AI and Digital Healthcare

Overview

November 2023

DRAFT

Agenda

- Are we creating value in Digital Healthcare?
- Overview of AI and Digital in Healthcare in Brazil
  - AI Investment opportunities today in Brazil
  - AI Use cases in Hospitals
  - Digital opportunities in Pharma
- How to think about Digital Maturity in Healthcare?

Agenda

- **Are we creating value in Digital Healthcare?**
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  - AI Use cases in Hospitals
  - Digital opportunities in Pharma
- How to think about Digital Maturity in Healthcare?

The Healthcare sector is being pressured on several fronts, and Digital Healthcare has the potential to support solutions for at least some of these critical challenges

Fronts pressuring the Healthcare sector

- **Ageing population, with growing disease burden and health expenditures**
- **Increasing drug and MedTech costs given new disciplines and capabilities**
- **Healthcare infrastructure constraints**
- **Complex care pathways**
- **Consumerism and high healthcare/ patient engagement**
- **Funding pressures, increased private sector participation and focus on efficiency**

Digital solutions can support healthcare companies by allowing

- ✓ **Better control of patient's conditions**, in early stages and during acute / chronic episodes
- ✓ **Quicker and cheaper development** of pharmacological and MedTech products
- ✓ **Operational and care delivery efficiencies**
- ✓ **Better engagement** with and navigation of patients
- ✓ **Innovative solutions** that better align with market participants' demands

Sources: L.E.K. research and analysis

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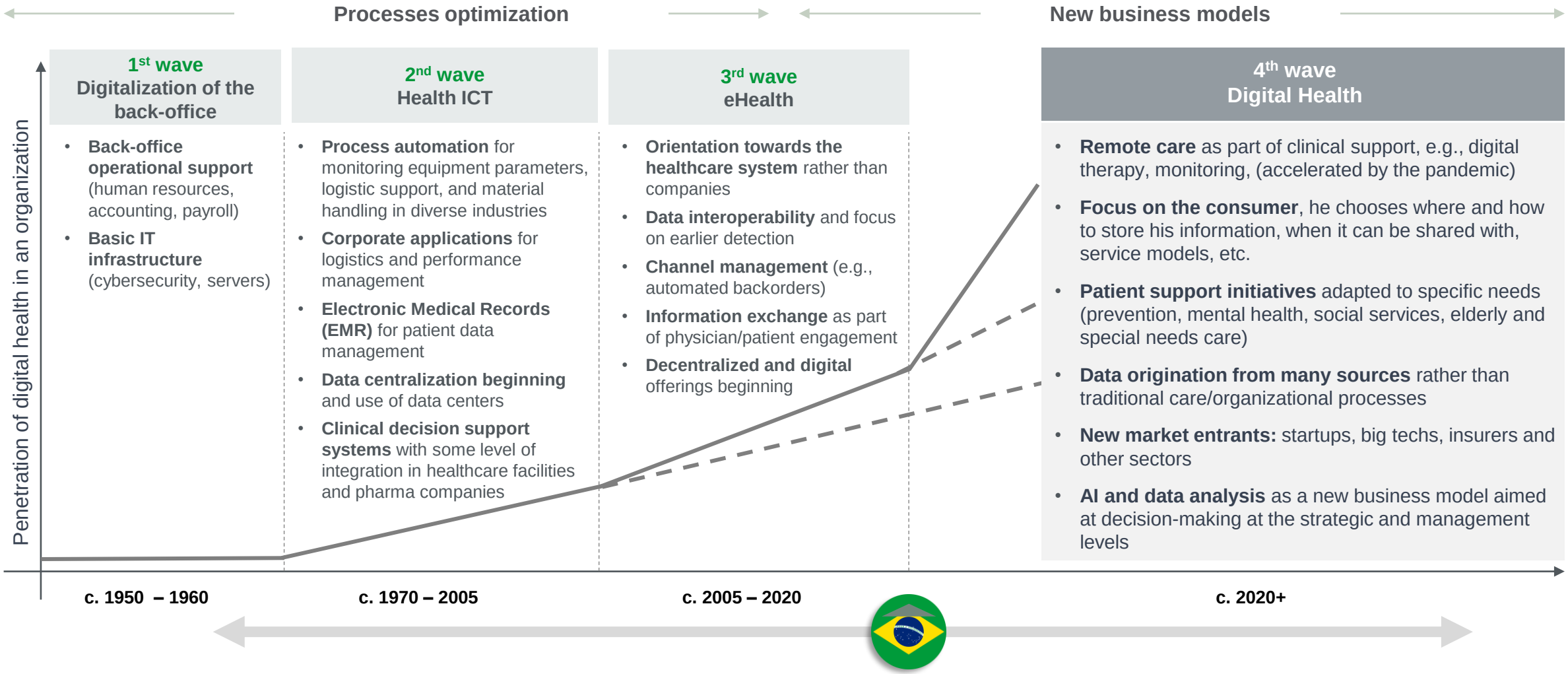
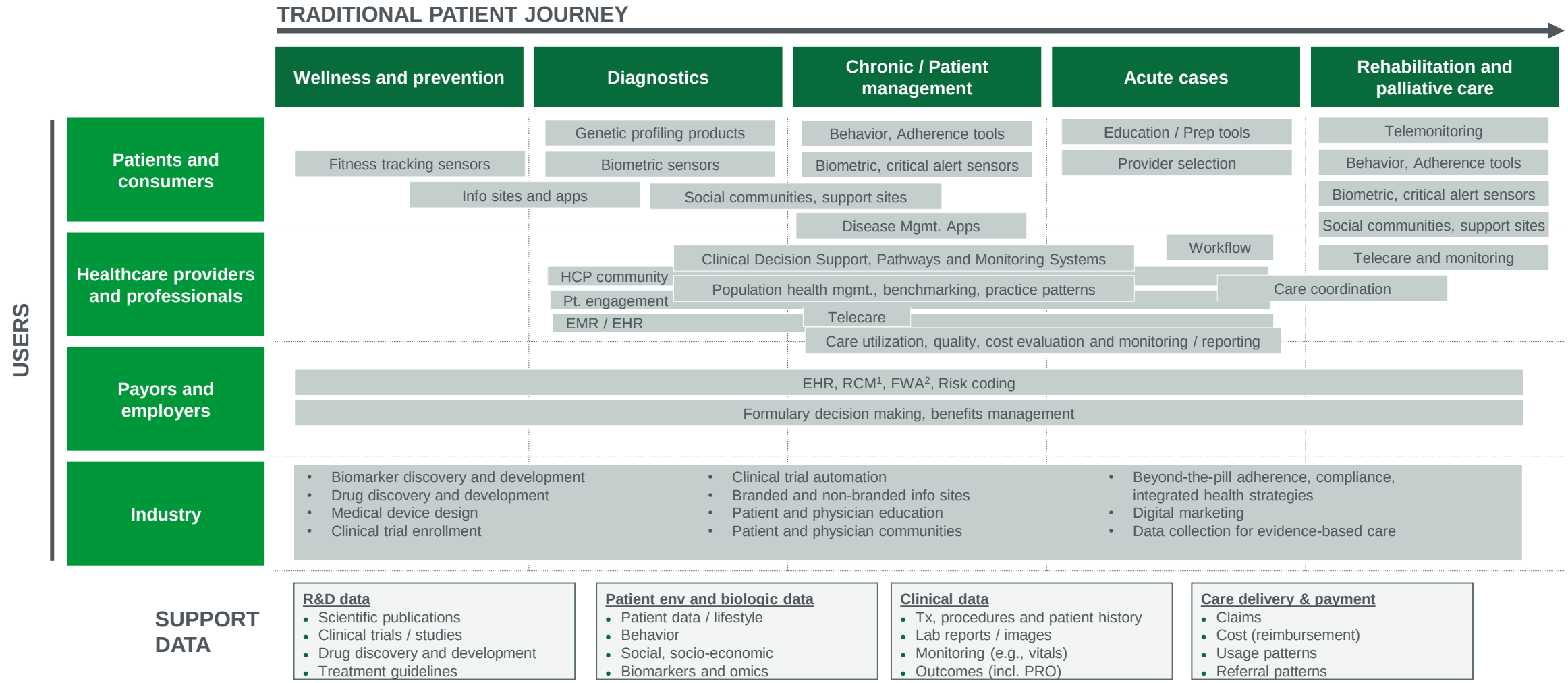
Globally we see the development of Healthcare in 4 main waves; evolution has been slower in Brazil, in part due to relevant infrastructure gaps



