

# From Promise to Practice: *Overcoming Barriers to AI Adoption in Healthcare*

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# Agenda: From Pilot Purgatory to Continuous Implementation

Introduction

Pilot Purgatory

Understanding the Adopting Population

Barriers to Adoption in Both Public Health and Health Tech

Implementation Science

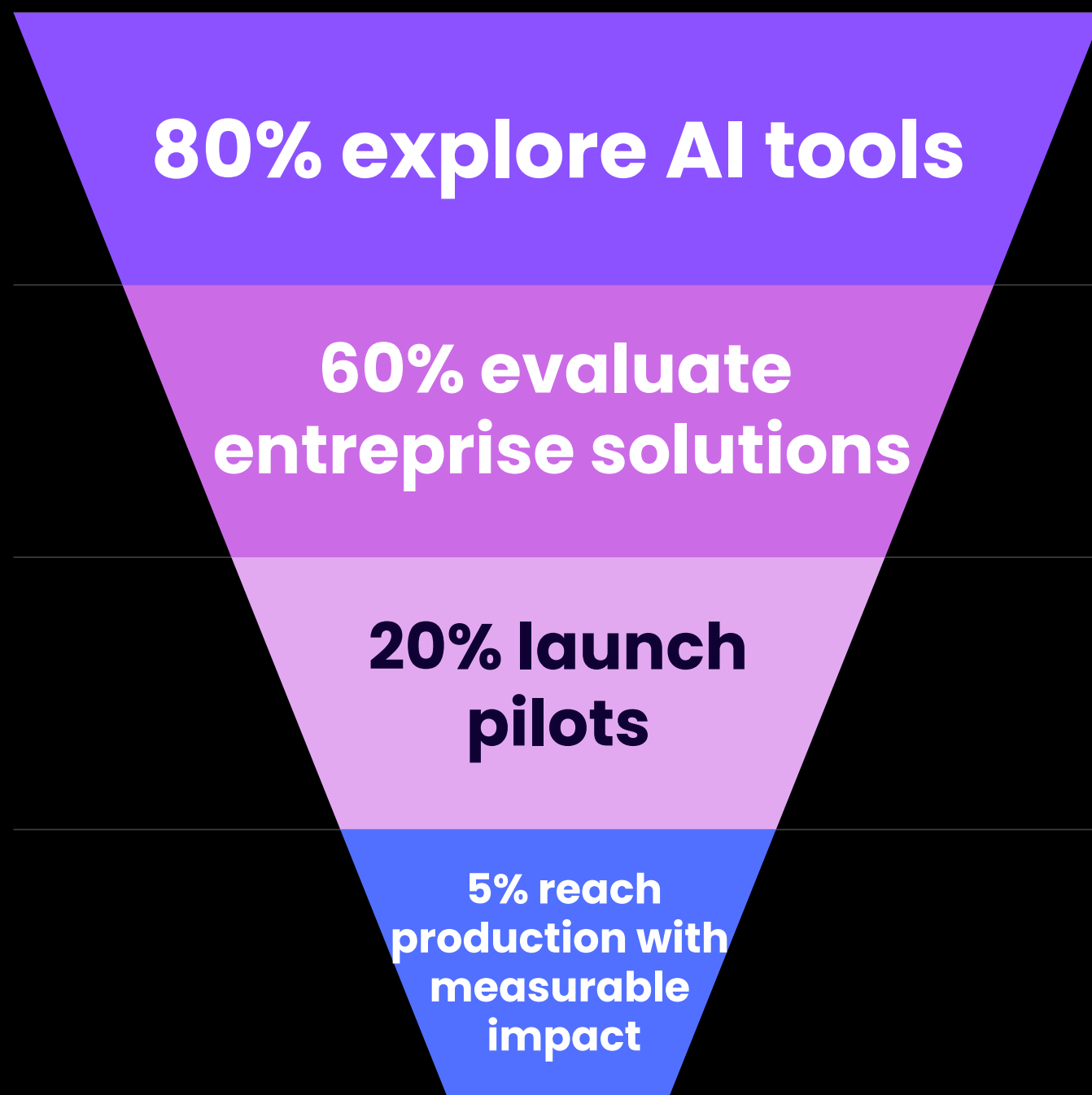
AI: A State of Perpetual Adoption

Continuous Implementation Science

Making AI Adoption a Reality

# Only 5–10% of AI Pilots Scale & Achieve Impact

The Funnel of Failure Based on Analysis of 300+ Initiatives



## 90% of health systems

prioritize AI capabilities over the **next five years**, recognizing its transformative potential for healthcare delivery.

