Trust Policy	NHS University Hospitals Plymouth NHS Trust

Global Location Number (GLN) Policy

Issue Date	Review Date	Version
September 2019	September 2020	1.3

Purpose

This policy is to inform staff about the ongoing management of a Global Location Number (GLN) to uniquely identify the Trust's physical spaces, as part of the Trust's adoption of GS1 standards.

Who should read this document?

All staff
Site Services Staff – for the purpose of managing the local GLN registry
Procurement Staff – for the purpose of managing the local GLN registry

Key Messages

All **physical** locations (created in Micad, the Trust's property register) in the Trust are to be issued a unique GLN which will be stored in the local registry.

All **functional** GLNs for the Trust are to be issued a unique GLN which will be created and stored in the local registry.

A GLN will be used when referencing the location (either physical or functional) for product recall, inventory management & purchase to pay.

Core accountabilities

Owner	Stuart Windsor
Review	GLN Project Board
Ratification	Nick Thomas, Deputy Chief Executive
Dissemination (Raising Awareness)	Scan4Safety Project Manager (GLN) & Quality Systems Technician
Compliance	GLN Project Board / Associate Director of Planning Facilities and Estates

Links to other policies and procedures

GLN SOPs:
Labelling, allocation and management of physical GLNs v1.2
Labelling, allocation and management of functional GLNs v1.1

Version History

1	May 2016	Approved by GLN Project Board and Ratified by Deputy Chief Executive
1.1	January 2017	Approved by GLN Project Board and Ratified by Deputy Chief Executive
1.2	February 2018	Approved by GLN Project Board and Ratified by Deputy Chief Executive
1.3	September 2019	Approved by GLN Project Board and Ratified by Deputy Chief Executive

The Trust is committed to creating a fully inclusive and accessible service. Making equality and diversity an integral part of the business will enable us to enhance the services we deliver and

better meet the needs of patients and staff. We will treat people with dignity and respect, promote equality and diversity and eliminate all forms of discrimination, regardless of (but not limited to) age, disability, gender reassignment, race, religion or belief, sex, sexual orientation, marriage/civil partnership and pregnancy/maternity.

An electronic version of this document is available on Trust Documents. Larger text, Braille and Audio versions can be made available upon request.

Contents

1 Introduction

The Trust has adopted GS1 standards as this is a mandatory requirement as stated in the Department of Health's eProcurement Strategy. As one of the core enablers of the Scan4Safety Programme, the introduction of the Global Location Number (GLN) enables the unique and unambiguous identification of all physical locations within the Trust.

This document sets out the Trust's policy when allocating (GLN reference assigned and barcode affixed) a GLN.

The interim Carter review states that the introduction of GS1 standards will allow every NHS hospital in England to save an average of £3million each year, while improving patient care. In his final review, Lord Carter continued to highlight the value GS1 standards can bring to the NHS and referenced GS1 standards implementation specifically in the report.

The GLNs has enabled the Trust to benefit from the following use cases:

Primary

Product Recall - Track products to a physical location / a patient.

Inventory Management - The same unique numbers are also assigned to suppliers, enabling the efficient and accurate delivery of goods and services.

Purchase to Pay – purchase orders and invoices can be transacted electronically.

Secondary

Track expensive medical equipment throughout the Trust to improve equipment management and reduce associated costs. Other secondary uses could be identified after initial roll out.

2 Purpose

A unique number (GLN) shall be assigned to each physical or functional location within the Trust – enabling locations to be linked to events, with certainty and in real-time. For example, every event along the patient pathway can be recorded against the location (room or department) where it happens – enabling better understanding of patient care, improved infection control and better outcomes. Implants can be accurately tracked – enabling efficient and effective product recalls. In addition to physical and functional GLNs, there are legal and digital GLNs but these are not currently in scope.

The use of GLNs enable information to be collected and stored where an event occurs – whether this event involves the dispensing of patient care, the use of medical equipment or the ordering and delivery of goods.

GS1 Standards are a requirement in the following frameworks/strategies:

Department of Health's eProcurement strategy	mandates the use of GS1 standards in every NHS Acute Trust – to increase efficiencies and significantly improve the quality and safety of care.
Personalised Health and Care 2020 Framework	enable England to become a global leader in the provision of digital health and care services that improve patient safety and transparency.
Carter Report	reinforces this and calls for the NHS to undergo a cultural change in order to bring about major efficiencies, or risk further losses.

