PRECISION MEDICINE

Better Health Decisions

AI/ML INNOVATIONS INC

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PRECISION MEDICINE vs Personalized Medicine

- **Precision medicine seeks to create treatments that are applicable to groups of individuals who meet certain characteristics.**

Which is different from "personalized medicine," which implies individualized treatments available for every unique patient
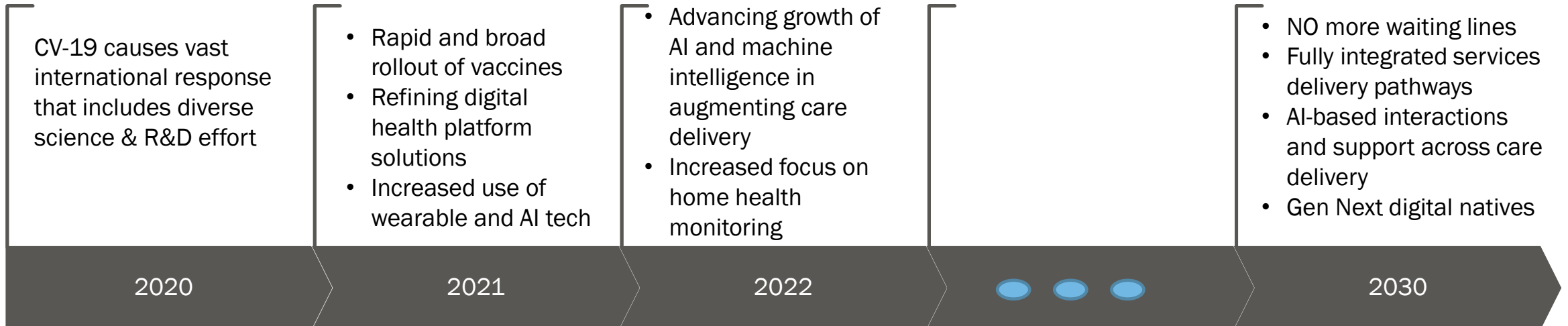
DIGITAL HEALTH FUTURE: Potential problems ahead…

By 2030 there could be a **shortage** of up to

100,000 physicians in the US alone.

Source: American Association of Medical Colleges

2020	2021	2022	• • •	2030
CV-19 causes vast international response that includes diverse science & R&D effort	• Rapid and broad rollout of vaccines • Refining digital health platform solutions • Increased use of wearable and AI tech	• Advancing growth of AI and machine intelligence in augmenting care delivery • Increased focus on home health monitoring		• NO more waiting lines • Fully integrated services delivery pathways • AI-based interactions and support across care delivery • Gen Next digital natives

Personalized Medicine - Healthcare pathways

■ **Common Characteristics of a Clinical Pathway?**

Ideally consists of:

* Structured data & PHI

* Multi-disciplinary plan with detailed steps

* Coordinating care of specific patients

* And can span diagnostics, surgery, nutrition, medications & discharge

Personalized Healthcare   - Ongoing care Monitoring & Management

- Acute and episodic care pathways are well defined and serve people well, and the in-facility systems and professional care programs will benefit from Precision Medicine R&D

However, there remains tremendous opportunity for new innovative monitoring solutions to augment and provide for new personal health information gathering and analysis.

