

# Elevating Decision Making in Pharma with AI

## Applications and Use Cases

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**10-15**  
Years

To develop a new drug

**~\$1.2B**  
Cost

To bring a new drug to market

**~70%**  
R&D Spend

Associated with failed projects



**~9 out of 10 drugs fail**

**Genentech to shut down cancer immunology research department amid broader rethink**

By Angus L...

### **Sanofi Axes Lung Cancer ADC After Phase III Trial Failure**

December 21, 2023 | 2 min read | Tyler Patchen

**Merck's lung cancer drug combo fails trial in setback for new therapy class**

### **Takeda withdraws cancer drug Exkivity after Phase III trial failure**

The accelerated approval by the FDA was pulled after an Exkivity (mobocertinib) Phase III confirmatory trial failed to meet its primary endpoint.

### **J&J drops Addex-partnered epilepsy drug after reviewing failed phase 2**

By James Waldron · Jul 18, 2024 5:17am

**double whammy as bladder cancer trial over early deaths**

December 18, 2023 07:06 AM EST | R&D, Pharma

**Bristol Myers cuts Phase III in colorectal cancer shot as combo fails analysis**

### **Bayer's blood thinner fails Eliquis test, sinking phase 3 trial and denting \$5B sales forecast**

By Nick Paul Taylor

### **Lilly's anti-tau pill for Alzheimer's fails in Phase 2 study**

**with failure of early-stage lung**

**Pfizer's Duchenne late-stage study**

By Reuters

June 13, 2024 12:27 AM GMT+2 · Updated

**Pfizer lays off 210 in North Carolina after Duchenne gene therapy flop**

### **Roche's TIGIT drug tiragolumab flunks another Phase 3 lung cancer test**

### **Mirati's Sitravatinib Fails in Phase III Lung Cancer Trial - Nixes**

**Merck KGaA suffers major blow as MS trials**

May 30, 2024 06:09 PM EDT Updated 06:57 PM | R&D, Pharma, FDA+

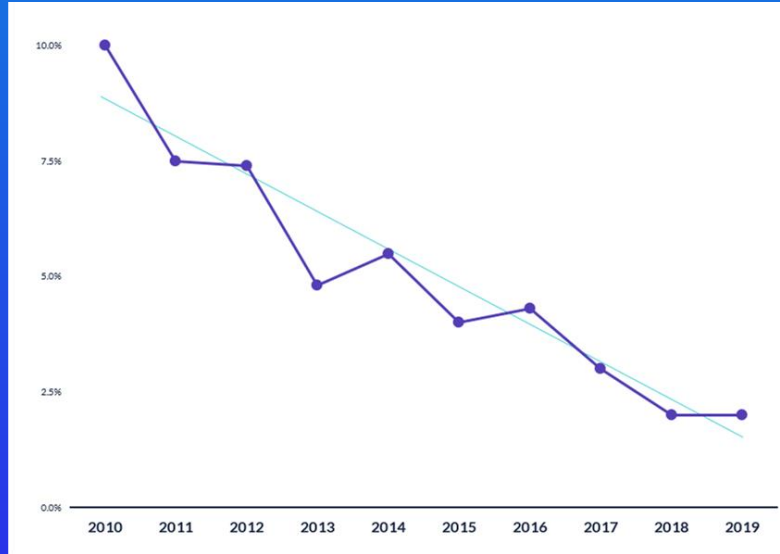
### **Gilead's blockbuster ADC Trodelvy fails bladder cancer confirmatory study**

### **Novartis discontinues blood cancer candidate after Phase III flunk**

The sabatolimab trial failed to meet its primary endpoint with Novartis saying the termination allows prioritisation of key programmes.