See section 10 for details.

The Trust's local registry will be the master repository for all GLNs and will be used as the data source for publication to the national registry (LocationManager). The Trust's property register (Micad) will create and maintain all physical GLNs (relating to CAD diagrams, Levels 2 to 5) prior to publishing this data to the Trust's local registry. All functional GLNs will be created and maintained in the Trust's local registry. The allocation and management of GLNs will be restricted to the Compliance Team within Site Services and the Procurement team within Finance.

3	Definitions

CAD – Computer Aided Design software used to create precision drawings of floor plans.

Department of Health (DH) - DH is a ministerial department, supported by 15 arm's length bodies and a number of other agencies and public bodies.

Functional GLN – A 'function' is an organisational subdivision or department based on the specific tasks being performed, as defined by the organisation. A function must be allocated its own GLN when its business purpose is different from other functions or more specific than other functions, and there is a business need to identify the function across organisations.

GLN Extension - A GLN extension can be used to identify a physical sub-location (a specific space within a physical location).

GLN Registry – A central location for storage of all GLNs.

Global Location Number (GLN) - A Global Location Number (GLN) is a unique number that is assigned to locations to enable them to be identified uniquely worldwide. These can be physical, functional, digital or legal.

Global Standards 1 (GS1) – GS1 is a not-for-profit, international organization that develops and maintains standards for supply and demand chains across multiple sectors.

Head of Supply Chain and E-procurement – working within the Procurement Department, Norwich Union Building.

Micad – the Trust's property register.

Physical GLN - A physical location is a site (an area, a structure or group of structures) or an area within a site where something was, is or will be located. A physical location must be allocated its own GLN when its access address is different from other physical locations and there is a business need to identify the physical location across organisations.

Quality Systems Technician (**QST**) working within the Compliance Team, Site Services.

Scan4Safety Programme – Following successful DH funding this programme is delivering the capability required to fulfil DH mandatory requirements. Please see web links in the Reference section for further details.

Standard Operating Procedure (SOP) - a document which presents the recognised process or procedure which must be followed in order to minimise health and safety and operational risk.

4	Duties

The **Planning Team within Site Services** will be responsible for the management and upkeep of the local GLN registry and applying, maintaining and replacing GLN barcode labels (linear) to all physical level 5 locations (see 5.3).

The **Head of Supply Chain and E-procurement** will be responsible for the management and upkeep of the local GLN registry.

All staff should be aware of the requirements and reasons for the use of GLNs and be aware of their responsibilities regarding reporting faults with printed labels and the process of requesting physical and functional GLNs.

5	Key elements (determined from guidance, templates, exemplars etc)

5.1   Roles & Responsibilities

Associate Director of Planning Facilities and Estates.

- approve the ongoing GLN structure to be allocated and labelled.
- provide guidance on the structure and governance

Quality Systems Technician (QST, Planning Team, Site Services)

- overall responsibility for assigning and maintaining physical GLNs within Micad and updating the local registry.
- responsible for editing GLN content (to be determined by the national registry) within the local registry.
- assigning public/private roles within the local GLN registry following guidance from system administrators.
- printing, verifying, maintaining and replacing GLN barcoded labels (level 5).
- perform monthly audits to ensure all physical spaces are assigned and labelled with a GLN.
- review of existing location information has been performed and ensure all locations are valid.
- inform relevant system managers, clinical safety officer and quality and assurance of creation / changes to local GLN registry
- escalate non-compliance with this policy.

Head of Supply Chain and E-procurement

- overall responsibility for assigning functional GLNs in the local registry.
- responsible for editing GLN content (to be determined by the national registry) within the local registry.
- assigning public/private roles within the local GLN registry following guidance from system administrators.
- inform relevant system managers, clinical safety officer and quality and assurance of creation / changes to local GLN registry
- escalate non-compliance with this policy

System Administrators

- update relevant systems eg. Procurement (Oracle), Inventory & Catalogue management (Genesis, GHX Nexus & Ascribe) when GLN hierarchy information changes (as informed by QST and Head of Supply Chain and E-procurement).
- inform the QST and Head of Supply Chain and E-procurement of the sensitivity of information when sharing information with suppliers and other Trusts (eg. public / private)

Clinical Safety Officer
- notified of any GLN changes by the QST and Head of Supply Chain and E-procurement
- review impact of change on Trust clinical practices

