Quality in the healthcare environment





Ian Storrar

**Assistant Director Engineering and** 

**Assurance** 



# National Services Scotland

# Agenda

- 1. Engineering and Assurance Service (Ian Storrar)
- 2. Key Stage Review (Thomas Rodger)
- 3. Lessons learnt (George Reid)
- 4. Key stage review Monklands Replacement Project Carole Callaghan)
- 5. Key stage review Monklands Replacement Project (Laura Gilchrist)
- 6. Discussion









# **Engineering and Assurance Service**

## Ian Storrar

**Assistant Director Engineering and Assurance** 





# NHS Scotland Assure, Engineering

- What we do:-
  - Engineering support for NHS Boards
  - Support for Board IMT with ARHAI
  - Engineering guidance and research (with NHS SA Research team)
  - Engineering Authorising Engineers and SME
    - HV electrical
    - LV electrical
    - Ventilation
    - Water
  - IRIC investigations
    - Engage with Devolved Administration and various British and International Standard committees





## **NHS Scotland Assure, Assurance Service**

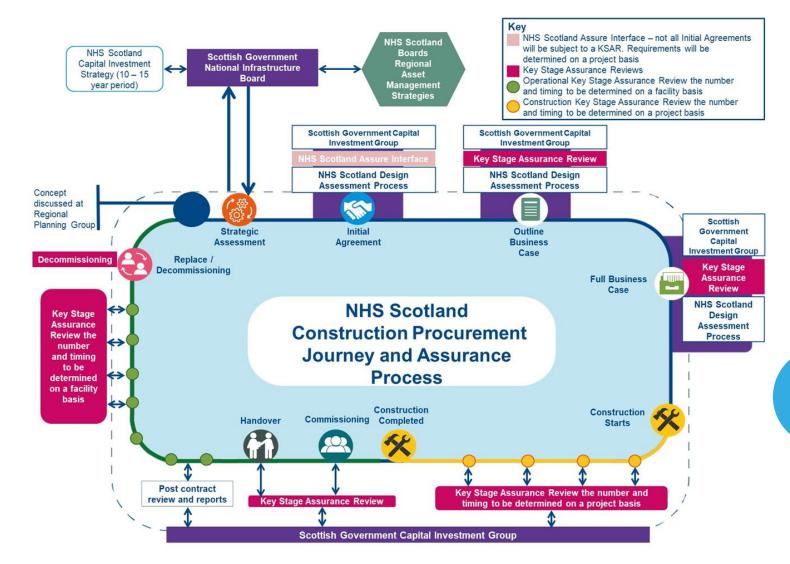
- DL(2021)14: NHS SCOTLAND ASSURE: QUALITY IN THE HEALTHCARE ENVIRONMENT
- Assurance service running for 18 months
- Number of projects = 54
- Number of KSAR = 38
- Lessons learned
- Presentations
- Templates



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# **NHS Scotland Assure, Assurance Service**









# **Key Stage Assurance Review**

**Thomas Rodger Head of Engineering** 





# NHS Scotland Assure – Compliance Not Inspection

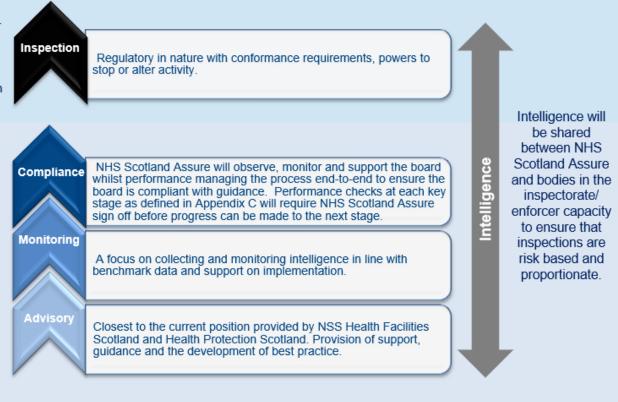
The NHS Scotland Assure – Assurance Service will not deliver an inspectorate role

NHS Scotland Assure will work to support HIS in their inspection role.

