

CONTRIBUTION OF ICTs FOR DESIGNING A SYSTEM FOR EARLY DETECTION OF POTENTIAL RISKS OF A COGNITIVE IMPAIRMENT IN THE ELDERLY PEOPLE

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1. MOTIVATION OF THE WORK

Trends:

- Increased life expectancy (cf. Figure 1) [1]
- Rise in care needs (estimated in 6% PIB in 2050) [2]

Problems:

- Chronic diseases [3]
- Dependency (cf. Figure 2) [4]
- Dementia (eg. Alzheimer) [5]

Challenge -> How ICT may improve:

- Prevention through early detection?
- Promotion of active ageing [6]?
- Sustainability of the health system?

-> Horizon 2020 - Health, demographic change and wellbeing (77.028M€) [7]

2. THESIS OBJECTIVES

The main objectives are:

O1 - To define a standard taxonomy that allows for categorising the areas of action of ICT in this field.

O2 - To determine what ICT solutions contribute to prevention through early detection of age-related health issues.

O3 - To determine what ICT solutions contribute to active ageing.

O4 - To contribute to the improvement of the health system (social inclusion, sustainability, autonomy, self-management, etc.) through the application of ICT solutions.

3. RESEARCH PLAN

In accordance with the methodology [8], the research plan consists of these phases :

P1 - Exhaustive and rigorous revision of ICT solutions.

P2 - Creation of a taxonomy for the reviewed ICT solutions.

P3 - Analysis DAFO of the application of ICT solutions in the field (eg. e-health, aging well, etc.) .

P4 - Design of an ICT platform and services.

P5 - Validation of the ICT system with end-users.

P6 - Analysis of results and dissemination of the research work .

4. RESULTS & DISCUSSIONS

In accordance with the plan, the following outcomes were already produced (cf. Figure 3):

