



The Pharmacists' Defence Association

01_AI uses in healthcare

Overview for pharmacy practice

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1. Purpose

This guidance outlines how artificial intelligence (AI) is currently used across healthcare, with examples relevant to pharmacy practice.

It aims to:

- Help pharmacists understand where AI is being used
- Provide practical examples of AI in real-world settings
- Support safe and appropriate use of AI
- Link different uses of AI to associated risks and responsibilities

2. Status and application

- This is professional guidance for pharmacists
- It reflects current and emerging uses of AI in healthcare
- Pharmacists should apply professional judgement when interpreting and using AI outputs

3. Core principles (what good looks like)

1. AI is already embedded in healthcare systems

Many tools in routine use include AI components

2. Uses vary from administrative to clinical

Not all uses carry the same level of risk

3. AI can influence—but should not replace—decision-making

Professional judgement and critical evaluation remain essential at all stages

4. Patient care may be affected indirectly or directly

Some AI tools shape decisions without being visible

5. Understanding use helps identify risk

Knowing where AI is used supports safer practice

4. Definition (for the purpose of this guidance)

AI systems:

- Are used across healthcare to:
 - support tasks
 - analyse data

- generate outputs
- May operate:
 - in the background (e.g. admin systems)
 - directly in clinical workflows

As a directly accessed professional support tool. For the purposes of this guidance, references to artificial intelligence (AI) include automated and algorithmic systems where those systems influence professional decision-making, clinical workflows, or patient care.

5. PDA position: AI use in healthcare

The PDA recognises that AI is increasingly integrated into healthcare systems, including pharmacy services.

The PDA considers that:

- Pharmacists should be aware of **where and how AI is used** in their practice
- AI may influence care in ways that are not always visible
- Different uses of AI carry **different levels of risk and oversight requirements**. In general, the closer a system comes to influencing clinical decisions, the greater the need for professional oversight and scrutiny.

The PDA is concerned that:

- AI systems may be used without clear understanding of:
 - their role
 - their limitations
 - their impact on decisions
- Pharmacists may rely on outputs without recognising that AI contributed to them

The PDA therefore takes the view that:

- Pharmacists should actively identify where AI is used in their workflow
- AI should be used with appropriate scrutiny, particularly where it influences decisions
- Systems that affect patient care should always be subject to **professional oversight**

6. Common uses of AI in healthcare (practical examples)

6.1 Administrative, workflow and automation support

What it does:

Supports non-clinical processes and service delivery

Examples pharmacists will recognise:

- Appointment booking and triage systems
- Workflow management tools
- Stock control and demand forecasting

Impact:

- Improves efficiency
- Lower direct clinical risk

Some of these systems may use rules-based automation, predictive analytics, or AI techniques. Their impact on patient care may be indirect but can still influence professional workflows and decision-making.

6.2 Documentation and record-keeping

What it does:

Captures and summarises clinical information

Examples pharmacists will recognise:

- Consultation transcription tools
- Automated clinical note summaries
- Document drafting systems

Impact:

- Reduces administrative workload
- Risk of inaccurate or incomplete records which may be relied on in the future by other healthcare professionals

6.3 Patient-facing tools

What it does:

Provides information or guidance directly to patients

Examples pharmacists will recognise:

- Symptom checkers
- Online health advice tools
- Chatbots providing self-care guidance

Impact:

- Influences patient expectations and behaviour
- Risk of misinformation or inappropriate advice

6.4 Screening and diagnostic support

What it does:

Identifies patterns or potential conditions

Examples:

- Tools used to detect disease (e.g. cancer screening)
- Systems highlighting abnormal results

Impact:

- Supports early detection
- Risk of false positives or missed findings

6.5 Clinical decision support

What it does:

Supports treatment and prescribing decisions

Examples pharmacists will recognise:

- Drug interaction alerts
- Prescribing support systems
- Dose adjustment recommendations

Impact:

- Direct influence on patient care
- Higher clinical and professional risk

These systems provide decision-support outputs. Professional decisions remain the responsibility of the pharmacist.

6.6 Predictive and population health tools

What it does:

Uses data to predict risks or outcomes

Examples:

- Risk scoring tools (e.g. cardiovascular risk)
- Systems predicting hospital admission risk

Impact:

- Supports preventative care
- Risk of bias or inaccurate prediction

6.7 Generative AI tools

What it does:

Generates content such as text or summaries

Examples pharmacists will recognise:

- Drafting patient advice
- Generating clinical summaries
- Answering clinical questions

Impact:

- Highly flexible and widely accessible
- Risk of plausible but incorrect outputs

Outputs generated by generative AI may appear convincing and authoritative even when they are inaccurate, incomplete, or unsupported by evidence.

7. Risk factors (when use introduces higher risk)

Risk increases where:

- AI outputs directly influence clinical decisions
- Outputs are not reviewed or challenged
- Systems are not clearly understood
- Patient-facing tools influence decision-making before consultation
- AI outputs are incomplete, inaccurate or out of date

8. Required professional behaviours

Pharmacists should:

- Be aware of where AI is used in their practice and be aware of the approval processes that have led to their deployment
- Recognise when AI may be influencing decisions
- Critically evaluate outputs before acting on them
- Apply clinical judgement and patient-specific context
- Use AI to support—not replace—decision-making
- Ensure decisions are independently justified
- Maintain a Professional-in-the-Loop (PITL) approach wherever AI influences patient care or professional decisions.

9. Situations requiring caution

Extra caution should be applied where:

- AI is used in:
 - diagnosis or prescribing decisions
 - patient-facing advice tools
- Outputs:
 - influence clinical decisions
 - appear authoritative without explanation
- Systems:
 - are unfamiliar or not well understood

10. Situations to avoid

Pharmacists should avoid:

- Using AI without recognising its role in the workflow
- Relying on AI outputs without appropriate review
- Allowing patient-facing tools to determine clinical decisions
- Using unvalidated or unapproved systems in practice
- Assuming AI-generated information is always accurate

11. Professional practice point

AI is already embedded across healthcare systems.

Safe practice requires:

- recognising where AI is used
- understanding its role
- understanding its limitations
- maintaining professional control over decisions
- ensuring active professional oversight through a Professional-in-the-Loop (PITL) approach
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12. Summary

AI is used across healthcare for:

- administration
- documentation
- patient interaction
- screening and diagnosis
- clinical decision support
- prediction and population health

For pharmacists:

- AI may influence care directly or indirectly
- different uses carry different risks
- safe use depends on awareness, oversight, and professional judgement