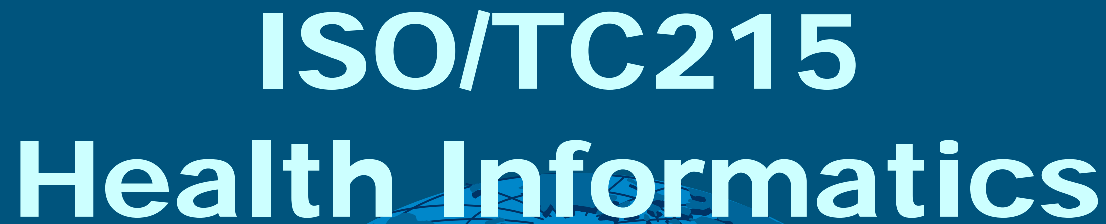
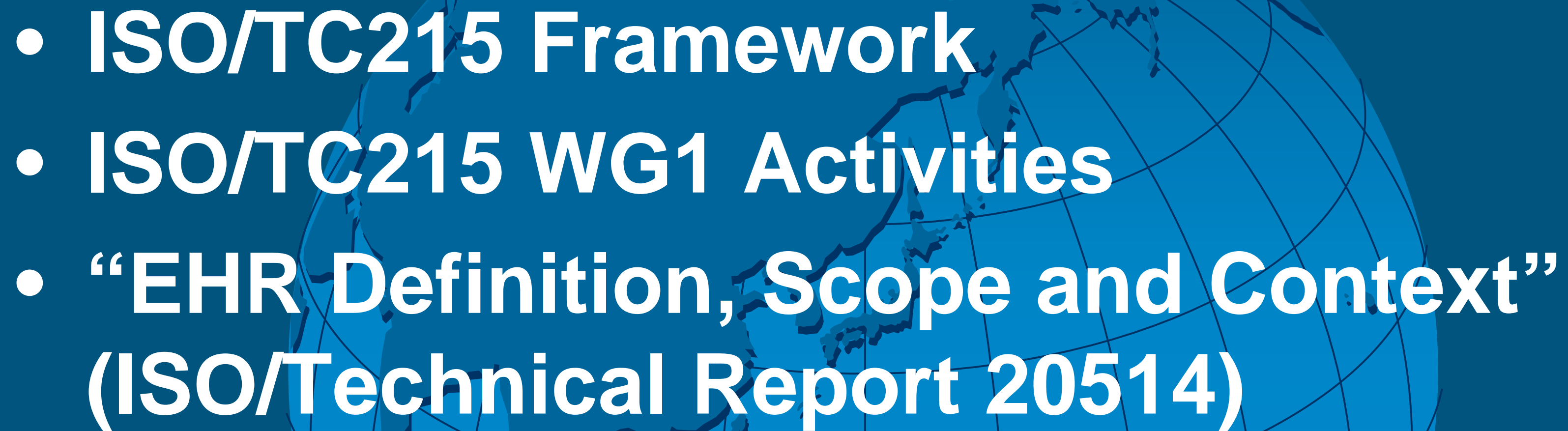


Ken Toyoda

Vice Convener, ISO/TC215 WG1

(Japan)



- ISO/TC215 Framework
- ISO/TC215 WG1 Activities
- “EHR Definition, Scope and Context” (ISO/Technical Report 20514)

• ISO/TC215 Framework

Chair: Dr. Yun Sik Kwak (Korea)

Secretariat: ANSI

Number of published ISO standards under the direct responsibility of the TC 215 Secretariat: 26

Participating countries: 24

Observer countries: 16

Standardization in the field of information for health, and Health Information and Communications Technology (ICT) to achieve compatibility and interoperability between independent systems. Also, to ensure compatibility of data for comparative statistical purposes (e.g. classifications), and to reduce duplication of effort and redundancies.

