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NETPHARM
*New Technologies for Translational
Research in Pharmaceutical Sciences*

Past challenging projects and current hot topics of the European geriatric research

Graziano Onder

Università Cattolica del Sacro Cuore

Fondazione Policlinico Gemelli IRCCS

Agenda

- Presentation
- European Geriatric Medicine Society (EuGMS)
- EuGMS research activities
- Personal research interests
- Hot topics/challenges

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Nice to meet you...

Graziano Onder, MD, PhD

Geriatrician

Full Professor in Palliative Care Medicine

Università Cattolica del Sacro Cuore, Fondazione Policlinico Gemelli

Head Scientific Secretariat

Italian National Institute of Health

Research Director, European Geriatric Medicine Society

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EuGMS - Mission

- To develop geriatric medicine in Europe.
- To support that these services become available to all European citizens.
- To support the development of health services suitable for an ageing population.
- To promote evidence-based consensus for the most efficacious preventive and treatment strategies for older people.
- To promote education and continuing professional development, and in particular an **annual scientific meeting**.



20th

VALENCIA, SEPT 18-20, 2024

EuGMS



From Healthy Ageing to Complex Needs in Older Adults

Special Interest Group - Pharmacology

Aims

1. to create a European network of clinicians and researchers devoted to improve the use of drugs in older subjects
2. to promote the inclusion of older people in clinical trials
3. to promote appropriate drug prescription in older people.

Leaders: Martin Wehling - Eveline van Poelgeest

N of members: 138

Special Interest Group - Pharmacology

 www.eugms.org

Pharmacology SIG

Open Meeting

 Join us online

March 19th

15:00 - 16:30 CET

Newer drugs in hypercholesterolemia in older adults
Felicitas Stoll (Germany)

Prevention and reversal of prescribing cascades
Fatma Karapinar-Çarkit (Netherlands)

Optimizing Pharmacotherapy in Older Patients with Delirium
Giuseppe Bellelli (Italy)



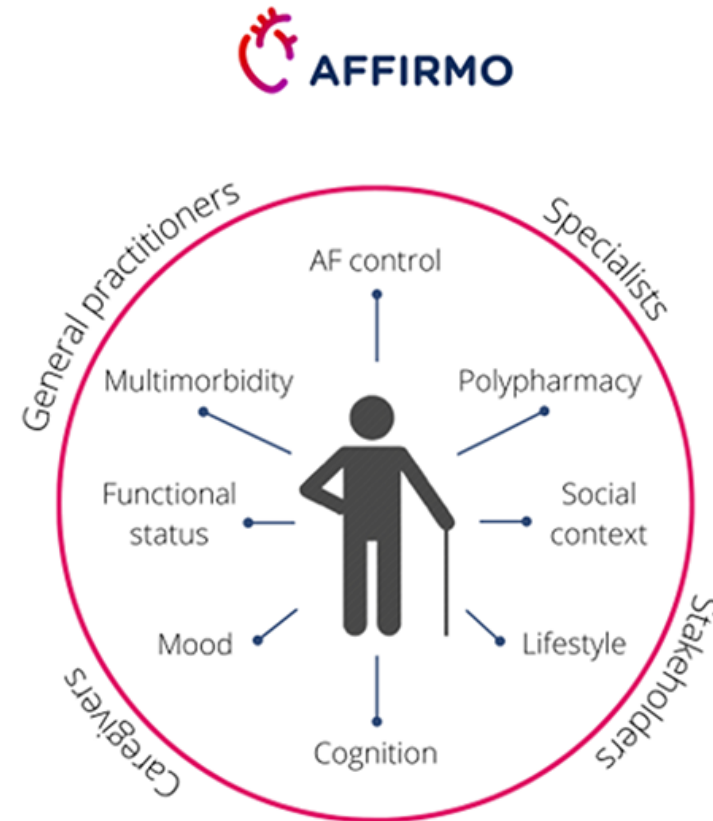
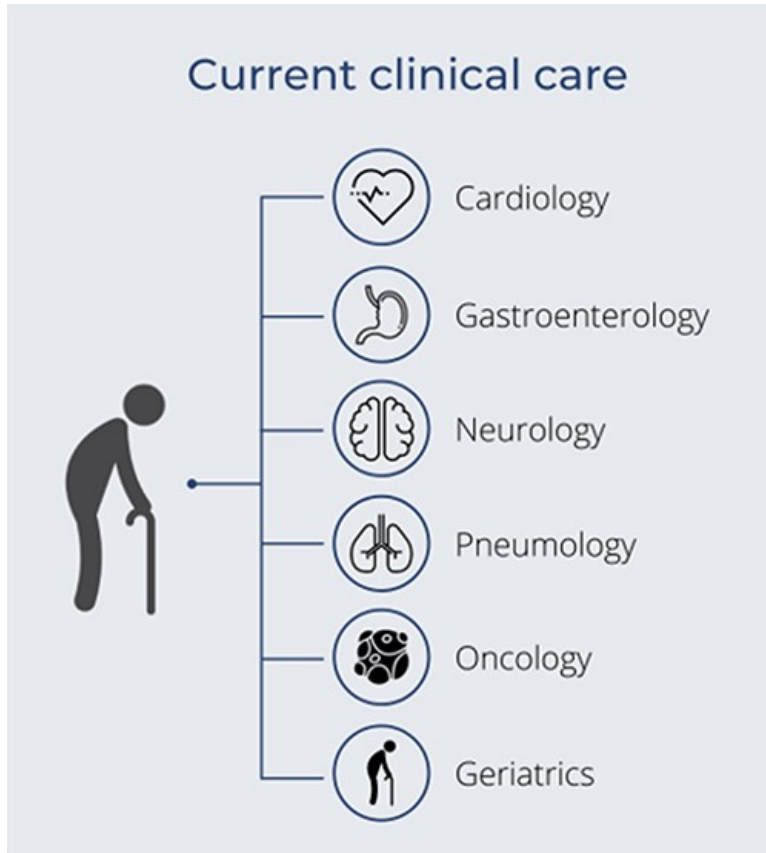
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EuGMS research activities

