# The Brazilian International Patient Summary Initiative

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Author’s Contribution:

Beatriz de Faria Leao and Italo Macedo – conceived the overall structure of the paper with contributions to all its sections.

Joice Machado – is responsible for the Allergy and Adverse Reactions sections of the Brazil IPS Project, as well as for FHIR Composition of the Brazilian IPS. She wrote the Allergy and Adverse Reactions section and contributed to the Discussion.

Aline Zamarro and Robson Mattos – contributed to the Medication and Discussion session of the paper

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Gabriella Nunes Neves, Paula Xavier dos Santos, Gabriel Gausmann Oliveira and Sabrina Dalbosco Gadenz1contributed to the revision of the text as well as the discussion and conclusions

Fabiane Motter contributed to the Discussion and made the editorial corrections and quality control of the text verifying its compliance with the author’s recommendations.

Abstract

Abstracts have a maximum length of 250 words and must not contain reference citations or abbreviations.

# Introduction

< contar a história do IPS e um histórico da RNDS e como estes projetos se relacionam.

Gabi – o Brasil assumiu o compromisso de implementar o IPS no G20? Se sim, quando foi isto?>

# Objectives

To describe the status of the Brazilian International Patient Summary Project and its relationship with the National eHealth strategy with an emphasis on the IPS Implementation Guide and the creation of the terminology infostructure to support the Brazilian IPS

# Methods

A five-phased approach is being adopted for the development of the Brazilian IPS as follows:

Phase One consists of the identification of all dictionaries adopted in the Brazilian RNDS for the sections of Immunization, Exams, Allergies-Adverse Reactions, Medication, Conditions as well as all the CodeSystems and ValueSets indicated in the IPS Implementation Guide (<https://build.fhir.org/ig/HL7/fhir-ips/>) and its upload in the terminology server compliant to HL7 CTS2 [6] under the different organizations that own each of the dictionaries .

Phase Two focused on constructing the ConceptMaps that express the mapping from the Brazilian dictionaries to the IPS preferred and required terminologies. The terminologies indicated in the IPS Implementation Guide as examples were not considered for this mapping. The mapping process followed the ISO/TR 12300:2014 Health Informatics — Principles of mapping between terminological systems [7]. According to the standard, the purpose of the mapping process needs to be clearly stated with the definition of the source and target data dictionaries that are involved in the mapping. In addition to that it is necessary to indicate the cardinality and equivalence degree of the mapping between source and target. The cardinality must be expressed as: “*one to one* - a single source concept is linked with a single target concept or term; *one to many* - a single source concept is linked with multiple target concepts or terms; *many to one* - multiple source concepts are linked with a single target concept or term and *many to many* - multiple source concepts are linked with multiple target concepts or terms”(7). The equivalence degree of the mapping must be expressed as: “1 - Equivalence of meaning; lexical as well as conceptual; 2 - Equivalence of meaning, but with synonymy; 3 -Source concept is broader, and has a less specific meaning than the target concept/term; 4 - Source concept is narrower, and has a more specific meaning than the target concept/term; 5 - No map is possible. No concept was found in the target with some degree of equivalence (as measured by any of the other 4 ratings)(7). The mapping was first depicted in a spreadsheet and later introduced as ConceptMaps with the equivalence degree in the term in terminology server.

Phase 3 focused on the FHIR component of IPS with the translation of all structure definitions of the IPS mandatory profiles according to the IPS – IG. Extensions defined In the Brazilian RNDS profiles were analyzed and included or not in the Brazilian IPS profiles depending on the context and discussions with the MOH. The IPS IG was strictly followed and no extensions that would break the canonical model were included.

Phase 4 consists of the assembling of the Brazilian IPS IG depicting all profiles, terminologies, and its mapping as well as project design decisions for each of the profiles explaining how the Brazilian extensions were treated in each profile.

Phase 5 is concentrated in realizing an internal connecthaton in the MOH that demonstrates both the ability to display an IPS from an international patient, using examples available at <https://github.com/jddamore/IPSviewer/tree/main/samples> as well as to create a Brazilian IPS with data available at RNDS.

# Results

Descrever os resultados para cada uma das fases.

Phase 1 – OCL – carga das terminologias – quantas são e quantas organizações criamos no OCL

Phase 2 – Descrever o mapeamento – detalhar Imuno e CBARA. Mostrar quantas traduções fizemos do IPS e quantas ainda tem que fazer

Phase 3 – Perfis – detalhar o perfil do paciente com os acréscimos que fizemos e perfil practitioner

Phase 4 – Comentar o IPS GI como o guia de mais alta hierarquia

Um parágrafo pelo menos para cada secção do Guia : Imunização, Exames, Alergias, Conditions e Medicamentos – falar da OBM.

Phase 5 – mostrar a arquitetura e casos de uso que serão contemplado no connecthaton ( Gabi, se tiver mais informação sobre BID/PAHO em novembro seria ótimo)

# Discussion

1. Importância do GI do IPS como Guia de mais alto nível, aberto extensível, agnóstico capz de acomodar os diferentes casos de uso já em implementação no País
2. A contribuição estruturante da infraestrutura terminológica. Desafios para o país de migrar de classificações de pagamento para terminologias clínicas
3. Vantagens de utilizar o sumário como documento de continuidade de cuidado no país
4. Expectativas para o connecthaton

# Conclusion

IPS como uma contribuição importante para o desenvolvimento da RNDS. Trabalho em parceria com a equipe do MS.

Keywords: IPS; Patient Summary; Standards, interoperability, digital health

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