

Eubie Blake
(he lived up to 96)



“If I would know how long will be my life, I had taken care of myself.”

FRAILOMIC

Hospital Universitario de Getafe
Madrid

Proposal Submission Form



EUROPEAN COMMISSION
7th Framework Programme on
Research, Technological
Development and Demonstration

**Collaborative project
Large-scale
Integrating Project**

**A1:
Content**

Proposal Number

000000

Proposal Acronym

FRAILOMIC

GENERAL INFORMATION ON THE PROPOSAL

Proposal Title

Utility of omic-based biomarkers in characterizing older individuals at risk for frailty, its progression to disability and general consequences to health and well-being - The FRAILOMIC Initiative

Duration in months

60

Call identifier

FP7-HEALTH-2012-INNOVATION-1

Topic code(s) most relevant to your proposal

HEALTH.2012.2.1.1-2

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Free Keywords

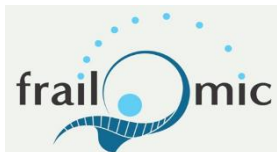
omics, ageing, frailty, disability, biomarkers, validation

Thus, the **MAIN objective** of FRAILOMIC is to develop clinical instruments (composed by clinical BMs, -omics based laboratory BMs and classical laboratory BMs):

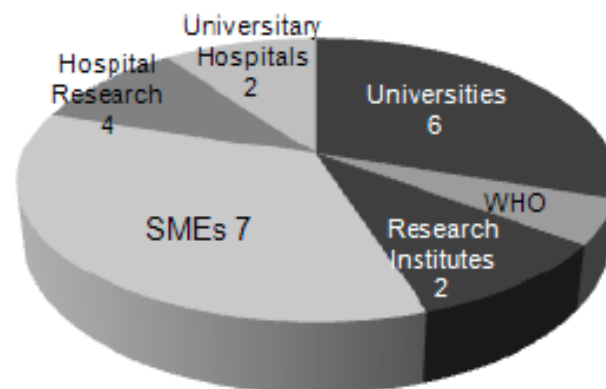
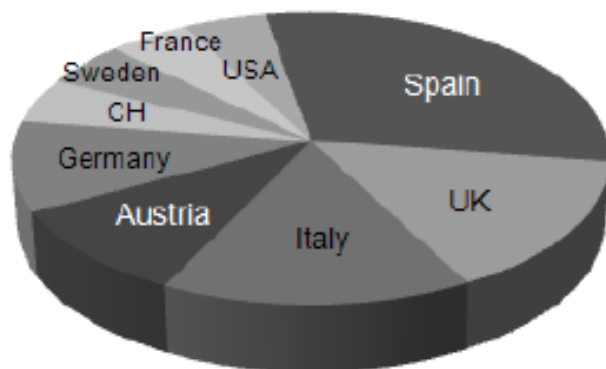
- » To predict the risk of frailty
- » To improve the diagnostic accuracy of frailty in day to day practice
- » To assess the prognosis of frailty in terms of disability and other adverse outcomes

In addition, the project has also three **SECONDARY objectives**:

- 1) To assess the interactions between -omic based BMs and nutrition and physical exercise (useful to know the potential response to treatments) on the natural history of frailty.
- 2) To test whether the above stated instruments are also useful for special populations: people with diabetes, obesity and people with cardiovascular disease
- 3) To test the differential validity of Fried's criteria as compared with those described in the THSA and Three-City-Bordeaux studies.

