Empowering Care Managers with Value-Driven Artificial Intelligence (AI) for Population Health Management

Lightbeam Health Solutions

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VBCExhibitHall.com
Educational Webinar Series

Poll Question #1

Which AI solutions have you deployed in your organization? (select all that apply)

- Machine Learning and Deep Learning (Predictive & Prescriptive Analytics)
- Natural Language Processing (NLP) / Natural Language Generation (NLG)
- Gen AI / LLMs – Ambient Listening / Ambient Scribes
- Agentic AI / AI Agents (Process & Workflow Automation)
- None of the above

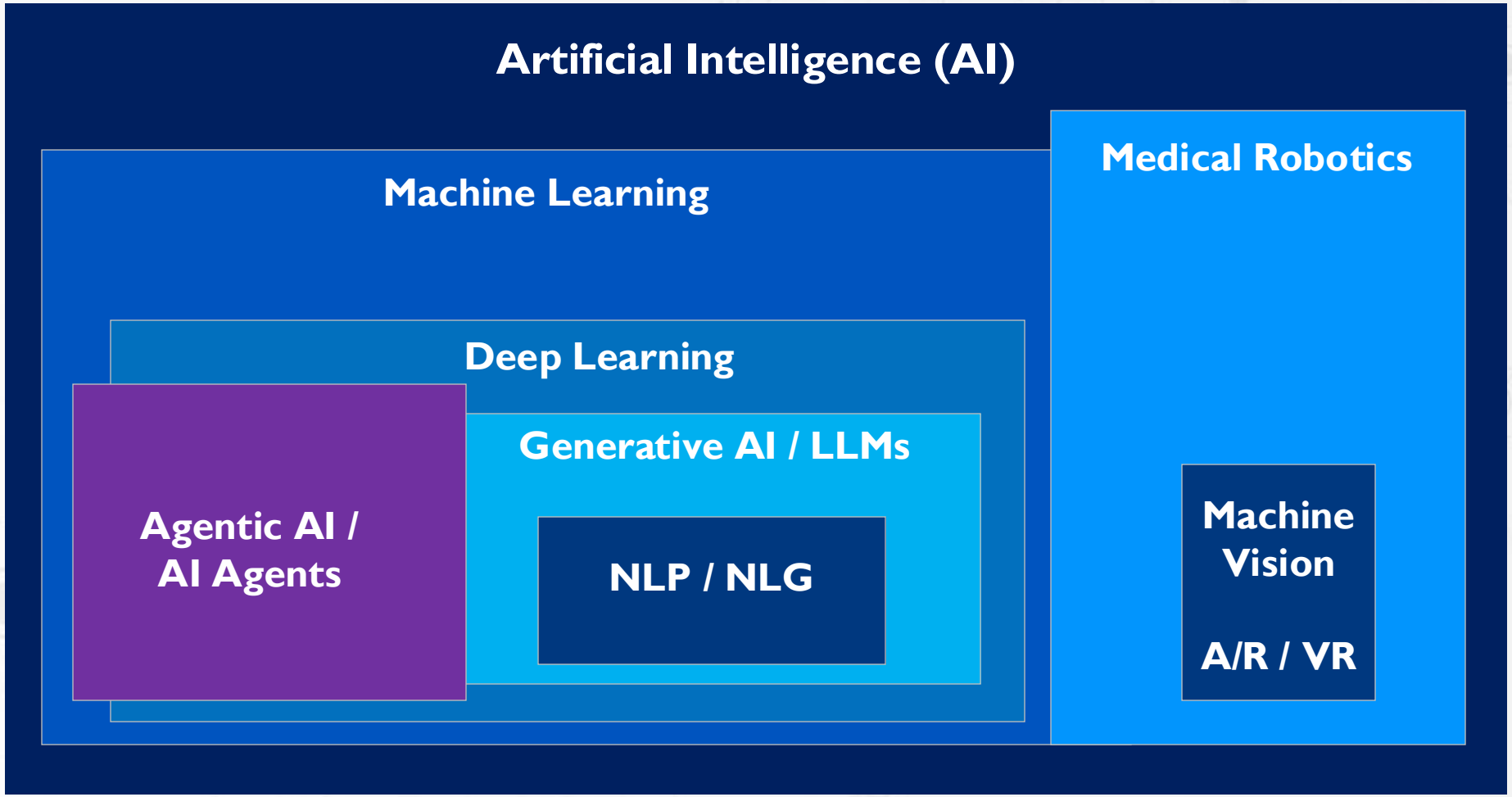
"Healthcare has often been accused of NOT delivering on product and service quality improvements despite significant adoption of new technologies"

AI is the platform that will help healthcare deliver a higher quality of care at a lower cost."

-Wright Lassiter III, CEO of Common Spirit

(Closing Keynote Fireside Chat at AMGA 2025)

A Portfolio Management Approach to AI



Key considerations

1. AI automation potential to enable higher efficiencies and productivity
2. Use cases with the highest value and ROI
3. AI core competencies – "Build vs. Buy"
4. Risk-based approach – transparency vs. black box
5. Governance, oversight, AI ethics and compliance

For additional details, please check out: 'Operationalizing AI for Healthcare: The Portfolio Management Approach', Andy De in the Lightbeam Health Blog, March 2025

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Despite dis-proportionate investments and hype, why have Gen AI/LLMs not delivered measurable value and ROI?