Sources: L.E.K. research and analysis

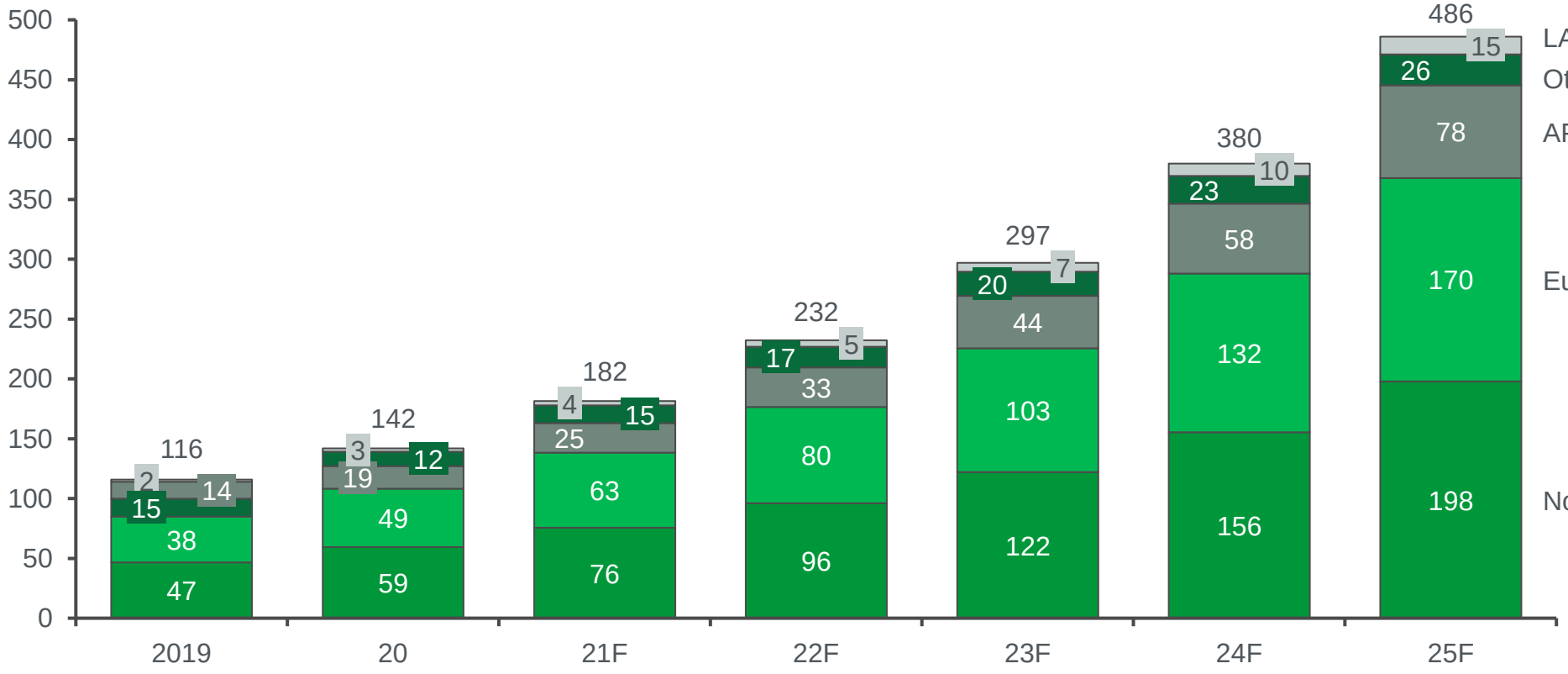
Health Tech has different use cases across the patient journey and the subsector of the Healthcare industry



Notes: 1) Revenue cycle management, 2) Fraud, Wast and abuse
Sources: Allied Market Research; Acumen; Global Market Insights; McKinsey Healthcare IT News; Simmons and Simmons; L.E.K. research and analysis

Health Tech sector is growing at an accelerated pace and should reach ~$485Bn in 2025; LATAM is small but it is growing fast

Global Market "Digital health"
(2019-2025F)
USD$ Bn



	CAGR (2019-25F)
Total	**28%**
LATAM	**41%**
Other	9%
APAC	33%
Europe	28%
North America	27%

Note: 1) Includes software, hardware, and services for providers, payers, consumers, and others, but does not encompass analytics solutions for the industry
Sources: Allied Market Research; Acumen; Global Market Insights; Simmons and Simmons;; DigiPharma interviews, research and analysis; L.E.K. research and analysis

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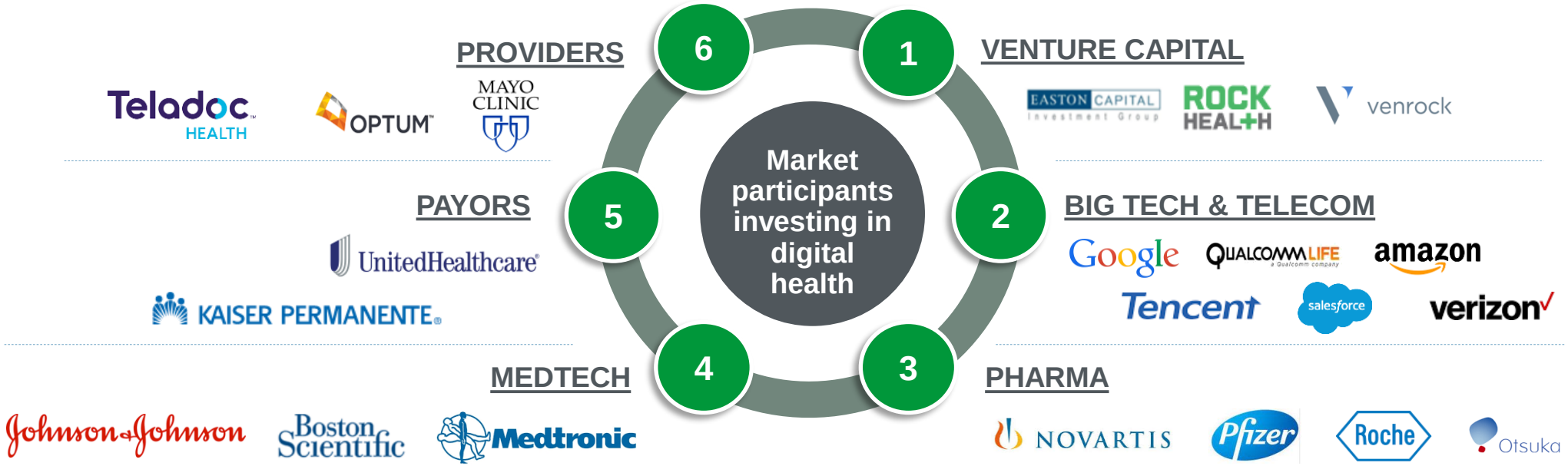
Different types of company, from withing and from outside the Healthcare sector, are investing in Digital Healthcare



VENTURE CAPITAL
Invest in scalable and high return digital health start-ups

TECHS & TELCO
Capture a new avenue of growth in healthcare while leveraging core capabilities

PHARMA
Invest in "beyond the pill" initiatives and digital health tools to help justify drug costs

MEDTECH
Use digital to offer broader solutions, connecting providers and patients to optimize diagnostics and treatment

PAYORS
Optimize care delivery and attendant costs

PROVIDERS
Improve treatment outcomes and patient satisfaction

Sources: L.E.K. research and analysis

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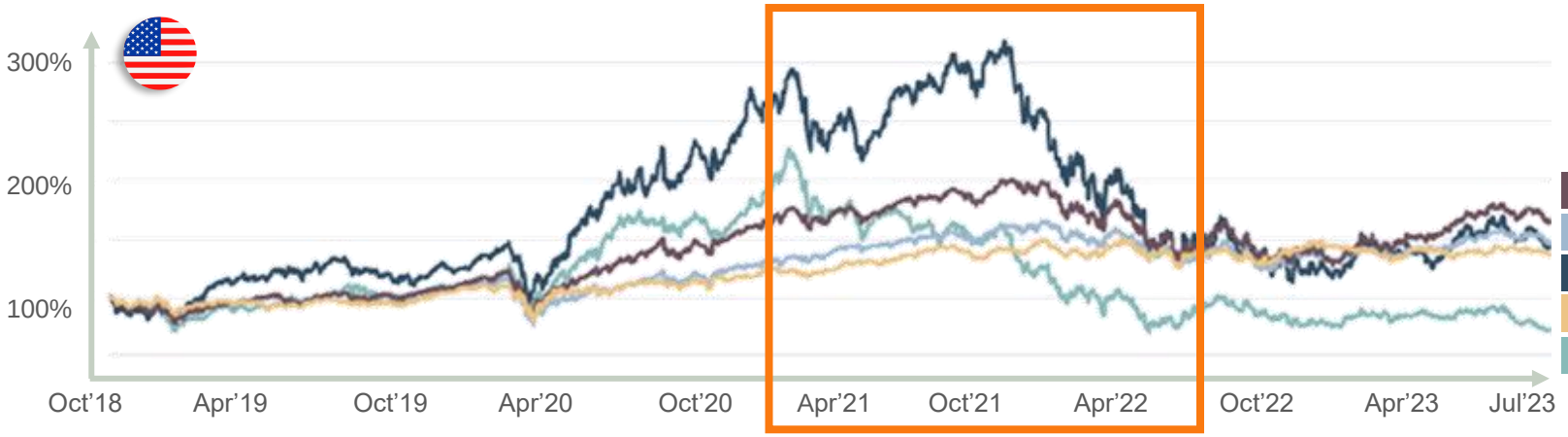
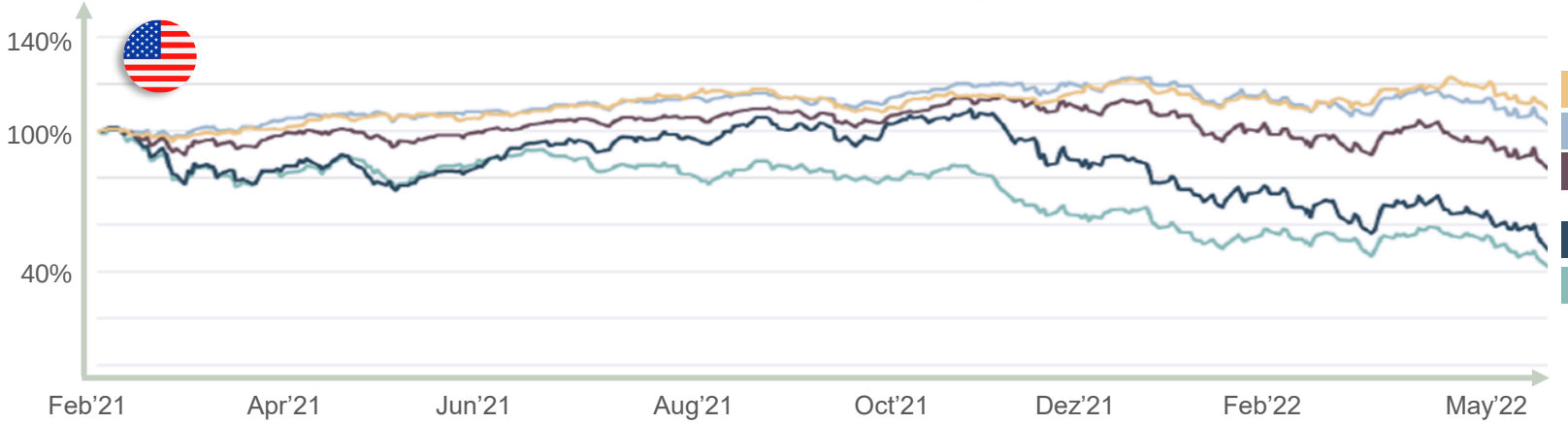
In the US, the Health Tech sector has performed poorly over the last 5 years and after the end of the Covid pandemic

