

TRUST DATA QUALITY ASSURANCE COMBINED POLICY AND FRAMEWORK

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	Data Quality Framework V1.1	October 2022	Sarah Morgan	New Framework to detail Data Quality Assurance at UHDB

Intended Recipients: All staff responsible for the collection, reporting and use of data throughout the Trust.

Training and Dissemination: Via the Trust intranet and internally by the Data Quality Improvement Leads.

To be read in conjunction with: Records Management Policy; Information Security Policy, Data Protection Act, Information Governance Policy, Data Protection and dealing with Confidential Information Policy. Trust Policy for Information Technology Security.

In consultation with and Date:

Executive Chief Digital Information Officer – September 2023Business Intelligence Senior Management Team Meeting – regular discussion

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TRUST POLICY FOR DATA QUALITY

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1. Introduction

University Hospitals of Derby and Burton NHS Foundation Trust recognises the importance of reliable information as a fundamental requirement for the prompt and effective treatment of patients.

The Data Quality Maturity Index (DQMI) which is published by NHS England is intended to highlight the importance of data quality in the NHS. It provides the Trust with timely and transparent information about its data quality. The DQMI is based on completeness and validity of core data items.

Data quality is crucial, and the availability of complete, accurate, relevant and timely data is paramount to supporting patient care, monitoring targets, and management of services for healthcare planning and delivery.

The introduction of new/updated electronic systems carries the same requirements and processes. The Data Quality Policy needs to be taken into consideration during the implementation of new systems, or updates to systems.

The main emphasis of this policy is on patient information, and the patient administration systems across all sites; it also covers all other computer systems within the Trust that holds patient identifiable information.

2. Purpose and Outcomes

University Hospitals of Derby and Burton NHS Foundation Trust has a legal duty to ensure that the data it records is timely, accurate and up to date, in line with the fourth data protection principle which says

'Personal data shall be kept accurate and, where necessary, kept up to date.'

To ensure compliance with data quality aspects of the Health and Social Care Act 2012, and for the Trust to play its part in providing good quality data for delivering safe care to patients and for reporting requirements.

To ensure that the Trust remains compliant with the Care Act 2014 that was brought into place following the Francis Inquiry. It is now a criminal offence to supply, publish or make available certain types of information that is either false or misleading, where that information is required to comply with statutory or other legal obligation.

To ensure that University Hospitals of Derby and Burton NHS Foundation Trust remains committed to the achievement and maintenance of information quality assurance across all data groups and to the underlying principles set out in the supporting documentation.

To improve engagement between administrative and clinical staff to ensure consistent ways of working are agreed.

To be transparent, open and honest with publishing Trust reports in relation to data quality.

3. Definitions Used.

Abbreviation	Definition
DQ	Data Quality
DQMI	Data Quality Maturity Index
IG	Information Governance
DQIL	Data Quality Improvement Lead
DHDQ	Deputy Head of Data Quality
SUS	Secondary User Service
PAS	Patient Administration System
SCR	Summary Care Record
IGCSDR	Information Governance Cybersecurity and Disaster
	Recovery Group
IP	Inpatient
OP	Outpatient
HES	Hospital Episode Statistics
PAF	Patient Access Forum
DDG	Digital Delivery Group
TIGG	Trust Information Governance Group

4. Key Responsibilities/Duties

4.1 Chief Information Officer / Senior Information Risk Officer.

Responsibility for the strategic management of data quality in the Trust.

4.2 Assistant Director of Data Science, Intelligent Automation, HR Analytics, Data Quality and Data Corrections

Responsibility for the overall direction of data quality improvements in conjunction with the wider agenda of data science and robotic process automation projects.

4.3 Deputy Head of Data Quality

Responsibility for ensuring that Information Standard Notices and any other statutory data requirements are actioned by the appropriate Department. To lead the Data Quality team in order to support all operational managers, users, and developers in improving data quality.

4.4 Information Governance Cybersecurity and Disaster Recovery Group (IGCSDR)

Responsible for monitoring the effectiveness of the policy.

Patient Access Forum (PAF)

Regular updates of data quality issues presented at the meeting to enable an agreed action plan to be put in place

Digital Delivery Group (DDG)

Data quality system issues presented at this group with agreed actions in place where possible or risks identified and monitored where necessary, depending on the severity of the issue.