It is not the intent of the ISO/TC 215 scope:

- Standardize the clinical practice of medicine
- Define a standardized health care delivery service structure
- Standardize medical knowledge, although the representation and exchange of knowledge is within the scope of ISO/TC 215
- Standardize the performance of healthcare, although the definition of standardized comparative performance data is within the scope of ISO/TC 215
- Standardize the internal operation of systems and devices, although the standardization of data structure and the data output from systems and devices is within the scope of ISO/TC215

ISO/TC215 Plenary Meetings

- Orlando (USA) 8/98
- Berlin (Germany) 4/99
- Tokyo (Japan) 11/99
- Vancouver (Canada) 6/00
- Seoul (Korea) 3/01
- London (UK) 8/01
- Pretoria (SA) 4/02
- Melbourne (Au) 8/02
- Oslo (Norway) 5/03
- Washington DC 5/04
- Berlin 5/05

- WG1: Health Records and Modelling Coordination
- WG2: Messaging and Communication
- WG3: Health Concept Representation
- WG4: Security
- WG5: Health Cards
- WG6: E- Pharmacy

⇒

- WG 1: Data structure
- WG 2: Data interchange
- WG 3: Semantic content
- WG 4: Security
- WG 5: Health cards
- WG 6: Pharmacy and medicines business
- WG 7: Devices
- WG 8: Business requirements for an EHR

