

## Medication-Related EU InterRAI Research: What We Learnt on Medication Safety in Older Adults from the EU ADHOC, SHELTER and EUROAGEISM FIP7 projects?

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**Abstract summary:** Results of large EU InterRAI projects ADHOC, SHELTER and EUROAGEISM FIP7 H2020 showed substantial differences across EU countries and study sites in inappropriate prescribing in older patients. Implementation of interRAI methods, geriatric assessment scales and clinical pharmacy medication reviews may substantially improve appropriateness of drug prescribing in future decades.

**Keywords:** geriatric patients, inappropriate prescribing, large EU interRAI projects

**Introduction:** The majority of medications were not tested in RCTs (randomized controlled trials) in older patients and knowledge on their appropriate dosing and indications in geriatrics are limited. The large interRAI EU projects ADHOC, SHELTER and the EUROAGEISM FIP7 H2020 project focused on broader description of potentially inappropriate prescribing in older patients (eg. polypharmacy, non-geriatric dosing, inappropriate drug combinations etc.) in EU countries in different settings of care.

**Methods:** Databases of EU ADHOC project (AgeD in Home Care, 5th FP EC, 2001-2005, 2707 HC clients 65+, 8 EU countries), SHELTER (Services and Health in the Elderly in Long-Term Care, 7th FP EC, 2009-2014, 3965 long-term care residents 65+, 7 EU countries and Israel) and the EUROAGEISM FIP7 H2020 project (2017-2022, 8 Central and Eastern EU countries, 450 older adults 65+/country, ambulatory, pharmacy and acute care) were analysed to describe different patterns of inappropriate drug prescribing. Patients were prospectively assessed using RAI MDS-HC instrument, interRAI LTCF tool or selected interRAI functional status scales combined with comprehensive information on diagnoses, symptoms and medications.

**Results:** 95,1 % of EU home care clients (ADHOC project), 94,9 % of EU NH residents and 100 % of patients in acute care (EUROAGEISM FIP7 H2020) used at least 1 medication; excessive polypharmacy (9+/10+ medications) has been documented in 22.2 %, 23.7 % and 46.9 % patients, respectively. The prevalence of PIM prescribing was found to be 19.8 % in ADHOC (Beers and McLeod criteria), 60.7% in SHELTER (EU-7 PIM list) and 77.6% in the EUROAGEISM FIP7 H2020 project (combined EU-7 PIM list, STOPP/START and Beers criteria) with highly significant differences across different countries and study sites.

**Conclusion:** Results of the large EU projects ADHOC, SHELTER and the EUROAGEISM FIP7 H2020 project showed substantial differences across EU countries and study sites in inappropriate prescribing in older adults. Implementation and combination of interRAI methods, geriatric assessment scales and clinical pharmacy medication reviews may substantially improve appropriateness of geriatric drug prescribing in future decades.

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