



Prescribing Appropriate Medicines to Older Adults: A Finnish Experience with the Web-Based Meds75+ Database

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Abstract

The Finnish web-based Meds75+ database supports rational, safe and appropriate prescribing to older adults in primary care. This article describes the content and updating process of Meds75+ and demonstrates its applicability in everyday clinical practice. Meds75+ contains a classification (A–D) and recommendation texts for 450–500 drug substances when used in the treatment of older adults aged 75 years or older. The content of Meds75+ is continually updated. Each assessment of a drug substance begins with a structured collection of available information and research evidence. After that, an interdisciplinary expert panel discusses the classification and recommendation using a consensus method. A rolling 3-year updating cycle guarantees that all drug substances are reviewed regularly. Most drug substances are classified as class A (41%) (suitable, e.g. bisoprolol) or as class C (37%) (suitable with specific precautions, e.g. ibuprofen). One-fifth (20%) of the substances are in class D (avoid use, e.g. diazepam). Most commonly, older adults have purchased substances affecting the alimentary tract and metabolism (17%), the nervous system (16%) and the cardiovascular system (15%). In Finland, the proportion of older adults using class D substances (37%) has not changed between the years 2019 and 2022. Meds75+ has potential to support safer and more effective use of medications for older adults, since it offers up-to-date information on drug substances for healthcare professionals.

Johanna Jyrkkä, Jasmin Paulamäki are equal contribution.

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Key Points

1. Meds75+ supports clinical decision-making by providing recommendations regarding suitability for older adults based on drug substances, independent of the indication.
2. Meds75+ contains approximately 190 medicines suitable for older persons, 170 medicines that should be used with caution and more than 90 medicines to be avoided.
3. Meds75+ is introduced as part of the healthcare professionals' basic education and post-graduate training, and it can be implemented free of charge into both national and international healthcare systems and softwares.

1 Introduction

One of the biggest challenges for physicians is to select safe and effective treatments for each patient as the basis of high-quality care. Appropriate pharmacotherapy for older adults can be challenging because of the multi-morbidity and age-related changes in pharmacokinetics and pharmacodynamics [1]. To ensure safe pharmacotherapy in older adults, knowledge on appropriate and potentially inappropriate medications (PIMs) and adjusting the dose individually are necessary. Appropriate prescribing is based on comprehensive assessment of patients and care planning together with the patient, including the setting of individual therapeutic goals and a careful risk–benefit assessment of prescribed medicines [2]. There is a need for better medication management practices in healthcare, as up to one in four (23%) hospital admissions among persons aged 65 years or older have potential to be related to medication [3].

The consequences of prescribing PIMs to older adults include the risk for adverse drug events, functional decline, emergency department visits, hospitalisations and poorer health-related quality of life [4–6]. The use of PIMs is common in older adults, as nearly a quarter (23%) of community-dwelling older adults [7] and half (50%) of nursing home residents are using PIMs [8]. Moreover, 60% of older adults with a cognitive disorder use at least one PIM, and 27% use at least two PIMs [9].

Several sets of criteria and tools have been published to help physicians prescribe appropriately to older adults [10, 11]. The most commonly cited criteria are Beers criteria [12], Screening Tool of Older Persons' Potentially Inappropriate Prescriptions and Screening Tool to Alert to Right

Treatment (STOPP/START) [13, 14], a French consensus panel list (Laroche) [15], Fit FOR The Aged (FORTA) [16] and a list of PIMs consented by experts from seven European countries (EU(7)-PIM) [17]. The existence of several published criteria highlights the importance of adapting the criteria nationally, as treatment guidelines and prescribing practices as well as the availability of medicines differ between countries [10, 18, 19]. Furthermore, a uniform classification could promote communication, comparison and medication safety across different countries. In addition, a clear drawback of the existing criteria is that they are used mostly as printed lists, and they are not integrated in electronic medical record systems to be used as clinical decision support.

The Finnish web-based Meds75+ was developed to support rational, safe and appropriate prescribing to older adults in primary care. The development of the Meds75+ database is in line with the European Medicines Agency's (EMA) strategy to improve the availability of information for safer use of medicines in older adults [20] and with the World Health Organization's (WHO) global patient safety issues [21]. The aim of Meds75+ is to offer information on suitability for older adults on the basis of drug substances to healthcare professionals to support clinical decision-making in pharmacotherapy of persons aged 75 years or older. Meds75+ and its content about concerns and possible adverse effects is valid regardless of the indication, including off-label use. The purpose of this article is to describe the content and updating process of Meds75+ and to demonstrate its applicability in everyday clinical practice.

