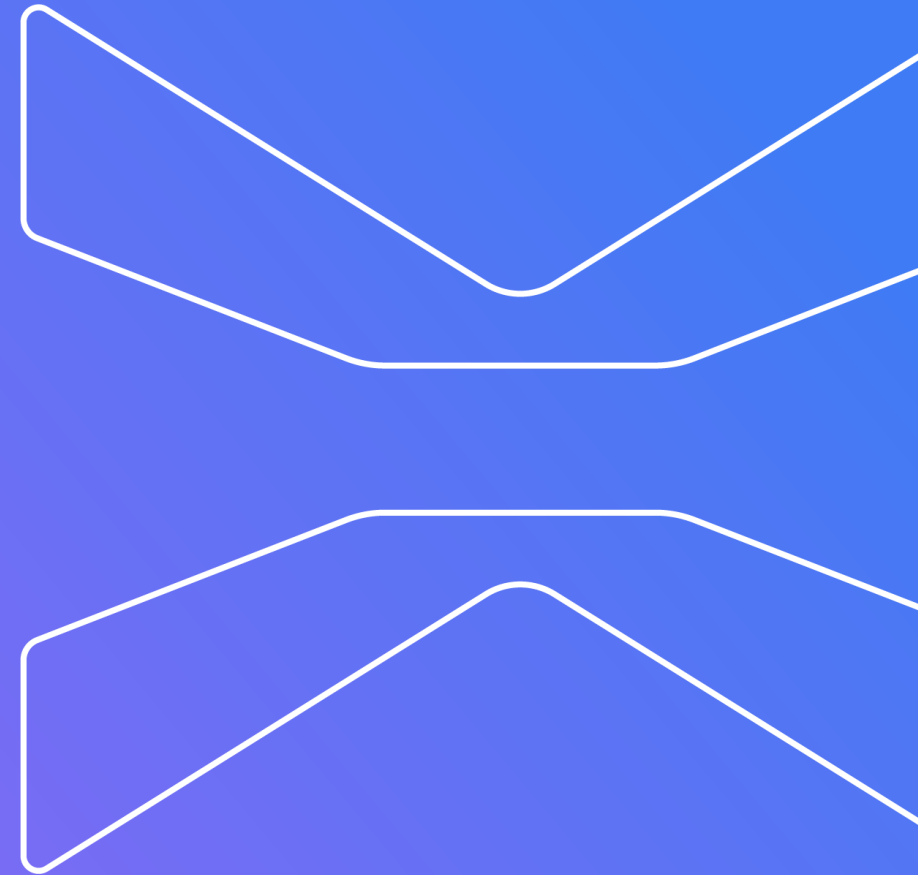
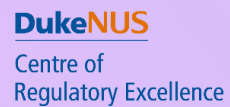


Overview of Data Standards (Terminology)

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The Healthcare Interoperability Challenge & Opportunities

Current State

- Only ~30% of private healthcare providers are contributing healthcare data to national systems
- Fragmented data across public and private healthcare landscape

Drivers for Interoperability

- Mature healthcare system with strong digital infrastructure
- Government commitment to healthcare innovation and interoperability

SS719:2025 was developed to promote semantic interoperability of data standards among both private and public healthcare providers in Singapore

SS719:2025 was undertaken by the Working Group under Technical Committee on Healthcare and Health Informatics under the purview of Biomedical and Health Standards Committee; and supported by Singapore Standards Council and Enterprise Singapore.