• ISO/TC215 WG1 Activities

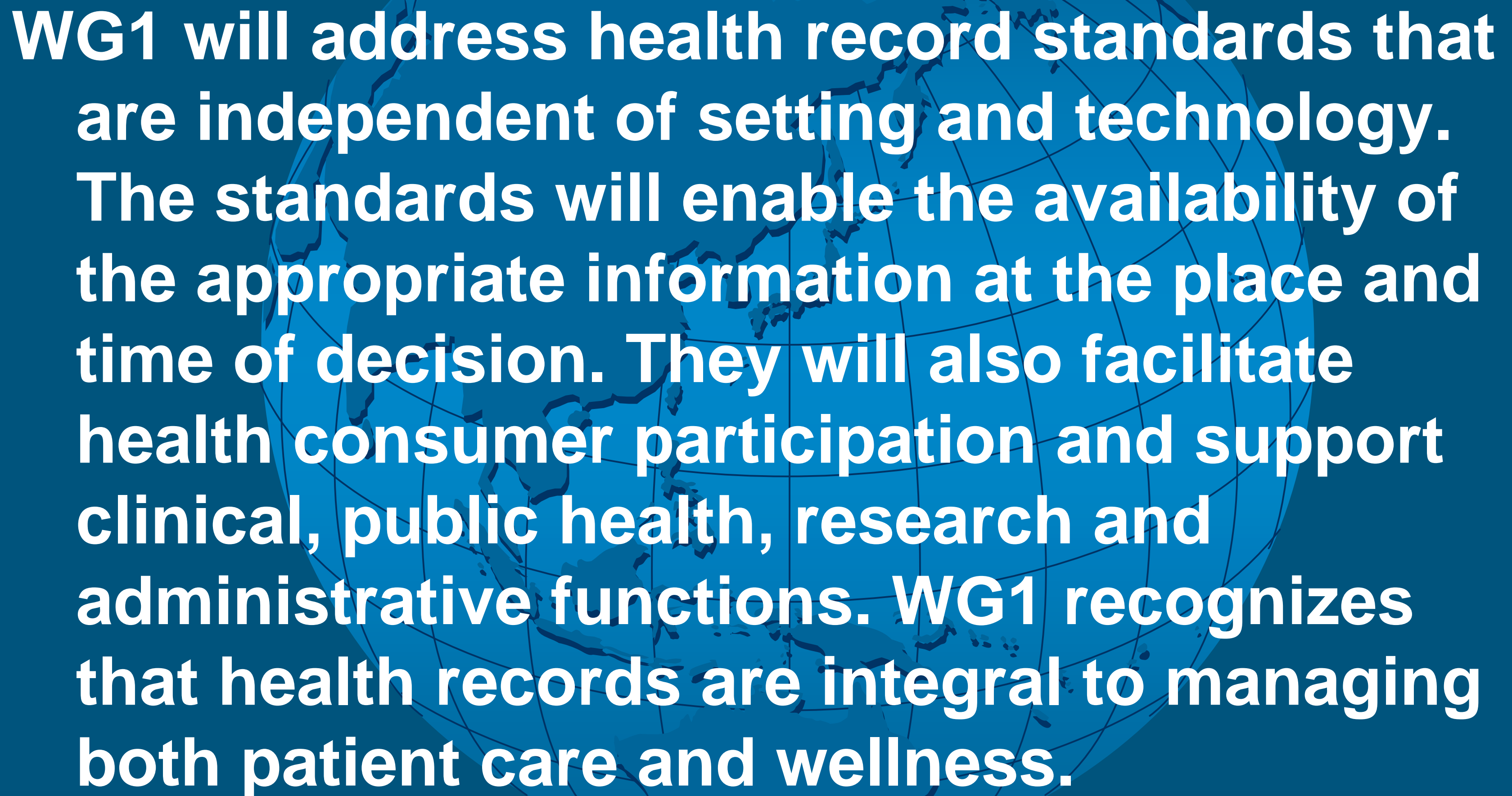
WG1: Data Structure

Convenor: Don Newsham, Canada
Vice Convenor: Ken Toyoda, Japan

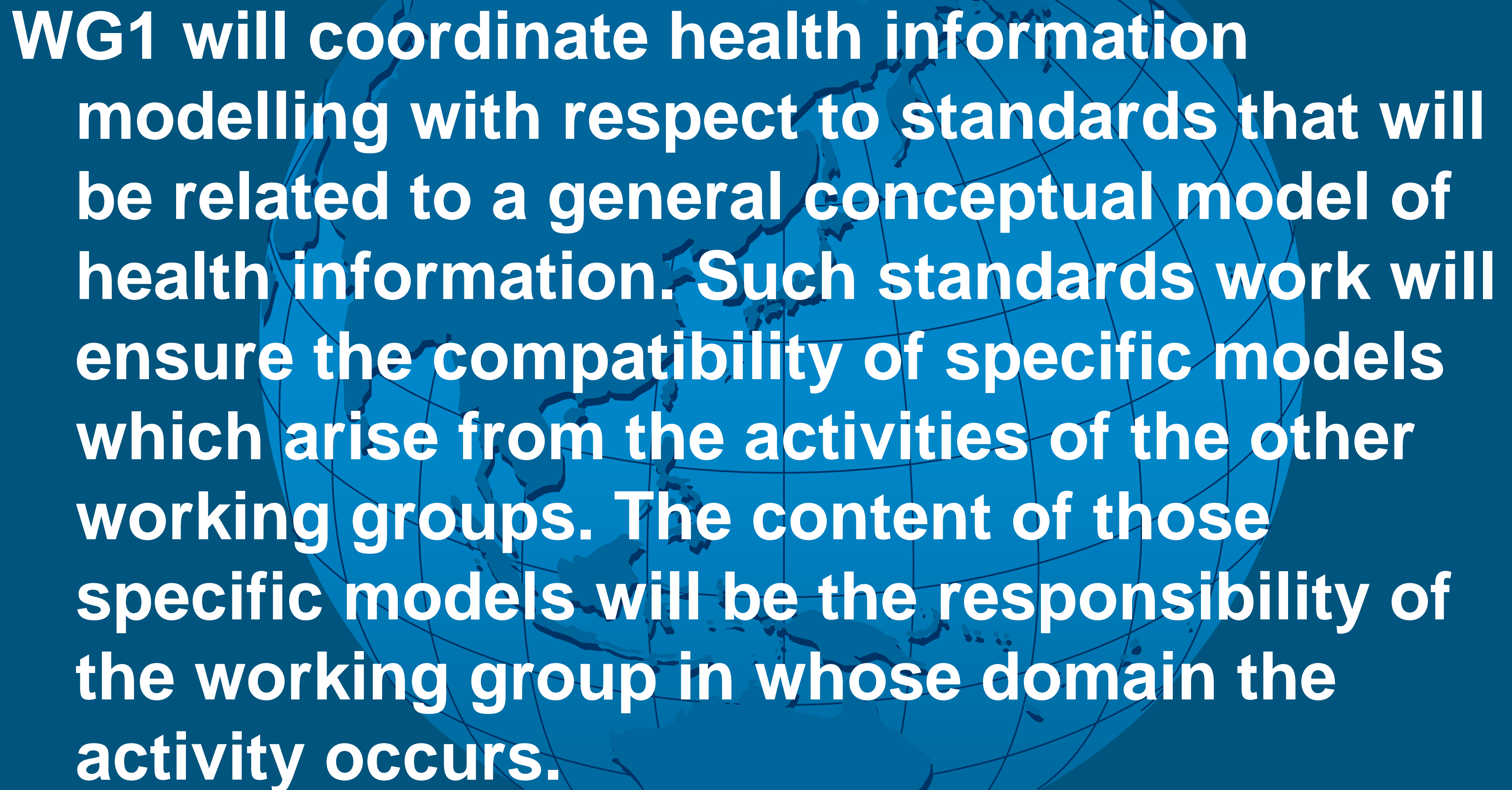
- ISO/TS 18308 Requirements for an electronic health record architecture
- ISO/TS 21667 Health Indicators Conceptual Framework
- ISO/IS 17120 Country Identifier Standards
- ISO/TR 17119 Health Information Profiling Framework
- ISO/TR 20514 EHR Definition, Scope and Context

