



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA



CIRI

HEALTH SCIENCES & TECHNOLOGIES

Living healthy and active in an ageing Europe



*Prevention of falls initiative in
Emilia-Romagna (PROFITER)*
Lorenzo Chiari – {lorenzo.chiari@unibo.it}

Bologna – June 3, 2013



Contents

1. Rationale: facts & figures
2. The RER baseline before EIP
3. Our commitment: the PROFITER project
4. Added value of a partnership
5. The Regional partnership
6. Ongoing objectives

1. Rationale

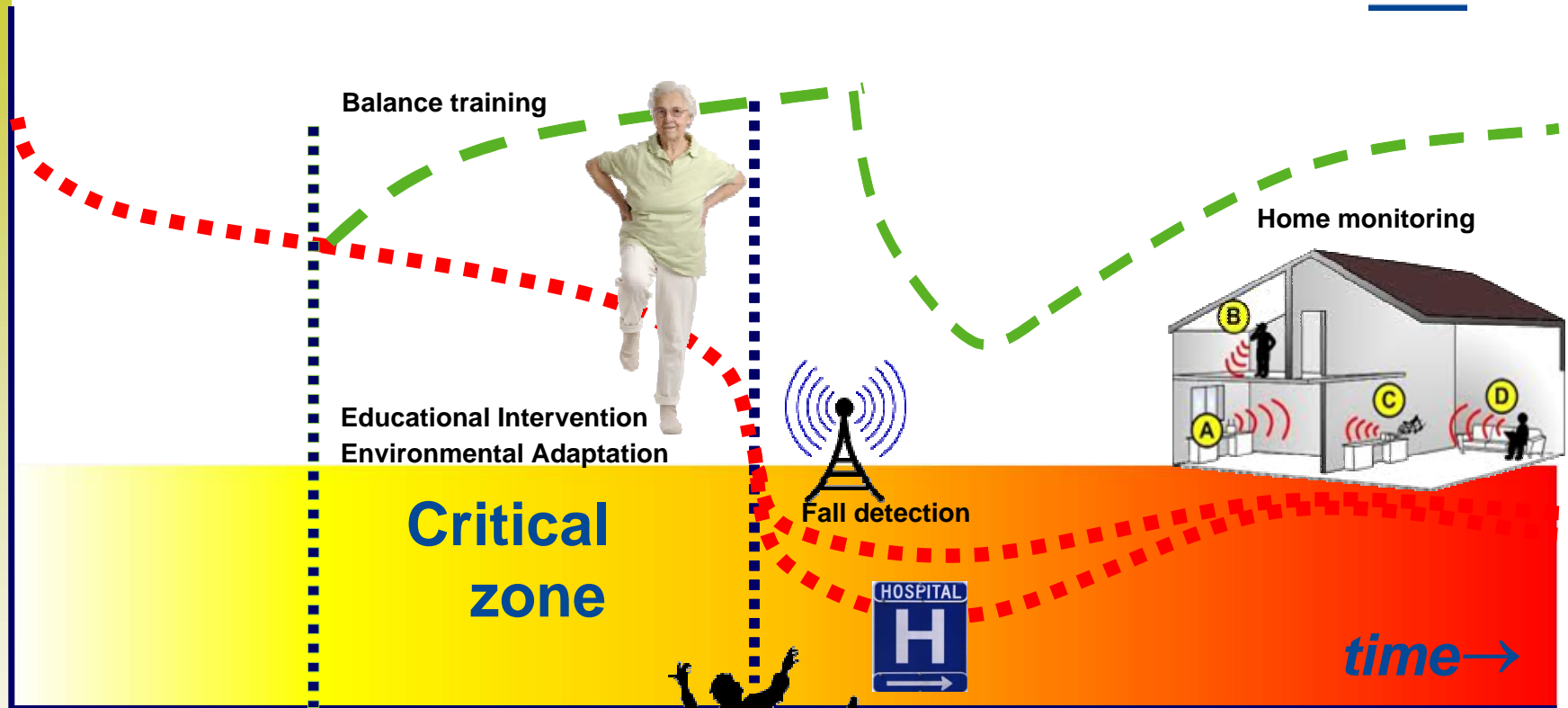


- **1:3** people > 65 years & **1:2** people > 80 years fall each year
 - > **50%** Fear falling, depression, isolation, dependence, loss of mobility
- leading cause injury deaths
- within one year frequent fallers are in hospital, full time care or deceased
- more bed days than heart attack, heart failure & stroke combined
- US direct medical costs of falls \$30 billion
- **0.85-1.5%** national health care expenditure EU
- underestimated problem **75%-80%** falls never reported
- Adequate prevention & management
 - > reduce costs
 - > saves resources
 - > increases independence & QoL

1. Rationale



fitness ↑



screening & assessment

intervention

rehabilitation

monitoring



2. The Baseline before EIP

This action builds on a number of seminal regional initiatives on ICT-based physical activity monitoring and fall prevention involving different Local Health Trusts, research institutions (UNIBO) and industrial stakeholders, which were supported by the RER and the EU over the last 5 years.

