



Second Plenary Session
ELECTRONIC HEALTH RECORDS FOR
INFORMED HEALTH CARE IN ASIA-
PACIFIC: LEARNING FROM EACH OTHER



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Second Plenary Session:
Electronic Health Records for Informed Health Care in Asia-Pacific: Learning from Each Other



EHR in Japan

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EHR Research Unit

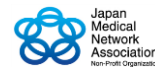
- 5 years project, since 2013.04
- Collaborative five companies
- Original members comes from
 - Division of Medical Information Technology & Administration planning, Kyoto University Hospital
 - Kyoto University Hospital:
 - Number of in-patient (1,100)
 - Number of out-patient (3,000/day)
- Staff
 - Naoto KUME (Associate Prof.)
 - Shinji KOBAYASHI (Lecturer)



What is EHR Unit aiming for?



- EHR standard establishment
 - MML (Medical Markup Language) development
 - ISO13606 (Archetype, openEHR) endorsement in Japan
- EHR system implementation
 - iDolphin Project, since 2001
- EHR system operation
 - Kyoto, Miyazaki prefecture regional EHRs
 - In operation since 2006
- Clinical study infrastructure development
 - Traversal medical information database of university hospitals





Computerization in medicine

- 1999: Electric insurance claim submission was permitted
 - DPC (diagnosis procedure combination): Japanese DRG
 - Inclusive payment, based on primary disease name, per a day
- 2003: EMR installation in hospitals

	Electric insurance claim	EMR
Hospitals (>600 beds)	96%	62%
Clinics (GPs)	96%	20%

"Kokumin-eisei no doukou", Health, Labour and Welfare Statistics Association, 2012

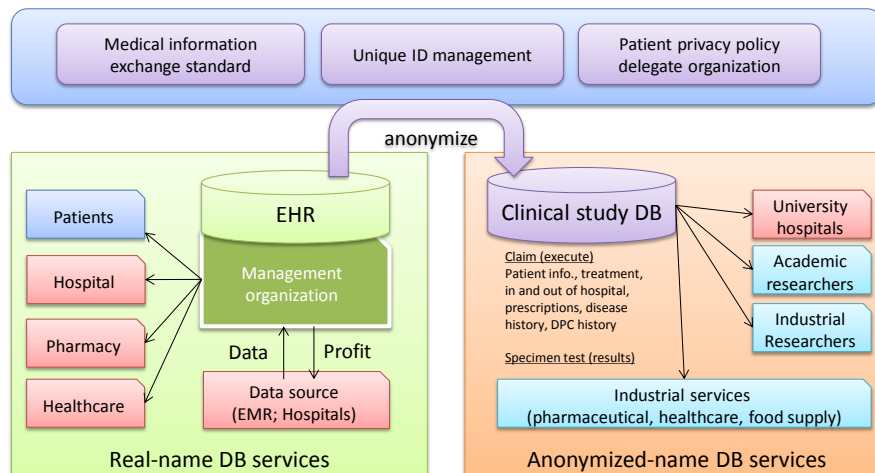
EMR: Hospital domestic HIS

EHR: Regional medical information sharing system



EHR accelerates clinical study

- Case finding is a primary target.





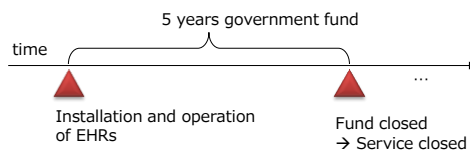
What is the obstacles in Japan?

- Protection of personal data is not defined in law
 - US: HIPPA
 - JP: Computerization was understood as a method of easy privacy violation
 - Risk of privacy violation, social anxiety
 - 1988, legislation of privacy protection
 - No penalty
 - Legal binding force is not applied private enterprise guideline.
 - 2002, resident ID network starts
 - ID is managed by each city, not by government
 - » Because of social anxiety to unique ID
- Definition of anonymous is missing
 - Secure usage of private information is up to the method how a private information can be anonymized legally



What is the obstacles in Japan?

- National ID is missing
 - IDs for various services were prohibited in law to use unique healthcare ID
 - Resident record ID
 - Health Insurance ID
 - National health insurance
 - Company health insurance
 - Nursing insurance ID
- Sustainable source of funds is missing

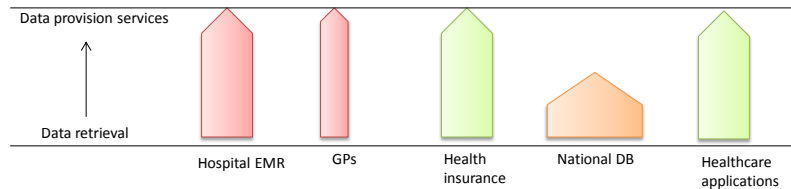


Last 20 years, fund consuming was repeated in regions without establishing national database



What is advantage in Japan?

