

Factsheet n°11 – Medication Use

Facts & Figures:

- Across Europe, 32.1% of the older adults take 5 or more medications per day.¹
- One study by Avery et al. found that over a 12-month period, the rate of prescribing or monitoring error for patients receiving five or more medications was 30.1%. For those receiving 10 or more medications, the error rate was 47%.²
- In the EU, up to 40% of prescriptions for nursing home residents may be inappropriate or suboptimal.³
- Mismanaged polypharmacy contributed to 4% of the world's total avoidable costs due to suboptimal medicine use. A total of US\$ 18billion, 0.3% of the global total health expenditure could be avoided by appropriate polypharmacy management.⁴
- 194,500 deaths per year in the EU due to misdose of and non-adherence to prescribed medication. Non-adherence is estimated to cost the European Union €1.25 billion annually.⁵
- Excessive polypharmacy is associated with decline in nutritional status, functional ability and cognitive capacity in people aged 75 and older.⁶

Our recommendations

- **Ensure appropriate prescribing and risk assessment of prescribed medicines.**

A study carried out in Belgium showed that 48% of poly-medicated elderly⁷ take medicines that may not be appropriate for their situation.⁸ At European level, for example, studies have shown the widespread prescription of antipsychotic medications in patients with dementia in nursing and residential homes.⁹ The problem of overprescribing does not only concern older people. Indeed, approximately 2.2% of the European population uses weak analgesic opioids on a regular basis to treat

¹ Older adults are here understood as adults aged 65 and older. Archives of Gerontology and Geriatrics · June 2018: [Polypharmacy prevalence among older adults based on the Survey of Health, Aging and Retirement in Europe](#), p. 216.

² [Medication Safety in Polypharmacy](#). Geneva: World Health Organization; 2019, p. 15.

³ [Medication Safety in Polypharmacy](#). Geneva: World Health Organization; 2019, p.16.

⁴ [Medication Safety in Polypharmacy](#). Geneva: World Health Organization; 2019, p.13

⁵ <https://www.eu-patient.eu/globalassets/policy/adherence-compliance-concordance/adherence---joint-briefing-paper.pdf>

⁶ Archives of Gerontology and Geriatrics · June 2018: [Polypharmacy prevalence among older adults based on the survey of health, ageing and retirement in Europe](#), p. 218

⁷ e.g. people that use more than 5 medicines a day

⁸ <https://www.mloz.be/fr/Polymedication75plus>

⁹ [Medication Safety in Polypharmacy](#). Geneva: World Health Organization; 2019, p. 16

chronic non-malignant pain.¹⁰ The youngest are also affected. Another study¹¹ carried out in Belgium amongst children between 6 and 18 years old showed that the youngest of the class (born in the last quarter of the year) are 50% more likely to take methylphenidate because of being diagnosed with attention-deficit hyperactivity disorder (ADHD) than the older ones (born in the first quarter of the year).

Inappropriate prescribing contributes to inappropriate and multiple use of medicine. It is therefore vital to make sure that the appropriate medicines are prescribed. A thorough risk-benefit analysis is carried out for each treatment taken. A systematic critical assessment of medication should be carried out for people aged 65 and over on multiple medications. That assessment should be based on best available evidence and take into account individual patient factors such as multimorbidity and context.¹²

To ensure that assessment is done in the most efficient way, practitioner training and the establishment of protocols, directives, and tools to improve prescribing practice would be beneficial. Prescribers should be trained not only in correct prescribing but also on how to identify and treat problematic use, and how to address signs of misuse.¹³ On top of that, their awareness should be raised on the importance of alternatives to medication, which a focus on healthy lifestyle (such as social prescribing). Attention should also be paid to improving their communication skills so that they can communicate more efficiently to their patients. Skills development on empowerment strategies to help build patients' self-confidence and thus promote open dialogue with health care professionals should be encouraged, promoted and integrated within health professional's trainings.

- ***Ensure regular medication reviews which encourage alternatives to medical treatments and deprescription whenever possible.***

General practitioners should collaborate closely with pharmacists in order to carry comprehensive medication reviews, especially for people aged 65 or more. Those should take into account: the risk-benefits ratio of each medicine, the way those medicines interact, and the shift to potential alternatives to medical treatments. They should also involve patients and their caregivers in the decisions made about their therapies. Those reviews should be strengthened in nursing and residential homes, where overprescribing is particularly problematic (e.g. widespread prescribing of antipsychotic medication in patients with dementia¹⁴ and of antidepressants). Whenever possible, the deprescription of treatments should be encouraged.

