**Abstract:** Patients with multimorbidity and multimedication require special attention from their treating physicians, as the risks of drug interactions and negative effects on adherence increase with the number of drugs. Most guidelines aim for the treatment of a single disease and do not take potential problems due to multimedication into account. In 2021, updates and evidence-based upgrades of the first version (2012) of the German Guidelines on Multimedication were issued. The aim of the article is to introduce the framework of these evidence-based guidelines, which follows the medication process in six steps: (1) inventory and medication assessment; (2) coordination with the patient; (3) prescription proposal and communication; (4) dispensing of medicines; (5) medication application and self-management; and (6) monitoring. For each step, recommendations and practice tips are presented. The central feature is a structured medication review. The target group is patients with multimorbidity and the concurrent use of five or more drugs. The Medication Appropriateness Index has been modified, and the guiding questions are recommended as guidance for the structured medication review. Overuse and undertreatment are taken into account. The guidelines were consented to in a formal process with 15 medical societies, a patient representative, and experts, as well as piloted in general practices.

**Keywords:** polypharmacy; multimedication; multimorbidity; evidence-based guideline; medication management; deprescribing; patient centered care; elderly; practice tools; treatment burden

1. **Introduction**

As little as possible and as much as necessary—this is popular advice when it comes to treating patients with multiple chronic diseases. However, which strategies help general practitioners (GP) avoid drug-related problems in patients with multiple medications and recognize them in time? How do GPs find out about the medications used by other practitioners? Do they ask patients about self-medication? Do patients keep an (electronic) medication plan, and is it up to date? How should patients' ideas and expectations of the therapy be identified?

It is well known that the risks of drug interactions and adverse effects increase with the number of drugs [1], and that the burden of therapy, which often requires more than just taking one drug, increases in multimorbid patients, with a possible negative effect on adherence [2,3]. There is less awareness of the fact that even in the presence of multimedication, there may be an undertreatment of indications requiring therapy [4].
Multimedication is something commonplace in the doctor’s office, especially in the elderly [5–7]. Patients with a high number of medications require special attention—this is undisputed. The general practitioner has a coordinating function here, since most patients with multimorbidity are cared for by different specialists. In order to be able to fulfill this task, however, the general practitioner needs information from others involved in the therapy, which is often not available in a timely manner.

Therefore, the GP Guidelines Group Hesse, together with representatives of the German College of General Practitioners and Family Physician (DEGAM), set itself the task of providing assistance for the treatment of patients with multimedication about 10 years ago [8]. Recently, a new version of the GP Guidelines on Multimedication (2021) was published, which has been not only updated but also upgraded, in accordance with the classification of the Association of the Scientific Medical Societies, Germany. The first version of the guidelines was evidence-based (classified as “S2e”). In addition, the new version was formally consented with 15 medical societies, a patient representative, and supplementary experts (according to the classification “S3”). Details of the guidelines’ development process have been reported recently [9]. In short, a systematic review of guidelines related to multimorbidity and multimedication provided the evidence base [10]. The results of focus groups with feedback to the first version of the guidelines (2012) [8], and hints for improvements of the outline of the guidelines, were the starting point for the updates and upgrades of the first version.

The aim of this article is to introduce the central framework, main recommendations, and practical hints for the guidelines. The guidelines were updated as part of the Evidence-Based Polypharmacy Program with Implementation in Health Care (EVITA) project. For this structured-care program for polypharmacy in multimorbidity, the updated guidelines will provide evidence-based decision support.

2. Results

The framework of the guidelines is based on the Ariadne principles on how to handle patients with multimorbidity in primary care consultations [11,12]. In a stepwise discussion process, it was adapted to the medication process by the guidelines group, with the aim to include dispensing and application of medication. The resulting medication process is divided into the following six steps in the guidelines (cf. Figure 1). In long-term primary care, monitoring represents a renewed medication assessment (step 1) and the process is, thus, run through again. The medication process is designed for both prescribing and discontinuing medication.

