physical activity 5%

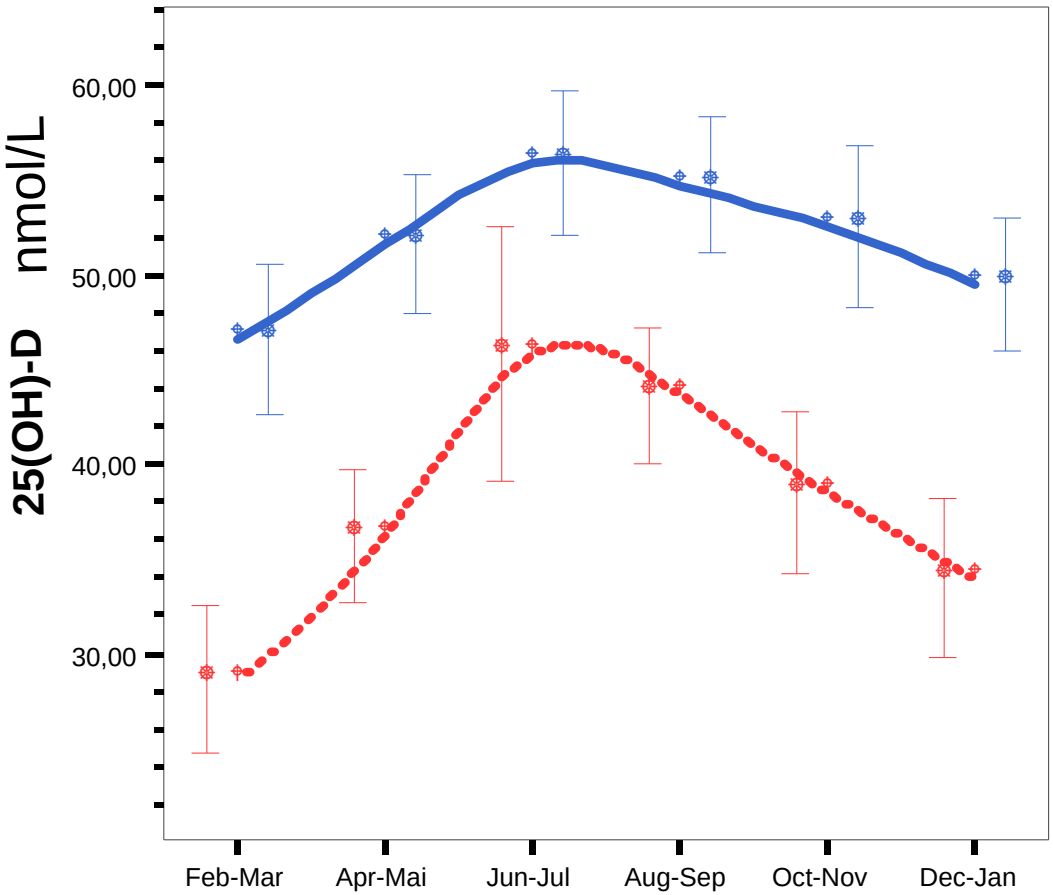
National Nutrition Surveys

- Dietary surveys have been conducted by the Icelandic Nutrition Council, later Public Health Institute in the years 1979, 1990 2002 and 2010-2011.
- The 2010-11 survey is now completed, used 2x 24 hr recall in combination with food frequency questions. First results will be reported in November 2011
- This last survey is a cooperative project between The Public Health Institute, Unit for Nutrition Research, University of Iceland and The Icelandic Food and Veterinary Authority.

Salt content of bread

- Pubic Health Institute in cooperation with bread makers and The Food Agency planned a project in 2007 attempting to decrease salt content of breads.
- Salt has decreased significantly in some brands, but others are still too high. According to the National Nutrition Survey 2010-2011, sodium intake has decreased by 6% since 2002.

Seasonal variation in mean s-25(OH)D
by supplemental vitamin D intake
Icelandic adults



Few Icelandic foods fortified with vit D.
One milk drink fortified containing 0.38µg/100g

Laufey Steingrimsdottir et al 2005

Cod liver oil given in all elementary schools until 1956

Thank you!

Nutritional facts and issues in the Republic of Macedonia

Dr. Igor Spiroski (i.spiroski@iph.mk)
Dr. Valentina Velkoska (valentina.velkoska@ugd.edu.mk)

JRC Nutritional challenges workshop
Ispra, Italy, 29.09.2011

Country facts

- Population: 2 077 328 (July 2011 est.)
- Life expectancy at birth: total population - 75.14 years; male: 72.61 y; female: 77.87 y (2011 est.)
- Infant mortality rate: 8.54 deaths/1000 live births (2011 est.)
- GDP per capita (PPP): $9700 (2010 est.)
- Total health expenditure as % of GDP: 7% (EU region average 7,56%)

Sources: CIA The World Factbook; WHO HFA Database

Food policy

- Second action plan on food and nutrition in Republic of Macedonia for 2009-2014
- Health challenges and sets of actions

Health challenges	Set of actions
Non-infectious food-related diseases Obesities in children and adolescents Micronutrients deficit Unsafe food-related diseases	1.Support for healthy start 2.Sustainable supply of safe and healthy food 3.Providing comprehensive information and education for consumers 4.Taking integral activities regarding related determinants 5.Enhancing the nutrition and food safety in the health sector 6.Monitoring and evaluation

- Inter sectorial level (MoH, IPH, Faculty of Medicine…)

Food availability/consumption

- SSA and IPH: Estimation of average daily food intake according to the SSA report on household consumption in the country

Table: Macronutrients intake and its portion in the ADI (2009)

Energy value of the daily meal (kcal)	Proteins			Fats			Carbohydrates		
	g	kcal	% of E intake	g	kcal	% of E intake	g	kcal	% of E intake
2883,9	85,3	341,2	11,8	114,3	1028,6	35,6	373,6	1494,2	51,7

Food availability/consumption

- Micronutrients (2009)

Vitamins	R.E µg	A-R.E µg	B1 mg	B2 mg	PP mg	B6 mg	C mg	E µg	D µg	K µg	B12 µg	Folate µg
ADI	1076,72	664,57	1,18	1.44	14,53	1.34	179,54	0.00	0.00	0.00	0.00	0.00
RDA	720 - 880		1,0 - 1,2	1,1 - 1,4	13 - 19	1,3 - 1,6	63 -77	7 - 9	4,5 - 5,5	59 -72	1,8 - 2,2	180 - 220

Mineral	Na mg	K mg	Ca mg	Mg mg	P mg	Fe mg	Zn mg	Cu mg
ADI	8977,7	3110,43	621,97	247,6	1260,77	13,57	5.09	1.16
RDA	500-2300	2000-5600	720-1100	252-330	720-1100	9-16,5	11-13	2-3

Food availability/consumption

Year	1972	1978	1984	1990	1996	2003	2006	2008	2009
Product groups	**(g/day)**								
Vegetables (fresh)	179	152	171	162	189	211	272	246	264
Potatoes	48	42	64	65	76	86	85	77	84
Fruit (fresh)	162	177	153	156	158	256	202	190	213
Cereals (including bread, flour, rice and pasta)	401	352	562	537	400	425	404	408	377
Legumes	14	13	43	29	22	26	31	28	26
Milk and dairy	179	254	264	226	209	287	210	192	221
Meat and products	69	85	78	98	70	129	150	142	200
Fish	6	6	7	10	10	11	12	17	16
Fats and oils	40	42	46	48	46	65	45	52,7	66
Sugar and sweets	42	40	44	46	44	40	54	53	70

Table: Trend of average daily intake

Increased trend of consumption of fruit and vegetables, but also meat (other than fish) and sugar and sweets (source IPH 2010)

Table salt: 15,62 g/day, also high Na intake (2009)

Nutritional deficiencies/obesity

- COSI, 6-9 years old children (2010), WHO standards
- COSI, preliminary results, 2010
- 18 EUR countries (24% children o/w or obese)

Gender	w/a %,		h/a %	
	<-3SD	<-2SD*	<-3SD	<-2SD*
Boys	0,1	1	0,1	1,5
Girls	0	1,2	0,1	0,9
Average	0,1	1,1	0,1	1,2

