

ASIP Santé's Interoperability Framework

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ASIP Santé – French government agency for eHealth

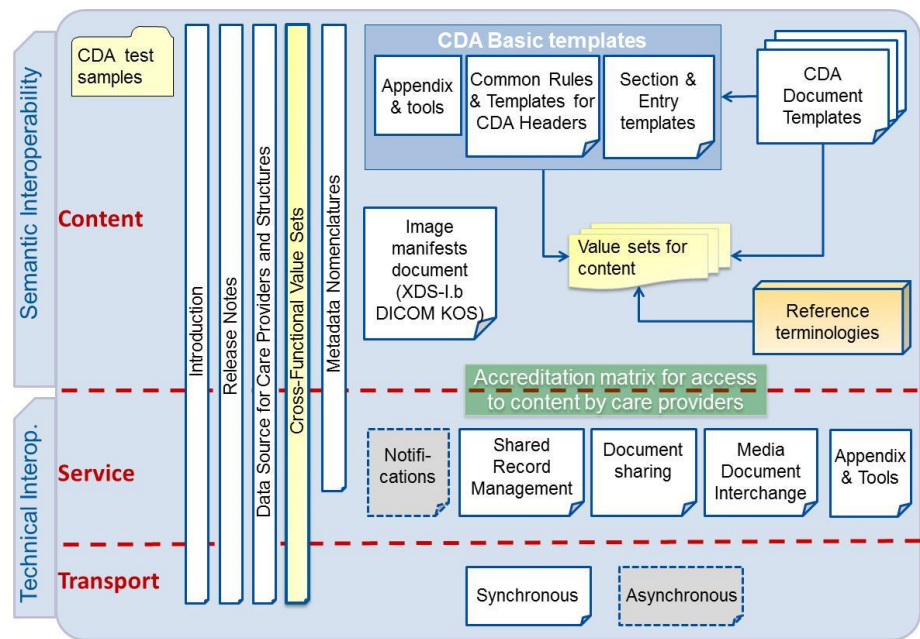
- Agency created in 2009 through the merger of two government agencies: GIP-DMP (agency for the development of a national EHR/PHR) and GIP-CPS (agency for the production of healthcare professional smartcards)
- Three main missions:
 - **Regulation for improving eHealth** (ex. through publication of security or interoperability specifications...)
 - **Implementation of shared national services** (ex. DMP – national EHR/PHR, Secure mail for healthcare professionals, healthcare professionals directory, health resources directory...)
 - **Promotion and speeding up of use and innovation in eHealth** (ex. Provision of expertise for digital health regional projects, for digitalization of healthcare and social care provision for seniors in the process of losing their independence...)
- Around 130 employees of which around 7 plus 2 contractors are working on interoperability
- <http://esante.gouv.fr/>

Health Information Systems Interoperability Framework (HIS-IF)

- Interoperability part of mission 1 - regulation for improving eHealth
- Interoperability specification in French taking into account the specificities of French use cases