NHS Scotland Assure will **not** operate in an inspection or enforcer capacity. This will continue to be carried out by organisations such as HIS and HSE.

NHS Scotland Assure will operate in an advisory, assurance and compliance capacity, and will underpin inspection standards and processes.

This role will see NHS Scotland Assure working jointly with boards throughout these 3 levels, with approval of reports and action plans.

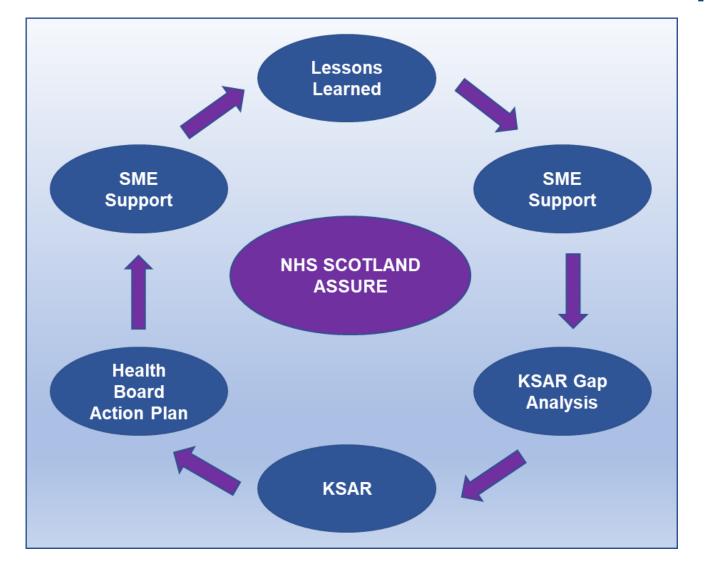








# NHS Scotland Assure – The KSAR Process and Support









## **NHS Scotland Assure – KSAR Process**

- Pre-KSAR support & engagement with health board
- KSAR workbooks provide guidance on the structure of the review and the areas of investigation to be addressed by the review team.
- Key topics for KSAR Water & Drainage, Ventilation, Electrical, Medical Gases, Fire. All underpinned by Infection Prevention Control & Project Governance
- Standard format for all reviews
  - Pre-KSAR Gap Analysis
  - "Review Phase"



Reporting

Health board "Action Plan"





# NHS Scotland Assure – KSAR Key Lessons Learned

- Project governance no "golden thread", inconsistent stakeholder engagement
- Derogations process lack of detail and mitigations
- Project risk register lack of detail, often generic
- Lack of detail in briefing documentation (BCRs not fully defined etc.)
- Lack of detail to support Net Zero strategy & associated engineering strategies







# NHS Scotland Assure – KSAR Key Lessons Learned

- Level of design not reflective of the stage the project is at risks being pushed into later stages
- Lack of consistent IPC input & resource challenges
- Resilience risk assessments not completed or reviewed by limited stakeholder groups. Lack of consideration to impact on clinical service – only impact to system
- Lack of detail to support fire strategy principals
- Lack of governance on Contractor Design Packages









My (Jargon free) KSAR Experience



George Reid Head of Projects Monklands Replacement Project





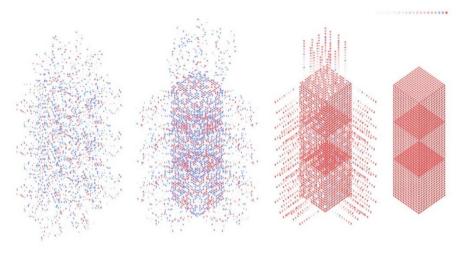


## **Introduction**

# 2019 NHSScotland Key Stage Authorisation Review

No overarching control or **direction** or working to a **defined strategy**. I was aware of the need to consider what the NHS Assure landscape meant for the future of projects and what it would mean for me and the project I was working on, specifically.

