

Canadian Health Data Sovereignty

*A tri-layered Canadian consortium offering
for interoperable, sovereign health information*

A collaboration between

IDENTOS · **ThinkOn** · **Smile Digital Health**

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The Opportunity

Four forces converging to reshape Canadian healthcare IT

Legislative Momentum

- Federal Bill S-5 interoperability mandates
- Ontario Bills 11 & 13 (connected care)
- Anti-data-blocking requirements

Fiscal Pressure

- Rationalize technology investments
- Reduce administrative burden
- Multiple use cases, one consortium offering

Sovereignty Imperative

- CLOUD Act jurisdictional exposure
- Health data as strategic asset
- Canadian infrastructure & Ownership required

Standards Convergence

- PS-CA patient summary specification
- FHIR as national exchange standard
- CA:FeX, CHI Trust Authority

One investment that addresses all four drivers

Consortium Architecture

Three essential layers, built from the ground up

TRUST & CREDENTIALS LAYER

IDENTOS

Verified identity · Computable consent · Access orchestration

INTEROPERABILITY & SCALABILITY LAYER

Smile Digital Health — OmniVera

FHIR-native CDR · PS-CA generation · Clinical data normalization · Standards-based exchange

SOVEREIGNTY LAYER

ThinkOn

100% Canadian ownership · Cloud Scalability · PHI-grade security

The Interoperability & Scalability Layer is the core. Without computable health data, there is nothing to consent to or protect.

The Core: Interoperability & Scalability Layer

Smile Digital Health: OmniVera

What OmniVera Delivers

- FHIR-native Clinical Data Repository at provincial scale
- Pan-Canadian Patient Summary (PS-CA) generation and exchange
- Clinical data normalization and terminology mapping (SNOMED, LOINC, ICD-10)
- Standards-based integration: HL7v2, FHIR R4, CDA
- Master Patient Index for identity resolution
- Immutable audit logging for compliance and accountability

Why This Matters

Not all repositories are equal.

A FHIR-native CDR provides semantic consistency that enables:

- Computable health information, not just stored documents
- Automated quality measure calculation (DQM)
- Standards-based data portability across jurisdictions
- Foundation for AI/ML and clinical decision support

IN PRODUCTION

Live in a Canadian province since 2022: citizen identity verification, immunization viewer, patient summary generation. Infoway-aligned. PS-CA compliant.

What the Consortium Enables

One infrastructure investment, multiple capabilities

Patient Access

Live

Citizens view their health records via provincial portals

Provider Access

Live

Clinicians access patient data with appropriate consent

Consent Management

Live

Granular, revocable patient consent for data sharing

Patient Summary Exchange

Live

PS-CA compliant summaries across jurisdictions

Automated Reporting

Roadmap

CIHI/NACRS/DAD data extraction and submission

Digital Quality Measures

Roadmap

Real-time computable quality metrics

Consent is a critical capability that operates on the data infrastructure.

All capabilities enabled by the same Smile OmniVera + ThinkOn + IDENTOS offering

Architecture in Production

Live implementation in a Canadian maritime province

CLINICAL DATA SOURCES

Lab Information System

Radiology (RIS)

Pharmacy

Immunization Registry

Hospital ADT



INTEROPERABILITY LAYER

OmniVera

HL7v2/FHIR · Normalize · PS-CA ·
Terminology · Audit



QUALITY LAYER

OmniQ

FHIR + CQL · Real-time ·
CIHI/NACRS/DAD · Care gaps

TRUST & CREDENTIALS

IDENTOS

Identity & Consent

- Citizen verification
- Provider authentication
- Consent capture
- Access orchestration
- Audit & revocation

SOVEREIGNTY LAYER — ThinkOn

100% Canadian infrastructure · Protected from Non-Canadian Jurisdiction · PHI-grade security

The Quality Layer: Computable Measures

Smile Digital Health: OmniQ

What OmniQ Delivers

- Digital quality measurement using FHIR and CQL
- Near real-time measure calculation on OmniVera data
- Automated reporting workflows (CIHI, NACRS, DAD)
- First fully NCQA-validated dQM vendor (<1% variance)
- Custom measure authoring for provincial quality programs
- Intelligence Hub - SMART on FHIR app for care gap closure

Why This Matters

From retrospective reporting to real-time intelligence.

Computable quality measures on FHIR-native data enable:

- Continuous quality measurement vs. manual extraction
- Care gap visibility surfaced in clinician workflow
- Hospital funding accuracy through validated measures
- Bridges hospital data to CIHI / Infoway analytics flows

PROVEN AT SCALE

Production deployments at US health plans. First NCQA-validated dQM vendor. Adaptable for Canadian CIHI/NACRS/DAD reporting workflows.

The ROI Case

Unified data infrastructure enables operational transformation

WITHOUT UNIFIED DATA INTEROPERABILITY

- Manual data extraction from HIS
- ~25 FTEs per large hospital for reporting
- 3-month preparation cycles per submission
- Up to 1 year for comparative reports
- Errors directly impact hospital funding

WITH UNIFIED DATA INTEROPERABILITY

- + FHIR-native data at point of capture
- + Automated quality measure calculation
- + Continuous, real-time data availability
- + Computable consent for data sharing
- + Staff redeployed to clinical care

~\$250K

potential annual savings per medium-large hospital through reporting automation, reduced rework, and staff redeployment

Use Cases Enabled

Same consortium offering, multiple returns

IN PRODUCTION

Digital Front Door

Citizens and providers access health information through provincial portals with verified identity. Granular consent enables sharing sensitive data across community providers.

Live in Canadian maritime province since 2022

PROVEN

Clinical Trials Recruitment

Patients consent to share health data for trial eligibility. Researchers access consented data for recruitment and real-world evidence.

Previous implementation for pediatric research

ROADMAP

Digital Quality Measures

Automated hospital reporting (CIHI, NACRS, DAD) on FHIR-native data. Reduce manual extraction burden while improving data quality.

~\$250K annual savings opportunity per hospital

All use cases share the same offering . Orchestration leadership varies by use case. Consent (IDENTOS), trials (joint), reporting (OmniVera), Digital Quality Management (OmniQ).

Sensitive Data Sharing

In practice: provider-initiated consent flow for community care

URSULA — PATIENT

1. Has an appointment with a new clinic
2. Receives a pre-appointment email requesting consent
3. Launches the Consent Management App
4. Consents to share her sensitive health data
5. Audit trail captured automatically

RICARDO — NURSE

1. Reviews upcoming appointments in the EMR
2. Notices missing access to substance use data
3. Launches the Consent Request App
4. Submits a sensitive-data consent request
5. Accesses substance use data in the EMR

IPCT / FHT

Aligned with ON Health's Interprofessional Primary Care Teams (IPCT) direction for Family Health Teams, sharing substance use, mental health, and other sensitive data across community, shelter care, and primary care providers.

Next Steps

Provincial Health Authorities

Explore a pilot deployment for your Digital Front Door or patient summary initiative. Leverage existing PS-CA investment on sovereign Canadian infrastructure.

CIHI & Infoway

Partner with us to demonstrate how FHIR-native data infrastructure can modernize reporting workflows and support the pan-Canadian interoperability roadmap.

Hospitals & Health Systems

Assess your current reporting burden and data fragmentation. This offering provides a pathway from manual extraction to computable health information.

Contact

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