Your Amazing CIO – Prioritizing Health Care Technology Challenges

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PRE-MCLEAN Global economy held back by the expense of ocean-going freight. ☐ 1937 Trucker Malcom McLean fumes at slow cargo loading - "There has to be a better way." 1970s-1980s By 1973, container ships carry 4 million TEUs annually. ☑ 1970 ISO regulations stimulate international ☑ 1972 Registered East Coast longshoremen have fallen by in the 20 years since 1952. ☑ 1977 U.S. transport deregulation enables intermodal companies (owning more than one transport mode) with larger ships. ☑ 1985 Sea-Docs, the first electronic Bill of Lading Registry pilot, speeds up container movements with better information flow. ☑ 1985 The first double-stack train service begins. 2000s ₼ 6K-8K TEUs | 200x43x14.5 m International supply chains grow more intricate and inclusive, supporting the growth of ecommerce. ☑ 2001 First residential container complex opens.

Other re-purposing includes agriculture, open

THE EARLY YEARS

Early Cargo Ship

500-800 TEUs

Containers go international, rapidly expanding after 1968.

✓ 1950 US Army uses containers for supply movements during Korean War.
 ✓ 1956 Maiden voyage of McLean's Ideal X. McLean's fitting system improves security and loading times.

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1959 The first quayside container crane is developed, slashing costs.

Chinese manufacturing takes off.

1991 Six of the world's ten largest ports are now in Asia.

☑ 1991 London's Docklands opens, an example of urban rejuvenation re-using vacant dock land (as ports get fewer and larger).

1990s

2010s

✓ 1959 The first quayside container crane is developed, slashing costs.

≜ 18K TEUs | 400x59x15.5 m.

₼ 4K-5K TEUs | 200x43x14.5 m

By 2013, 90% of global trade is seaborne, shipped in 700 million containers every year.

2017 Remote tracking systems are predicted to reach over 1 million containers.

HL7 version 2, invented in 1989

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Clinical Document Architecture (2000) Continuity of Care Document (2009)

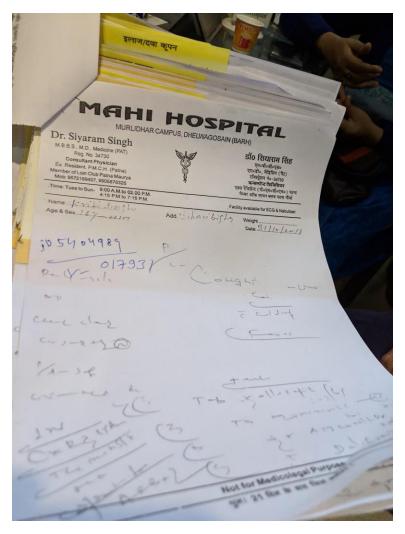
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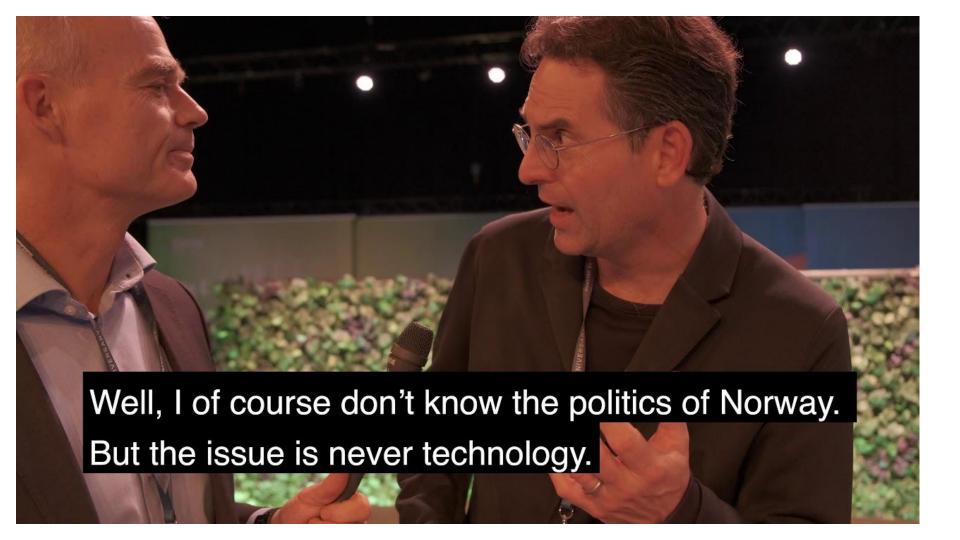
FHIR and Argonaut Implementation Guides (2015)

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ONE OF THE MOST RESPECTED AND EXPERIENCED DIGITAL HEALTH EXPERTS IN THE WORLD LAST WEEK CALLED ON THE AUSTRALIAN DIGITAL HEALTH AGENCY (ADHA) TO STOP THE CURRENT TRAJECTORY OF THE MY HEALTH RECORD (MHR) PROJECT IMMEDIATELY AND REFOCUS AND PRIORITISE INVESTMENT WHERE IT WILL HAVE REAL AND NEAR-TERM BENEFIT FOR THE AUSTRALIAN HEALTH SYSTEM.

Challenges We Still Face

- Medical/legal precedent with storage, use, and alerts/reminders for patient generated healthcare data
- Data provenance
- Turning data into information, knowledge and wisdom
- Understanding normal variation
- Security and privacy concerns

What New Data Sources are Emerging?

- Internet of things and connected health devices are exploding
- Artificial Intelligence and Machine Learning are maintstream tools available from multiple platform providers
- The era of apps and cloud hosted services has arrived
- Application Programming Interfaces are increasing in number and sophistication
- Policy drivers including value-based purchasing, promoting interoperability program and telemedicine friendly reforms

Closing Thoughts

- The future for the app and cloud economy is very bright
- Although government has a role as convener and catalyst, the real acceleration will happen in the private sector and from foundations
- The technology we need is already in place
- API standards are rapidly maturing
- Watch the big players (Google, Amazon etc) to offer toolkits we all can embrace

