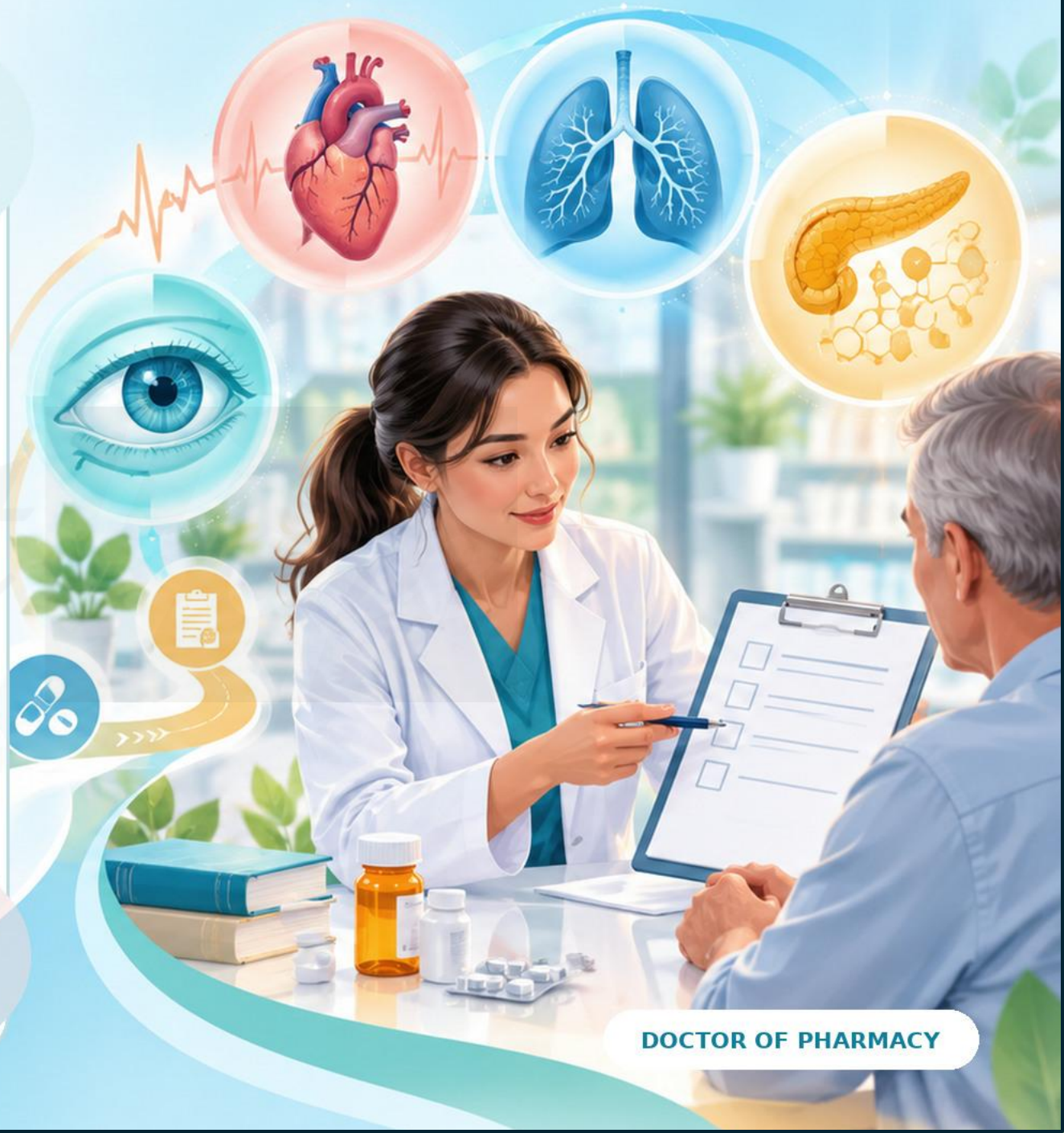
PHARM.D • YEAR 2

Pharmacotherapeutics

CHAPTER 5

Introduction to Rational Drug Use

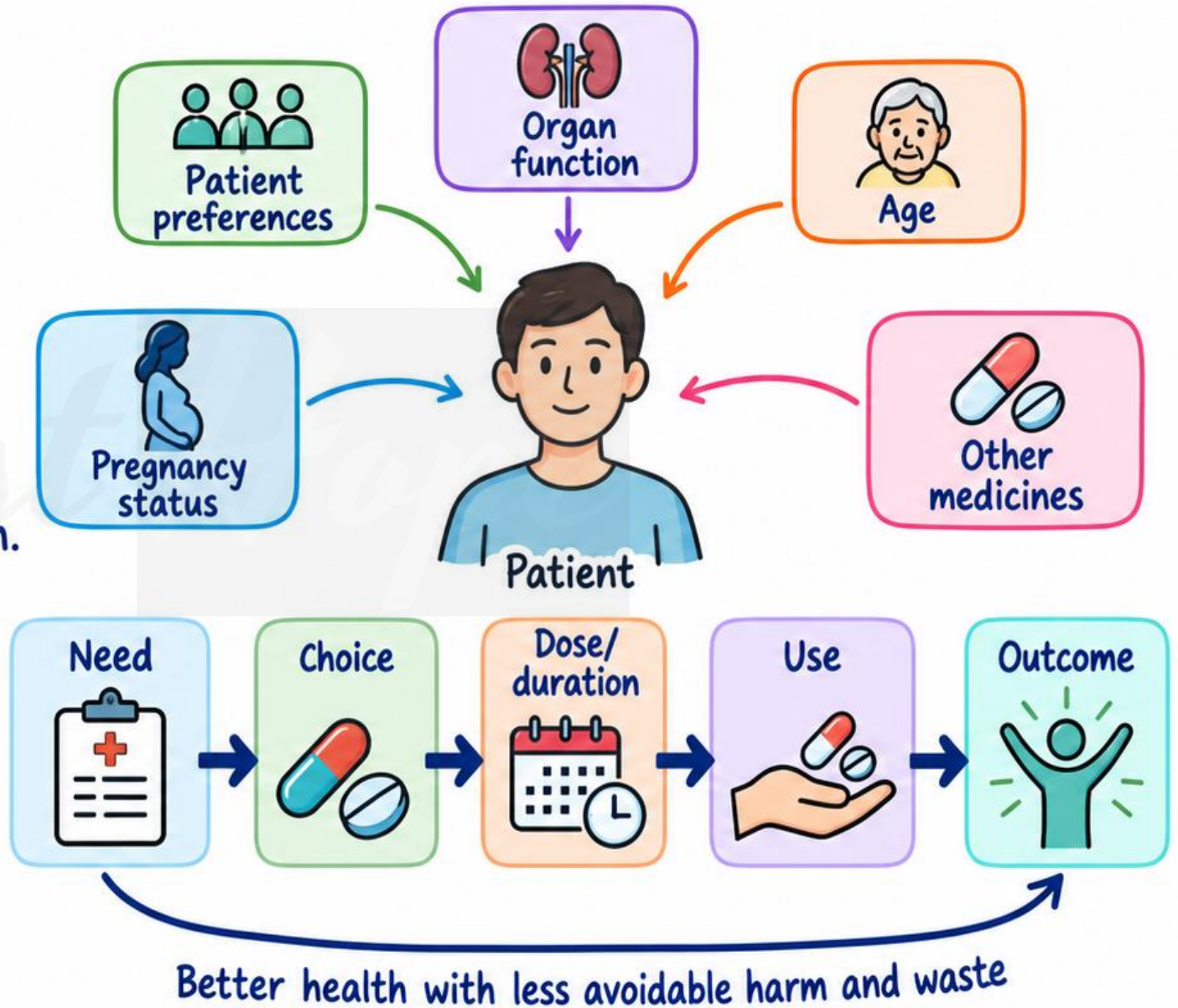
PPT CHAPTER COVER



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Rational drug use: the core idea

- Rational use means choosing medicines that fit the patient's clinical need, individual dose requirements and appropriate duration at a reasonable overall cost.
- It links correct prescribing, dispensing, administration and monitoring.
- The right medicine must also be effective, safe, suitable and accessible for that person.
- Patient preferences, organ function, age, pregnancy status and other medicines influence the choice.
- A cheaper product is not automatically the most cost-effective option.
- The aim is better health with less avoidable harm and waste, not simply fewer tablets.



Rational prescribing: a practical sequence

1 Define and confirm

- Define the patient's problem and confirm the diagnosis as far as possible.



2 Set objective

- Agree on a therapeutic objective that can be evaluated.



3 Consider options

- Consider whether non-drug measures or no medicine is appropriate.



4 Select treatment

- Select an effective, safe and suitable treatment using reliable evidence.



5 Write prescription

- Write a complete, unambiguous prescription with patient-specific instructions.



6 Explain to patient

- Explain benefits, adverse effects, precautions and how to use the medicine.



7 Monitor and adjust

- Monitor the response and decide whether to continue, adjust or stop.



8 Reassess

- Reassess when the diagnosis, disease or patient's circumstances change.



Irrational use: examples & consequences

Unnecessary treatment

- Examples include unnecessary antibiotics, unjustified injections, duplicate therapy and incorrect doses or duration.
- A medicine with no valid indication exposes the patient to harm without expected benefit.

