Session Outcome Document

Control Systems for Excellence: Data and Process Systems

(with specific reference to bionic eye)

Frameworks for achieving operational systems for best outcomes for health data and general applications.

United Nations Internet Governance Forum Dynamic Coalition on Data Driven Health Technologies in collaboration with IGF DC Emerging Technologies

6 July 2026, 10:00–10:45 CEST

https://www.itu.int/net4/wsis/forum/2026/Agenda/Session/156

Key Issues discussed:

Recommended frameworks:
COSO family of practice guidelines, including medical applications specifications, ISO, OECD, Lean Mamagement, Project Management tools, Sigma 6, Enterprise Risk Mamagement ERP guidelines, IEEE, ITU, IGF best practices, privacy and health regulations by jurisdiction, with global practice guidelines for an international ecosystem. Patient and human rights policies. Policies must be updated regularly to keep up with advancement of technology, governance, device mechanics, interoperability. Integrate several monitoring frameworks, with critical thinking, for best results.Please review the recording for an excellent deep dive into the subject matter.

There is an ethical duty that once built, a system or process must ensure continued quality of outputs and service, as expected, until it is updated or bettered. It is essential to update, so as to keep up with new regulations, issues of interoperability, cultural change and so forth.

Developers are expected to build with best design intentions. However, budget and time constraints mean that post design modifications may be implemented during build, for a quick win to production operations and meet modified budgets. This causes intrinsic risk, that can lead to even fatalities, due to poor judgements or facts, based on poor data quality and overall deficient production outcomes. To self guard on these risks, a timely, systematic, meaningful monitoring of the system and its outcomes is a must. Betterment for deficiencies must be applied for ongoing best production outcomes, as soon as they are identified, to enable a robust data and processing system.

Session outcome themes and insights:

Assurance of relevant (e.g. local data) , factual, fraud free, manipulation free, meaningful, evidence based, authentic, verifiable, data quality for equity, supported by AI, for over coming the health digital divide and building trust. Systems must be risk managed with realistic

expectations and betterment, with holistic responsible human oversight and compassionate human designed judgement.

Security and hence encryption and multifacfor authenticarion is critical for the health ecosystem, as there is patient specific data to be managed. 24/7 monitoring of access, incidents with logs and automated AI alerts are a must. Updates without testing must not be applied.

Tracking of patient data could be taken advantage of for broader or patient specific use, with the advancement of technologies with sensors and real time data. Privacy must be considered for, effective outcomes.

Management by life cycle, inter domain, dynamic vs rule based governance and meaningdul data, AI (agents) and system architecture design with multistakeholder participation is best practice. Reposibility for trusted systems must be shared, even with the patient who may be wearing a self managed device for preventarive care. Patients must be included in the design and full application life cycle. Hence, end users are critical for multistakeholder engagement.

Stable electrical power must be ensured as safety of the systems are critical. Backups must be present for data and perhaps parallel systems implemented for switch over in times of disruption, for critical systems. Outages must be managed with care, and a learning environment enables to learn from failure to develop best practice.

With the emergence of complex unstructured data, such as sourced from the bionic eye and other neurological data sources, there is potential for data manipulation from many access points by disruptive actors, agents and forums. Prevention of disruptions is key.

Continuous monitoring 24/7 is required for health systems. Wearables or federated systems pose additional issues of risk. Data, privacy, interoperability, system integration, access, incident management and exceptions identification are all required to work together holistically, for a well functioning ecosystem of applications. Strong regulation is needed for manufacturers and operators of devices and systems and sharimg of data must be with care for privacy, and intellectual property and evaluated for risks.

Recommendations:

Need for ongoing multistakeholder dialogue for the development of standards for working with neurological data sets, which are currently at a formative stage.

Various forms of neurological, sensory, auditory, ambient and other classes of data can be derived, AI provoked, attacked and manipulated for predetermined outcomes. Out of line human agency could be checked with AI agents. Citizens must be protected from harms. Strong ethics, critical thinking and compassionate judgement towards the patient must be applied.

Opportunity to develop new frameworks for safeguarding individual and collective data sets exist. Continuous and meaningful monitoring with no harms self-management systems is a must. Re-framing privacy laws as needed for collaboration. Patient and human rights centered design and ethical judgement is importnat. Care of wheels within wheels.

Need for more discussion on the complex interoperable, inter jurisdiction, inter sector, inter device, unstructured data frameworks for use in artificial, non human and clinical use. Surveillance (hospital, clinic, pharmacy) must be discussed openly. Commercial operations bionic eye data management for risk management, regulation and compliance is hence, required (work place access and surveillance for patient safety).

AI autonomous agents must be observed, controlled and regulated with a shared responsibility by all parties to the agents design, build and operations. Patients must be protected from harms. A no error system must be applied. Errors could lead to death or permanent disability of a patient.

Human agency is central to citizen centered design. Systems that support human life must not be cutoff based on a budget or technical constraint, but with patient family consent. Cost must not be a factor to achieving best practice results. Substandard technology must not be knowingly used for patient care.

The patient must be in control of their own health destiny. This is what is ethical. The patient must make the choices wherever possible, and the clinician must seek patient input in a reasonable, timely, responsible and Inclusive manner, even though the patient may be tracked every step of the way and managed by best clinical technical systems practice!

Continuous learning and betterment within the ecosystem of integrated applications is key. With federated AI systems, new standards may have to be developed after consultation at mutistakeholder best practice forums that could be facilitated by WSIS, ITU, IGF, Health Without Boarders, IEEE and other UN agencies and commercial forums. A bottom up consultation provides for outcomes with integrity and inclusion and ensures a diversity of options.

Transparency with responsible privacy, ethics, timeliness of corrective actions, and accountability are required for effective internal and shared control systems compliance, for any health or other purpose application.