**Rationale**
- Increase of human life expectancy: persons > 85 ys fastest growing segment of population
- Projection for old (65-79 years) and very old persons (> 80 years): through 2060 15% and 9% of population
- Infections in the elderly major challenge for physicians due to: high frequency, different epidemiology, atypical clinical presentation, age-related modifications in drug metabolism

**Need for organized programs addressing infectious disease issues in the elderly persons to improve their care**

**PUBLICATIONS**

**Theme issue in Clinical Microbiology and Infection** entitled "Infections in the elderly. [Clin Microbiol Infect 2015 21(1)]
- L. Pagani. Appropriate antimicrobial therapy in the elderly: when half-size does not fit all frail patients.
- L. Leibovici, M. Paul. Ethical dilemmas in antibiotic treatment: focus on the elderly.

Other publications:
- G. De Angelis · N. T. Mutters · L. Minkley · F. Holderried · E. Tacconelli. Prosthetic joint infections in the elderly. Infection. 2015;43(6)

**Planned research projects**

**Optimizing diagnosis, treatment and outcome definitions in elderly patients with bacterial infections**

Objectives: To examine the evidence of antibiotic treatment effects in common bacterial infections and the diagnostic accuracy of sepsis symptoms, signs and biomarkers; to define the health trajectory following bacterial infections; to establish dosing nomograms for antibiotics with a narrow therapeutic window; to build a bundle intervention for improved infection management; and to test that this intervention improves patient-relevant outcomes; all in the elderly.

Our project proposes to provide an evidence base for more effective and safer antibiotic use among elderly people. It will be the first study to establish dosing recommendations for colistin in the elderly.

Choosing wisely antibiotic treatment to reduce futile therapy: cost benefit model development

Objectives: to develop a cost-benefit model of antibiotic treatment, incorporating end of life attributes and individualized antibiotic ecological cost modeling. To test safety, effectiveness and acceptability of the model.

Working Hypotheses: We believe that the model will recommend less futile antibiotic treatment than clinicians and that consensus can be reached among experts on futility of antibiotic treatment.

Type of Research: Cost-benefit model development; prospective cohort study; Delphi survey.

**Funded research projects**

The participation of the elderly in randomized controlled trials of antibiotic treatment

Study summary: Evidence to date shows that the elderly are frequently under-represented in randomized controlled trials (RCTs). However, no information is available on the participation and evaluation of the elderly in RCTs of antibiotic treatment. Objectives: to examine the current state of the art regarding planned and actual participation of the elderly in randomized controlled trials of antibiotic treatment, and to examine whether age-specific analyses were performed in such trials and evaluate how relevant results are to elderly patients. Meta-analysis on participation of elderly patients in randomized controlled trials addressing antibiotic treatment of pneumonia, skin and soft tissue infections were completed; the systematic review on the management of *C. difficile* is ongoing.

Based on the results observed, we will develop consensus recommendations for the inclusion and evaluation of the elderly in clinical trials of antibiotic treatment.

**Planned activities in ECCMID 2016**

2-hour Educational Workshop: Contemporary trial methods in clinical effectiveness research; Organizers: ESGIE, ESGBIS

2-hour Educational Workshop: Update on vaccines and vaccination; Organizers: ESGIE, EVASG

2-hour Symposium: Immunity and vaccination in advanced age; Organizers: ESGIE, EVASG