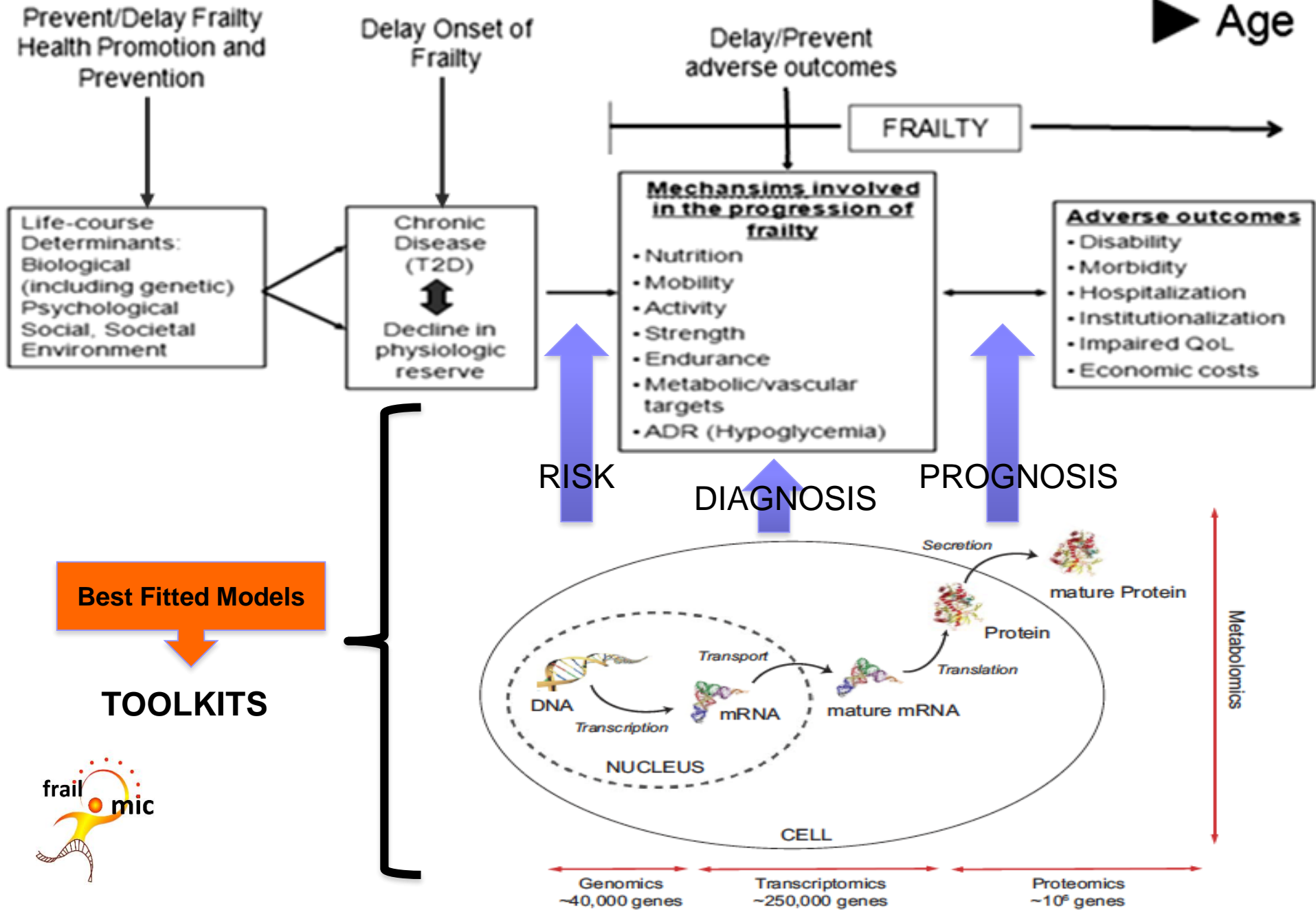


Participant no.	Participant organisation name	Country
1 (coordinator)	Servicio Madrileño de Salud (SERMAS)	ES
2	World Health Organization (WHO)	CH
3	Life Length	ES
4	YouHealth (YH)	SE
5	Evercyte GMBH	AT
6	Sistemas Genómicos (SG)	ES
7	Mosaiques Diagnostics GmbH (MD)	DE
8	IDETRA	ES
9	Niche Science and Technology (NST)	UK
10	Institute of Diabetes for Older People, University of Bedfordshire (IDOP)	UK
11	Universidad Autonoma de Madrid (UAM)	ES
12	University of Florida. Institute of Aging (UF-IOA)	US
13	Research Center National Institute of Health 'Epidemiology and Biostatistics' U897, University of Bordeaux 2 (INSERM)	FR
14	Italian National Research Centres On Aging (INRCA)	IT
15	Azienda Sanitaria di Firenze (ASF)	IT
16	Azienda Ospedaliero-Universitaria di Parma (AOU PR)	IT
17	Austrian Academy of Science (OEAW)	AT
18	Cardiff Metropolitan University (CMUniv)	UK
19	Friedrich-Schiller-Universitaet Jena (JENA)	DE
20	Universidad de Valencia (UV)	ES



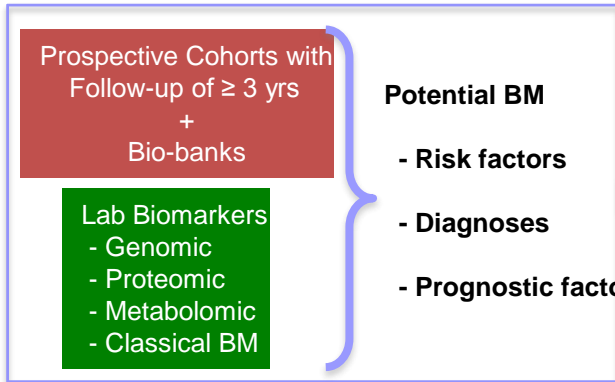
Frailty: a Syndrome of Increased Vulnerability