Pharmacists can contribute to reduce the risks related to inappropriate use of medicines. On top of that close collaboration with practitioners for medication reviews, they have a role to play when it comes to medication management and to providing information to patients on their treatments, the side effects and on the proper use of medicines. Pharmacists are indeed in a good position to carry out a personalised monitoring of therapeutic plans. To that end, digital Patient Medical Records and

¹⁰ European Addiction Research: [Misuse of Medicines in the European Union: A Systematic Review of the Literature](#), p. 233

¹¹ The study included children aged between 6 and 18 years old. https://www.mc.be/media/MC-informations-269-septembre-2017_tcm49-44107.pdf

¹² [Medication Safety in Polypharmacy](#). Geneva: World Health Organization; 2019

¹³ https://www.emcdda.europa.eu/best-practice/briefings/addressing-misuse-medicines_en

¹⁴ See : <file:///C:/Users/jessica/AppData/Local/Temp/WHO-UHC-SDS-2019.11-eng.pdf> & https://www.mc.be/media/MC%20Infos%20280_tcm49-66554.pdf

Shared Drug Records are useful tools, especially to allow a proper monitoring for people who do not always go to the same pharmacy.¹⁵

- ***Make the most of new technologies to support a greater collaboration of all actors involved in the care of individuals.***

AIM calls for a greater collaboration of general practitioners, pharmacists and other health care providers so as to ensure the above-mentioned regular medication reviews as well as a better monitoring of medication use. Information Communication Technology (ICT) tools are powerful tools to that end. Their potential should be further exploited, always for the benefit of the patient and in full respect of data protection rules.

AIM welcomes the steps already taken by the European Commission regarding the exchange of ePrescriptions, Patient Summaries, and the EU Health Data Space. As already mentioned, Patient Medical Records and Shared Drug Records are useful tools to facilitate that collaboration. They allow to make patient's treatment regime available to all health care providers with whom the patient has a therapeutic relationship. Doctors, pharmacists and other healthcare professionals have then access to the history of medicines dispensed for a given patient. As a consequence, they are better equipped to offer advice on proper use on the one hand and to make informed decisions on prescription or deprescription. Electronic patient records also allow “the identification of sub-groups of patients at particularly high risk of adverse drug events and complications”. In the longer term, developments related to artificial intelligence and clinical decision support system have the potential to further reduce the risks from polypharmacy, and improve the quality of prescribing.¹⁶

As AIM underlines in its position paper on the sharing of health data, improved health outcomes such as enhanced patient centeredness or improvement of treatments, should always be the primary purpose of using and sharing health data. Strong and sustainable accountability over data use should be ensured and clear rules concerning liability, cases of abuse/misuse of data, ... should be established. Clear rules are also needed to guarantee the quality of data and its uniformity. The participation of all actors involved in the prescription and monitoring of treatments should be ensured. Not only should those actors be motivated but they should also be given the proper tools and skills to make data regarding medication available. Citizens, on the other hand, should be made aware of what their data is used for and levels of digital literacy of the overall population should be improved (see below).¹⁷

- ***Guarantee a greater engagement of patients and carers in therapeutic decision-making.***

As WHO highlights, a major challenge in polypharmacy lies in non-adherence to prescribed medicines, especially for older people and people with co-morbidities. A greater involvement of patients and their carers in the decisions about their treatments can contribute to overcome that challenge. Proper communication between all parties involved is essential in order to avoid non-adherence and ensure a proper use of medicines, while preventing errors.

Involving, engaging and empowering patients and carers should be another key priority. Patient participation leads to improved health outcomes, the delivery of more appropriate, person-centred,

¹⁵ <https://www.mloz.be/fr/Polymedication75plus>

¹⁶ *Current and future perspectives on the management of polypharmacy*, BCM Family Practice, 2017, p.1

¹⁷ See our paper for more information: https://www.aim-mutual.org/wp-content/uploads/2021/04/AIM_Position-Paper-European-Health-Data-Space-Version_final.pdf

cost-effective and safer care and enhanced quality of life. For patients and carers to be able to become equal partners in care (if they wish so), comprehensive, transparent, and appropriate information should be provided to them.¹⁸ That information should be properly targeted and adapted both in terms of language and form (e.g. by improving the readability of health materials such as information leaflets: paper or digital support, font size, etc.).

