



DO-HEALTH

Prof. Dr. med. Heike A. Bischoff-Ferrari, DrPH

Director, Dept. of Geriatrics University Hospital Zurich

Chair, Dept. of Geriatrics and Aging Research, University of Zurich

Coordinator DO-HEALTH



UniversitätsSpital
Zürich



Universität
Zürich^{UZH}



„High Speed“ demographic change

in 25 years:

2x adults 65+

3x adults 85+

age 0-19 segment stays the same of declines



UniversitätsSpital
Zürich



Universität
Zürich^{UZH}

Aging Ratio Switzerland

Number of persons age 65+ old compared with number of those age 20-64

2015 \Rightarrow 28:100
 2030 \Rightarrow 43:100

Aging becomes a central challenge to the society as a whole and on 3 levels:

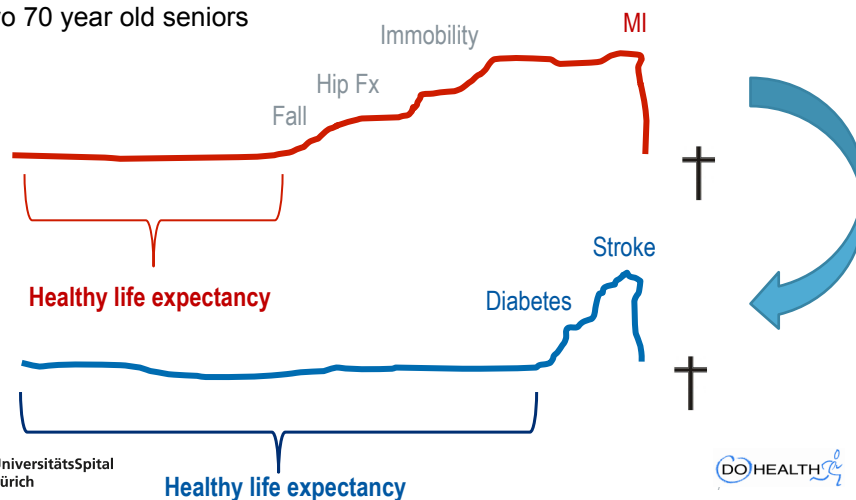
- Individual
- Productivity of the society
- Healthy care costs

Maintaining health is the key strategy

Extension of healthy life expectancy is key

Concept Linda Fried

Two 70 year old seniors



Relevance is enormous

- Extending healthy life expectancy by 7 years is equivalent to cutting chronic diseases by half!

Sci Am. 2001 Mar;284(3):50-5. If humans were built to last. Olshansky.

- EU aims to extend healthy life expectancy by 2 years in the coming 20 years

New research model: „Delayed Aging“

What does delayed aging mean?

- Being younger physically and mentally
than the magnitude of same age population group

How to delay aging?

- With research that targets functionality as the endpoint
 - and not one disease or one organ
- Testing interventions that are effective, well-tolerated and affordable at the public health level
- Interventions that influence multiple organ systems simultaneously



3 promising strategies to impact multiple health endpoints



Vitamin D



Omega-3 Fats



Exercise



Evidence from large
clinical trial is missing

Largest European Healthy Aging Trial funded by the EC Framework 7



Home Participate Aging Coordination Project Partners News For Partners Search this website...



THEME [HEALTH.2011.2.2.2-1]
[Investigator-driven clinical trials for therapeutic interventions in elderly populations]

Proposal no: 278588-2

Principal Investigator (sponsor):
Prof. Heike A. Bischoff-Ferrari, MD, DrPH
Centre on Aging and Mobility
University of Zurich
Gloriastrasse 25
8091 Zurich, Switzerland



<http://do-health.eu>



UniversitätsSpital
Zürich



Main objectives

To extend healthy life expectancy in European seniors

To reduce healthcare costs via the implementation of effective and broadly applicable disease prevention interventions

Specific objectives

To establish whether vitamin D, omega-3 fatty acids, and a simple home exercise program will prevent disease at older age