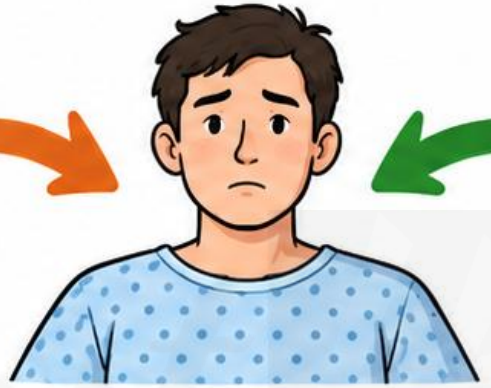


Unnecessary antibiotics


Unjustified injections


Duplicate therapy or incorrect doses or duration

Patient outcome



Consequences

- Adverse reactions
- Treatment failure
- Antimicrobial resistance
- Wasted resources

Missing necessary treatment

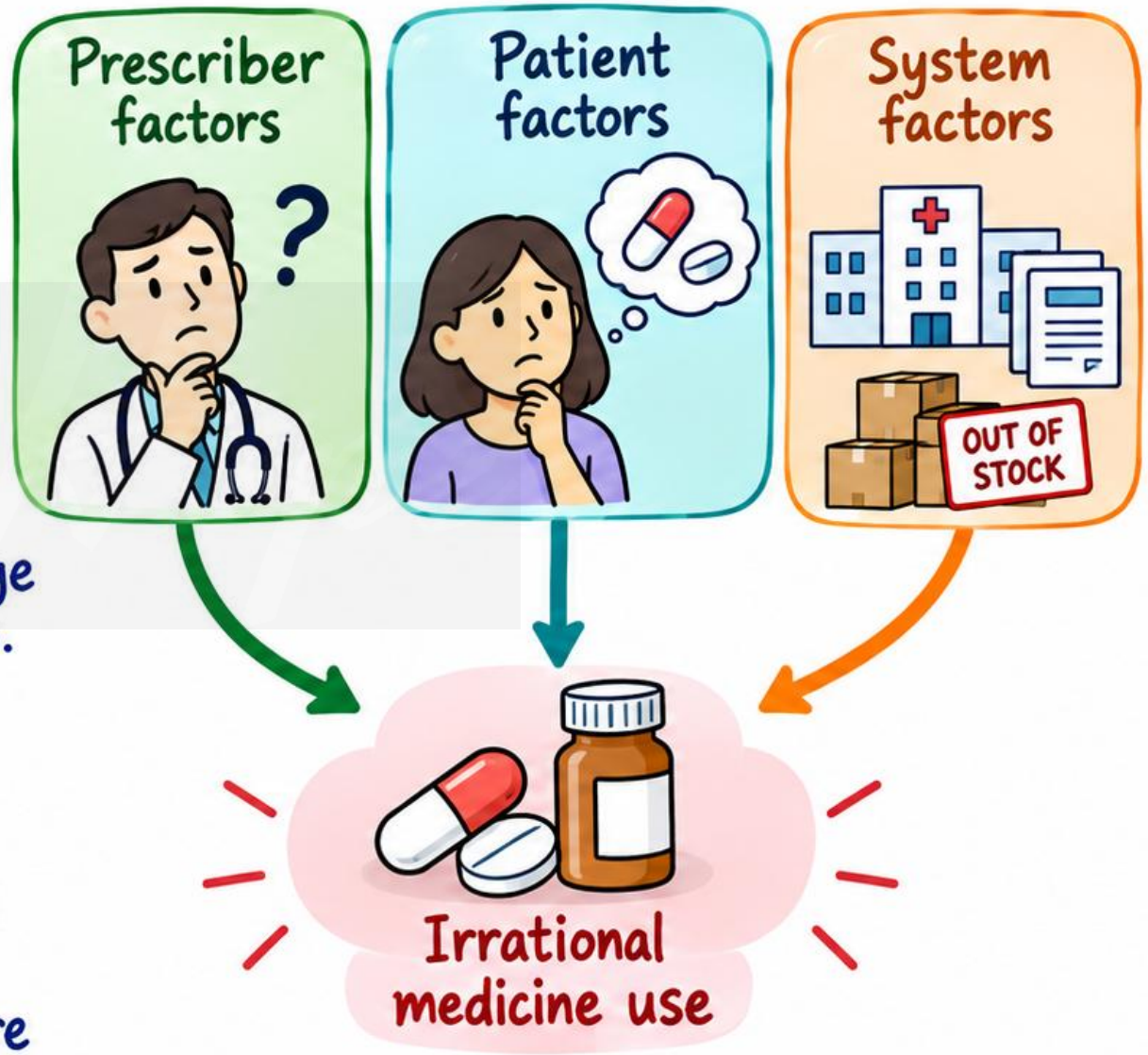
- Inadequate treatment or failure to prescribe an essential medicine is also irrational.
- Multiple medicines are not automatically irrational; some diseases need evidence-based combinations.
- Three antihypertensive medicines can be appropriate when selected and monitored correctly.
- Judge the indication and benefit–risk balance, not the prescription length alone.


Hypertension


Three antihypertensive medicines can be appropriate

Why irrational medicine use occurs

- **Prescriber factors** include knowledge gaps, diagnostic uncertainty, habit, workload and promotional influence.
- **Patient factors** include expectations, beliefs, self-medication, cost barriers and misunderstanding.
- **System factors** include stock-outs, poor supervision, weak formularies and fragmented records.
- **Commercial or cultural pressure** may encourage unnecessary brands, injections or combinations.
- Better education alone is not enough if essential medicines remain unavailable.
- Address the underlying cause with reliable information, supportive systems, feedback and patient communication.
- Monitor whether the intervention improves care rather than only changing a prescribing statistic.



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