Responsible Artificial Intelligence for Health

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Why We Should Embrace AI Rather Than Fear It?

AI across the Health Value Chain

Research & Development

Drug Discovery: Accelerates candidate identification

Clinical Trials: Optimizes trial design

Genomic Sequencing: Speeds analysis of genetic data

Virtual Patient Simulations: Reduces need for early-stage human trials

Systems Medicine: Designs complex therapies

Manufacturing & Distribution

Supply Chain Optimization: Reduces waste, improves delivery

Quality Control: Ensures product safety at scale

Inventory Management: Optimizes stock levels

Autonomous Manufacturing: Enhances efficiency, reduces error

Predictive Maintenance for Equipment: Minimizes downtime

Population Health & Delivery of Care

Diagnostic Assistance: Improves accuracy of diagnostics

Treatment Personalization: Tailors treatment plans

Robotic Surgery: Aids in precise surgeries

Remote Surgery: Expands access to expert surgical care

Real-Time Population & Patient Monitoring: Identifies, anticipates and prevents threats, diseases and complications

Post-Care & Monitoring

Remote Monitoring: Monitors patient health remotely

Rehabilitative AI Tools: Provides feedback during rehabilitation

Predictive Risk Modeling: Aids preventative care efforts

Personal Health Assistants: Offers personalized health management

Mental Health Interventions: Provides real-time therapy support

Admin & Info Management

Billing & Claims Processing: Automates administrative tasks

Patient Data Management: Improves data security and compliance

Resource Allocation: Optimizes use of healthcare resources

AI-driven Policy & Compliance: Suggests efficiency-improving policies and semi-automates compliance

Fraud Detection: Detects and prevents fraudulent activities

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Primary Benefit:
- better outcomes
- cost savings

Distribution of AI in Healthcare startups

Source: StartUs Insights (Top 10 AI trends in healthcare) Jan 2023
3103 global startups and scaleups included in the analysis

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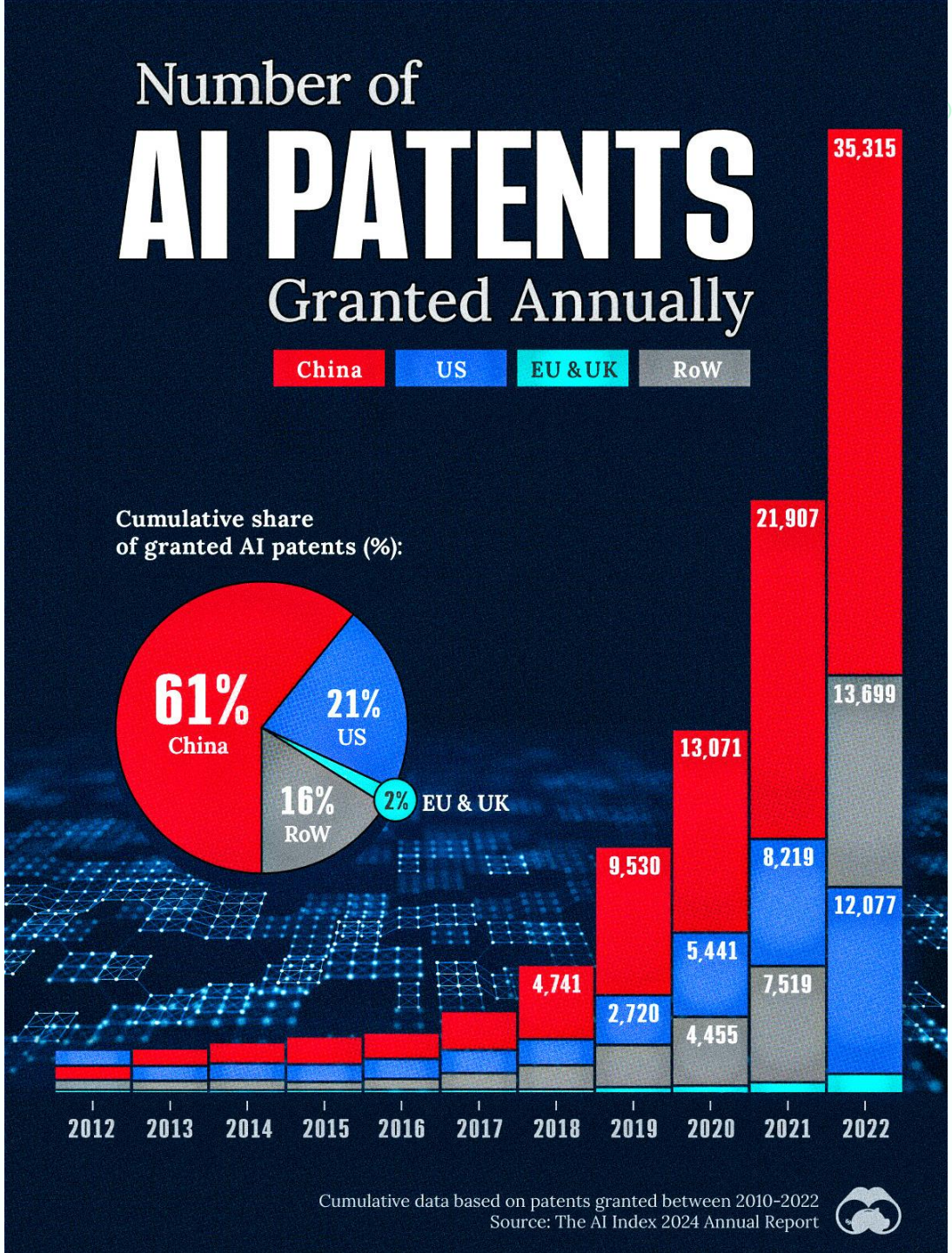
Insights and Forecasts of Patents for AI and ML

