

EAHP Position Paper on an Ageing Society

Making the difference in medication – using hospital pharmacists' expertise to manage polypharmacy, evaluate drug appropriateness and increase drug adherence in older patients

Ageing is one of the greatest social and economic challenges of the 21st century for European societies. According to the latest population projections, by 2070, those aged 65 and over will rise from 19% to 29%, while the share of those aged 80 and over will increase from 5% to 13% of the total population, which will be almost as large as the young population (aged 0-14) in that year.¹

Because older people have different healthcare requirements, oftentimes developing disabilities or multi-morbidity complications, health systems will need to adapt so they can provide adequate care for longer periods while remaining financially sustainable. The estimated change in the EU's total public expenditure on the older population² will increase from 25% of GDP in 2016 by 1.7 percentage points in 2070, reaching 26.7%. This will be caused mostly by spending on healthcare (+0.9 percentage points) and long-term care (+1.2 percentage points).³

In view of such challenges, it is of utmost importance that hospital pharmacists' expertise in medicine use optimisation is fully utilised along the care pathway in order to mitigate problems prevalent in the older population, such as polypharmacy and drug adherence. Therefore, the following position paper of the European Association of Hospital Pharmacists (EAHP) outlines key points for policy makers to be mindful of in shaping responses.

EAHP calls on national governments and health system managers to acknowledge hospital pharmacists' drug expertise by investing in medication reconciliation and optimisation roles in all healthcare facilities, including nursing homes, as a key part of the European level response to the increasing prevalence of polypharmacy.

EAHP calls for strengthened inter-sector communication, coordination and multi-disciplinary collaboration as critical approaches to meeting the health system challenges of an ageing society.

EAHP strongly supports regulatory innovation to increase the participation of older patients with possible multi-morbidities in clinical trials.

EAHP urges both governments and the EU to address the growing challenge of an ageing health workforce by investing in education, mobility and best practice sharing.

1 THE VALUE OF MEDICINES RECONCILIATION & OPTIMISATION FOR OLDER PATIENTS

Extensive evidence shows that polypharmacy and inappropriate prescribing is highly prevalent in older people and can be associated with increased morbidity, mortality and demands on healthcare resources.⁴

Inappropriate prescribing encompasses the use of medicines that introduce a significant risk of an adverse drug-related reaction (ADR) where there is evidence on the availability of an equally or more effective but lower-risk alternative therapy for treating the same condition. It also includes the use of

medicines at a higher frequency and for longer than clinically indicated, the use of multiple medicines that have recognised drug-drug interactions and drug-disease interactions, and, importantly, the under-use of beneficial medicines that are clinically indicated but not prescribed for ageist or irrational reasons.⁵ More recent evidence suggests that special care should be taken in the context of increasing international mobilisation against antimicrobial resistance since, compared with immediate prescriptions, delayed prescription strategies for patients over 65 with urinary tract infection are associated with higher hospitalisation and mortality rates.⁶ Therefore, the impact of inappropriate prescribing for older patients should not be underestimated. It is associated with reduced adherence, adverse interactions, heightened risk of medication error and ADRs. The latter can include falls, hip fractures, confusion and delirium. In addition to the distress to the patient, family, carers and health professionals, such negative outcomes also create preventable hospitalisations.⁷ When evaluating drug appropriateness in older patients, hospital pharmacists should use implicit and explicit criteria.

Drug therapy optimisation is a key component of healthcare provision to older patients. It is in this respect that pharmacists, as the health system's experts in medication management, dosing, ADRs and cost-effectiveness, have a critical role to play, via interventions, such as medication reconciliation and optimisation in the multidisciplinary care team.

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2 STRENGTHEN SEAMLESS CARE AND MULTIDISCIPLINARY APPROACHES

Older people are statistically more susceptible to hospitalisation, being more vulnerable to disease, disability, multi-morbidity, falls and ADRs.⁸ This in turn results in a higher frequency of experiencing transitions of care between primary and secondary sectors.⁹ The benefits for patient care from sector inter-communication¹⁰ and multi-disciplinary collaboration¹¹ appears to be well-known, but the achievement of such aspirations in practice across Europe remains less than that to which both patients and health professionals would commonly aspire.¹²

For the sake of ensuring the best care for Europe's ageing population, health systems should constantly monitor the opportunities and best practice case studies to deliver measurable improvement via enhanced seamless care, coordination, multi-disciplinary and inclusive care management approaches. A case in point would be the Chronic Care Model (CCM)¹³ which can be found in primary care practices throughout the United States¹⁴ or the so-called "reference sites"¹⁵ in Europe.¹⁶ This approach was constructed to systematically improve the quality of patient-centred chronic disease care by becoming patient-centred and team based medical hubs that deliver better defined personal therapeutic pathways, efficiency and job satisfaction. These have also included clinical pharmacy services that improved medication management and adherence by having pharmacists conduct reviews in polypharmacy cases and thus reduce medication errors and ADRs.¹⁷

EAHP calls for strengthened inter-sector communication, coordination and multi-disciplinary collaboration in all healthcare facilities as critical approaches to meeting the health system challenges of an ageing society.