## But only 5% of AI investments

capture significant value, with the vast majority trapped in **endless pilot testing without scaling**.

## The majority are stuck

in "pilot purgatory" continuously testing new AI tools but never achieving enterprise-wide implementation or measurable impact.

# 80% of Reasons Why Innovations Fail are *the same* across Public Health & AI/Tech

Sometimes the problem is  
**the technology.**

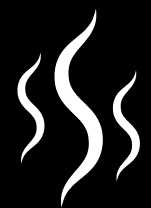
More often, it's **us.**

# Technology & Human Problems:

## Water Purification with Iodine



Effective iodine water purification tablets distributed in low-resource communities in Africa & Southeast Asia.



Tablets made water look brown & smell bad.



Brown water perceived as contaminated or poisonous.



Rejection widespread despite the tablets' effectiveness.



**Technical Validity  $\neq$  Practical Adoptability**



# Technology & Human Problems:

## EHRs & CPOE vs. Claims

**Adoption Struggle:**  
**EHRs & CPOE**  
(1990s–2010s)

Abstract long-term benefits

High workflow disruption

User resistance

No mandates until ~2009

**Only 4–24% adoption by 2006**

**Easier Adoption:**  
**Electronic Claims Processing**  
(late 1980s–2000s)

Clear financial ROI

Low workflow disruption

User acceptance

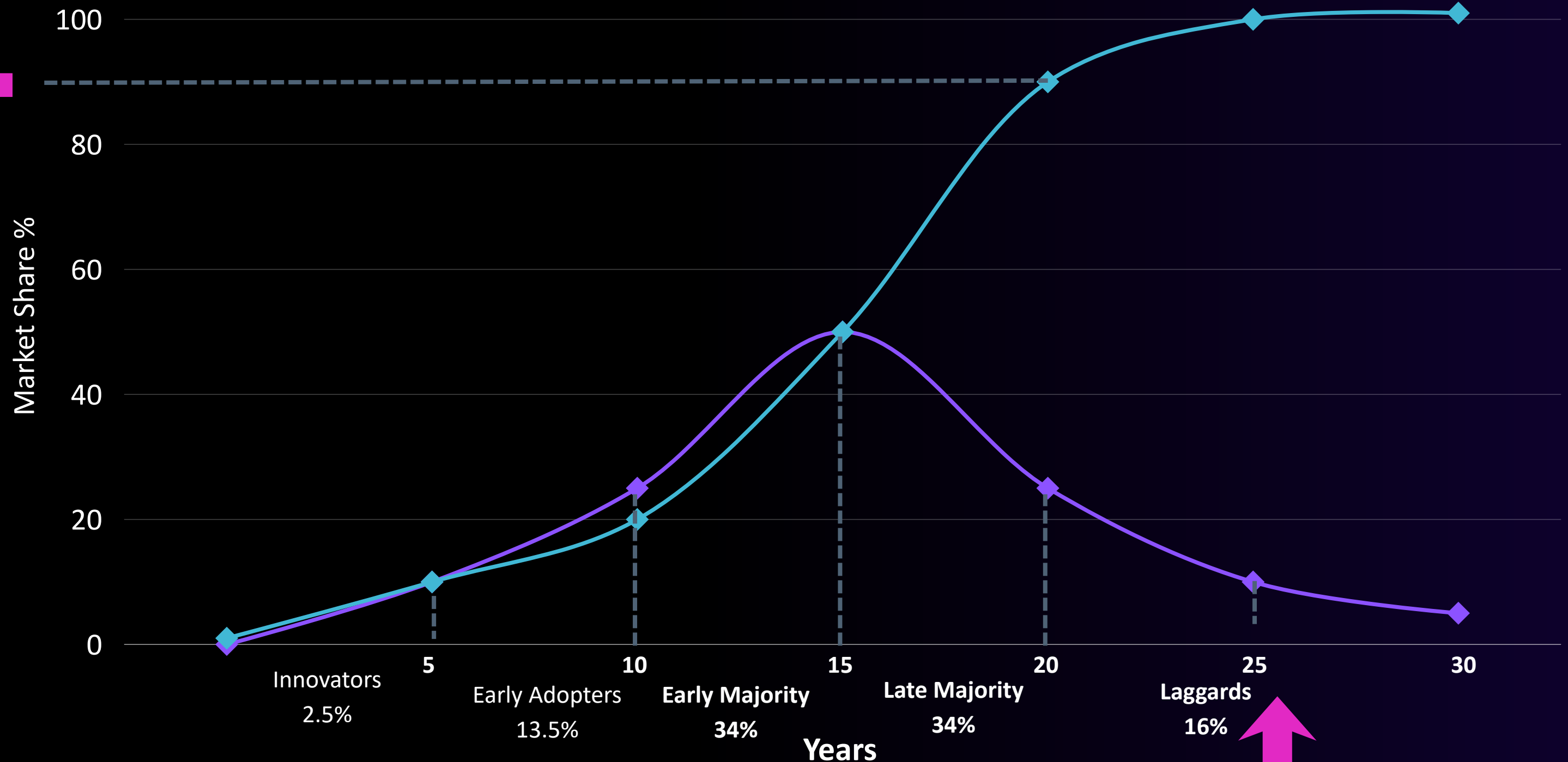
Early external mandates

**85–90% adoption by 2006**

# Adoption Takes Place in Waves

## Everett Rogers's Diffusion of Innovation Model

85% of  
adoption  
takes 20-  
30 years!



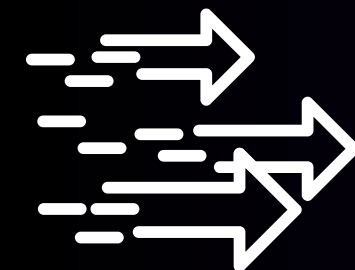
25 YEARS!

# Enter *Implementation Science* (for Static Innovations)

The rigorous determination of effective principles and frameworks to:



Ensure that  
innovations scale.



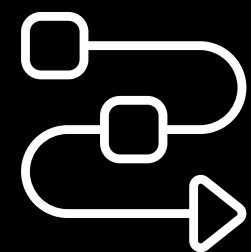
Drastically accelerate  
their adoption.

**The same barriers that caused slower adoption of  
EHRs and CPOE play a major role in AI adoption failure.**



# ***Implementation Science*** **for Developers**

**95% of AI pilots** fail partly because the technology is not designed for adoption.



Workflow:  
Real-World Fit



Documentation  
pressures



Version  
burnout



Evolving regulatory  
constraints



Governance  
burden

**Adoption begins before design, not after deployment.**

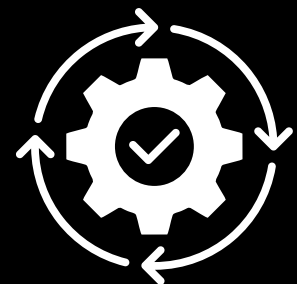
# *Implementation Science* **for Executives & Supervisors**