*% <-2SD includes %<-3SD

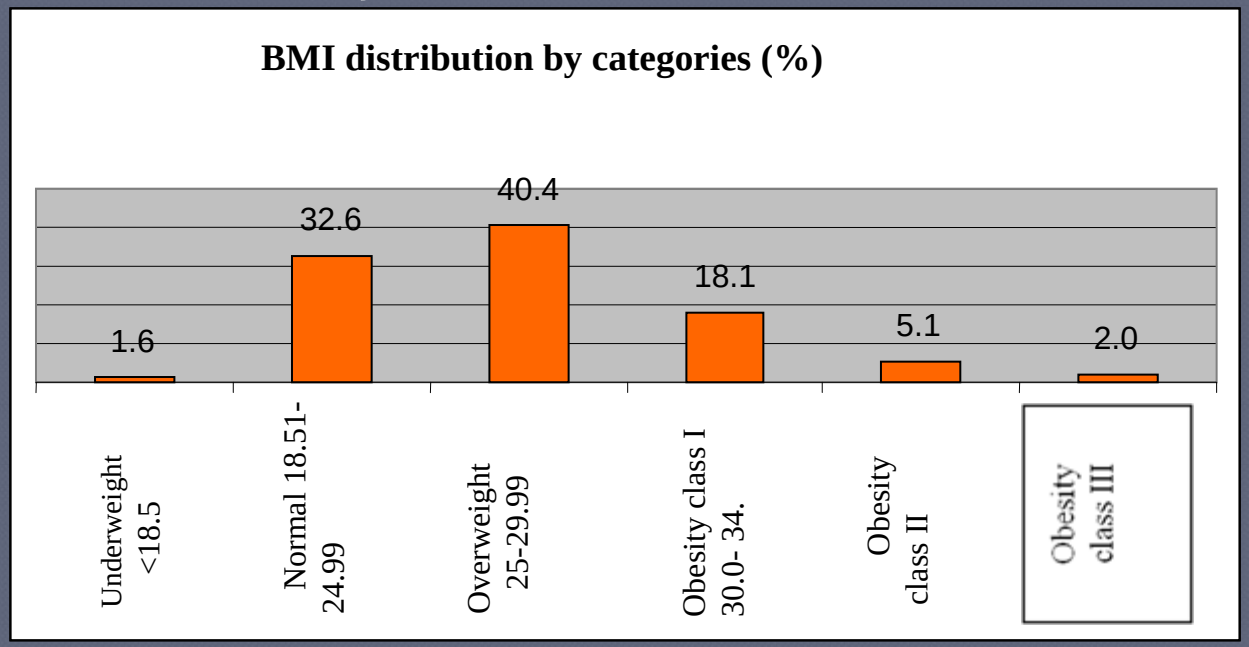
Gender	BMI/age %				
	<-3SD	<-2SD*	>+1SD**	>+2SD***	>+3SD
Boys	0,3	1,5	38	19,7	8,2
Girls	0,4	1,4	31,1	12,9	3,1
Average	0,4	1,4	34,7	16,4	5,7

*% <-2SD includes %<-3SD; %>+1SD** includes % >+2SD%>+3SD ;***% >+2SD includes и%>+3SD

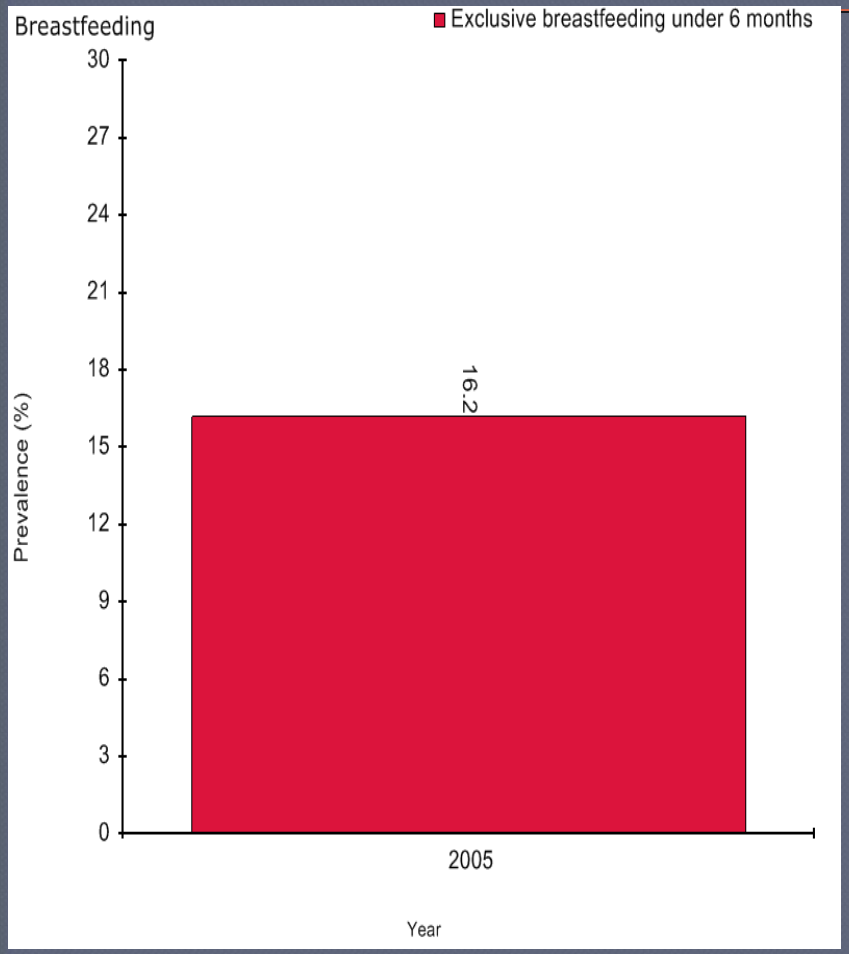
Macedonia, children 7 years old

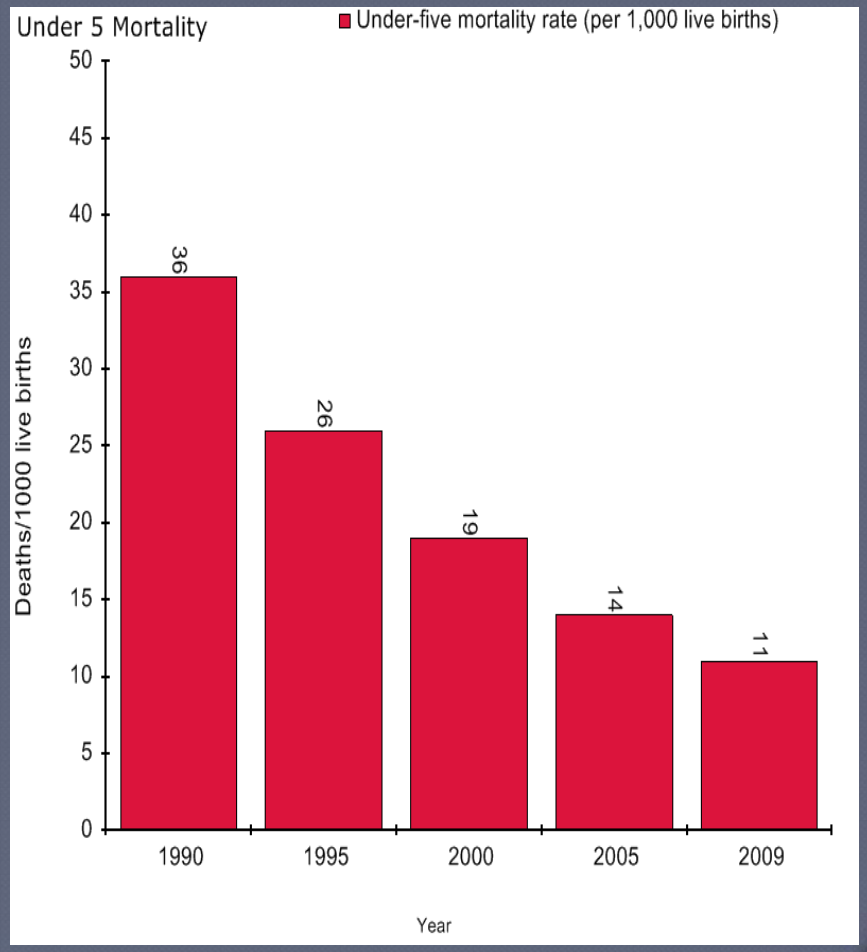
Nutritional deficiencies/obesity

- General population (Dimitrovska, Spiroski et al., IPH, 2006)



Breastfeeding





Suorce: WHO

THANK YOU

Montenegro - general overview and nutritional issues

Ivana Joksimović M.D.
Specialist of Hygiene
Institute of Public Health – Montenegro

Montenegro - general facts

Area: Montenegro (13,938 sq. km.).
Capital: Podgorica.
Terrain: Montenegro's terrain is varied. It includes mountainous regions with thick forests in the north; central plains; and a rocky Adriatic coast with very few islands.
Climate: Generally continental; Mediterranean along the coast.
Population (2011 census): 620,029.
Population growth rate (2010 EU Progress Report): 4.1%.
Religions (2011 census): Orthodox 72.07%, Islam 15.97%, Muslim 3.14%, Catholic 3.44%, other 5%.
Ethnic groups (2011 census): Montenegrin 44.98%, Serb 28.73%, Bosniak 8.65%, Albanian 4.91%, Muslim 3.31%, other (Croatian, Roma) 4.36%; 4.87% did not respond.
Health (2010 EU Progress Report): *Infant mortality rate* (2009 data)--5.7 deaths/1,000. *Life expectancy* (2009 data)-male 71.7 years, female 76.6 years.