▶ Age

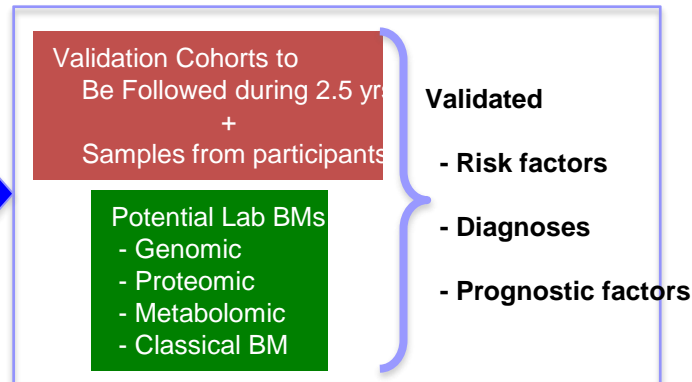




PHASE 1



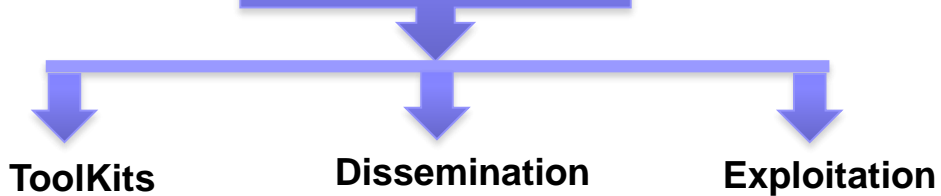
PHASE 2



Substudies in Special populations/conditions: Diabetes, CVD, CVRF, Nutrition, Exercise

