HIPE Data Quality Statement

For 2023 HIPE Data.

Healthcare Pricing Office
Health Service Executive

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2023 Data Quality Statement V1.0. Source: Healthcare Pricing Office, October 2024

1. Introduction

The Hospital In-Patient Enquiry (HIPE) scheme, established in 1971, is a health information system designed to collect clinical and administrative data on discharges from, and deaths in, acute public hospitals in Ireland. Since the 1st of January 2014, the Healthcare Pricing Office (HPO) has overseen the administration and management of this scheme. The HPO is responsible for overseeing all functions associated with the operation of this database, including the development and support of the data collection and reporting software, training of coders, data quality, audit, reporting and responding to requests for information.

2. Purpose of Data Quality Statement

The purpose of the HIPE Data Quality Statement is to inform data users and readers on HIPE data collection, key dimensions of data quality and strengths and limitations of HIPE Data Quality so data users can make informed judgements on the use of HIPE data. This document accompanies the Activity in Acute Public Hospitals 2023 Annual Report.

3. Overview of Data Collection and its remit

The Hospital In-Patient Enquiry (HIPE) system collects information on inpatient and day-case patients discharged from Irish acute public hospitals. The information collected includes clinical, administrative and demographic data. Providing accurate HIPE data on a timely basis is a requirement from hospitals in order for the HPO to perform its functions. HIPE data is stored on the HIPE Portal Software which was developed by the Software Development division in the HPO. Once HIPE data is entered into the HIPE Portal, the system runs an extensive number of validation edit checks to ensure the quality of the data. Other data quality activities and data quality tools are in use at local and national HPO level.

4. Data Cohort & Scope

The national HIPE database, held within the HPO, does not collect patient names, patient addresses, telephone numbers, medical card numbers or full date of birth. It does collect each patient Medical Record Number (MRN) which is a number assigned to each patient by the hospital that they attend. However, the HPO does not hold information which could be used in conjunction with the MRN to identify an individual patient by name. For full details on data collected please refer to the HIPE Data

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Dictionary and the HIPE Instruction Manual available on www.hpo.ie. In-patient and day case discharges are reported only; ED and out-patient attendances are not recorded on HIPE. HIPE data is based on hospitalisations which may include multiple admissions for the same patient. Therefore, it is not possible to use HIPE to examine certain parameters such as the number of hospital encounters per patient, or to estimate incidence or prevalence of disease. The HIPE Dataset is used to create Diagnostic Related Groups (DRG's) that inform Activity Based Funding (ABF). DRG's are a means of classifying patient hospital encounters into a manageable number of groups which can be used to describe the mix of cases or case mix of the activity being carried out by a hospital. DRG's are designed to group cases which are clinically similar and which are expected to consume a similar amount of resources. Currently, Ireland is using version 10.0 of the Australian Refined DRG system (AR-DRG v10.0) since 2020.

5. Data Source Description

5.1 HIPE

The Hospital In-Patient Enquiry (HIPE) scheme is a health information system designed to collect clinical and administrative data on discharges from, and deaths in, acute public hospitals in Ireland. As of 2023, 53 public hospitals in Ireland participated in HIPE.

5.2 Data Collection

Each participating acute hospital in Ireland has a local installation of the HIPE system. Patients' demographic and administrative data are transferred from the hospital Patient Administration System (PAS) into the local HIPE installation. The clinical information is then entered onto the local HIPE Portal system by teams of clinical coders using the patient charts. HIPE Clinical Coders rely on the documentation in the patient's hospital chart as their primary source for assigning clinical codes according to guidelines and standards in the classification in use. Diagnosis and Procedures are coded using International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification (ICD-10-AM), Australian Classification of Health Interventions (ACHI), Australian Coding Standards (ACS) (ICD-10-AM/ACHI/ACS). Since 2020, 10th edition of ICD-10-AM/ACHI/ACS is used to reflect accurate clinical coding. HIPE data is exported from hospitals to the HPO every month.

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5.3 Coverage

Coverage of the HIPE system is calculated using the discharges returned as 'coded'; as a proportion of total discharges reported within each hospital. HIPE data is expected to be coded within four weeks of discharge. The HPO have regular monthly meetings to assess each participating hospitals coverage and have an escalation process in place for hospitals when coverage is below 95%.