The action plan for nutrition and food safety 2010-2014 in Montenegro is the umbrella document which should provide the basic guidelines for a comprehensive and coordinated response to improving public health related to food and nutrition.

Priority goals of the Action Plan for Nutrition and Food Safety 2010-2014 are:

- to reduce the prevalence of non communicable diseases related to diet;
- to reverse the trend of obesity among children and adolescents;
- to reduce the prevalence of micronutrient deficiency;
- to reduce the incidence of diseases transmitted by foodstuffs.

In the area of nutrition following objectives are to be achieved (in line with FAO/WHO recommendations):

- <10% of daily energy intake from saturated fatty acids
- <1% of daily energy intake from trans fatty acids
- <10% of daily energy intake from free sugars
- ≥ 400 g fruits and vegetables dayly
- <5 g of salt dayly.
- Infants should be exclusively breastfed for the first six months of life and continuously breastfed until at least 12 months

Based on LSMS (The Living Standards Measurement Study) research on the health status of the Montenegrin population in 2000 is estimated that in the adult population (persons over 20 years of age), the prevalence of people with overweight was 34.8% (27.2% women and 41.9 for men) while the prevalence of obese individuals was 12.8% (12.1% women and 13.3% men), 47.6% of the total adult population.

The results of the same survey in 2008 showed that during the period of 8 years there has been a further increase in overweight prevalence among the population of Montenegro. In fact, in 2008. prevalence of people with excess weight was 40.0% (32.2% women and 48.4% men), while the prevalence of obese individuals was 15.1% (14.5% women and 15.8% men).

According to the same survey three quarters of children and adolescents aged 7-19 years in Montenegro had a healthy weight. The survey showed that in relation to BMI 3.8% of children were underweight, while a total of 21.2% were overweight or obese.

In Montenegro, 25.2% of women started breastfeeding within one hour of birth. The percentage was highest among the women from the north of Montenegro (58%), where as among women in the southern region, only 5%. The differences depend on education and socio-economic family status.

According to the mother's education level, percentage of women who started breastfeeding within one hour of birth is reduced from 42% mothers with primary education or no education to 22% with secondary education, up to 15% of women with higher education

- The same indicator is growing from 8 percent for the richest to the poorest 40 percent.
  Only 19.3% of children younger than six months are exclusively breast fed. In the age of 6-9 months, 35% of children receive complementary foods with breastfeeding.
- At the age 12-15 months, 25% of children were breastfed and in the age 20-23 months, this percentage was 13%.
  About 30% of children aged 6-8 months were breast fed and had used complementary foods at least two times a day.

(Source : Montenegro Multiple Indicator Cluster Survey 2005,Final Report)

Recent projects and studies related to nutrition

The results of Multiple Indicator Cluster Survey in 1996 and 2000 showed that prevalence of hemoglobin is less than 110 g / l, and in children under the age of five years was 29.4%.

In urban environment the prevalence of anemia due to lack of iron in children aged up to five years was 31.9% while in rural 26.8%.

Prevalence of sideropenic anemia in women aged 15 - 49 years was 26.7%. On average in this population group wasn't statistically significant differences in the prevalence of anemia between urban and rural communities.

(Source: Multiple Indicator Cluster Survey II, The Report for the Federal Republic of Yugoslavia, UNICEF, Belgrade 2000).

Recent projects and studies related to nutrition

The general objective of the FOCUS-BALKANS project was to improve competencies and understanding in the field of consumer food science in the Western Balkan countries (WBC).

Main focus was on products with positive nutritional properties (fruits and health/ Diet foods) and sustainability (organic and traditional food products).

Some conclusions for Montenegro population are:

Green markets remain the main place for the supply of fresh fruit, while in the supermarkets buying mostly processed and dried fruit.

Consumers prefer the domestic production compared to industrially processed, and when purchasing prefere domestic compared to fruit from other WBC and the EU.

Offer and consumption of products with N&H statements is increasing

- The main barrier for consumption of N&H claims products is the price and taste
- Younger consumers pay more attention to content of labeling compare to older consumers, especially women.
- Older and younger consumers do not fully understand the labels on products, especially those written in small font. They pay more attention to expire date, manufacturer and prize.
- Montenegrians find traditional products as healthy, natural and high quality products, without preservatives, without artificial coloring, or other additives.
- In general participants of focus groups identified traditional food at the opposite side of industrial food.
- (Official presentation of the project is on the site: www.focusbalkans.org)

Food Safety Management System

- The activities of state administration in the area of food safety and animal feed perform:
  - Ministry of Agriculture, Forestry and Water Management
  - Ministry of Health
  - The administrative organ responsible for veterinary care;
  - The administrative organ responsible for phytosanitary activities.
- Supervision over the diseases which are transmitted by food, and epidemiological researches carries out the Institute for Public Health and the relevant hygiene and epidemiological authorities in health centers.
- Under the Law on food safety surveillance implements Sanitary, Veterinary and Phytosanitary Inspection.

- Consumers have a right to expect the food they purchase and consume is correct and good quality. They have right to communicate their opinions about the procedures related to food control, standards and activities which governments and industry implemented to ensure that food which is provided has those characteristics.
- For consumers, the food control systems must provide substantial protection against real and significant risks.
- Information and communication with consumers is being implemented on the following basis: Information on requirements for food safety are available to the public through an annual document (Statistical Yearbook) published by the Institute of Public Health.

- In order to reduce the burden of food-borne diseases poster "WHO 5 keys to safer food" has been translated and used.
- In the framework of health promotion activities, the Center for Disease Control and Prevention IPH has implemented several brochures and guidelines.
- Brochures:
  - Shigellosis caused by Shigella dysenteriae
  - Save your health during the summer holidays with the Guidelines for the Protection of intestinal infectious diseases and food poisoning
  - Guidelines for the kitchen staff - preventing food poisoning
  - 10 golden rules for safe food preparation

  Guidelines which are on the site of the Institute of Public Health:
  - Correct hand washing techniques
  - Salmonellosis - how to prevent and protect yourself
  - What is the trichinosis and how to protect yourself
  - Good hygiene habits in the prevention of infective diseases

CONCLUSION

- In the last few years in Montenegro, significant efforts and results have been achieved in drafting of legislation in the area of food safety.
- Laws and regulations are only tools, though very important in order to improve food safety system, but the biggest challenge is their implementation due to lack of financial resources, human resources, coordination and expertise.
- Continuous education, information and training of all subjects in the area of food safety is needed in order to ensure compliance with food safety systems of the EU. Adequate laboratory equipment needs to be provided in accordance with HACCP and ISO standards;
- It is necessary to promote and ensure the implementation of HACCP in food production;
- It is also necessary to ensure a high degree of transparency to make information available to the public and to carry out public campaigns in order to inform consumers about food safety.

Thank you for your attention !