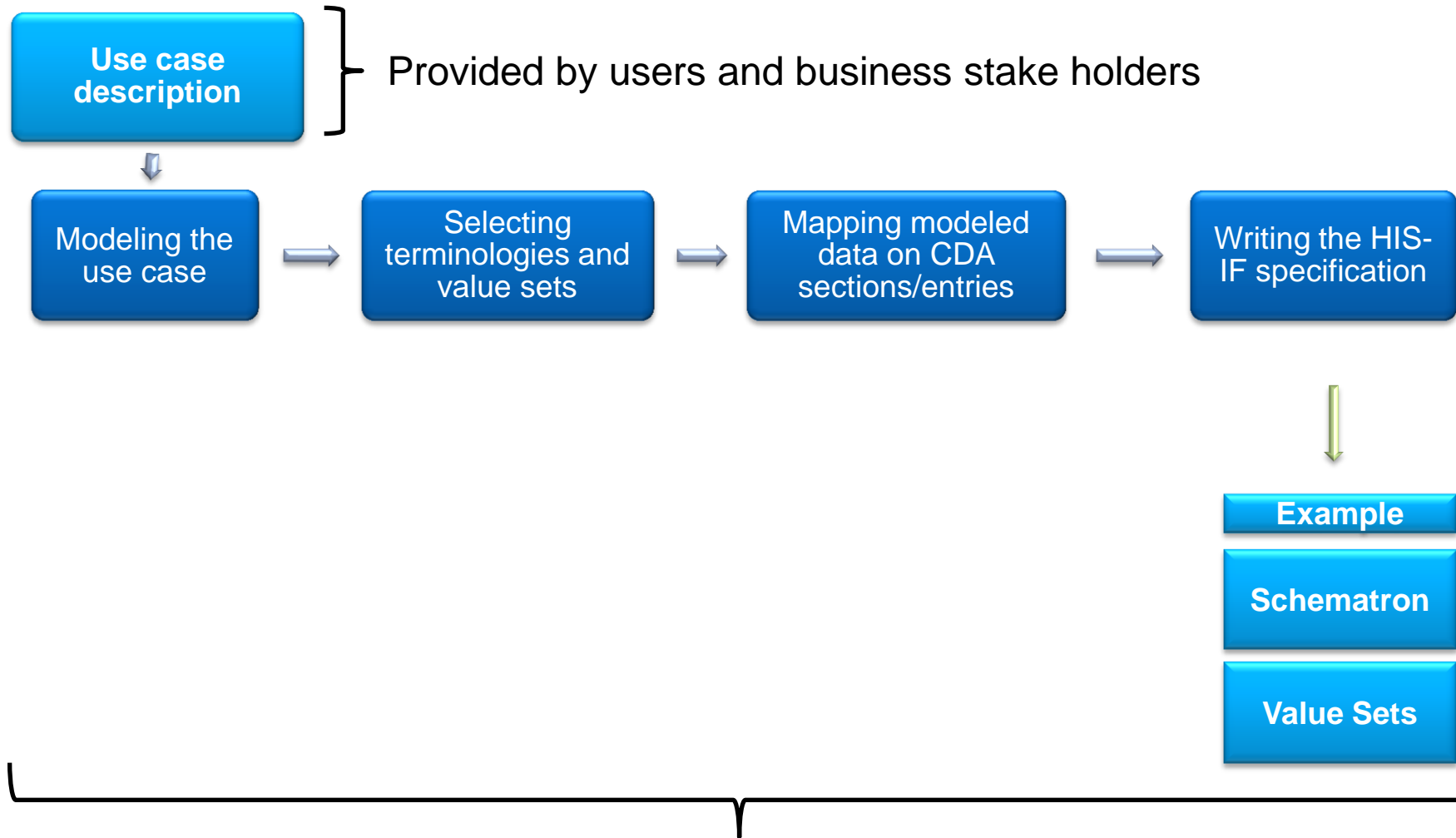
- Organized in 3 layers:

- **Transport layer** (ex. network, authentication, user assertion...)
- **Service layer** (ex. sharing of medical documents, exchange of medical documents, health record management...)
- **Content layer** (medical document templates – ex. lab report, referral, medical summary, antepartum summary, immunization summary...)



- Based on IHE profiles or following IHE logics whenever possible (ex. XUA for user assertion, XDS for sharing of documents, PCC profiles for medical documents or ASIP Santé's produced CDA templates using PCC CDA content modules...)

Process of production of HIS-IF content specification



Produced by ASIP Santé

IHE profiles leveraged in the HIS-IF

- **IHE profiles leveraged:**

- **PCC profiles**

- Medical Summary Document Content (MS)
 - Immunization Content (IC)
 - Antepartum profiles
 - Labor and delivery profiles

- **PALM profiles**

- Sharing Laboratory Reports (XD-LAB)
 - Anatomic Pathology Structured Reports (APSR)