Quality and Assurance
- notified of any GLN changes by the QST and Head of Supply Chain and E-procurement
- review impact of change on Trust Quality & Assurance practices

5.2 Structure

GLN structure

The GLN data structure is a 13-digit number comprised of three basic segments:
■ GS1 Company Prefix: The globally unique number assigned to a company by GS1 Member Organisations. The GS1 Company Prefix is part of the data structure for all GS1 Identifiers (e.g., GLN, GTIN, etc.) and provides the foundation for generating all GS1 Identification keys.
■ Location Reference: A number assigned by the organisation to which the GS1 Company Prefix has been assigned to uniquely identify a location or the organisation itself (e.g. a GLN assigned to the corporate entity).
■ Check Digit: A modulo-10 number calculated across the preceding digits to ensure data integrity.

Data format for a GLN
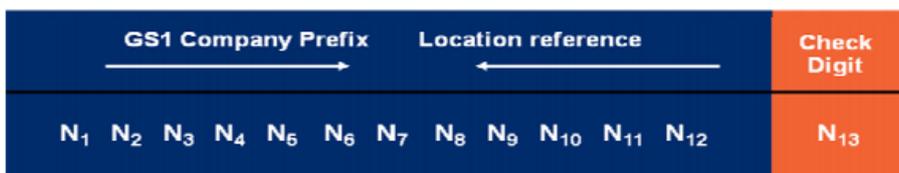
GLN extension structure

The GLN extension component field is alphanumeric and may include all characters contained in Figure 7.11-1 (https://www.gs1uk.org/~/media/documents/marketing-documents/gs1_general_specifications.pdf?la=en).

Format of the element string
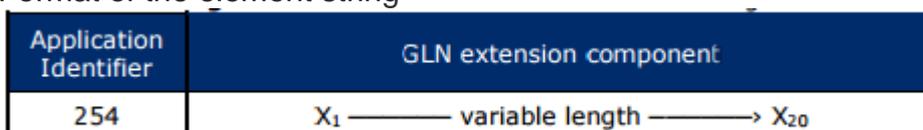
AI (254), the Application Identifier (254) indicates that the data field contains an extension component of a Global Location Number (GLN). The use of AI (254) is optional, but when

used it must appear in conjunction with AI (414), identification of a physical location. The GS1 Company Prefix owner determines the extension component. Once determined, it is unchanged for the life of the associated GLN.

The data transmitted from the reader means that the element string denoting an extension component of a GLN has been captured. As this element string is an attribute of a physical location, it must be processed together with the GLN, AI (414), to which it relates. When indicating this element string in the non-HRI text section of a barcode label, the following data title SHOULD be used.