5.4 Timeframes

At the end of the every month each hospital is required to send in their export file to HIPE. The HIPE file closes on an annual basis. Files are due each year by 31st March annually relating to previous calendar year.

5.5 Classification & Standards

Ireland updates the clinical classification every four to five years to ensure the classifications remain current for national and international use. Extensive training of all HIPE staff is undertaken when the classification is updated to ensure understanding of changes in the new classification. At the start of 2020, the classification used to code clinical information was updated from 8th Edition to the 10th Edition of the ICD-10-AM/ACHI/ACS. For information, in 2024 the classification used to code clinical information is updated from the 10th Edition to the 12th Edition of the ICD-10-AM/ACHI/ACS. ACS are developed to provide guidance in the application of ICD-10-AM and ACHI codes. Coding standards are provided with general guidelines and are categorised by site and/or body systems according to the clinical speciality to which a disease or procedure relates. Use of ICD-10-AM/ACHI/ACS is complemented by the Irish Coding Standards (ICS); these are reviewed as required to reflect changing clinical practise and to ensure the classification and its application are relevant to the Irish Healthcare System. The ICS are published annually on the HPO website (www.hpo.ie).

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6. Overview of Data Quality under the Dimensions of Data Quality

6.1 Accuracy and Reliability

The Accuracy & Reliability of HIPE Data is assessed based on the following characteristics:

Coverage

A high level of clinical coding coverage is a key component for accurate and reliable HIPE data. The HPO reviews hospital coverage on a monthly basis to make sure all hospitals are coding at 95% or above and intervene when necessary to maintain a high level of coverage from hospitals reporting to HIPE. Hospitals must provide feedback to HIPE when coverage is at 98% or lower. There is an escalation process in place for HIPE to report hospitals with low coverage to the Acute Hospital Finance Division in the HSE when coverage is less than 95%.

Data Capture & Collection

Accuracy of HIPE data is required at individual code level, case level and at national level. HIPE staff are trained through a structured training programme for new coders and the HIPE training department also facilitates on-going training for experienced coders. The Australian Coding Standards and Irish Coding Standards provide guidelines on the correct code selection, sequencing and reporting. Each data field collected by HIPE is defined in the HIPE Data Dictionary.

Data Processing

Each acute hospital in Ireland has a local installation of the HIPE system. Patients' demographic and administrative data are transferred from the hospital Patient Administration System (PAS) into the local HIPE installation. The clinical information is then entered onto the local HIPE Portal system by teams of clinical coders using the patient charts. All HIPE staff are trained in the collection of HIPE data and all information downloaded to HIPE from the PAS must be verified by the HIPE coder against the information available in the chart. Once a month, HIPE data is exported from the hospitals to the HPO via the HIPE Exports Pipeline. The HIPE Exports Pipeline is a data collection process that gathers all HIPE data for the current open years. The first export pipeline run was on 05/10/2022. Once collected in the HSE data centre, the HIPE data is cleaned, formatted and grouped. Currently 50 of the 53 hospitals that participate in HIPE are using the pipeline. For the remaining hospitals not participating in the pipeline process, each hospital securely uploads their local HIPE data to the HPO for inclusion in the national HIPE file. Once the HPO receive the monthly

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exports from hospitals, a number of validation and duplicate checks are run on the data. The hospital exports are then merged with the HIPE Exports Pipeline and two output files are produced: a coded HIPE file and un-coded HIPE file.

Completeness & Validity

Data quality activities are performed at code/variable level, AR DRG level, coder level, hospital level and at a national level. The HPO undertakes numerous data quality assurance activities and supports and encourages this work at hospital level. The outcomes of the data quality work are incorporated into training and education, data entry systems and Irish coding guidelines as appropriate.