- **QRPH profiles**

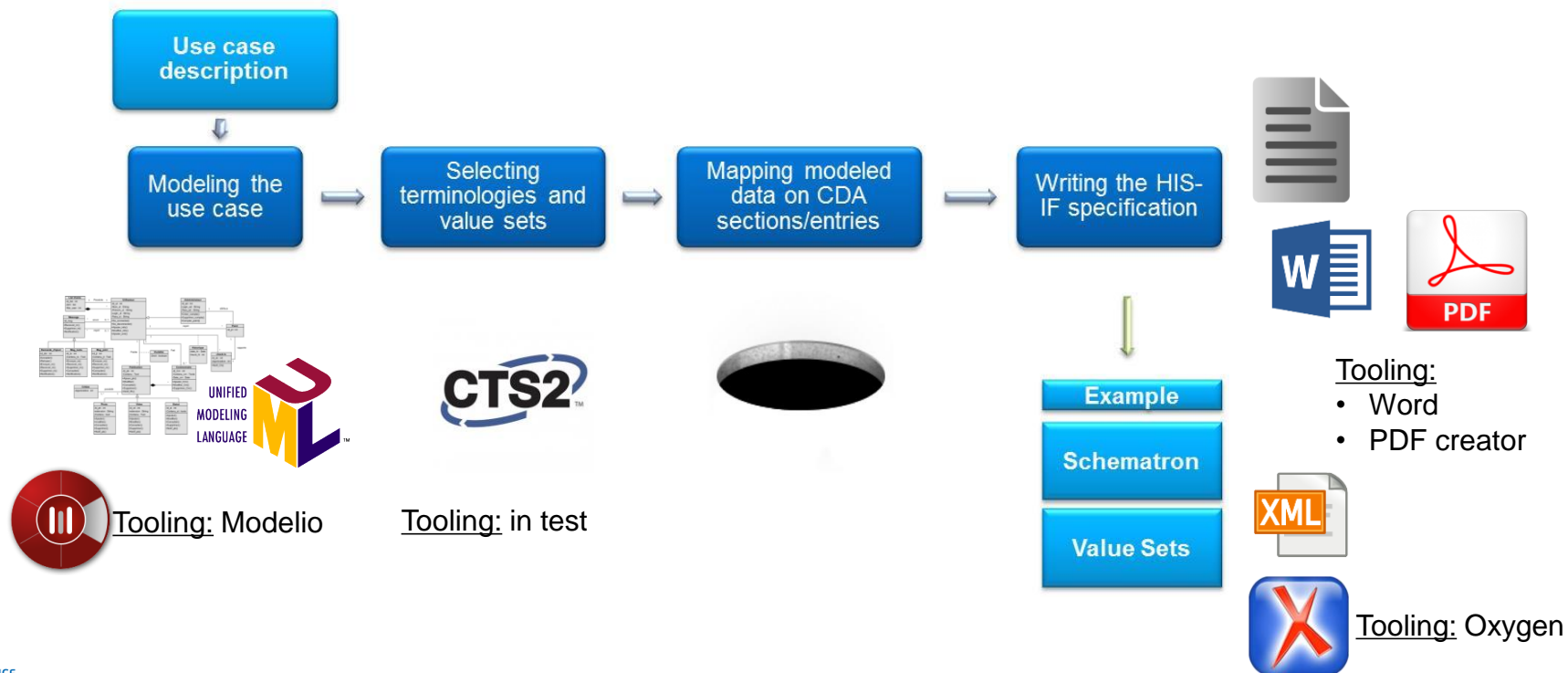
- Mother and Child Health (MCH)

- **Specification leveraging PCC content modules**

- Breast cancer screening
 - Patient with a high level of cardiac risk (anticoagulant drugs, ...)

Issues faced 1/2

- A lot of steps are needed to insure adequacy of the content specification
- Some of those steps can be optimized through tooling already used in the agency but some gaps remain



