

Document Name	NOCA Audit Process Data Quality Assessment
Document No	TEM 13
Version No	1
Active Date	1 st Nov 2021

Audit	Potential Donor Audit Development Study
Purpose	Illustrate the data quality processes which the audit/ national data collection that apply for the PDA pilot study
Effective from	14/11/2022 - 10/02/2023
Developed by	Maria Kehoe Audit Development Manager
Date	27 th April 2023
Approved by	QA and Operations Manager / Designee
Date	27th April 2023

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Relevance

Relevant data meets the current and potential future needs of users.

Characteristic	Criteria	Assessment
Release and use of data	Are regular assessments carried out to determine whether all of the data that is being collected is being used?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	Has a list of key users and their use of the data been compiled, including unmet user needs?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
	Is this reviewed annually?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/>
Value of data	Are data users consulted to establish if the data available assists them in achieving their objectives?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Are quality improvement plans in place to address required improvements in the data in order to ensure the data remains relevant to users?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
Adaptability of the data source	Are procedures in place to gather information on the potential future needs of data users?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Partially <input type="checkbox"/>
	Are data user needs prioritised as a result, of consultation undertaken with data users about how the data relates to their needs?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Additional comment

Relevance

The PDA Audit Questionnaire was co-developed with Organ Donation Personnel (ODP) to ensure that the data captured in this audit provides relevant information to support ODP. Data elements were defined based on:

- A international review of PDA datasets (NHSBT, Donate Life, Accord, Spanish Quality Assurance Processes in Deceased Donation) and empirical evidence from the literature (Milross et al, 2022, EDQM)
- A review of national and international organ donation guidelines
- Continuous stakeholder engagement

Regular assessments of use of data, future user need, annual review and quality improvement plans to address required data improvements will be considered in national implementation but deemed not relevant for 3 month pilot collection.

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Accuracy and Reliability

The accuracy of data refers to how closely the data correctly describes what it was designed to measure. Reliability refers to whether that data consistently measures, over time, the reality that it was designed to represent.

Characteristic	Criteria	Assessment
Coverage	Are details of the reference population explicitly stated in all information releases and is the coverage of the population quantified?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
	Are significant coverage issues that may impact analysis and interpretation of data documented and made available to users?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
	Are processes in place to identify and handle duplicate and potential duplicate records within the data?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
Data capture and collection	Are issues with the quality of data submitted that have the potential to impact significantly on analysis and interpretation of that data addressed and documented for users of the data?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Data processing	Are data validation processes applied consistently and are the processes documented for data users?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
Completeness and validity	Are rates of valid, invalid, missing and outlier values documented and updated routinely and reported with each data release?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
Revisions	Are revisions or corrections made to the data regularly analysed to ensure effective statistical use of same?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Additional comment

Accuracy and reliability

Coverage

Two approaches were taken to ensuring full coverage in the participating hospitals. The Irish National ICU Audit (INICUA) collects data for patients admitted to ICU in Irish hospitals and includes a dataset on organ donation. PDA coordinators worked locally with INICUA coordinators to assess data coverage in three of six participating hospitals. Where this was not feasible, coordinators accessed independent reports from clinical information systems to assess data coverage. Summaries from these reports were obtained locally and submitted to the PDA project lead.

Data capture and collection

An online data capture form was developed with carefully sequenced conditional branching which provided a mechanism for data validation at the point of data entry. A data dictionary was developed to ensure accurate interpretation of the questions. Each PDA Audit coordinator received training and ongoing support around interpretation of the definitions to ensure accuracy

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and reliability of data collection. Data definitions were also embedded into the questionnaire on an item-by-item basis to provide quick reference to the related definition.

[Data processing](#)

The online tool had in-built data validations (e.g., the patient Medical Record Number was required to be unique and a date of death could not be entered for a date in the future). This approach further maximised validity at the point of data entry. Additional data validation checks were performed after data capture.

[Completeness and validity](#)

Findings on completeness and validity are reported in the publicly available report.

[Revisions](#)

Audit coordinators reviewed any discrepancies identified during data processing and either confirmed data were correct or revised it accordingly.

[Reliability](#)

There was a qualitative assessment of consistency and pattern of responses selected by audit coordinators across hospitals. This was feasible due to the small numbers of participants in this study. Options to further to continuously improve reliability were considered for the future and will be included in any future implementation plans.

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Timeliness and Punctuality

Timely data is collected within a reasonable agreed time-period after the activity that it measures. Punctuality refers to whether data are delivered or reported on the dates promised, advertised or announced.