3 IMPROVING THE CLINICAL TRIAL LANDSCAPE IN RESPECT OF OLDER PATIENTS

While older patients are proportionately major users of medicine, this group is underrepresented or even excluded from many clinical trials that generate the evidence-base for health care interventions.

Yet it is recognised at international level that due to potential differences in pharmacokinetics, pharmacodynamics, disease-drug interactions, drug-drug interactions, and clinical response that can occur in the geriatric population, conclusions reached in studies of adults cannot be extrapolated to the treatment of older patient populations.¹⁸ EU Clinical Trial Register data from 2019 indicate that, out of a total of 19,447 ongoing clinical trials, 14,026 have been designed for adults and the older persons (72%). However, a caveat is that the database does not adequately display trials involving only the older individuals. This patient group is usually included in the broader term “adults”.¹⁹ Therefore, the results of the Clinical Trial Register offer a distorted image of the clinical trials landscape for this patient group.

Owed to the lack of clinical trial data for the older population, treatment decisions are in daily practice routinely based on medical data derived from studies of younger adults. In these situations, practitioners are left to treat patients over the age of 65 without adequate knowledge of older adults’ response to medication, dosing ranges in acute and long-term use, side effect profiles, potential for accumulation in the body, and drug-drug interactions.²⁰

EAHP considers that older patients, including the ones with multi-morbidity or those needing personalised treatment due to renal failure or other complications, are often being excluded from clinical trials unnecessarily.²¹ While obvious challenges exist in respect to their participation (including higher risk of adverse events and complications from multi-morbidity), these should not be considered insurmountable, especially in view of the need to optimise therapeutic interventions for this patient group.

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4 CONSIDERATIONS AND REFLECTIONS ON THE AGEING HEALTH WORKFORCE AND ITS TRAINING NEEDS

The health workforce is ageing.²² A demographic shift of a large section of the workforce into retirement age threatens to impact human resources in all European health professions. Response in the form of adequate workforce planning is consequently needed. Increased mobility of the workforce across European borders could also help alleviate the problem. Since the hospital pharmacy profession does not yet benefit from automatic professional qualification recognition, EAHP has engaged in a long-term strategic endeavour to achieve mobility of hospital pharmacists across the EU via a Common Training Framework (CTF).²³

As underlined by the World Health Organisation (WHO) in its assessment of education and training needs,²⁴ much work is yet to be done in making health systems truly age-friendly. As part of a European approach to meeting these particular challenges, training and best practice responses should be expanded in scope. Particular emphasis should be placed by education providers on the specific needs of the older persons. Attention must also be paid to keeping careers in the health workforce attractive not only with respect to professional development, remuneration and job satisfaction, but also in terms of work-life balance.

EAHP urges both governments and the EU to address the growing challenge of an ageing health workforce by investing in education, mobility and best practice sharing.