Data entry edits are built into the HIPE Portal software which applies coding guidelines at data entry stage. Checks are implemented at data field level to ensure that entered information follow specified input rules and formats. HIPE data from all hospitals are routinely passed through a set of standardised checks using the HIPE Checker©. The HIPE Checker© software facilitates hospitals to run these checks in an efficient manner locally and hospitals are expected to run each monthly export through the HIPE Checker© prior to each export to ensure their own high standards of accuracy. The Healthcare Pricing Office (HPO) within the HSE undertakes complementary reviews on the data and these checks are reviewed and updated on a regular basis. The HIPE Coding Audit Toolkit (HCAT) audit software is used in the HPO to perform chart based audits and is also available to hospitals. As part of the HPO audit programme chart based audits are conducted in hospitals with the objective for all ABF hospitals to be routinely audited approximately once every two years. The HIPE Audit team in the HPO reviews data for accuracy, frequency of reporting and reviews by AR-DRG etc. The HPO also rolled out the Performance Indicators of Coding Quality tool (PICQ®) to hospitals. PICQ® is a commercial product that analyses clinical coding on a nightly basis using a set of indicators which identify records with inconsistencies in code combinations, sequencing, presence or absence of codes or lack of specificity. The HPO utilises the PICQ® tool to run reports on the PICQ analysis across hospitals to identify aspects of coding that may require additional data quality support. The HPO has also developed an internal HIPE Data Quality and Assurance Dashboard to analyse specific HIPE Data Quality areas such as national spikes in the data by AR-DRG, Diagnoses, & Procedures. The HPO has released Data Quality resources such as the HIPE Instruction Manual and the HIPE Data Dictionary which are available on www.hpo.ie

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6.2 Relevance

The Relevance of HIPE Data is assessed based on the following characteristics:

Release and Use of the Data

Given the comprehensive coverage achieved by this information system, the data gathered by HIPE is used by the Department of Health and the HSE in the planning, provision and measurement of acute hospital services. HIPE data is available upon request and is subject to terms and conditions of data use. In addition to responding to requests for HIPE information, the HPO also manages the HIPE Statistics Reporter which is available online at www.hpo.ie. The HPO produces the "Activity in Acute Public Hospitals in Ireland" Report on an annual basis. The Coding Notes newsletter for the HIPE community is published quarterly. These documents are available on the HPO's website www.hpo.ie.

Value of the Data

The HIPE Governance Group was established in 2019 to provide strategic guidance and support to the HPO, HSE, Hospital and Hospital Groups in the operation and development of HIPE. The HIPE Governance Group oversees topics such as data quality, audit, variables, technology, coverage, hospitals, etc. to ensure the provision of high quality, timely, relevant HIPE data.

Adaptability of the Data Source

Ireland regularly updates the classification in use so the data stays relevant. At the start of 2020, the classification used to code clinical information was updated from 8th Edition to the 10th Edition of the ICD-10-AM/ACHI/ACS and in 2024 the classification used to code clinical information will be updated from the 10th Edition to the 12th Edition of ICD-10-AM/ACHI/ACS. The HPO makes sure to keep HIPE variables up to date and relevant. In 2023, no new variables were introduced due to the upcoming 12th Edition ICD-10-AM/ACHI/ACS update in 2024. The HPO did facilitate the download of a flag to collect the number of days in ITU/HDU, to identify the number of days the patient spent in an intensive care environment.

6.3 Accessibility & Clarity

The Accessibility & Clarity of HIPE Data is assessed based on the following characteristics:

Accessibility

HIPE information from previous years is available on request subject to terms and conditions of data use. HIPE data is only available for reporting on closed files from previous years. The 2023 HIPE closed file was made available in April 2024. Once the HIPE file closes for the previous year, any coding changes made by hospitals are not included in the HIPE National Closed file. Details of annual HIPE data is available in the Activity in Acute Public Hospitals in Ireland reports. National statistics are available in aggregated form, thus ensuring patient confidentiality. Aggregate HIPE data is available at www.hpo.ie or can be requested from HIPEData.Requests@hse.ie.

