

# Health Care Technology Update

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International Foundation  
OF EMPLOYEE BENEFIT PLANS 

## Polling Question

The human-machine teaming era is here! How prepared is your company to succeed with things like generative AI, automation, chatbots etc.?

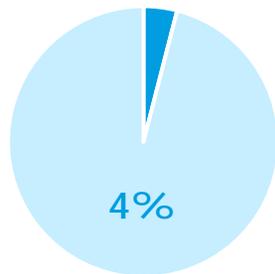
- A. Very prepared
- B. Moderately prepared
- C. Somewhat prepared
- D. Not prepared
- E. Unsure

# Most Companies Feel They Are Not Yet Prepared to Succeed in the Human-Machine Teaming Era

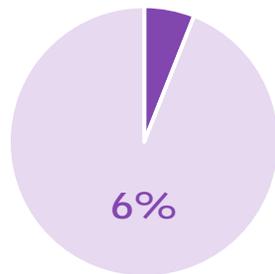


Generative AI has exploded with generative AI models. With this explosion, nearly all employers are looking for ways to increase productivity and efficiency of their workforce with generative AI, but few feel they are prepared.

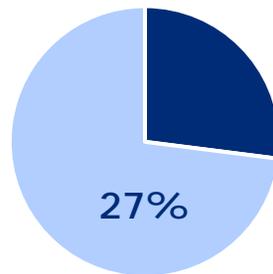
In your opinion, how prepared is your company to succeed in the humane-machine teaming era (e.g., generative AI, automation, chatbots, etc.)



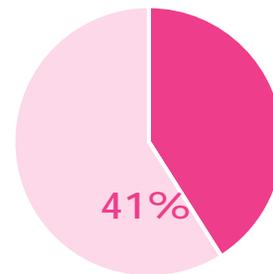
Very prepared



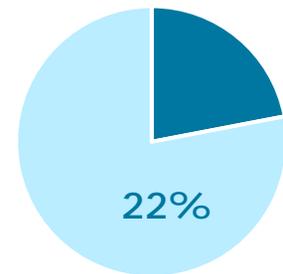
Moderately prepared



Somewhat prepared



Not prepared

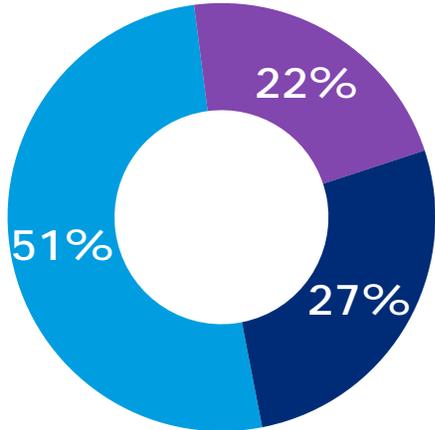


Unsure

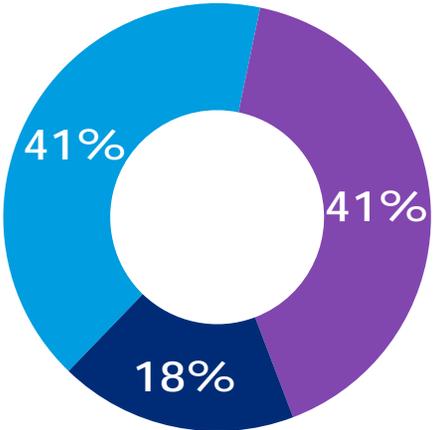
Source: 2023 US and Canada results: Real-time Insights Survey: Shaping the Future of Work

# Employees Are Slightly More Optimistic That Technology Will Make Their Job Better Than Concerned That It Will Eliminate Their Job

“New technologies will help me do my job more efficiently and effectively”



“I am concerned that new technologies will impact my job security in the next 5 years”

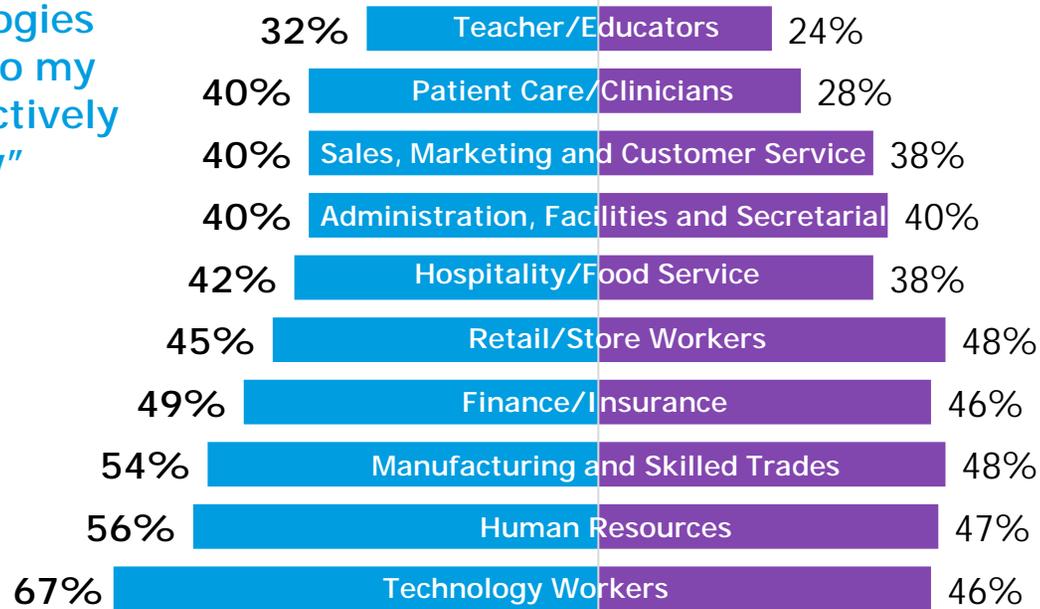


■ % Agree ■ % Disagree ■ % Neutral

Source: Mercer's 2023-2024 US Inside Employees' Minds Survey of more than 4,000 US employees