The guidelines, first, present the recommendations for each step with information on the level of evidence and grade of recommendations, followed by the rationale for the recommendations. Additionally, practice hints and tools are presented (for a short version of the guidelines cf. Appendix A).
2.1. Target Groups for a Medication Review

Three recommendations relate to the target group. The guidelines recommend at least an annual medication review for multimorbid patients (here, three or more chronic diseases) with five or more drugs to be taken simultaneously on a daily basis. In addition, the guidelines place an emphasis on special patient groups, such as patients with psychological or cognitive problems, inpatient care, or with prescriptions for several centrally acting drugs, for whom a regular medication review is recommended. Occasional medication reviews are also useful, e.g., for patients who have suffered from falls or hospitalization, with hints for non-adherence, and, also, when pharmacists indicate possible medication problems. In this way, patients should be reached who have a high chance of benefiting from a medication review (for an estimate of the size of the target group, see Lappe et al. (2022) [14]).

Practice tip:
- Implement a practice routine to record patients who meet the criteria for a medication review. Set up the call to the patient record so that an alert window automatically appears, indicating if and when the medication check is required.

2.2. Inventory and Assessment (Step 1)

Six recommendations were consented for this first step in the medication process. The care of multimedication patients is highly complex, due to the numerous potential interactions both between drugs (drug–drug) and between drugs and diseases (drug–disease) [11,15]. The inventory is an essential and central component of the medication process, which involves the assessment of all conditions of the patient (e.g., disease severity, quality of life, functionality). Further, it includes a survey of current medication, as well as the evaluation of clinical and context-related parameters (e.g., family support, care situation, migration status, social status). Additionally, the treatment burden should be assessed [16]. The starting points for the inventory are the information given by the patient and the actual medication plan.

Practical tips for information collection:
- Record the current medication including over-the-counter drugs (OTC)—if necessary, by means of a medication plan and brown bag. In practice, this can be done very easily,
using a commercially available scanner. This makes it possible to record the medicines in the patient’s file, to carry out interaction checks, and to update the medication plan;

• Arrange a separate appointment in the practice, to which the patient (or a caregiver) brings all medicines (including self-medication) and package inserts from home;

• Home visits are also a good opportunity to gain an overview of the drugs available, the handling of the medication (use of daily or weekly dosettes, blisters), and any application problems;

• Ask the patient about their medication regime, and whether they understand the information. Ask or check whether the medication plan is also filled in by other specialists or a pharmacy;

• Ask the patient about application problems, e.g., whether they have been able to cope with their previous medication, and whether there are problems with the application of such medicines, such as opening packages, counting drops, and dividing and taking tablets (e.g., swallowing). Ask the patient whether they have changed the dosage on their own, or whether they have tried to stop taking the medicine (questions to assess adherence can be found in the guidelines);

• Ask the patient whether they have been in contact with other doctors or other health professionals since the last consultation, and, if so, what the results were.

Various instruments are available for medication assessment [17]. The extent to which the health situation of patients improves when using these instruments, e.g., PIM (potentially inadequate medication) lists [18,19], has not yet been sufficiently proven. According to the studies performed to date, patient-centered instruments such as the Medication Appropriateness Index (MAI) [20] are preferable to the use of various lists (criteria-based instruments). The guidelines group, therefore, recommends using the MAI questions. For application in everyday practice, the guiding questions of the MAI were summarized into five topic areas (see Table 1 below). These are based on the physician’s approach and summarize related topics, such as the dosage and testing of renal function. Underuse was included as an additional dimension of assessment to address frequent problems of undertreatment in multimedications.