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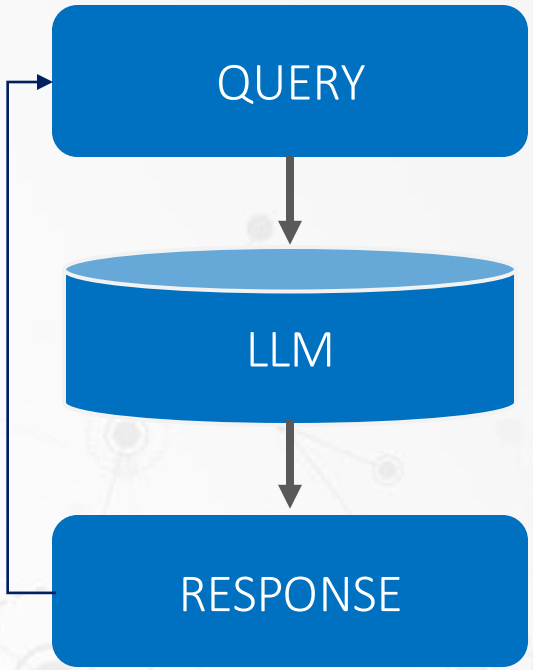
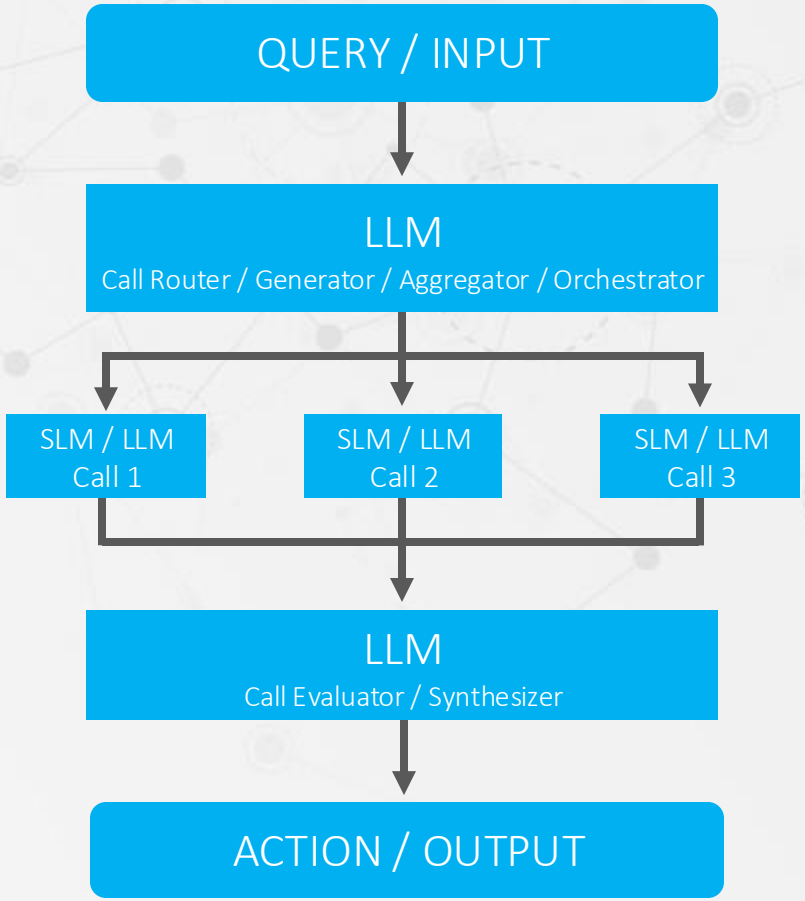
Generative AI / LLMs → Agentic AI / AI Agents



Significant challenges with Gen AI / LLMs:

1. Hallucinations
2. AI Bias
3. Non-Determinism
4. Security Issues & AI Manipulations / Hacks aka “AI Grooming”
5. Copyright Infringement
6. Limited Use Cases and Applications



For additional details, please check out: ‘Why Agentic AI will prevail and subsume Gen AI/ LLMs in Healthcare’, by Andy De, Health Science Strategy Blog, February 2025

Given these significant challenges, it is highly likely that Gen AI / LLMs will be subsumed by Agentic AI, going forward

Poll Question #2

Have you measured ROI from your AI implementations, and if so, what was the outcome? (select one)

- Positive, quantifiable ROI
- Breakeven on AI investments
- Negative or no ROI
- Deployed but not measured our ROI on AI

Gen AI Tools rolled out by the FDA, hallucinates and makes up non-existent studies!

FDA NEWS RELEASE

FDA Announces Completion of First AI-Assisted Scientific Review Pilot and Aggressive Agency-Wide AI Rollout Timeline

FDA'S AI TOOLS FAIL BASIC TESTS WHILE COMMISSIONER RUSHES ROLLOUT

CNN Politics Trump Facts First CNN Polls 2025 Elections

FDA's artificial intelligence is supposed to revolutionize drug approvals. It's making up studies

By Sarah Owermohle, CNN

10 min read · Published 6:00 AM EDT, Wed July 23, 2025

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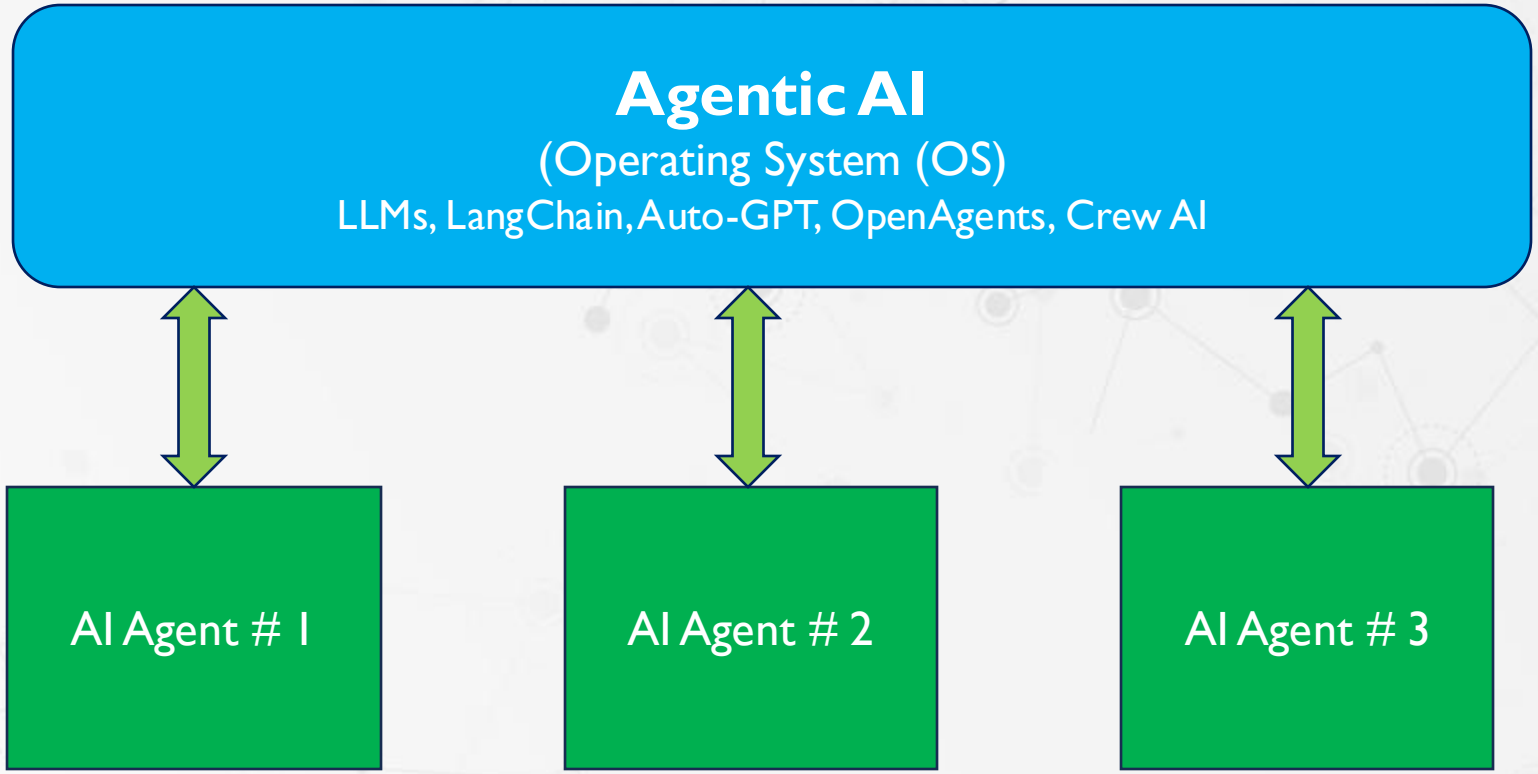
Difference between Agentic AI and AI Agents