I went along to every **session** I could, and tried to **get educated**. I quickly realised that I had to consider moving out of this phase of **individuals contributing** to the common task to a much more structured mechanised system









## Information In - Knowns

It was known that the target would be New Builds and Major Refurbishments that would be submitted to Scottish Government Capital Investment Group. This included Oncology, Maternity, Theatre and Intensive Care Units, no matter their financial value.

Recent experience had demonstrated that good and effective management and control was an essential element to the successful delivery of NHSScotland Healthcare objectives.

The Authorisation Review process was designed to provide independent assurance to Scottish Government Health and Social Care Directorates (SGHSCD's).

The NHSScotland Key Authorisation Review Process would examine programmes and projects at key points in their lifecycle.

A focus would be placed on those construction elements that recent reviews have demonstrated potential patient safety concerns.

At the outset the reviews would place an emphasis on the ventilation; water; electrical resilience and fire installations; however if any further issues were raised, the review team would fully incorporate those issues into the reporting process.





# **Evidence Gathering**

What have I got that I want?	What have I got that I don't want?
What have I not got that I want?	What have I not got that I don't want?





## **Information Out**





It became clear that a significant amount of thought would have to go into how the information out would look.







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## Example of a Single Area

## **ASSESSEMENT OF DELIVERY APPROACH**

Areas to Probe	Evidence Expected
7 Areas	Area 1 x 4 Area 2 x 4 Area 3 x 5 Area 4 x 2 Area 5 x 5 Area 6 x 1 Area 7 x 1

(Example) Assessment of delivery of approach 7 areas and 22 pieces of evidence expected

Assurance Management 4 sub areas, 18 Areas and 48 pieces of evidence expected

Infection Control and Prevention Issues, no areas defined





The 48 pieces of evidence expected would result in managing in excess of 200 pieces of evidence.

All whilst maintaining the golden thread.



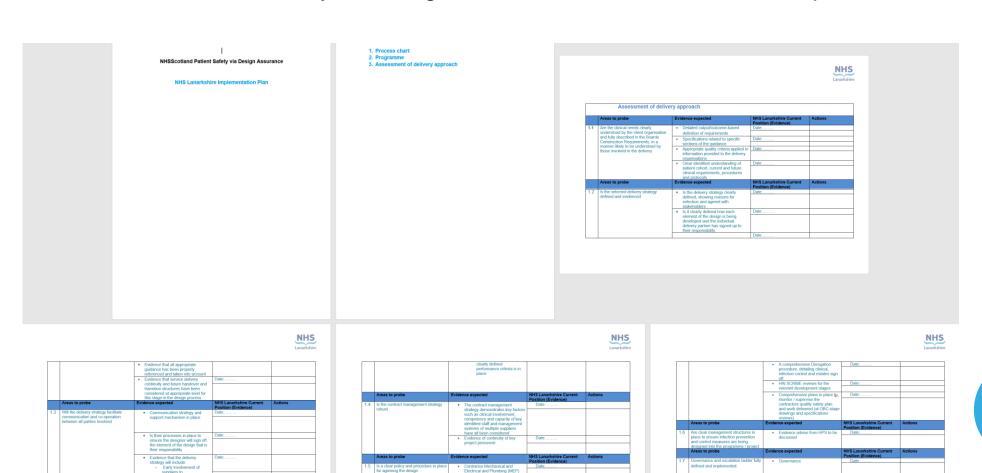
- ☐ Clinical and Non-Clinical Output Specifications
- ☐ Schedule of Accommodation
- ☐ 1:200 Reviewable Design Data (RDD)
- ☐ 1:50 Reviewable Design Data (RDD)
- ☐ Mechanical, Electrical & Plumbing Design (MEP)
- ☐ Project Governance