Table 1. Medication Appropriateness Index (MAI) (modified after Hanlon/Schmader [21]).

| Assessment Dimension | Key Questions | MAI Item No. |
|----------------------|---------------|--------------|
| 1. Indication—evidence—duration of therapy | Is there an indication for the drug? Is the drug effective for the indication and the patient group? Is the duration of drug therapy adequate? (Since when was it prescribed? *) | 1 2 9 |
| 2. Dosage—interaction—contraindication | Is the dosage correct? Is there any relevant restriction of kidney or liver function? Are there clinically relevant interactions with other medicines? Are there clinically relevant interactions with other diseases/conditions? Is there any previous cardiac damage with regard to QT syndrome? Are there age restrictions (PIM, FRID, ACh)? | 3 6 7 |
Table 1. Cont.

| Assessment Dimension | Key Questions                                                                 | MAI Item No. |
|----------------------|------------------------------------------------------------------------------|--------------|
| 3. Medication plan   | Is there an up-to-date and written intake plan? Are the intake instructions correct? (Mode of administration, frequency of administration, time of administration, relation to meals). | 4            |
| —directions          | Are handling and application instructions practicable?                        | 5            |
| —application         | Are there duplicate prescriptions?                                            | 8            |
| —duplication         | Is adherence to the therapy given?                                            | -            |
| —adherence           |                                                                 |              |
| 4. Underuse          | Is every indication requiring treatment treated?                               | -            |
| 5. Economics         | Has the most cost-effective alternative of comparable preparations been selected | 10           |

* Guiding questions in italics refer to operationalizations or additions to the MAI item by the guidelines group. Abbreviations: ACh—Anticholinergics/drugs with anticholinergic effects; FRID—Fall-Risk-Inducing Drugs; PIM—Potentially Inadequate Medications.

In order to check an actual medication with regard to its appropriateness, it is advisable to clarify, on the one hand, whether there is still a valid indication for the medication, and, on the other hand, to check whether there is an indication that requires treatment and is being treated (see assessment dimension 4 of the MAI). The latter can even occur in patients with a high number of different drugs [4,22].

It should be checked whether a prescription was issued for the treatment of a side effect, or whether any risk constellations have changed (e.g., weight, lifestyle). In the case of events that occurred a long time ago, it should be asked whether drug therapy is still necessary. In this context, the duration of therapy should also be critically examined. Sleeping pills and sedatives, proton pump inhibitors, corticoids, opioids, analgesics, antidepressants, nitrates, and molsidomine are mentioned in the guidelines as examples for possible deprescribing.

Approximately 20% of the frequently prescribed drugs for elderly and multi-medicated patients require an adjustment of the dosage in the case of impaired renal function, which is usually explicitly stated in the respective drug information [23,24]. In general, it is recommended to start with a low dosage of drugs for long-term therapy in elderly patients—start low, go slow. The monitoring of the kidney function and the necessary dose adjustment in certain drugs should be common ground in drug treatment in general, not only in multimedication. As studies report a lack of control of the renal function or inappropriate dosages or inappropriate dosage intervals [25], the guidelines group addressed this issue explicitly. Considering renal function, the following advice was given in the guidelines:

- It is advisable for all patients to regularly check the drug dosage according to the instructions in the Summary of Product Characteristics (SPC);
- Do you have up-to-date information on the patient’s renal function in your patient records?
- Is the patient receiving a medicine for which a dose adjustment is necessary?
- Is the maximum permissible dosage being adhered to?

Drugs with anticholinergic effects are associated with a variety of side effects and negative health outcomes, especially falls, loss of quality of life, cognitive impairment, and loss of functional status [26–28]. Falls are the leading cause of disability and death in older age and are associated with increases in mortality, morbidity, hospital admissions, and treatment costs [29]. Against this background, it is important for drug therapy safety to record the “anticholinergic burden” of the entire medication. To date, no practical instruments adapted to the German drug market are available yet, but they are currently under development (see the “Family Conferences” at the Frailty—COFRAIL—project, https://www.cofrail.com/ (accessed on 10 May 2022)).
In the section on medication assessment, the guidelines provide information on drug interactions, contraindications, and limitations of use for QT drugs [30,31], fall-inducing drugs [32–34], and German PIM lists (PRISCUS [18] and FORTA [19]). Medstopper (https://medstopper.com (accessed on 10 May 2022)) is a freely available electronic tool that gives advice on which drugs can be discontinued, due to an unfavorable benefit/risk ratio. The guidelines also contain examples of indications where there are hints of possible underuse (e.g., laxatives in opioid therapy, anticoagulation in atrial fibrillation).

