Imagine opening your medicine cabinet and seeing five, eight, maybe even fifteen different bottles staring back at you. Which ones do you really need? Could any of them be working against each other? And does your doctor even know about all of them?

SafePolyMed.eu

Improving Safety in Polymedication by Managing Drug-Drug-Gene Interactions

Safety in Polypharmacy training 2026

Session 1 – Video 1/2

Basics on polypharmacy and patient involvement

Polypharmacy: What It Is, Why It Matters, and How to Get It Right

Rachel Giles, Eglys Gonzalez, Olga Millán

Funded by the European Union

AI Disclosure: *Avatars, voices, and some visual elements in this video were generated using HeyGen & Copilot. The educational content was created by humans and subsequently edited and summarised with AI assistance.*

Polypharmacy = Polymedication

The routine use of **5 or more medications** at the same time

1 2 3 4 5

POLYPHARMACY

💡 *Polypharmacy and Polymedication mean exactly the same thing.*



Prescription drugs



Over The Counter medicines OTC



Dietary supplements



Complementary medicines

All these count in your full medication picture!

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Key Concepts: Do You Know the Difference?



Drug

Any chemical substance affecting living systems



Medicine

Treats or prevents disease; natural or synthetic



OTC

Over The Counter Medicines

No prescription needed; safe when used as directed



Dietary Supplement

Not a medicine, but affects drug metabolism



Complementary Medicine

Herbal, mind-body, alternative; can interact with drugs

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Adverse Drug Reactions (ADRs)

ADRs are unintended, harmful or unpleasant events attributed to the use of a medicine.

TYPE A — Predictable



Dose-dependent and predictable based on how the drug works.

Example:
Chemotherapy drug → anemia

TYPE B — Unpredictable



Unusual reactions NOT based on the drug's normal pharmacology.

Example:
Unexpected allergic reaction to a standard dose

Key distinction

The patient has a **REACTION** | The drug causes an **EFFECT** Same event, two perspectives.

Polypharmacy: Causes, Benefits & Risks

CAUSES

- Chronic disease
- Multi-morbidities
- Aging population
- Chronic pain
- Mental health conditions

BENEFITS

- Better chronic condition management
- Improved quality of life
- Prevents hospital visits
- Targeted treatment outcomes

RISKS

- Drug–drug interactions (DDIs)
- Drug–gene interactions (DGIs)
- Adverse drug reactions (ADRs)
- Non-adherence / cognitive burden
- Worsening symptoms

When done right, polypharmacy is beneficial, the key is careful management.

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How Common Is Polypharmacy?

26-40%

of people over 60 take 5 or more medications

5–9 drugs = Polypharmacy

~50%

of the general population experience polypharmacy

At some point in their lives

24%

experience excessive polypharmacy

10+ different medications simultaneously

5–9 drugs = Polypharmacy | **10+ drugs =** Excessive Polypharmacy

Midão, L. et al. Arch. Gerontol. Geriatr. 78, 213–20 (2018)
https://www.who.int/docs/default-source/patient-safety/who-uhc-sds-2019-11-eng.pdf
https://bmjopen.bmj.com/content/6/4/e010505

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Appropriate vs. Inappropriate Polypharmacy

APPROPRIATE

- All medicines have agreed therapeutic goals
- Goals are being achieved (or likely to be)
- Therapy optimised to minimise ADR risk
- Patient motivated and able to follow plan
- Adequate medication records kept

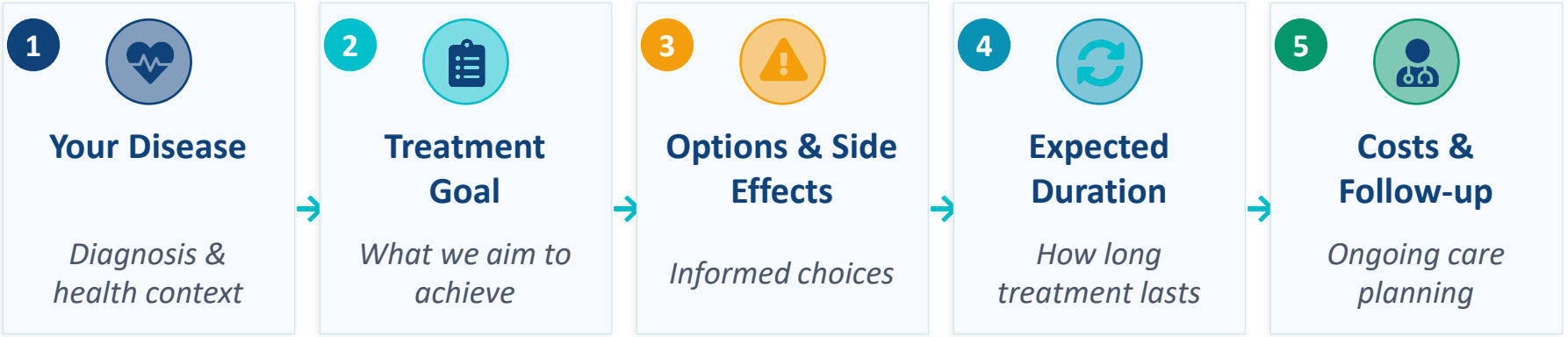
INAPPROPRIATE

- No evidence-based indication (or it has expired)
- Medications not achieving intended goals
- Drug combinations cause or risk ADRs
- Patient unable or unwilling to follow plan
- Poor or no medication documentation

World Health Organization — Medication safety in polypharmacy (WHO 2019)

Your Treatment Plan

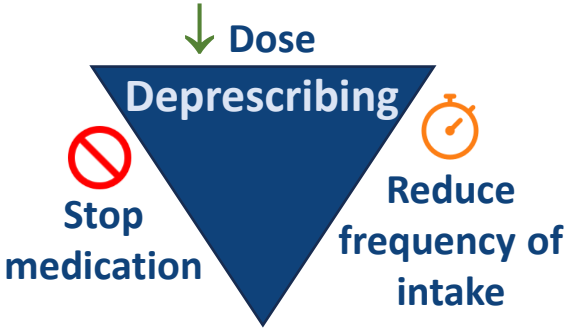
A personalised roadmap between you and your healthcare team



Patient priority: *"Knowing the expected duration of treatment is what patients value most, yet it's often not communicated."*

Deprescribing: Getting Smarter About Medications

Deprescribing is the planned process of reducing, stopping, or withdrawing medications to improve health and reduce side effects.



✓ **Recommendation:** Clinicians should be proactive and regularly review and adjust medication plans **WITH** the patient.

4 KEY PATIENT CONCERNS ABOUT DEPRESCRIBING

- **Withdrawal events**
- **Return of medical condition**
- **Unpredictable drug interactions**
- **Damage to trust with healthcare provider**

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Your Action Plan

1. Make a COMPLETE list of everything you take
2. Include OTC medicines, supplements & herbal remedies
3. Bring the list to your next medical appointment
4. Ask your healthcare team to review it together with you

Coming up next: Video 2/2 - Patient Involvement & Evidence-Based Medicine

Credits & Attributions

Authors

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