Stock market shares performance by sector (Oct'2018–Jul'2023, USA)



NASDAQ	+65%
S&P 500	+47%
EMCLOUD	+46%
Healthcare	+36%
Health Tech	**-28%**

Stock market shares performance by sector (Feb'2021–May'2022, USA)



Healthcare	+9%
S&P 500	+1%
NASDAQ	-19%
EMCLOUD	-55%
Health Tech	**-60%**

Health Tech

32 Health Tech companies used as proxy for the sector

Healthcare SAAS

CareCloud, Model N, OptimizeRx, HealthStream, Definitive Healthcare, HealthEquity, doximity, Veeva, SimulationsPlus, Health Catalyst, EngageSmart, Phreesia, Schrödinger, Nuance

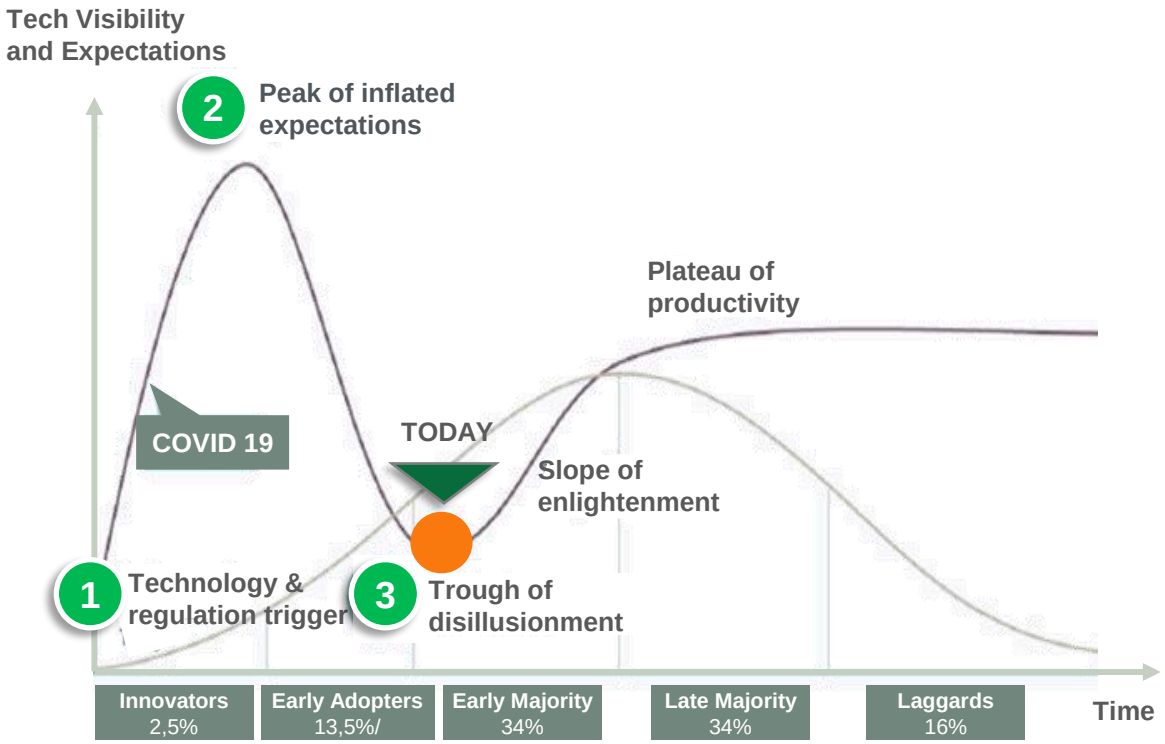
Tech Enabled Services

LifeStance Health, agilon health, CERTARA, Oak St. Health, Accolade, R1, signifyhealth, Teladoc Health, GoodRx, hims & hers, Livongo, PRIVIA Health, progyny, evolent health, talkspace, Alignment Health, amwell, one medical

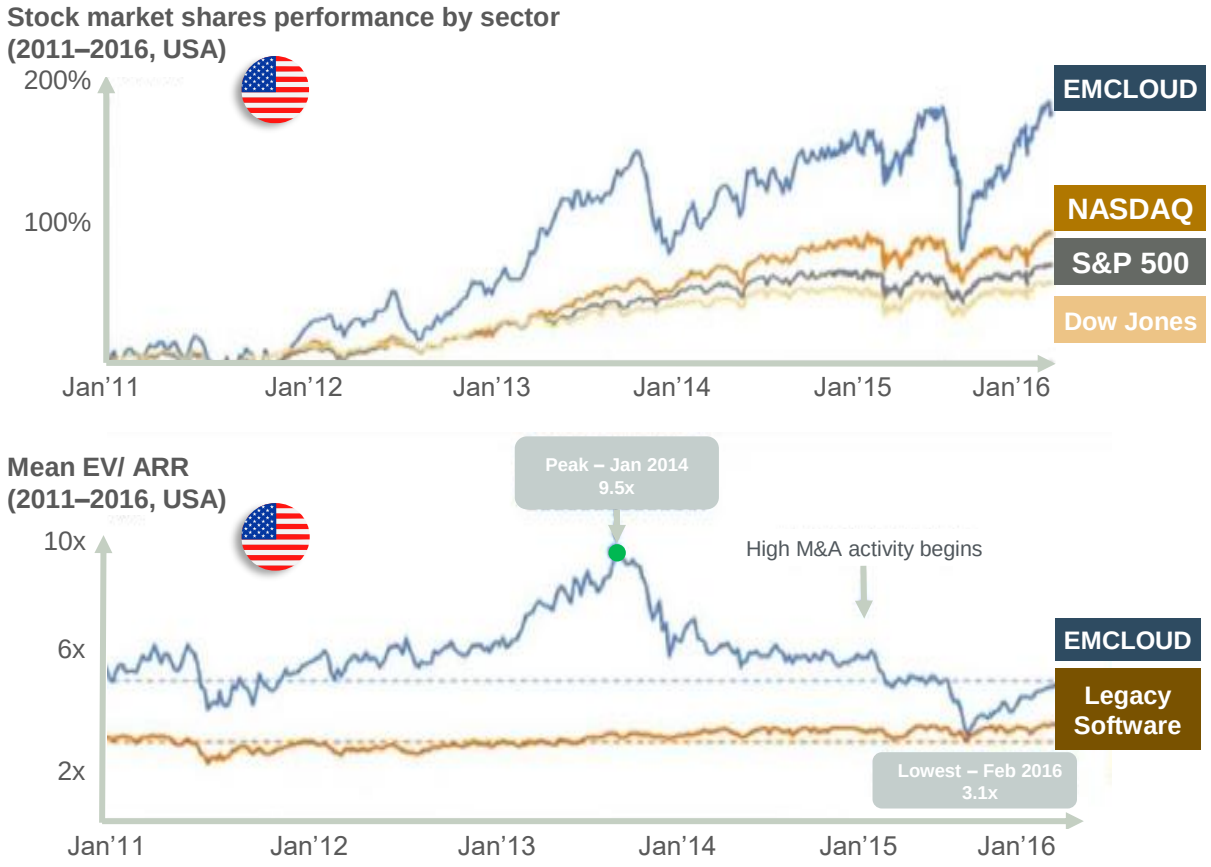
Sources: CapIQ; Bessemer Venture Partners; L.E.K. research and analysis

But after a closer look, Health Tech performance seems to be refleting the technology adoption curve, similar to what happened with Cloud focused companies that entered markets a decade earlier

New technologies are typically adopted over time, following an adoption curve with 3 main stages



This curve can partially explain market performance, Cloud tech companies followed a similar trajectory in the past



Sources: CapIQ; Bessemer Venture Partners; L.E.K. research and analysis

Health Tech is a vast sector, but startups in the space can be split into 6 main segments

HEALTHCARE SAAS
Focus areas and considered companies

SOFTWARE FOR PAYERS

- **Software solutions** developed to meet Payers' business needs
- Solutions focused on helping them **optimize their business**, improving financial performance without compromising quality of care

DEFINITIVE HEALTHCARE · HealthEquity · Health Catalyst

SOFTWARE FOR PROVIDERS

- **Automated tools for clinical documentation and payment,** allowing patients to take a more active role in their own care
- Additional solutions to **improve communication** between providers and costumers

EngageSmart · CareCloud · NUANCE · HealthStream · doximity · Health Catalyst · Phreesia

SOFTWARE FOR BIOPHARMA

- **AI-driven solutions can companies accelerate** drug discovery, clinical development research and regulatory submissions, **while reducing costs**
- Solutions also address **supply chain efficiency**

OptimizeRx · SimulationsPlus · Model N · Veeva · Schrödinger · doximity

TECH ENABLED SERVICES
Focus areas and considered companies

B2B2C

- SW solutions allow **B2B2C companies to offer 24/7 virtual care experiences** through data-driven models and virtual platforms
- Oncology, diabetes and fertility treatments benefit the most from a less fragmented approach to care

signifyhealth · Accolade · CERTARA · amwell · R1 · Teladoc HEALTH · LifeStance HEALTH · progyny · Livongo · one medical

VALUE BASED CARE

- VBC companies **serve patients, payers and providers**, allowing to reduce the total cost of care while improving its quality
- Tech solutions enable **better utilization** of available resources, such as capital and technology

Oak St. Health · PRIVIA HEALTH · evolent HEALTH · Alignment Health · agilon health