Abigail Beany | February 1, 2024

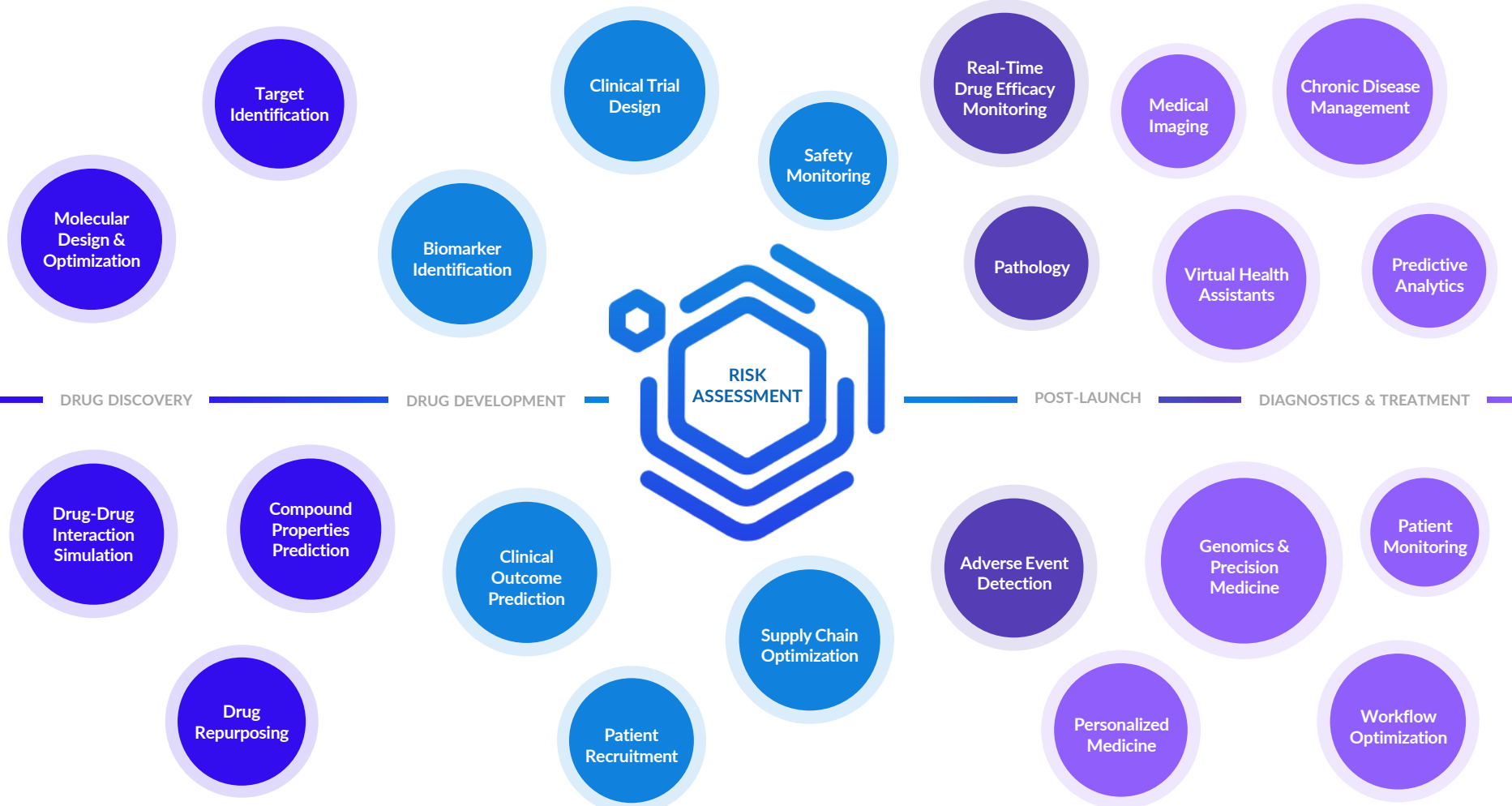
Legacy approaches to drug development are in decline