- Chronic diseases
- Multimorbidity
- Long Term Care
- Geriatric Medicine in Europe

AFFIRMO – Atrial Fibrillation Integrated Approach



AFFIRMO develops a holistic care approach based on the 'Atrial Fibrillation Better Care'(ABC) model.

Individualized CARE for Older Persons with Complex Chronic Conditions at home and in nursing homes



[Home](#) > [About](#)

About

The EU-funded I-CARE4OLD project aims to individualise healthcare for the ever growing group of older persons with chronic complex conditions. From 2021-2025, an international, multidisciplinary team of experts in healthcare and artificial intelligence are combining their specific insights; working with big, real world data acquired for over 30 years to develop a state-of-the art digital platform providing decision support for healthcare professionals treating this particular complex group of persons. The developed solution is expected to lead to improved treatments, enhancing the quality of life of older persons with chronic complex conditions and their relatives, the quality of care, and reduce the costs of care for society as a whole.

PROMoting GeRIatric Medicine in countries where it is still eMergING



The main aim/challenge of PROGRAMMING is the definition of the content of educational programs on basic principles of care of older people, destined for professionals non-specialists in GM and adapted to the local context, the needs and assets of stakeholders.



PROGRAMMING CA21122
in collaboration with EU funded projects on Ageing
ICARE 4 OLD and AFFIRMO
organizes the webinar:

“Joining efforts to develop geriatric medicine across Europe - the experience of EU funded projects”

📅 July 2nd at 6-7.30pm CET

Connection details will be communicated soon!



Prof Mirko Petrovic
Chair

President, EuGMS (European Geriatric Medicine Society) PROGRAMMING CA Vice-Chair, Chairman Dept. Internal Medicine and Paediatrics, Senior Full Professor of Geriatrics Faculty of Medicine and Health Sciences Ghent University, Belgium, President European Geriatric Medicine Society (EuGMS)



Katarzyna Szczerbinska
Chair

MD, PhD, Head of the Laboratory for Research on Aging Society, at the Chair of Epidemiology and Preventive Medicine, Medical Faculty, Jagiellonian University Medical College, Kraków, Poland, Dept. of Internal Medicine and Geriatrics, at University Hospital, Kraków, Poland



Professor Gregory Lip
Chair

Liverpool Centre for Cardiovascular Science at University of Liverpool, Liverpool John Moores University and Liverpool Heart & Chest Hospital, Liverpool, United Kingdom