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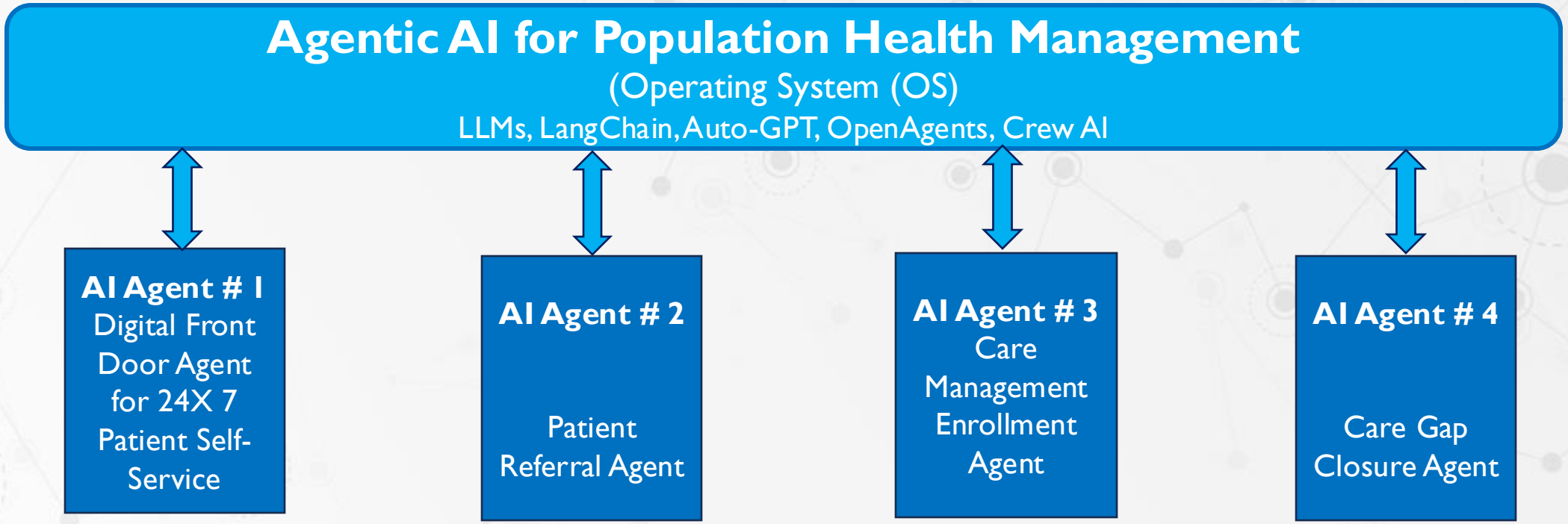
Agentic AI and AI Agents for Population Health Management



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*"We have deployed **Ambient Listening** to over 20,000 physicians at Kaiser Permanente - the largest deployment in North America".*

"AI cannot be "pushed out" to clinicians or nurses. We have tried that in the past and it has failed! "Pull" from our physicians & nurses is the key to driving AI & Tech adoption at scale."

- Dr. Maria Ansari, CEO & Executive Director of the Permanente Medical Group

(Closing Keynote Fireside Chat at AMGA 2025)

A 4 stage AI Innovation / Adoption Maturity Cycle
Population Health Management/Care Management Lifecycle

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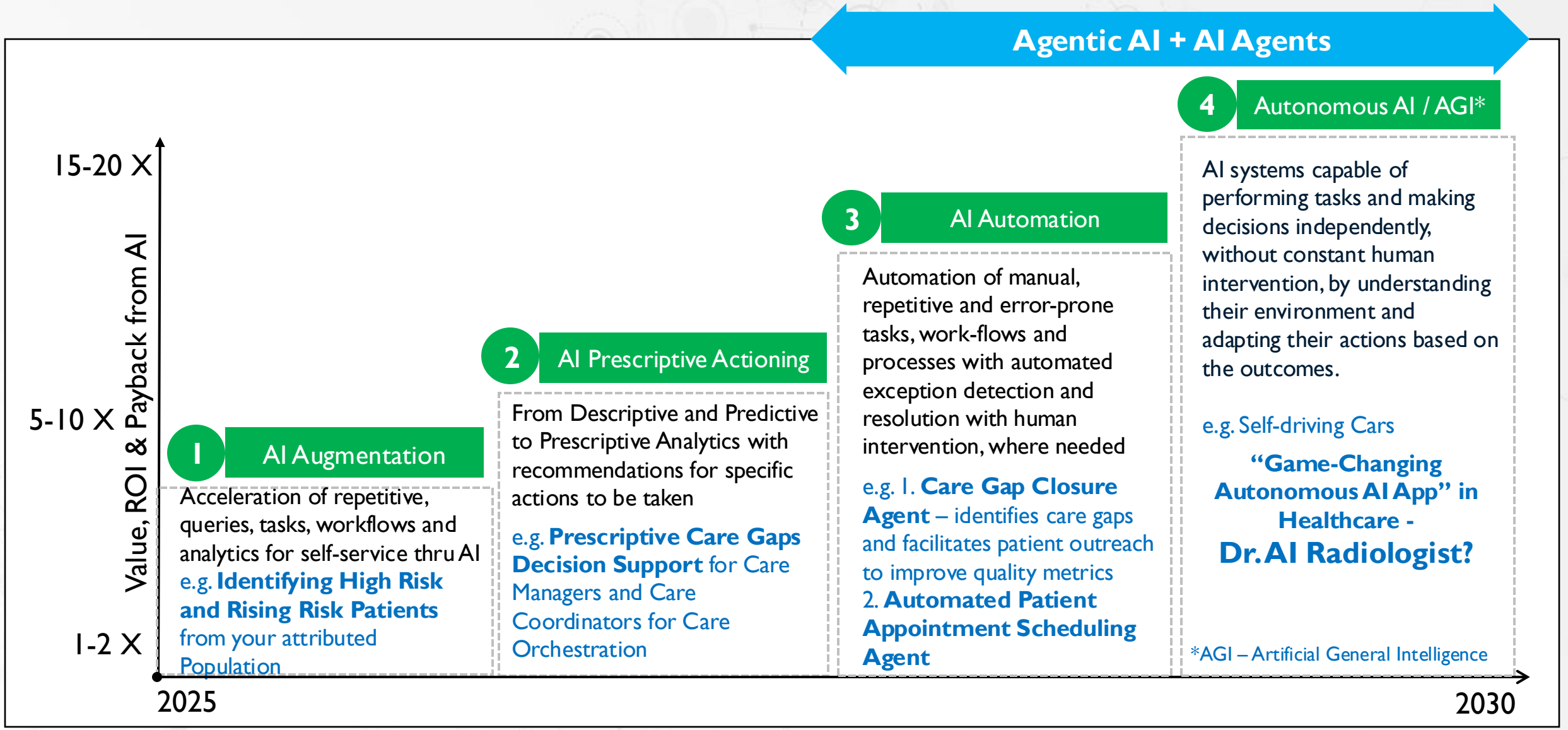