The GLN extension may be used in transactions only where there is mutual agreement between all trading partners involved and where the transactional standard being used supports the GLN extension. It is therefore recommended that the GLN without the extension component be used in transactions.
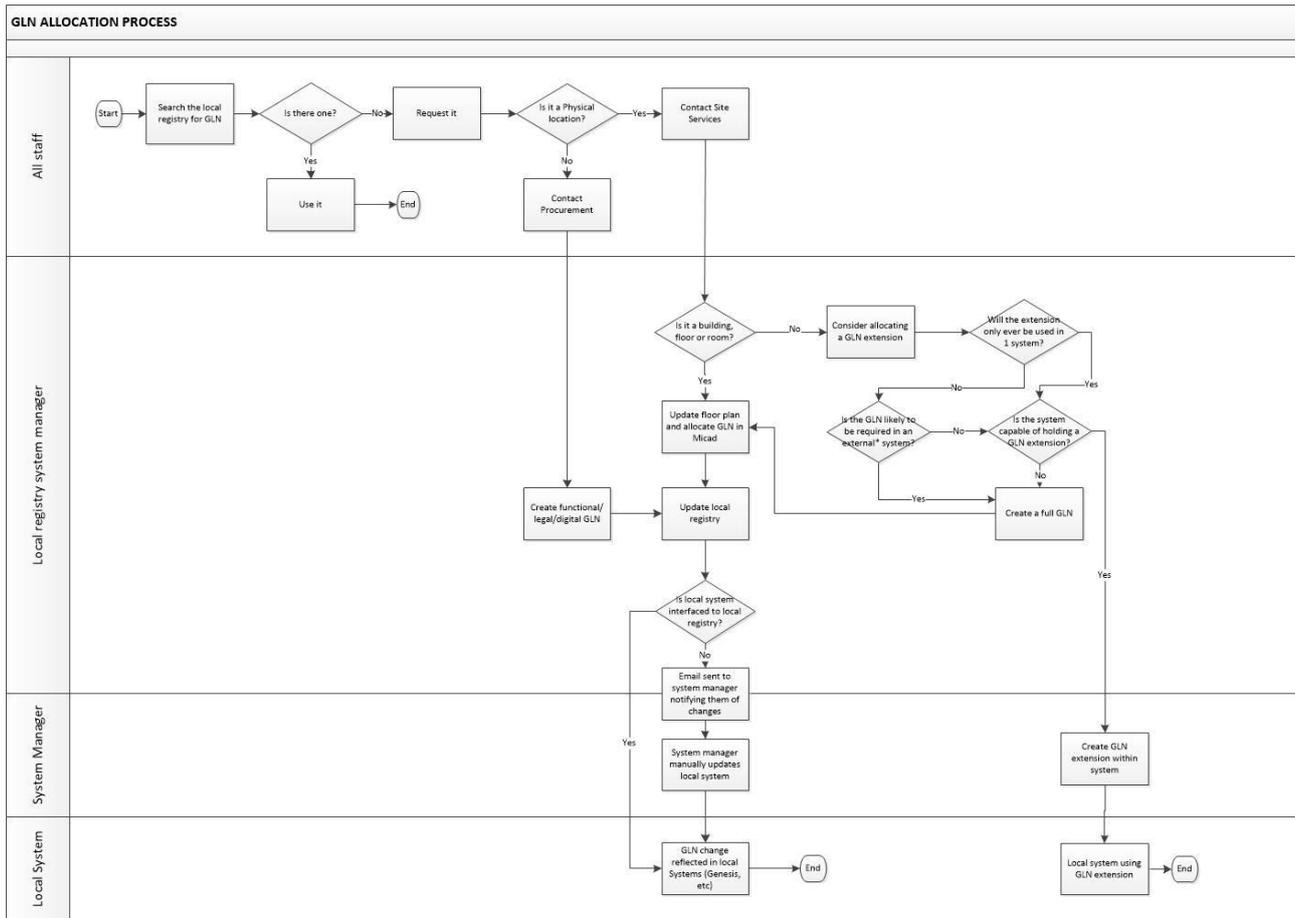
5.3   Allocating GLNs

All physical locations in a Trust that need to be separately identified should be identified with a GS1 GLN to the five levels mentioned in the table below, starting at Trust level:

Level One	*A GLN identifying the Trust.*
Level Two	*Any entity reporting directly to the Trust. This will include individual hospitals.*
Level Three	*Other buildings and/or subordinate departments of Level 2. This could be A&E, Pharmacy or Outpatients etc.*
Level Four	*This applies to floors within buildings.*
Level Five	*This applies to rooms, corridors and other discrete space that need to be identified. This could include ducts and riser cupboards*

Physical GLNs (Levels 2 to 5 above related to CAD diagrams) will be created and maintained in Micad and will be the responsibility of the Quality Systems Technician, Planning Team, Site Services as detailed in the SOP for labelling, allocating and management of GLNs.

All GLNs (including those created in Micad) will be held in the local registry and will be the responsibility of the Quality Systems Manager and Head of Supply Chain and E-procurement.

GLN extensions will be held in the individual systems in which they are created. The process detailed below, outlines when GLNs and GLN extensions should be used. Where a GLN extension is not viable, a full GLN will be created in Micad and stored within the local registry.

GLN ALLOCATION PROCESS

Swimlane: All staff

Start → Search the local registry for GLN → Is there one?
- Yes → Use it → End
- No → Request it → Is it a Physical location?
  - Yes → Contact Site Services
  - No → Contact Procurement

Swimlane: Local registry system manager

Is it a building, floor or room?
- No → Consider allocating a GLN extension → Will the extension only ever be used in 1 system?
  - Yes → Is the system capable of holding a GLN extension?
    - No → Create a full GLN
    - Yes → Create GLN extension within system
  - No → Is the GLN likely to be required in an external* system?
    - Yes → Create a full GLN
    - No → (Is the system capable of holding a GLN extension?)
- Yes → Update floor plan and allocate GLN in Micad