# Front-Line Workers Are Less Optimistic About Technology and Less Concerned With Job Security

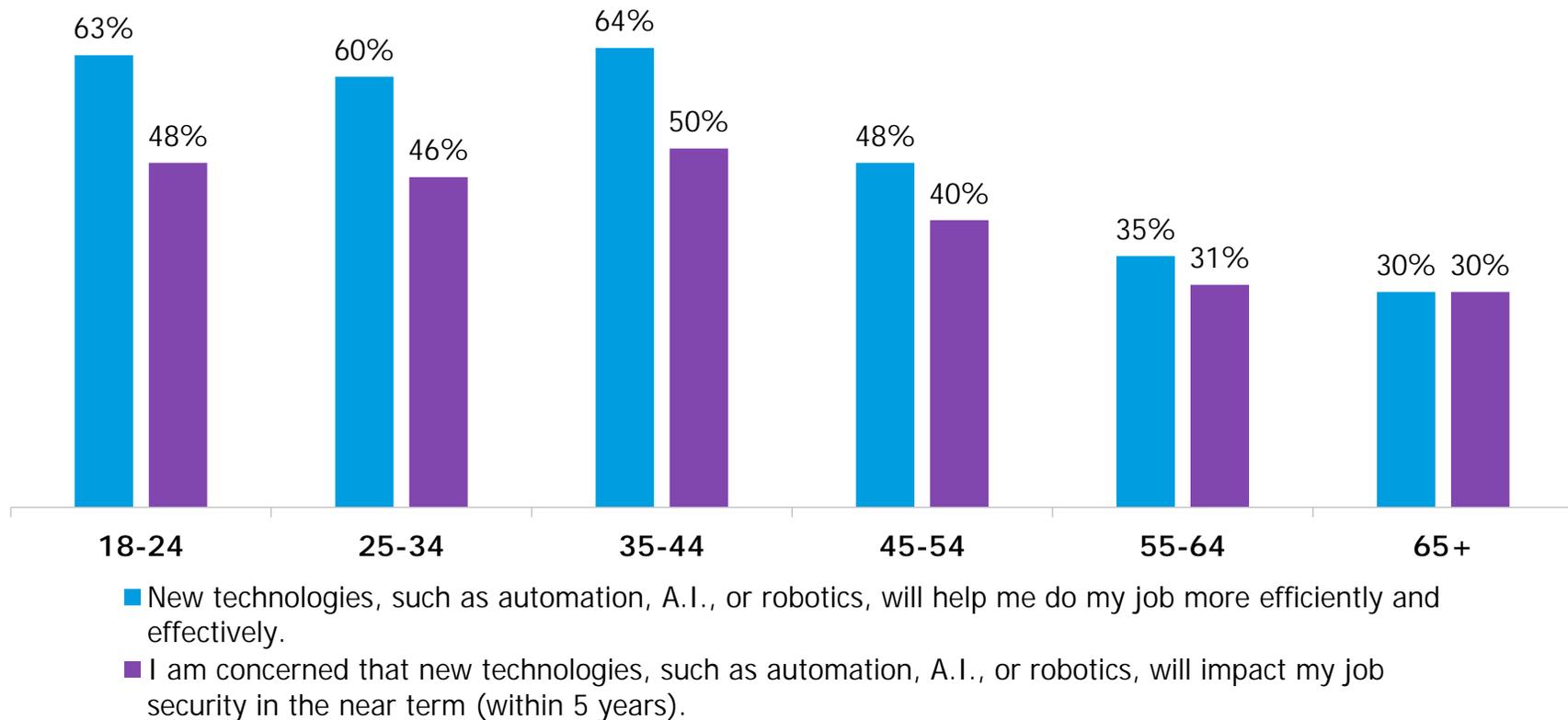
“New technologies will help me do my job more effectively and efficiently”



“I am concerned that new technology will impact my job security in the near term”

Source: Mercer's 2023-2024 US Inside Employees' Minds Survey of more than 4,000 US employees

# Younger Workers Are Both More Optimistic Yet Also More Concerned About Job Security



Source: Mercer's 2023-2024 US Inside Employees' Minds Survey of more than 4,000 US employees; "I am concerned that new technologies" results represent % unfavorable results

# Where Are You on Your AI Journey?



## Interested

*"I am actively seeking out information about AI and its application in HR and/or Total Rewards"*

## Evaluating

*"I am assessing different AI tools and solutions suitable for HR and/or Total Rewards functions"*