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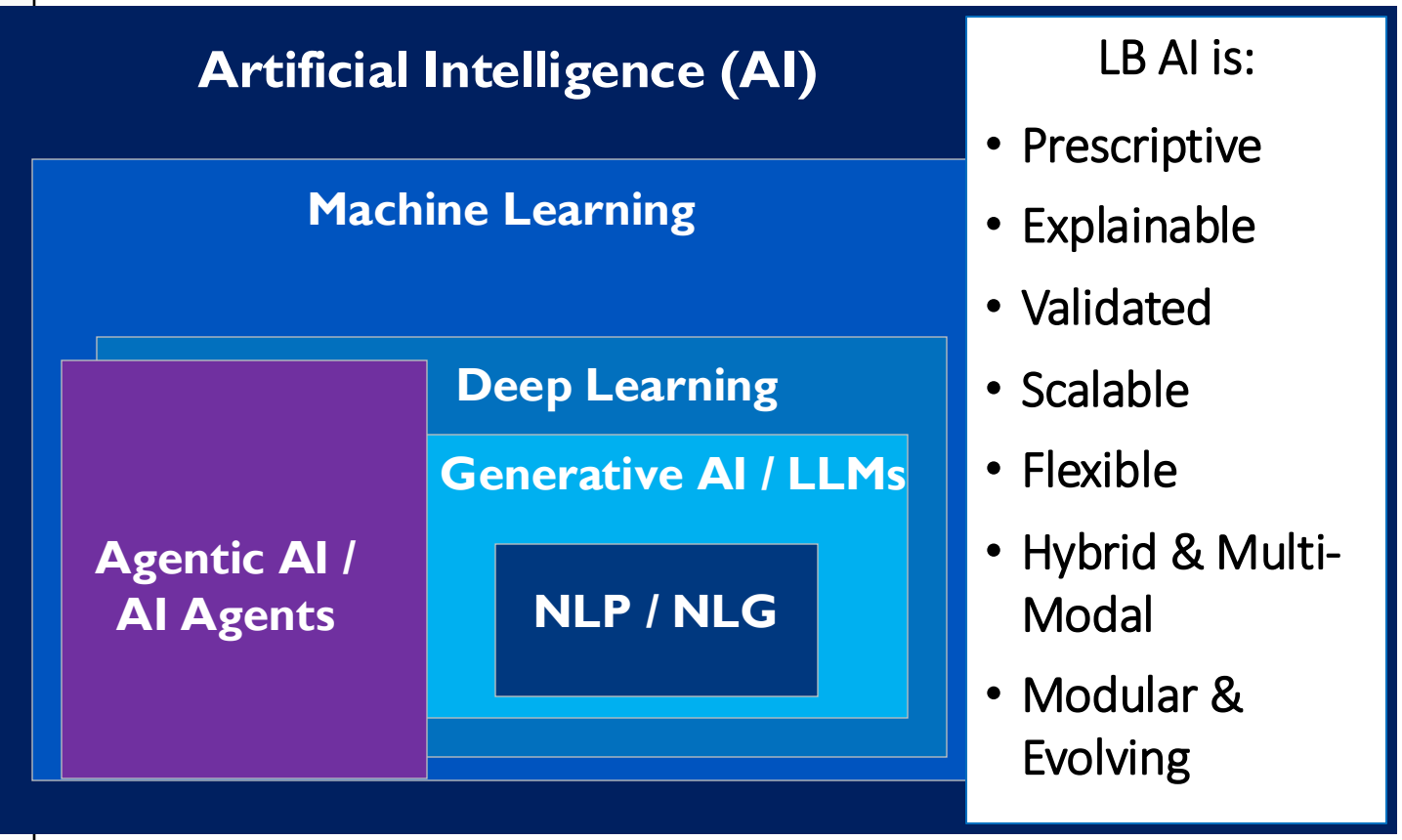
Lightbeam AI Innovation

A Portfolio Management Approach to Lightbeam Artificial Intelligence (LBAI) for Pop Health Management



LB AI is:

- Prescriptive
- Explainable
- Validated
- Scalable
- Flexible
- Hybrid & Multi-Modal
- Modular & Evolving

Lightbeam's proven AI innovation empowers healthcare organizations with prescriptive insights, automated workflows, and sense-and-respond capabilities to enable superior patient outcomes at lower caregiver fatigue and cost of care through a portfolio management approach to AI innovation.