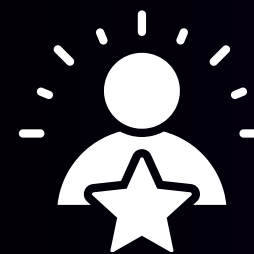
**Leadership  
Alignment**



**Clear Value  
Communication**



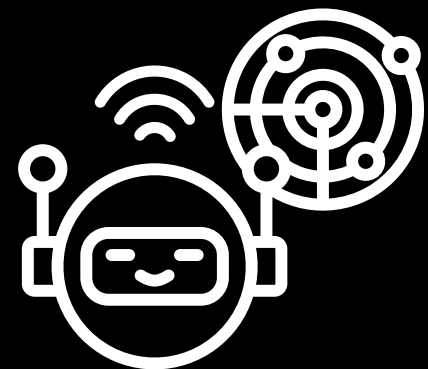
**Workflow Fit**



**Staff Confidence**

# Why Static Implementation Science Is Inadequate for Rapidly Evolving Tech

Implementation science assumes **stable** interventions.

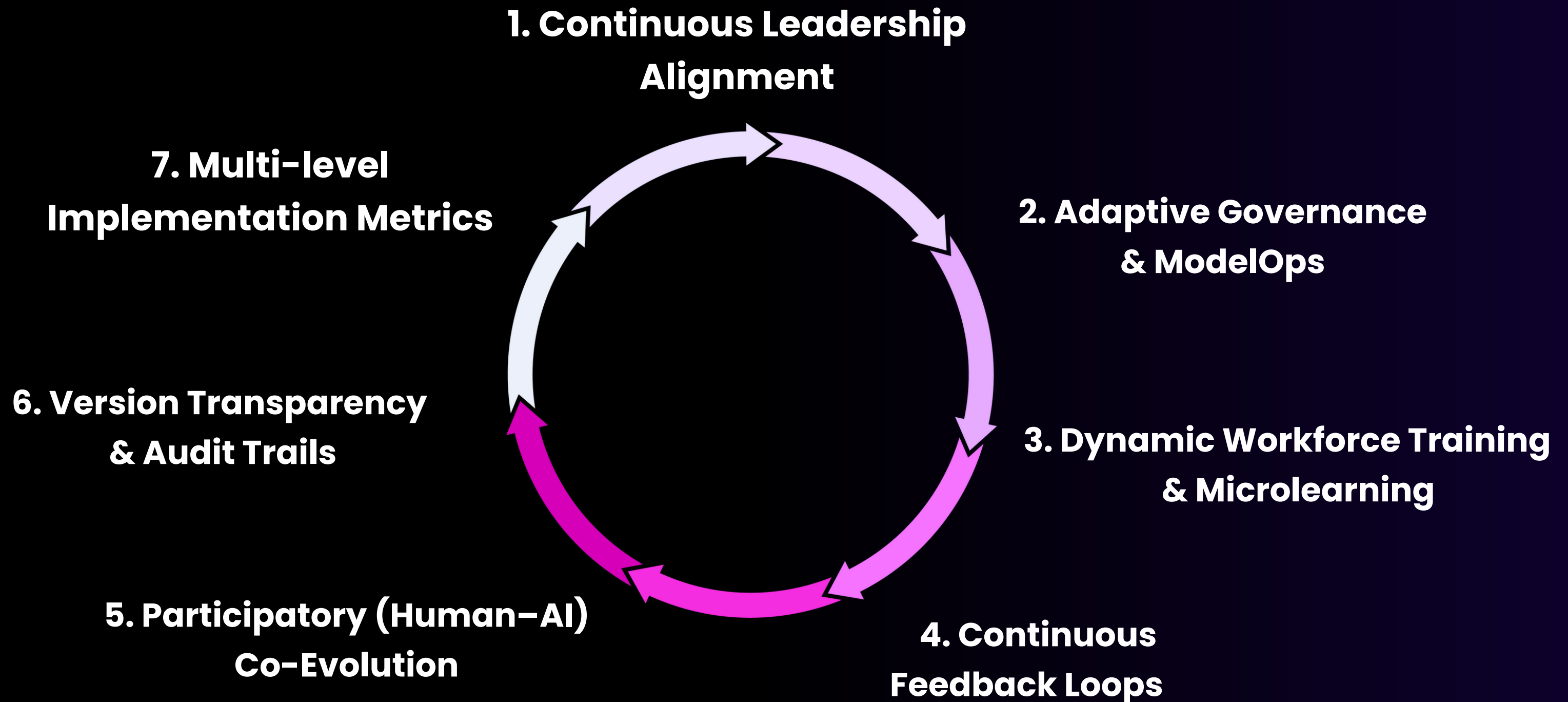


Agentic AI = Autonomous, often  
evolving socio-technical systems