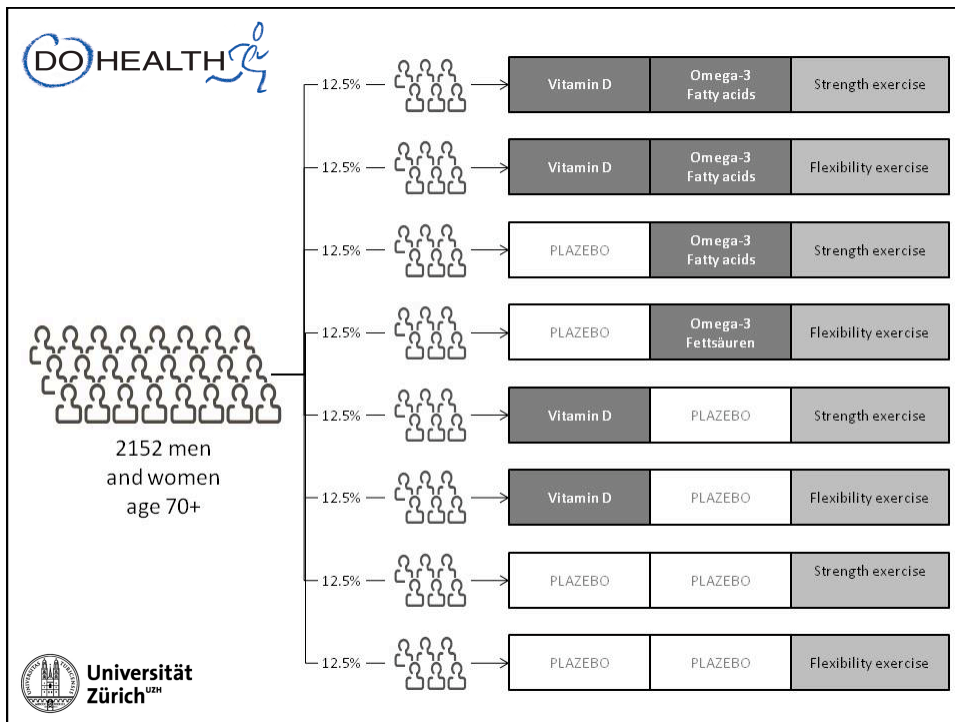
To assess comparative effectiveness and cost-benefit of the interventions



Universität
Zürich



DO-HEALTH - Grant Agreement n° 278588
Start Date: 01/01/2012 - Duration: 66 months
Coordinator: UZH, Prof. Dr. Heike A. Bischoff-Ferrari



DO-HEALTH Map


- Start 1-2013
End 2017
- A total of 2158 DO-HEALTH seniors recruited from 5 countries (50% from Switzerland)
- Study coordination/PI
University of Zurich
- DO-HEALTH has best phenotyping of seniors age 70+

Universitätsspital Zürich

Universität Zürich^{uzh}


7
SVEIKOS PAMOKOS
PROJEKTO

Primary endpoints




- Incidence of non-vertebral fractures

Bone




- Functional decline

Muscle




- Systolic and diastolic blood pressure changes

Cardiovascular




- Cognitive decline


Brain




- Rate of any infection

Immunity






UniversitätsSpital
Zürich




Universität
Zürich




DO-HEALTH - Grant Agreement n° 278588
Start Date: 01/01/2012 - Duration: 66 months
Coordinator: UZH, Prof. Dr. Heike A. Bischoff-Ferrari

Secondary endpoints




- Risk of hip /vert./total fractures
- BMD at spine and hip
- Functional recovery after fracture

Bone




- Rate of falling
- Reaction time / grip str.
- Muscle mass upper and lower extremities
- Musculoskeletal pain
- Sarcopenia / Frailty

Muscle




- Risk of incident hypertension

Cardiovascular




- Mental health decline and incidence of depression
- Dual tasking gait variability – speed