Best Fitted Models

PHASE 3

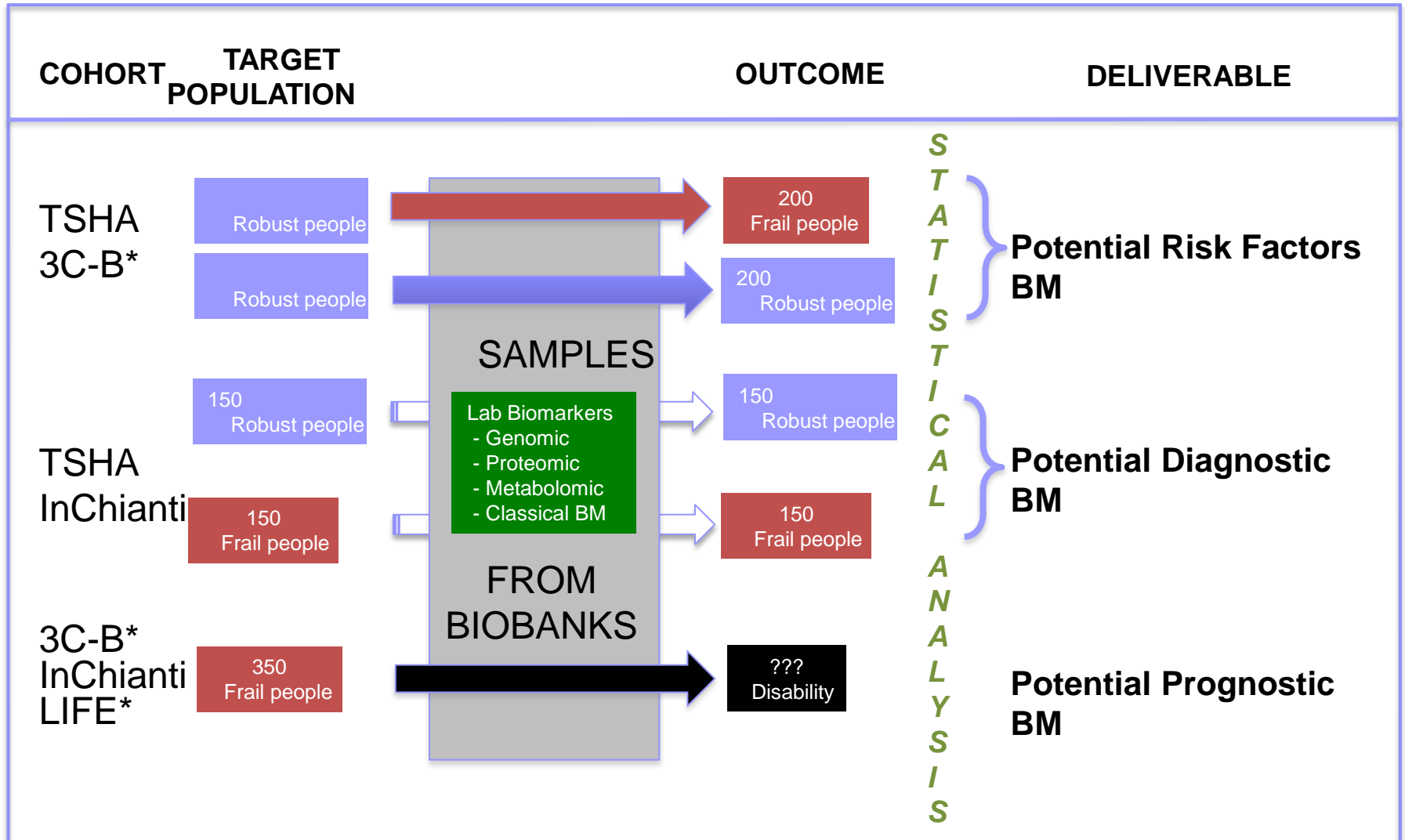


PHASE 4



PHASE 1

Searching biomarkers



*These cohorts will also contribute to the substudies on nutrition and physical activity

Table 1 Characteristics of the cohorts participating in the whole study

Name of the Study	InChianti	LIFE Study	Three-City Study, sample from Bordeaux	Toledo Study for Healthy Aging (TSHA)
Settings (number of participants by setting)	1453	Randomized controlled trial (n=1635), approximately half randomized to Successful Aging Health Education and approximately half to Physical Activity	2104 at baseline	2480
Follow-up (duration in months)	139	Average 33 months	12 years, every 2 years (144 months)	39
Nutritional evaluation	yes	no	FFQ at each follow up, one 24h recall at the first follow up	one 24h recall at the baseline/in follow-up: mna and mediterranean diet compliance
Gait velocity	yes	yes	yes, 4 m course	yes
Balance evaluation	yes	yes	no	yes
Tandem evaluation	yes	yes	no	yes
Semi-tandem evaluation	yes	yes	no	yes
SPPB	yes	yes	no	yes except chair test, we can evaluate it by acelerometer
Handgrip strength	yes	yes	yes	yes
Exhaustion	yes	yes	yes	yes
Loose of weight	yes	yes	yes	yes
Physical activity	yes	yes	yes, by self-administered questionnaire = lot of missing data	yes: PASE
Frailty Fried's criteria	yes	yes	yes	yes
Number of biological samples available (Blood, serum, urine, cells, other)	1453 (Blood, serum, urine, cells and plasma)	Serum, Plasma, Urine, DNA	750 (serum)	1750 (serum, plasma, whole blood, cells)
Is it possible to get NEW biological samples?	yes	yes	no	yes

Table 2 Characteristics of the cohorts participating exclusively in validation (Phase 2) or in substudies

Name of the Study	SardinIA Study	Study of Global Ageing and Adult Health (SAGE)	Collaboration on Ageing in Europe (COURAGE)	ENRICA study
Settings (number of participants by setting)	6100 (877 < 65 ys)	Nationally representative general population samples (~45,000)	Nationally representative general population samples (12000)	3500 individuals (≥60 yrs)
Follow-up (duration in months)	19	20	Cross-sectional	26
Nutritional evaluation	yes/no	BMI, waist hip ratio, questions on fruit and vegetable intake	BMI, waist hip ratio, questions on fruit and vegetable intake	yes
Gait velocity	not yet	walking speed for 1 and 4 metres at normal and maximum speed	walking speed for 1 and 4 metres at normal and maximum speed	In progress
Balance evaluation	not yet	no	no	yes
Tandem evaluation	not yet	no	no	yes
Semi-tandem evaluation	not yet	no	no	yes
SPPB	not yet	no	no	yes
Handgrip strength	yes	yes	yes	In progress
Exhaustion	not yet	yes - self report of fatigue	yes - self report of fatigue	yes
Loose of weight	yes	no	no	yes-selfreported
Physical activity	yes/no	yes	yes	yes, as well as sedentariness
Frailty Fried's criteria	not yet	yes	yes	In progress
Number of biological samples available (Blood, serum, urine, cells, other)	6100 (Blood, Serum, urine, Plasma, cells)	no	12000 (Dried Blood spots to estimate cholesterol, triglycerides and hemoglobin, and HbA1c)	3500 (serum and DNA-bank)
Is it possible to get NEW biological samples?	yes	yes	yes	yes

