ポスター発表

[PB] ポスター B

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[PB-27] Comparison of cross-border patient summary standards

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Comparison of cross-border patient summary standards

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Abstract: Accumulations of large records of patients on the health records are becoming challenges to the healthcare. Patient summaries (PSs) are used to share concise information about a patient for scheduled and unscheduled cares. Various initiatives are being implemented to develop PSs that can be used for cross-border patient information sharing. In this work, the contents of PS standards of European Patient Smart Open Services, International Patient Summary, and the Trillium International Patient Summary, have been compared. In Japan, though there are datasets for various aims, we could not find PS standards and it will be better to consider incorporating it into the health service.

Keywords: Patient summary, health information exchange, cross-border

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1. Introduction

Due to increased implementations of electronic health records, accumulations of large records of health information are becoming challenges to the contemporary healthcare services [1]. Overload of health information has potential negative consequences on clinical works such as errors of omission, delays, and patient safety [2–4]. Therefore, it is important to present the most important patient data elements in a PS form to improve patient care and ensure continuity of care.

The PS is a standardized set of basic clinical data created from electronic medical records automatically, semi-automatically or manually that can inform clinicians at the point of care when unplanned health events occur. it can be used to a planned care as well [5]. The PS is used for sharing patient data among healthcare providers nationally and internationally.

PSs have been shown to benefit patients, healthcare providers and organizations by providing timely and accurate information needed to enable better communication among clinicians, patients and other healthcare providers [6,7].

In Japan, even though there are special datasets and standards for special aims, such as discharge summaries [8], we could not find PS standards. To effectively share patient information across healthcare professionals and providers nationally and internationally, developing a PS standard is to be considered. Reviewing the existing resources to use as a baseline or to adopt them may be a key activity of the development process. Taking this into account, we compared the existing cross-border PS standards in terms of the data elements included in them. In this work, the comparison of European Patient Smart Open Services (epSOS), International PS (IPS), and the Trillium IPS has been presented. Thee standards were selected because they are the adopted or referred ones in several countries which are developing their own PS standards.

Patient summary standards developed and used by countries for sharing patient information domestically, have been mostly adopted from the international PSs mentioned above and they are not included in this work. Discharge summaries, clinical reports prepared at the end of a hospital stay for further communications with aftercare providers, is different from PS in its scope and have not been considered in this piece either.

2. Methods

Webpages of the projects developing the standards mentioned above have been searched and their deliverables and reports reviewed for data elements included in them. Advanced Requirement Tooling – Data Elements, Codes, OIDs and Rules (ART-DÉCOR-www.art-decor.org) specifications of the standards and their implementations on Health Level-7/Fast Healthcare

Interoperability Resources (HL7/FHIR) of respective PS projects were also considered.

3. Results

The data elements of the PS standards have been presented as follows:

epSOS/ e-Health Network (eHN) PS Standard: epSOS of the European Union (EU) developed and pilot-tested a PS standard for EU member states in 2008-2014. Later, e-Health Network (eHN) has adopted the epSOS PS as a European PS with slight modifications. The eHN PS for Unscheduled Care use case recommends the PS at minimum should contain information on personal identification, insurance, alerts and allergies, medical history, medical problems, procedures, medical devices and implants, social history, pregnancy history, medication summary, physical findings, diagnostic test results and information about the PS itself.

IPS standard: The IPS standard was produced by a collaboration of HL7-International and European Committee for Standardization/Technical Committee 251 (CEN/TC251). The IPS was created using ART-DECOR and implemented on FHIR Standard for Trial Use release 3 (FHIR-STU3 Version 3.0). The IPS data elements include patient attributes; allergies/intolerance; medication history; medication summary; functional status; history of past illnesses; history of pregnancy; history of procedures; history of immunizations, medical devices and implants; plan of care; detail of current problems; observation results; social history; country of affiliation; country-specific requirements of the country of origin; and provenance meta-data.

Trillium IPS: The Trillium IPS established an interoperability bridge between the European PS (eHN PS) and the American HL7- Clinical Document Architecture/Clinical Care Document. Components of TIPS include encounters, risk assessments and family history in addition to the contents of IPS.

4. Discussions

The PS specification use cases mostly consist overlapping data elements. This is because they were built up one on the other. Being the first initiative in developing a cross-border PS standard, epSOS dataset consists smaller data elements than the rest. The IPS dataset was built up on epSOS and other PS. As a result, it contains more inclusive data elements which may offer better information about a patient who needs care overseas. The Trillium IPS dataset tries to bridge the data gap between European and American PSs and therefore it is more detailed.

To make good use of the opportunities offered by PSs, it will be better to incorporate it in the Japanese healthcare system. As these cross-border PS standards are most widely used as references for both national and international purposes, they can be benchmarked or adopted efficiently in Japan

5. References

[1] Farri O, et al. A qualitative analysis of EHR clinical document synthesis by clinicians. AMIA Annu Symp Proc AMIA Symp. 2012; 2012:1211–20.

[2] McDonald CJ. Protocol-Based Computer Reminders, the Quality of Care and the Non-Perfectibility of Man. N Engl J Med. 1976;295(24):1351–5.

[3] McDonald CJ, et al. Use of Internist's Free Time by Ambulatory Care Electronic Medical Record Systems. JAMA Intern Med. 2014;174(11):1860–3.

[4] Holden RJ. Cognitive performance-altering effects of electronic medical records: An application of the human factors paradigm for patient safety. Cogn Technol Work Online. 2011;13(1):11–29.

[5] Joint Initiative Council (JIC). Joint Initiative Council Patient Summary Standards Set.

[6] Cotton L, Lay A. A benefits study of Summary Care Records use inhospital medicines reconciliation and their impact. J Med Optim. 2015;1(2):56–9.

[7] Jones EW. How summary care records can improve patient safety. Emerg Nurse J RCN Accid Emerg Nurs Assoc. 2015;23(1):20–2.

[8] JAMI and JHIM. Guideline for documentation of discharge summary (Japanese). September 2019. Available from http://jami.jp/jamistd/docs/dischargeSummary2019.pdf.