Issues faced 2/2

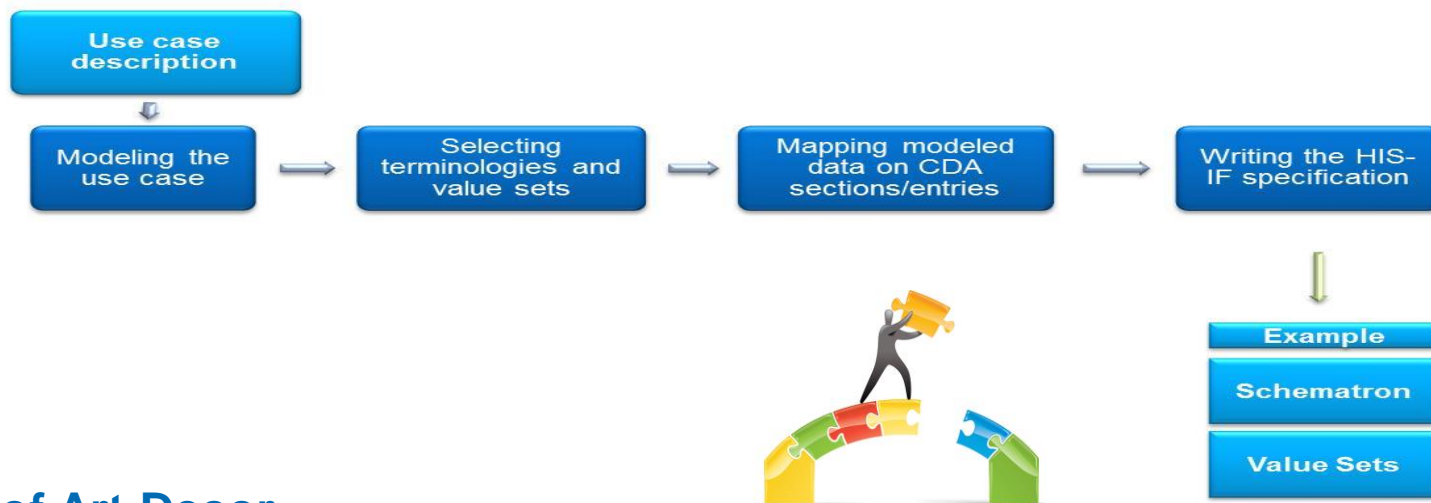
- **If the use case isn't addressed in a specific profile, sections and entries have to be found for data in the model**
 - Search PCC technical framework for sections that might match groups of elements in the model (e.g. classes)
 - Search in the section for entries that match elements in the model (e.g. attributes)
 - If no section seem to match a group of elements, search PCC technical framework for entries that might match element in the group
 - Check the adequacy of the sections in which the entries are documented
 - Otherwise, creation of a specific section

A lot of Ctrl + F !

- **When a section is coming from PCC technical framework, copy/paste tables from PCC framework into the HIS-IF document**

A lot of Ctrl + C / Ctrl + V !

Solution found: development of a mapping tool



- **Test of Art Decor**

- Adequate for selecting terminologies and value sets and to generate examples, schematrons and value sets
- PCC content modules not included in Art Decor
- Structure of the documentation produced not in line with HIS-IF documents

Decision not to use Art Decor yet (and reevaluate it in two years)

- **Development of a mapping tool**

- Automation of HIS-IF document production
- Need to parse PCC content modules (in progress)

Solution found: Mapping tool screen shots – documentation

Section

The 'Section' mapping tool interface shows a menu bar with 'Fichier', 'Edition', 'Insertion', 'Options', 'Mise à jour', and 'En-tête'. Below the menu is a tabbed interface with 'Redaction CDA', 'Arborescence', and 'Mise à jour'. The 'Arborescence' tab is active, displaying a tree view of the 'Coded List of Surgeries Section'. The tree view shows the following structure:

- Nom: Coded List of Surgeries Section
- Templateld: 1.3.6.1.4.1.19376.1.5.3.1.3.12
- Parent Templateld: 1.3.6.1.4.1.19376.1.5.3.1.3.11
- LOINC Code: 47519-4
- Opt LOINC: R
- LOINC description: HISTORY OF PROCEDURES
- chemin du schématron: codedListOfSurgeries20150319

The description field contains the text: 'The list of surgeries section shall include entries for procedures and references to procedure reports when known as described in the Entry Content Modules.'

At the bottom, there are four buttons: 'Enregistrer', 'Ajouter Entree/Section', 'Ajouter template XML', and 'Supprimer'.