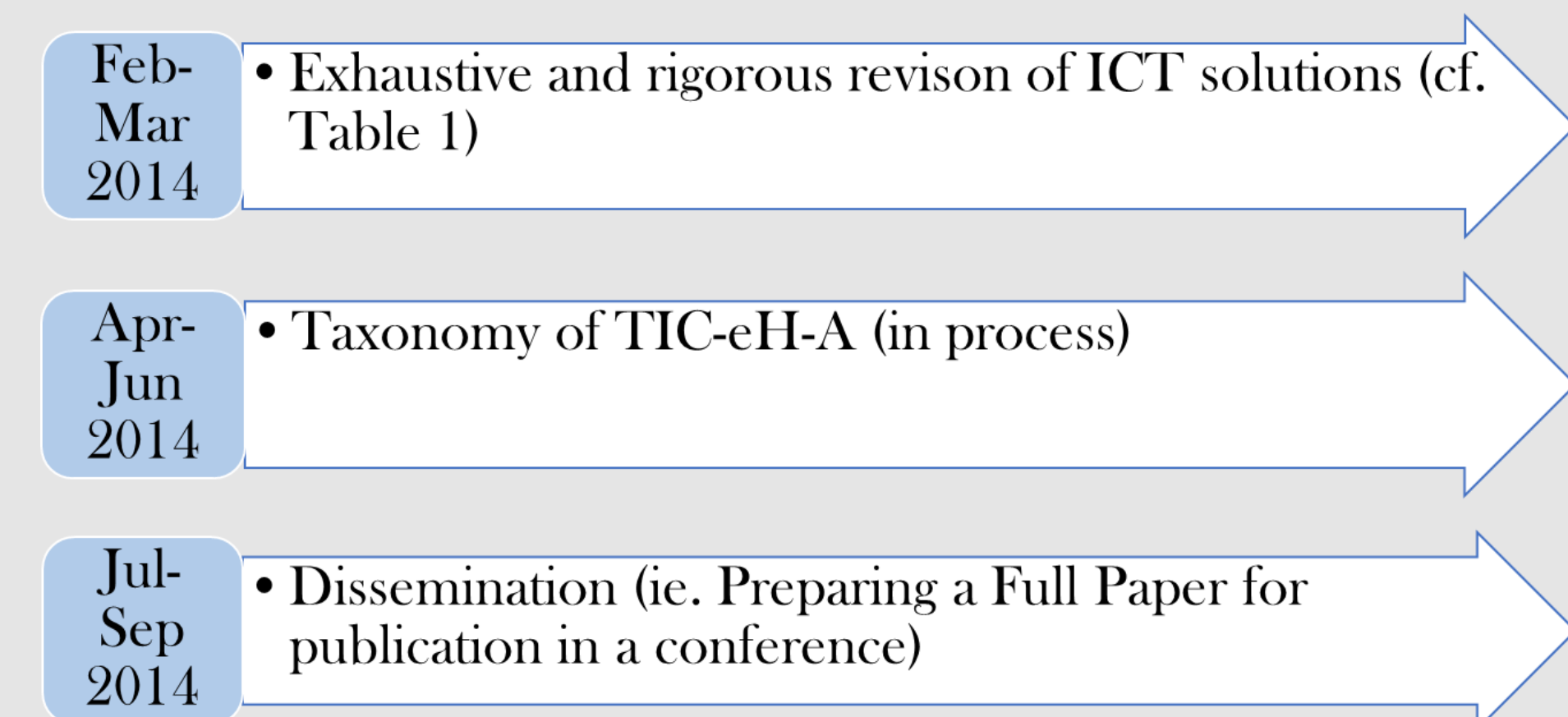


Figure 3. Out-comes were already produced (Feb - Jul 2014). [TIC-eH-A: TIC-eHealth-Aging]

5. NEXT YEAR PLANNING

According to planning, the next tasks will be (cf. Figure 4):

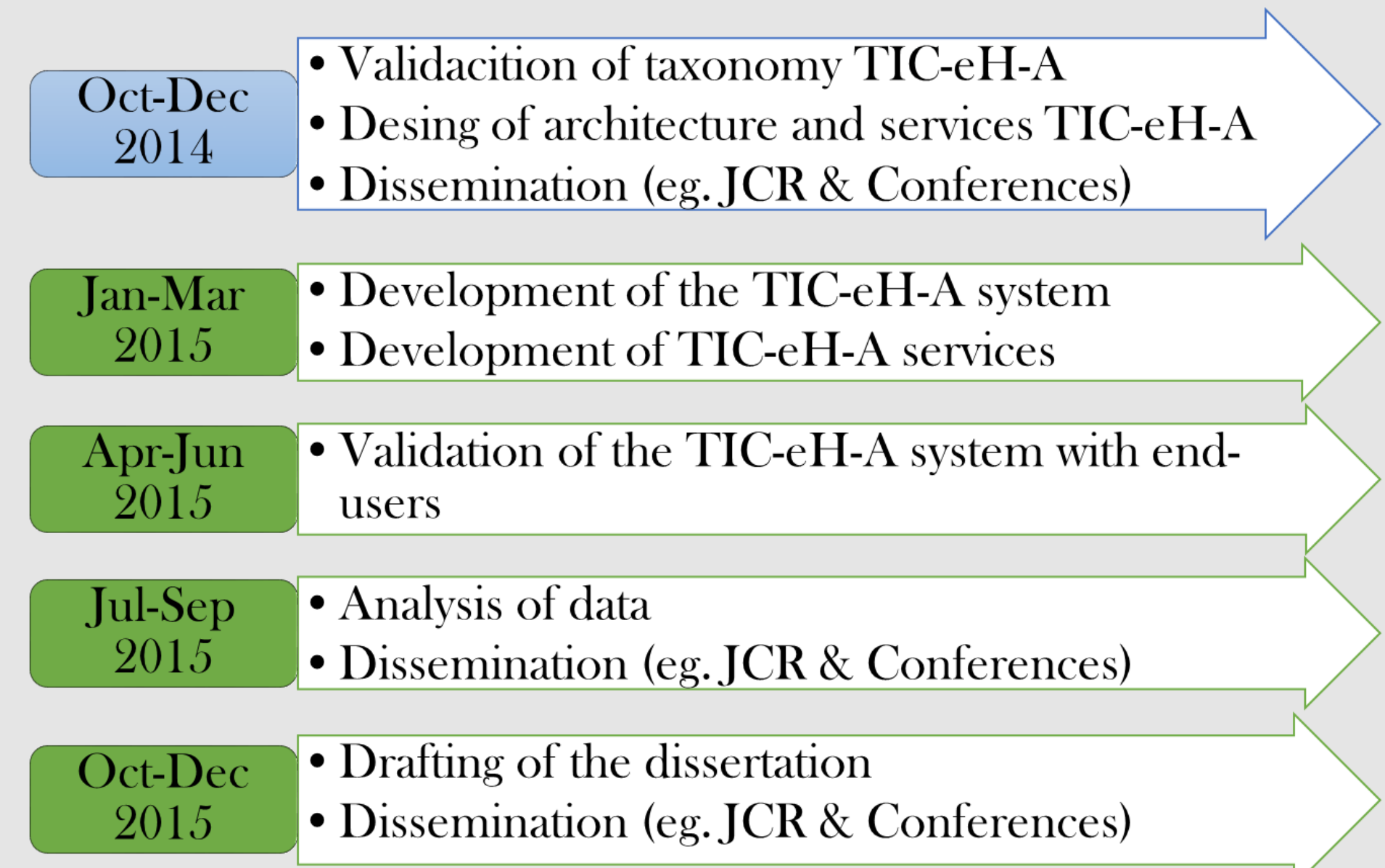


Figure 4. Planning next tasks (Oct 2014 - Dec 2015) [TIC-eH-A: TIC-eHealth-Aging]