Characteristic	Criteria	Assessment
Submission timeliness	Are procedures in place to ensure the effective and timely submission of data from providers?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Are agreements in place with data providers, which detail planned dates for submission of data?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Are follow-up procedures in place to ensure timely receipt of data, including procedures to address necessary improvements?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Processing timeliness	Are data processing activities regularly and systematically reviewed to improve timeliness and has an associated action plan been developed and implemented?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Release timeliness and punctuality	Has a data release policy and procedures document, which includes targets for timeliness, been developed, published and implemented? Does the policy describe revisions for key outputs that are subject to scheduled revisions?	Yes <input type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/> NA <input checked="" type="checkbox"/>
	Do planned releases occur within a specified period of time from the end of the reference period?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	In the event of delays affecting a planned release, are delays and causes documented and made available to data users?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
	Is an up-to-date release calendar publicly available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Additional comment

Timeliness and punctuality

Submission timeliness

Audit coordinators were advised to collect data as soon as possible following a patient's death so that their data remained up to date and accessible to them. It was agreed that where possible, data should be entered within two weeks of the patient's death.

Release timeliness and punctuality

As the opportunities for organ donation are so few, it was important to ODP to be able to access data in as close to real time as possible. Preliminary real-time reports were available through the PDA electronic data collection tool on basic report metrics. These reports were based on preliminary, i.e., not fully validated data. The approach to data analysis was developed during the development study meaning the hospitals had access to their data in a timely manner once the

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PDA pilot study in hospitals was complete. This final report provides validated information suitable for benchmarking in the future.

Coherence and Comparability

Coherent and comparable data is consistent over time and across providers and can be easily combined with other sources.

Characteristic	Criteria	Assessment
Standardisation	Is data collected in line with national and international standards and classifications?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
	Is a data dictionary available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	If yes, is it publicly available?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Coherence	Is aggregated data compared with other sources of data, for example, administrative data, that provide the same or similar information on the same phenomenon?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Are divergences identified and clearly explained to data users?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Historical comparability	Are historical changes/trends in the data documented and publicly available for data users?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
	Are any changes in the data/trends that can potentially have a significant impact on interpretation and analysis of data, that is, changes to key elements of the data set, documented and available for data users?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
	Is the impact of any identified differences in data across regions documented?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>

Additional comment

Coherence and comparability

Standardisation

A number of steps were taken to ensure that historical or regional comparability would be feasible in the future. This report provides the first baseline assessment of the opportunities for organ donation in six Irish hospitals. A careful review of terminology by ODP ensured that terminology is consistent with accepted contemporary clinical practice in organ donation. A placeholder is reserved for when the IHI becomes available. This will allow for the valuable combining of datasets in the future (For example Australia REFERENCE study). The Data Dictionary was presented and positively evaluated by the HSE Dataset Specification Management Process (DSMP, 2022, eHealth Ireland) group to promote comparability. The National SNOMED-CT release centre was consulted and informed of the definitions used at "Neurological Cause of Death". Further engagement with the SNOMED-CT release centre, to

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develop a PDA-specific reference will facilitate further standardisation and interoperability of the dataset.

Coherence

The Irish National ICU Audit collects some data around organ donation. PDA Audit Coordinators worked locally with INICUA dataset to ensure comparability around the appropriate data elements in both datasets.

Accessibility and Clarity

Data are easily obtainable and clearly presented in a way that can be understood.

Characteristic	Criteria	Assessment
Accessibility	Are data available to users in a form that facilitates proper interpretation and meaningful comparisons?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
	Is ICT effectively used to disseminate data and information?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Interpretability	Are supporting documents, for example, metadata, publicly available to facilitate clarity of interpretation for data users?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Partially <input type="checkbox"/>
	Does a revision policy exist which covers all data and is it available to data users?	Yes <input type="checkbox"/> No <input type="checkbox"/> Partially <input checked="" type="checkbox"/>

Additional comment

Accessibility and clarity

Accessibility

Report metrics were co-developed with ODP following a review of international evidence and local and international guidelines. A simple, standardized approach was developed for the presentation of reports. It was intended:

- To illustrate of the complexity of patient care processes
- Reflect the movement of patients across organ donation pathways
- Clearly demonstrate how the objectives of the audit are met
- Potentially be used for benchmarking in the future.

Interpretability

A complete data dictionary is available publicly.

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Data Quality

Improvement plan

Improvement plans for timeframe of this Data Quality statement

Driver	Improvement action	Lead	Due by
Rationale for improvement, Should reference data quality dimension	Should be action orientated	NOCA lead	Expected completion date
Maintain ongoing relevance of the dataset based on learnings from the PDA prior to full implementation	Implement and test changes to the dataset and corresponding filters and metrics during additional data collection	Maria Kehoe Audit Development Manager	February 2024
Assess the reliability of audit coordinators in selecting appropriate response options for questions.	Include an assessment of reliability in national implementation	Maria Kehoe Audit Development Manager	In national implementation
Further engagement with the SNOMED-CT release centre, to develop a PDA-specific reference will facilitate further standardisation and interoperability of the dataset.	Engagement with the SNOMED-CT release centre in national implementation.	Maria Kehoe Audit Development Manager	In national implementation

Reference

Health Information and Quality Authority (2018) Data Quality Assessment Tool for health and social care. Available from: <https://www.hiqa.ie/reports-and-publications/health-information/guidance-data-quality-framework-health-and-social-care> [Accessed on: 31st August, 2021]