PROFITER
Prevention of Falls Initiative in Emilia Romagna

Regione Emilia-Romagna

3. The PROFITER project



EIP-AHA Action Group A2 – Fall prevention Action Plan 2012-2015

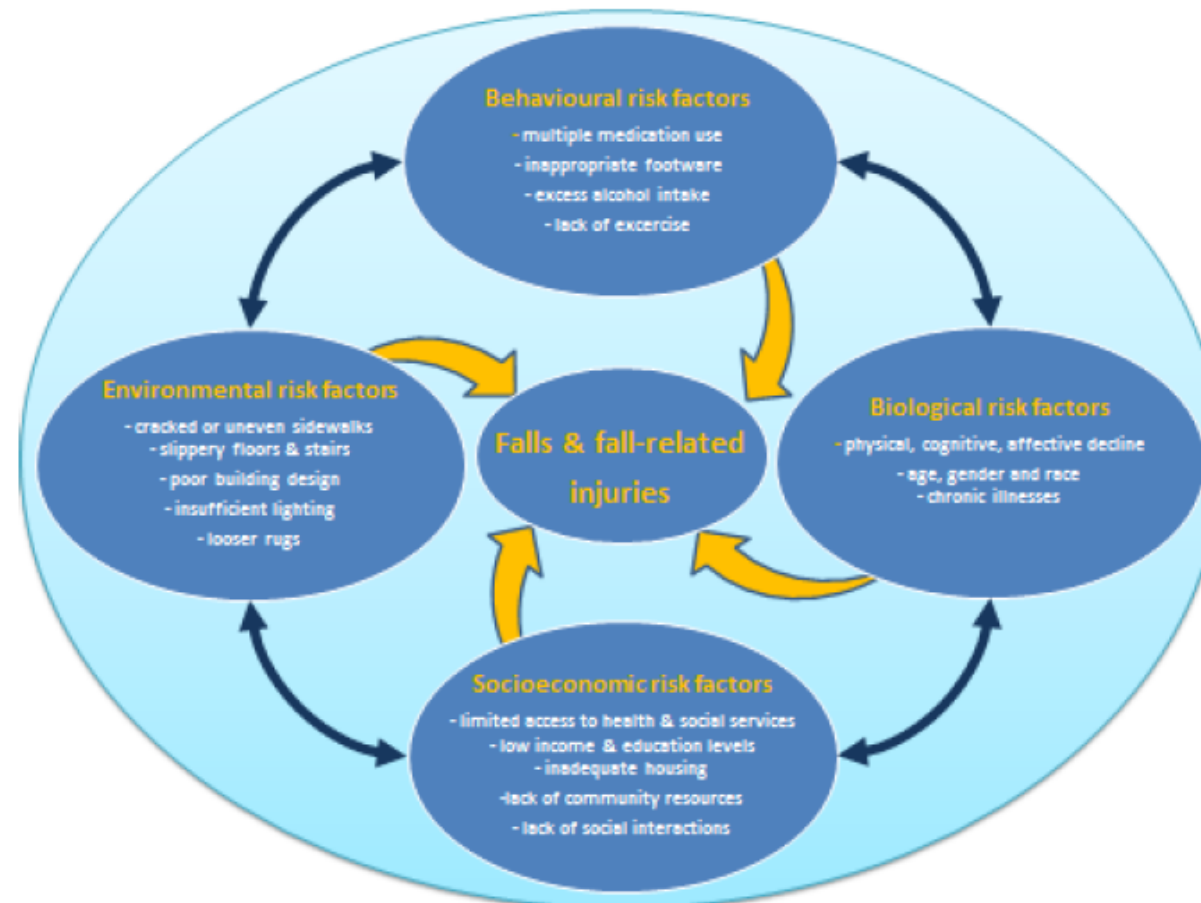


Figure 1: World Health Organisation risk factor model for falls in older age