4.5 Managers

Managers at all levels have a responsibility to ensure staff for whom they are responsible adhere to this policy. They are also responsible for ensuring staff are kept updated regarding any changes in this policy.

4.6 All Trust Staff

Data quality is the responsibility of all staff – not just information specialists and managers. All staff who record patient information whether on paper or by electronic means have a responsibility to take care and ensure that the data is accurate, as complete as possible and up to date. The policy applies to all full-time and part time employees of the Trust, non-executive directors, flexible staffing, students/trainees and secondees.

4.7 Business Intelligence Team

It is the responsibility of the business intelligence team to highlight any data quality issues they encounter to the Data Quality team for investigation.

4.8 Information Asset Owner (IAOs)

IAOs are responsible for reviewing arrangements for assuring the quality of the data that is entered into their asset and detail any concerns they have in relation to data quality.

5. Implementing the Policy for Data Quality

5.1 Data Quality Principles

Completeness

In line with the Data Quality Framework, every effort will be made to ensure that data in a record is complete. It is required that all mandatory data items within a dataset are populated. Use of default codes will only be permitted where appropriate. If it is necessary to bypass a data item in order to progress the delivery of care such an event will be notified to the appropriate authority immediately for corrective action.

Accuracy

All data recorded must accurately reflect the actual state that is being described. Every opportunity must be taken to check demographic details to avoid misidentification or correspondence being misdirected.

Relevance

Data will be captured for specific purposes only. This entails a regular review of Key Performance Indicators to reflect changing demands and new national initiatives.

Accessible

Data will be available, or easily and efficiently retrievable. UHDB have various means by which data and information can be accessed, for example, the Business Intelligence Portal and its associated dashboards as well as the Luna Data Quality Dashboard with embedded education videos.

Timeliness

Data will be captured as close to the patient and as timely as possible in order to reduce errors. For example, the patient's case notes/electronic case notes will be used as the source document for clinical coding, to capture a comprehensive record of the patient's condition and treatment.

The timely recording of data is essential to the efficient and effective delivery of care. Data needs to be present at the time that processes require it. Staff must be aware of relevant deadlines.

5.2 Controls Assurance

Data quality will be subject to internal control processes within the Trust and through external scrutiny.

Internal Controls

- All patient information systems and processes will have routines developed and designed to systematically identify errors and poor data quality.
- Reports highlighting data quality issues intended for self-service will be monitored by the Data
 Quality Improvement Leads and non-compliance and lack of improvement will be escalated to line
 management of report users.
- Where appropriate, data quality reports will be generated monthly/weekly via Data Quality Improvement Leads. They will be reviewed regularly and will make recommendations regarding the improvement of data quality.
- Data quality reports will be routinely fed back to operational managers with advice regarding any corrective action necessary.
- Audit of processes, data and patient documentation will be undertaken by the Data Quality Improvement Leads on a rolling basis as part of the requirements of the Data Security and Protection Tool Kit. Recommendations for improvements, education and reports for monitoring will be put in place.

External Controls

- Data quality reports from SUS
- HES CDS data quality indicators
- Queries from service users
- Audit of patient records and data quality by external auditors such as the Audit Commission.

Communication of patient information to non-NHS organisations is subject to protection according to the Trust's Information Security Policy, Caldicott Guardianship and Data Protection Act requirements.

Monitoring Compliance and Effectiveness

Monitoring Requirement:	The Data Security and Protection Toolkit comprises of several requirements that require monitoring to take place: Data quality Clinical coding audits Dashboard monitoring
Monitoring Method:	Internal audits will be undertaken on data quality and clinical coding. Information will be summarised in a report. Dashboard data provided by the information centre will be analysed and a summary will be provided of salient points.
Report Prepared by:	Deputy Head of Data Quality
Monitoring Report shared to:	Information Governance Cybersecurity and Disaster Recovery Group (IGCSDR)
Frequency of Report	Annually

7. <u>Escalation</u>

Escalation of data quality issues is covered in the Data Quality Framework.