CURRENT AND FUTURE NUTRITIONAL ISSUES IN SERBIA

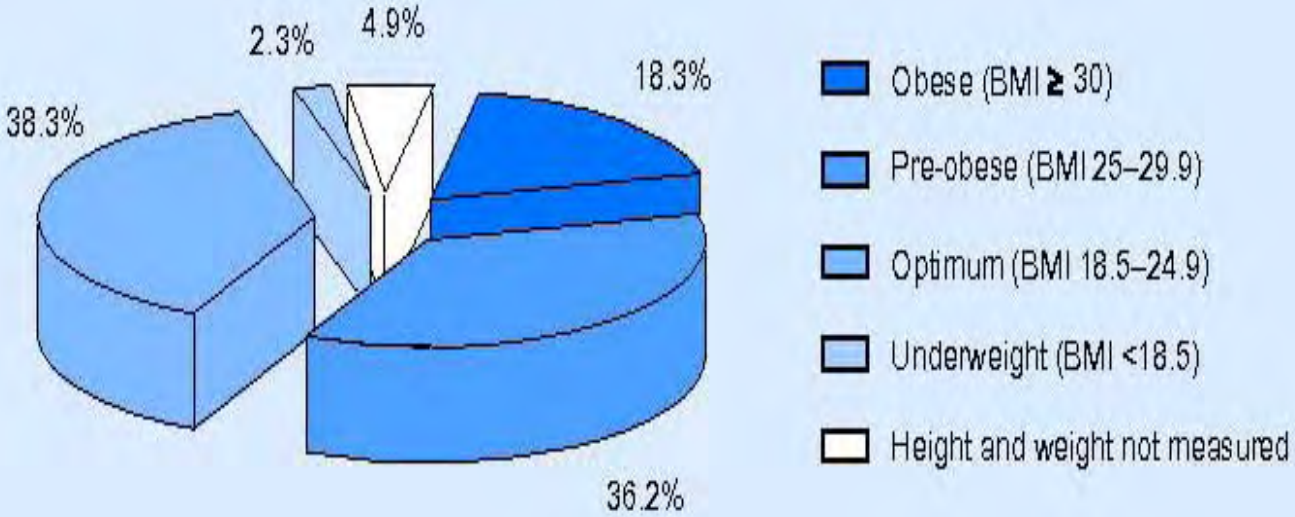
Prof. dr Nadja Vasiljevic, PhD
University of Belgrade-Faculty of Medicne

Prof. dr Sladjana Sobajic, PhD
University of Belgrade –
Faculty of Pharmacy

Obesity and undernutrition

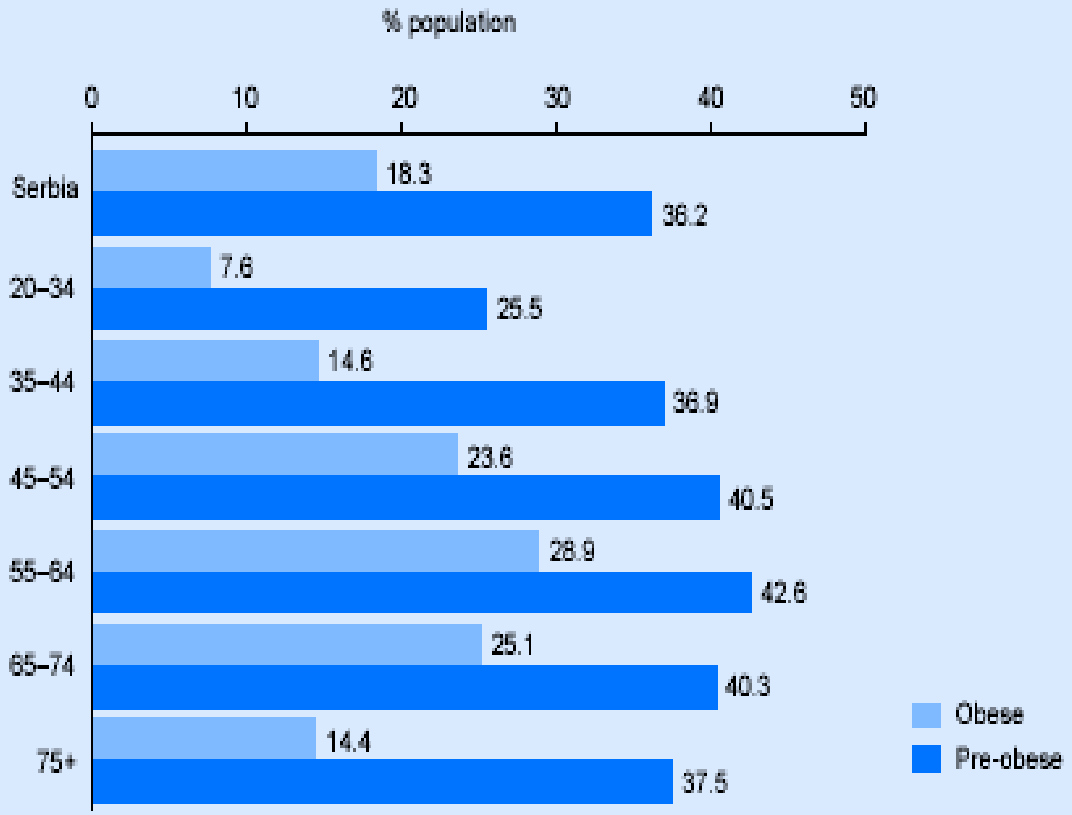
National Health Survey Serbia 2006, Key findings

Figure 10. Adult population by body mass index categories, Serbia, 2006



Overweight people – 54,5%

Figure II. Adults population classified as obese and pre-obese by age groups, Serbia, 2006