- ***Empower patients and carers by improving levels of health and digital literacy.***

“Adherence to medication instructions among chronic patients is often as low as 50% and is related to patient knowledge. It has been shown that consumer understanding of prescription drug information and self-management skills are lower for people with lower health literacy rates.”¹⁹ Therefore, a sine-qua non pre-condition to a greater involvement of both patients and carers in the care path is the improvement of general levels of health and digital literacy. Health literate patients are better equipped to understand information on their treatments and to contribute to decision-making about their medication. Furthermore, the above-mentioned developments regarding patient medical records, but also other developments such as digital package leaflets, ICT tools (meant for example to diminish the risks of misuse, like connected pill dispensers), or telemedicine (to cite but a few), require individuals to acquire the skills to use those tools in a safe and effective manner. Technology should also be designed so as to take into account the needs and skills of older people and other less literate groups.

In addition, high levels of health literacy strengthen the impact of health promotion and disease prevention actions on the elderly. It empowers people to make the right choices for their health and well-being, to use healthcare services adequately while adopting healthier behaviours. This in turn has a positive impact on polypharmacy, as explained in the following paragraph.

- ***Foster the positive health approach and favour non-medical solutions, whenever possible.***

Research shows that polypharmacy increases with lower number of years of education and that engaging in physical activity is correlated with the lowest prevalence. Lower quality of life and well-being, as well as lower socio-economic backgrounds are also associated with polypharmacy.²⁰ While medication is necessary to treat certain conditions and can often not be avoided, medical treatment should be accompanied by actions targeting the wider environment and broad determinants of health. Those have the potential to reduce the risks related to the misuse of medication

This requires a health in all policies approach, involving a wide variety of actors – like national, regional and local governments, service providers, civil society, the private sector, organizations for older people, academia and older people, their families and friends – from a wide range of sectors - including health, finance, long-term care, social protection, education, labour, housing, transport, information and communication. Actions to prevent disease, to promote health, to maintain intrinsic capacity and to enable functional ability should take place throughout the life cycle of a person and start from a very early stage.

AIM promotes the positive health model²¹, which understands “(...) health as the ability to adapt and to self-manage, in the face of social, physical and emotional challenges”. The model allows for a

¹⁸ <https://pdfs.semanticscholar.org/ea67/b3f3176998bfc1b8c75979567501fbb35249.pdf>, p.4

¹⁹ WHO, [Exploring patient participation in reducing health-care-related safety risks](#), 2013, p.134

²⁰ Archives of Gerontology and Geriatrics · June 2018: [Polypharmacy prevalence among older adults based on the survey of health, ageing and retirement in Europe](#), p. 217

²¹ *Idem*

broader and more in depth understanding of the concept of health and well-being according to six dimensions: bodily functions, mental functions and perception, spiritual-existential dimension, quality of life, social and societal participation and daily functioning. The individual is put at the centre by empowering them to live healthier and happier lives. It allows to emphasise people's abilities above their limitations.²²

Following that model, actions should be developed across the six dimensions to create health-friendly environments which will positively affect people's health and well-being. That will in turn reduce the risks of medication misuse.

- ***Build the evidence to ensure a more comprehensive understanding of the problem of polypharmacy and a more efficient response.***

As highlighted by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), the reference point on drugs and drug addiction information in Europe, information on current treatment practices in managing the misuse of medicines falls short.²³ Literature on the extent of the problem is very scarce, which limits the understanding of the issue at EU level.

To improve that understanding, the first step to take is to improve the consistency of the terminology used to describe misuse and the disorders associated with it. As stated by Casati et al., "(...) there is great variability and inconsistency of the terminology used to describe this phenomenon"²⁴. Reaching consensus on terminology is the first step in allowing a proper monitoring of the problem at European level.

AIM calls on the European Commission to ensure that a common definition of the concept of polypharmacy is reached and, as a second step, to strengthen the activities of the EMCDDA, so as to better monitor the extent and the nature of misuse across the European Union and ultimately allow the development of appropriate interventions.²⁵

²² More information in our [recommendations](#) to the European Commission Green Paper on Ageing.

²³ https://www.emcdda.europa.eu/best-practice/briefings/addressing-misuse-medicines_en

²⁴ European Addiction Research: [Misuse of Medicines in the European Union: A Systematic Review of the Literature](#), p. 229.

²⁵ https://www.emcdda.europa.eu/best-practice/briefings/addressing-misuse-medicines_en