2.3. Coordination with the Patient (Step 2)

A therapy will only be carried out if it is in line with the patient’s preferences. For this reason, discussion with the patient and agreement on the goals of therapy are of particular importance. The process of identifying patient preferences requires several steps [35]:

- To recognize situations in which patients with multimorbidity have to make a preference-sensitive decision, i.e., have to weigh between different options;
- Ensuring that patients are adequately informed about the benefits and harms of treatment options;
- Preferences should be asked only after sufficient information has been provided;
- The level of involvement in decision making should be asked for, not guessed.

The goals (e.g., an improvement in quality of life or functioning) should be discussed. As a result, medication could be discontinued, the therapy load could be reduced, or care services could be extended. The patient’s expectations and goals regarding therapy should be clarified before prescribing medication. The following questions might help in setting preferences for medications that improve symptoms and function (not all symptoms are directly perceived by the patient, e.g., psychosocial limitations):

- What complaints do you have?
- What is the significance of the complaints for you? Can you live with it? How much are you affected?
- What is your strongest complaint?
- Which complaints restrict you in your everyday life or contact?
- What do you no longer dare to do? What do you feel strongly limited in? What would you like to be able to do again?
- Have you often felt down or hopeless in the past month? Have you often found little joy in the things you do in the past month?
- What do you need help with? Do you miss people whom you can trust and whose help you can count on?

Information can be provided to help setting preferences related to prognosis-improving drugs:

- This medicine can prolong your life or can prevent the following complications.....
  Question for patients: What side effects are you willing to accept in return? What risks are you willing to accept?
- Check if necessary: Is there reliable information for the age or target group whether the drug prolongs life or prevents complications?

2.4. Prescription Proposal and Communication (Step 3)

The third step of the systematic medication review includes the prescription decision and communication with the patient. This can involve a continuation of the therapy, new prescriptions, or the discontinuation of a prescription. The latter is the case if:

- Contraindications or intolerable adverse drug reactions (e.g., interactions) occur;
- The reason for the prescription (indication) no longer exists;
- Non-therapeutically indicated duplicate prescriptions occur in an indication group;
- A recommended duration of treatment has been exceeded.

In addition, the discontinuation of a drug should be considered if the assessment shows the following: (i) the risk/benefit ratio has become unfavorable, e.g., it is unlikely
for there to be a benefit within the expected lifetime of the patient, or the occurrence of cognitive impairment or frailty; (ii) a better alternative is available; (iii) the efficacy is (has become) questionable (a withdrawal trial may be indicated); and (iv) the patient expresses other preferences.

It is important to be systematic when discontinuing medications [36], and, if possible, to stop only one drug at a time, unless acute events argue for the simultaneous discontinuation of several drugs. The procedure should be discussed with the patient, and, if necessary, with other professionals involved in the therapy, as well as with family members [37]. Patients should be informed that the aim of discontinuation is to improve therapy, and that monitoring will take place. The patient should also be informed about what to do if symptoms occur after the withdrawal. The process of discontinuation can take only a few days or up to several months. The medication plan must be updated whenever there is a change in therapy.

Practical tips for the medication plan:
- Actively ask the patient for the medication plan;
- Talk to them about the importance of recording other doctors’ medication as well as self-medication;
- Many patients neither know the names of their medications nor do they have their medication schedule with them regularly. Digital solutions are being considered, but have not yet been implemented. These patients can be advised to take pictures of the medication plan or medication boxes with their mobile. Prescriptions from other doctors or OTC preparations can also be recorded in this way.