R&D returns are steadily declining

*Average decline of 0.83% per year*





DRUG DISCOVERY

DRUG DEVELOPMENT

POST-LAUNCH

DIAGNOSTICS & TREATMENT

RISK ASSESSMENT

Molecular Design & Optimization

Target Identification

Clinical Trial Design

Safety Monitoring

Real-Time Drug Efficacy Monitoring

Medical Imaging

Chronic Disease Management

Biomarker Identification

Pathology

Virtual Health Assistants

Predictive Analytics

Drug-Drug Interaction Simulation

Compound Properties Prediction

Clinical Outcome Prediction

Supply Chain Optimization

Adverse Event Detection

Genomics & Precision Medicine

Patient Monitoring

Drug Repurposing

Patient Recruitment

Personalized Medicine

Workflow Optimization

# Probability of Technical and Regulatory Success (PTRS)

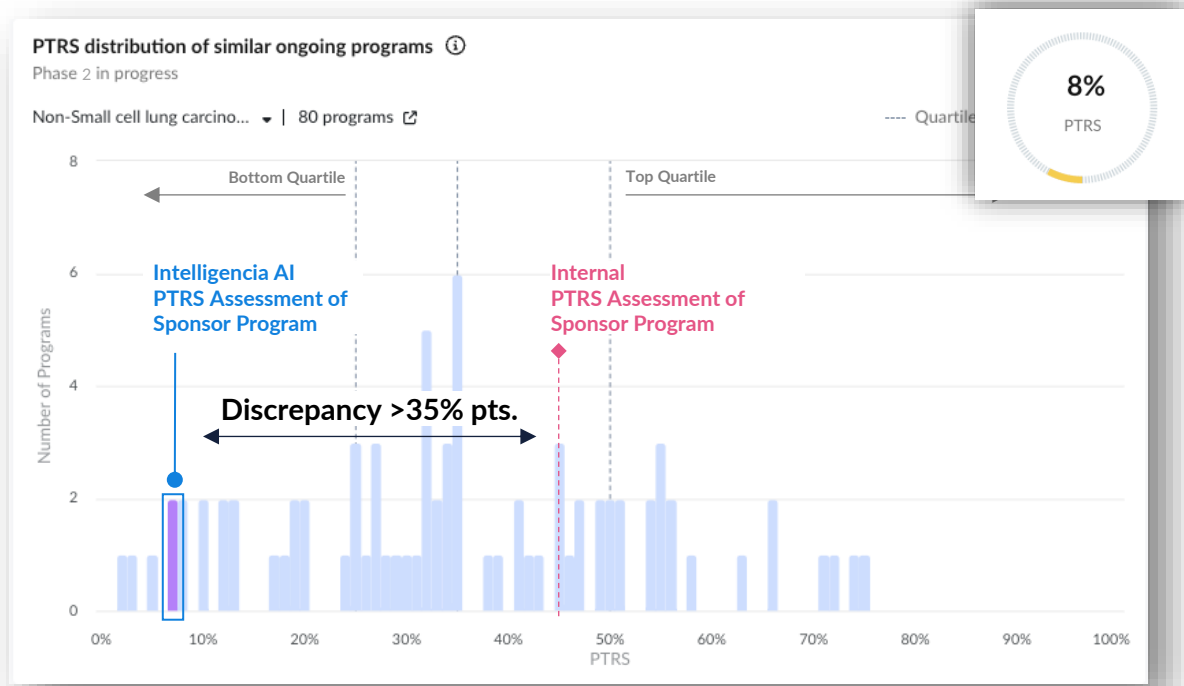
The likelihood of a drug successfully navigating clinical trials and receiving approval from regulatory agencies





# Example 1 | Support asset prioritization with data-driven predictions

Global biopharma company leverages patented **Intelligencia Portfolio Optimizer™** to enhance its scientific and business decision-making