COST

CA21122

PROGRAMMING



The rational, goals and challenges of PROGRAMMING COST Action CA 21122

Speaker: Marina Kotsani
Hellenic Society for the Study and Research of Aging, Athens, Greece
Action Chair PROGRAMMING CA 21122



Improving prognostication on life expectation, functional decline and unplanned hospitalizations in older persons- the ICARE 4 OLD project

Speaker: Rosa Liperoti
MD, MPH, PhD - Associate professor of Geriatrics - Università Cattolica del Sacro Cuore, Rome, IT



Addressing the challenge of multimorbidity - from fragmentation to an integrated care pathway- the AFFIRMO project

Speaker: Søren Paaske Johnsen
Head of center, professor, senior consultant, PhD - Danish Center for Health Services Research, Department of Clinical Medicine, Aalborg University & Aalborg University Hospital, Selma Lagerlöfs Vej 249, 9260 Gistrup

EuGMS in pending proposals - as consortium partner...

Horizon Europe

2 Proposals in second stage (Deadline: 11° of April 2024):

PRISM_ID

PReventive Interventions & Strategies for older adults living with Multimorbidity: Integrating Data-driven evidence and building personalized clinical guidance through multidimensional simulations

Coordination: Davide Vetrano (Karolinska Institute, Stockholm, S)

→ EuGMS co-leading dissemination/exploitation WP + involved e.g. in WP on guidelines development

VITALITY

Versatile Integrated Technology for Active Living and Improved Quality of Life Through Geriatric Screening and Primary Prevention for Falls, Pain, and Social Isolation

Coordination: Rogerio Pessoto Hirata (Aalborg University, DK)

→ EuGMS co-leading dissemination/exploitation WP + involved in some others

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Personal Research Interests

Pharmacoepidemiology - Polypharmacy

Chronic diseases - Multimorbidity

Frailty

Comprehensive Geriatric Assessment

Nursing Home

Long-COVID

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Hot topics/challenges

Polypharmacy

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Long-COVID

Polypharmacy

- Understand the phenomenon

Polypharmacy (n of drugs used in 2019)

N. drugs	% Men						% Women					
	65-69	70-74	75-79	80-84	≥85	Tot	65-69	70-74	75-79	80-84	≥85	Tot
1	10,9	7,1	5,0	3,7	3,6	6,6	9,4	6,2	4,4	3,4	4,0	5,6
2	11,8	8,7	6,6	5,1	4,4	7,9	11,0	8,1	6,1	4,8	4,9	7,1
3	11,4	9,4	7,7	6,3	5,5	8,5	11,4	9,2	7,5	6,2	6,0	8,2
4	10,7	9,7	8,4	7,4	6,6	8,9	11,0	9,7	8,4	7,4	7,2	8,8
5	9,6	9,4	8,8	8,2	7,6	8,9	9,9	9,5	8,9	8,2	8,0	9,0
6	8,5	8,9	8,8	8,5	8,2	8,6	8,8	9,0	8,8	8,6	8,5	8,7
7	7,2	8,1	8,4	8,4	8,4	8,0	7,5	8,2	8,4	8,6	8,5	8,2
8	6,1	7,1	7,7	8,0	8,1	7,2	6,2	7,2	7,8	8,1	8,1	7,5
9	5,0	6,0	6,8	7,4	7,6	6,4	5,2	6,2	6,9	7,5	7,5	6,6
10+	18,8	25,6	31,9	37,1	40,1	29,0	19,6	26,8	32,7	37,2	37,2	30,3

