



Building a Connected Healthcare Ecosystem: The role of the IHI

IIOOP Irish Institute of Pharmacy Webinar Series (08.05.2024)





Introduction

Key Points:

- IHI Live and Operational
- IHI Features and Benefits
- IHI integration with National Systems
- IHI success hinges on frontline data quality efforts





Introduction to HSE Health Identifiers Service (HIDS)

Legislation

- Health Identifiers Act 2014
- HIDs Act governs two separate national databases:
 - The National Register of Individual Health Identifiers (IHIs)
 - The National Register of Health Service Provider Identifiers

HIDS Team

- HIDS Team operate the Act on behalf of the Minister for Health
- Partnership between HIDS Business and HIDS Technical Teams





Value of the Individual Health Identifier (IHI)

Why the IHI is important in Irish Healthcare

Reducing the risk of medical errors associated with incorrect patient records or treatments.

Improved Patient Safety

Efficient Healthcare Operations

IHIs on patient records **reduces administrative burdens, minimises duplication of efforts, and optimises resources.**

In time, the IHI will enable health records to be **seamlessly accessible across care continuum.**

Continuity of Care

Digital Solutions (Patient Empowerment)

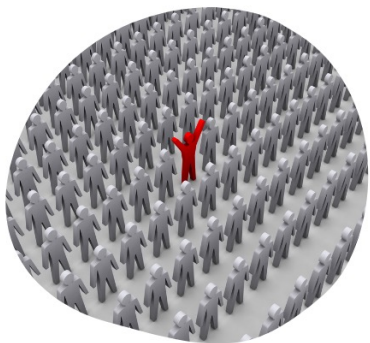
The Health App, Summary Care Record and Shared Care Record.





IHI Key Points

Everyone in Ireland has an IHI Number.



Your IHI is assigned to you for life, and will never be used for someone else.



Your IHI can be used to safely identify and link you across multiple health systems and services.



Your Core IHI is a **10 digit number** (18 Digit in full GS1 Format).



Your IHI contains only demographic information – never medical or clinical information



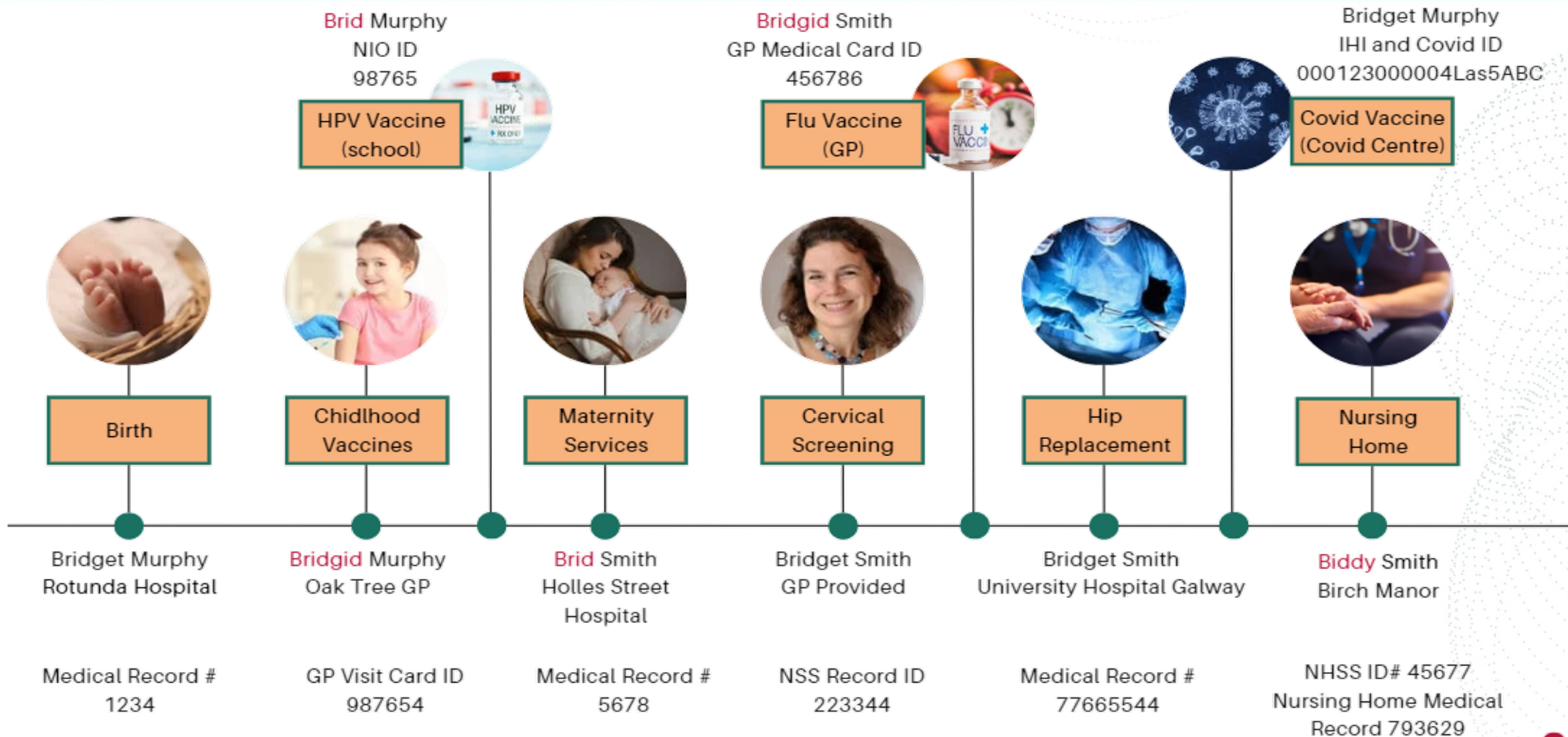
IHI number not yet known by citizens – incrementally IHIs will start to be added to Medical Records, Test Results, Correspondence, etc.