3. The PROFITER project



EIP-AHA Action Group A2 – Fall prevention Action Plan 2012-2015

The Falls Prevention and Management Pathway

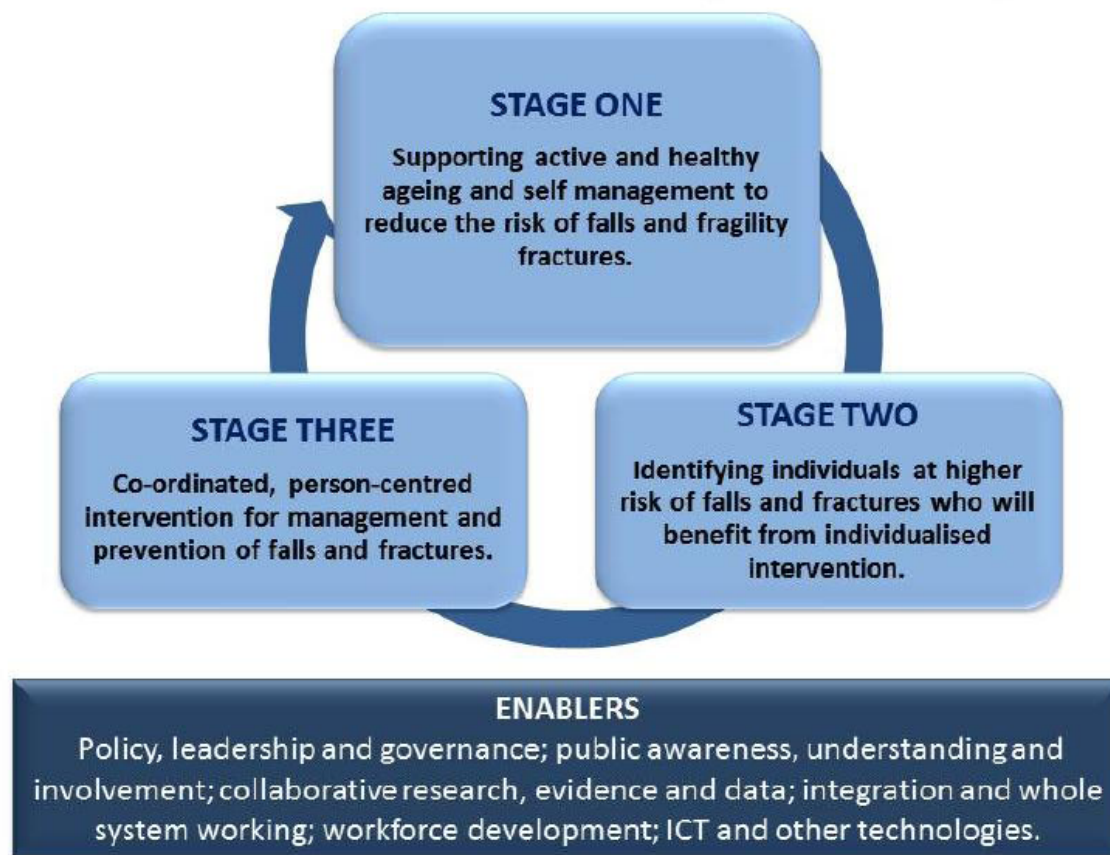
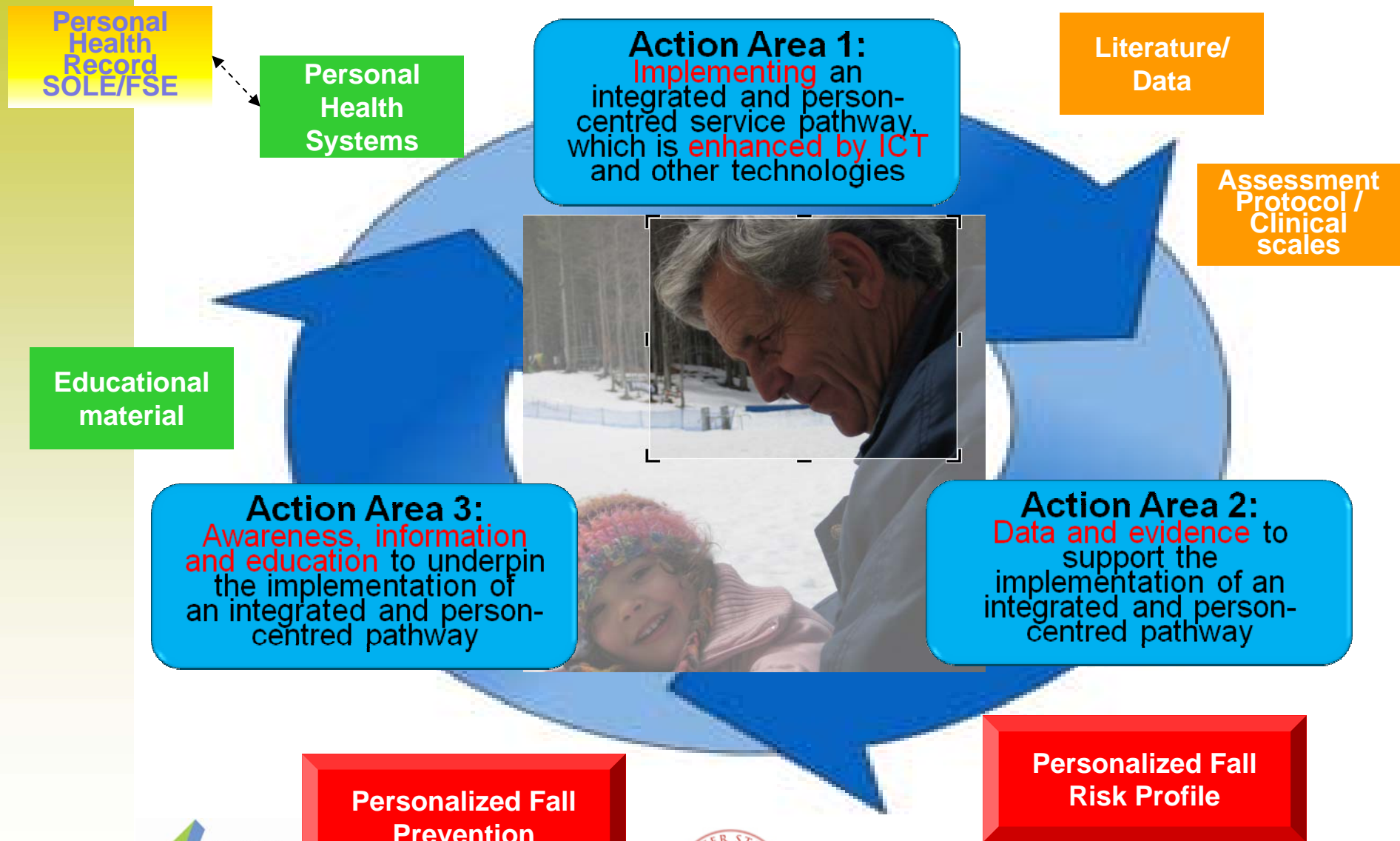


