



Photos: INRA, UPPIA, ALICIA and other sources

Nutritionl and textural needs

*OPTIFEL - Optimised food products for elderly population
Final Conference, Paris, Feb 1st, 2017*





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Nutritional Needs

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Three groups of the elderly > 65

- The elderly is a very diverse consumer group and their preferences and need vary – a rough grouping could be
 - Young old – healthy people over 65 years
 - Old old – over 65 year people having some diseases and slightly decreased ability to function
 - Very old – people have several diseases and decreased ability to function

Young old 65 – 99+ y

- Healthy elderly (EU average 65 – 74 year old)
- No special needs except **vitamin D** – otherwise general recommendations for adults OK
- Intake of essential vitamins, minerals and bioactive compounds **from natural food sources**
 - **Mediterranean diet** a good example of healthy diet
 - Healthy diet prevents or delays life-style diseases (CVD, T2D, AD)
 - **Quality of diet generally low – few meals, not enough vegetables**

Mediterranean Diet Pyramid

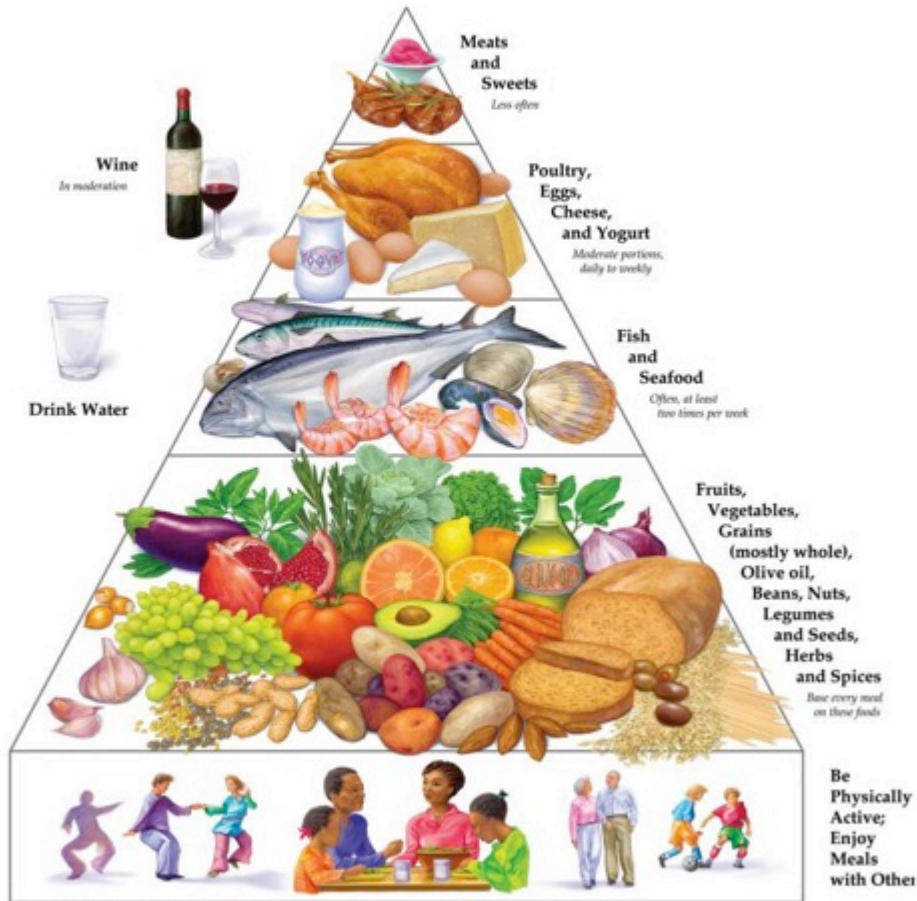


Illustration by George Middleton

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Vitamins, mineral, phytochemicals
Diversity of fiber
Diversity of gut microbiota
Production of gut hormones
Tissue regeneration:
Gut area, muscles, bones, brain