2 Description of Meds75+

Meds75+ includes drug substances that are used commonly among older adults in primary healthcare. It is primarily intended for physicians and other healthcare professionals, and the content of the Meds75+ is available as an open data and free of charge on Finnish Medicines Agency (Fimea) website [22]. The Meds75+ is published and maintained in two national languages, Finnish and Swedish, and in English. In Finland, it is included, for example, in some electronic patient record systems used in primary healthcare and hospitals and other medicine-related databases and web-based health portals widely used by pharmacists. Patients, as well as their family members and caregivers, can also use the database as a reliable source of medicine information. However, Meds75+ includes a notification saying that changes to a person's pharmacotherapy should only be made under a physician's supervision.

The foundation of Meds75+ was created by the Finnish Center for Pharmacotherapy Development (ROHTO) during the years 2008–2010. Since 2010, the ownership and

responsibility for maintenance and development was handed over to Fimea, which published the first version of the database in August 2010.

Conventionally, the chronological calendar age of 65 years and older is used when referring to older adults. However, chronological age seldom correlates with biological age, as many recently retired people are healthy and in good condition. From a clinical point of view, biological changes affect the medicine treatment mainly after the age of 75 years, which justifies the use of this age threshold in Meds75+.

2.1 Expert Panel

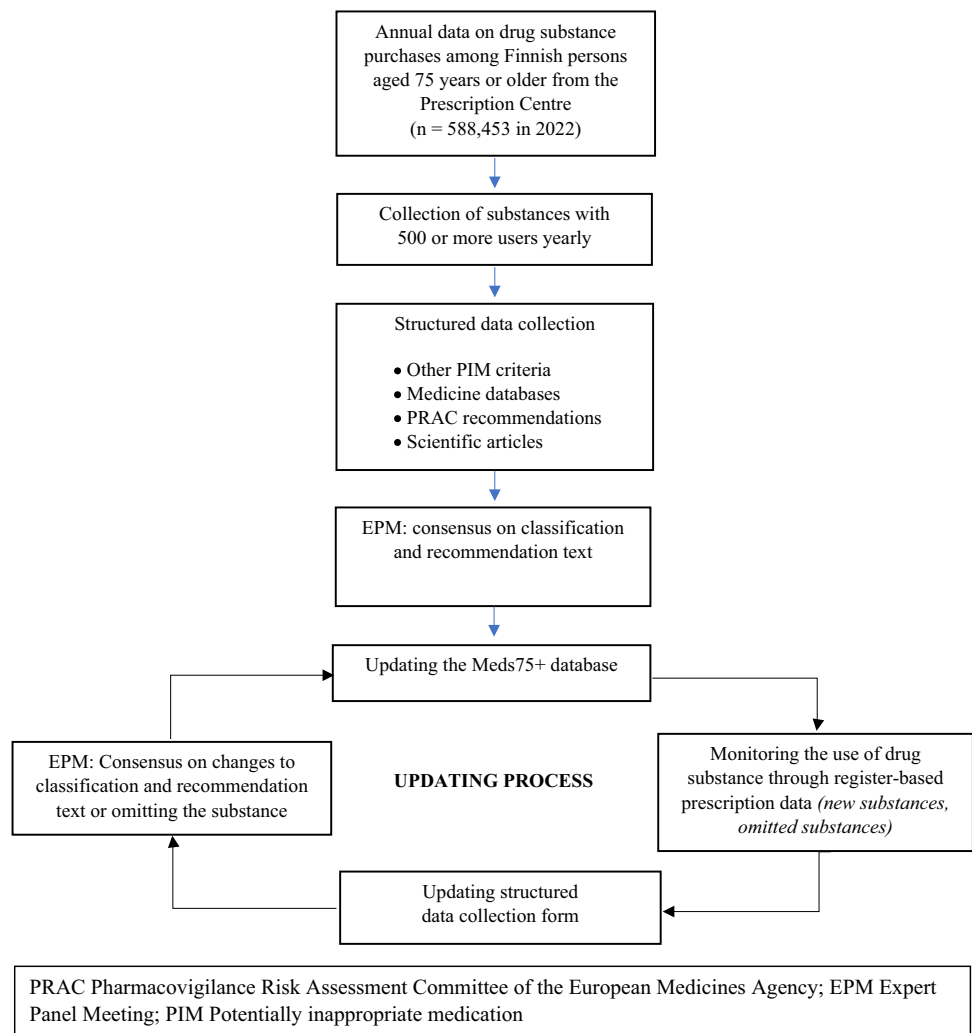
Meds75+ is continually updated by a multidisciplinary expert panel. The panel consists of healthcare professionals with expertise in geriatric pharmacotherapy, including geriatricians, clinical pharmacologists, general practitioners and pharmacists. Among these representatives is at least one member from all Finnish universities teaching medicine and/