The problem of obesity was recognized in Serbia 40 years ago

1969 First nutrition counseling outpatient unit

1991st Int. Symposium on Obesity

1993 2nd Int. Symposium

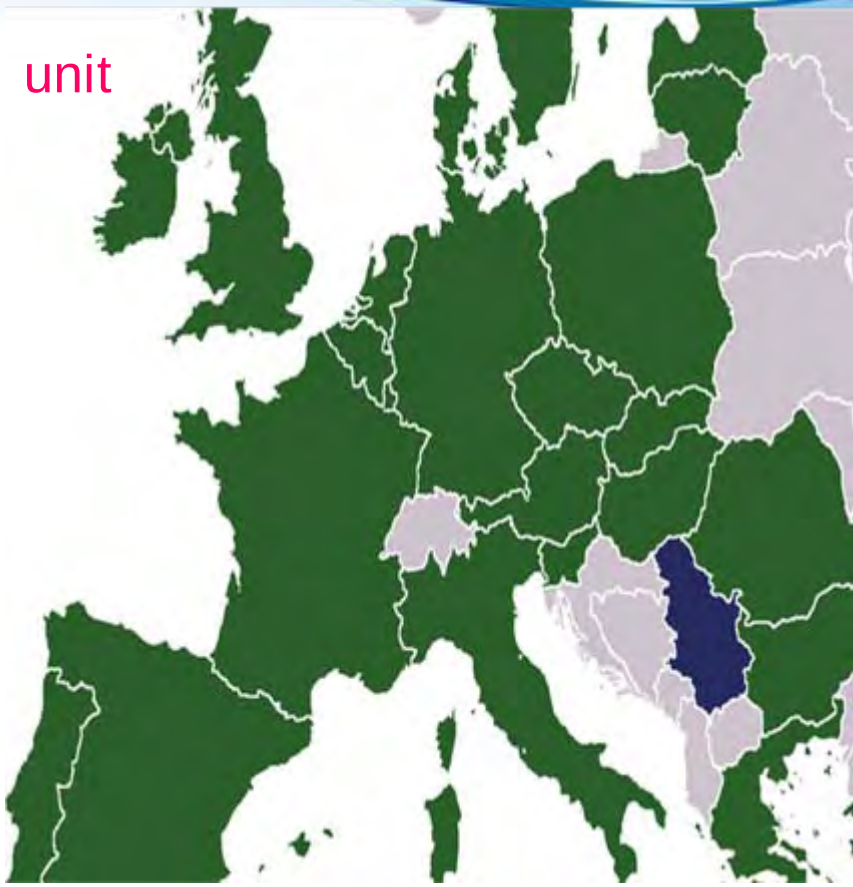
1997 3rd Int. Symposium on Obesity

1997 YASO Founding meeting

1999 Milan declaration

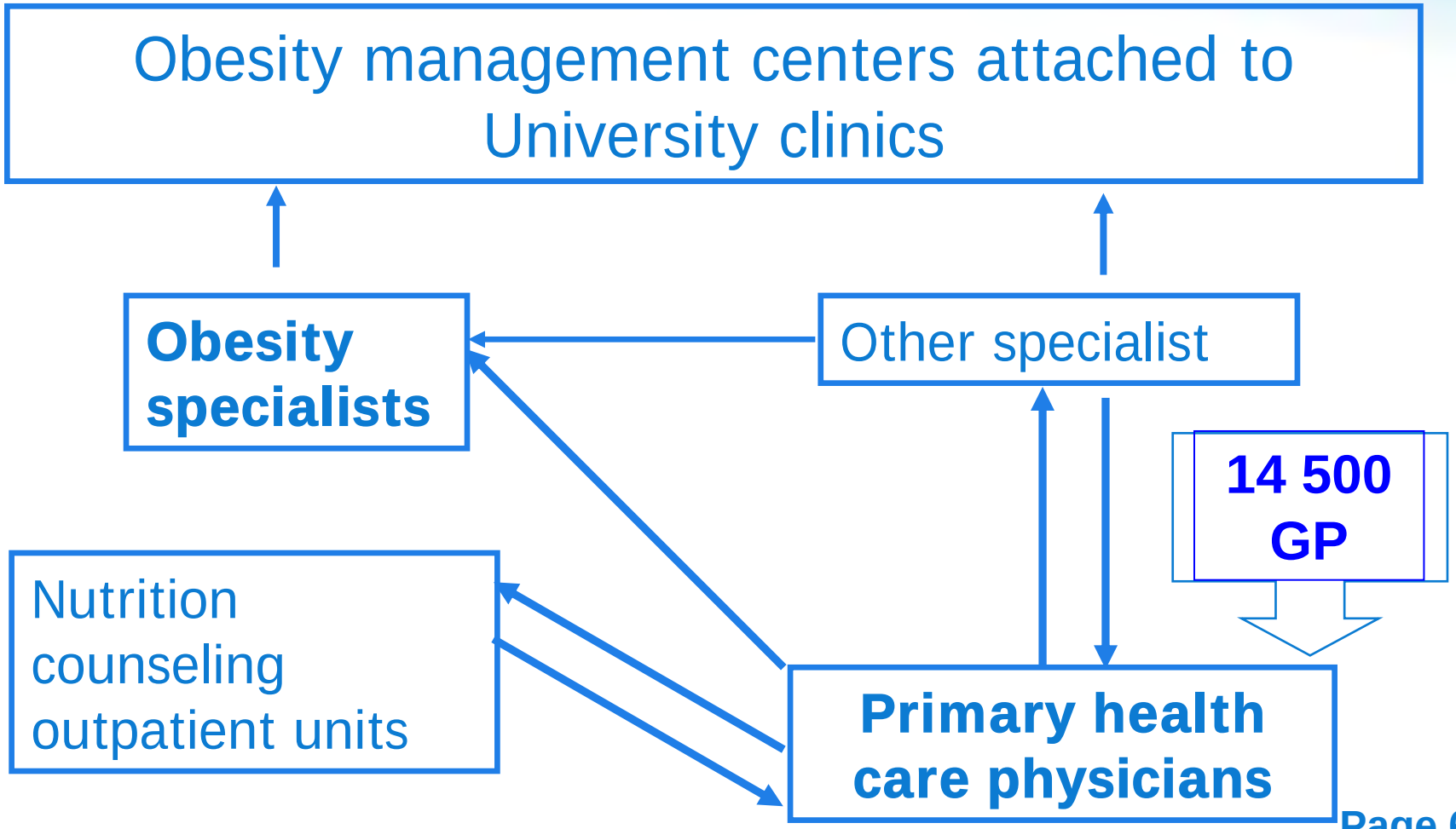
1999 IASO member

2007 SASO



Jugoslovensko Yugoslav
Udruženje za Association for
Proučavanje Study of
Gojaznosti Obesity

Network of health care services capable of providing effective obesity treatment and/or preventive measures to combat epidemic of obesity



Ministarstvo zdravlja
Republike Srbije
Republička stručna komisija za izradu i implementaciju vodiča u kliničkoj praksi
GOJAZNOST
Nacionalni vodič za lekare u primarnoj zdravstvenoj zaštiti
www.zdravlje.sr.gov.yu
Novembar 2004
Projekat izrade Vodiča za kliničku praksu
Finansira Evropska unija i rukovodi
Evropska agencija za rekonstrukciju
Crown Agents

2004

STANDARDS FOR NUTRITION SKILLS AND KNOWLEDGE FOR PRIMARAY HEALTH PROFESSIONALS IN THE PREVENTION OF NUTRION RELATED DISEASES

Prof. dr Nadja Vasiljevic

Prevention Centre

Republic of Serbia
MINISTRY OF HEALTH

working groups
[for obesity, for nutrition and health promotion, for CND]
that analyze diet and nutrition of population and problems in connection with diet.

Republic of Serbia
MINISTRY OF HEALTH

Center for childhood obesity - Zlatibor

National food-related legislative that could influence food choices

National Food Labelling Act (2003)

•Nutrition labelling is not obligatory
•Nutritional claims permitted were harmonized with EU REGULATION (EC) No 1924/2006
(Low energy; Energy reduced; Energy free; Low fat; Fat free; Low sugar; Sugar free)

•No “traffic light” nutrition labelling applications
•No education programs for consumers on how to use and understand nutrition labels

Obesity and pharmacy sector in Serbia

Areas of action:

Prevention
Medication (prescribed and OTC)
Support and advice on nutrition and lifestyle
Advice on dietary supplements and dietary foods
Basic information during undergraduate studies (courses Food chemistry and Dietetics)

Continuing education courses

EPSA (European Pharmaceutical Student Association) summer school on obesity (2004), Zlatibor, Serbia
EU funded project "**Raising standards in Serbia's hospitals and pharmacies**" **– coordinator Crown Agents, 2001-2003**

Consumer protection organizations activities

Consumers' Protection Movement Belgrade (CPMB) participated in preparing, passing and improvement of consumers' laws, standards and regulations in the field independently, and/or in cooperation with interested consumers' organizations, Economy Chambers and expert associations.

CPMB project - Program of Comparative Testing and Evaluation Quality of Food from 1995

CPMB Study - Survey of the television advertisement of food consumed among children population in Serbia (2006) (using Consumer International Manual for monitoring food marketing to children)

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Current and Future Nutritional Issues in Switzerland

Workshop „How can science support policy makers addressing the nutritional challenges of Europe?“

29 September 2011 / Andreas Aeschlimann

Topics

1) Nutritional Situation in Switzerland
2) Current Diet Recommendations
3) Diet and Health
4) JPI-HDHL vs NRP 69 by SNSF

Preliminary Remarks

- Presentation based on preliminary version of the 6th Report on Nutrition „SEB“; will appear 2012
- 5th appeared in 2005
- All reports based on same methodology cover approximately 30 years
- “Food Consumption” is calculated based on agrarian production statistics ≠ “Food Intake”; therefore calculation of “Approximated Intake”

Nutritional Situation in Switzerland

- Macro- and micronutrients covered
- Ratio protein : fat : carbohydrates
  ≅ recommendations

But ≠ recommendations:

- Energy intake: +18-32 %, normal BMI & PAL 1.4-1.6
- Ratio fatty acids
- Vitamin D and folic acid
- Probably also true for Fe & Id in specific groups

Nutritional Situation... (Cont.)

Downwards trends stopped for

- Meat and meat products
- Milk and milk products

however for

- Fruits and alcoholic beverages continued

No increase for the first time: vegetables

Sugar, cereals and potatoes: constant

Energy intake: constant

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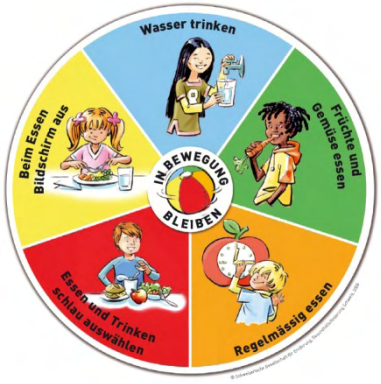
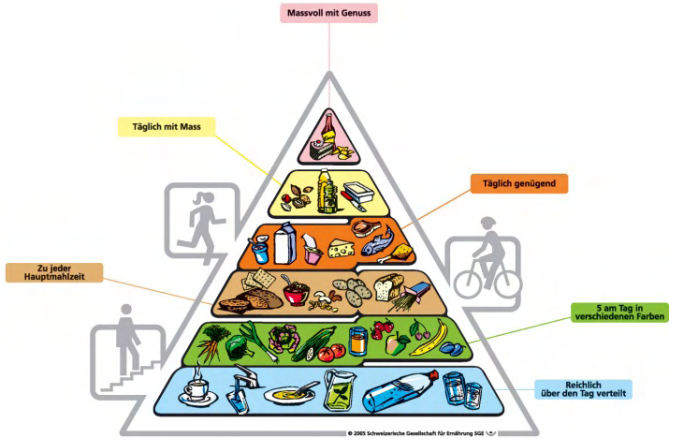
Current Diet Recommendations

- Many players
- Bases for nutrient based recommendations
  = DACH-reference values



- Realisation by food based recommendations considering: tradition & diet related diseases



Diet and Health

Decreasing mortality for

- CHD & cancer

But available data not sufficient / reliable;

e.g. CHD: better early detection and treatment

Most likely increasing diet-related risk factors

- high blood pressure, fat metabolism, diabetes Type 2

⇒ Need for more studies (intake; risk factors...)