Polypharmacy

- Understand the phenomenon
- Establish rules

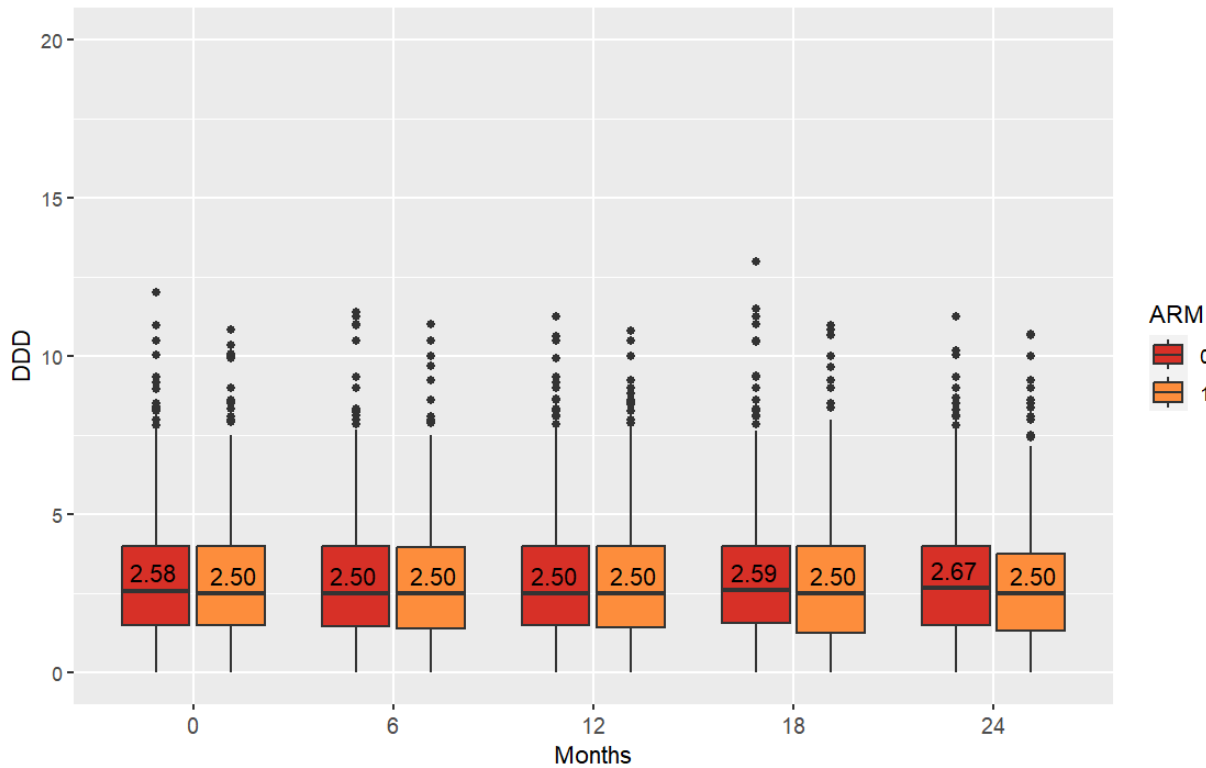
Polypharmacy

- Understand the phenomenon
- Establish rules
- Interventions (?)