DIRECT-TO-CONSUMER

- DTC companies offerings vary **from savings** in drug and products **to telehealth** appointments
- **Tech solutions enable more personalized treatments**, in an increasingly consumer-driven industry

hims & hers · GoodRx · talkspace

Sources: Companies' website; L.E.K. research and analysis

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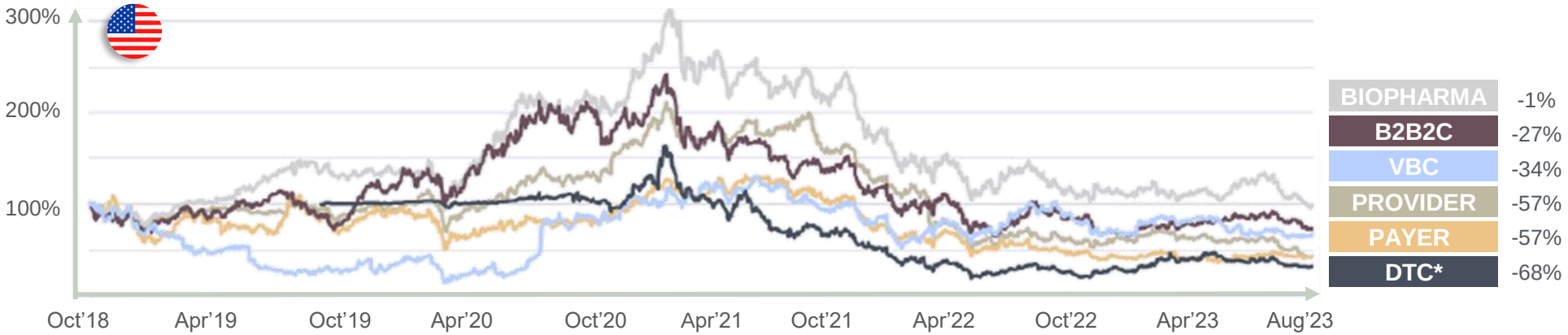
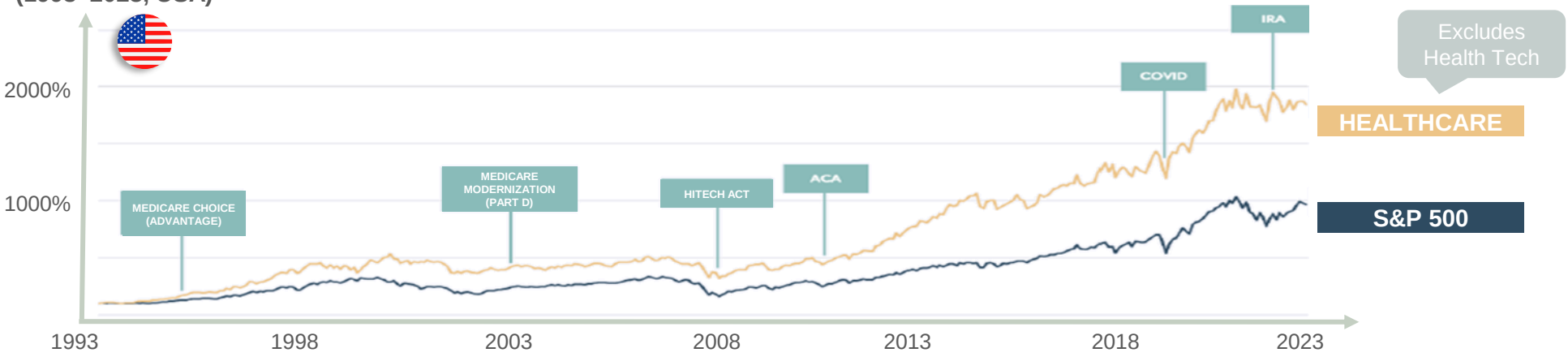
Some Health Tech sectors have been more resilient than others; if we look at Healthcare, sector historically outperformed the S&P500 by ~2x, further reinforcing Health Tech's positive outlook

Health Tech markets performance by sector (Oct'2018–Aug'2023, USA)



- **Health Tech** stocks performance has been more **stable since Apr'22**
- Gains driven mostly by **announcements of large acquisitions**, specially by CVS and Amazon

American stock market performance (1993–2023, USA)



- **Healthcare** sector[1] has **outperformed the S&P500 by ~2x** over the last 30 years
- Sector is traditionally **resistant to economic cycles**, but **growth** came mostly after **significant regulatory changes**[2]
- **Most of the value** in the sector captured by **incumbents**

Notes: 1) HCX sub-index, Includes largest healthcare payers, providers, pharma and other healthcare players; 2) Medicare Advantage - 1995, Health and Social Care Act - 2008, Affordable Care Act - 2010, Pandemic - 2020
Sources: CapIQ; Bessemer Venture Partners; L.E.K. research and analysis

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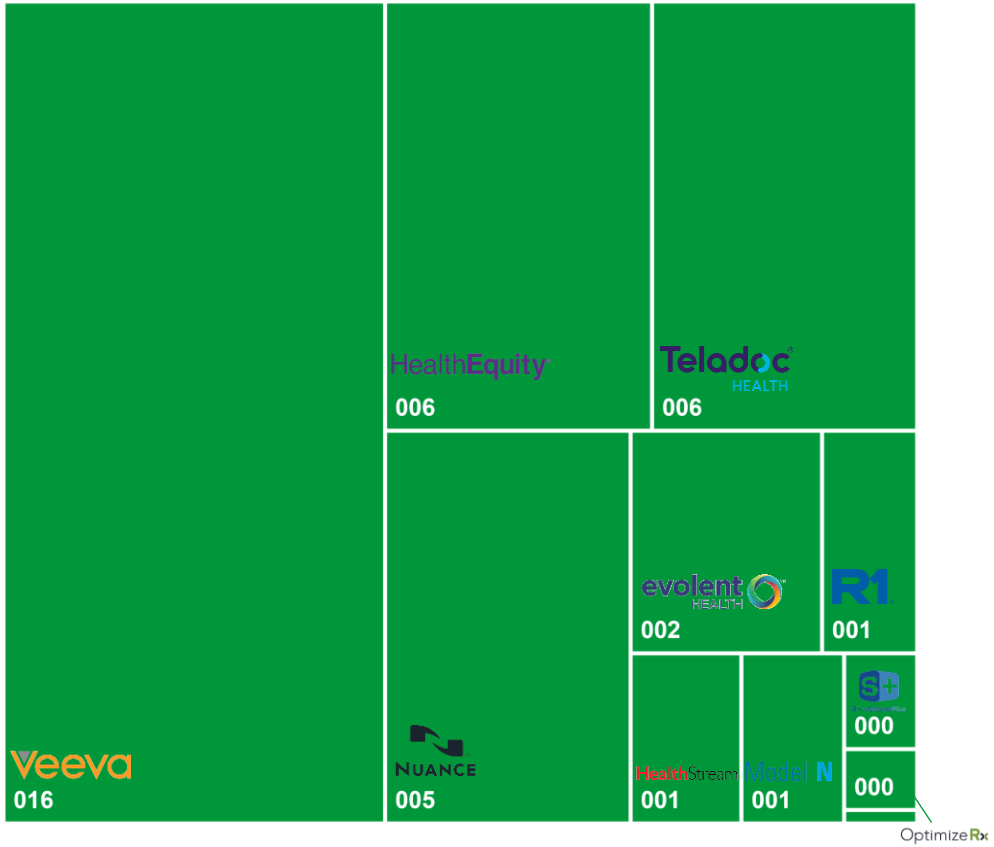
Even considering the recent (apparent) poor performance, Health Tech has still added significant value to the US economy, generating over $90B of additional market cap in under 5 years

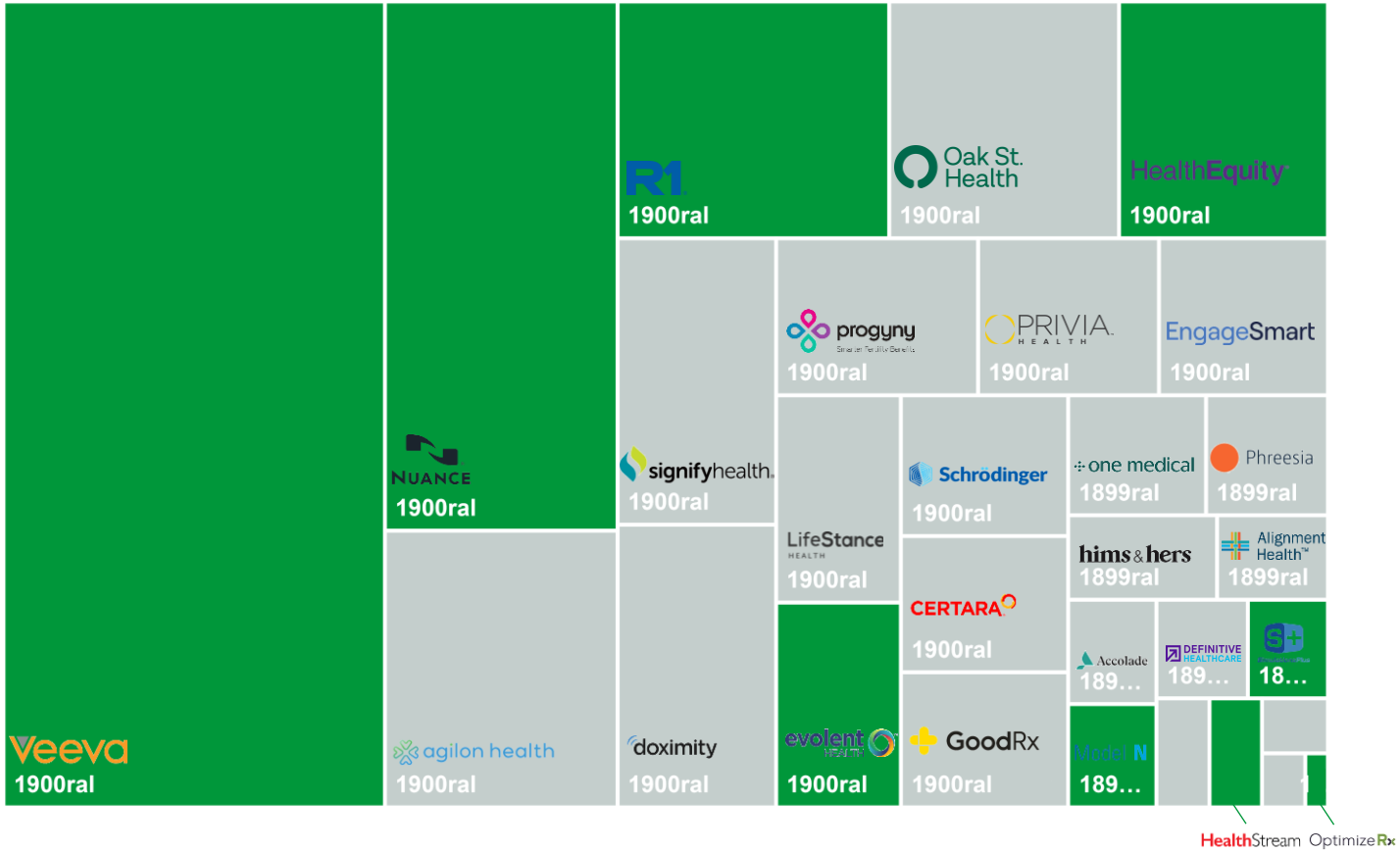
5 years ago

<$40B market cap



Today

+$130B market cap



Sources: CapIQ; Bessemer Venture Partners; L.E.K. research and analysis

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Helthcare incumbents have been actively acquiring startups in an effort to keep up with innovation; +$52B and ~25% of the total health tech market cap was acquired in the last 24 months

