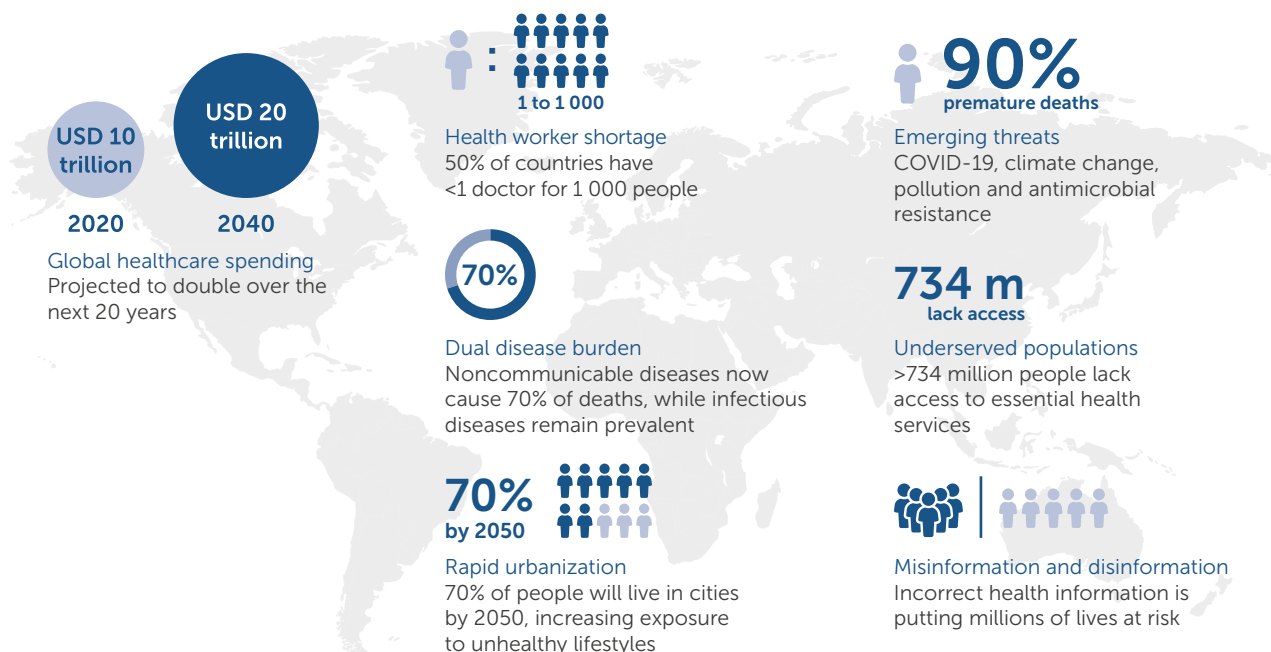# Reimagining Global Health through Artificial Intelligence: A Roadmap to AI Maturity

Global challenges

AI is today's defining technology, and greatest opportunity to address growing challenges:

USD 10 trillion
2020

USD 20 trillion
2040

Global healthcare spending
Projected to double over the next 20 years

1 to 1 000

Health worker shortage
50% of countries have <1 doctor for 1 000 people

70%

Dual disease burden
Noncommunicable diseases now cause 70% of deaths, while infectious diseases remain prevalent

70%
by 2050

Rapid urbanization
70% of people will live in cities by 2050, increasing exposure to unhealthy lifestyles

90%
premature deaths

Emerging threats
COVID-19, climate change, pollution and antimicrobial resistance

734 m
lack access

Underserved populations
>734 million people lack access to essential health services

Misinformation and disinformation
Incorrect health information is putting millions of lives at risk

Potential of AI

84%
C-suite executives believe they must leverage AI to achieve growth.
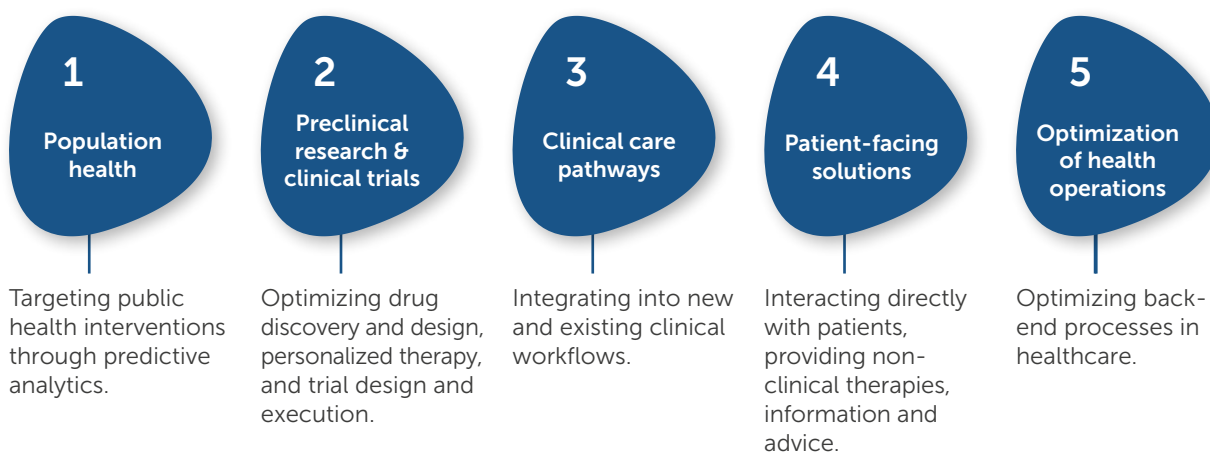
93%
agree that AI helps achieve previously hidden or unobtainable value.

