



#AMCOA2024

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AVANI RESORT, LIVINGSTONE

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# DATA PROTECTION ACT CHALLENGES IN REGULATING AI ON HEALTH DATA

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# THE 90s - SECURITY CHALLENGES ON HEALTH DATA

- Slow speeds internet or connectivity
- Unreliability of connections (DSL)
- Cost of internet
- Large Data transfer was impossible
- Large Data transfer required physical presence



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# THE 90s CHALLENGES PUT IN CONTEXT

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- **Transfer Rate: 14.4kbs => 100-250Mbps**
  - Context: 50 high resolution x-Ray/min on internet
  - Context: 93,000 high resolution x-Ray/min on FIBRE 5Gbps
- **Portable Devices: Floppy Disk 1.44Mb => SD card 1Tb**
  - Context: 70 floppies for 1 XRay | 19,000 in one SD Card (875,000 Floppies)
  - Context: 1 CDRoms for 2 XRay => 9,500 CDRoms to store 19,000 XRays
- **Data Storage of Gb/month**
  - 1990 1Gb/Month \$10,000
  - 2024 100Gb/Month => \$2.00



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# SOLUTIONS TO 90s CHALLENGE A 2024 SECURITY THREAT

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- **Human Threats:** Employee access ..might misuse it for personal gain or malicious purposes.
- **Phishing Scams:** HCP and patients can be targeted with deceptive emails to steal login credentials.
- **Data Breaches:** Unauthorized access .. can lead to identity theft and financial fraud.
- **Ransomware Attacks:** Cybercriminals can encrypt medical data
- **Denial-of-Service (DoS) Attacks:** Hackers can attack and deny services.
- **Botnets:** Networks of compromised computers controlled remotely



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# HEALTH DATA SECURITY CHALLENGES

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- **Other than complexity of the healthcare IT environment:**
  - Interconnectivity of systems and applications
  - Interconnectivity of active devices,
- **The USE of AI of the healthcare environment:**
  - **Additional skills:** for Regulators and HCPs will be needed to understand and effectively regulate AI systems.
  - **Complexity and constant rate of evolvement:** makes it difficult to develop effective regulations.
  - **Moving Target:** AI technology pace of change, makes it difficult for regulations to keep pace.



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# HEALTH DATA SECURITY CHALLENGES CONT'

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- **Cross Border Challenges:** Interconnectivity of systems inclusive of AI system makes them global thereby creating challenges for cross-border regulations.
- **Data quality and Data bias errors:** Garbage in Garbage out
- **Privacy and security:** AI's dependency on large amounts of health data for effectiveness, increases privacy and security risks.
- **Public Balancing Act for Regulators:** The promoting innovation and trust in AI systems vs the need to protect the public



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# Can regulation be the answer to AI Complexities

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- **In Healthcare in the context of Data Protection Acts?**

“Designing a regulatory framework that achieves the right balance between promoting innovation and fast market access on one side and ensuring safety and quality on the other side is very challenging.” Van Laere

**WHO Guiding Principle**, “AI designers should safeguard privacy and confidentiality by providing patients with valid informed consent through appropriate legal frameworks.”



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- **AI implications on Data Processing Principles**
  - Purpose limitation
  - Transparency
  - Accuracy
  - Consent
  - Fairness





# ADVANTAGES OF AI ON HEALTH DATA

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- **Enhanced Data Security:**
  - AI can detect unusual patterns and potential breaches in real time
- **Improved Diagnostics:**
  - Aids in diagnostics and improves detection and treatment.
- **Drug Discovery:**
  - AI accelerates the process of discovering new drugs
- **Remote Monitoring:**
  - AI-powered devices can monitor patients' health in real-time, providing alerts for any anomalies



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# ADVANTAGES OF AI ON HEALTH DATA CONT'

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- **Enhanced Patient Experience:**

- AI chatbots/virtual assistants can provide patients with instant access to information and support

- **Efficient Data Management:**

- can manage and organize vast amounts of health data efficiently, ensuring security and reduces unauthorized access.

- **Improved Patient Care:**

- By analyzing health data, AI can provide insights that lead to better patient outcomes.

- **Automation of Routine Tasks:**

- Reducing the risk of human error in data handling

# Data Protection Acts enforcement are in their infancy



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# RECOMMENDATIONS

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- NADPA need to start drawing up standard regulations for AI in the health sector adapting from GDPR or other First world DPAs.
- Enact Data Protection Acts in all African counties in order to enforce some provisions
- HCPs to work closely with Data Protection Authorities to start drawing up regulations for AI in the health sector
- Adapt AI use in healthcare sector and only regulate its use and ensure the necessary measures are in place

# KEY FACT ON AI REGULATION

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Regulation can only regulate the use of AI but much more is needed to regulate AI output.

*thank  
you*



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