Figure 2: Falls prevention and management pathway

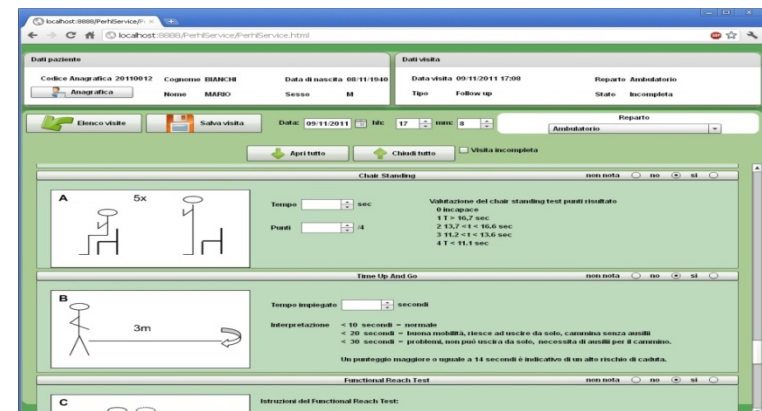
3. The PROFITER project



4. Added value

The regional commitment has so far allowed to:

1. build a broad, multidisciplinary network of clinical/research experts;
2. recollect a number of relevant regional initiatives for fall prevention in different settings;
3. start the process to structure knowledge and classify fall risk factors to allow interoperability among different clinical specialties;
4. prepare the exploitation of novel ICT-based tools for fall detection, activity monitoring in daily life, instrumenting clinical scales; the majority of such tools are already available on smartphone platforms.



5. The partnership



6. *Ongoing objectives*

1. Collection, digitalisation, and retrospective analysis, within the **FSE** (Electronic Health Dossier) of relevant fall-related information (Registro Regionale Cadute, RRC);
2. **Classification of fall risk factors** according to the International Classification of Functioning, Disability and Health (ICF) to allow interoperability among different clinical specialties and, in perspective, across European Regions;
3. Development and validation of a **personalised fall risk model**, integrating known fall risk factors, clinical balance measures, and parameters extracted from wearable inertial sensors;
4. Mapping of the identified fall risk model into an operational programme for the prescription of **personalized interventions** and/or ICT-based assistive devices for falls prevention and rehabilitation in community dwelling older subjects;
5. Specific **training** for personal carers of high-risk subjects;
6. **Scale up** by producing a *good practice* which can be transferred.

Thanks for your attention



Lorenzo Chiari

CIRI Scienze della Vita e Tecnologie per la Salute

Dipartimento di Ingegneria dell'Energia Elettrica e dell'Informazione 'Guglielmo Marconi'

Viale Risorgimento 2 - Bologna

www.unibo.it

