National Integrated Services Framework

The Foundation for Future e-Health Connectivity

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The Context

Cradle to Grave Data

Multiple Sources and Types of Data
Longitudinal Records - Need to Bring the Information Together

Increasing Volumes & Types of Data

X-ray
Computed Tomography
Magnetic Resonance
Molecular Imaging
Ultrasound
Hematology
Urinalysis
Introduction

- A national approach to interoperability is essential for Ireland’s E-Health agenda as it drives toward more enabled ICT healthcare delivery.

- We need to take a long-term view of processes, systems, and technologies so that individual projects can build capabilities, not just fulfil immediate needs.

- As demonstrated internationally, in order for interoperability to succeed it is necessary to establish and apply a suite of nationally-defined standards and aligned ICT Services.

- In particular a guiding framework is required for our business processes and IT infrastructure.

- Primarily in recognition of this need the HSE established the National ICT Integrated Services Framework (ISF).

A sustainable and effective ‘standards based ICT Infostructure’ that provides access to the right information when and where needed within the healthcare system.
The Integrated Services Framework (ISF)

• The ISF is an Interoperability Framework offering a shared standards based tool and language for defining and aligning the business and interoperability context for our eHealth systems.

• It also provides an integrated services architecture which is independent of technology.

• The ISF Framework embraces all of our core ICT systems, technologies and associated business processes.

• The ISF Framework will enable the HSE to overcome data silos and facilitate systems and services to grow in a standardised, aligned and evolutionary manner.

• The Framework is comprised of 12 workstreams, is based upon proven international best practices and has both a technical and a business orientation.

• The ISF Framework also has collaborative input from academia and other national agencies.
The Integrated Services Framework (ISF)

A ‘standards based’ single framework for the public health system

- A Technical Architecture
- An Applications Architecture
- An Information Model and Architecture
- An Communications / Network Architecture

A Single Information Systems Framework to provide for integration and sharing of data and information

- Deliver the ICT Strategy work streams
- Strategic National Business Initiatives
- Develop, implement & support
- local & regional initiatives
- Develop the EHR Information Framework
- Develop & improve ICT Infrastructure

Secondary Deliverable

Foundation for the Electronic Health Record (EHR) and a National Patient/Client Portal
Integrated Services Framework - Components

Applications, Information, Communications & Technical Architecture

Information & Communications Architecture

- Applications Access
- Business Processes
- Identity, Access & System Services
- Data/Information Repository
- Data Validation & Transformation
- Systems/Data Integration
- Communication & Technical Infrastructure

Applications Architecture

- Consolidated Business Process Services
  - Patient Identity Services
  - Patient Consent Access & Privacy Rules
  - Provider ID Services
  - Service Management Auditing & Configuration Services

- Aggregated & Consolidated Data / Information Repository
  - HSE Health Data Model
  - Source data Extraction, Transformation & Loading
  - Validation rules

- Interface Engines
  - Web Services Interfaces
  - New Systems
  - Existing Hospital Systems
  - Existing HSE Systems
  - G.P. Systems
  - National Registers

Common Applications

- Electronic Health Record (EHR)
  - National/Patient/Client Portal

Individual Applications & Systems

- Common Services
ISF and the Stakeholder View

- Data can follow the patient throughout the continuum of care
- Regions & TRUSTS can intercommunicate seamlessly
- Local autonomy through ‘ICT STANDARDS’ based connectivity
- Facilitate an Information Architecture for the Clinical Programmes
- The alignment and sharing of patient data across clinical programmes
- A platform based on international best practice
- Enable implementation of the UHI Healthcare Model
The ISF - Underpinned by a Global Review

Who are your key stakeholders and how were they engaged?

What was your approach to the development of a national standards based platform?

What was your allocated budget and what timelines are you working towards?

What resources did this require and what is the allocated budget?

What approach did you adopt and why?

Where were the big roadblocks and how did you overcome these?

How effective was the adopted approach, were there any lessons learnt?

What standards did you review and which did you adopt?

The approach and components of the ISF Programme have been validated by international experts

- Denmark
- The Netherlands
- England
- Wales
- Scotland
- Northern Ireland
- Hong Kong
- Taiwan
- Canada
- USA
- Germany
- France
- Sweden
- Norway
- Estonia
- Slovenia
- Singapore
- Hong Kong
- Taiwan
The Integrated Services Framework (ISF)

Vision
- Work-stream-1: The Framework Model
- Work-stream-2: Technical Infrastructure Work Stream
  (ICT Platforms, Technologies & Asset Base)
- Work-stream-3: Applications Reference Base
  (Applications Portfolio, Standards & Toolsets)
- Work-stream-4: Integrated Systems Management Framework

