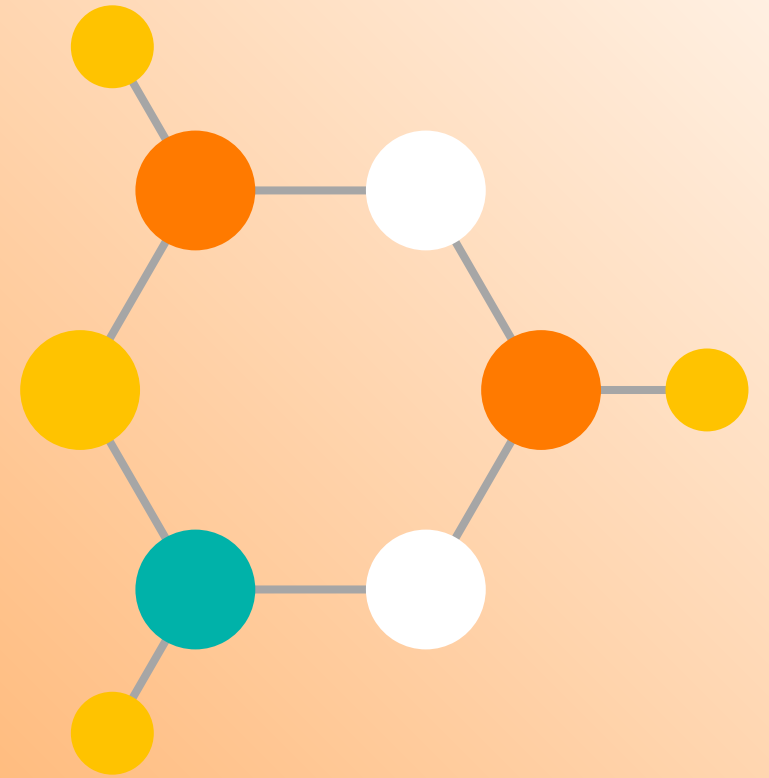


Machine Learning in Healthcare

How data is changing diagnosis and care





Agenda

01

Overview

02

Core concepts

03

Applications

04

Challenges

05

Future



Introduction

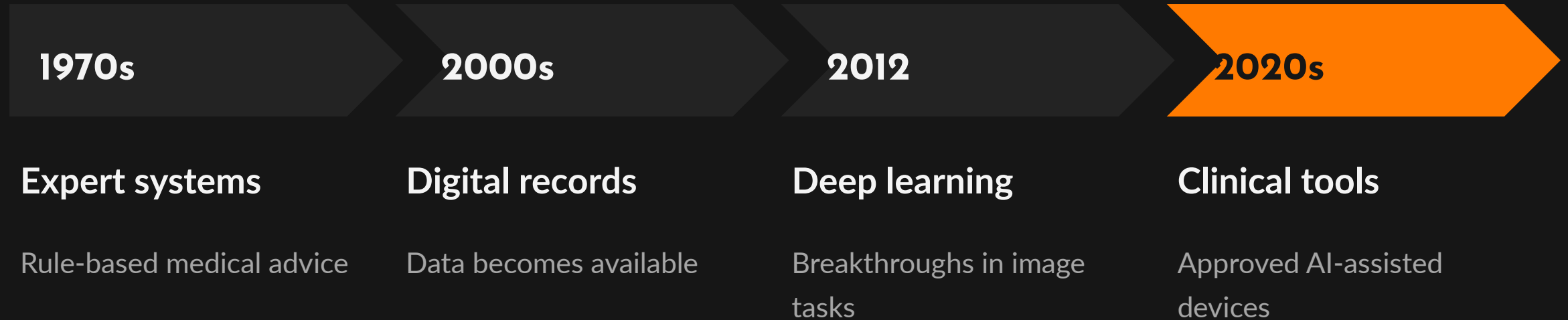
- Machine learning finds patterns in medical data
- It supports doctors in diagnosis and planning
- Used with scans, records and wearable data
- Needs careful validation and privacy safeguards



Image



Evolution





Key concepts

01

Supervised learning

Learning from labelled examples.

02

Computer vision

Reading X-rays and scans.

03

Predictive models

Estimating risk from records.



How it works



Collect

Anonymised clinical data



Train

Models learn patterns



Validate

Test on new hospitals



Assist

Support doctors' decisions



Architecture

Data pipelines, models and clinician review.