Lightbeam's portfolio management approach comprises ML, NLP/ NLG, deep learning, Gen AI / LLMs, and agentic AI/AI agents--targeted to enable hybrid, multi-modal AI solutions that are designed, validated, and delivered to maximize value, ROI, and payback for our clients

Lightbeam AI (LBAI) is a clinically validated AI platform and solutions suite which predicts, prescribes, and helps prevent avoidable adverse outcomes across a wide range of healthcare use cases. LBAI enables **better care decisions by identifying who is at risk, why they are at risk, and what you can do about it.**

Lightbeam AI Innovation and Roadmap for Population Health Management

Lightbeam AI Timeline & Rodmap: Innovative & Secure

2017
Lightbeam commences **AI R&D** Efforts with **Fraud, Waste & Abuse (FWA) Model**

2018
Lightbeam develops **AI model** to **surface Undiagnosed Diabetes**

2022
Lightbeam acquired **Jvion** along with their market-leading **Machine learning AI models and data science team**

2023
Lightbeam commenced efforts to incorporate **Gen AI/LLMs** into core product

2024
Gen AI / LLM Co-Pilot Debut at **Lightbeam UGM**

2025
Lightbeam **Conversational AI AgentsGA in Q3 2025**

Lightbeam awarded **Microsoft AI Cloud Partner Certification for Gen AI / LLM Co-Pilot (MAICPP Certified).**

Microsoft Solutions Partner
Healthcare AI
Certified software
Lightbeam SaaS

2026
Lightbeam **Agentic AI / AI Agents Platform-as-a-Service (PaaS)** for Customers to configure and build their own agents

Award-Winning AI Platform & Capabilities

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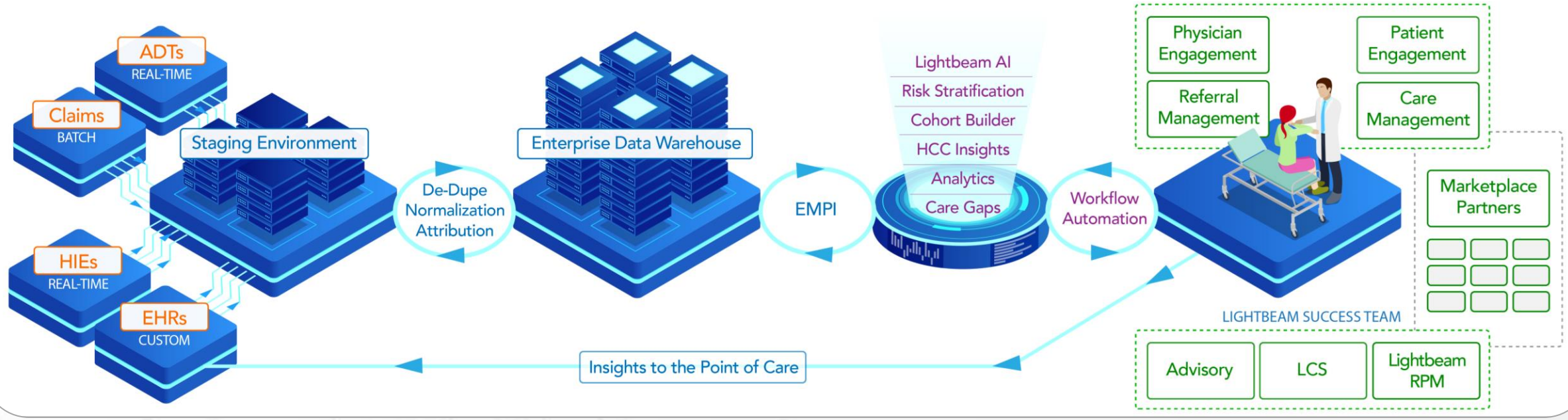
Lightbeam's AI enhanced solutions empower healthcare organizations with prescriptive insights, automated workflows, and sense and respond capabilities, to enable superior patient outcomes at lower caregiver fatigue & cost of care.

Lightbeam AI Platform Capabilities

- Predictive AI Insights for Population Risk Stratification
- Prescriptive AI Insights for Personalized Care Coordination, including SDOH
- AI Powered Call and Text-based Deviceless RPM



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Do you really know your members?

Why do patients with the same diagnosis have different outcomes?

Diabetes
Depression

Diabetic
Lives in food desert
Financial insecurity
Low digital fluency
Lacks social support
Widow

According to the National Institute of Medicine, for patients with similar disease burdens 80% of the variability in clinical outcomes is driven by non-clinical factors.

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Non-Clinical Data Sources Aggregated & Analyzed

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Demographic	Environmental	Transportation	Lifestyle	Behavioral	Access

- **US Census Bureau**
  Includes American Community Survey.
- **US Department of Agriculture**
- **U.S. Department of Housing & Urban Development**
- **U.S. Department of Health and Human Services**
- **Environmental Protection Agency**
- **Centers for Disease Control and Prevention**
  Includes ATSDR Social Vulnerability Index and PLACES data.
- **National Provider Identifier**
- **National Oceanic and Atmospheric Administration**
- **Federal Bureau of Investigation (FBI)**
- **Federal Emergency Management Agency (FEMA)**
- **U.S. Department of Transportation**
- **National Interagency Fire Center (NIFC)**

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3rd Party Data Sources Aggregated & Analyzed

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Household | Media | Occupation | Product use | Life Stages | Interest

Product Propensity
Purchasing history and likelihood to use certain products. Includes elements derived from actual purchases and self-reported survey.

Rx Propensity
Filled location and propensity to prefer to fill. Also defines likelihood to inquire about prescription medication.

Occupational Detail
Details of the individual's occupation, aggregate of the overall.

Family Ties
Household characteristics about the individuals in the household including life associated milestones.

Digital Fluency & Relationship
Indicates the use of computers or software in the household, data about the household's phone behaviors and internet connection.

Health Interest
Derived from purchases and self-reported sourced. Includes common health-related household data such as allergies, diabetic focus, and arthritis needs.

Purchasing Propensity & Interest
Interest elements are derived from actual purchases and self-reported surveys (not time sensitive).

Vehicle Detail
Vehicle purchase and ownership data from dealer services and self-reported sources.

Homeowner Detail
Includes home-related events such as a recent home purchase or refinance. Data is from self-reported sources and public records.

Media Usage Propensity
Predictive models that indicate consumer's preference for various media channels, as well as health-related search engine propensity.

Stages of Life Characteristics
Identifies life-stage based on household level segmentation based on specific consumer behavior and demographic characteristics.

Household characteristics
Includes demographical information about the individual and household.