2.5. Drug Dispensing, Drug Use, and Self-Management (Step 4, 5 and 6)

Drug dispensing is the fourth step in the medication process. Physician and pharmacist are “linked” by the prescription and the joint patient. For a smooth process of drug dispensing and to promote drug therapy safety, the mode of cooperation between the two health care professions should be defined. The guidelines make suggestions for this. If patients choose a main pharmacy in the sense of a pharmacy they trust, this has advantages for the safe use of medicines, since targeted checks can be made for interactions, e.g., in the case of prescriptions from different specialist groups or in the case of self-medication. In addition, pharmacists can identify problems in connection with self-medication, advise patients on preventive measures, and point out necessary visits to the doctor, as well as promote therapy adherence through education and pharmaceutical care. Additionally, a number of pharmacists have also received further training in drug therapy safety, so can carry out medication checks and, with the patient’s consent, prepare the medication history, including self-medication, for the physicians [38,39].

For the patient’s medication use and self-management (step 5), it is a prerequisite that they understand the indications for each medication as well as the timing and modalities of taking each medication. The GP (as well as any coordinating doctor) must ensure that the patient has an up-to-date medication plan and understands it. Furthermore, the patient should be guided on ways to self-monitor. This should include information on how they should behave when certain symptoms or self-measured values occur, especially after stopping medication (e.g., safety netting).

Practical tips for self-management assistance:
- Use the advantages of simplified therapy. Reduce the number of drugs (e.g., through combination preparations, prioritization). Simplify dosage and offer aids for taking medication—as far as pharmaceutically possible and suitable for the patient (e.g., dosettes). To improve adherence, preference should be given, where possible, to medicines that can be administered once;
- Pass on information verbally and in writing, e.g., medication plan, patient information;
- Point out possibilities for useful self-monitoring (e.g., weight control, blood glucose measurements) and show how to use inhalers or pens;
• Individualize measures for taking medication or doing exercises, e.g., special reminder tricks. Form habits (ritualization), e.g., always take tablets before dessert or going to bed (if no other instructions);
• Patients should be reminded of the importance of their therapy at every visit;
• Explain risk factors and antismoking measures;
• Explain side effects that experience has shown often lead to non-adherence (e.g., impotence, weight gain, ankle edema). It is helpful to point out key symptoms for which the patient should report promptly to the practice (e.g., cough, muscle pain, tarry stools, etc.);
• Anticipate that the patient may change the therapy on their own. Give advice on which medicines should not be discontinued, paused, or changed in dosage;
• Enquire about the patient’s own activities (as an expression of participation in the therapy), such as alternative, anthroposophical, and homoeopathic therapy. Explain that this information is necessary for the treating doctor, as drugs may be discontinued or others taken in addition.

2.6. Monitoring and Follow-Up (Step 7)

Monitoring is the last step in the medication process. The guidelines recommend that an individual schedule should be drawn up for patients with multimedication, regarding when and which laboratory parameters should be checked. Monitoring is also a good opportunity to ask about various, even non-specific, symptoms, such as dry mouth, dizziness, itching, and sleep disturbances, as these could be consequences of a change in therapy. Likewise, problems in the implementation of the therapy (e.g., use of insulin injections such as PENS, asthma sprays, patches) should be actively asked about during monitoring and adherence should be checked. Last but not least, it is important to check the success of the therapy.

Monitoring also serves as assessment for step 1 of the medication process.

3. Discussion

For the updates (and upgrades to the evidence status of S3) of the first version of the German Guidelines on Multimedication, the systematic review on guidelines related to multimorbidity or multimedication [10] was valuable, in order to check for recommendations and evidence that had not been included in the German guidelines to date. Additionally, recommendations from guidelines from other health care systems had to be checked, regarding whether they were relevant and practical, as well as whether adaptions before inclusion in the German version were necessary. Due to the GPs’ feedback on the first version of the guidelines, the framework and presentation were changed. The framework is now based on the Ariadne principles, which have been shown to be effective in the improvement of medication appropriateness in patients with multimorbidity and multimedication [11,12], while recommendations are now clearly identifiable and not mixed with practice tips. A section on evidence and rationale related to the recommendations has been included. In addition, more tools have been integrated to support the practice implementation of the guideline. So far, no structured management program focuses on multimorbidity, but the guidelines form the evidence base to develop such a program. Since the challenges associated with multimedication exist not only in Germany but also in other countries—possibly exacerbated in Germany by the lack of a gate-keeper function for GPs—the recommendations are, also, of interest for health professionals in other countries. Therefore, we see possibilities for an implementation of the recommendations, especially as the concept of the medication process (other guidelines present steps) and the MAI as the central instrument are known in other European countries. Besides, some recommendations are “generic”, e.g., the topics of the medication assessment. Other recommendations have to be adapted, e.g., the communication channel between doctors and pharmacist. Many countries face the problem of a lack of resources and insufficient digitalization in the field of medicine and health service, which could support the medication process.
4. Materials and Methods