COMPANY	TRANSACTION VALUE	ACQUIRER	DESCRIPTION
Oak Street Health	$10.6B	CVS	Comprehensive preventive care, including personalized wellness plans, integrated health services, and educational and social activities
Signify	$8B	CVS	Value-based care solutions, software solutions that enable healthcare organizations and payers to transition from fee-for-service to value-based models
One Medical	$3.9B	Amazon	Membership-based primary care practice, offering customers seamless access to comprehensive care
Nuance	$19.7B	Microsoft	AI enabled solutions for the healthcare sector, from one of the first voice recognition systems to the most advanced ambient clinical intelligence
Benefitfocus	$0.6B	Voya Financial	Data-driven, cloud-based software solutions for health care and benefits administration
SOC Telemed	$0.3B	Patient Square	Acute care telemedicine provider, with +800 physical facilities with the technology and expertise to manage complex workflows and to provide high quality care
LifeWorks	$2.2B	Telus Health	Full-service employee assistance program and work-life/ wellness resources
Nextgen	$1.8b	Thoma Bravo	Develops and sells electronic health record software and practice management systems to the healthcare industry
Convey health	$1.1B	TPG	Built-for-purpose technology platforms with dedicated and flexible business process solutions
Nextech	$1.4B	TPG	EHR, Practice Management, Patient Engagement and Revenue Management that enables productivity and profitability for specialty practices
Tivity Health	$2.2B	Stone Point Capital	provider of health improvement, fitness and social engagement solutions.

Sources: CapIQ; Bessemer Venture Partners; L.E.K. research and analysis

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  - AI Use cases in Hospitals
  - Digital opportunities in Pharma
- How to think about Digital Maturity in Healthcare?

Although AI is still in an early implementation stage in Brazil today, we can already see relevant use cases within Healthcare

NON-EXHAUSTIVE

AI in Brazil – Overview

- **AI is still in an early implementation stage in Brazil**, the availability of robust databases, main input for AI/ML use cases, is still a **major bottleneck across most industries** and companies are still organizing internal databases so they can start experimenting and implementing AI solutions
- **In Healthcare specifically, the challenge is even bigger**, as players in the industry typically use different systems, even within their own operations, data exists within silos, communication between services is difficult and client information sharing is very limited
- **Health interoperability is on Government's agenda**, but while advances in AI/ LLMs and Cloud have drastically reduced the complexity to implement it **health providers have limited interest** in implementing it, as it would allow customers to easily switch between providers
- **Regulation is a major driver for adoption within healthcare**, but current local prospect is still uncertain, specific AI regulation is being debated since 2020 and some bills have been proposed[1], but given their initial state it's still unclear how the healthcare sector might be impacted
- **Still, AI use cases are already being leveraged by healthcare players in Brazil**, according to their focus, they can be segmented into three main areas: **1) Provider**, **2) Patient** or **3) Operations**
- **AI usage expected to continue to be incremental in coming years**, as technology and legislation evolve, supporting companies to further reduce costs and improve service

Note: 1) Bill proposal (PL) 21/20 and PL 2338/23
Sources: Morgan Stanley reports; Expert interviews; L.E.K. research and analysis

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Current AI use cases in Brazil can be segmented according to their focus: Provider, Patient or Operations (1/2)

NON-EXHAUSTIVE

Fraud and Revenue Management

Medical support

Fraud and revenue management

- **Potential for AI usage in anti-fraud is significant** as fraud generates a **major cost in Brazil**, ABRAMGE estimates reimbursement fraud alone represents 2% of total claims, amounting to ~BRL $4 B in lost revenues in 2022
- **AI and LLM tools** allow to **significantly reduce people/ manual costs** associated with checking for **inconsistencies in reimbursement** requests (prices charged, frequency, etc.), supporting and automating procedures authorization, and **reducing general costs**
- **Revenue management solutions** are normally **developed targeting Payor** (typically the Insurer) **or Providers** (Hospitals, Clinics, etc.):
  - ✓ **Kuri Saúde:** has an automated solution that interprets the contracts between hospitals and insurers, that typically have hundreds of pages, converting them into an easy-to-read set of rules that can be integrated into the hospital's workflow
  - ✓ **Benner, Orizon and ARVO:** their software solutions leverage AI to identify and reduce fraudulent claims, potential abuses and opportunities to reduce waste along the value chain

Medical professionals support

- **Hospitals in Brazil already leverage AI/ML models support medical diagnostics**, producing more precise diagnostics and a better patient experience. That said, **but full automation is not expected for now** due to regulatory and consumer perception
- **Diagnostic equipment providers** use AI/ML-powered analysis to give **diagnostics faster and with higher precision** helping in the early detection of diseases and improving patient outcomes; the exam is also faster, allowing greater machine utilization
- **AI can also be used to increase doctor's productivity**, by releasing them from administrative work. AI powered software solutions can listen to consultations and automatically fill medical records (e.g., Copilot, Abridge)

Sources: Morgan Stanley reports; Expert interviews; L.E.K. research and analysis

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Current AI use cases in Brazil can be segmented according to their focus: Provider, Patient or Operations (2/2)

NON-EXHAUSTIVE

Patient focused

- **AI powered solutions allow companies to improve customer experience** along all the touchpoints at a relatively low cost, automated chatbots can interact with patients along all the patients journey, creating customized communications in specific touchpoints, allowing to provide a better support and reduce complaints, all without requiring a major investment in personnel
- **Some early uses to "replace" doctors,** mostly acting as a **patients pre-screening** before passing patients along to a real doctor, such as Youper, a startup that leverages AI to automate text based basic psychiatric support, reducing the need to see a real psychiatrist

Pharma operations

- **Internationally AI is already highly leveraged in drug discovery**, to generate new molecules and treatments at reduced costs; but Brazilian companies' R&D focus on smaller innovations, in part due to demanding regulatory approval processes
- **AI is therefore leveraged more in other areas**, as to develop prediction models to estimate regional demand of specific SKUs which should support inventory control and sales, improving inventory control and reducing costs
- **Local drugstore chains also leverage AI solutions to sell more**, focusing on cross-selling, targeted discounts, etc.; these companies, have robust client databases, which should facilitate implementing new AI innovations that emerge (specially RD)

Sources: Morgan Stanley reports; Expert interviews; L.E.K. research and analysis

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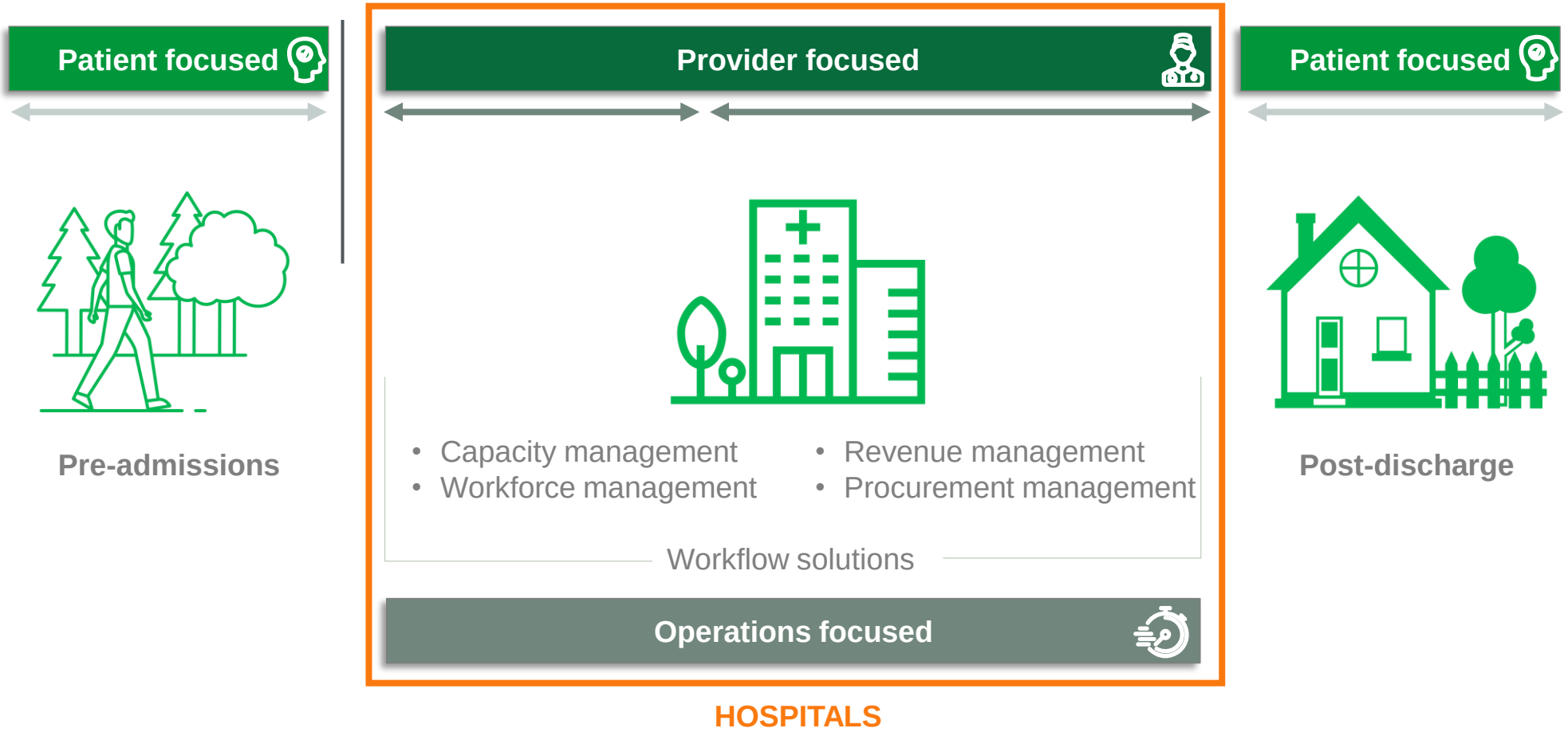
In hospitals, AI can be leveraged to address pain points along the patients' journey

