

BIHR

(Belgian Integrated
Health Record)

Business layer & Functional Architecture



1. Why do interoperability, standards and architecture matter?

Only value makes an ecosystem work.

Regardless of investments in infrastructure and data standardisation, ecosystems only work when value is perceived by their participants.

1**Patients**

Empowered, informed,
continuous care.

2**Healthcare Providers**

Reliable data enables better
care.

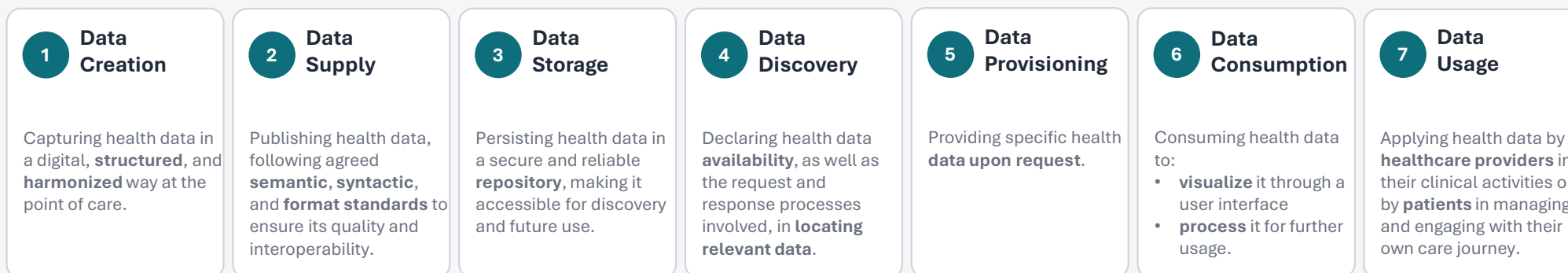
BIHR addresses to one practical question:

How do we create the conditions for this value in practice?

1. Why do interoperability, standards and architecture matter?

What it takes to create value from health data.

Value creation from health data follows a chain of interdependent capabilities, from data capture to use. A set of supporting activities underpins this chain across all stages.