Scope

The scope of WG1 is to develop standards for the trusted management of information concerning health and the healthcare process. In the context of these standards healthcare is very broadly defined and includes maintenance of wellness and support for all modalities of diagnosis and therapy.



WG1 will address health record standards that are independent of setting and technology. The standards will enable the availability of the appropriate information at the place and time of decision. They will also facilitate health consumer participation and support clinical, public health, research and administrative functions. WG1 recognizes that health records are integral to managing both patient care and wellness.



WG1 will coordinate health information modelling with respect to standards that will be related to a general conceptual model of health information. Such standards work will ensure the compatibility of specific models which arise from the activities of the other working groups. The content of those specific models will be the responsibility of the working group in whose domain the activity occurs.

- **"EHR Definition, Scope and Context" (ISO/Technical Report 20514)**

There are several terms which are used for Electronic Health Record as following:

- EHCR (Electronic Health Care Record)
- EPR (Electronic Patient Record)
- CPR (Computerized Patient Record)
- EMR (Electronic medical record), etc…

These terms are sometimes given different shades of meaning. However,

There are many projects regarding to EHR in several countries.

- Netherlands
  - EMR for GP
- UK
  - EPR in NHS
- Australia
  - A Health Information Network for Australia
- Japan
  - JMA project: EMR for Clinics
  - Grand Design of IT in Healthcare: EMR for Hospitals and Clinics
- Others

Background-2

Contexts of EHR would be different according to the places of EHR usage such as GPs' offices, Departments of hospitals, Hospitals, ERs, Networks and etc…

Therefore, we need to clarify contexts of EHR for standardization.

HINA (Australia)

An electronic longitudinal collection of personal health information usually based on the individual, entered or accepted by health care providers, which can be distributed over a number of sites or aggregated at a particular source. The information is organised primarily to support continuing, efficient and quality health care. The record is under the control of the consumer and is stored and transmitted securely.

Several EHR definitions

OHIH (Canada)

A longitudinal collection of personal health information of a single individual, entered or accepted by health care providers, and stored electronically. The record may be made available at any time to providers, who have been authorized by the individual, as a tool in the provision of health care services. The individual has access to the record and can request changes to its contents. The transmission and storage of the record is under strict security.

Several EHR definitions

ASTM a (USA)

A collection of data and information gathered or generated to record clinical care rendered to an individual.

ASTM b (USA)

A comprehensive, structured set of clinical, demographic, environmental, social, and financial data and information in electronic form, documenting the health care given to a single individual.

Several EHR definitions

CEN

- A healthcare record in computer readable form

IOM (USA)

- An electronic patient record that resides in a system designed to support users through availability of complete and accurate data, practitioner reminders and alerts, clinical decision support systems, links to bodies of medical knowledge, and other aids.