Brain




- Rates of any upper respiratory infection, incident flu-like illness, incident severe infections that lead to hospital admission

Immunity






UniversitätsSpital
Zürich










Universität
Zürich




DO-HEALTH - Grant Agreement n° 278588
Start Date: 01/01/2012 - Duration: 66 months
Coordinator: UZH, Prof. Dr. Heike A. Bischoff-Ferrari


Secondary endpoints



<ul style="list-style-type: none"> • Prevalent and incident symptomatic knee OA • Severity of knee pain • Rate of knee buckling • N of joints with pain • NSAID use in knee OA <p style="text-align: center; background-color: #0070C0; color: white; padding: 2px;">Bone/ cartilage</p> 	<ul style="list-style-type: none"> • Decline in oral health • Tooth loss <p style="text-align: center; background-color: #0070C0; color: white; padding: 2px;">Dental</p> 	<ul style="list-style-type: none"> • Gastro-intestinal symptoms (ROME III) <p style="text-align: center; background-color: #0070C0; color: white; padding: 2px;">Gastro-intestinal</p> 
<ul style="list-style-type: none"> • Fasting blood concentration of glucose and insulin • Body composition and fat mass <p style="text-align: center; background-color: #0070C0; color: white; padding: 2px;">Glucose-metabolic</p> 	<ul style="list-style-type: none"> • Decline in kidney function <p style="text-align: center; background-color: #0070C0; color: white; padding: 2px;">Kidney</p> 	<ul style="list-style-type: none"> • Quality of life • Incident frailty • Risk of disability • Nursing home adm. rate of acute hospital admissions, mortality <p style="text-align: center; background-color: #0070C0; color: white; padding: 2px;">Global Health</p> 















Universität Zürich^{uzh}




DO-HEALTH - Grant Agreement n° 278588
Start Date: 01/01/2012 - Duration: 66 months
Coordinator: UZH, Prof. Dr. Heike A. Bischoff-Ferrari


Biomarker endpoints




	Bone: Ca, phosphate, 25(OH)D, intact PTH, urinary calcium/creatinine ratio, Beta-Crosslaps serum, P1NP, sclerostin
	Muscle: Myostatin
	Cardiovascular: Troponin T, NT-proBNP, homoCys, CK, LDH, cholesterol, HDL-cholesterol, triglycerides
	Inflammation: CRP, high sensitivity-CRP, IL6
	Gastrointestinal: ALT, AST, gGT, AP, bilirubin
	Glucose-metabolic: fasting glucose, insulin
	Kidney: serum creatinine; calcium/creatinine ratio (spot urine), serum urea, uric acid
	Global Health: Ions (Na, K...); proteins (albumin, ferritin...); TSH, fT4, fT3, cortisol; folic acid, B12, 25(OH)D
	Adherence: serum 25(OH)D, plasma PUFA concentrations
	Inflammation (novel): TNF- α , IL10
	Cellular Immunity (novel): CD16/56+ NKs, nr regulatory T cells



UniversitätsSpital Zürich



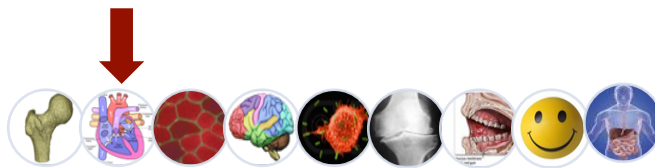
Universität Zürich^{uzh}



DO-HEALTH - Grant Agreement n° 278588
Start Date: 01/01/2012 - Duration: 66 months
Coordinator: UZH, Prof. Dr. Heike A. Bischoff-Ferrari

How to use DO-HEALTH in 2017?

- Simple website tool for patients and health professionals
- Enter gender, age, weight, height
- Klick organ function of interest



UniversitätsSpital
Zürich



Universität
Zürich

1

Many thanks

UniversitätsSpital
Zürich



Klinik für Geriatrie



UniversitätsSpital
Zürich



Universität
Zürich