This standard delivers comprehensive guidance for Healthcare Data Standards

Scope: Demographics, laboratory tests, medications, diagnoses

Coverage: Whole of Singapore healthcare sector

Purpose: Enable semantic interoperability across all healthcare systems

Compliance: Regulatory and statutory requirements alignment

Innovation: Foundation for AI, analytics, and digital health solutions

The standards covers Five Data Standards

1. NHDD - National Healthcare Data Dictionary

- Patient demographics standardisation
- Essential for patient identification and matching across systems

2. LOINC - Logical Observation Identifiers Names & Codes

- Laboratory test identification standard
- Critical for diagnostic data exchange

3. SDD - Singapore Drug Dictionary

- Medication identification for prescribing and dispensing
- Covers medications, vaccines, and limited categories of therapeutic supplements and medical devices

4. SMST - Singapore Medicines Supporting Terminology

- Medication dosing information
- Frequency, route of administration, dose form, units of measure

5. SNOMED CT - Systematized Nomenclature of Medicine

- Clinical diagnoses and patient problem lists
- Clinical findings, events, situations, procedures

Coverage

The standards are applicable to many vendors, organisations and providers in Singapore

Your Target Market

- Healthcare Organisations: 2,000+ clinics, hospitals, and medical centres
- Healthcare Providers: Doctors, nurses, pharmacists, laboratory technicians
- Existing Technology Partners: System integrators and implementation specialists
- Healthcare Networks: Group practices and integrated care providers

Market Positioning

Standards-compliant solutions are preferred by Singapore healthcare buyers

Purpose

How Standards Work in Practice Real-World Application - GP Clinic Scenario

Registration



NHDD

Patient visits GP with fever and cough.

Personal Particulars:

Ms Kim En En
NRIC: S1234567Z
Nationality: S'porean
Female, Chinese, 50 yrs

Consultation



SNOMED

LOINC

At clinic, GP logs in to national system:

- Problem list: DM & HTN
- Medication list: Metformin, Losartan

Assessment and Orders:

ART test for Covid
Dx: URTI

Dispense & Billing



SDD & SMST

GP documents and prescribes drugs:

Primary Diagnosis: URTI

Medications:

1. PO Augmentin tab 625mg BD
2. PO Paracetamol 500mg TDS
3. PO Fedac syr 10mL TDS

Patient medical record will be updated with new diagnosis, drugs etc, in the national system.

Result: Seamless data flow to national systems and complete patient record

Purpose

Multiple implementation roles will apply standards in their respective roles

Support Ecosystem

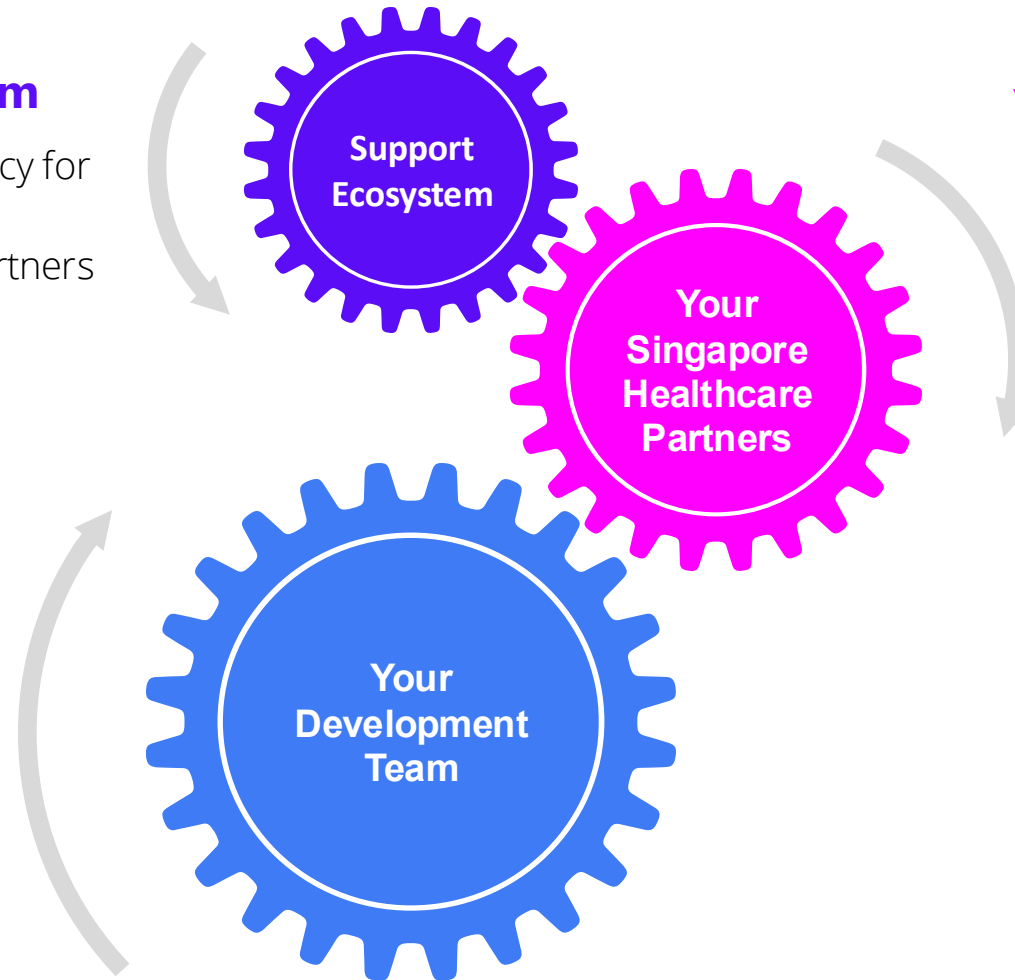
- National healthtech agency for licensing and guidance
- Local implementation partners for market entry support