86%
agree that AI is finding solutions to previously unsolved business problems.

Top 5 use cases for AI in health

A new report from the Broadband Commission Working Group on Digital and AI in Health identifies five use cases for how AI is addressing global and public health priorities, strengthening health systems, and improving outcomes for patients.
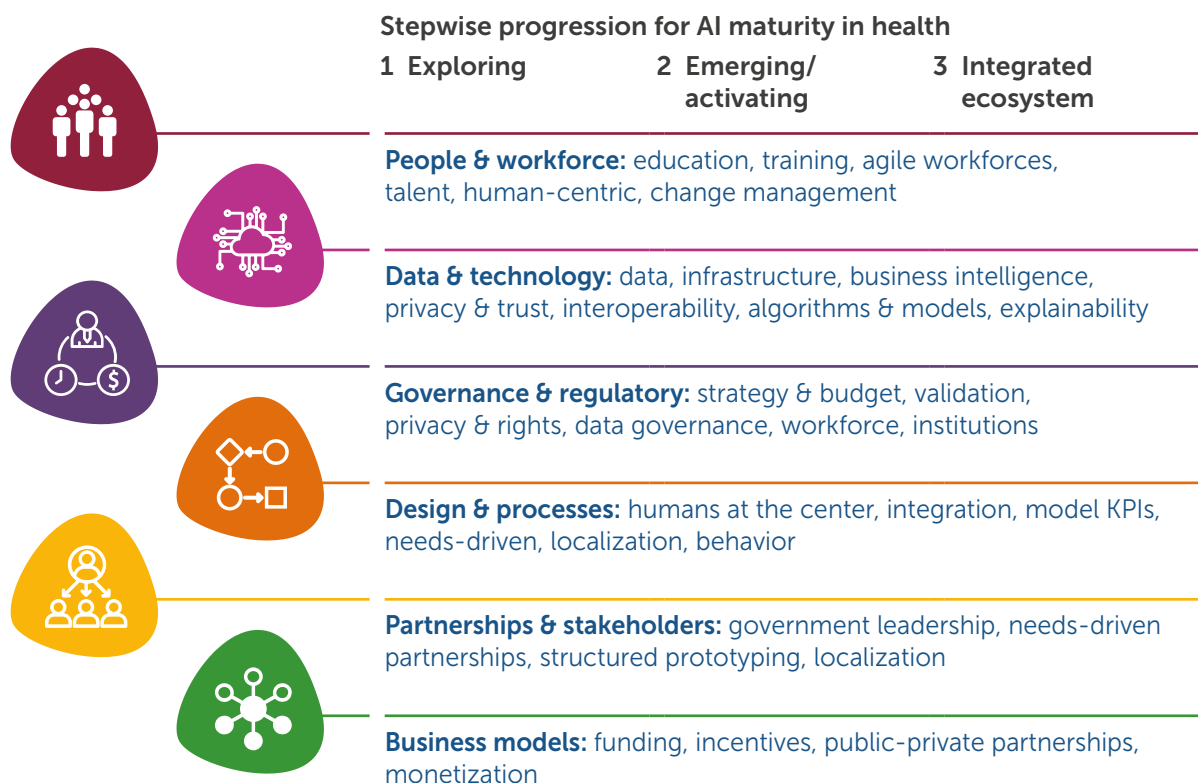
1 Population health

Targeting public health interventions through predictive analytics.

2 Preclinical research & clinical trials

Optimizing drug discovery and design, personalized therapy, and trial design and execution.

3 Clinical care pathways

Integrating into new and existing clinical workflows.

4 Patient-facing solutions

Interacting directly with patients, providing non-clinical therapies, information and advice.

5 Optimization of health operations

Optimizing back-end processes in healthcare.

The roadmap for AI maturity in health

The report presents actionable recommendations tailored to individual stakeholder groups, enabling governments, health organizations, civil society, the private sector and others to capture the game-changing capabilities of AI for health.

The recommendations are grouped into six interdependent areas that must all be prioritized to enable mature integration of AI in health.

An accompanying roadmap charts three stages on the progressive path towards AI maturity in health.

Six areas for AI maturity in health

Stepwise progression for AI maturity in health

1 Exploring   2 Emerging/ activating   3 Integrated ecosystem

People & workforce: education, training, agile workforces, talent, human-centric, change management

Data & technology: data, infrastructure, business intelligence, privacy & trust, interoperability, algorithms & models, explainability

Governance & regulatory: strategy & budget, validation, privacy & rights, data governance, workforce, institutions

Design & processes: humans at the center, integration, model KPIs, needs-driven, localization, behavior

Partnerships & stakeholders: government leadership, needs-driven partnerships, structured prototyping, localization

Business models: funding, incentives, public-private partnerships, monetization

About the working group

Digital and AI technology offer an unprecedented opportunity to transform health systems from being reactive to preventative and even predictive. The Working Group on Digital and AI in Health is tasked with generating knowledge about how these technologies can advance health and care globally. The working group's comprehensive landscape review identified actionable recommendations for how governments and other stakeholders can create the ecosystem necessary to achieve mature integration of AI in health.

The objective of this report, **Reimagining Global Health through Artificial Intelligence: A Roadmap to AI Maturity**, is to generate knowledge on the challenges, lessons learned, and best practices for AI solutions in health, and to provide actionable recommendations.

Discover the top AI solutions in the report: AI in Health

Working Group on Digital and AI in Health
Reimagining Global Health through Artificial Intelligence:
The Roadmap to AI Maturity
September 2020
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