- Total number of published **patents doubled yearly from 2015 to 2022**
- Source: The AI Index 2024 Annual Report



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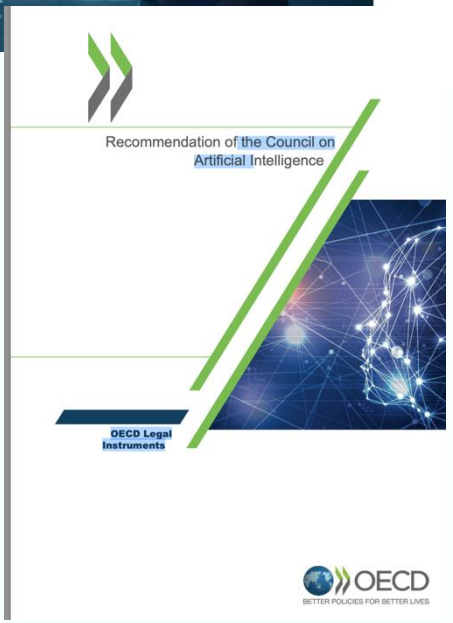
Moving Towards a Fragmented Regulatory Landscape?



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Regulatory Challenges for AI in Healthcare

Global fragmentation	• Navigate **differential requirements** in different countries/regions • Varying approval processes and timelines
Fast evolving AI	• **Fast evolving** AI developments • New regulations and standards in **response to emerging tech**
Data concerns	• **Data security and privacy** • **AI methods have *opaque* inner workings**
Post-market surveillance	• **Monitor safety and effectiveness** of devices • Adaptive learning with more data (need for periodic monitoring)

Source: Technology trends and the future of medical devices. Sep 2023.
Hosny A, Parmar C, Quackenbush J, Schwartz LH, Aerts HJWL. Artificial intelligence in radiology. Nat Rev Cancer. 2018;18(8):500-510. doi:10.1038/s41568-018-0016-5

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The Challenge

Lack of effective governance of AI in 'health' increases risks for citizens and systems which stimulates distrust and slow adoption of responsible AI solutions that can lead to better health outcomes for all

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HealthAI Governance Role

HealthAI serves as a bridge between normative bodies and national and regional regulatory bodies to strengthen capacity and certify their regulatory mechanisms.

Normative Bodies

Set global standards

Interprets Standards

HealthAI

Facilitates and Stewards

- Community of Practice
- Global Regulatory Network
- Global Public Repository of validated AI solutions for health

Builds Capacity

Certifies Bodies

Regulatory Bodies

Validate AI solutions

HealthAI <u>will not</u> define standards. This falls under the responsibility of international and/or national normative and standard setting organizations.

HealthAI <u>will not</u> validate AI tools for health systems. This falls under the responsibility of national and/or regional regulatory bodies.

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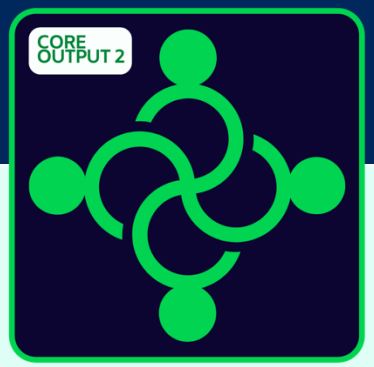
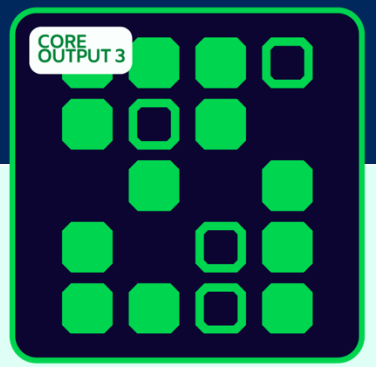
HealthAI Strategy 2024–2026

Responsible AI Solutions for Health

Co-create and certify **National & Regional validation mechanisms** on Responsible AI for Health



Establish a **Global Regulatory Network** for knowledge sharing and adverse events - '**Global Early Warning System**'



Create a **Global Public Repository** of validated AI solutions for Health

Deliver **advisory support** on Policies and Regulations

HealthAI Community of Practice

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Join Now | Community of Practice

Let's get the
regulations right.

BETTER
HEALTH
AHEAD

Thank you

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