8. <u>References</u>

Data Protection Act (1998): Guidance manual and right of access.
Caldicott Guardianship Principles
Freedom of Information Act
Health and Social Care Act 2012
Care Act 2014



Data Quality (DQ) Assurance Framework

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1. Introduction

- 1.1 A Data Quality (DQ) Framework is a means of visibly formalising University Hospitals of Derby and Burton Foundation Trust's (UHDB) approach to data quality in terms of assurance for data capture, accuracy, reporting and use of information.
- 1.2 The Framework encompasses the Data Quality Policy, which is included in Appendix 3.
- 1.3 A vital pre-requisite to robust governance and effective service delivery is the availability of high-quality data across all areas of the organisation. The organisation requires high quality data to support a number of business objectives, including safe and effective delivery of care and efficient operational service models.
- 1.4 The health and care system is an information-rich, integrated and highly complex environment. The importance of using high quality data on which to make informed decisions about patient treatment pathways, allocation of resources and strategic direction is paramount. All staff and patients are responsible for providing accurate, high-quality data and in return should expect access to quality information.

2. Purpose and Scope

- 2.1 The purpose of the DQ Framework is to ensure UHDB can systematically control, assess, monitor, evaluate, educate on and improve data quality, which is a fundamental requirement for the delivery of safe and reliable healthcare services. It is aligned to the existing Data Quality support offering and Policy.
- 2.2 This Framework is designed to enable users of the Trust's data and information to be better informed about the Trust's approach to data quality. For data quality to be considered everyone's role and responsibility and embedded as part of organisational culture it is essential that staff are aware of the relevance of data and what it represents, how information is derived and compiled, and the technical processing methods involved. An increased state of awareness brings individual confidence and trust in the use of data and information.
- 2.3 The DQ Framework applies to data used in all areas, by all staff and patients, for all services. It applies to all stages of the data and information lifecycle:
 - Identifying what we need to capture
 - How to record the data
 - Converting data to information
 - Monitoring for continuous improvement

3. Objectives

- 3.1 The framework will provide a foundation to:
 - Increase recognition and understanding of why data quality is important and the value of capturing high quality data in as near real time as possible.
 - Promote a proactive attitude to data quality and a 'right first time' approach to data capture thereby minimising risk to clinical care, accurately highlighting improvements and enabling

- reporting of performance against plans.
- Promote a culture whereby ownership of data quality is a shared responsibility, viewed as part of everyone's role, with a high level of commitment from staff that recognise how they can contribute to its improvement.
- Support the selection and implementation of appropriate Information Technology (IT) and Business Intelligence (BI) tools, and the data and software structure of the Trust.
- Enable an environment whereby staff are appropriately equipped with the right tools and training to drive improved data quality in their work area, with the ability to identify and correct data quality errors at source.
- Educate key stakeholders in the importance of high data quality and monitoring improvement as a Trust by
 - Establishing baselines and controls to enabling high data quality
 - Communicate how and why data quality issues occur and where help can be sought to correct and validate issues in a supportive way
 - o Identify and categorise data quality issues with full understanding of their root cause.
- Utilise appropriate governance and assurance mechanisms to ensure data quality.
- Promote and drive best practice, ensuring that, where possible, data collection is driven by information needs, captured once and used many times to minimise duplication of data input.

4. Data Quality Principles

4.1 Commitment to data quality

UHDB has a strong commitment to data quality with an approach that encourages responsibility across the organisation as a whole, for data to be accurate and fit for purpose.

The Trust utilises a standardised commitment to data quality improvements which encompasses the following characteristics. Investigation into these characteristics gives an understanding of how well the data can be used and applied for decision making, planning and patient care.

- Completeness: Every effort will be made to ensure that data in a record is complete. There are two aspects to completeness; the extent to which all of the expected attributes of the data are populated, for example, all mandatory data items within a dataset are complete, and the extent to which all of the records for the relevant population are provided. This is to ensure complete reporting and submission for national returns. UHDB have developed data quality reports for system users to access which highlight incomplete data so that this can be addressed in a timely manner in readiness for reports. The Data Quality Team also escalates any system constraints in relation to completeness for returns to systems suppliers via regular meetings with the Patient and Clinical Systems Teams.
- Accurate: All data recorded must accurately reflect the actual state that is being described. Any data that is inaccurately recorded could have serious repercussions for patient care. In addition, by capturing patient data accurately the Trust can make pertinent decisions around developing new services to fulfil the needs of the local community. UHDB carry out audits to check for inaccuracies in data recording and subsequent education and reporting is then implemented. In addition, we have reports available on various platforms for both the Data Quality Team and Business Units to access. The primary aim is to ensure data is 'right first time' with education playing a fundamental part in this, consequently the Data

Quality Team link in with other education resources within the Trust, for example the Digital Education and Training and the Referral to Treatment Education & Validation teams to ensure the principles of data quality underpins their training.