or pharmacy (title of professor, clinical lecturer or senior researcher). In addition, the expert panel includes research and development specialists and researchers representing Fimea. Later, other pharmacology and healthcare professionals have been included to ensure a wide variety of expertise in the expert panel. The size of the panel has been quite stable, with 12 members. The expert panel meets ten times a year to assess substances already in Meds75+ and to consider whether there are new substances worth including. The continual process updates the information on medicines in a 3-year cycle (i.e. each medicine is reviewed regularly at least once per cycle) (Fig. 1).

2.2 Assessment of Drug Substances

The assessment of a drug substance begins with a structured data collection that focusses especially on the substance’s efficacy, effectiveness, interactions and adverse effects in older adults. The data are collected through a literature search conducted by Fimea’s representatives. The structured

Figure 1 Inclusion criteria of drug substances and updating process of the Meds75+ database in Finnish subjects aged 75 years or older (*n* = 588,453 in 2022)



data collections of each drug substance, utilised by the expert panel, are not disclosed to third parties, since they are intended to support the panel's work only. After data collection, the expert panel discusses the findings. Before each meeting, one or two experts familiarise themselves with 20–40 medicines, evaluate the available evidence and relevant clinical evidence of each medicine and present their notes on recommendation and possible concerns related to use in older adults to the other panel members. In a situation where specific expertise is required, the panel can request an external expert to participate in the meeting.

The consensus decision regarding each active substance is not reached adhering strictly to the Delphi method's principles, which is the most commonly used consensus-based method. However, the decision-making process used in the production requires that disagreements are discussed until the expert panel reaches consensus. Compared with the Delphi method, this more flexible processing of drug substances allows for changes in classifications to be made faster when required. In consequence, individual members of the expert panel cannot process the classification of the substances from a completely independent perspective. In other words, the experts' views regarding the classification of substances are unavoidably influenced by the other panel members.

3 Content of Meds75+

3.1 Selection of Drug Substances to be Included

To be included into Meds75+, the medicine has principally at least 500 users in the Finnish population aged 75 years or older ($n = 588,453$ in 2022) [23]. Since 2019, data are collected from the national Prescription Centre (i.e. a nationwide comprehensive and obligatory register of prescriptions) that contains electronic information on all purchased prescription medicines. The decision to include new substances and remove existing substances from the database (e.g. due to expired marketing authorisation) is made by the expert panel. When the number of users drops below 500 annual users, the expert panel can preserve these medicines in Meds75+ for a valid reason to include critical drug substances. Over-the-counter medicines are included when they are considered relevant for older adults. Meds75+ does not include substances used only in hospitals, highly specialised care or vaccines.

3.2 Structure

The content of Meds75+ is organised according to WHO's Anatomical Therapeutic Chemical (ATC) classification system. Each medicine is classified in one of the four Meds75+ classes – A, B, C or D (Table 1) – on the basis

of the consensus of the expert panel regarding the balance between benefits and risks associated with the use. A short recommendation text and a colour code (e.g. green for class A and red for class D) are labelled to each substance to orient healthcare professionals. In class A, the drug substance is suitable for older adults and does not require significant modifications compared with practice in younger adults. Substances in class C can be used for older adults but require changes, for example, in dosing, due to age-related changes such as renal impairment. Moreover, substances in class C may predispose the user to adverse drug events (ADEs) or drug–drug interactions considered harmful for older individuals. In class D, the risks usually outweigh the benefits, and these medicines are referred to as PIMs. Furthermore, the Meds75+ database includes a category for drug substances that are used among older adults but for which the supporting information is still scarce, thus making a recommendation not possible (class B).