The developmental process was described in the publication by Dinh et al. (2022) [9]. Additionally, an extensive report in German was published together with the guidelines (https://www.awmf.org/uploads/tx_szleitlinien/053-043l_S3_Multimedikation_2021-08.pdf (accessed on 10 May 2022)).

5. Conclusions

The evidence-based guidelines for “multimedication” have been developed alongside a structured medication process, in order to support the management of patients with multimorbidity and chronic multiple drug use as well as to ensure medication safety. The MAI can be considered as valuable tool for GPs. The medication plan can support both patients and GPs when sharing decisions about the ongoing treatment. Recommendations and practical tips may support GPs in their prescribing and deprescribing activities. The application of the structured medication review requires time and resources. It is recommended regularly once a year and in special occasions. Other health professionals are, also, part of the process and have been addressed in the guidelines as well.

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Appendix A

Guidelines recommendations
Level of evidence and grade of recommendation

Code Degree of recommendation
A High recommendation level: Strong recommendation
B Medium recommendation level: Recommendation
O Low recommendation level: Open recommendation

Code Level of evidence
Ia: Systematic review +/− meta-analyses of several randomized controlled trials (RCT)
IIa: Systematic review +/− meta-analyses of multiple cohort studies
IV: Observational studies—also systematic reviews of these studies
V: Expert consensus

Recommendations:
Target groups
0-1 Patients with multiple medications (≥5 medications used continuously) and multimorbidity (≥3 chronic diseases) should undergo a medication review at least once a year. (B, V)

0-2 Patients with multimedication and multimorbidity with additional risks or events (e.g., falls, hospitalization) should have an ad hoc medication review (with inventory and assessment of medication). (B, V)

0-3 You should define for your practice (e.g., in your quality management system) how to identify patients with these criteria (see recommendations 0-1 and 0-2) for a medication review and where you document when the next medication review should take place at the latest. (B, V)

**Inventory and medication assessment (step 1)**

1-1 The following information should be available and collected for the medication review (B, V):

- Pre-existing conditions and current medical conditions (including severity, impairment of quality of life, functionality);
- Clinical status and current relevant laboratory values;
- Prescriptions or self-medications, e.g., using the brown bag method;
- Information on lifestyle factors (diet, smoking, alcohol, etc.);
- Psychosocial context;
- Therapy goals of the patient.

1-2 Relatives and professional groups involved in the therapy should be included in the assessment if the patient has agreed. (B, V)

1-3 The patient’s treatment burden should be assessed with a screening question (if necessary, with the inclusion of caring relatives). (B, IIIa)

1-4 If the patient confirms a treatment burden, more targeted questions should be used with patients, and, if necessary, with caring relatives. (A, IIa)

1-5 If in consultation with the patient, and, if applicable, the patient’s relatives and caregivers, there is a desire to reduce the burden of therapy, suitable options should be explored and implemented (A, IV), with particular consideration of the following:

- Number of drugs and complexity of the medication regime;
- Effort and extent of the necessary therapy controls (laboratory tests, control appointments with doctors, self-controls);
- Effort and extent of other types of self-management;
- Coordination of doctor visits and follow-up prescriptions.