## Trial

*"I am testing out AI solutions on a limited scale"*

## Adopting

*"I have fully integrated AI solutions on a limited scale"*

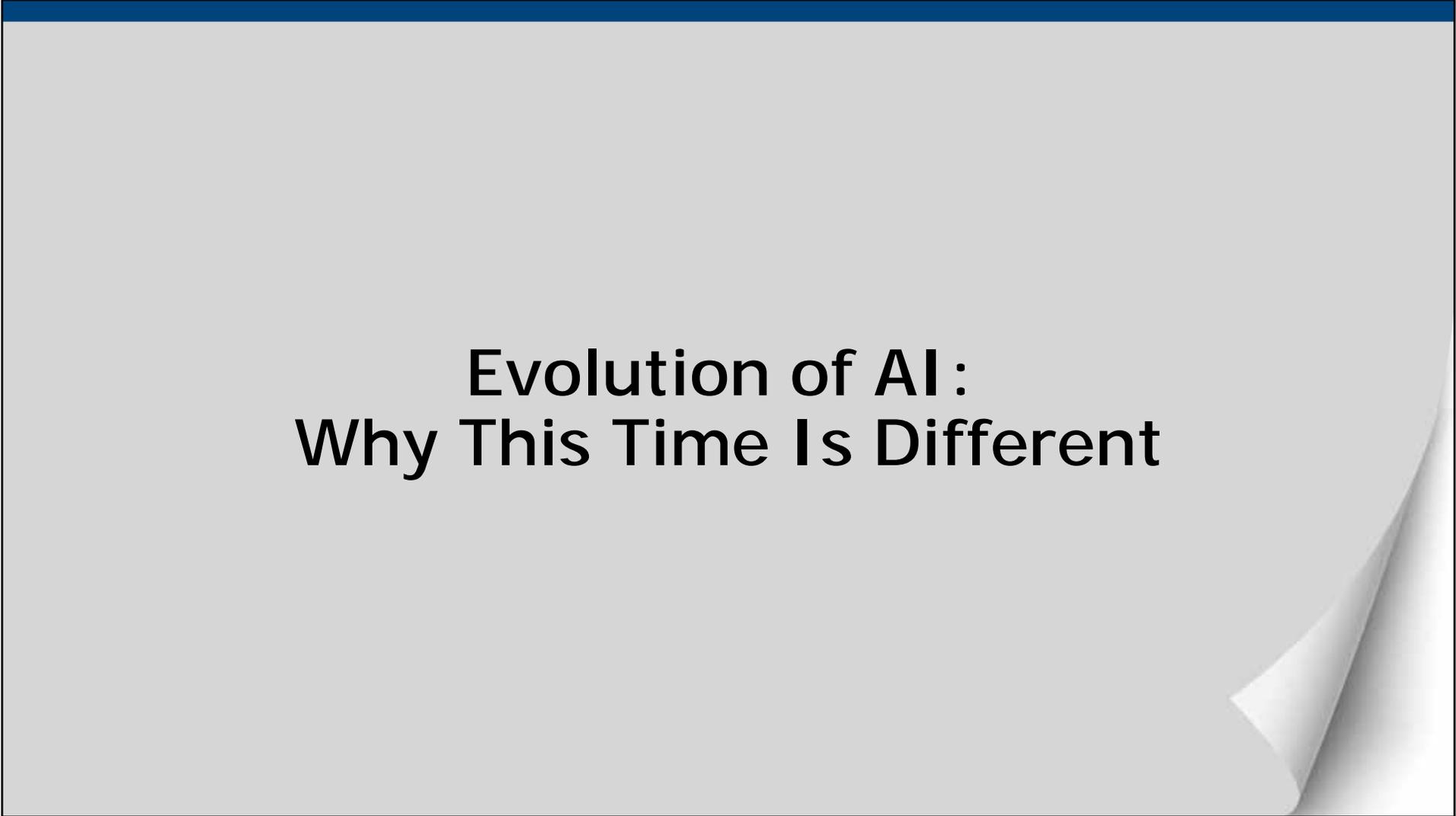
## Refinement

*"I am continuously improving and updating AI tools based on feedback and results"*

# Polling Question

Where are you on your AI journey?

- A. Interested
- B. Evaluating
- C. Trial
- D. Adopting
- E. Refinement



# **Evolution of AI: Why This Time Is Different**

# Generations of Artificial Intelligence



AI 1.0

Rule-based Systems



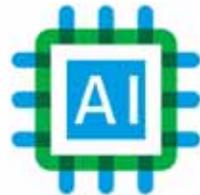
AI 2.0

Machine Learning



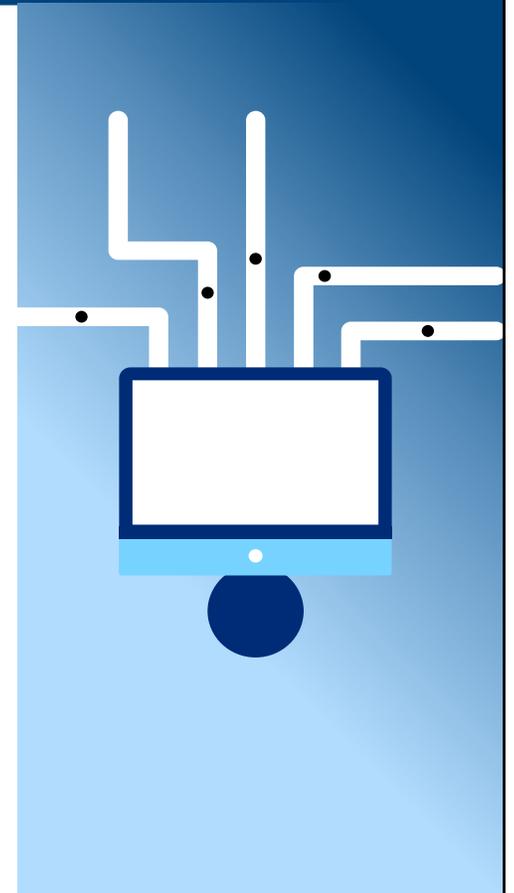
AI 3.0

Deep Learning



AI 4.0

Generative AI



# Generative vs. Traditional AI

## Generative AI

Can create new content

May require breaking down complex problems into smaller ones

Generated data not always representative of real world, contain biases

Unsupervised learning to identify patterns

Creative fields, natural language processing and chatbots, data analysis

vs.

Content creation

Problem solving

Limitations

Supervision

Exemplary Application fields

## Traditional AI

Cannot create new content

Can handle complex problems in one go but without new thinking

Limited to pre-programmed rules and algorithms

Mostly supervised learning to classify data

Finance, healthcare, manufacturing for data analysis and prediction

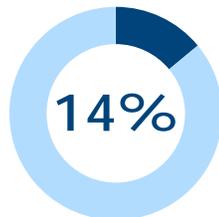
Sources:

- Generative AI: How It works, History, and Pros and Cons, Investopedia, 2023
- How Generative AI is Changing Create Work, Harvard Business Review, 2023
- Generative AI at Work, NBER, 2023

# AI Is Here, But Are We Ready?

55% of people are using Gen AI for work, representing faster mass adoption than the internet (17 years), smartphones (21 years) and electricity (37 years). So now what?