3.3 Proportion of Drug Substances in Classes

Currently, Meds75+ contains classifications and recommendations for 458 drug substances or their combinations (31 December 2023) (Table 2). Most of the substances belong to class A (41%) or class C (37%). In 2022, the seven most frequently purchased substances among older adults aged 75 or older in Finland were classified as class A (Table 3). Most commonly, older adults purchased substances affecting the alimentary tract and metabolism (17%), the nervous system (16%) and the cardiovascular system (15%). One-fifth (20%) of substances are classified in class D, that is, they should be avoided in the treatment of older adults. In 2022, paracetamol–codeine combination was the most commonly (7%) used class D substance among the Finnish population aged 75 years or older (Table 4). Six out of ten of the most used class D substances are medicines affecting the nervous system.

3.4 Changes in Classes over Time

The expert panel reclassified 85 substances during the years 2013–2023. Most substances were moved from class C to class A ($n = 26$, e.g. valsartan and atorvastatin) and from class A to class C ($n = 22$, e.g. metronidazole and hydrochlorothiazide). In addition, 20 substances (e.g. tramadol and paracetamol–codeine combination) were moved from class C to class D, and 5 substances from class D to class C (e.g. propranolol and pregabalin).

Both changes in prescribing habits and marketing authorisations (including entry of new combinations therapies) have modified the content of Meds75+ during the 10-year period. Due to the continual updating process, new

Table 1 Classification (A–D) used in the Meds75+ database and examples of drug substances included

Class	Description
A (green)	Suitable for older adults. Drug substance can be used as in younger patients. Changes due to aging do not affect the dose or dosing frequency. Adverse effects are not different from those in younger patients.
Example (Class A)	Pantoprazole Suitable for older adults. For short-term use (less than 2 months). Consider the numerous potential interactions. Avoid long-term use. Long-term use carries an increased risk of adverse effects. (updated 18.3.2024)
Example (Class A)	Bisoprolol Suitable for older adults. Reduce the dose in severe renal impairment. Significant adverse effects include bradycardia and orthostatic hypotension. Consider interactions, especially with drugs affecting the conduction system of the heart. (updated 13.3.2023)
B (grey)	Current evidence on or experience with use in older adults is inconclusive, or the medicine is insufficiently effective in older adults.
Example (Class B)	Sumatriptan Current evidence on or experience with use in older adults is inconclusive, or the medicine is insufficiently effective in older adults. Consider adverse effects on the heart and the cardiovascular system. It is not known if renal impairment affects the dosage. (updated 2.5.2022)
C (yellow)	Suitable for older adults with specific precautions. Drug substance can be used with consideration. Dose or dosing frequency must be adjusted due to age-related changes and/or decreased renal function. A significant risk of interactions or adverse effects may be associated with the use of substance.
Example (Class C)	Pregabalin Suitable for older adults, with specific precautions. Sedative. Consider especially central nervous system adverse effects. Reduce the dose already in mild renal impairment. Addiction may develop. (updated 19.9.2022)
Example (Class C)	Citalopram Suitable for older adults, with specific precautions. Serotonergic. Risk of QT prolongation. A significant adverse effect is low serum sodium level. Increases risk of falls. Consider potential interactions, especially with preparations that increase risk of bleeding. (updated 12.2.2024)
D (red)	Avoid use in older adults. Risks of adverse effects typically exceeds the benefits. Use only in exceptional cases.
Example (Class D)	Diazepam Avoid use in older adults. Sedative. Long-acting. Increases the risk of drug addiction, cognitive disorder and traffic accidents. Increases risk of falls. Paradoxically, may increase anxiety, restlessness and aggression. Avoid grapefruit. (updated 15.1.2024)
Example (Class D)	Repaglinide Avoid use in older adults. Risk of hypoglycaemia. Consider the numerous potential interactions. (updated 13.12.2021)
Example (Class D, combination)	Codeine + Paracetamol Codeine: Avoid use in older adults. Sedative. Prodrug. Genotype affects the response. Increases the risk of confusion and falling. Start a laxative to prevent constipation. Consider potential interactions. (updated 2.5.2022) Paracetamol: Suitable for older adults. Maximum dose in regular use 2–3 grams per day. Consider paracetamol in OTC drugs and combination products. Overdose is hepatotoxic. Over 2 grams can be used concurrently with warfarin if INR values are monitored. (updated 2.5.2022)