Change in lifestyle and CV meds: 2 trials

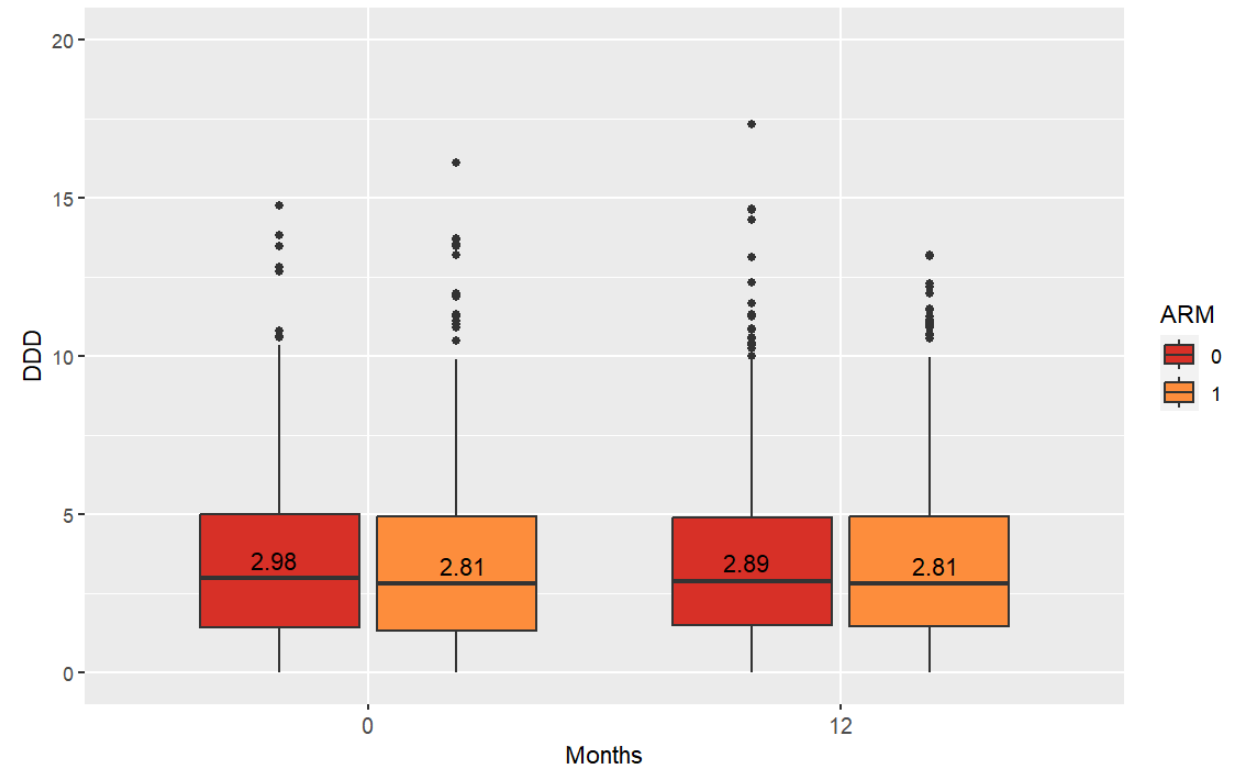
SPRINT-T

Cardiovascular Medications by Visit



LIFE

Cardiovascular Medications by Visit



Polypharmacy

- Understand the phenomenon