## NHSScotland Patient Safety via Design Assurance - NHS Lanarkshire Implementation Plan







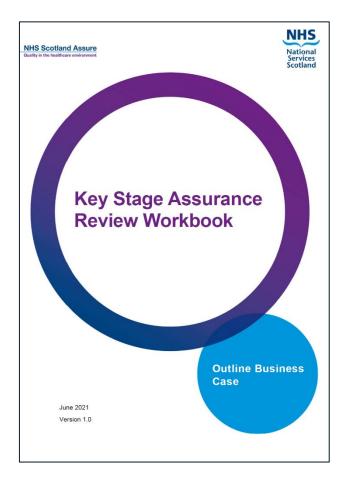


# KSAR STARTS HERE



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# **June 2021**



#### NHS Scotland Assure

#### **Outline Business Case KSAR Deliverables List**



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Date: 1st June 2021

Version: 1.0

em	Deliverables - including drawings, specifications, reports	Further Information
1	NHS Board Authority Construction Requirements (ACRs)	
2	PSCP/Design Team Contracts/Appointment Documents	
3	Evidence of Board Competency Checks on Design Team/Contractors	
4	Clinical Brief	
5	Project Brief	This document should be in place from IA Stage. Changes/departures from brief during OBC to be clearly identified. May be linked to ACRs if they are proj specific.
6	Project Programme	
7	Responsibility/Duty Holder Matrix	Evidence that the Board have a fully recorded matrix of the required roles and responsibilities and have a clear governance structure that is fully resourced together with plans in place for the implementation. Evidence that Health Boards have (or have a strategy to procure) appropriate number of competent, qualified staff to carry out specific duties throughout the life cycle of the project e.g., IPC, Engineers, Estates staff etc. The number of competent, qualified s will depend on the type and size of the Build Project.
8	Provide report(s) on building services issues as part of concept design report(s). The following topics must be covered as minimum:	
8.1	MEP system strategies to satisfy the clinical and project brief	Include details of ventilation strategy (natural/mechanical), outline control strategy, identify requirements for pressure cascades in clinical areas. Identify an specialist areas requiring dedicated/specialist ventilation services e.g. decontamination units, infectious diseases, et devience of dynamic modelling should be provided to support the strategies (e.g. TM52 all 3 criteria, TM59 for bedrooms, use 2020 High local weather data, plus test for 2030). Identify strategy for heating/cooling to each area/room including how temperatures and peak percentage relative humidity will match the level of control selected by the clinical team. Identify common design criteria including summer/winter external design criteria both for building loads and for plant selection.
		Primary plant strategies to be defined, including details on how loads have been assessed and indicative plant selections made.
		Provide a breakdown of water supply grade to be provided to each space. This should include details of any areas required to be provided with dedicated water supplies independent to the remainder of the main facility, as well as any specialist clinical/process requirements.
		Identify requirements for Medical IT systems to BS7671.
		Identify life safety systems & resilience requirements.









#### 287 evidence areas

240 multiple pieces of evidence generated

600 hours required to review multiple pieces of evidence

80 days required to review multiple pieces of evidence

Governance evidence reviews required

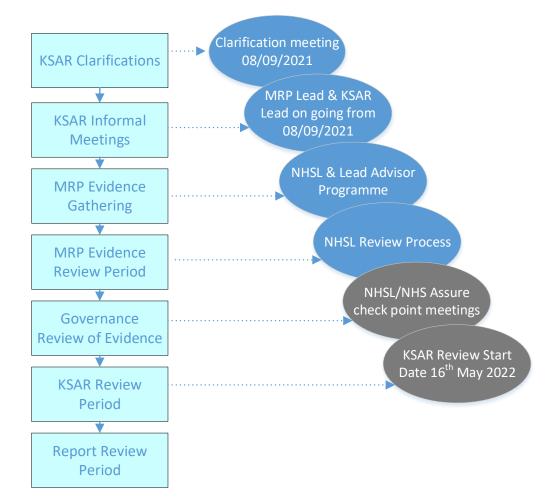
# THIS MEANS OVER 2000 ITEMS!!