The current focus is to prioritise dynamic IHI integration with all of the major national patient systems.



IHI in Action – Bridget Murphy



Individual Health Identifier Number: 1234567891



IHI – How to Create a Match

IHI Match Rate
% of individuals in a data set who can be successfully matched with their IHI

IHI Matching Logic

- HIDS utilise combinations of **9 searchable data items** to safely return an IHI
- When Consumer patient data satisfies the matching algorithm, the corresponding IHI number is returned
- Core 4 + 1

- Surname (essential)
- Forename (essential)
- Sex (essential)
- Date of Birth (essential)

- +**
- Mothers Birth Surname
 - Home Address Line 1
 - Eircode
 - Mobile Phone
 - PPSN

Additional data items held by HIDS

- Middle Name
- Former Surname
- Place of Birth
- Date of Death
- Nationality
- Email
- Home Phone
- Other Phone
- Unique System Identifier
- PCRS Scheme Number
- Medical Record Number
- ~~Signature (not currently used)~~
- ~~Photograph (not currently used)~~

HIDS 9 Searchable Items		
Firstname	Jane	✓
Surname	Doe	✓
Sex	Female	✓
Date of birth	01/01/2000	✓
Address Line 1	1 Castle Road	✓
Eircode	K22AB11	✓
Mobile	0871234567	✓
Mother birth Surname	Smith	✓
PPSN	1234567K	✓
IHI	1234567897	✓