- Establish rules
- Interventions (?)

Challenge 1: How to reduce the burden of polypharmacy?

Multimorbidity

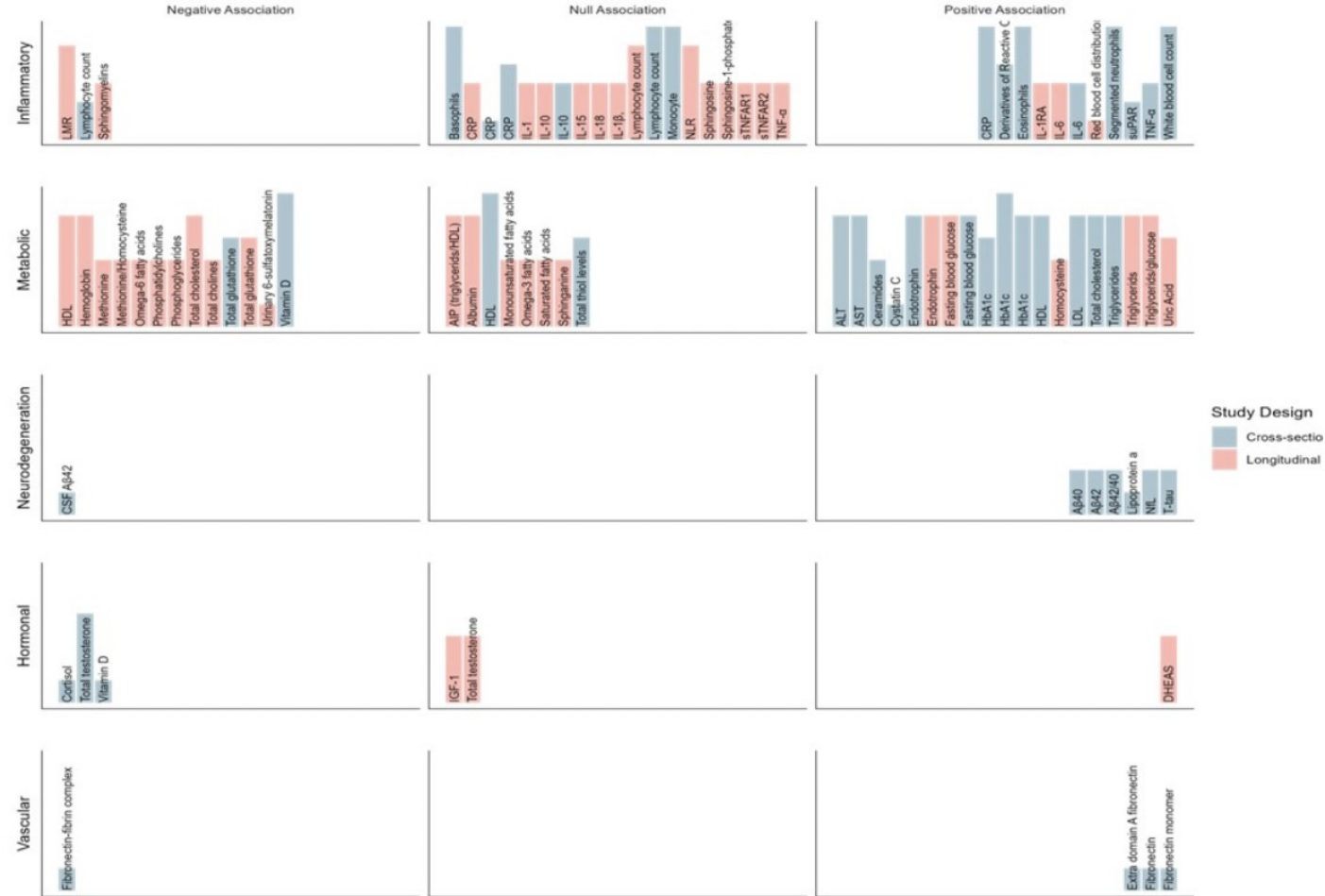
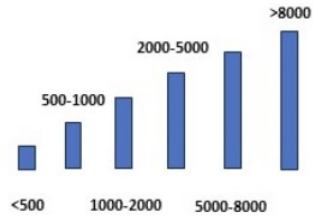
- Understand the phenomenon