Lightbeam Insights AI

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- Avoidable Admissions
  - Predicts avoidable admissions within the next 30, 60, 90 days
- Avoidable ED
  - Predicts which members are at highest risk for avoidable ED visit in the next 30, 60, 90 days
- Avoidable Readmissions
  - Predicts which members are at highest risk for avoidable ED visit in the next 30, 60, 90 days
- End of Life Support
  - Identified Mortality Risk within a given timeframe (3 to 18 months)
  - Timely transition to palliative/hospice
- Engageability Index
  - Reflects each member's willingness and ability to (or lack thereof) to engage in their own healthcare
- Individual SDoH
  - Non-clinical risk factors for individual members, identifying who is at highest risk and ***why***
- Community SDoH
  - Race, ethnicity, access to care, poverty, transportation/walkability, insurance coverage, access to healthy foods, environmental conditions
- Dual Eligibility Identification
- HCC Suspecting

AI In Action – Cohort Copilot

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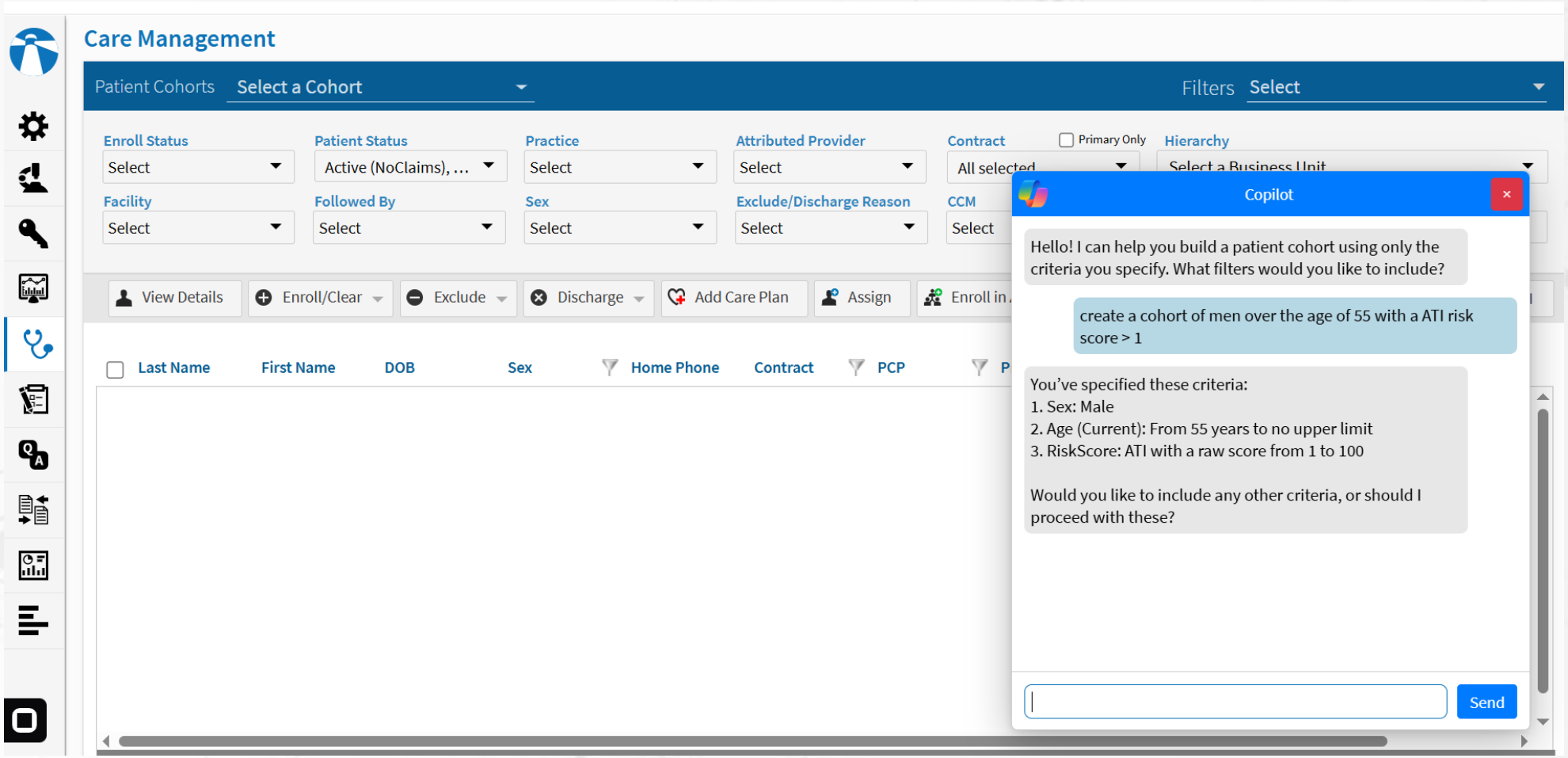
AI Driven Cohort Creation



Microsoft Solutions Partner

Healthcare AI
Certified software
Lightbeam SaaS

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Don’t Just Identify Risk - Eliminate It

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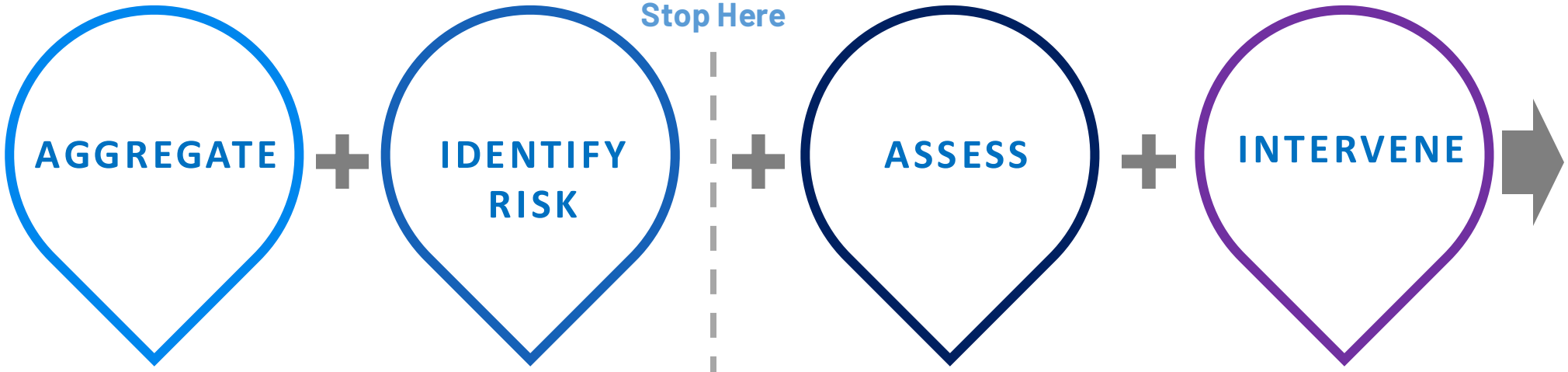
Uncovering both obvious and hidden risks, targeting impactability, and the actions that matter

Lightbeam AI Identifies Which Patients are at Risk, Why, and How to Intervene

Traditional Predictive Analytics Stop Here



Combine structured and unstructured data across the enterprise

Patients with obvious or hidden risks and factors that put them on an accelerated path to a poor outcome

Surface both WHY the patient is at risk and IF that risk can be changed - prioritizing those that are modifiable in terms of health improvement and cost avoidance

Enable ACTION by proposing prioritized and clinically validated interventions that can best change patient outcomes