- Self standing “pencil building” services are operated.



– How those isolated services should be connected?

- IDs exchange infrastructure
- Data mapping between facilities, and standardization of data model on database
- Common master data definition
- Item value compensation, especially for lab test results
- Data management policy, agreement, profit sharing



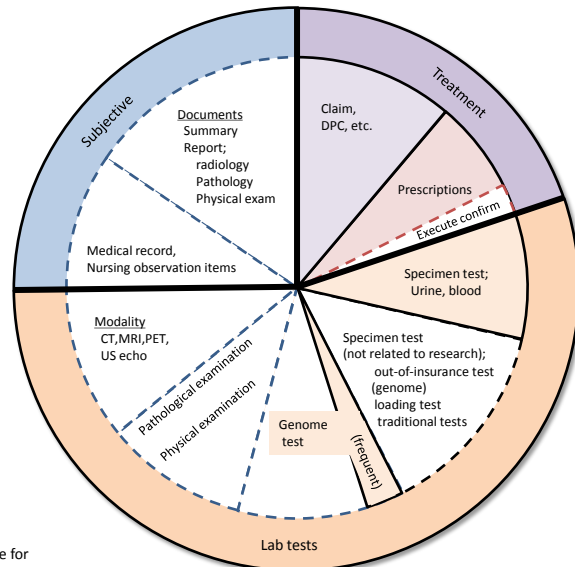
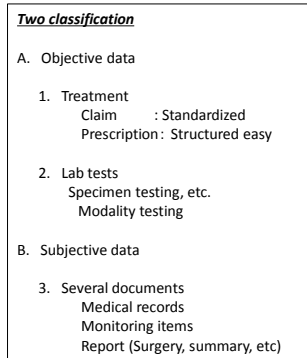
Databases

Database	Contents	Management	Num. of patients	Since
NRDB	DPC claim of all hospital	Ministry of Health, Labour and Welfare	128 M	2009
NIPH	Medical examination of lifestyle related disease	National Institute of Public Health	21 M	2008
CISA	DPC claim of university hospitals	NPO	2.6 M	2005
JMDC	Medical examination claim for corporations	Company	2.3 M	2005
Medical Data Vision	DPC claim and treatment information	Company	6 M	2008
JAMMNET	Health insurance claim of prescriptions	Company	0.7 M	2012
Database	Contents	Management	Num. of patients	Since
NCD	Surgery information	Japan Surgery Society	2.6 M	2010
Cancer registration	Cancer treatment information	National Cancer Center	0.6 M (70% coverage)	2006 (legislated in 2013)
JADER	Drug side effects	PMDC; independent administrative agency	---	2004
Tohoku medical megabank	Genome cohort	Organization	---	2012

M: million



Current reachable medical information



EHR unit mission

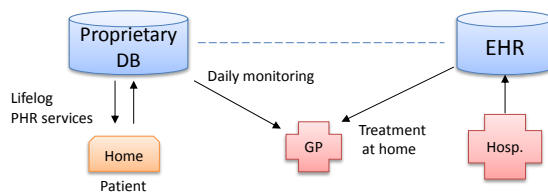
Construction of massive clinical study database for correlation analysis of cause (treatment; claim) and result (tests).

✓ Coloring pie indicates available information



PHR (Personal health record)

- Medical equipment company oriented
 - Omron: “wellness link” provides blood pressure data to clinics for patient monitoring service.
 - NTT-resonant runs a PHR website Goo-Karada-log, which provides lifelog manual registration form and community forum. (weight, activity, calorie, etc)





Current movements

- University hospitals
 - Bioinformatics studies are started for genome cohort and EMR data combination analysis.
 - Cf. Kyoto university BIC (Biobank & Informatics for Cancer) project
- Japanese government
 - 2011.03.11 the earthquake changed the atmosphere.
 - “Japanese-NIH” under preparation
 - “Next generation medical ICT” working group tends to connect “pencil building” services with fully support of fund, legal force, and authority establishment of personal information management.
 - Principle of national healthcare insurance shifts the coverage weight from acute care hospital to care at home.



Conclusion

- Mission in Japan
 - Catching up target information expansion
 - Insurance claim information
 - Clinical information
 - Genome information
 - Lifestyle healthcare information
 - Drivers to data sharing between EHRs
 - Sustainable profit ecosystem
 - Government support
 - Budget for EHR, and mission organization
 - National unique ID for healthcare use
 - Legislation of personal information handling policy