## Key Challenges

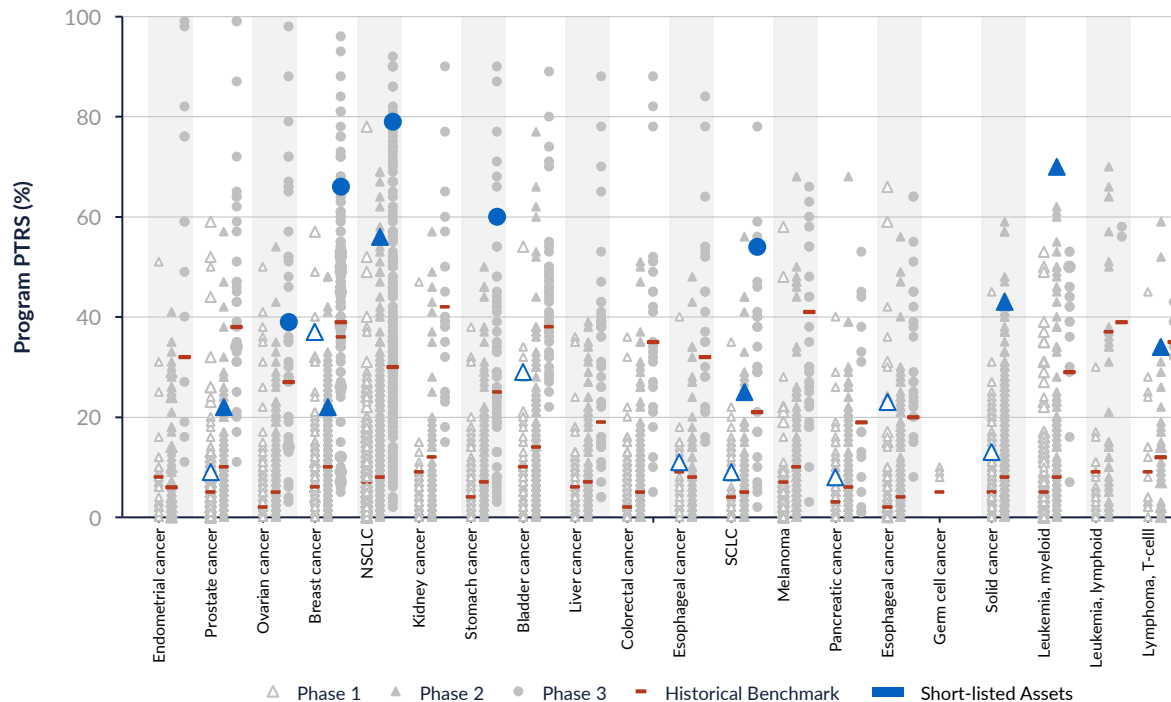
- **Resource-intensive and inconsistent** process for evaluating development risk
- **Limited data and lack of objectivity** for portfolio go/no-go decisions
- **Overconfident** internally calculated PTRS prediction for a leading program

## Key Outcomes & Impact

- **Streamlined and improved workflow** for PTRS assessments
- Time savings **from months to weeks** on the PTRS process
- Potential savings of **>\$25M in Phase 3** clinical development costs

# Example 2 | Screen external innovation to prioritize assets for growth

Global pharmaceutical company used data and AI to streamline business development activities



## Key Objectives

- Review and evaluate oncology innovation landscape
- Scan 1,000+ potential assets using custom criteria fitting company needs
- Identify market opportunities and unmet needs

## Key Outcomes & Impact

- On-demand access to AI-powered insights
- Narrowed down 1,000+ oncology assets to **20 most promising ones** for the 10+ tumor of interest
- **>80% savings on resources** to research, validate and filter assets

## Increase R&D ROI

Average savings of \$8-25M per year\*  
by reducing the number of failed phase  
2 and phase 3 trials

*\* Based on failed trials only in oncology and I&I*

## Accelerate Time to Market

Average savings of \$2-5M per month  
of delayed launch of a single asset\*\* by  
accelerating decision-making

*\*\* Based on drug peak sales of \$0.5-1B*

## Improve Risk Pricing

Average savings of \$3-5M in upfront  
payments\* for every 5% points of  
miscalculated PTRS in licensing deals



# Thank You.

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