Clinical & Financial Results

Reduction in Readmissions

Reduce Care Manager Call Time

Identify More Avoidable Utilization Events than EHRs

Cost Savings

Lightbeam Actions AI – Voice Agents

- Status-quo: a team of engagement specialists making outreaches based on a script
- Using voice agent: natural language outreach with consistent patient & empathy (but still based on a script to ensure compliance)
- Brings scalability and ability to always target optimal call hours (e.g., for commercial patients, it's right before dinner time)
- Conversion Rates (CR) for picked up calls show that the enrollment agent performs on-par with our engagement specialists, at time even surpassing

	Average Conversion Rate	Conversion vs. Human	Highest Conversion Day
Human	53.1%	-	63.8%
V1 Prototype	34.5%	65%	46.7%
Live Agent	52.8%	99%	64.3%

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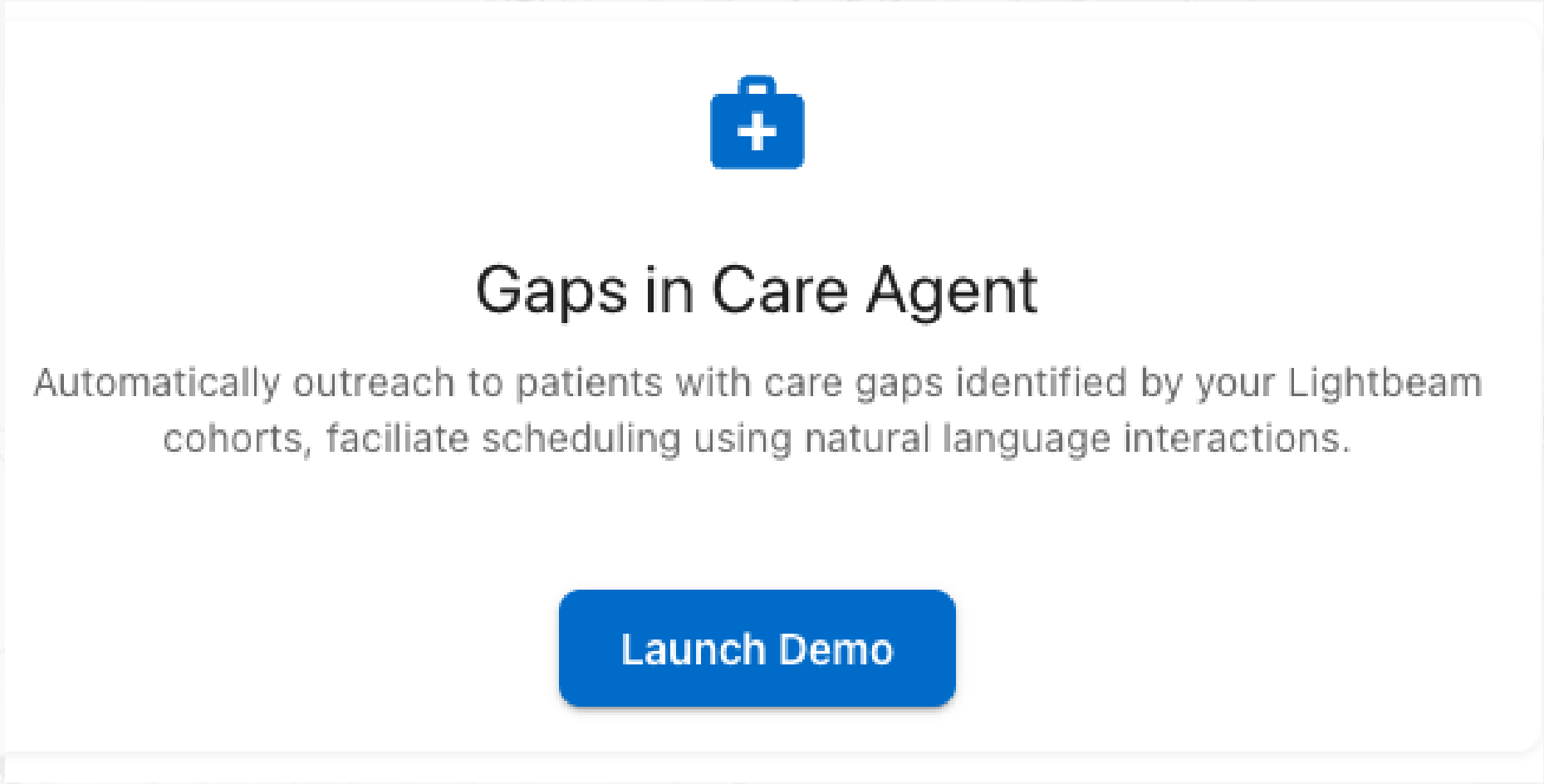
Demo



[Gaps in Care Demo]

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2025 Lightbeam AI Innovation Roadmap

AI Insights + AI Actions = Superior Outcomes

GA Availability end of Q2 2025

Predictive Algorithms / Models (M/L) for Population Risk Stratification:

1. Avoidable Admissions
2. Avoidable Re-admissions
3. Avoidable ED Visits
4. Ambulatory Re-admissions
5. Outpatient All-Cause Readmission
6. End of Life Support
7. HCC Suspecting
8. Engageability
9. Dual Eligibility Identification
10. Individual SDOH
11. Community SDOH
12. Care Orchestration integrated with LB DRPM

Q3 2025

Agentic AI / AI Agents and Curated Gen AI / LLMs enabled AI Actioning for Tasks / Workflow / Process Automation

1. Cohort Co-Pilot certified by Microsoft
2. Conversational AI Agent within LB DRM for Patient Enrollment
3. Conversation AI Agent for Care Gap Closure
4. Enhanced HCC Suspecting incl. Clinical Data

Q4 2025

1. Conversational AI Agent (Post-Discharge) with tighter integration
2. Ambient Listening for Care Management Summary
3. Analytics Copilot

AI Augmentation for Actionable (Predictive + Prescriptive) Insights

AI Actions for Tasks I Workflow I Process Automation

Lightbeam AI Innovation in Action – Customer Success Stories Articulating Measurable Value & Outcomes

Overview

An Arizona-based integrated delivery network (IDN), sought to increase the impact of the care team, reduce avoidable admissions, and achieve cost savings

Goals

- Reduce avoidable admissions among high-risk Medicaid plan members
- Improve care coordination
- Increase care team effectiveness and efficiency

Solution

- Deploy Lightbeam AI's 30-day Avoidable Admission model to proactively identify high-risk members at risk of an avoidable admission within the next 30 days
- Use patient-specific recommended interventions to efficiently address patient needs