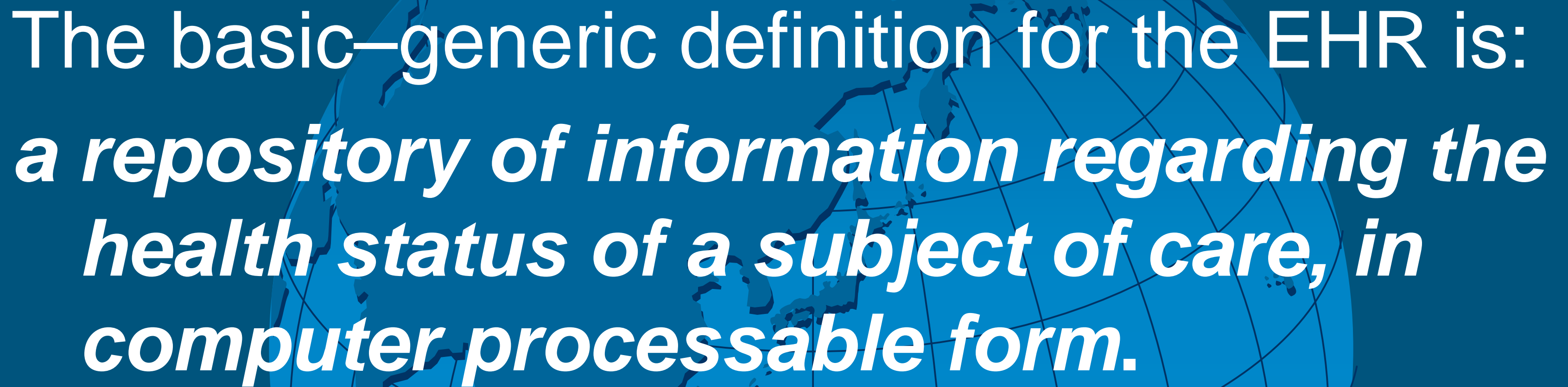
Several EHR definitions

CPRI (USA)

A virtual compilation of non-redundant health data about a person across a lifetime, including facts, observations, interpretations, plans, actions, and outcomes. Health data include information on allergies, history of illness and injury, functional status, diagnostic studies, assessments, orders, consultation reports, treatment records, etc. Health data also include wellness data such as immunization history, behavioural data, environmental information, demographics, administrative data for care delivery processes, health insurance, and legal data such as consents.

1. by characteristics
   HINA, OHIH
2. by contents
   ASTM a, ASTM b, CPRI
3. by media
   CEN
4. by objectives
   IOM

- describes a pragmatic classification of electronic health records,
- provides simple definitions for the main categories of EHR, and
- provides supporting descriptions of the characteristics of electronic health records and record systems.



The basic–generic definition for the EHR is:

***a repository of information regarding the health status of a subject of care, in computer processable form*.**

The shareable EHR

The sharing of EHR information can take place at three different levels:

a. level 1 - between different clinical disciplines or other users, all of whom may be using the same application, requiring different or *ad hoc* organisation of EHRs,
b. level 2 - between different applications at a single EHR node (i.e. at a particular location where the EHR is stored and maintained), and
c. level 3 - across different EHR nodes (i.e. across different EHR locations and/or different EHR systems).

The Integrated Care EHR (ICEHR)

The Integrated Care EHR (ICEHR) is defined as:

a repository of information regarding the health status of a subject of care in computer processable form, stored and transmitted securely, and accessible by multiple authorised users. It has a standardised or commonly agreed logical information model which is independent of EHR systems. Its primary purpose is the support of continuing, efficient and quality integrated health care and it contains information which is retrospective, concurrent, and prospective.

Secondary uses of EHRs include:

- **medico-legal** – evidence of care provided, indication of compliance with legislation, reflection of the competence of clinicians,
- **quality management** – continuous quality improvement studies, utilisation review, performance monitoring (peer review, clinical audit, outcomes analysis), benchmarking, accreditation,
- **education** – training of clinicians and other health professionals,

• **research** – development and evaluation of new diagnostic modalities, disease prevention measures and treatments, epidemiological studies, population health analysis,
• **public and population health** - access to quality information to enable the effective determination and management of real and potential public health risks,
• **policy development** – health statistics analysis, trends analysis, casemix analysis,
• **health service management** – resource allocation and management, cost management, reports and publications, marketing strategies, enterprise risk management, and
• **billing/finance/reimbursement** – insurers, government agencies, funding bodies.

Conclusion

Standardization of EHR has just started

"Rome was not built in a day"