**“Continuous implementation science” needed**

# Continuous Implementation Science

## Principles

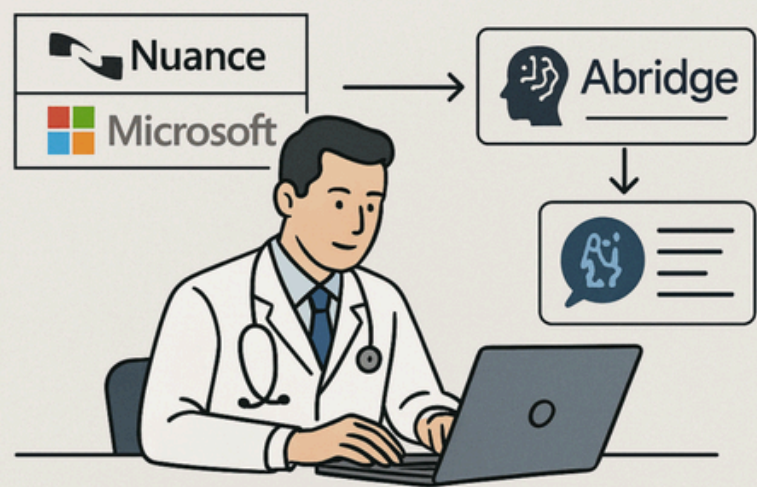


# New Barriers for Agentic AI

## e.g. Epic Ambient

Modern ambient documentation agents summarize, structure data, make recommendations, and learn from clinician edits. When the agent evolves (**sometimes weekly**), clinicians suddenly see:

**EPIC SET TO LAUNCH  
AI-POWERED SCRIBE MODULE**  
STREAMLINING DOCTORS' NOTE-TAKING AND  
COMPETING DIRECTLY WITH FORMER PARTNERS



(Epic Ambient; Nuance DAX Copilot; Abridge)