Entry

The 'Entry' mapping tool interface shows a menu bar with 'Fichier', 'Edition', 'Insertion', 'Options', 'Mise à jour', and 'En-tête'. Below the menu is a tabbed interface with 'Redaction CDA', 'Arborescence', and 'Mise à jour'. The 'Arborescence' tab is active, displaying a tree view of the 'Procedure Entry'. The tree view shows the following structure:

- Templateld: 1.3.6.1.4.1.19376.1.5.3.1.4.19
- Nom: Procedure Entry
- Description: The procedure entry is used to record procedures that have occurred, or which are planned for in the future.
- Structure:

Items	Card	Contraintes	Voc	Emplacement
Intervention	[1..1]	C1		Procedure*/@classCode=u201...
Conformité CCD (INT)	[0..1]	C1		templateld/@root= '1.3.6.1.4.1.1...
Conformité CCD (EVN)	[0..1]	C1		templateld/@root= '1.3.6.1.4.1.1...
Conformité procedure	[1..1]			templateld/@root= '1.3.6.1.4.1.1...
Identifiant procedure	[1..1]			id
Type d'intervention	[1..1]		V1	code
Partie narrative	[1..1]		V2	text
Statut de l'intervention	[1..1]		V2	statusCode
Date de l'intervention	[1..1]		V2	effectiveTime
Voie d'abord	[0..1]		V3	approachSiteCode
Localisation anatomique	[0..1]		V3	targetSiteCode
Auteur/Opérateur	[0..*]	C2		author
Informant	[0..*]	C2		informant
Motif d'intervention	[0..*]	C3		entryRelationship*/@typeCode=...
Référence prise en charge	[0..*]	C4		entryRelationship*/@typeCode=...

Below the table, there is a section for 'Contraintes' (Constraints) and a section for 'Vocabulaire' (Vocabulary).

Contraintes:

- L'élément pointé est un élément Problem entry (1.3.6.1.4.1.19376.1.5.3.1.4.5). Dans ce cas la valeur des attributs du lien entryRelationship o typeCode='RSON'
- o inversionInd='false' l'élément act est bien la source (typeCode='REFR'), d'où la va-leur false affectée à cet attribut.
- C4. Optionnellement, un élément de l'entrée donnera une indication sur les circonstances ayant décidé de l'intervention.
- Cet élément est un Internal References (1.3.6.1.4.1.19376.1.5.3.1.4.4.1). L'élément pointé est élément encouters (1.3.6.1.4.1.19376.1.5.3.1.4.14). Dans ce cas les attributs du lien entryRelationship ont pour valeurs:
- o typeCode='COMP'
- o inversionInd='true' l'élément act est bien la destination (typeCode='COMP'), d'où la valeur true affectée à cet attribut.

Vocabulaire:

- V1. CCAM (1.2.250.1.213.2.5) sera utilisé pour coder l'élément code (type d'intervention)
- V2. La nomenclature Accès, définie pour la CCAM (1.2.250.1.213.2.5) sera utilisé pour coder l'élément approachSiteCode.
- V3. La nomenclature Topographie, définie pour la CCAM (1.2.250.1.213.2.5) sera utilisé pour coder l'élément targetSiteCode.

Chemin du schématron: procedureEntry20120827

At the bottom, there are four buttons: 'Enregistrer', 'Ajouter Entree/Section', 'Ajouter template XML', and 'Supprimer'.