Create functional/legal/digital GLN → Update local registry

Update floor plan and allocate GLN in Micad → Update local registry

Is local system interfaced to local registry?
- No → Email sent to system manager notifying them of changes
- Yes → GLN change reflected in local Systems (Genesis, etc) → End

Swimlane: System Manager

System manager manually updates local system

Create GLN extension within system

Swimlane: Local System

GLN change reflected in local Systems (Genesis, etc) → End

Local system using GLN extension → End

*External system = system of which the Trust is unable to alter the database schema

GLN allocation process

5.4 Labelling

Any machine readable labelling of physical locations such as rooms, cupboards or cabinets will be implemented using a GLN in a GS1 bar code.

Any labels for level 5 physical GLNs will have a label printed, affixed and verified as detailed in the SOP for labelling, allocating and management of GLNs. The backing label colour and design will distinguish the type of GLN, eg. room, collection point, bed bay, etc.

The label will be affixed to the wall within the defined space and will be verified to ensure compliance. The label will consist of a linear (GS1-128) barcode including the human readable element.

The label will be made of polyester which will withstand the cleaning products and regime used within the Trust.

5.5 GLN registry

All level 2 to 5 physical GLNS (related to CAD diagrams) will be created and managed in Micad. This data will then be published to the local Trust registry which will be the master data repository for all GLNs.

The local Trust registry will hold all GLNs, along with their corresponding 'attributes' eg. location description, address, contact information and privacy settings and will be used to publish data to the national GLN registry (Location Manager).

The Trust is using GLNs in its inventory systems, prior to other identified systems. A manual process for updating these systems will need to be implemented prior to a technical (automated) solution being identified. This is detailed in the supporting SOP for labelling, allocating and management of GLNs.

The system topography is shown below:
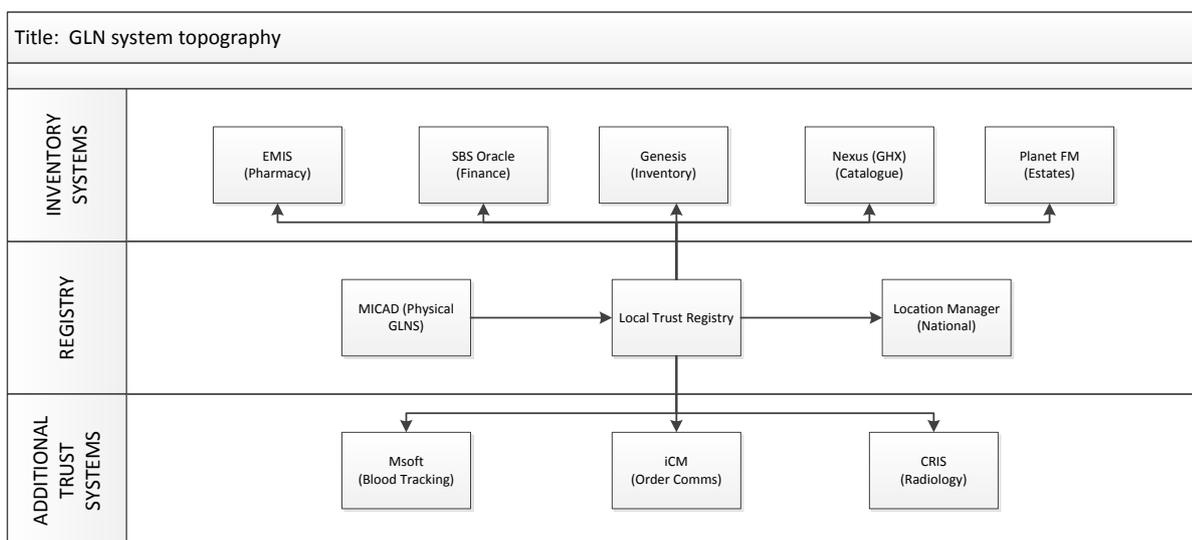
GLN system topography

6   Overall Responsibility for the Document

The implementation of this policy will be the responsibility of the Associate Director of Planning Facilities and Estates

7   Consultation and Ratification

The design and process of review and revision of this policy will comply with The Development and Management of Trust Wide Documents.

The review period for this document is set as default of 12 months from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be approved by the GLN Project Board / Associate Director of Planning Facilities and Estates and ratified by the Deputy Chief Executive.