- **Relevant:** the extent to which the data is captured for the purposes for which it is utilised. This entails a regular review of Key Performance Indicators to reflect changing demands and new national initiatives.
- Accessible: The extent to which data is available, or easily and efficiently retrievable. UHDB
 have various means by which data and information can be accessed, for example, the
 Business Intelligence Portal and its associated dashboards as well as the Luna Data Quality
 Dashboard with embedded education videos.
- Timeliness: The time taken between the end of the data period and when the information can be produced and reviewed. UHDB demonstrate a commitment towards enabling data capture as close to the point of care as possible, enabling timely availability of information to influence the appropriate service or management decisions. Audits are carried out with a particular emphasis on checking timestamps against clinical notes etc. and the Data Quality Team actively discourage the recording of data retrospectively where avoidable. The Data Quality Team also have a suite of report which highlight areas where real time recording is not happening for key activities.

These characteristics are underpinned by the Data Quality offering which covers:

- Regular Audits
- Guidance and Education
- Provision of Support for New Systems/Services
- Data Validation

4.2 Effective data management and governance

- The Trust's Data Quality Policy is approved by the Trust Delivery Group and from an audit
 perspective the quality of data is governed by Information Governance Cybersecurity and
 Disaster Recovery (IGCSDR), on a bi-monthly basis using the Data Security and Protection
 Toolkit (DSPT).
- Data Quality is a monthly agenda item on the Trust Patient Access Forum so that any areas
 of concern or best practice can be raised. This forum is used to focus on key data quality
 issues so that Operational Managers can review processes and assist in implementing
 change and improvements.
- All staff have individual responsibility for ensuring appropriate data quality is created, maintained and improved for all data utilised, captured and stored in real time.
- Business as Usual (BAU) elements of managing data quality on a day to day/operational basis, such as, risk/escalation management, education and training, reporting and analysis are supported by Risk logs, Standard Operating Procedures (SOPs) and staff with expertise in those specific areas.
- A rolling programme of audit for data quality is in place, the outcomes of which are reported
 to the Business Unit management teams and other relevant forums. Recommendations
 for improvements from the audits are reported back to the relevant service areas and any
 education required is put in place. An annual report is submitted to the IGCSDR
 highlighting all audits and subsequent education and monitoring that has occurred
 throughout the year.
- Policies relevant to this Framework and those related (as required by the DSPT) are

highlighted in Appendix 2. Review, sign off and publication of these Policies to the Trust Intranet conform to standard Trust procedures. The Data Quality Policy is refreshed on an annual basis with sign off through IGCSDR. The Policy translates across all Framework components, setting out the; guiding principles, aims, roles and responsibilities of staff. The Senior Information Risk Officer (SIRO) and Caldicott Guardian have specific accountabilities, roles and responsibilities for data quality and receive appropriate training to carry out those roles (a key requirement of the DSPT).

4.3 Building data quality capability

- The Trust has a dedicated team which focuses on raising the importance of data quality through education, reporting and audits. The team encourages ownership of the quality of data amongst users of systems and Business Units by means of a self-service data quality dashboard.
- There are effective means of communicating data quality issues through representation of Data Quality staff in various meetings, such as the Patient Access Forum, Business Unit Meetings, the Counting and Coding Group and Administrative Forums. These can also be used to share best practice.

4.4 Focus on continuous improvement

- The Data Quality Team are involved in any service or system changes to ensure that staff are well educated in processes required, to avoid data quality issues arising as a result. A recent example is the roll out of the Patient Initiated Follow Up pathway.
- Indicators to measure data quality issues over time are monitored via the Luna dashboard and various other reporting means and process changes are put in place where necessary to facilitate improvements. Audits are carried out to determine where education should be prioritised with resulting action plans being implemented.