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JPI-HDHL vs NRP 69 “Healthy Nutrition and Sustainable Food Production”

JPI-HDHL	Determinants of Diet and Physical Activity	Diet and Food Production	Diet-related Chronic Diseases
NRP 69	Examining Eating Habits	Evaluating the Sustainability of Nutritional Systems	
		Optimisation of Nutritional Systems	
	Synthesis		

Notes on Nutrition in Turkey

Sedef Akgüngör
Dokuz Eylül University
Faculty of Business
Department of Economics
İzmir, Turkey

JRC Workshop on How Can Science Support Policy Makers Addressing the Nutritional

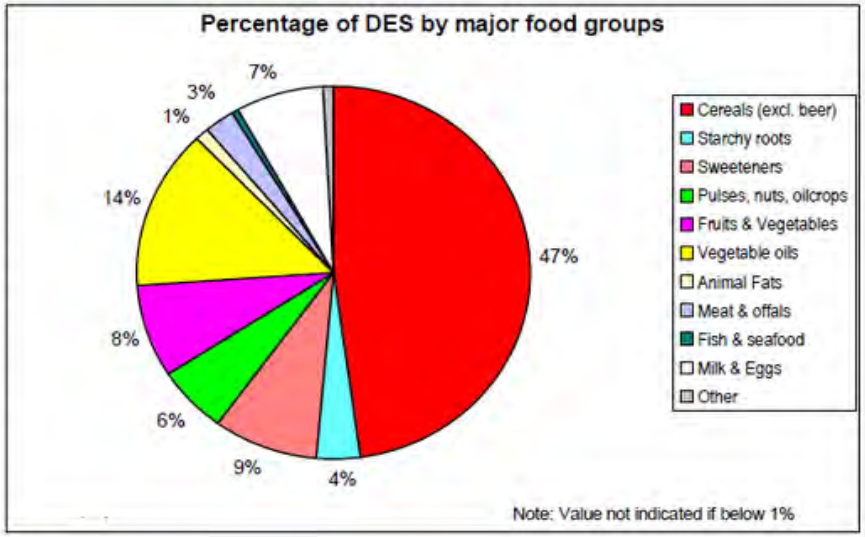
Challenges of Europe, Sept. 29-30, 2011

TABLE 1: GENERAL STATISTICS OF TURKEY

Last updated: 08.09.11

Indicator (§)	Year	Unit	
A. Land in use for agriculture			
1. Agricultural land	2009	1000 ha	38911,00
2. Arable and permanent crop land	2009	1000 ha	24294,00
B. Livestock			
1. Cattle	1996-98	thousands	11617
2. Sheep & goats	1996-98	thousands	41156
3. Pigs	1996-98	thousands	5
4. Chickens	1996-98	millions	150
C. Population			
1. Total population	2011	thousands	73640
2. 0-14 years	2010	% of total pop.	26,4
3. 14-60 years	2010	% of total pop.	64,6
4. 60+ years	2010	% of total pop.	9
5. 80+ years	2010	% of total pop.	0,8
6. Rural population	2011	% of total pop.	29,9
7. Annual population growth rate, Total	2000-10	% of total pop.	1,31
8. Annual population growth rate, Rural	2005-10	% of rural pop.	-0,217
9. Projected total population in 2030	2030	thousands	86665
10. Agricultural population	2011	% of total pop.	19,3
11. Population density	2010	pop. per sq Km	93
D. Level of Development			
1. GNP per capita, Atlas Method	2010	current US$	9500
2. Human Development Index rating (new)	2010	min[0] - max[1]	0,679
3. Incidence of poverty, Total	...	% of population	
4. Incidence of poverty, Rural or Urban	...	% of population	
5. Life expectancy at birth (male/female)	2009	years	72/77
6. Under-five mortality rate	2009	per 1,000 live births	20
E. Food Trade			
1. Food Imports (US $)	2005-07	% of total imports	2,0
2. Food Exports (US $)	2005-07	% of total exports	6,6
3. Cereal Food Aid (100 MT)	2005-10	% of cereals imports	0,0
F. Indices of Food Production			
1. Food Production Index	2009	1999-2001 = 100	119
2. Food Production Index Per Capita	2009		

Indicator (§)	Year	Unit	
G. Average Food Supply			
1. **Dietary Energy Supply (DES)**	1996-98	Kcal/caput/day	3500



% Energy from:			
2. Protein	1996-98	% of total energy	11.5
3. Fat	1996-98	% of total energy	24.2
4. **Proteins**	1996-98	g/caput/day	98
5. Vegetable products	1996-98	% of total proteins	73,6
6. Animal products	1996-98	% of total proteins	26,4
H. Food Inadequacy			
1. Total population "undernourished"		millions	not available
2. % population "undernourished"	2007	% of total pop.	< 5,0

... no data available § see References for data sources used

See Technical Notes for definitions used.

Source: *Nutrition Country Profile* - TURKEY, March 2001, FAO, Rome,
ftp://ftp.fao.org/es/esn/nutrition/ncp/turmap.pdf .
Updated by Sedef Akgüngör by use of data provided by;
http://faostat.fao.org/
http://data.worldbank.org/
http://www.un.org

Turkey: Some Data from FAO Food Balance Sheets

FOOD BALANCE SHEET				
Year & Population	Element	Food Supply (kcal/capita/day)	Protein Supply Quantity (g/capita/day)	Fat Supply Quantity (g/capita/day)
2000 Population: 66.460.000	Grand Total	3481	100,10	95,10
	Vegetal Products	3101	74,70	70,60
	Animal Products	379	25,40	24,50
2001 Population: 67.444.000	Grand Total	3440	98,10	90,50
	Vegetal Products	3089	74,70	68,00
	Animal Products	351	23,40	22,50
2002 Population: 68.398.000	Grand Total	3430	98,30	92,50
	Vegetal Products	3099	76,10	70,90
	Animal Products	332	22,30	21,60
2003 Population: 69.329.000	Grand Total	3413	97,70	94,10
	Vegetal Products	3019	72,60	68,10
	Animal Products	394	25,00	26,00
2004 Population: 70.250.000	Grand Total	3434	98,00	99,70
	Vegetal Products	3051	72,70	74,90
	Animal Products	384	25,30	24,80
2005 Population: 71.169.000	Grand Total	3434	98,30	99,90
	Vegetal Products	3050	72,90	75,20
	Animal Products	384	24,40	24,70
2006 Population: 72.088.000	Grand Total	3495	98,80	102,50
	Vegetal Products	3093	72,70	76,60
	Animal Products	402	26,00	25,90
2007 Population: 73.004.000	Grand Total	3517	100,00	106,90
	Vegetal Products	3100	72,60	80,10
	Animal Products	417	27,30	26,80

National Surveys and National Action Reports on Nutrition

- National Surveys:
  - 1974 Nutrition, Health and Food Consumption Survey
  - 1984 Nutrition, Health and Food Consumption Survey
  - 2010 Nutrition, Health and Food Consumption Survey (data not yet available)
- Major reports on nutrition policies
  - SPO (2003). "National Plan of Action of Food and Nutrition (NPAFN)". Ankara.
  - Ministry of Health of Turkey (2009). Obesity Prevention and Control Program of Turkey". Ankara.