CEOs expect AI will be a *top growth driver* in the next three years, **but yet**



of HR leaders say their company is **prepared to succeed** in the human-machine teaming era

Source: McKinsey State of Organizations 2023

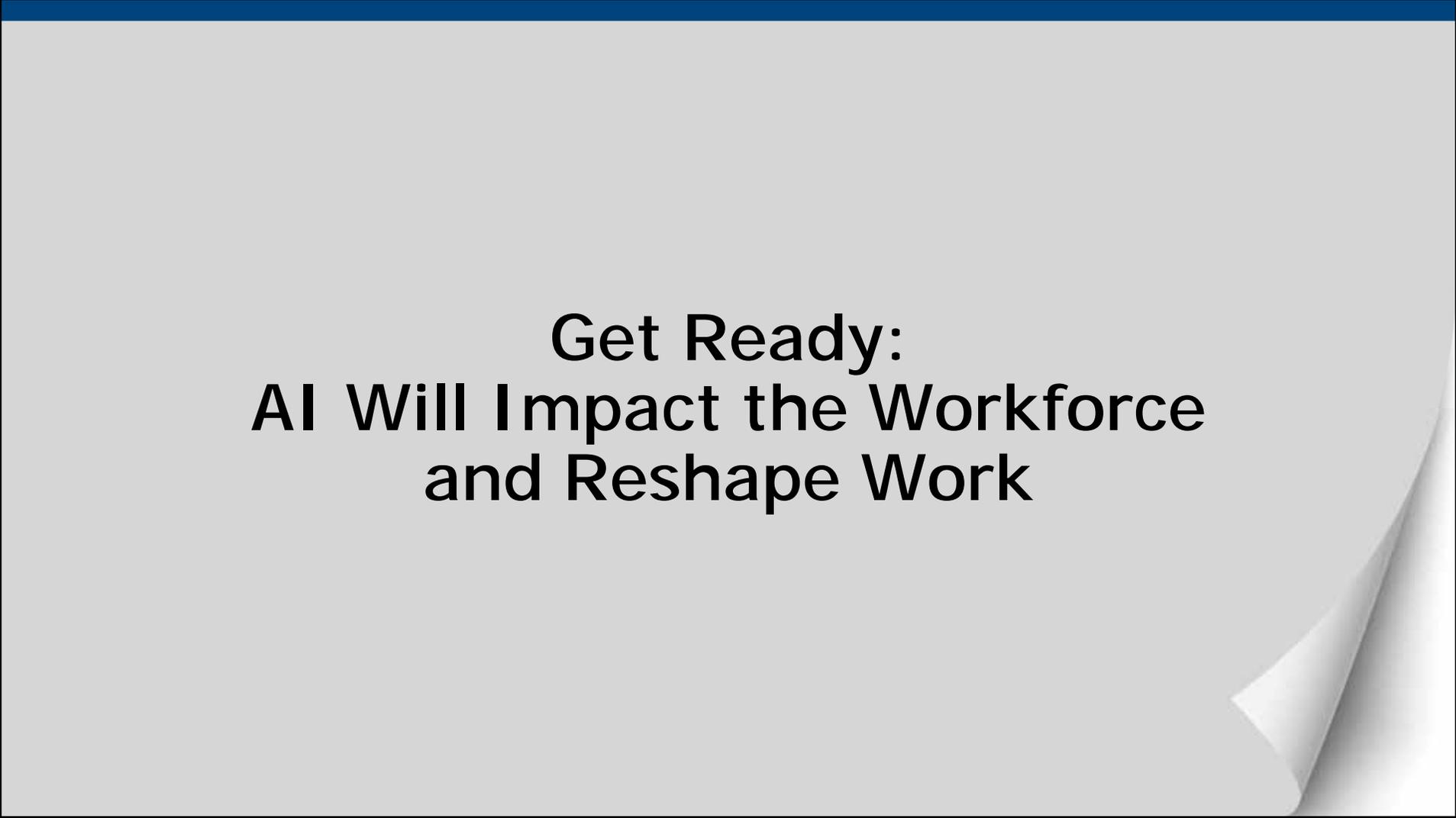
Companies expecting to **adopt** AI **75%**

Companies reporting increased **productivity** from using Gen AI **61%**

Expect AI to create job **growth** **50%**

Expect AI to create job **losses** **25%**

Source: Oliver Wyman Forum, How Generative AI is Transforming Business and Society



**Get Ready:  
AI Will Impact the Workforce  
and Reshape Work**

# Value Creation Levers for Generative AI



## Drive efficiency via automation

Streamline repetitive or manual tasks to increase time for higher-skill activities (e.g., customer support, operations)

- **Objective:** Decrease costs, increase productivity
- **Challenge:** Most outputs require human review; few off-the-shelf models; training/upskilling (e.g., from “doing” to “validating”)



## Augment decision making

Augment human expertise with research/insights synthesis assistance to facilitate complex decision making

- **Objective:** Reduce losses, shorter processing time
- **Challenge:** Input data quality and exhaustivity (internal and third party); training/upskilling of decision-makers



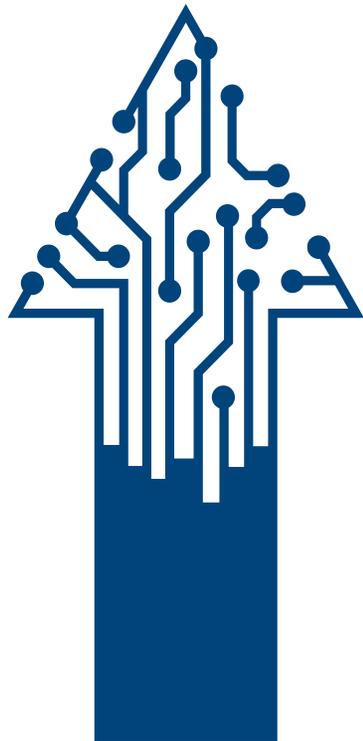
## Hyper-personalize the experience

Use data to deepen employee understanding (e.g., personas, social listening) and develop personalized communication materials

- **Objective:** Higher engagement via increased employee activation and retention
- **Challenge:** Accuracy of AI-drafted recommendations, legal/compliance governance processes

Adapted from Oliver Wyman

# AI's Impacts on HR



AI is disrupting the HR function, enabling faster, more human responses, and a more personalized experience...