4.5 Knowledge of users and their needs

- The Data Quality team proactively engages with users to understand their priorities regarding activity recording. The recent pandemic resulting in changes to the way patient care is being delivered has increased the need for an even more robust approach to ensuring all data and activity is captured.
- Regular reports, monitoring of indicators and audits are used to prioritise education with regards to data quality improvements, so that a larger target audience and issue is addressed thus resulting in a greater impact.
- Communication with users regarding system or process changes happens frequently as does the highlighting of a downward trend in improvements.

4.6 Assessing quality throughout the data lifecycle

The Trust approach to the collection and assembly of data is in line with the characteristics;
 Complete, Accurate, Relevant, Accessible and Timely. Furthermore, the Business Intelligence Teams ensure through discussions regarding system capability and processes, that it is collected in a way that is usable in terms of required fields, formats and capability

- for submission and reporting.
- Indicators have been developed to identify duplicate and incomplete data with supporting education to guide users on how to rectify and prevent these errors in the future.
- The analysis and interpretation of data is carried out by the Business Intelligence Teams, supported by the Data Quality Team in terms of the sense checking of information against the data in the source systems. Errors or misinterpretation of data are identified so that reporting is accurate and meaningful. Source data is also audited against notes and letters to check for accuracy and completeness.
- The way in which data is shared or published is continually assessed in terms of accessibility and usage and improvements are made by the means of user-friendly dashboards, tailored to specific needs. Changes implemented are reviewed through ongoing monitoring of data trends to establish if improvements are being made.
- Data is archived as necessary according to usage requirements.

4.7 Communication of data effectively

- Data and/or information, including its purpose and meaning, is communicated to users through various means such as dashboard demonstration events, metadata.
- UHDB is transparent regarding data quality issues, highlighting these in various Trust forums/meetings as well as through indicators on dashboards and audit reports.
- Risks through poor quality data or inaccurate processes are escalated to Business Units for prompt action through good rapport between the Data Quality Team and Service Managers.

5. Data Quality Assurance and Escalation

The process outlining data quality assurance and escalation is detailed below and is also summarised in Appendix 2.

5.1 Executive Sponsorship

The purpose of Executive Sponsorship is to ensure that there is assurance of the quality of data at Board level. At UHDB the Executive Sponsor is the Executive Chief Digital Information Officer.

This has the benefit of portraying the importance of data quality throughout the Trust in the delivery of patient care. It provides confidence in the data for its use in decision making, service development and forward planning.

Executive Sponsorship should ensure that the subject of data quality is addressed by relevant forums/groups throughout the Trust which cover agendas such as information governance, improvement strategies, audit, patient access, administrative process changes etc.

5.2 Process

- UHDB Data Quality Assurance ensures that data items critical to mandatory reporting, planning, decision-making and access to patient care are subject to validation and that reporting of these items is accurate.
- This means that where validation cannot be carried out at the point of entry, that there are

processes in place to enable a secondary level, through sense checking and analysis of reports, as well as audits. This identifies areas where data items need improvement in terms of completeness and accuracy but also where reporting isn't necessarily providing the correct picture.

- Data quality reporting is integral to the organisation's wider information management processes through the self-service to reporting dashboards which highlight inaccuracies and incompleteness.
- Methods are in place to ensure reports are sense checked prior to publication in terms of:
 - o Criteria and exclusions being correct.
 - Data being extracted from the correct source/fields
 - Calculated fields being accurate
 - Assumptions have not been made, for example null data populated in background processing through incorrect logic
 - Activity changes are reflected in reports
 - o Conditional fields are accurate

5.3 People

- UHDB has a dedicated team responsible for the assurance and promotion of data quality, regarding improvement of accuracy and completion of data in the Trust's two main PAS. For other clinical systems there are staff with responsibility for data quality.
- The Trust also has a Data Corrections Team with responsibility for resolving duplicate and confused patient records, as well as other corrections to patient activity. The Digital Clinical Team ensure clinical data linked to confused records is corrected.

5.4 Systems Configuration

The Data Quality Team work closely with operational areas of the Trust to ensure that data
for any new services or developments can be captured correctly. This involves ensuring
systems are configured in a way that means data can be easily extracted and reported
upon.

- The Trust reviews Information Standards Notices (ISNs), Data Provision Notices (DPNs), Data Alliance Partnership Board notifications (DAPBs) on a regular basis. The Trust Business Intelligence Team undertake this to ensure data capture and reporting is amended to meet the requirements where appropriate.
- The Data Quality Team also identify required configuration changes to Systems Support Teams and external suppliers to ensure that metrics can be reported against and that national datasets are complete.