Table 2 Distribution of drug substances or their combinations included in the Meds75+ database by ATC group and classification (A/B/C/D) (date 31 December 2023)

ATC group	Class A n = 187 n (%)	Class B n = 7 n (%)	Class C n = 171 n (%)	Class D n = 93 n (%)	Total n = 458 n (%)
A Alimentary tract and metabolism	37 (20)	0 (0)	24 (14)	17 (18)	78 (17)
B Blood and blood forming organs	6 (3)	0 (0)	12 (7)	2 (2)	20 (4)
C Cardiovascular system	26 (14)	1 (14)	35 (20)	8 (9)	70 (15)
D Dermatologicals	25 (13)	2 (29)	8 (5)	0 (0)	35 (8)
G Genitourinary system and sex hormones	6 (3)	0 (0)	8 (5)	13 (14)	27 (6)
H Systemic hormonal preparations, excl. sex hormones and insulins	2 (1)	0 (0)	6 (4)	1 (1)	9 (2)
J Anti-infectives for systemic use	7 (4)	0 (0)	14 (8)	5 (5)	26 (6)
L Antineoplastic and immunomodulating agents	0 (0)	0 (0)	1 (1)	0 (0)	1 (0)
M Musculo-skeletal system	5 (3)	3 (43)	18 (11)	5 (5)	31 (7)
N Nervous system	8 (4)	1 (14)	31 (18)	34 (37)	74 (16)
P Antiparasitic products, insecticides and repellents	0 (0)	0 (0)	3 (2)	0 (0)	3 (1)
R Respiratory system	34 (18)	0 (0)	7 (4)	8 (9)	49 (11)
S Sensory organs	32 (17)	0 (0)	3 (2)	0 (0)	35 (8)

Table 3 Proportion (%) and number of Finnish subjects aged 75 years or older ($n = 588,453$) who were prescribed ten of the most prescribed class D (avoid use) drug substances or their combinations in the year 2022

Drug substance	Proportion of users, % (n)
Codeine + paracetamol	7.0 (41,124)
Quetiapine	4.5 (26,684)
Risperidone	4.1 (23,944)
Ciprofloxacin	2.5 (14,655)
Tramadol	2.3 (13,544)
Nitrofurantoin	2.3 (13,457)
Zolpidem	2.1 (12,289)
Amitriptyline	2.0 (11,685)
Metoclopramide	1.8 (10,686)
Tizanidine	1.7 (9735)

pharmacotherapies (e.g. gliflozins) have been evaluated as soon as the growing number of users has been reflected in the data.

4 Meds75+ and Other Criteria or Indicators

In preparation of the review and evaluation by the expert panel, the drug substance's inclusion in the following criteria is checked: Beers [12], STOPP/START [13, 14], EU(7)-PIM [17], Sweden's indicators for the pharmacotherapy of older people [24], STOPPFall [25], FORTA classification

Table 4 The 15 most frequently prescribed orally taken drug substances as the number and proportion of users (%) in the Finnish population aged 75 years or older ($n = 588,453$) in the year 2022

Drug substance ^{a,b}	Proportion of users % (n)	Meds75+ classification
Paracetamol	46 (268,913)	A
Bisoprolol	36 (214,702)	A
Amlodipine	24 (139,129)	A
Atorvastatin	23 (133,956)	A
Pantoprazole	22 (130,703)	A
Furosemide	21 (122,243)	A
Calcium + vitamin D	20 (115,382)	A
Simvastatin	17 (98,623)	C
Levothyroxine	17 (98,571)	A
Metformin	15 (89,728)	C
Rosuvastatin	15 (88,112)	C
Losartan	15 (87,537)	A
Artificial tears	13 (77,592)	A
Apixaban	13 (76,459)	C
Ramipril	12 (70,869)	C

^aDoes not include combinations that include the substance in different ATC codes.