## Potential and Emerging Use Cases:

### Hiring

Collect and analyze data around vacancies and new team requirements

### Employee Service

Insights can be used to power chat-bots to handle common employee requests and questions

### Learning and Development

Tailoring the learning experience to match an individual's job role, current skills, development plan, and future aspirations

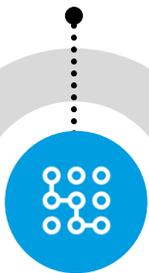
### Compliance

Traditionally a labor-intensive, risky business function; some augmentation possible

# AI's Impacts on Healthcare

## Predictive Analytics

Estimate the likelihood of future outcomes based on patterns of historical data



## Clinical Care and Imaging

Clinicians are turning to AI to help decipher large quantities of scans to better identify and treat diseases



## Therapeutic Discovery

Drug manufacturers and health systems are using AI to develop treatment tailored to individuals

## Operational Efficiency

Automation comes for healthcare administration and delivery

AI continues to transform the healthcare industry, **unlocking new discoveries, and allowing providers to effectively deliver intelligent, outcomes-based care...**

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**Risks of AI are amplified in healthcare, as errors can have serious consequences**

# AI's Impacts on Benefits

AI has the potential to bring a **consumer-grade experience to benefits... Finally!**



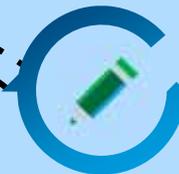
## Advanced Analytics

Advanced analytics can help benefit professionals make more informed strategy decisions



## Communication

LLMs can be trained on past communications to determine employer "voice" and replicate for future pieces



## Personalized health and wellness

Tailored guidance on nutrition, exercise, stress management, etc. helping individuals make informed decisions about their health



## Benefit Navigation and Customer Service

Customer service will be augmented by AI-powered tools to address first line questions; navigation will be personalized

Employer Implications

Employee Implications

# AI Demo



**Get Ready:  
Preparing the HR Function  
to Leverage AI**

# Examples of Impacts on HR Teams

## Now...



Answer  
employee  
questions



Policy and  
Guide  
Updates



Customize  
learning



Summarize  
documents

## Plan for...



Scope  
workforce  
reductions



Predict  
turnover



Recommend  
compensation



Predict  
usage and  
consumption  
of benefits



Cost savings in  
benefit  
administration  
and support



Focus on  
employee  
experience in  
processes

# How HR Will Change



**HR thinks digital-first** | Gen AI will be a part of nearly every employee interaction, essentially enabling the entire HR delivery model. HR will become a key player in identifying, selecting, and managing the enterprise technology portfolio and underlying data models.



**Productivity co-pilots** | HR can boost productivity by using AI to optimize tasks such as job descriptions, goal setting, and employee communications. This is another opportunity for HR to shift its value to the organization.



**Data, data, data** | Managers and employees require valid, complete data sets—And a culture where data is valued—To make better talent decisions for themselves and their teams.



# The Keys to Harnessing the Value of AI in HR and Benefits

**Start with “Why?”** Have a clear problem statement—AI isn’t a silver bullet

**Privacy and safety**

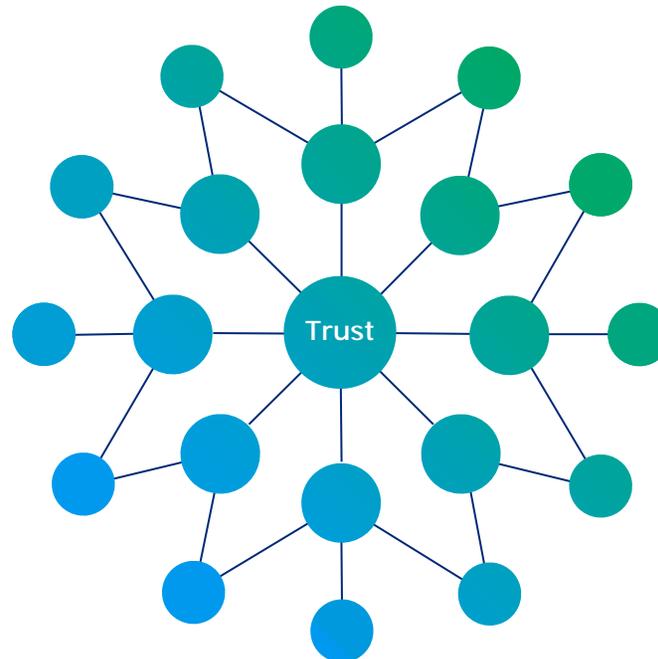
Integrate safety and security by design to ensure verifiable safety

**Responsible Use**

Humans continuously monitor and evaluate the AI, and establish clear reporting

**Justice, Fairness, Equity**

Foster collaboration to ensure that AI systems are used in a responsible, unbiased and ethical manner