5.5 Measures

 The Trust has access to external national dashboards for data quality metrics, for example the ECDS, and consequently representatives from Business Intelligence meet with key staff to identify areas requiring improvement and a means of doing so, either through system configuration or operational process changes.

6. Appendices

Appendix 1 – List of relevant policies

Appendix 2 – Trust Data Quality Assurance and Escalation Process

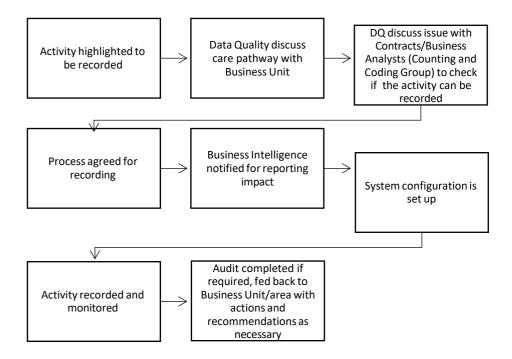
Appendix 3 - Relevant policies:

- Information Technology Asset Management Policy
- Information Governance Policy
- Data Quality Policy
- Management of NHS Records Policy
- Health Records Policy

Appendix 2 – Trust Data Quality Assurance and Escalation Process

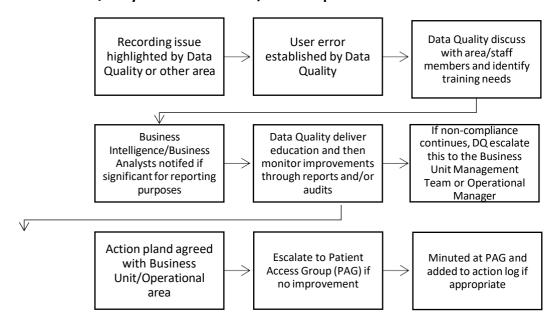
Data Quality has the following involvement in the recording of data for where services are being changed or new services are to be established. This provides assurance that the data will be recorded accurately and in a way that can be extracted for reporting purposes.

Recording for service changes/new services:

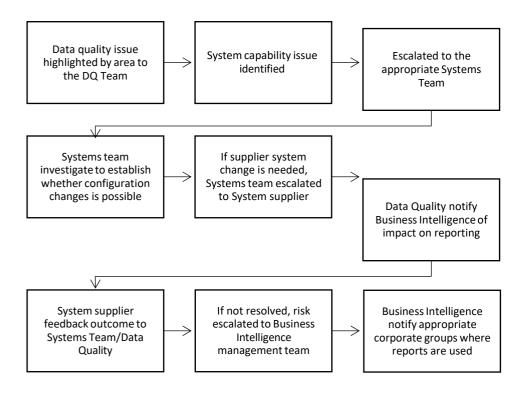


Data Quality has the following involvement in investigating issues linked to user error/non-compliance and system functionality. These processes ensure these issues are escalated as appropriate should the issues not be resolved.

Data Quality Issue - User error/non-compliance



Quality Issue – System Functionality:



Appendix 2 (Continued) - Trust Data Quality Assurance and Escalation Business Unit - Management Teams Framework Service Request Validation of data Communication of Dashboards/Reports Group audit results & agreeing action plans for improvements & **DQ** Toolbox Advising Business Analysis and sense checking of information to Units on activity Joint review of recording in terms clinical systems of system set up requests to verify ensure it is fit for quality data is achieved. and processes Education purpose and are reporting accurate. ✓ Improve Counting & BI Dashboards & **Processes** Development of Escalation of counting and coding issues to dashboards and reports **Coding Group** Reporting ✓ Audits Continuous for self-service to highlight data quality ensure activity is ✓ Networking issues to areas and accounted for in promote Trust-wide **Data Quality** ownership of data annual planning. ✓ Escalating quality. **Improvement** Patient Systems: Systems Users: Knowledge sharing regarding system Communicating service updates with a view to changes and data investigating impacts recording requirements Patient Systems & **System Users** DQ Group Presentation of data Sharing of best practice quality issues to in relation to highlight factors which addressing national requirements; DPNs, impact on equitable access to services ISNs, DAPBs

Patient Access

Group (PAG)

DQ Regional Group