^bDoes not include oestradiol because it is not possible to separate local use (class A) and systemic use (class D), as the ATC code is the same for both administration routes

[16], PRISCUS list [26] and the Norwegian General Practice (NORGEP) [27, 28] criteria. Principally, the classification by the expert panel follows the recommendation stated in

other criteria, but the consensus is based on independent review and evaluation. A recent study demonstrated that the overlap between Meds75+ and other PIM criteria in identifying the proportion of persons aged 75 years or older using PIMs varied from 57% (Danish Red-Yellow-Green list) to 99% (Swedish indicators) in 2017–2019 [29]. In addition, the content of Meds75+ has some similarities with FORTA, as it gives positive and negative labels for medicines when used in older adults. However, contrary to the indication-based FORTA, Meds75+ provides substance-based information independent of the indication [16].

For a justified reason, the recommendation may deviate from the other criteria and sources of information. For example, Meds75+ considers the duration of treatment only in exceptional cases, such as when advising short-term use of medium-acting benzodiazepines. The advantage of Meds75+ is that it is also one of the few tools that assess the suitability of drug substances that are used only temporarily, such as antibiotics. Another advantage of Meds75+ is the continual updating process and substance-based information on concerns and possible ADEs. Consequently, the substance-based information is valid also when substances are used in off-label indications, such as the use of mirtazapine as a hypnotic.

5 Implementation and Application

Meds75+ is a criterion to support prescribing and the choice of appropriate medicines as well as the assessment of correct dosing, especially in the case of renal impairment. Two-fifths of all substances included in Meds75+ are classified as suitable for older adults (class A), meaning a wide variety (approximately 200) of safe pharmacotherapy options (Table 2). The substance-based approach is also suitable for medication reviews when considering the appropriateness of a whole medication regimen [30]. Consequently, the substance-based criteria support deprescribing when the need and efficacy of medicines in their indication are the primary focus [31].

5.1 National indicator reporting class D medicine use

The proportion of Finnish adults aged 75 years or older using class D medicines is being followed as a national indicator to direct and guide social and healthcare services. On the basis of the indicator data, the proportion of older adults using class D substances (at least one purchase per year) has remained at approximately 37% between the years 2019 and 2022. These medicines contain all prescription purchases, including both regularly and as-needed medicines. Nevertheless, since the number of older adults in society has

increased over time, the number of older adults using class D medicines increased by 13.5% during the 4-year follow-up. In addition, a recent study has shown that the prevalence of class D medicine use is not uniformly distributed across the Finnish regions, and the differences are associated with factors such as personnel shortages in social and healthcare and a higher share of older adults with polypharmacy [32].

Finnish indicator data are published annually in the Sotekuva service (indicator number 5036) maintained by the Finnish Institute for Health and Welfare (THL) [33]. The data can be reviewed both nationally and between regions, which allows for the comparison across the wellbeing services counties responsible for providing social and healthcare services. Since PIMs are associated with an increased use of health services without health benefits [34], the indicator addresses the need for support and guidance of healthcare professionals for safe implementation of pharmacotherapy in older adults.

5.2 Integration into Finnish Health Portals and Electronic Social and Healthcare Record Systems

The most important factor driving the increasing use of Meds75+ has been its integration into Finnish web-based health portals, such as the scientific database of the Finnish Medical Society Duodecim, commonly used by healthcare professionals. Among other information aiding daily clinical practice, these health portals include summaries of product characteristics, prescribing and clinical practice guidelines (e.g. older adults, drug–drug interactions, kidney and liver function) and patient information leaflets. Meds75+ is also implemented into some electronic social and healthcare record systems used in primary care and hospitals. For example, the electronic social and healthcare record system Apotti© [35], which is used in the Helsinki metropolitan area (1.7 million inhabitants), notifies the physician when they are prescribing a class D medicine to older adults.

In addition to primary healthcare, Meds75+ has also been introduced in pharmacies. The content has been implemented in pharmaceutical assistant applications utilised by pharmacists, especially when dispensing prescription medicines. In addition, the recommendations in Meds75+ are also available via the database of the Association of Finnish Pharmacies, which is an overall evaluation tool for medication reviews and supporting patients to follow the instructions on how to use their medicines.

5.3 Implementation of Meds75+ Outside Finland

The English version of Meds75+ enables the integration of the content with other electronic medicine databases in collaboration with other countries. Meds75+ is applicable

especially in the Nordic and other European countries with a similar medicine regimen in the treatment of older adults. Thus far, the State Agency of Medicines in the Republic of Latvia has included Meds75+ in their medicine register [36]. In addition, the county of Central Norway has included Meds75+ in their medicine register, which contains basic information about medicines on the market in Norway [37].