Different phrasing

Different risk flags

More/less aggressive extraction of diagnoses

Different E/M coding recommendations

New UI elements or automated ordering suggestions

**From the end-user's perspective, this is self-mutating behavior.**

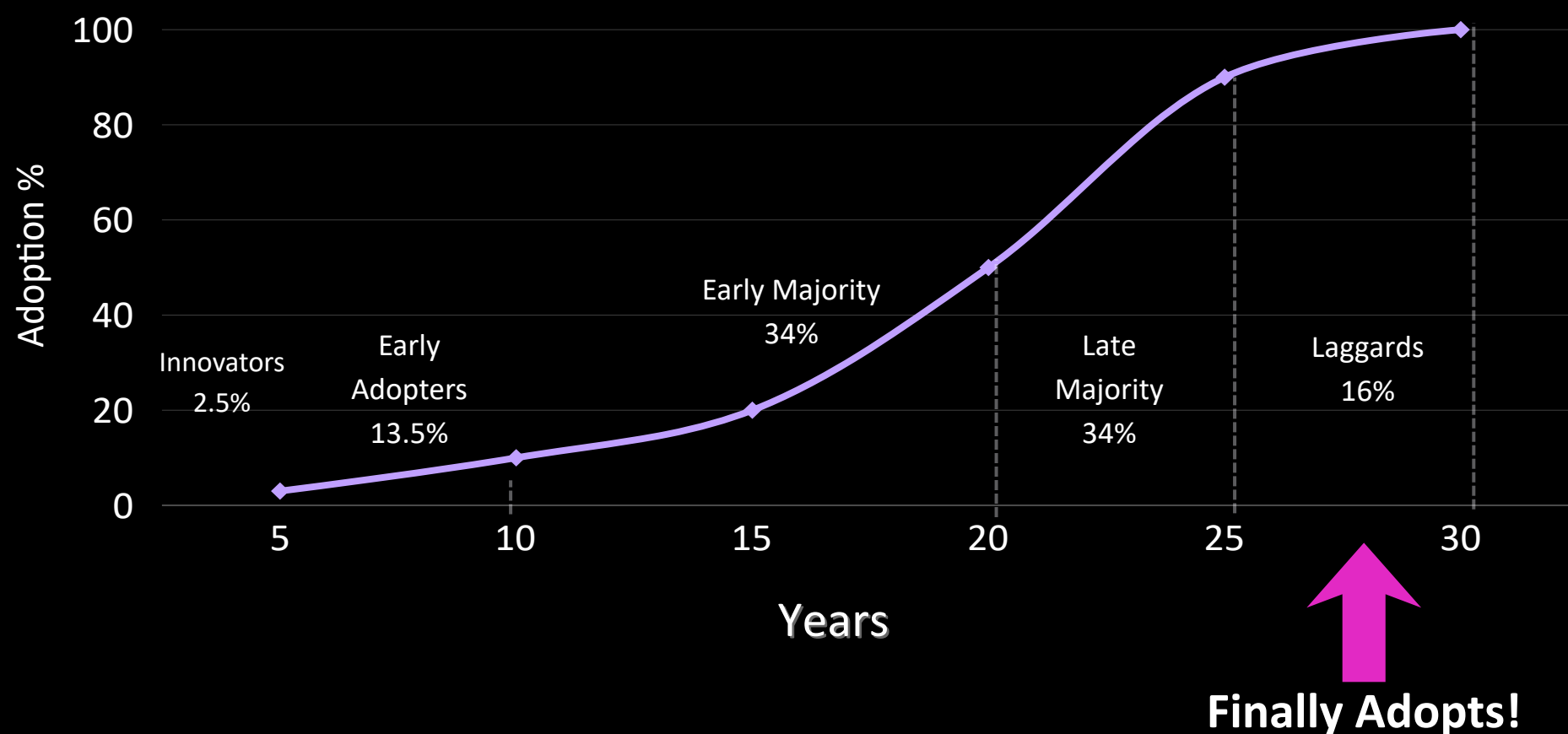
**The system users learned last month acts differently the next month!**