PRELIMINARY

AI usages across the patients' journey



Sources: Kansal & Company; L.E.K. research and analysis

AI in a Hospital can be used for clinical purposes, to improve communication and interaction with the patients or to improve operations

PRELIMINARY
NON-EXHAUSTIVE

AI focus areas for Hospitals

Provider focused

Diagnostics: AI tools developed to assist in the diagnosis of disease, often for conditions that are under-reported or under-diagnosed (e.g., diabetes)

Clinical decision support: AI systems with the objective of providing physicians and other healthcare staff assistance in making decisions related to a patient's care

Disease prevention, monitoring, and treatment: This broad category of healthcare AI solutions aims to improve the way in which healthcare providers prevent the spread of disease, as well as monitor and treat diseases among their patient population

Patient focused

Population health management and benefits administration: Programs with the goal of maintaining and improving the health of broad patient populations, as well as administering benefits (e.g., insurance) to those populations

Patient adherence: AI solutions developed to assist healthcare providers in improving patients' post-discharge compliance with their treatment (e.g., taking medications, attending follow-up visits, etc.)

Self-management solutions (Patient services)**:** A broad category of healthcare AI solutions encompassing fitness and wellness (e.g., personalized health trackers), consumer health information (e.g., knowledge tools, personal assistants), care coordination, and on-demand healthcare services (e.g., telehealth)

Ops. focused

Workflow solutions: Solutions seeking to improve the efficiency and accuracy of both clinical and non-clinical workflows for healthcare providers (e.g., medication prescription, data entry, patient communication, etc.)

Sources: L.E.K. research and analysis

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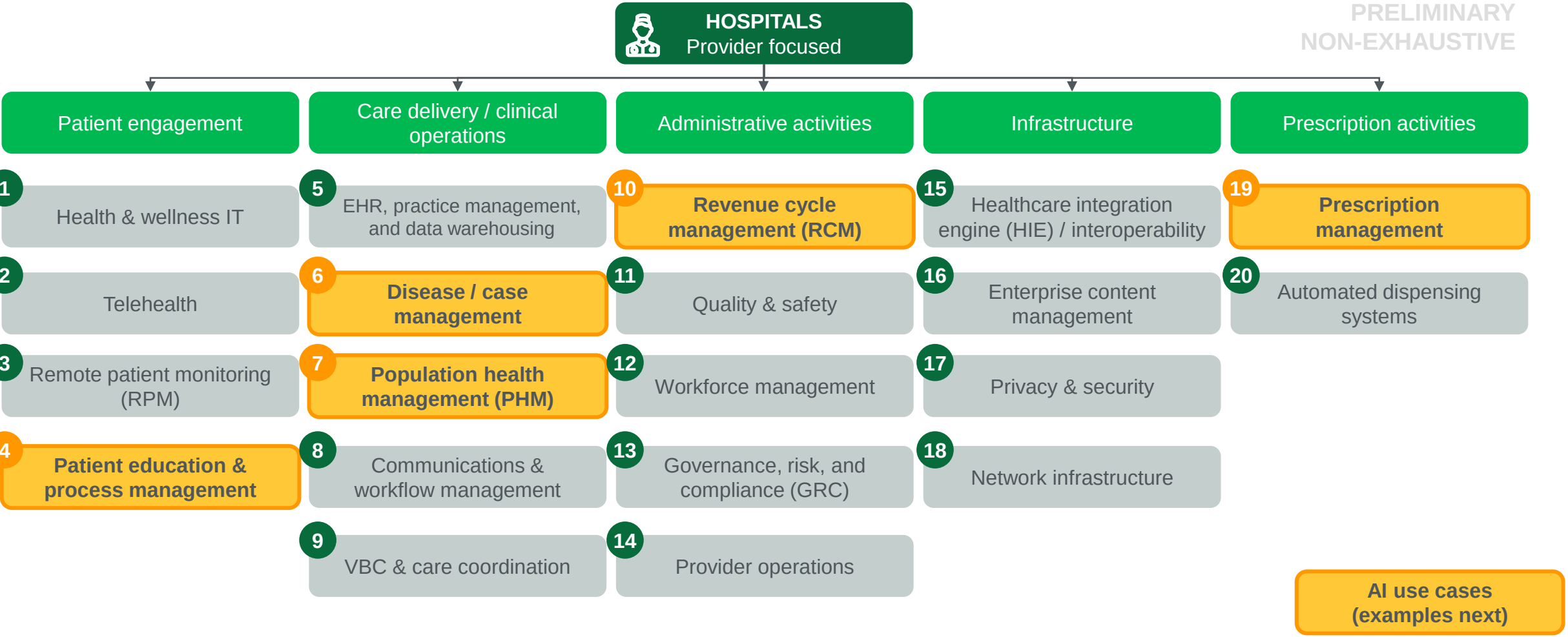
Existing AI use cases across Hospitals can range from augmenting clinical decisions to streamlining administrative burdens

PRELIMINARY
NON-EXHAUSTIVE



Sources: L.E.K. research and analysis

AI use cases within Hospitals
Selected examples

PRELIMINARY
NON-EXHAUSTIVE

EXAMPLE AI USE CASES

4 Patient education & process mngt.

Personalized guidance and support on the patient side, as well as improving efficiency for healthcare providers

- **Personalized patient education:** uses patient data (e.g., medical history, demographics) to personalize education materials
- **Intelligent symptom checker:** interprets symptoms to provide personalized guidance
- **Predictive analytics:** from EHRs data, predicts patients most likely to miss appointments and / or require follow ups
- **Patient communication chatbots:** powered by AI can provide patients with real-time answers to inquiries about health and treatment
- **Virtual assistants:** can help patients manage their health and treatment (e.g., medication reminders)

6 Disease / case management

Improved patient outcomes while reducing healthcare costs

- **Early detection:** early signs of diseases using algorithms that analyze medical images
- **Personalized treatment:** developed using AI to analyze patient data (e.g., symptoms)
- **Risk assessment:** predict risk of certain diseases
- **Clinical trials:** identify suitable participants and predict treatment outcomes based on clinical trial data
- **Remote monitoring:** by leveraging wearable devices and other sensors, detecting early signs of disease

EXAMPLE AI USE CASES

7 Population health management

AI powered software enables more personalized, proactive and efficient care delivery

- **Risk stratification and prediction:** identify most at risk for developing chronic diseases or adverse issues
- **Disease management and prevention:** identify potential issues before they become more severe
- **Clinical decision support:** real-time decision support, such as personalized treatment recommendations
- **Resource optimization:** by identifying patients needing more intensive care or prioritizing appointments for those with increased risk levels

10 Revenue cycle management

AI powered software allows improved revenue outcomes for healthcare organizations

- **Predictive analytics:** predicts future revenue and identify areas of potential revenue loss
- **Intelligent billing:** analyzes patient data to identify effective billing strategies for each patient
- **Fraud detection:** identifies patterns / trends that may indicate fraud
- **Processes automation:** creates automated workflows for authorizations and claims

19 Prescription management

Improved accuracy, efficiency and overall patient outcomes

- **Predictive analytics:** predict future medication needs accurately
- **Personalized medicine:** tailored medication plans
- **Drug-drug interaction alerts:** alerts prescribers of potential adverse drug interactions or side effects
- **Automated refills:** for patients with chronic conditions
- **Drug dosage recommendation:** accurate dosage for a medication based on patient's specific data