5.4 Meds75+ in Everyday Practice

User experience interviews concerning the applicability of Meds75+ were conducted among healthcare representatives from pharmacies, hospitals and software developers in the fall 2023. In the interviews, the healthcare professionals emphasised the need for easy-to-use information in busy everyday work. Meds75+ also meets the needs of professionals by providing concise recommendations on how to conduct safe pharmacotherapy in older adults. In addition, the content is available in three languages, enabling healthcare personnel speaking Swedish or English to utilise the content. The recommendation text of each drug substance clearly and briefly explains why the medicine is considered suitable or inappropriate, and the arguments are easy to convey to the attending physician. The content is considered reliable and independent, since an objective authority has the responsibility for its maintenance.

Promoting the use of Meds75+ and enhancing its adoption as part of healthcare practices is progressing, as the database is introduced and its use is being taught as part of the basic education in both academic universities and universities of applied sciences. In addition to undergraduate education, Meds75+ is included in further training of healthcare professionals, such as nursing staff with a medication license and medication reviews carried out by pharmacies (e.g. in automated multi-dose systems for dispensing medicines for long-term treatments). To further promote the utilisation of Meds75+, the expert panel intends to publish summarised guidelines on the basis of the content of Meds75+.

6 Discussion

The Meds75+ contains medicines suitable for older adults as well as medicines that should be avoided. Substance-based classification and short expert comments provide important information on the drug substance to the healthcare professional. As the information is independent of diagnosis, putting information into practice requires professional skills. Most of the commonly used criteria, for example Beers, introduce only PIMs and do not consider medicines suitable for older adults. Meds75+ is available free of charge to everyone via Fimea's Medicines Database [22], allowing all participants in the medication process to obtain reliable and

up-to-date information on medicines used for older adults. This supports the collaborative, shared decision-making process between patients and physicians in prescribing and deprescribing [38]. The English version of the Meds75+ database also enables its integration with other electronic medicines databases and software in collaboration with other countries.

The medicine regimen in Meds75+ is quite similar with the Nordic and other European countries, which makes Meds75+ widely applicable. Although the prescribing practices across countries vary, the drug-substance-based information in the database is valid regardless of the indication in the treatment of older adults. Incorporating prescribing tools directly into a computerised prescribing system has the potential to positively impact the quality of care and patient outcomes.

A clear benefit of the database is that professionals in geriatric medicine and geriatric pharmacotherapy update the information on the basis of the latest research evidence. The updating cycle is 3 years, but medicines are also assessed earlier if there is need for it. This kind of synthesised and reliable information is valuable in clinical care, as research evidence on the effectiveness and efficacy of medicines in older adults accumulates slowly. This is because this population subgroup is often excluded from randomised clinical trials. The expert panel responsible for Meds75+ is actively engaged in discussions with representatives of the pharmaceutical industry regarding the classifications of substances and the associated recommendations, which emphasises the importance ascribed to Meds75+ in healthcare.

7 Conclusions

Meds75+ supports rational, safe and appropriate prescribing to older adults in primary care. It is continually updated and provides recommendations on how to use medicines among older adults on the basis of the latest research evidence to support clinical decision-making. Compared with other published criteria intended to guide appropriate prescribing, the content of Meds75+ is valid regardless of indication. Moreover, the web-based content can be integrated free of charge with healthcare and patient record systems. Meds75+ is widely adopted in clinical practice and education of healthcare professionals nationally. In society, the Meds75+ indicator is utilised in the development and service planning of Finnish healthcare. The implementation of Meds75+ promotes communication, comparison and medication safety across different countries. As the population is aging globally, healthcare professionals increasingly encounter older adults in everyday clinical practice, which addresses the essential need for easy-to-use information.

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Declarations

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Ethics Approval Not applicable.

Consent to Participate Not applicable.

Consent to Publication Not applicable.

Availability of Data and Material The content of Meds75+ is available as open data via Fimea's website (https://fimea.fi/en/databases_and_registeries/medicines_information/database_of_medication_for_older_persons). Content is integrated into FimeaWeb (https://fimea.fi/en/databases_and_registers/fimeaweb). The National indicator reporting Class D medicine use is available via THL's website, indicator 5036 (<https://sotekuva.fi/en/#/guides>).

Code Availability Not applicable.

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