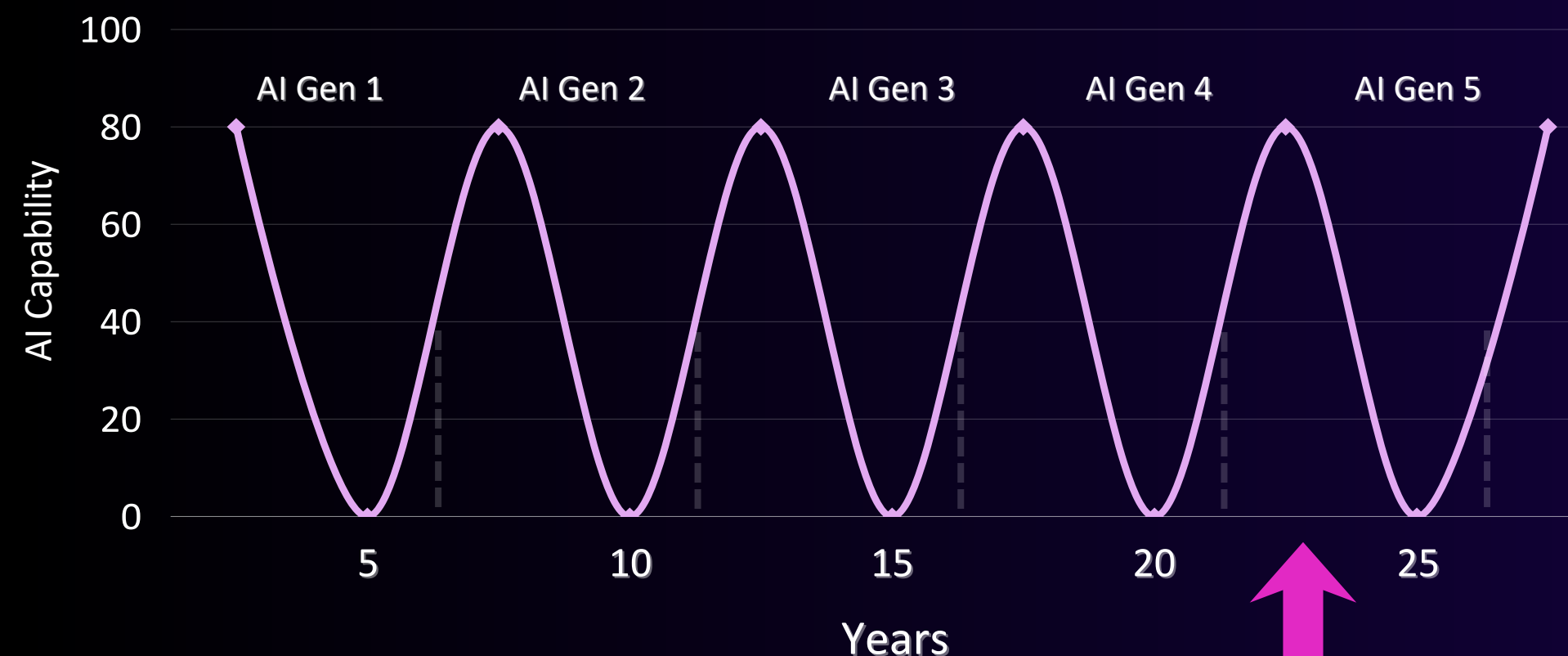
# The New Reality: Continuous Adoption

**AI now evolves faster than we can adopt it.**

Traditional Adoption Curve: 20–30 Years to 85%



AI Evolution: New Generation Every 6 Months



**By the time the late majority are adopting it, the tech is obsolete!**

# Hospital A vs. Hospital B:

## What Continuous Implementation Looks Like

### Hospital A – Successful Adoption

*High sustained adoption*

- ✓ Cross-functional AI governance
- ✓ Monthly review of model updates
- ✓ Micro-learning in workflow
- ✓ Pilot in one service line first
- ✓ Feedback buttons with iteration
- ✓ Iterative workflow co-design
- ✓ Clear version control + rollback

### Hospital B – Failed Adoption

*Rapid abandonment, low trust*

- ✗ Treated as IT project only
- ✗ Silent vendor updates
- ✗ One-time training at go-live
- ✗ System-wide rollout
- ✗ No easy feedback path
- ✗ Workflow misalignment, duplicate tasks
- ✗ Untracked version drift

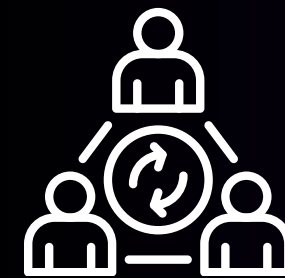
**Hospital A treated AI as a continuously evolving system. Hospital B treated it as static software.**

# From Promise to Practice:

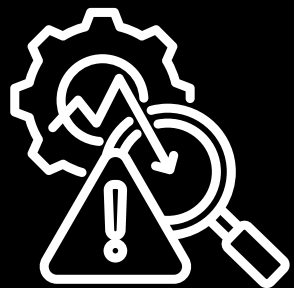
## Factors Actually Driving Adoption



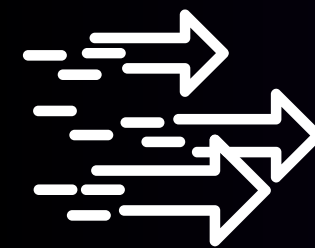
Adoption is fundamentally human



Static frameworks fail for dynamic AI



Als must be designed for adoption to avoid stalling



Continuous implementation is the new capability

**Organizations that implement these practices will scale AI. Those that don't will stay in pilot purgatory.**

# Thank you!

## Questions? Discussion?

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