1-6 Medication should be assessed in a structured way (A, V), e.g., by means of an instrument such as the Medication Appropriateness Index, with particular reference to the following:

- PIM lists/anticholinergic loads, QTc-time-prolonging drugs;
- Underuse;
- Adherence.

**Coordination with the patient (step 2)**

2-1 Patients should be asked about their preferred therapy goals. The aim is to identify their personal priorities with regard to the following aspects (A, IIa):

- Improvement or maintenance of quality of life;
- Independent living/independence;
- Improvement or preservation of functional capacity;
- Survival/prognosis improvement;
- Pain relief;
- Further symptom improvement (nausea, shortness of breath, dizziness, etc.);
- Importance of the burden of therapy.

**Prescription proposal and communication (step 3)**
3-1 The primary goal of drug therapy should be to use as few drugs as possible, and only as many as necessary. Underuse and overuse must be prevented. (B, Ib)

3-2 Non-pharmacological measures should be considered, taking into account the patient’s therapeutic goals and the burden of therapy. (B, V)

3-3 The medication regime should be kept as simple as possible to avoid burden and errors. (B, Ia)

3-4 The prescribing doctor should explain the therapy and, also, ask whether the patient knows the indication of each drug and how it should be used. (A, V)

3-5 At every medication review, it should be clarified whether medication is missing, can be discontinued, or whether the dose has to be adjusted. (A, V)

3-6 When selecting a drug for long-term therapy, an individual risk/benefit assessment should be made. (A, V)

3-7 The initiation and discontinuation of each medication should be planned and carried out as a structured process with the involvement of the patient. (A, Ia)

3-8 If discontinuation of a medication is being considered, the patient should be made to understand the reasons for discontinuation, especially in the case of a medication that has been prescribed for many years. (A, Ia)

3-9 When discontinuing a medication, attention should be paid to discontinuation symptoms. (A, Ia)

3-10 The patient should be actively asked about their experiences and concerns regarding their medication. (B, Ia)

3-11 Documentation should be made in the patient’s record and on the medication plan in case of confirmed or probable incompatibilities or interactions leading to discontinuation of medication. (A, V)

3-12 The medication plan should always be complete and up to date; the national medication plan (BMP) is the preferred format. Coordination lies with the general practitioner/primary care physician. The medication plan is to be presented at every consultation and at the pharmacy. (A, V)

Dispensing of medicines (step 4)

4-1 GPs should agree on a communication channel with pharmacists to address issues with dispensing medications. (A, Ia)

4-2 GPs should recommend that patients taking multiple medications select a regular pharmacy that provides personalized advice on medication use, documents all medication, checks interactions, and supports the doctor and patient in keeping track of the patient’s medication. (A, Ia)

4-3 The patient should be made aware that it may be beneficial for them to contact the regular pharmacy for all prescriptions, OTC needs, and questions or problems regarding the use of medicines. (A, Ia)

Medication application and self-management (step 5)

5-1 The coordinating doctor should ensure that every patient with multiple medication has an up-to-date medication plan. (B, V)

5-2 In the patient’s medication plan, there should be a note in plain language for each medicine stating the condition(s) for which it is used. (A, V)

5-3 The patient should be informed about and motivated to self-monitor and support the use of medicines. (A, Ia)

5-4 The patient should be instructed on what to do if certain symptoms or self-measured values occur, especially after stopping medication. (B, V)

5-5 The patient should be offered explanations and help on the use of medicines (e.g., weekly dosettes). They should be asked about their ideas. (B, V)

Monitoring, Follow up (step 6)

6-1 Each practice should draw up an individual schedule for patients with multimedication, as to when and which laboratory parameters are checked. (B, V)
6-2 Whenever the therapy is changed, the relevance of the medication schedule should be checked, and an appointment should be made with the patient to check the treatment results. (B, V)

6-3 Treatment results, clinical parameters, and any side effects (including observed non-specific symptoms), as well as the timeliness of the medication plan, should be checked at follow-up appointments. (B, V)

6-4 Problems with the management of the therapy and need for support should be addressed at the follow-up appointment. (B, V)

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