Your Singapore Healthcare Partners

- Clinical validation of terminology mappings
- User acceptance testing with local workflows
- Training and change management support

Your Development Team

- System architecture design with standards integration
- Data mapping and transformation logic
- File format compliance (CSV, XLSX, tab-delimited)
- Version management and update mechanisms



Compliance

The document outlines the basic technical requirements and maintenance effort required for standards compliance

Technical Requirements made simple

- What Your System Needs to Support
- File Formats: Standard business formats (CSV, Excel, text files)
- Character Encoding: UTF-8 for international character support
- Identifier Management: Handle codes ranging from 4-18 characters
- Version Control: Automatic updates and historical data preservation
- Data Exchange: Seamless integration with Singapore healthcare systems
- Licensing: Straightforward perpetual agreements with national healthtech agency

Keeping Your Solution Current

- Effort needed for ongoing support and maintenance
- Automated Updates: Each standard follows predictable release schedules
- Version Management: Built-in support for code changes and retirements
- Historical Data: Maintain data integrity across system updates
- Support Network: Access to national agencies and local implementation partners

Your Advantage: Established processes mean predictable maintenance costs and timelines

Compliance

The document also discusses the three different approaches to adopting standards and the considerations in the final adoption

Choose What Works Best for Your Technology

Native Adoption (As-is)

Build standards directly into your system architecture
Best for new solutions or major platform updates
Provides cleanest integration with Singapore healthcare ecosystem

Mapping Approach

Connect your existing terminology to Singapore standards
Ideal for proven solutions entering Singapore market
Maintains your current user experience while ensuring local compliance

Hybrid Approach

Combine standards with your unique value-added features
Perfect for specialised solutions with proprietary elements

Understanding standards and their proper application confers benefits to businesses

Immediate Market Advantages

- **Faster Sales Cycles:** Standards compliance removes integration barriers
- **Broader Market Access:** Connect with entire Singapore healthcare ecosystem
- **Reduced Support Costs:** Standardised data exchange minimises custom integrations
- **Enhanced Credibility:** Alignment with national standards builds trust

Strategic Positioning

- **Innovation Platform:** Standards provide foundation for AI and analytics features
- **Scalability:** Proven framework supports rapid customer acquisition
- **Regional Expansion:** Singapore standards experience valuable for ASEAN markets

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