Interpretability

Clinical codes and descriptions are specified within the ICD-10-AM/ACHI/ACS classification. The HIPE Training Department in the HPO provide extensive clinical coding training for all HIPE Coders. The HIPE portal system ensures that all required fields are completed before the coded case can be stored in the HIPE Portal system. The Australian and Irish Coding Standards provide guidelines for the coding of clinical data and when diagnosis and procedure are eligible or not for coding. The HPO held a number of events in 2023 to promote consistent, coherent HIPE data such as the HIPE Managers Day, the HIPE Data Users day for those who work with and use HIPE Data, numerous Clinical Coding Training and HIPE Data Quality Webex Sessions for clinical coders across hospitals. The HIPE Instruction Manual and the HIPE Data Dictionary provide specific details on the data collected. The HIPE Instruction Manual and HIPE Data Dictionary are updated regularly and are available on www.hpo.ie

6.4 Coherence & Comparability

The Coherence & Comparability of HIPE Data is assessed based on the following characteristics:

Standardisation

HIPE adheres to the ICD-10AM/ACHI/ACS standardisation for clinical coding. For 2023, HIPE data is coded to the 10th Edition of the ICD-10-AM/ACHI)/ACS. ACS are developed to provide guidance in
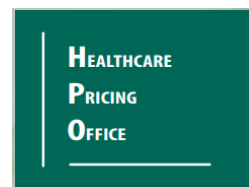
the application of ICD-10-AM and ACHI codes. Use of ICD-10-AM/ACHI/ACS is complemented by the Irish Coding Standards (ICS); these are reviewed as required to reflect changing clinical practise and to ensure the classification and its application are relevant to the Irish Healthcare System.

Coherence

The HIPE Data Dictionary provides a definition for each of the variables collected by HIPE. HIPE data quality is ensured at code level through the HIPE data entry system used by HIPE staff in all hospitals reporting to the HIPE system as only valid ICD-10-AM/ACHI/ACS codes can be entered into the system. As of 2023, a traffic light system has been implemented, which informs the user of the quality of a particular variable within the Data Dictionary.

Comparability

HIPE data is compared across hospital groups in Ireland in the annual Activity in Acute Public Hospitals in Ireland reports which are available on www.hpo.ie. The use of a standardised system for coding, data entry and reporting allows for data to be compared locally, nationally and internationally.

6.5 Timeliness & Punctuality:

The working deadline for HIPE data is for discharges to be coded within 30 days of discharge. Coding turnaround time is calculated as the number of days between the date the case was discharged and the date the case is first coded. The HIPE national files are made available on an annual basis following finalisation. Data users can access HIPE data through the Activity in Acute Public Hospitals Activity Reports and the HIPE Statistics Reporter that are available on the www.hpo.ie. HIPE data users can also request specific information by contacting the HPO at HIPEdata.requests@hse.ie.

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7. Strengths and Weaknesses

DQ Dimension	Strengths	Limitations
Accuracy & Reliability (Accurate data refers to how closely the data correctly captures what it was designed to capture)	HIPE Data Quality Tools such as the HIPE Portal edit checks; The HIPE Checker© software; PICQ® Software. The HPO issued Data Quality reports to hospitals in 2023 such as annual Spikes Reviews, Checker© software reviews, and a detailed list of end of year checks prior to the 2023 HIPE File closure, to ensure data was as accurate as possible in the 2023 HIPE closed file. 15 HIPE Chart Based Audits were performed across hospital sites by the HIPE Audit division in the HPO. The HIPE Instruction Manual provides specific details about the data collected. The HPO underwent an extensive piece of work on each variable in the HIPE Data Dictionary and implemented a traffic light system which informs the user of the quality of a particular variable within the Data Dictionary, this is available at www.hpo.ie The HPO have implemented a Data Quality Framework with a view to adhering as much as possible to the recommendations of same. The	HIPE Clinical Coders rely on the documentation in the patient's hospital chart as their primary source for assigning clinical codes according to guidelines and standards in the classification in use. Where there is poor documentation in a chart, in a specialty or in a hospital this may affect the specificity of codes assigned and the quality of the information available for coding a case. From September 2023 to February 2024, a Forsa Industrial Action was implemented across the HSE and significantly impacted the ability to process HIPE data in the HPO, this led to a backlog in receiving HIPE data from hospitals and no ability to analyse HIPE coverage, data quality, audit etc. Despite this challenge, the HPO managed to issue an annual spikes report and issue end of year checks to hospitals and the 2023 HIPE file still closed by the deadline of the 31st of March 2024. However, due to resource

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2022 HIPE Data Quality Statement was published in October 2023, and the HPO have also implemented the roll out of individual hospital HIPE Data Quality Statement's, where each hospital is responsible for producing a Statement on the HIPE Data Quality in their area. The HPO developed a Data Quality Statement template and instruction document to assist hospitals with this data quality activity.

issues following the industrial action backlog of data, the Checker© software reviews only analysed the first half of 2023, therefore, the second half of 2023 Checker© software reviews were not analysed.