**Transparency**

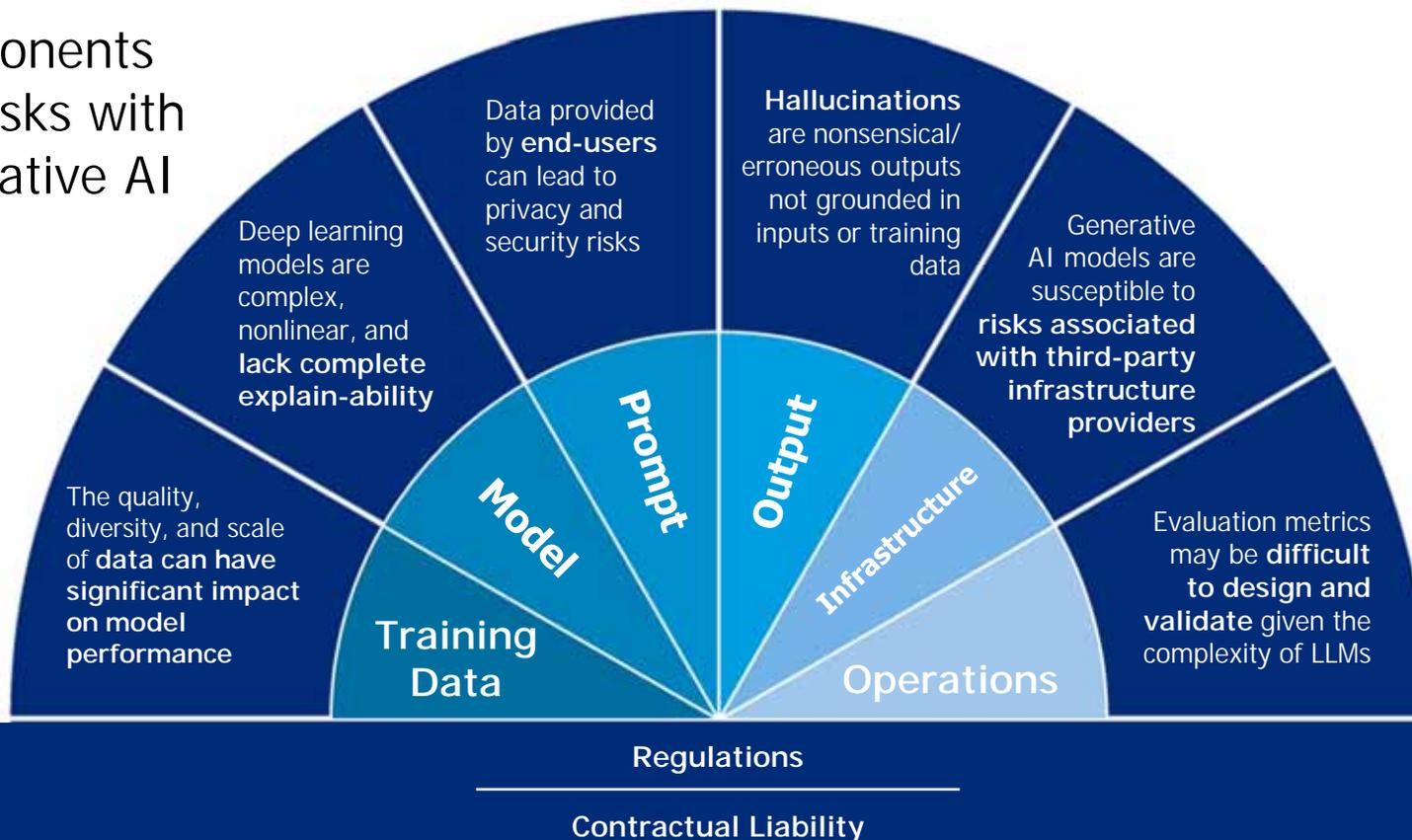
Ensure that AI systems are designed to be explainable  
Establish ongoing audits, risk management processes

**Do no harm**

Intentionally avoid doing harm to others

# What About Security?

## Components and risks with generative AI





**What's Next?  
Leveraging Wearable  
and Virtual Technologies**

# The Future of “Virtual Care” Is Just “Care”

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What is Virtual Care?

Any consultation, diagnosis, treatment and/or monitoring delivered through digital channels, such as the internet or phone

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Value to employees:

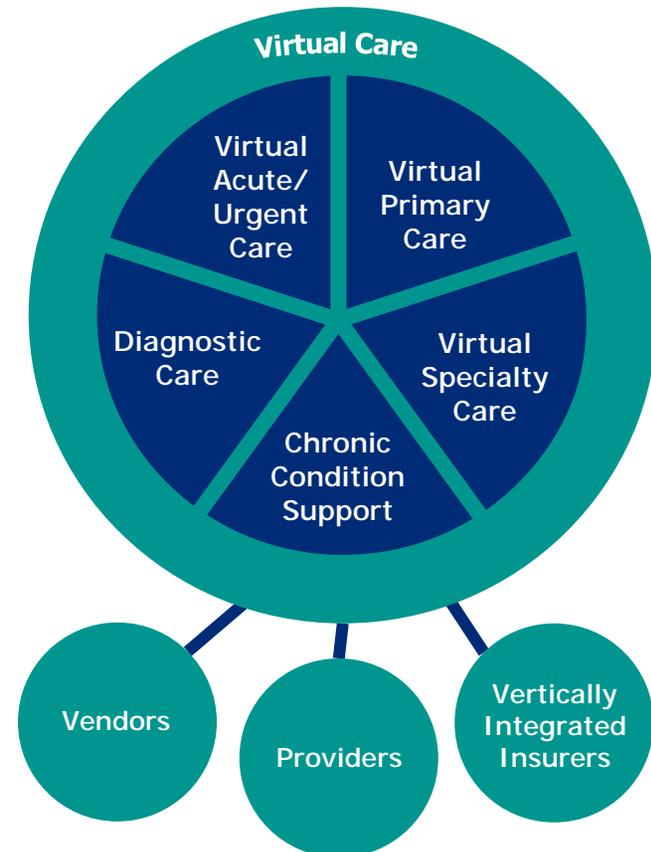
Convenience and generally lower out-of-pocket costs

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Value to employers:

Enhancing access, driving to quality and optimizing site of care delivery

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# Virtual Care Innovation: Intersectionality Creates Opportunity

*New technologies and new applications in virtual care will promote efficient engagement and drive positive health outcomes*

Virtual and augmented reality

*Immersive technology improves experience and outcomes*

Remote monitoring

*Devices deployed to passively monitor health and alert when intervention is needed*

Data integration

*Multidisciplinary care teams deliver efficient patient care with appropriate clinician utilization*

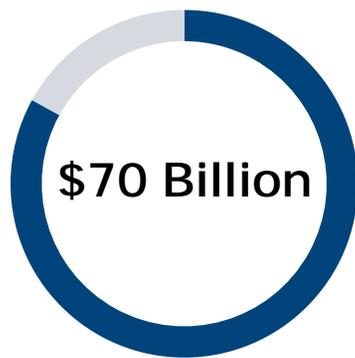
Personalized delivery

*Using data to drive engagement, address social factors and personalize the journey*

Convenient testing

*At-home and community-based diagnostics enhance virtual delivery*

# Wearable Technology



The wearable device market is expected to approach \$70 billion by 2028, with annual growth in the market exceeding **11 percent** per year

## Categories of Wearable Devices



**Medical-grade**, FDA approved, wearables such as blood pressure, glucose and heart monitors. Use cases include monitoring patients at home after surgery or assisting patients with self-management of diabetes, hypertension or other chronic conditions.