IHI Consumer Engagement

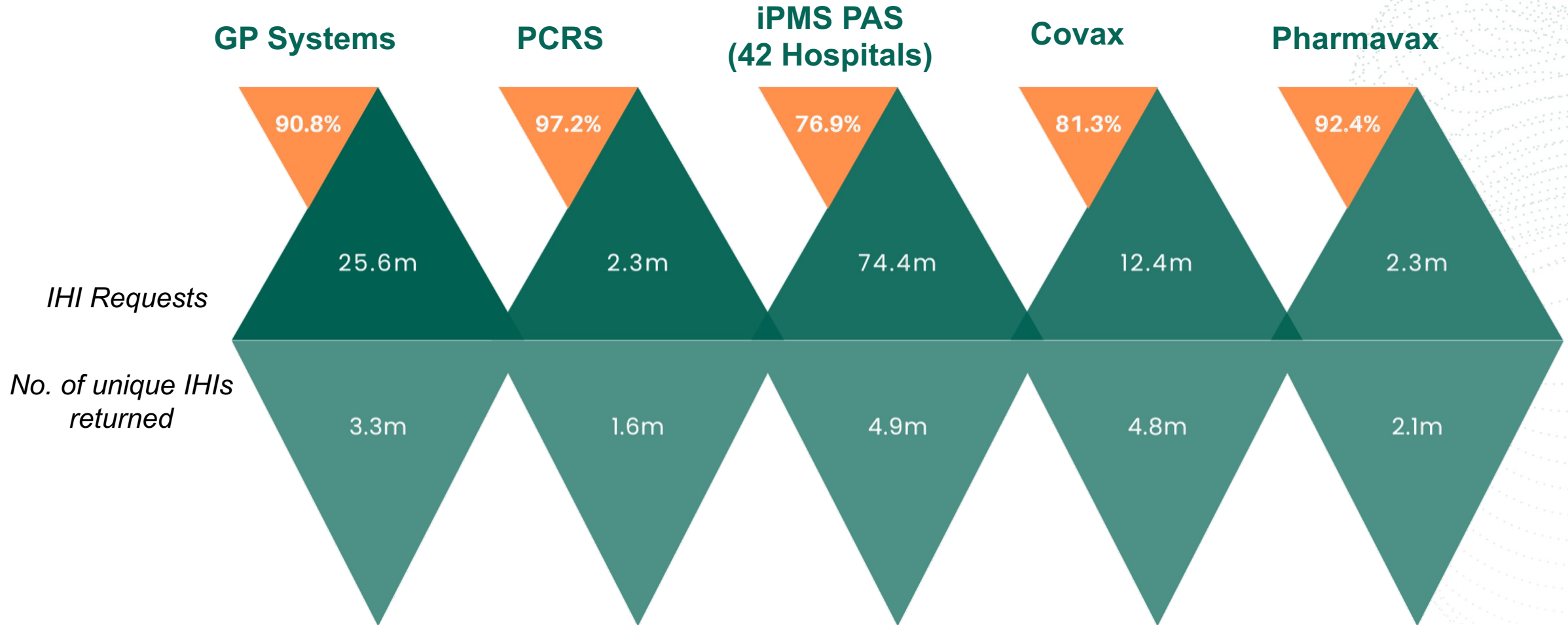
IHI 2023 / 2024 Development Plan

- Acute - iPMS Shared Instances
- Acute - IPMS Single Instances
- Audiology
- Children's Disability Network Team Information Management System (CDNTIMS)
- COVAX
- Covid Care tracker (CCT)
- Covid Research - Precise 5 Study
- Covid Research - The Fada Study
- Digital Health App
- GP Practice Management Systems
- Healthlink
- Hospital Medicines Management System (HMMS)
- HSE Cyber Breach
- Integrated Information Systems (IIS)
- InterRAI
- National Cancer Information System
- National Cancer Registry Ireland
- National Forensic Mental Health Services
- National Rehabilitation Hospital
- National Safeguarding Team
- National Screening Services (Cervical, Breast, Bowel Diabetic Retina)
- National Treatment Purchase Fund (NTPF)
- NIO Schools Immunisation Service
- NIO Schools Immunisation Service 0 - 25
- Nursing Home Support Scheme (Fair Deal)
- Oral Health (Dental & Orthodontic Services)
- Organ Donation and Transplant Ireland
- Primary Care Reimbursement Services (PCRS)
- Pharmavax
- Shared Care Record
- Summary Care Record
- Tusla - Birth Information & Tracing Act Support
- Ukraine Temporary Protection (TPU)



IHI Integration - National Patient Systems

IHI Match Rates – a combination of both the quantity and quality of data items





IHI Use in COVAX

Key Points:

- Real-time trigger driver direct interface to the IHI
- 10 digit IHI number displayed in Covax on patient record screen
- IHI as primary source of identity within Covax system.
- IHI used to link booster shots to patient records
- IHI passed on to Data Lake for further use/analysis in other systems
- IHI used to match to “Date of Death” records which stop SMS messages going out to deceased individuals



IHI Use in PharmaVax

Key Points:

- Real-time trigger - direct interface to the IHI
- 10 digit IHI number displayed on patient record screen
- First Name, Last Name, DOB, Gender & PPSN used to search for an IHI on Add & Update Clients screen
- On matching an IHI, a call is made to the Vaccinations API, into the HSE Data Lake, to retrieve Client's Vaccination History
- IHI API call made on "Correct Vaccination Record" Screen on Save - change of identity is restricted
- Verifying Client's identity is a pre-requisite to entering a vaccination record in PharmaVax
- Accurate Client data recording is vital – significant downstream impact on resources and services
 - COVAX DQ Teams
 - HSE Live
 - Data Lake DQ
 - Retrieval of correct Client vaccination history in PharmaVax
- Top reasons for no IHI match in Pharmavax – order of frequency
 1. Wrong DOB or format (different Client's DOB, MM/DD/YYYY format or mis-keyed digits)
 2. Wrong Gender
 3. Wrong First Name (wrong spelling, abbreviation) – should be official birth cert name / legal Given Name
 4. Wrong Last Name (spelling, different Client Last Name)
 5. Wrong PPSN (different Client PPSN, entering spouse's or family member's PPSN)

HSE IHI Match Rate Improvement

- HIDS have recently started a programme to work with hospitals to forensically analyse their data and how it performs in terms of IHI Matching
- HIDS provide data analysis findings targeting key areas of improvement advice as to how to improve IHI Match Rates
- Additional advice on how to use the IHI as powerful tool in aiding the identification and merging of duplicate patient records.