STANDARDIZATION

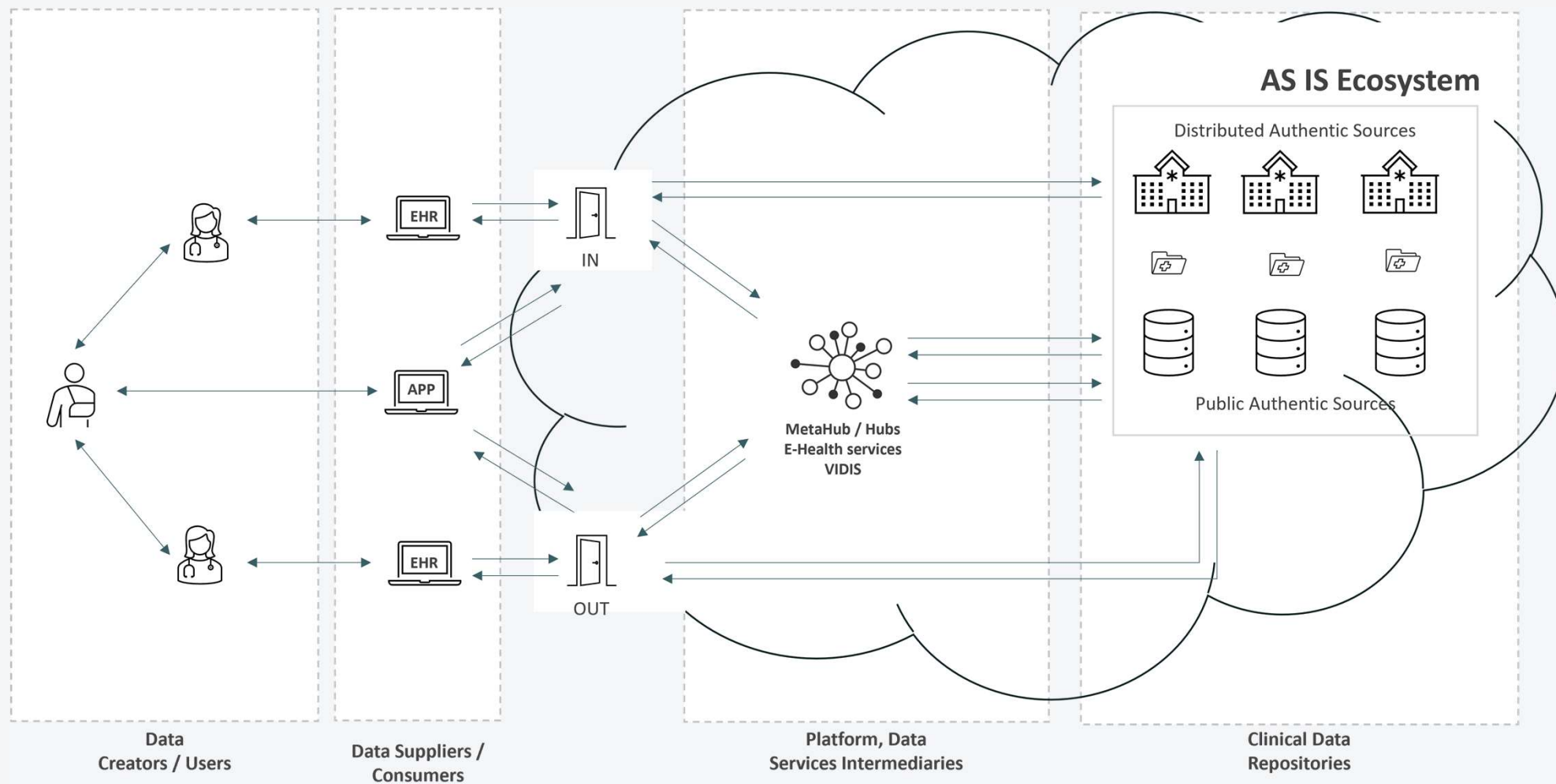
TRUST

INFRASTRUCTURE

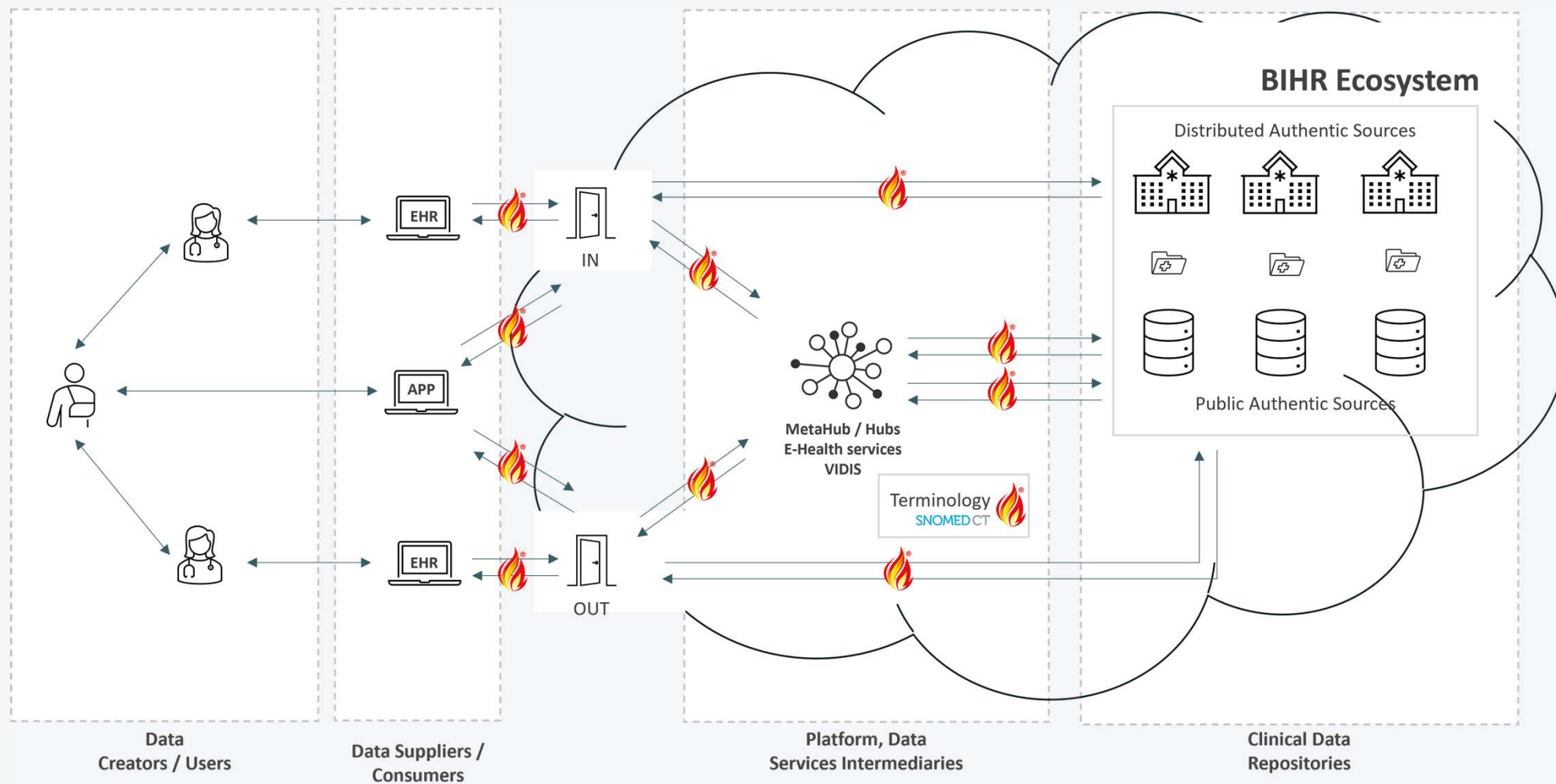
KNOWLEDGE

CHANGE

2. Business layer & functional architecture



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3. Principles

Understanding the meaning of “compliance” and “conformance”.

Being compliant with FHIR does not make data interoperable.
Interoperability requires conformance to shared profiles and underlying agreements.

1

FHIR compliance moves data.

It provides the capability to share
generic resources through
standardized APIs

2

Conformance makes data interoperable.

It ensures that resources adhere to
shared profiles, with semantics
defined by care sets and controlled
through value sets and bindings

What it takes you, as a vendor, to create value:

Think beyond APIs and resources.

Be accountable for semantics and normalization on a technical level.

3. Principles

Structuring the ecosystem.

Every ecosystem starts with **shared principles**.

They guide design choices and ensure consistency across all components.

1 Intergovernmental Evolution, no revolution

BIHR builds on existing architecture, adding shared, intergovernmental components.

2 Layered Interoperability model

Interoperability is structured in layers, from technical exchange to syntax, semantic understanding, and governance.

3 EHR as primary tool and access point

Clinical data is documented in the EHR and shared through BIHR for interpretation and use in care.

4 CareSets, ValueSets & Bindings govern semantics