Technical Infrastructure
- Work-stream-2: Technical Infrastructure Work Stream
- Work-stream-3: Applications Reference Base

Information Architecture
- Work-stream-6: Information Architecture Model
- Work-stream-7: Data & Information Repository
- Work-stream-8: Transformation, Interfacing & Sourcing

Access
- Work-stream-10: Portal & Presentation

Governance
- Work-stream-11: Architecture Documentation
- Work-stream-12: Governance Model

Appendix
Blueprint of the Integrated Services Framework
The ‘Standardisation’ of Data & Processes facilitates workload balancing across healthcare organisations, enabling them to match demand with available capacity in other TRUSTS or external providers.
Information Architecture

EHR Summary Care Record

- Name
- Address
- Allergies
- Recent Events
- Procedures

- DOB
- Gender
- Current Medications
- Investigations
- Recent Referrals

- GP
- Care Provider
- Immunisations
- Diagnosis
- Care Plan

Link & Share Data

LIMS Lab Reports
NIMIS Reports/Images
Procedure Reports
Discharge Summary

E-prescribing
Sterile Devices
Referrals
Personal Health Record (PHR)

Data Warehouse
Programme Scorecard
National Scorecard
Programme Scorecard

Booking Catalogue
Insurance Reconciliation
Clinical Audit
Research
Technical Architecture

Points of Service:
- PCCC & Community Services
- GP Clinics
- Public Health Services
- Acute Care, Secondary & Tertiary Care
- Administrative & Operational Services
- 3rd Party Services
- Patient’s PHR

Service Delivery:
- Communications Platform
- Enterprise Service Bus

Rulesets & Longitudinal Record Services:
- Interface Standards

Registry & Location Services:
- Registries:
  - NCI-Client
  - Provider
  - Location
  - National Registries
  - Common Apps
  - HIB
  - LRS

Data Warehouse Services:
- • Health Intelligence
- • Business Intelligence
- • Integrated Quality & Safety
- • Public Health
- • ERP
- • Assets

National Hosted Services:
- • NIMIS
- • LIMS
- • CSSD
- • Pharmacy
- • Supplies
- • SCR
- • EHscR
- • HR
- • Finance

Support Services:
- Technical Infrastructure
- Information Architecture
- Access & Governance
- Services & Standards Catalogues
WIP - Information Architecture
WIP - Technical Architecture

- Technical Infrastructure
- Applications Infrastructure
- Integrated Systems Management Framework
- Applications
- Business Processes
- Governance & Business Oversight
- Holistic Standards Based Management
- Portfolio, Roadmap & Classifications
- Standardised Integration
- Toolsets & Management Processes
- Products and Services
- Software Applications
- Platforms & Technologies
The ISF will allow users to see a road map of IT process flows and allow for more efficient operation with better governance of data, and provisioning for greater visibility within the healthcare value chain.

ISF processes will help identify the ownership of data and data services, and can be used as a tool for communicating and monitoring that ownership.

Implementation of the ISF will help identify data usage variations including duplication, unneeded processes, and new more efficient processes.

Successfully applied, the ISF will ensure IT is delivered and maintained in a transparent manner that earns the highest level of confidence from clinicians and all of our stakeholders.

A reduction in the different technologies, applications and databases are used to obtain, store, and extract relevant healthcare data.

Much of our healthcare data has been captured in unstructured formats without consistency, standarisation brings consistency to our clinical data for better primary and secondary use.
Welcome to the National Integrated Services Framework (Electronic Health Record) collaboration site.

Welcome to the HSE’s National Integrated Services Framework Project Portal. On it you can find information on our programme of work, and should you wish you can comment or contribute to the programme. Details here

Calendar

There are no items to show in this view of the 'Calendar' list. To add a new item, click 'New'.

- Previous

- Add new event

Announcements

- Title

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Get Started with Microsoft SharePoint Foundation!
## Securing the Future

### In Nutshell

A modern healthcare system is on the horizon, experiencing a paradigm shift

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<thead>
<tr>
<th>From...</th>
<th>To...</th>
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<tbody>
<tr>
<td>Fragmented</td>
<td>Integrated &amp; Automated</td>
</tr>
<tr>
<td>Invasive</td>
<td>Less Invasive, Preventative, Image Based</td>
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<tr>
<td>Provider Centric</td>
<td>Patient Centric</td>
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<tr>
<td>Centralized – Hospital</td>
<td>De-Centralized–Shift to Community</td>
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<tr>
<td>One Size Fits All</td>
<td>Personalized Medicine</td>
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<tr>
<td>Therapeutics/Diagnostics/ Devices</td>
<td>“Theranostics”</td>
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<tr>
<td>Treating Sickness</td>
<td>Preventing Sickness – “Wellness”</td>
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The Journey has begun
Questions...?