**Consumer-grade** wearables—Watches, rings and articles of clothing. Account for the largest share of wearables. Due to availability and accessibility, consumer interest and increased adoption of technology.

## What to Watch

**Accuracy and reliability** poses a concern, in large part because consumer-grade devices aren't subject to the same scrutiny as medical-grade wearables

Apps and tracking offer tailored support and **help patients better understand** their conditions.

**Providers** also get a more holistic view of patient health beyond what they report during short appointments.

**Care management** is more effective as support is provided to patients struggling to manage chronic conditions

<https://www.marketsandmarkets.com/Market-Reports/wearable-medical-device-market-81753973.html>

# Virtual Care: Evaluating the Potential

Effective integration can make virtual care a force-multiplier, driving better outcomes and cost efficiency, *but what makes it effective?*

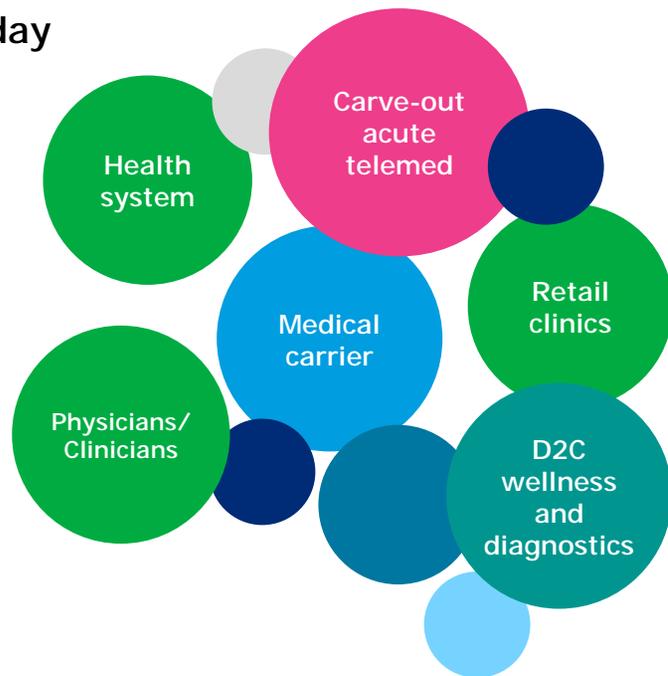
Framework: Required elements for optimal virtual care delivery