Sources: L.E.K. research and analysis

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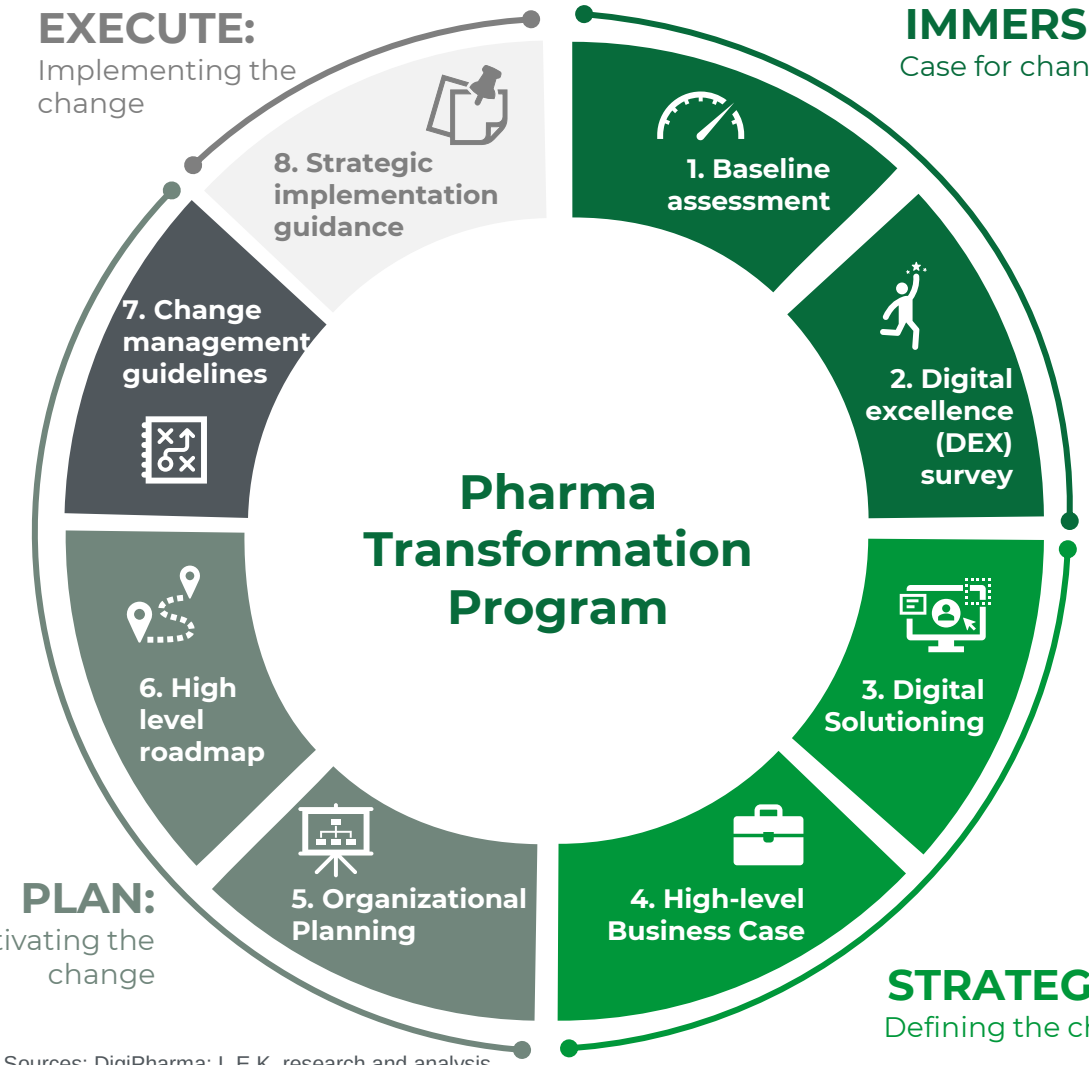
L.E.K. helps Pharma and other healthcare players to think about their digital strategy in a holistic way



Point of departure

- **Current healthcare trends** drive the need for Pharma companies to be digitally advanced to stay competitive
- **Despite considerable progress in piloting digital initiatives**; internal barriers impede the full realization of benefits
- Client was looking to leverage technology to **enhance operational efficiencies while improving relationship with customer**

Desired outcomes

- **Map internal pain-points** where **technology solutions can be leveraged** to generated additional value, either reducing costs or improving service
- **Develop a digital transformation strategy** accounting for a changing business environment
- **Quantify opportunities and define a high-level implementation roadmap** including key workstreams and governance processes

Sources: DigiPharma; L.E.K. research and analysis

There are several way in which digital solutions can be used to improve a business (Pharma Example)

NON-EXHAUSTIVE

	Supply chain	Manufacturing	Commercialization	Distribution
Key digital trends	✓ Supplier screening and risk monitoring systems ✓ Vendor management systems ✓ AI demand forecasting systems ✓ Integrated inventory management systems ✓ Cloud based solutions for end-to-end operation management	✓ Robotic process automation ✓ AI based automation of machine parameters ✓ Predictive maintenance scheduling systems ✓ IOT for centralized monitoring and process control	✓ HCP engagement portals ✓ Drugs adherence support tools ✓ Companion digital apps ✓ Remote patient monitoring ✓ Patient oriented questionnaires ✓ Integrated omnichannel engagement by sales reps. ✓ Customer relationship management systems	✓ Smart packaging and tagging systems for product tracking and traceability ✓ End-to-end order placement and processing systems ✓ Integrated logistics management system ✓ Shipment fleet routing and tracking systems
Outcomes	✓ Cost reduction, greater demand predictability and product traceability	✓ Increased productivity and manufacturing capacity, reduced raw material losses and improved product quality	✓ Sales/revenue boost, improved customer and patient feedback, improved patient outcomes	✓ Decreased delivery time, improved demand forecasting and improved interface with distributors

Backoffice

Key digital trends

- ✓ Process digitalization
- ✓ ERP adoption
- ✓ New data driven areas (data governance, data analytics and data science)

Outcomes

- ✓ Faster internal activities, improved accuracy, improved financial forecasting

Notes: HCP – Health care professional
Sources: DigiPharma; L.E.K. research and analysis

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Each of these solutions can be used to solve specific pain-points (Pharma Example)

	Stakeholders	Summary of pain-points / priority areas	Proposed solutions / capability needs	Digital systems
	**Supply Chain & Manufacturing**	**Planning & inventory:** Low demand forecasting accuracy; low integration between planning systems across functions	• **Integrated S&OP platform** across the value chain, including **demand forecasting, procurement and inventory control**, leading to better raw material planning and less set-ups	• Demand forecasting system • Inventory management system
		Operational efficiency: Non-optimized set-ups impacting OEE; Limited real-time visibility, management and control of production process	• **Dashboard with real-time data over production processes and equipment parameters**, allowing on-time action on issues • **Automated production line planning** and simulations of scenarios • **System to manage equipment** status, predictive maintenance and planning	• Supervisory control and data acquisition (SCADA) • Manufacturing execution systems • Asset management software
	**Commerciali-zation**	**Customer management:** Absence of centralized systems to systematically record and manage customer interaction/feedback	**Physicians/Pharmacists** • **Platform to manage doctors/pharmacists and track engagement** history / frequency and feedback • **Centralized system** to automate collection of **sales engagement** content and optimize **SF allocation, routing, samples/corporate gifts management and performance** • **Segmented approach to customers** considering main needs and preferences **Distributors/Pharmacies/Institutional** • **Visual dashboard** with integrated inventory levels, orders historic and other client information (e.g.: financial data) • **E-commerce** for distributors and pharmacies **Patients/Consumers** • **Direct-to consumer engagement, including loyalty initiatives (e.g.: cashback), surveys, digital therapy and education support** along with the patient treatment	• CRM platforms • Sales force optimization tools • Omnichannel engagement (channel mix optimization) • E-commerce platforms • Medication support systems
		**Customer engagement:** Limited differentiation in customer engagement approaches		
	**Organization wide data management**	**Data management:** Absence of stratified data, integration and analytics systems	• **System to collect multiple data-points** across the operation to support holistic data analysis • **Real-time visualization of business performance data**	• Data structure • Business analytics tools

Sources: L.E.K. research and analysis

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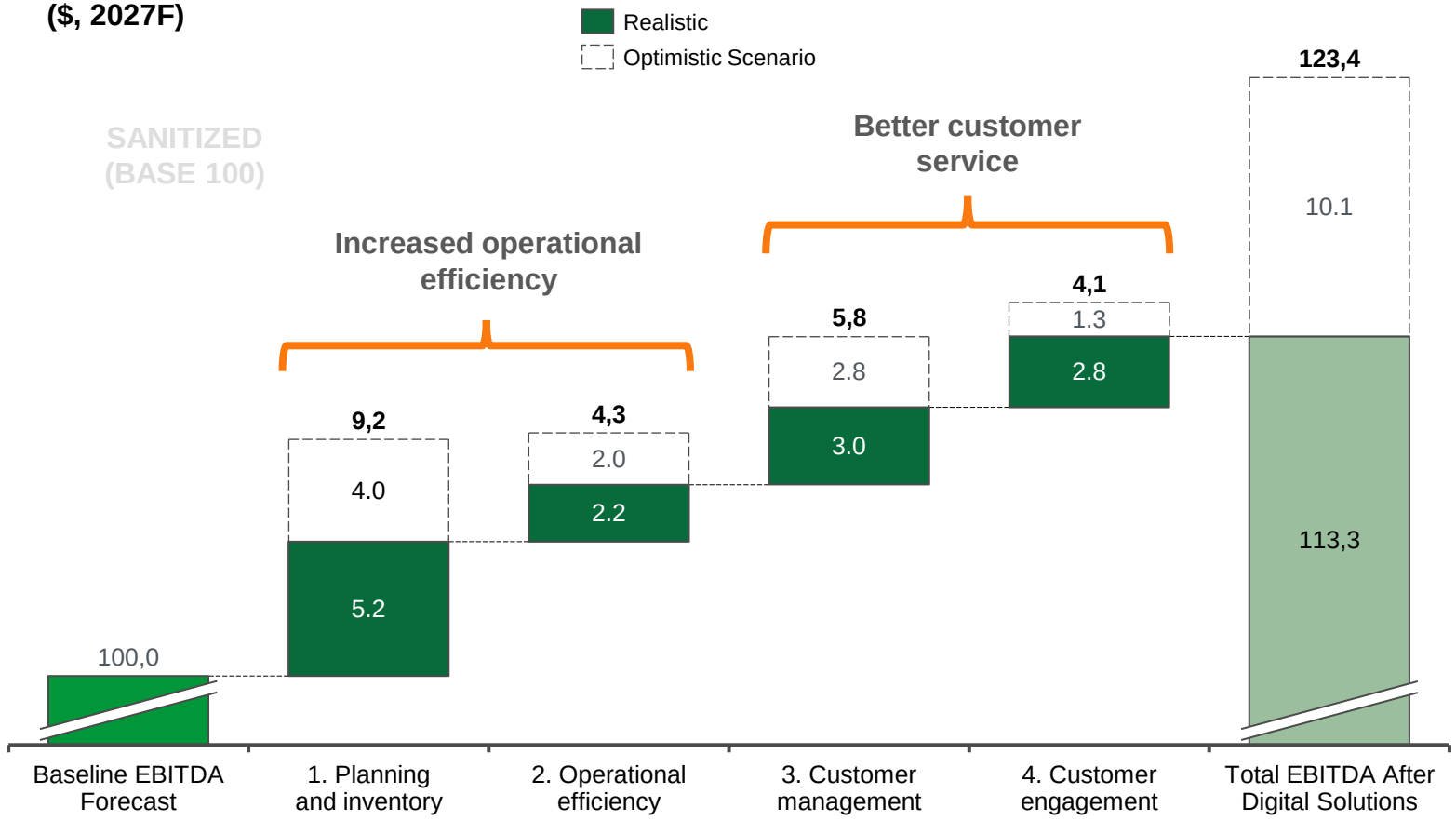
Operational focused initiatives can have the same (or better) bottom line impact than customer focused initiatives