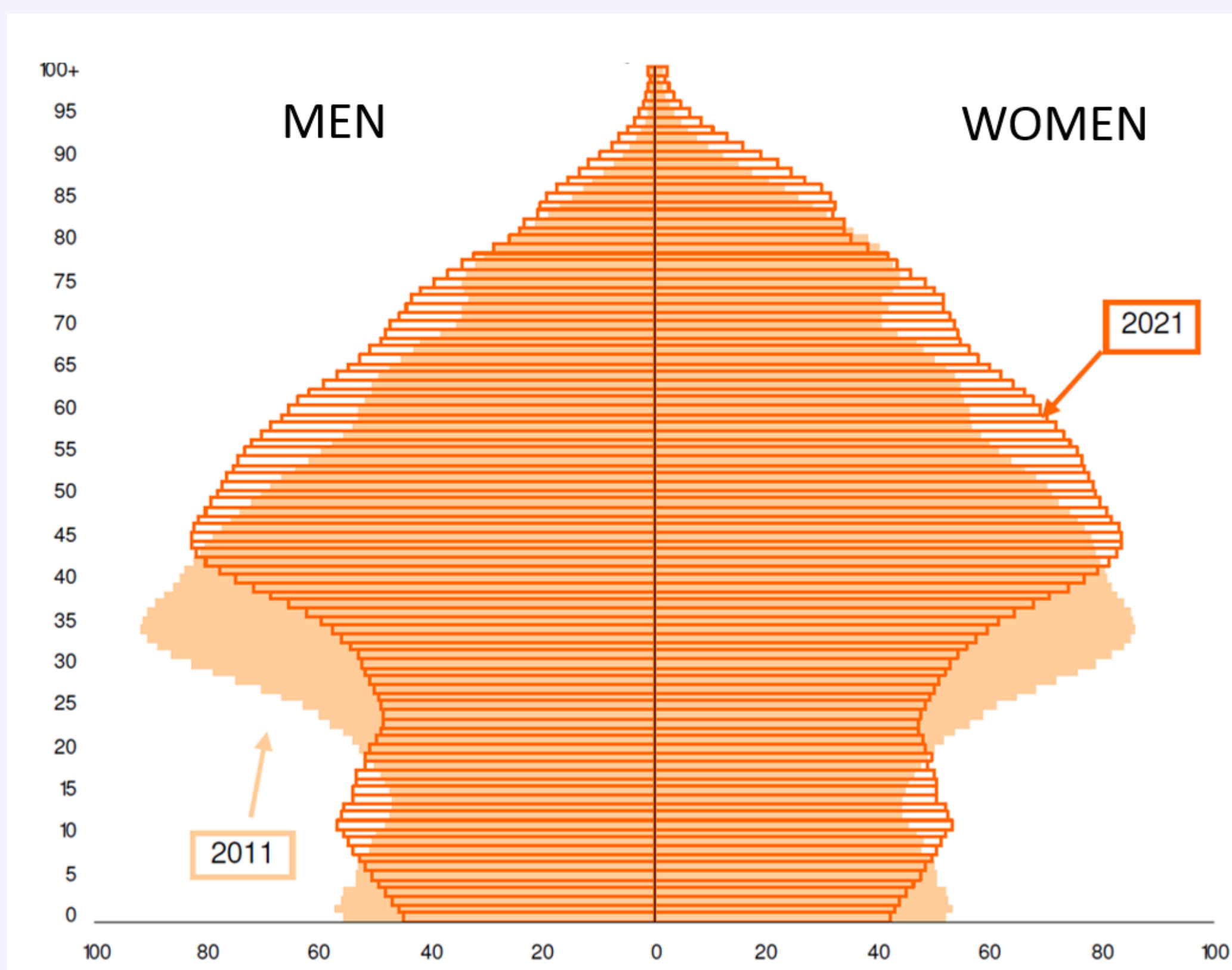


Figure 1. Estimation population evolution, 2011-2021 INE

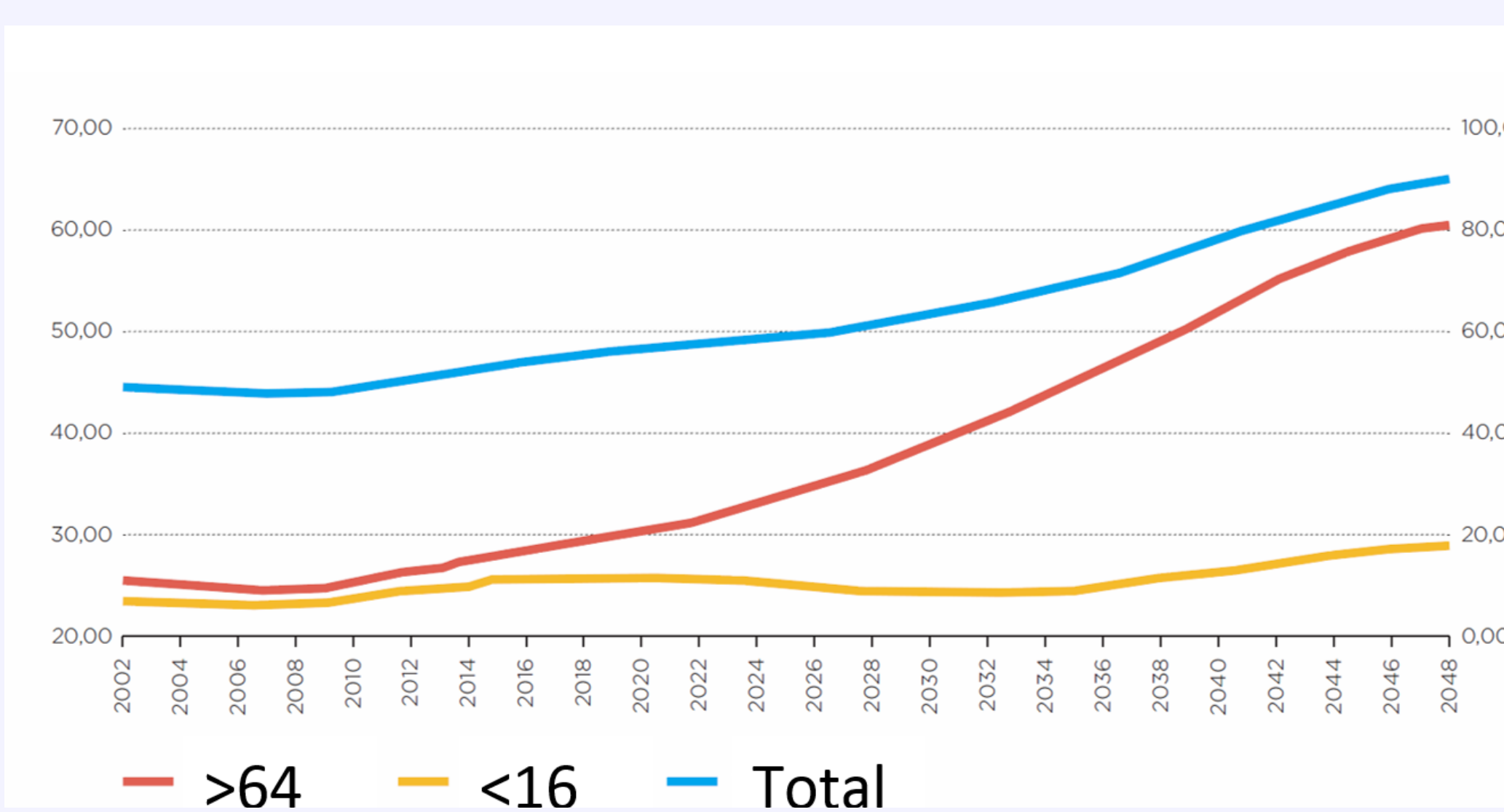


Figure 2. Estimation rate of dependency evolution, 2002-2048. INE

Table 1. Most Relevant studies of this field. (2014 - 2009) [9]

Objects of study	Most Relevant Examples (2014 - 2009) [9]
Projects	HERA, HMFm, HEAD, MEDIMINDER, COGNIGEN, ED-DY, MOBIGUIDE, BCI-REHAB, RECAVOAL, Fall Recognition, TAP-NH, HomeSweetHome, DESICA, HOPE, LLM, etc.
Journals & Articles	AUSTRALAS J AGEING (0.940), GERONTOLOGY (2.676), J NUTR HEALTH AGING (2.394), AM J ALZHEIMERS DIS (1.518), Journal of Applied Gerontology (0.700), DISABIL REHABIL (1.541), International journal of telemedicine and applications, J TELEMED TELE CARE (1.467), etc.

6. REFERENCES

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