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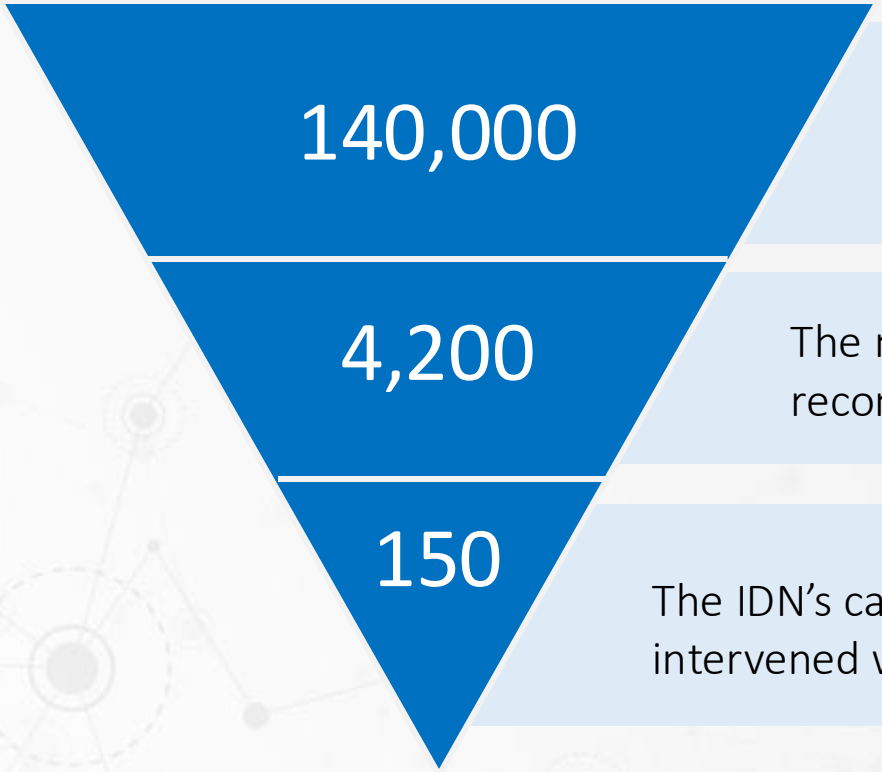
Risk Stratification & Intervention Workflow



Lightbeam's AI model performed a monthly Assessment of the IDN's **140,000** member Medicaid population

The model returned a list of members ordered by risk percentile along with recommended actions. It returned an average of **4,200 high-risk members each month.**

The IDN's care managers outreached to members and recorded progress. They intervened with an average of **150 members each month.**

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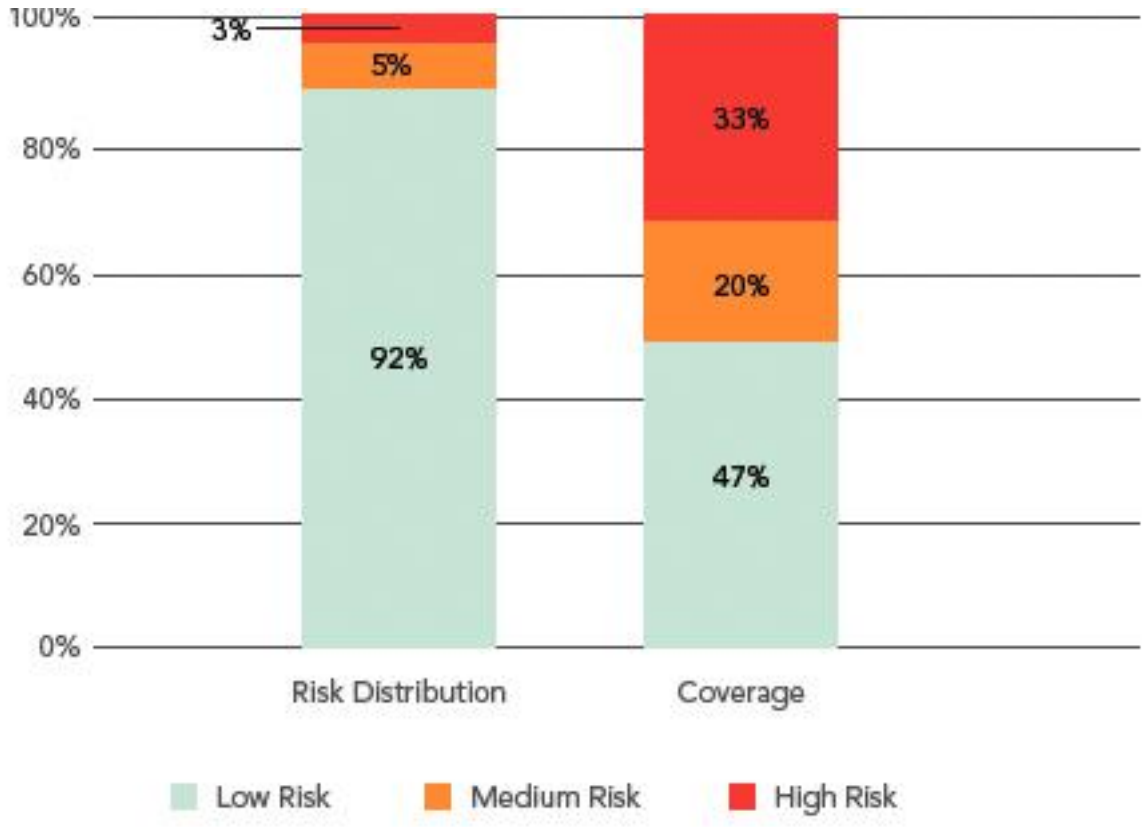
AA Model Performance

Avoidable Admission Model Performance for June 2024



3% of high-risk patients represent 33% of avoidable admissions

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Value and Impact

IP30 Admits (Intervened)	IP30 Admits (Control)	IP Admits Avoided	Avg. IP Admit Cost*	Estimated Cost Avoided
85	150	65	$9,800	$637,000

	High Risk Patients	IP30 Admit Events	30-Day Admit Rate	Admit Rate Difference	Relative Reduction
Intervention Group	1226	85	6.9%	-5.3%	43.3%
1:1 Matched Control Group	1226	150	12.2%		

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" AI will deliver value by unburdening clinicians and empowering them to focus on caring for their patients which is what they do best."

*" **Trust** is key to the adoption of AI at scale.*
***AI will be deployed at the speed of Trust**!"*

- ***Stephen Jones, MD**, CEO of Inova and Immediate Past Chair of the Board, AMGA*
(Closing Keynote Fireside Chat at AMGA 2025)

Q&A

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