Biological Mechanisms of Multimorbidity?

- Biological mechanisms of aging increases the susceptibility of aged individuals to several chronic diseases and loss of function
- These mechanisms are not fully defined

Biosign study

Sample size



Aim: identify biological markers of multimorbidity

Multimorbidity

- Understand the phenomenon
- Identify interventions

VIEWPOINT

Nir Barzilai, MD

Institute for Aging Research, Albert Einstein College of Medicine, Bronx, New York.

Ana Maria Cuervo, MD, PhD

Institute for Aging Research, Albert Einstein College of Medicine, Bronx, New York.

Steve Austad, PhD

Department of Biology, The University of Alabama at Birmingham.

SCIENTIFIC DISCOVERY AND THE FUTURE OF MEDICINE

Aging as a Biological Target for Prevention and Therapy

Chronic health problems related to the unprecedented aging of the human population in the 21st century threaten to disrupt economies and degrade the quality of later life throughout the developed world. Fortunately, research has shown that fundamental aging processes can be targeted by nutritional, genetic, and pharmacologic interventions to enhance and extend both health and longevity in experimental animal models. These findings clearly demonstrate that the biological rate of aging can be slowed.

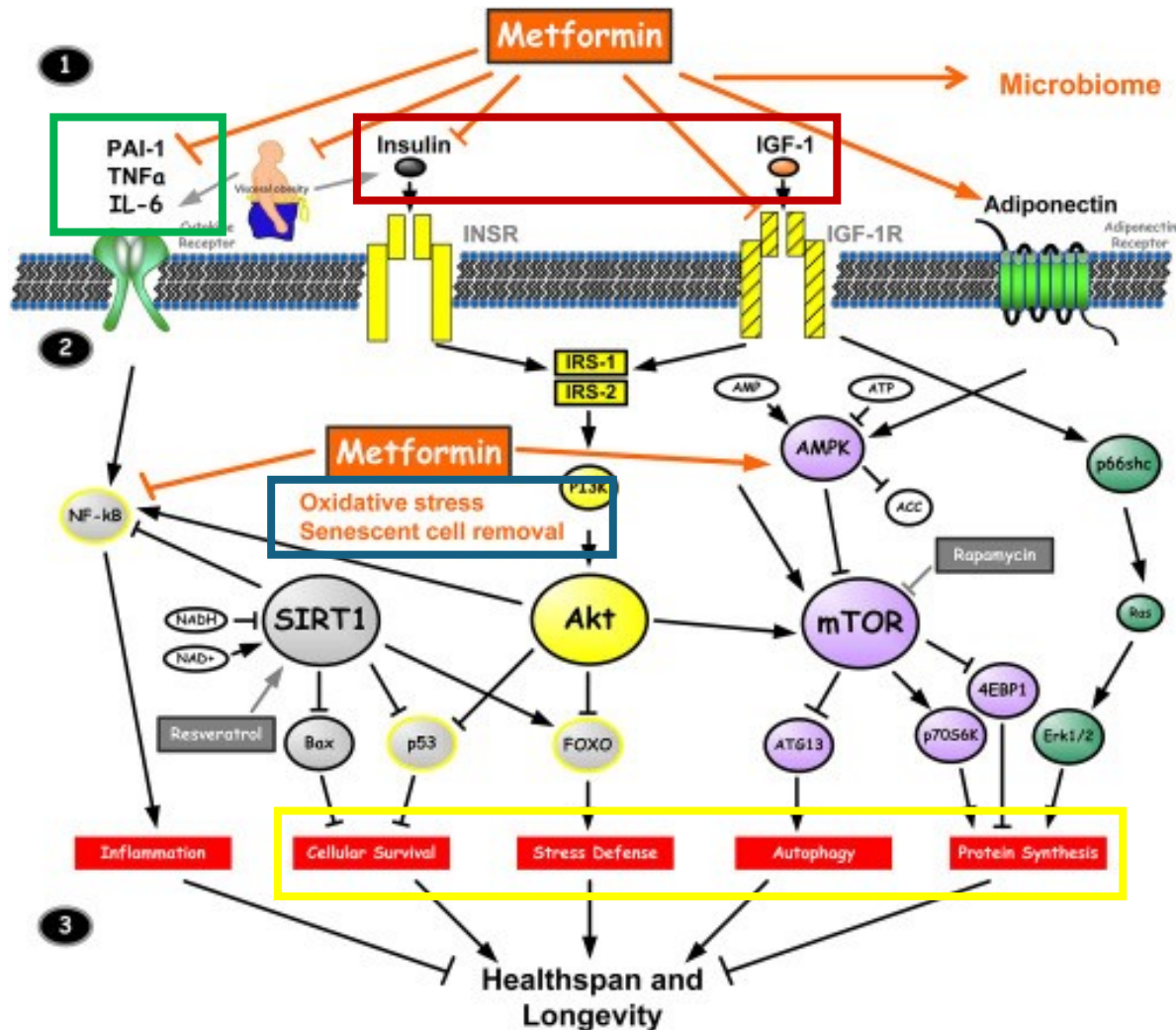
The geroscience hypothesis, for which there is abundant evidence in animal models, links these biological discoveries to human health by proposing that targeting biological aging processes will prevent, or at a minimum delay, the onset and progression of multiple chronic diseases and debilities that are typically observed in older adults.^{1,2} For example, interventions that extend the life span of mice often also prevent or slow the progress of

another. If biological aging processes are the fundamental cause of virtually all major medical diseases and conditions in individuals, then targeting those processes holds promise to ameliorate many of these diseases and conditions as a group.

Aging Processes Can Be Targeted

One of the main geroscience accomplishments is to highlight a small number of major “pillars,” interacting molecular and physiological processes that underlie the biology of aging, for instance, metabolism, proteostasis, macromolecular damage, inflammation, adaptation to stress, epigenetics, and stem cells and their regeneration.¹ The key feature of this conceptual framework is that these processes are understood to be tightly interrelated. These findings have emerged from the remarkable progress made in recent years in dissecting aging processes in model organisms.

TAMES trials – Aging as a target



TAME will mark a paradigm shift, moving from treating each medical condition to targeting aging per se

Multimorbidity

- Understand the phenomenon
- Identify interventions

Challenge 2: How multimorbidity develops?

Challenge 3: Interventions to prevent multimorbidity?