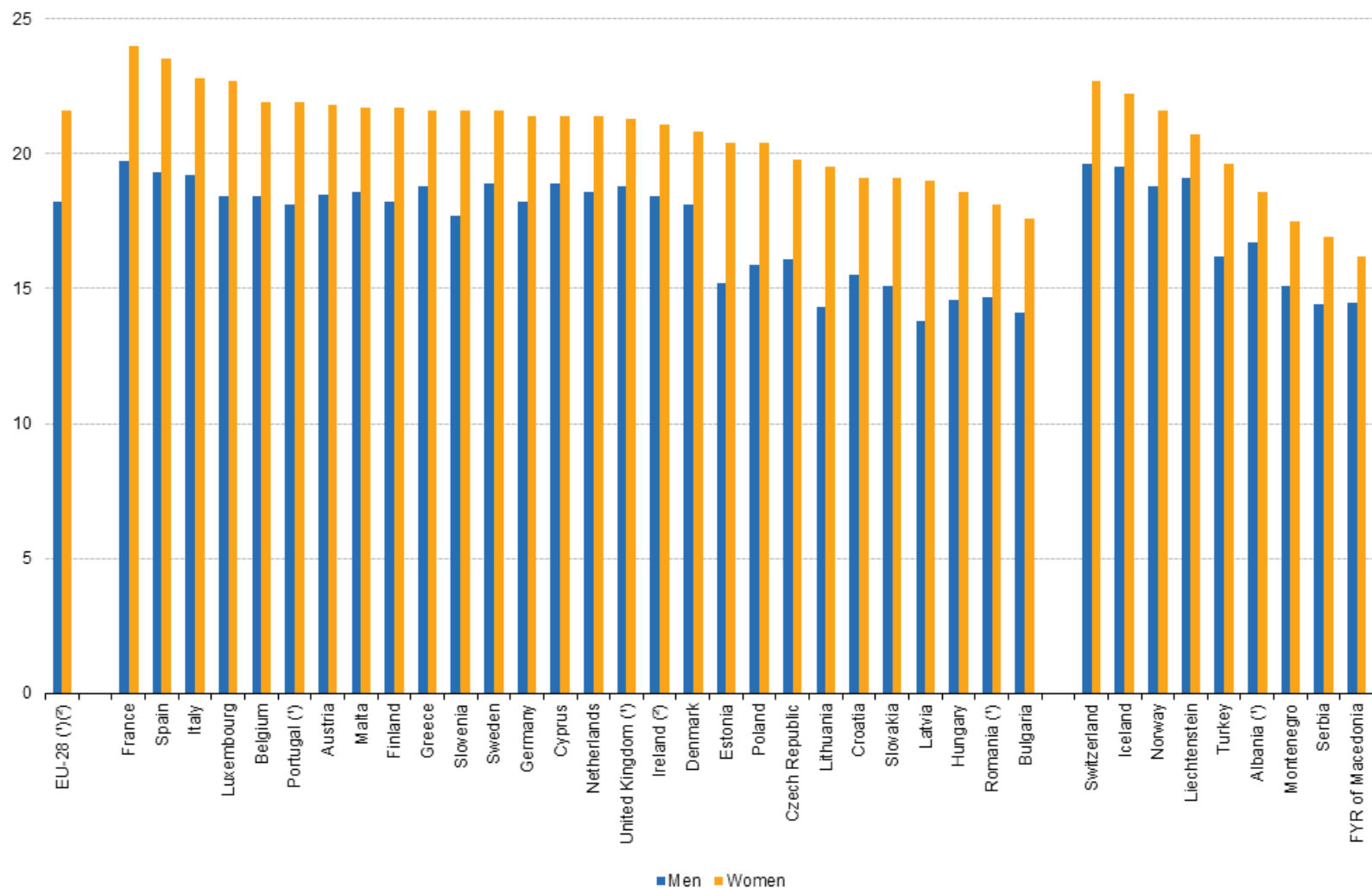
Old old

- EU average from 74 years -
- Diseases and weakened ability to function become more common, as well as **risk of malnutrition**
 - **Digesion, absorption!**
 - Healthy diet + protein, vitamin and mineral fortification/supplementation recommended
- Sometimes also difficulties with eating
 - Tailored textures

Very old

- Several diseases and decreased capability to function
 - **Anorexia of elderly** common (digestion, absorption...)
 - **Risk of malnutrition and malnutrition common** (in nursing homes and sheltered housing: age, frailty, polypharmacy)
 - **Adequate energy** intake important (immune system)
- Fortification/supplementation highly recommended
 - Protein, vitamins and minerals
 - Tailored texture (variability needed!)

Life expectancy at age 65, 2014 (years)