Total potential EBITDA uplift from digitalization of priority areas ($, 2027F)



Main Assumptions:

- **Revenues uplifts and cost savings** from digital solutions were the basis for the calculation of the EBITDA uplift
- **Ramp-up varies for solutions** depending on complexity and required scale of implementation

Main Drivers:

- **Cost savings** can be realized from productivity gains in production, commercialization and reduced administrative tasks
- **Revenue uplift can be expected for customer-oriented solutions** aimed at redefining customer relationships

Sources: DigiPharma interviews, L.E.K. research and analysis

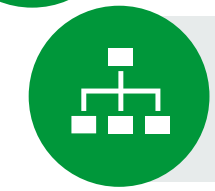
Agenda

- Are we creating value in Digital Healthcare?
- Overview of AI and Digital in Healthcare in Brazil
  - AI Investment opportunities today in Brazil
  - AI Use cases in Hospitals
  - Digital opportunities in Pharma
- **How to think about Digital Maturity in Healthcare?**

A company's Digital Maturity can be measured by how advanced it thinks on five dimensions – Digital Strategy, Organization, Operations, Customer and Business Models

- **There are five key areas that support "digital excellence" for companies** from a holistic perspective, which can be used to evaluate a company's Digital Maturity
- **The DEX framework has been applied in numerous situations for healthcare, MedTech, and life sciences clients**; for example, in board presentations, strategy development, portfolio prioritization, and roadmap development

Development of a digital **strategy**, implemented through...



building a digital **organization**, supported by...

modern digital **operations**, which supports...

developing a relentless **customer focus**, and enabling...

continuous reinvention of **business models**

Sources: L.E.K. Consulting

The DEX focus on five key dimensions for the digital transformation – Reimagine, Reorganize, Rebuild, Refocus and Reinvent, which can be further segmented into nine subcategories

INDICATIVE

1	Strategy	**Digital Vision and Strategy:** development of digital vision; creation of digital strategy & implementation plans	
2	Organiatin	**Leadership, Organization & Governance:** development of digital governance / leadership structures **New Ways of Working:** implementation of new roles / skills (digital expertise), new working styles (e.g., Agile) and change management programs	Required to successfully envision and deploy digital capabilities
3	Operatins	**Digital Operations:** Development of effective digital tools to streamline supply chains and optimize processes **Digital Infrastructure and Enablers:** Development of infrastructure and interoperability, assessment of digital policy compliance	Required to enable, manage and safeguard the digital capabilities deployed
4	Customer	**Customer Experience and Digital Services:** Implementation of digital customer engagement and service activities **Digital Go To Market and Data Insights:** Creation of digital-go-to market approach including use of digital marketing tools / data insights	Required to effectively target and engage customers using digital paths to deliver content and services
5	B. Models	**Business Models and Markets:** Development of digitally-enabled innovative product and service offerings, and business models to monetize them **Ecosystem and Partnerships:** Identification and engagement of digital partners and relevant stakeholders	Required to effectively develop and commercialize new digital capabilities and offerings, leveraging partnerships with other stakeholders

Sources: L.E.K. Consulting

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The DEX allows assessment and classification of companies' digital maturity in five levels - Traditionalist, Novice, Intermediate, Advanced and Champion

Digital Excellence Assessment Scale

1. Traditionalist

- Digital resources, processes, and structures are missing or underdeveloped
- Activities are ad-hoc and uncoordinated without an overarching digital strategy

2. Novice

- Digital resources, processes, and structures are fairly basic and still in development
- There are no formal metrics or processes for review or update

3. Intermediate

- Digital resources, processes, and structures are functional and partially documented within the company, as part of an overall digital strategy

4. Advanced

- Digital resources, processes, and structures are functional and documented in most of the company
- Formal review processes are in place but limited

5. Champion

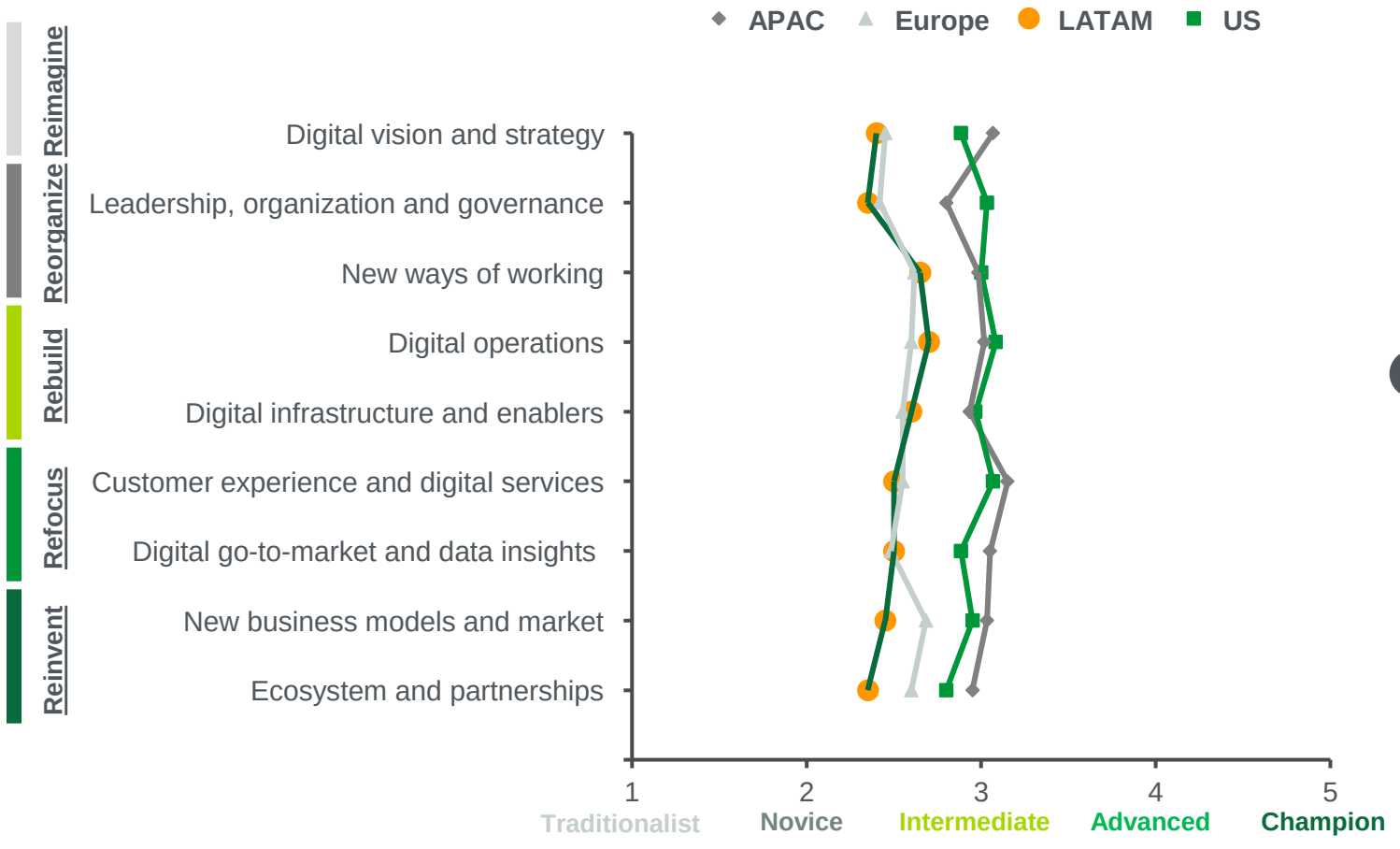
- Digital resources, processes, and structures are fully functional throughout the company and incorporated into an overarching digital strategy
- Formal review processes are in place and proper use of the offered digital products is achieved

Sources: L.E.K. research and analysis

LATAM is still at an initial stage of its digital transition, as is Europe, both regions lagging US and APAC

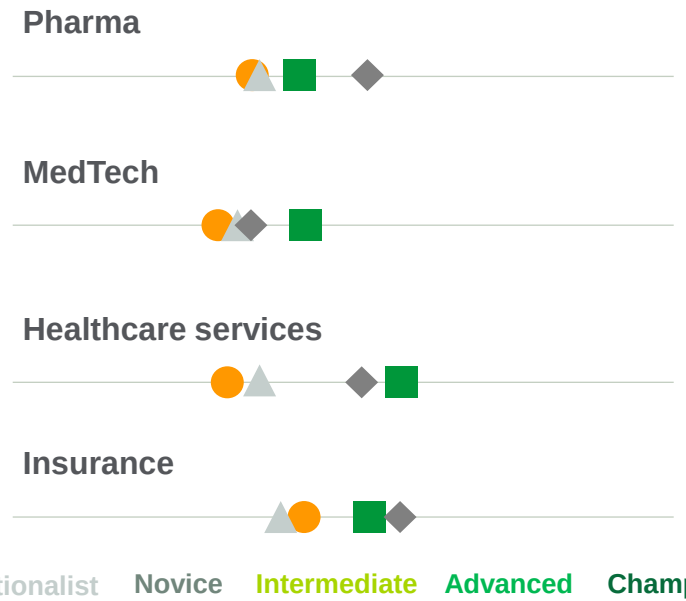
Digital Health Index, 2022

Scale: Traditionalist (1) – Champion (5)



Digital Health Index – Geographies average, 2022

Scale: Traditionalist (1) – Champion (5)



- **Most regions have their subsectors at levels in line with their overall DEX**, indicating that no subsegment has a greater influence on the level of digital development in each geography
- **LATAM scores below peers in all subsectors, except for insurance**, the most advanced sector in the region

Sources: L.E.K. research and analysis

Health Technology

Overview

November 2023

DRAFT