Models are trained on de-identified data, validated on separate populations and deployed as decision support, with clinicians always making the final call.



Architecture diagram



Applications



Image 1

Radiology

Flagging suspicious scans.



Image 2

Triage

Prioritising urgent cases.



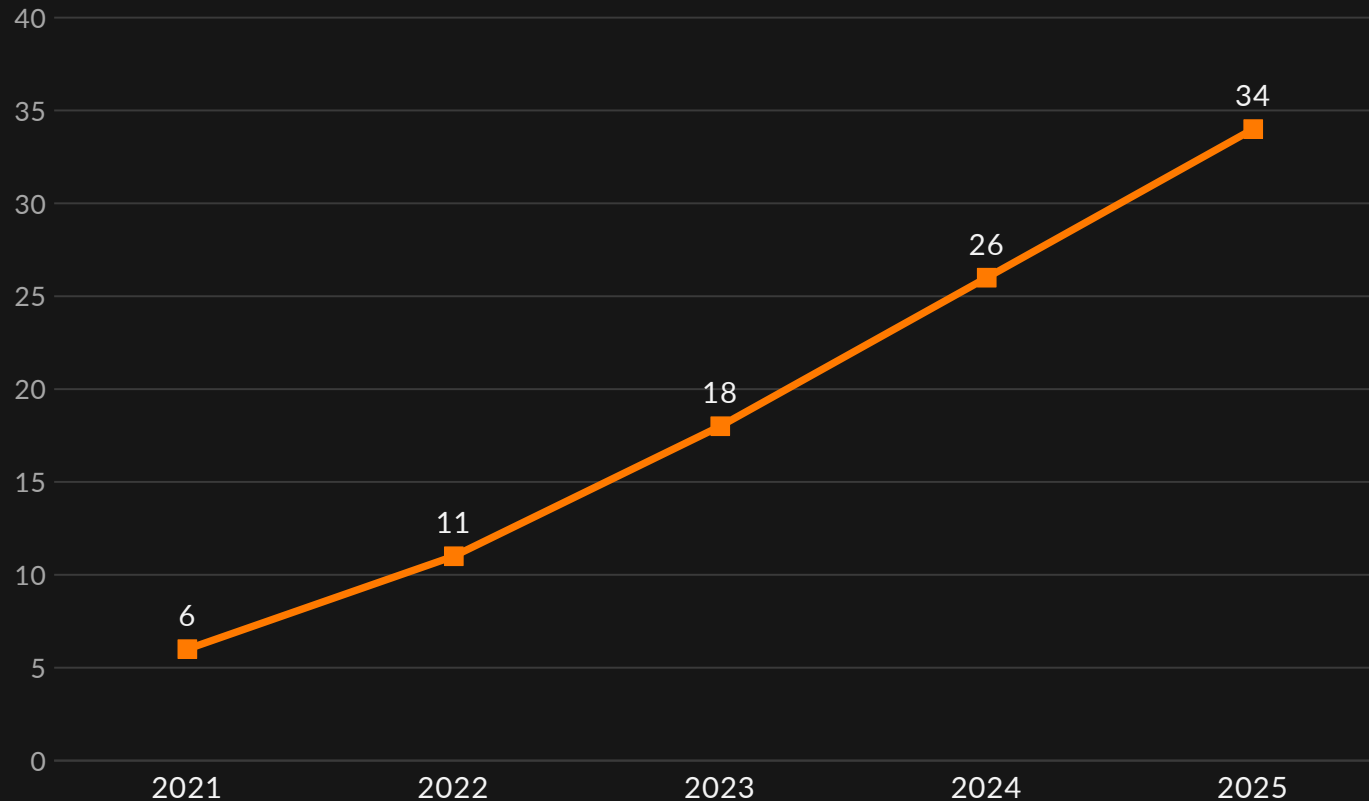
Image 3

Chronic care

Predicting complications early.



Adoption trend



Hospitals piloting AI tools (sample data).

Sample data for illustration — replace with your own figures.



Advantages and limitations

Advantages

- Earlier detection
- Faster reporting
- Support where specialists are scarce
- Personalised care

vs

Limitations

- Bias in data
- Privacy risks
- Hard to explain decisions
- Regulatory hurdles

KEY IDEA

**AI will act as a second
pair of eyes for every
clinician.**

Looking ahead



Conclusion

- ML can extend specialist expertise
- Validation and fairness are essential
- Humans stay in charge of care



Image



Questions?

Thank you for listening.