- ¹ Economic Policy Committee, Working Group on Ageing Populations and Sustainability, The 2018 Ageing Report: Economic and Budgetary Projections for the EU Member States (2016-2070), Institutional Paper 079, May 2018, p. 23, available at https://ec.europa.eu/info/publications/economy-finance/2018-ageing-report-economic-and-budgetary-projections-eu-member-states-2016-2070_en.
- ² The total public expenditure includes pensions, healthcare, long-term care, education and unemployment benefits.
- ³ The percentages refer to the baseline scenario. Source: *Ibid*, p. 6-7.
- ⁴ O'Mahony, D. et al, STOPP/START criteria for potentially inappropriate prescribing in older people: version 2, *Age and Ageing* (2015) 44 (2):213-218, available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4339726/>; Page II RL, Linnebur SA, Bryant LL, Ruscini JM. Inappropriate prescribing in the hospitalized elderly patient: Defining the problem, evaluation tools, and possible solutions. *Clin Interv Aging* 2010; 5: 75-87. doi: 10.2147/CIA.S9564.
- ⁵ Gallagher P, Barry P, O'Mahony D. Inappropriate prescribing in the elderly. *J Clin Pharm Ther* 2007; 32: 113-21. doi: 10.1111/j.1365-2710.2007.00793.
- ⁶ Harbi, M. et al., Antibiotic management of urinary tract infection in elderly patients in primary care and its association with bloodstream infections and all cause mortality: population based cohort study, *BMJ* (2019) 364: I525, available at https://www.bmj.com/content/364/bmj.I525?utm_source=POLITICO.EU&utm_campaign=fdff7a2bde-EMAIL_CAMPAIGN_2019_02_27_08_21&utm_medium=email&utm_term=0_10959edeb5-fdff7a2bde-190394373.
- ⁷ Shah B, Hajjar E. Polypharmacy, adverse drug reactions and geriatric syndromes. *Clin Geriatr Med* 2012; 28: 173-86; Zed P, Abu-Laban R, Balen R, et al. Incidence, severity and preventability of medication-related visits to the emergency department: a prospective study. *CMAJ* 2008; 178: 1563-9.
- ⁸ Clohesy-Pizzingrillo, Mary. "Hospitalizations and the Elderly." *Clinical Advisor*. Haymarket Media, 06 July 2010, available at <http://www.clinicaladvisor.com/hospitalizations-and-the-elderly/article/174017/>.
- ⁹ Allen, J, Hutchinson A, Brown R, Livingston P. Quality care outcomes following transitional care interventions for older people from hospital to home: a systematic review. *BMC Health Services Research*. 2014; 14: 346.
- ¹⁰ Pourrat X, Corneau H, Floch S, et al. Communication between community and hospital pharmacists: impact on medication reconciliation at admission. *Int J Clin Pharm* 2013; 35: 656–63.
- ¹¹ Clarke, D. J. (2013), The role of multidisciplinary team care in stroke rehabilitation. *Prog. Neurol. Psychiatry*, 17: 5–8. doi: 10.1002/pnp.288.
- ¹² "Survey Shows More to Do to Achieve Inter-professional Collaboration." Press Release. European Association of Hospital Pharmacists, 11 Mar. 2013. Web. 13 Apr. 2015, available at <http://www.eahp.eu/press-room/survey-shows-more-do-achieve-inter-professional-collaboration>.
- ¹³ The CCM includes elements such as evidence-based decision support that is also sensitive towards patient preferences, patient self-management support, delivery system design – including team or coordinated care – for clinical care and self-management support, clinical information systems in organising patient and population data and the use of more holistic health system resources (organizations, mechanisms, culture) to ensure safe and high-quality care. Source: Coleman, K., Austin B.T., Brach C., Wagner, E.H., Evidence on the Chronic care Model in the new millennium, *Health Affairs*, 2009, 28(1): 75-85.
- ¹⁴ The Primary Care Team: Learning From Effective Ambulatory Practices, MacColl Center for Health Care Innovation, Kaiser Permanente Washington Health Research Institute, available at <http://www.improvingprimarycare.org/start/about>.
- ¹⁵ There is a total number of 74 reference sites that are regional and local ecosystems that excelled in developing and adopting innovative practices for active and healthy ageing, measured in improved outcomes and transferability) and serve as best practice examples. Source: Dates, M. et al, „Health system performance assessment - Integrated Care Assessment (20157303 HSPA), CHAFAEA, 2018, available at https://ec.europa.eu/eip/ageing/about-the-partnership_en.
- ¹⁶ *Idem*; Nistico, F. et al, "Proactive management of chronicity: the new approach of Integrated and Structured Clinical Networks", *Eur J Publ Health*, 2017, 27(3), available at https://academic.oup.com/eurpub/article/27/suppl_3/ckx186.203/4555820?searchresult=1.
- ¹⁷ More on the changing role of pharmacists in the primary care setting is available at <http://www.improvingprimarycare.org/team/clinical-pharmacist#>.
- ¹⁸ ICH. "Guidance for Industry: E7 Studies in Support of Special Populations: Geriatrics. Questions and Answers,," February 2012, ICH.
- ¹⁹ EU Clinical Trials Register, available at <https://www.clinicaltrialsregister.eu/ctr-search/search?query=&age=elderly&status=ongoing&gender=both>.
- ²⁰ Alvino, Simonetta, Dr. "Elderly Representation In Clinical Trials: Not A Gray Area", *InVentiv Health Clinical*, April 2014, available at <http://www.clinicalleader.com/doc/elderly-representation-in-clinical-trials-not-a-gray-area-0001>.
- ²¹ Bugeja , G. et al., *BMJ*, 1997, on research papers published in *BMJ*, *Gut*, *Lance*, and *Thorax* between June 1, 1996 and June 1, 1997.
- ²² Ageing health workforce - Ageing patients. (2012). 1st ed. [ebook] Brussels: The European Hospital and Healthcare Federation (HOPE), available at http://www.hope.be/05eventsandpublications/docpublications/90_ageing/90_HOPE_Publication-Ageing_October_2012.pdf.
- ²³ More information on the development, vision, aims, approach and envisaged stakeholders' benefits are available at <http://www.hospitalpharmacy.eu/>.
- ²⁴ World Health Organisation, Health workforce for ageing populations, 2016, available at <https://www.who.int/ageing/publications/health-workforce-ageing-populations.pdf?ua=1>.