Food Consumption

- Wheat is a staple food for the Turkish people.
- The major percentage of energy comes from bread (44%) and bread with other cereals (58%).
- Wheat is mainly consumed as bread, macaroni and bulgur (parboiled pounded wheat).
- Maize is widely used in the Black Sea region.
- Although rice is widely consumed in Turkey, the production does not meet domestic demand, and the supply deficiency is covered by importation.
- Lentils, chickpeas and dry beans are the most widely consumed pulses.

- Meat, as lamb and beef is the main ingredient of the Turkish cuisine, but recently it has been changed, because of the high prices of meat.
- Yoghurt is the most frequently used milk product.
- Fresh vegetables and fruits are abundantly available throughout the year, and widely consumed.
- The main oil seeds are sunflower, cotton and soybean.
- Sunflower oil has the major share on production of vegetable oil.
- Oil and fat consumption show regional variations as olive oil is mostly used in western and southern parts (Aegean and Mediterranean Region) of Turkey.
- However margarine has become a substitute of butter.
- Usually three meals are eaten in the country.

(source: FAO Nutrition Country Profiles, 2001).

Mean Daily Consumption (Overall)

Food and Beverages	g/CU/day				g/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Milk and yogurt	168.1	114.8	225.19	10.07	137.8	94.2	184.65	8.26
Cheese	57.7	47.4	55.92	2.50	47.3	38.8	45.86	2.05
Red meat	61.7	8.6	105.30	4.71	50.6	7.1	86.35	3.86
Poultry	45.4	0.0	137.25	6.14	37.3	0.0	112.55	5.03
Fish	7.2	0.0	55.32	2.47	5.9	0.0	45.36	2.03
Eggs	39.9	26.5	49.19	2.20	32.7	21.7	40.33	1.80
Legumes/seeds	46.7	17.4	85.75	3.83	38.3	14.3	70.32	3.14
Vegetables	567.2	492.5	608.34	27.21	465.1	403.9	498.84	22.31
Potato	50.0	0.0	117.44	5.25	41.0	0.0	96.30	4.31
Fruits	465.8	365.7	504.30	22.55	382.0	299.8	413.53	18.49
Cereals	124.2	92.8	135.13	6.04	101.9	76.1	110.81	5.00
Cakes	17.2	0.0	65.27	2.92	14.1	0.0	53.52	2.39
Bread	249.2	222.2	172.65	7.72	204.4	182.2	141.58	6.33
Sugar	31.5	10.9	79.24	3.54	25.8	8.9	64.97	2.91
Fats	9.2	0.0	19.74	0.88	7.6	0.0	16.19	0.72
Oils	25.4	19.4	28.32	1.27	20.8	15.9	23.22	1.04
Soft drinks	142.1	0.0	278.89	12.47	116.5	0.0	228.69	10.23
Alcohol	4.1	0.0	51.13	2.29	3.3	0.0	41.92	1.87

Source: Pekcan, G., et.al., 2006.

Mean Daily Consumption (High SES Group)

High SES Food and Beverages	g/CU/day				g/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Milk and yogurt	214.4	149.7	308.45	27.48	175.8	122.8	252.93	22.53
Cheese	63.8	50.0	57.45	5.12	52.4	41.0	47.11	4.20
Red meat	90.1	37.5	138.43	12.33	73.8	30.7	113.52	10.11
Poultry	65.3	0.0	151.77	13.52	53.5	0.0	124.45	11.09
Fish	12.7	0.0	85.49	7.62	10.4	0.0	70.10	6.24
Eggs	39.0	16.0	46.79	4.17	32.0	13.1	38.37	3.42
Legumes/seeds	44.4	20.5	62.91	5.60	36.4	16.8	51.59	4.60
Vegetables	627.6	522.7	1032.49	91.98	514.6	428.6	846.64	75.42
Potato	61.2	0.0	137.86	12.28	50.2	0.0	113.05	10.07
Fruits	465.9	388.7	430.87	38.38	382.0	318.8	353.31	31.47
Cereals	135.8	116.1	128.48	11.45	111.3	95.2	105.35	9.38
Cakes	21.9	0.0	87.67	7.81	18.0	0.0	71.89	6.40
Bread	219.2	181.8	164.46	14.65	179.7	149.1	134.85	12.01
Sugar	35.9	10.0	121.41	10.82	29.5	8.2	99.55	8.86
Fats	7.5	0.0	16.84	1.50	6.1	0.0	13.81	1.23
Oils	29.4	21.6	36.67	3.27	24.1	17.7	30.07	2.68
Soft drinks	169.6	0.0	333.38	29.70	139.0	0.0	273.37	24.35
Alcohol	8.2	0.0	49.32	4.39	6.7	0.0	40.44	3.60

Source: Pekcan, G., et.al., 2006.

Mean Daily Consumption (Middle SES Group)

Middle SES Food and Beverages	g/CU/day				g/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Milk and yogurt	169.7	125.0	205.35	14.41	139.1	102.5	168.39	11.81
Cheese	58.9	50.0	56.69	3.98	48.3	41.0	46.49	3.26
Red meat	62.2	18.3	101.56	7.13	51.0	15.0	83.27	5.84
Poultry	36.5	0.0	95.45	6.70	29.9	0.0	78.27	5.50
Fish	9.1	0.0	53.76	3.77	7.4	0.0	44.08	3.09
Eggs	42.7	30.7	56.30	3.95	35.0	25.1	46.16	3.24
Legumes/seeds	40.1	15.2	69.95	4.91	32.9	12.5	57.36	4.02
Vegetables	519.2	455.0	353.20	24.79	425.7	373.1	289.63	20.33
Potato	43.6	0.0	105.38	7.40	35.8	0.0	86.41	6.06
Fruits	518.8	400. 0	620.10	43.52	425.4	328.0	508.48	35.69
Cereals	121.5	93.1	118.72	8.33	99.6	76.3	97.35	6.83
Cakes	14.4	0.0	52.82	3.71	11.8	0.0	43.31	3.04
Bread	241.5	220.0	162.76	11.42	198.0	180.4	133.46	9.37
Sugar	30.8	10.8	63.74	4.47	25.2	8.9	52.27	3.67
Fats	10.0	0.0	20.80	1.46	8.2	0.0	17.06	1.20
Oils	21.9	18.3	24.29	1.70	18.0	15.0	19.92	1.40
Soft drinks	147.4	0.0	273.65	19.21	120.8	0.0	224.40	15.75
Alcohol	4.9	0.0	70.19	4.93	4.0	0.0	57.55	4.04

Source: Pekcan, G., et.al., 2006.

Mean Daily Consumption (Low SES Group)

Low SES Food and Beverages	g/CU/day				g/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Milk and yogurt	132.0	91.1	160.86	12.30	108.2	74.7	131.90	10.08
Cheese	51.7	40.0	53.56	4.09	42.4	32.8	43.92	3.36
Red meat	40.2	0.0	71.71	5.48	33.0	0.0	58.80	4.50
Poultry	41.5	0.0	164.71	12.60	34.0	0.0	135.06	10.33
Fish	0.8	0.0	10.29	0.79	0.6	0.0	8.44	0.64
Eggs	37.1	25.9	41.32	3.16	30.4	21.2	33.88	2.52
Legumes/seeds	56.2	18.2	112.76	8.62	46.0	14.9	92.46	7.07
Vegetables	579.6	501.7	385.47	29.48	475.3	411.4	316.08	24.17
Potato	49.4	0.0	114.77	8.78	40.4	0.0	94.10	7.19
Fruits	402.9	314.8	381.80	29.20	330.4	258.1	313.08	23.94
Cereals	118.9	73.3	156.79	11.99	97.5	60.1	128.56	9.83
Cakes	16.9	0.0	59.27	4.53	13.8	0.0	48.60	3.71
Bread	280.5	250.0	185.51	14.19	230.0	205.0	152.11	11.63
Sugar	28.9	12.5	52.35	4.00	23.7	10.2	42.92	3.28
Fats	9.6	0.0	20.44	1.56	7.9	0.0	16.76	1.28
Oils	26.5	19.7	25.24	1.93	21.7	16.1	20.69	1.58
Soft drinks	115.6	0.0	237.28	18.15	94.8	0.0	194.57	14.88
Alcohol	-	-	-	-	-	-	-	-

Source: Pekcan, G., et.al., 2006.