Non-significant amendments to this document may be made, under delegated authority from the Deputy Chief Executive, by the nominated author. These must be ratified by the Deputy Chief Executive and should be reported, retrospectively, to the approving GLN Project Board / Associate Director of Planning.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes

8	Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Trust Wide Documents.

The document author(s) will be responsible for agreeing the training requirements associated with the newly ratified document with the named Executive Director and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

9	Monitoring Compliance and Effectiveness

The effectiveness of this policy will be monitored by monthly audits carried will be carried out by the QST and to ensure all spaces within the Micad system have an associated GLN. Where this is found not to be the case the QST will escalate to the Associate Director of Planning Facilities and Estates.

10	References and Associated Documentation

Reference websites:

Trust website: http://staffnet.plymouth.nhs.uk/departments/technet(imt)/scan4safety.aspx

National website: http://www.scan4safety.nhs.uk/

GS1 UK: https://www.gs1uk.org/

Key frameworks/strategies:

Department of Health's eProcurement strategy

Personalised Health and Care 2020 Framework

Interim Carter Review and the Final Review

A full list of GS1 standards can be obtained here: http://www.gs1.org/standards

Standards relevant to GLN are as follows:-

GS1 General Specifications:

http://www.gs1.org/docs/barcodes/GS1_General_Specifications.pdf

GS1 GLN Allocation Rules (printable version) Standard:

http://www.gs1.org/docs/barcodes/GS1_GLN_Allocation_Rules.pdf

GSI Executive Summary:

http://www.gs1.org/docs/idkeys/GS1_GLN_Executive_Summary.pdf

NHS eProcurement strategy

https://www.gov.uk/government/publications/nhs-e-procurement-strategy

GS1 & PEPPOL - Getting ready document

https://nhscpe.kahootz.com/connect.ti/GS1.adoption/view?objectId=13700325&exp=e1

Dissemination Plan and Review Checklist	Appendix 1

Dissemination Plan	
Document Title	Global Location Number (GLN) Policy
Date Finalised	

Previous Documents	
Action to retrieve old copies	

Dissemination Plan

Recipient(s)	When	How	Responsibility
All Trust staff		Vital Signs	Information Governance Team

Review Checklist

Title	Is the title clear and unambiguous?	Y
	Is it clear whether the document is a policy, procedure, protocol, framework, APN or SOP?	Y
	Does the style & format comply?	Y
Rationale	Are reasons for development of the document stated?	Y
Development Process	Is the method described in brief?	Y
	Are people involved in the development identified?	Y
	Has a reasonable attempt has been made to ensure relevant expertise has been used?	Y
	Is there evidence of consultation with stakeholders and users?	Y
Content	Is the objective of the document clear?	Y
	Is the target population clear and unambiguous?	Y
	Are the intended outcomes described?	Y
	Are the statements clear and unambiguous?	Y
Evidence Base	Is the type of evidence to support the document identified explicitly?	Y
	Are key references cited and in full?	Y
	Are supporting documents referenced?	Y
Approval	Does the document identify which committee/group will review it?	Y
	If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?	N/A
	Does the document identify which Executive Director will ratify it?	Y
Dissemination & Implementation	Is there an outline/plan to identify how this will be done?	Y
	Does the plan include the necessary training/support to ensure compliance?	Y
Document Control	Does the document identify where it will be held?	Y
	Have archiving arrangements for superseded documents been addressed?	Y
Monitoring Compliance & Effectiveness	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Y
	Is there a plan to review or audit compliance with the document?	Y
Review Date	Is the review date identified?	Y
	Is the frequency of review identified? If so is it acceptable?	Y
Overall Responsibility	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Y

Equalities and Human Rights Impact Assessment	Appendix 2

Core Information

Date	N/A
Title	N/A
What are the aims, objectives & projected outcomes?	N/A

Scope of the assessment

Collecting data

Race	
Religion	
Disability	
Sex	
Gender Identity	
Sexual Orientation	
Age	
Socio-Economic	
Human Rights	
What are the overall trends/patterns in the above data?	
Specific issues and data gaps that may need to be addressed through consultation or further research	

Involving and consulting stakeholders	
Internal involvement and consultation	
External involvement and consultation	14

Impact Assessment	
Overall assessment and analysis of the evidence	

Action Plan

Action	Owner	Risks	Completion Date	Progress update