In the community, the home,
and with new personal health monitoring devices

PERSONALIZED HEALTH MONITORING & MANAGEMENT
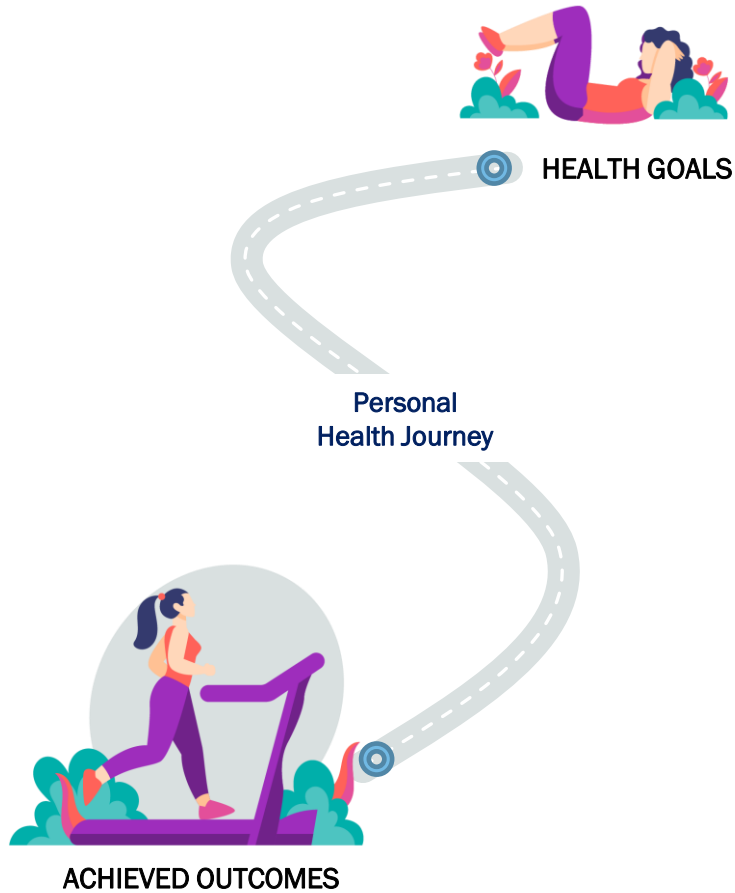
120

120/80

250 Cal

Extensive research confirms

Research shows that health monitoring and management improves

health outcomes and reduces costs

Digital Health Platforms

HEALTH GOALS

Personal
Health Journey

ACHIEVED OUTCOMES

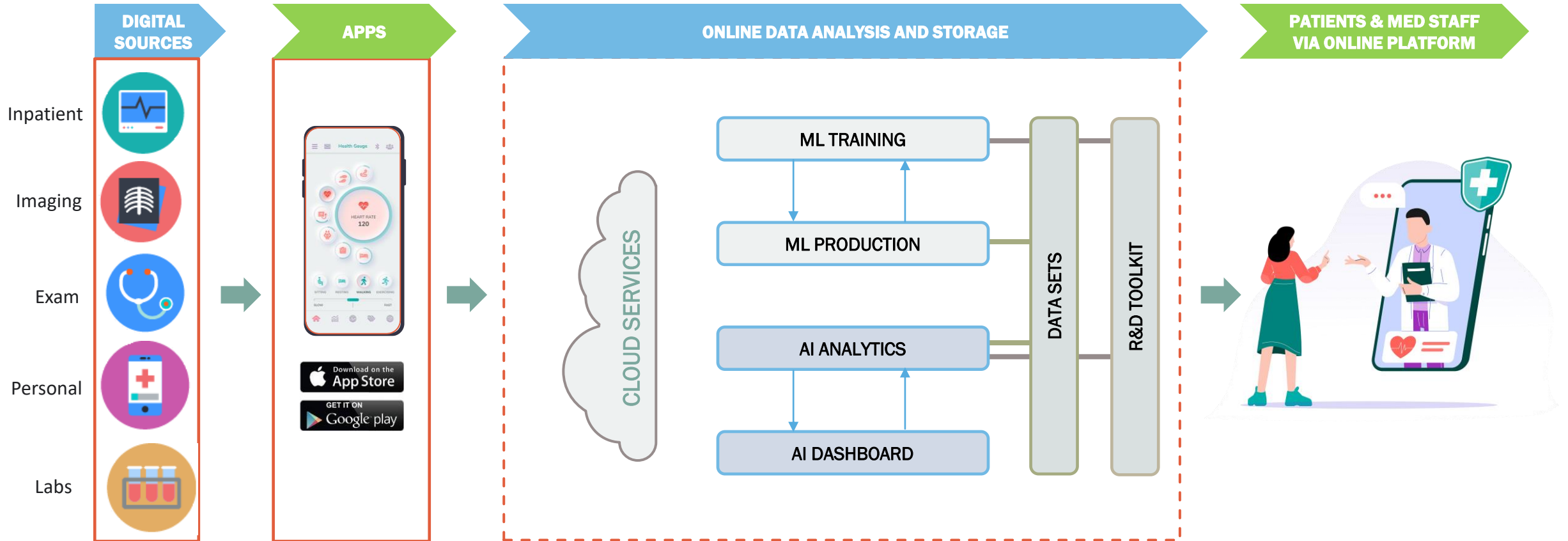|	Platform	Wearable Tech & IoT Companies	Health Data Aggregator Companies	Health & Virtual Service Companies	AI/ML Companies	Digital Health Data Apps (online & mobile)
Devices I Wearables I IoT	✓	✓				Apple or Android
Data Sources I Quality of Data	✓	diverse	diverse	diverse	diverse	Non-specific
Health Coach Services | Virtual & Live I AI & Real	✓			✓		diverse
Health Objectives Apps Management I Support	✓	limited		✓		✓
Optimization AI	✓				✓	
Privacy & Security	✓	diverse	✓		✓	
Payment Interface | Transaction System	✓			diverse		
Consistency of end-to-end Service Experience	✓					
EXAMPLE COMPANIES:	Health gauge	FitBit Withings Garmin AliveCor	Vivametrica Decadoo Azumio	Revive Wellness NovuHealth Rally Health	Google Health IBM Watson Babylon	Kardia Mobile Strava AliveCor AirStrip One
Business Models	Device + subscription + Value-add		Service based or subscription	Service based or subscription	Service based or subscription	Single charge & subscriptions

Digital Health Platforms & the Uber metaphor…

HEALTH GOALS

Personal
Health Journey

ACHIEVED OUTCOMES

- The Journey has a starting point where two parties meet

- There is an agreed framework to assess and start

- There are two actors in the Uber metaphor: driver and rider

- The assessment of ride objectives are self-evident

- Consistency, quality, and replicability are important

- The destination is the objective, and may need to be occasionally reset and updated

- The starting point is complex and can include: historical, social, physiological, genetic, personal behavioral attributes

- The assessment can have a small set of input data, or require a substantial and diverse set of data input

- The digital health actors have a different level of complexity (driver & rider)

- Data integrity, security, and consistency also important

- The destination is the objective, and may need to be occasionally reset and updated

Personalized Health Monitoring & Management

DIGITAL HEALTH FUTURE: Getting comfortable with the Virtual Clinic

- Now that digital health is becoming mainstream
  - question will be how care pathways evolve to optimize growing level of data assets

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