IHI MATCHING

9 FIELDS ENABLE IHI MATCHES

Follow these guidelines for correct data entry and improve IHI match rates



1. FORENAME

- Use proper capitalisation
- Patient's Forename (First Name) in full (e.g. Patrick, not Pat)
- Registered Forename (i.e. name on official documents)
- Do not use nicknames or aliases
- Do not use honorifics (i.e. Mr, Mrs, Fr, Dr etc)
- Do not use Junior, Jnr, Senior, Snr
- Do not use punctuation (.,;:*, () etc)
- Do not use special characters (* & + € %, etc)



6. ADDRESS LINE 1

- First line of patient's home address
- Only the first line of the patient's address to be recorded
- Valid values: Flat, Avenue, Ave, Road, Rd, Street, St, Apartment, Apt
- Do not use punctuation (.,;:*, () etc)
- Do not use special characters (* & + € %, etc)
- Only include address information in the address field. Other information such as notes should not be recorded here



2. SURNAME

- Use proper capitalisation
- Check for spelling errors
- Mc / Mac - No space after Mc / Mac and rest of surname
- O'Reilly / O'Reilly both acceptable
- Double barrailed - single space between the two names (no hyphens)
- Do not use punctuation (.,;:*, () etc)
- Do not use special characters (* & + € %, etc)



7. EIRCODE

- Patient's Eircode should correspond to the address provided
- 7-character code consisting of letters and numbers
- Digits 0 & 1 to be used correctly and not replaced with letters O & I
- Letters O & I to be used correctly and not replaced with digits 0 & 1
- The following letters will never be included in an Eircode: B, G, I, J, L, M, O, Q, S, U or Z
- Eircodes should be recorded in the "Post Code" field and never in address line fields
- Eircodes should be entered in this format XXX XXXX



3. SEX

- Patient's Sex
- IHI Match Values: M, Male, F, Female, U, Unknown
- Note: The Health Identifiers Act 2014 only collects Sex at this point, consideration of Gender options to be developed



4. DATE OF BIRTH

- Patient's Date of Birth
- Date of Birth Format should be 8 characters long
- Valid Format: DD/MM/YYYY
- Forward slashes should be used



5. MOTHER'S BIRTH SURNAME

- Patient's mother's surname at her birth
- Patient's mother's "maiden name" at her birth
- Surname only, no other detail



8. MOBILE

- Patient's mobile phone number
- Valid format: 08xxxxxxxx, +3538xxxxxxxx
- 08x numbers recorded in the mobile field, not in the home/landline field
- Do not use spaces, hyphens, etc
- Do not include text (e.g. Mother, call after 6pm, etc)
- Digits 0 & 1 to be used correctly and not replaced with letters O & I



9. PPSN

- Patient's unique Personal Public Services Number (PPSN)
- PPSN of the patient (not PPSN of wife, husband, child, etc)
- If patient has more than one PPSN, enter their current active PPSN
- PPSN should have no spaces be either 8 or 9 characters in length
- Do not use spaces, hyphens, etc



IHI Match Rate Improvement Initiatives

Patient Systems



Data Standardisation

Ensure that all patient data entered follows a standard format.



Staff Education and Training

Ongoing training of staff to collect accurate patient information during registration.



Data Cleansing and Deduplication

Data cleansing algorithms to identify and merge duplicate records. IHI can support the identification of duplicates.



Regular Audits and Quality Checks

Regular audits of patient records to identify discrepancies and errors. Data quality checks to maintain data accuracy.



Health Identifiers Service



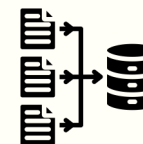
IHI Repair

On occasion, HIDS needs to examine a failed IHI records. Typically twins, siblings, mother/daughter, etc. Rapid response system in development.



Additional Data (PPSN, DOD, Eircode)

Where a safe IHI match is made to the patients record, HIDS can automatically return additional data points for that record.



New Trusted Sources

HIDS working to update the IHI Index through continuous partnership with high value trusted sources.



Data Matching Algorithms

HIDS use a range of sophisticated data matching algorithms. Machine Learning and Artificial Intelligence bringing advances.



Thank You IIOP

Any further queries - IHI@hse.ie