Mean Daily Energy and Nutrient Intake (Overall)

Energy and Nutrients (unit)	unit/CU/day				unit/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Energy (kcal)	2692.6	2410.2	1318.58	58.96	2207.9	1976.4	1081.24	48.35
Protein (g)	97.0	87.1	55.44	2.48	79.6	71.4	45.46	2.03
Fat (g)	95.8	82.6	63.89	2.86	78.5	67.8	52.40	2.34
Carbohydrate (g)	349.7	315.4	173.16	7.74	286.7	258.6	142.0	6.35
Fibre (g)	33.9	29.9	21.33	0.95	27.8	30.6	17.49	0.78
Vitamin A (mcg)	1434.8	1172.4	1118.10	50.00	1176.5	961.3	916.85	41.00
Vitamin B1 (mg)	1.5	1.3	0.81	0.04	1.2	1.0	0.66	0.03
Vitamin B2 (mg)	1.9	1.8	0.91	0.04	1.6	1.4	0.75	0.03
Niacin (mg)	18.3	14.3	15.38	0.69	15.0	11.7	12.61	0.56
Folate (mcg)	521.4	476.5	305.73	13.67	427.5	390.7	250.70	11.21
Vitamin C (mg)	224.8	173.1	239.27	10.70	184.3	141.9	196.20	8.77
Calcium (mg)	851.2	766.6	483.86	21.64	698.0	628.6	396.77	17.74
Iron (mg)	17.7	15.6	9.42	0.42	14.5	12.8	7.73	0.35

Source: Pekcan, G., et.al., 2006.

Mean Daily Energy and Nutrient Intake (High SES Group)

Energy and Nutrients (unit)	unit/CU/day				unit/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Energy (kcal)	2 819.3	2 533.1	1 346.42	119.95	2 311.9	2 077.1	1 104.07	98.36
Protein (g)	109.2	93.3	54.93	4.89	89.6	76.5	45.05	4.01
Fat (g)	107.3	83.7	74.29	6.62	88.0	68.6	60.92	5.43
Carbohydrate (g)	340.6	315.4	159.18	14.18	279.3	258.7	130.53	11.63
Fibre (g)	33.9	30.2	21.79	1.94	27.8	24.8	17.87	1.59
Vitamin A (mcg)	1 404.4	1126.6	933.48	83.16	1 151.6	923.8	765.45	68.19
Vitamin B1 (mg)	1.6	1.3	0.82	0.07	1.3	1.1	0.67	0.06
Vitamin B2 (mg)	2.1	1.8	1.07	0.09	1.7	1.5	0.88	0.08
Niacin (mg)	21.8	15.8	16.04	1.43	17.9	13.0	13.15	1.17
Folate (mcg)	514.7	462.8	251.85	22.44	422.1	379.5	206.51	18.40
Vitamin C (mg)	221.9	164.3	176.43	15.72	182.0	134.8	144.67	12.89
Calcium (mg)	964.2	837.6	595.27	53.03	790.6	686.8	488.12	43.49
Iron (mg)	18.4	16.3	8.88	0.79	15.1	13.4	7.29	0.65

Source: Pekcan, G., et.al., 2006.

Mean Daily Energy and Nutrient Intake(Middle SES Group)

Energy and Nutrients (unit)	unit/CU/day				unit/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Energy (kcal)	2 636.7	2 411.9	1 171.36	82.21	2 162.1	1 977.8	960.52	67.42
Protein (g)	93.7	87.4	42.16	2.96	76.8	71.7	34.57	2.43
Fat (g)	95.1	85.3	58.54	4.11	77.9	69.9	48.00	3.37
Carbohydrate (g)	341.3	309.1	161.06	11.30	279.8	253.5	132.07	9.27
Fibre (g)	31.6	28.4	15.71	1.10	25.9	23.3	12.89	0.90
Vitamin A (mcg)	1 425.9	1184.2	1 003.25	70.41	1 169.3	971.1	822.67	57.74
Vitamin B1 (mg)	1.42	1.28	0.69	0.05	1.2	1.1	0.57	0.04
Vitamin B2 (mg)	1.9	1.8	0.84	0.06	1.6	1.5	0.69	0.05
Niacin (mg)	17.7	14.7	10.68	0.75	14.5	12.1	8.76	0.61
Folate (mcg)	490.3	470.3	231.53	16.25	402.1	385.6	189.86	13.32
Vitamin C (mg)	207.1	176.7	199.62	14.01	169.8	144.9	163.69	11.49
Calcium (mg)	848.1	759.2	437.73	30.72	695.5	622.6	358.94	25.19
Iron (mg)	17.2	15.4	8.36	0.59	14.1	12.6	6.86	0.48

Source: Pekcan, G., et.al., 2006.

Mean Daily Energy and Nutrient Intake(Low SES Group)

Energy and Nutrients (unit)	unit/CU/day				unit/person/day			
	Mean	Median	SD	SEM	Mean	Median	SD	SEM
Energy (kcal)	2 665.6	2 402.1	1 457.31	111.44	2 185.8	1 969.7	1196.00	91.38
Protein (g)	91.9	79.2	67.39	5.15	75.4	64.9	55.26	4.23
Fat (g)	88.1	77.0	60.78	4.65	72.2	63.2	49.84	3.81
Carbohydrate (g)	366.3	324.8	195.29	14.93	300.4	266.3	160.14	12.25
Fibre (g)	36.7	31.4	26.04	1.99	30.1	25.8	21.35	1.63
Vitamin A (mcg)	1 467.7	1171.2	1 353.15	103.48	1 203.5	960.4	1 109.58	84.85
Vitamin B1 (mg)	1.4	1.3	0.92	0.07	1.2	1.0	0.76	0.06
Vitamin B2 (mg)	1.7	1.6	0.84	0.06	1.4	1.3	0.69	0.05
Niacin (mg)	16.4	13.0	18.87	1.44	13.5	10.7	15.48	1.18
Folate (mcg)	563.2	502.6	401.36	30.69	461.8	412.2	329.11	25.17
Vitamin C (mg)	247.9	174.6	311.28	23.80	203.3	143.2	255.25	19.52
Calcium (mg)	771.6	710.4	427.97	32.73	632.7	582.5	350.93	26.84
Iron (mg)	17.7	15.4	10.90	0.83	14.5	12.6	8.94	0.68

Source: Pekcan, G., et.al., 2006.

Some Nutrition Problems To Consider

- 1. Anemia
  - in children
  - Child bearing age women
  - National programs to increase iron intake
- 2. Iodine deficiency
- 3. Vitamin D deficiency
- 4. Obesity

Obesity in Turkey

- Kayseri: Study with 1032 children ages 6-10 and 2671 children ages 11-17 (Krassas, G.L. Et.al, 2004).
  - 10,6% are overweight
  - 1,6% obese
- İstanbul, Ankara, İzmir: Study with 1044 adolescents (Sur, H., et.al., 2005).
  - 12% underweight
  - 12% overweight
  - 2% obese
- İstanbul: Study with 1669 children (Büyükgebiz, B., 2008).
  - 14.7% of the girls are obese
  - 18.7% of the boys are obese
- Muğla: 4260 children ages 6-15 (Süzek, H., Arı, Z. And Uyanık, B.S., 2005).
  - 7.6 % of the girls are obese
  - 9.1 % of the boys are obese

- National survey in 2001-2002 (WHO, 2008):
  - Age 11: 7% of girls, 14% of boys
  - Age 13: 7% of girls, 13% of boys
  - Age 15: 5% of girls, 14% of boys

  Are overweight and obese
- National survey with 23888 adults in 1999-2000. (Hatemi, H.T., Arık, N. And Yumuk, V., 2002).
  - Obesity prevelence in women over 20 years is 35,4%
  - Obesity risk in women is 1,8 times higher in women than men.
- Turkey Demographic and Health Survey (Hacettepe University, 1998, 2003 and 2008).
  - 1998: (age 15-49)
    - Prevelence of being overweight : 33,4%
    - Obesity prevelence: 18,8%
  - 2003: (age 15-49)
    - Prevelence of being overweight : 34,2%
    - Obesity prevelence: 22,7%
  - 2008: (age 15-49)
    - Prevelence of being overweight :34,4%
    - Obesity prevelence: 23,9%

National Programs for Prevention of Obesity

- Nutrition Guidelines: Ministry of Health of Turkey and Hacettepe University(2006). Dietary Guidelines for Turkey.Onur Matbaacılık, Ankara)
- Obesity Prevention Programmes: Ministry of Health of Tuırkey (2010). Obesity Prevention and Control Programme of Turkey (2010-2014). Ankara).
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