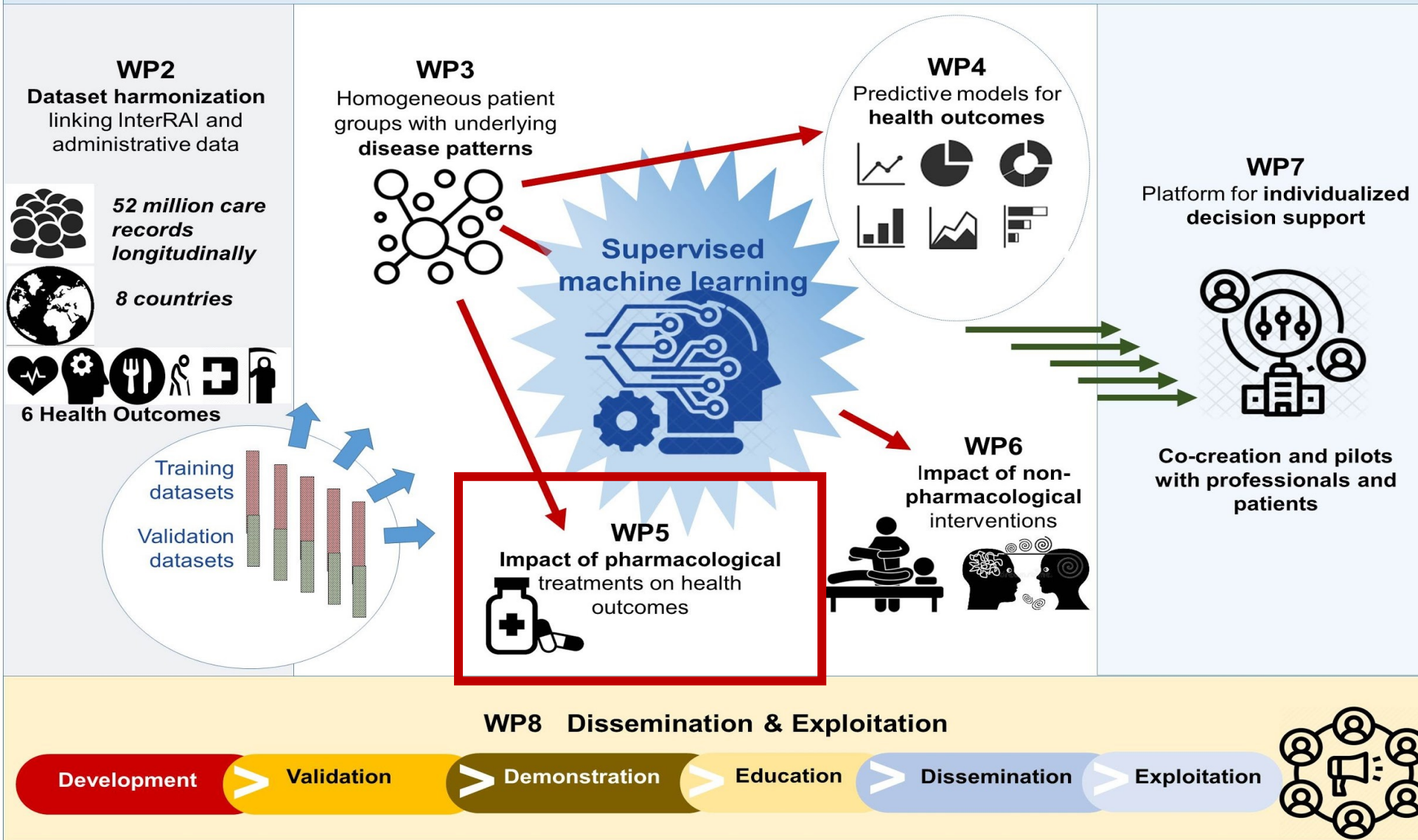
Frailty

- Treat chronic disease in frailty

Treatment of chronic diseases in frailty?

Problem	Consequences	Potential solutions
Exclusion of frail persons from studies	Uncertainties about the efficacy and safety of treatment in frail persons	<ul style="list-style-type: none">• Inclusion of frail patients in RCTs• Evidence from observational studies
Reduced life expectancy in frail persons	Reduced/absent beneficial effects	<ul style="list-style-type: none">• Assess life expectancy• Evaluate risk-benefit ratio of treatments
Increased susceptibility to iatrogenic events	Higher rate of adverse drug events	<ul style="list-style-type: none">• Periodic therapeutic review• Focus treatment on specific goals
Functional deficits associated with frailty	Poor medication adherence; Medication errors	<ul style="list-style-type: none">• Assess the capacity to self-manage meds• Focus treatment on health priorities• Adjust communication strategies• Use of tools to improve adherence• Reduce number medications

WP1 Coordination & Management



Frailty

- Treat chronic disease in frailty

Challenge 4: Produce evidence/guidelines for treatment of chronic diseases in frailty

Conclusions

- Many priorities and many challenges in pharmacoepidemiological research
- Polypharmacy, multimorbidity, frailty are hot topics
- Importance of linking with other researchers in Europe

Thank you for your attention

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