

AI Innovations in Pharma & Healthcare



Drug Discovery and Development



Clinical Trials



Disease Diagnosis & Support Treatment Plans



Precision Medicine



Remote Patient Monitoring (RPM) and Care

Accelerate drug discovery by rapid analysis of large datasets. Optimise drug design and identify new targets. Predict drug properties, efficacy and safety. Reduce time and cost of drug development.

Improve the success rate and efficiency of the trials. Accelerate patient recruitment and improve patient experience. Optimise trial design and enhance data collection and analysis.

Increase diagnostic accuracy and efficiency. Support clinical decision-making and optimise treatment plans. Facilitate early detection of rare / hard-to-diagnose diseases and improve patient outcomes.

Drive early disease detection. Enable predictive analytics by assessing individual risks, therapeutic benefits, and adverse events. Improve patient outcomes through personalised treatment.

Enable RPM with wearable devices, patient apps or health-tech platforms. Enhance patient engagement and remote care. Support predictive analytics and personalised care plans.

TECH EXAMPLES

- Drug target identification: Multi-omics target discovery ([Insilico Medicine](#)); through biomedical data analysis ([Healx](#))
- Drug candidate identification and De Novo drug design: Structure-based small molecules ([Atomwise](#)); ligand-based and structure-based ([Iktos](#))
- Predictive modelling: Small molecules properties ([Genesis Therapeutics](#)); drug safety ([Quris](#))
- Drug repurposing: Drugs for multiple conditions ([Purposeful](#) and [Standigm](#)); for medicines in neuroscience ([BioXcel Therapeutics](#))

TECH EXAMPLES

- Patient-to-trial matching: [OASYS NOW](#) and [Deep 6 AI](#)
- Patient selection and stratification: Based on genomic profile ([Lantern Pharma](#)); on multi-modal datasets ([Pathos](#)); patient subtyping based on biomarkers ([Qwkin](#))
- Trial design and optimisation: [Keiji AI](#) and [TrialKey](#)
- Data management: [Medidata Solutions](#)
- Remote patient monitoring: [AiCure](#) and [Videra Health](#)
- Trial outcome prediction: Probabilities of success ([Insilico Medicine](#)); image-based prognosis ([Altis Labs](#))

TECH EXAMPLES

- Medical imaging: Ultrasound ([Exo](#)); X-ray/CT ([Qure.ai](#) and [Harrison.ai](#)); MRI ([Cerebriu](#)); digital pathology ([Paige](#) and [aetherAI](#))
- Cardiovascular diagnostics: ECG interpretation ([Powerful Medical](#))
- Electronic health record (EHR) analysis: Supports rare diseases diagnosis ([Mendelian](#) and [Saventic Health](#)); drives timely life-saving interventions ([Bayesian Health](#)); streamlines clinical operations ([Regard](#))
- AI-powered real-world evidence: Optimises clinical decision-making and care protocol design ([Atropos Health](#))

TECH EXAMPLES

- Disease screening: Leverages blood test and multi-omics for early detection of cancers ([Freenome](#)) and Alzheimer's ([AgenT](#))
- Predictive AI: Uses biological data to assess disease risk ([Molecular You](#) and [AstraZeneca](#)); predict therapeutic benefits ([Artera](#) and [Genialis](#)) and adverse drug reactions ([HEPAprint](#))
- Personalised treatment: For metabolic syndrome-derived diseases ([MultiOmic Health](#)); precision oncology ([CureMatch](#) and [Tempus](#)); precision vaccines for cancer and infectious diseases ([Evaxion](#))

TECH EXAMPLES

- Remote monitoring: Cardiac ([iRhythm](#)); Parkinson's motor symptoms ([PD Neurotechnology](#) and [Sense4Care](#)); mental health ([Thymia](#) and [Callyope](#))
- Vital signs and digital biomarkers: [Binah.ai](#) and [Empatica](#)
- Symptom checker: [Ada Health](#) and [Mediktor](#)
- Diabetes management: [Glytec](#) and [DreaMed](#)
- Digital therapeutics: for depression ([Deprexis](#)); musculoskeletal conditions and pain ([Sword Health](#)); stroke rehabilitation ([Vigo](#))

AI TOOL ADOPTION FRAMEWORK

1. Identify specific workflow areas where AI can potentially add value.
2. Establish clear and measurable key performance indicators (KPIs) to assess AI tools, e.g. accuracy, reliability, effectiveness, scalability, adaptability (future-proofing) and user experience.

3. Engage with AI innovators to explore AI solutions. Start by requesting a demo.
4. Run pilot projects to test, evaluate, and benchmark against the existing workflow, then adjust strategies accordingly.
5. Upon successful validation, implement and integrate AI solutions into workflows and operations.
6. Examples of collaboration models: joint ventures (e.g. co-development and data partnership), technology licensing, subscription-based arrangements.