Relevance (Relevant data meets the needs of information users)	The HPO communicates regular information and updates on HIPE through the coding notes newsletter that is published quarterly. The establishment of the HIPE Governance Group in 2019 provides support and guidance on HIPE. The HIPE Governance Group meet on a quarterly basis. The HPO work to keep HIPE data relevant by updating the classification, adding or removing variables in the HIPE Portal system, publishing annual reports and rolling out training for HIPE coders. In 2023, the HPO's resources were significantly directed towards the preparation and implementation of the 12th Edition ICD-10-AM/ACHI/ACS in January 2024.	Making regular changes to the clinical coding classification and variables collected can be challenging for clinical coders who are under time pressure to code hospital charts. HIPE data can be limited by what's available and collectable. There are limitations as to what variables are feasible for HIPE to collect. While relevant data meets the needs of data users, it may not cover specific specialities. The HIPE Governance Group oversees any addition or removal of HIPE variables. From September 2023 to February 2024, a Forsa Industrial Action was implemented across the HSE and significantly impacted the ability to process HIPE data and

		provide HIPE data requests as there was a number of months were the HPO could not receive any HIPE data from hospitals. Despite this challenge, the 2023 HIPE file still closed by the deadline of the 31st of March 2024.
Accessibility & Clarity (Data is easily obtainable and clearly presented in a way that can be understood)	HIPE Data is easily accessible in aggregated form and through Reports on www.hpo.ie HIPE data can also be requested by emailing hipe.datarequests@hse.ie (subject to terms and conditions of data use).	Due to the strict deadline in place for the closure of the national HIPE file, any coding changes made by hospitals is not included in the HIPE National closed file if they are made after the file closure deadline. Therefore, if there is a delay in clinical coders receiving and reviewing hospital charts until after the file closure deadline, the information will not be captured in National HIPE Statistics. From September 2023 to February 2024, a Forsa Industrial Action was implemented across the HSE and significantly impacted the ability to process HIPE data and provide HIPE data requests as there was a number of months were the HPO could not receive any HIPE data from hospitals. Despite this challenge, the 2023 HIPE file still

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		closed by the deadline of the 31st of March 2024.
Coherence & Comparability (Data is consistent over time and across providers and can be easily combined with other sources)	The Standardisation of HIPE Data (ICD-10AM/ACHI/ACS) ensures HIPE Data stays consistent over time. The HIPE Data Dictionary is a useful resource for interpreting HIPE Data. The Activity in Acute Public Hospitals Activity Reports published annually are comparable across years.	HIPE data is based on hospitalisations which may include multiple admissions for the same patient. Therefore, it is not possible to use HIPE to examine certain parameters such as the number of hospital encounters per patient, or to estimate incidence or prevalence of disease.
Timeliness & Punctuality Data is collected within a reasonable timescale and delivered on the promised dates	The HPO has strict deadlines in place to receive HIPE data exports from hospitals on a monthly and annual basis. This ensures HIPE data coming into the HPO is remains as consistent as possible at a national level. The coverage for the 2023 HIPE closed file was 99.01%.	Coordinating all hospitals to have their exports ready for the file closure at the end of every year can be challenging as each hospital has different staffing arrangements in place etc. HIPE deadlines are crucial for timely, accurate HIPE Data available to data users. There can also be delays when processing monthly exports files as processing hospital exports that are not participating in the HIPE Exports Pipeline is a more manual and time consuming process. From September 2023 to February 2024, a Forsa Industrial Action was implemented across the HSE and significantly impacted the

		ability to process HIPE data as there was a number of months were the HPO could not receive any HIPE data from hospitals. Despite this challenge, the 2023 HIPE file still closed by the deadline of the 31st of March 2024.

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