Solution found: Mapping tool screen shots – selection of entries

Coded List of Surgeries Section

☐ section
 ☒ entrée
 ☐ entry relationship

<input type="checkbox"/> Advance Directive Observation 1.3.6.1.4.1.19376.1.5.3.1.4.13.7	[0..1]	▼	Organizer
<input type="checkbox"/> Allergies and Intolerances 1.3.6.1.4.1.19376.1.5.3.1.4.6	[0..1]	▼	Organizer
<input type="checkbox"/> Allergy and Intolerance concern 1.3.6.1.4.1.19376.1.5.3.1.4.5.3	[0..1]	▼	Organizer
<input type="checkbox"/> Encounters 1.3.6.1.4.1.19376.1.5.3.1.4.14	[0..1]	▼	Organizer
<input checked="" type="checkbox"/> External References 1.3.6.1.4.1.19376.1.5.3.1.4.4	[0..*]	▼	Organizer
<input type="checkbox"/> Family History Observation 1.3.6.1.4.19376.1.5.3.1.4.13.3	[0..1]	▼	Organizer
<input type="checkbox"/> Family History Organizer 1.3.6.1.4.1.19376.1.5.3.1.4.15	[0..1]	▼	Organizer
<input type="checkbox"/> Immunizations 1.3.6.1.4.1.19376.1.5.3.1.4.12	[0..1]	▼	Organizer
<input type="checkbox"/> Medications 1.3.6.1.4.1.19376.1.5.3.1.4.7	[0..1]	▼	Organizer
<input type="checkbox"/> Observation Request 1.3.6.1.4.1.19376.1.5.3.1.1.20.3.1	[0..1]	▼	Organizer
<input type="checkbox"/> Pregnancy Observation 1.3.6.1.4.1.19376.1.5.3.1.4.13.5	[0..1]	▼	Organizer
<input type="checkbox"/> Problem Concern Entry 1.3.6.1.4.1.19376.1.5.3.1.4.5.2	[0..1]	▼	Organizer
<input type="checkbox"/> Problem Entry 1.3.6.1.4.1.19376.1.5.3.1.4.5	[0..1]	▼	Organizer
<input checked="" type="checkbox"/> Procedure Entry 1.3.6.1.4.1.19376.1.5.3.1.4.19	[0..1]	▼	Organizer
<input type="checkbox"/> Simple Observations 1.3.6.1.4.1.19376.1.5.3.1.4.13	[0..1]	▼	Organizer
<input type="checkbox"/> Transport 1.3.6.1.4.1.19376.1.5.3.1.1.10.4.1	[0..1]	▼	Organizer
<input type="checkbox"/> Vital Signs Observation 1.3.6.1.4.1.19376.1.5.3.1.4.13.2	[0..1]	▼	Organizer
<input type="checkbox"/> Vital Signs Organizer 1.3.6.1.4.1.19376.1.5.3.1.4.13.1	[0..1]	▼	Organizer

Valider

Perspectives for IHE-PCC and ASIP Santé

- **Parsing of PCC content modules documentation**
 - Initial parsing in progress
 - Parsing first and translation afterword
 - Can be provided to PCC domain for publication and/or feeding into Art Decor
 - Joint work on a format of documentation that might facilitate parsing of technical framework update
- **Report to PCC of HIS-IF updates for possible reference for future PCC profiles**
- **Other perspectives?**

ASIP Santé Web site « CI-SIS »

<http://esante.gouv.fr/services/referentiels/referentiels-d-interoperabilite/cadre-d-interoperabilite-des-systemes-d>



Accueil > Services > Referentiels > Referentiels d interoperabilite > Cadre d'Interopérabilité des Systèmes d'Information de Santé

Tt+ | Tt-

Cadre d'Interopérabilité des Systèmes d'Information de Santé (CI-SIS)

RÉFÉRENTIELS D'INTÉROPÉRABILITÉ | 07 MAI 2015

Les systèmes d'information dans les domaines sanitaire et médico-social doivent être communicants pour favoriser la coopération des professionnels dans le cadre des parcours de santé centrés sur le patient (l'usager), et pour aider la décision médicale.

Le Cadre d'Interopérabilité des Systèmes d'Information de Santé (CI-SIS) fixe les règles d'une informatique de santé communicante. Il couvre :

- l'interopérabilité technique, qui porte sur le transport des flux et sur les services garantissant l'échange et le partage des données de santé dans le respect des exigences de sécurité et de confidentialité des données personnelles de santé.
- l'interopérabilité des contenus métiers, qui permet le traitement des données de santé et leur compréhension par les systèmes d'information en s'appuyant sur un langage commun.

Le CI SIS s'appuie sur des normes et standards internationaux matures et stables et se construit en concertation avec les représentants des professionnels de santé et les éditeurs des systèmes d'information de santé. Son utilisation facilite l'intégration de systèmes et permet aux acteurs de santé de pérenniser leurs investissements.



ENGLISH VERSION



ENVOYER PAR MAIL



PARTAGER SUR FACEBOOK



PARTAGER SUR TWITTER



PARTAGER SUR LINKED IN



IMPRIMER LA PAGE

Meet the crew ci-sis@sante.gouv.fr



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Service layer, modeling



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Thierry DART
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Service layer, modeling
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