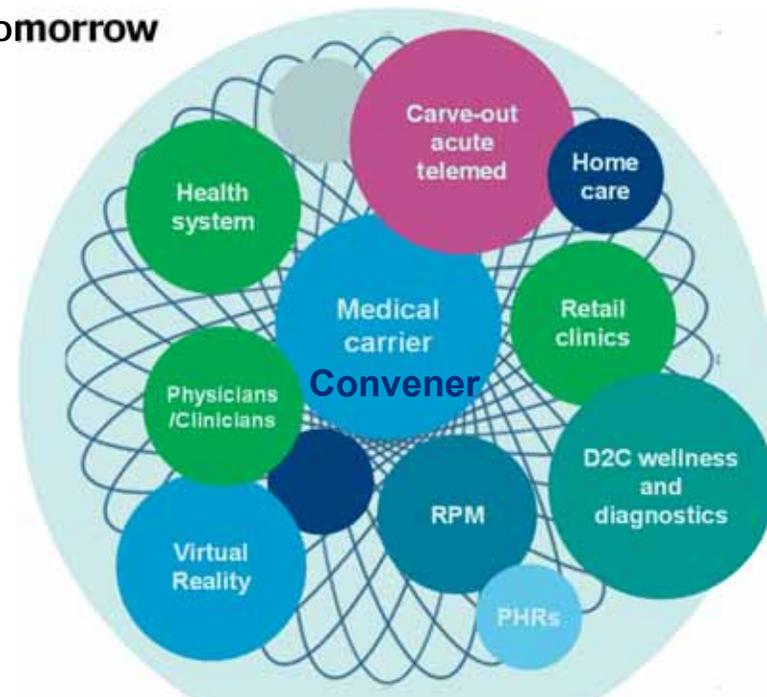
# Virtual Health Plans: The Future

Virtual care “Conveners” deploy technology to create true Virtual Health Plans

Today



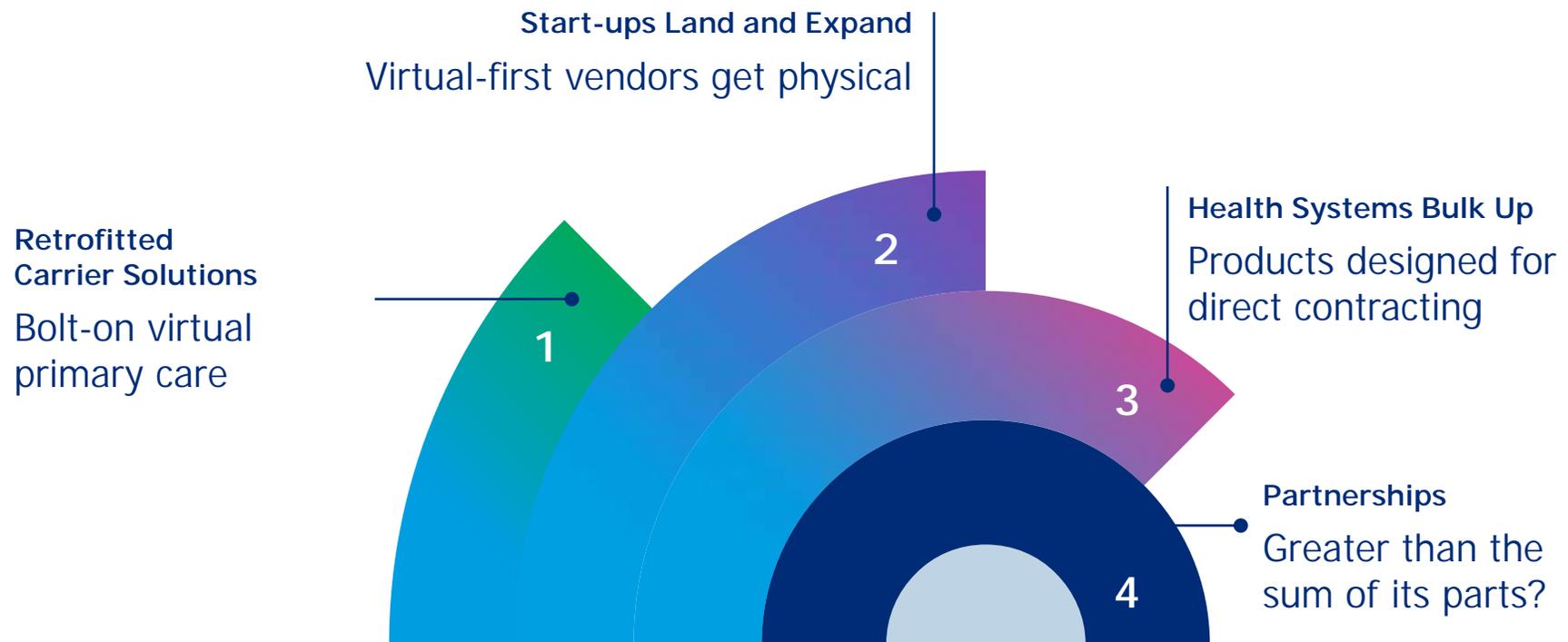
Tomorrow



“The Great Reimbursement Debate”

# Virtual Health Plans

## Future Models



# Innovation Horizon: What Are We Watching in 2024?

## 3D Printing in Healthcare

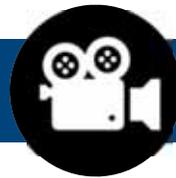
Medical devices, such as tools, implants, dental restorations and even living tissue and organs are being 3-D printed



Much 3D printing in healthcare occurs on-site at point of care resulting in rapid creation and highly-personalized devices

## Hologram Healthcare

A hospital in Texas is piloting a program with hologram technology that provides doctors with a new way to consult with patients virtually



While hologram technology may be poised to improve patient engagement and satisfaction, it is not expected to impact health outcomes<sup>1</sup>

## Nutrigenomics

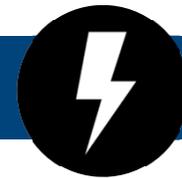
Nutrigenomics provides insights into how genetics determine a person's nutrition<sup>2</sup>



Optimized nutrition may prevent or reduce pre-existing genetic risks: obesity, diabetes, cardiovascular disease, cancer, etc.<sup>3</sup>

## Neurostimulation for Substance Use

Workers with untreated substance use cost employers an average of \$8,255 per worker, per year<sup>4</sup>



The FDA cleared the first transcutaneous auricular neurostimulation (tAN) for the relief of opioid withdrawal symptoms<sup>5</sup>

1. Forbes, <https://www.forbes.com/sites/jenniferkitepowell/2024/05/28/a-holobox-at-crescent-regional-hospital-connects-patients-to-doctors/>
2. Life Sciences Research Office, [http://www.lbro.org/ceis/ceis\\_report.pdf](http://www.lbro.org/ceis/ceis_report.pdf)
3. Food and Nutrition Journal, <https://www.foodandnutritionjournal.org/volume10number3/advances-in-nutrigenomics-and-applications-in-public-health-a-recent-update/>
4. National Safety Council, <https://www.nsc.org/getmedia/9dc908e1-041a-41c5-a607-c4cef2390973/substance-use-disorders-by-occupation.pdf>
5. Food and Drug Administration, [https://www.accessdata.fda.gov/cdrh\\_docs/pdf23/K230796.pdf](https://www.accessdata.fda.gov/cdrh_docs/pdf23/K230796.pdf)

# Disruption Is Not a Dirty Word

By 2035...

**300b**

Work hours saved per year by AI

**Generative AI guides care**

AI supports clinical and non-clinical decision making

**30%**

of the world's data volume is being generated by the healthcare industry

**Transparency data changes the market**

Traditional insurance carriers lose market share to new entrants

**90%**

say convenience is the most important factor when selecting their primary care physician

**Commoditized care drives down costs**

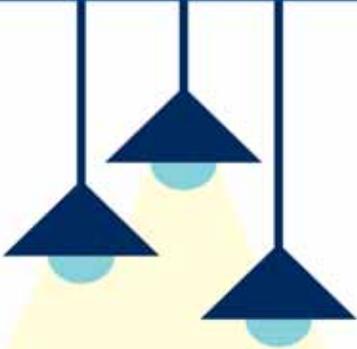
Low-acuity care is treated as a consumer service; primary care is primarily virtual

**\$80b**

Global gene and cell therapy market by 2035

**Precision medicine becomes routine**

Tailored treatments for all (who can pay)



Disruption is not a risk to be managed, it's an opportunity to be harnessed.

# Key Takeaways

- The human/machine teaming era is here, and the HR function will change
- AI will impact the workforce and reshape work
- Virtual care is now just “care”
- Intersectionality creates opportunity as virtual care becomes mainstream
- Keep your seatbelts fastened as innovation in healthcare will continue at a rapid rate

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