CareSets, authored by domain experts, ensure consistent clinical semantics across BIHR.

5 FHIR governs syntax of exchange

FHIR provides the standardised syntax for exchanging and structuring health data.

6 Governance, conformance & Terminology server

Authoritative sources provide conformance resources and terminology to ensure consistency and trust.

7 Syndication & Distribution

Conformance artefacts and terminology are distributed across the ecosystem to enable consistent implementation

8 Standardisation Responsibilities

Data must be standardised at publication and provisioning. Standardisation at source is optional.

9 Technical Interoperability & Sovereignty

FHIR ensures technical interoperability, enabling standardised exchange while preserving local technical sovereignty

10 Data persistency responsibilities

Data storage is structured by BIHR, separating longitudinal and event data across public and distributed sources.

11 Preparation for EHDS readiness

IHR prepares the ecosystem to be data space-ready.

4. Closing

Three messages to remember

1 Only value makes an ecosystem work

Value drives participation across the ecosystem. Without clear benefit, even the best architecture remains unused.

2 Evolution. No revolution.

We extend what exists, preserving roles and responsibilities.

3 Conformance is what makes the difference.

It requires every participant to apply CareSets and its profiles consistently and take ownership in implementation.

BIHR 's key objective :

Making the right information available, safely, inside the professional's EHR, at the moment of care.