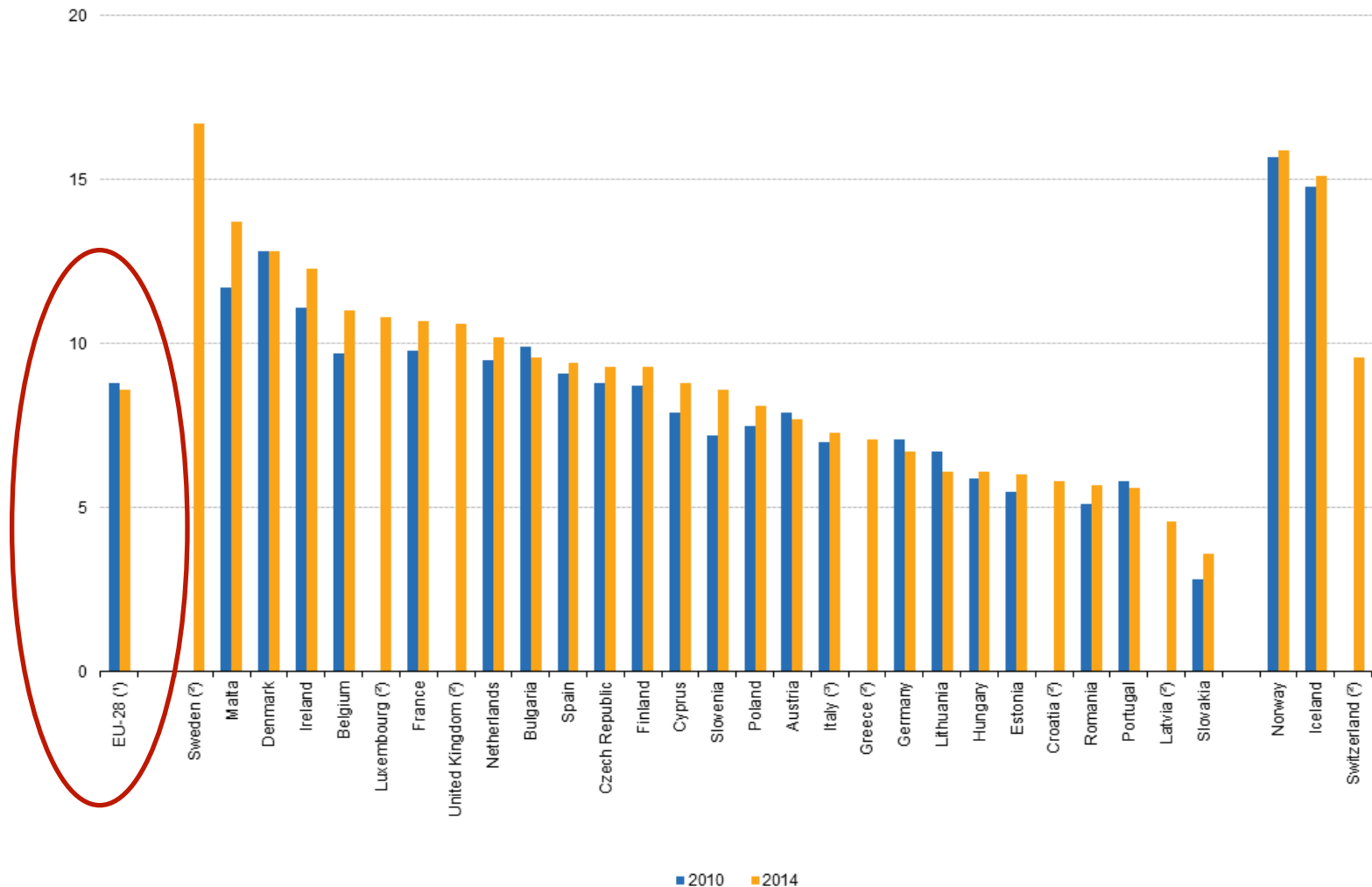


(*) Estimates.

(*) Provisional.

Source: Eurostat (online data code: demo_mlexpec)

EU expected **healthy** lifetime at 65 y /women



(*) 2010: estimate.

(†) 2010: not comparable due to a break in series.

(‡) Data for 2011 instead of 2010.

Protein

- Average intake of protein among elderly is high enough (recommendations 1 g/kg bw)
 - Obs. High red meat intake / life style diseases!
- For old old and very old recent recommendations are 1,2 - 1,3 g/kg bw (example: 78 g / 60 kg bw \sim 15 - 17 % E \sim 4 – 5 g/100 kcal product)
 - **High biological value** protein (animal protein or a combination of plant protein like pulse + cereal)

Recommendation for vitamins

- Vitamins to be fortified/supplemented (low intakes found in several studies): vitamin D, **vitamin E, folate and vitamins B6 and B12** for both men and women

Recommendations for minerals

- Fortification/Supplementation recommended:
Ca
- Not recommended: P, Na
- Low intakes of Cu and Se have been found among elderly women, but not men – should there be gender-specific foods?

Contents needed for Health claims for vitamins

NUTRIENT	Content 1 per 100 g	Content 2 per 100 g	Max content* per 100 g	Observations
Vitamin D (µg)	1,90	3,80	47,86	Fortification is recommended obs National recommendations
Vitamin E (mg)	2,37	4,75	Undefined	Fortification is recommended
Vitamin B6 (mg)	0,225	0,450	12,5	Fortification is recommended
Folate (µg)	45,48	90,96	386,64	Fortification is recommended
Vitamin B12 (µg)	0,33	0,67	Undefined	Fortification is recommended
	0,38	0,75	Undefined	Values based on EU Regulation

Content 1 = source of X, content 2, rich in X, *not allowed to go over

Contents needed for Health claims for minerals

NUTRIENT	Content 1 per 100 g	Content 2 per 100 g	Max content* per 100 g	Observations
Ca (mg)	151,07	302,14	803,93	Fortification is recommended
Cu (mg)	0,18	0,36	1,91	Inadequate intake in women only
Se (µg)	8,54	17,09	122,69	Inadequate intake in women only

Content 1 = source of X, content 2, rich in X, *not allowed to go over



Thank you for your attention



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