## **KSAR Implementation**



#### **KSAR Evidence & Review Process**

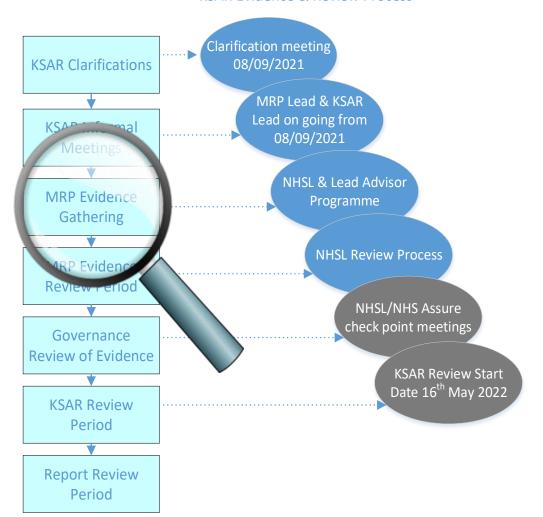




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#### **KSAR Evidence & Review Process**



- 'Kick Start' Meeting
- Proposed date of 20<sup>th</sup> May
- Follow Up HCID Meeting
- Wash Hand Basin Review
- Sign Off MEP Strategy
- Confirm KSAR Programme
- Formal Review Start Date
- 16<sup>th</sup> May 2022

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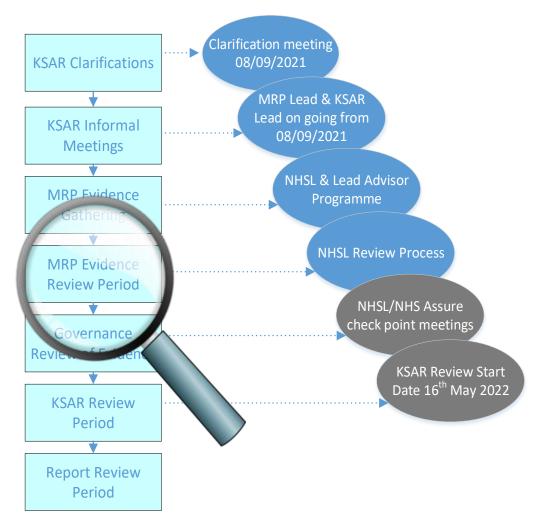
		KSAR Evidence & Review Process	lte m
	KSAR Clarifications	Clarification meeting 08/09/2021	1
	KSAR Informal Meetings	MRP Lead & KSAR Lead on going from 08/09/2021	
	MRP Evidence Gathering	NHSL & Lead Advisor Programme	2
(	MRP Evidence Review Period	NHSL Review Process	
	Governance Review of Evidence	NHSL/NHS Assure check point meetings  KSAR Review Start	3
	KSAR Review Period	Date 16 <sup>th</sup> May 2022	4
	Report Review Period		

_							
m	Deliverables - including drawings, specifications, reports	Proposed Evidence	Comments Clarifications meet 8.9.21	NHSL Delivery Date	LA Delivery	WW KSAR Deliverable	WW Potential KSAR Deliverable Date
1	NHS Board Authority Construction Requirements (ACRs)	Do the individual design statements, Environmental Matrix, and SOA documents satisfy this requirement? For clarify, there will be no single ACR document produced. (Authority Construction Requirements)	How are you maintaining your governance, clarity and quality?  If you are not using an ACR what are you using from your control mechanisms to define:  1. your requirements and 2. monitor subsequent compliance throughout the design stages?  Purpose of ACR doc - as an organisation you can pull together your information and see it as a whole. It is a doc that can be used outwith your board to secure the contract - develop designs etc. If there is no ACR, HFS needs direction to understand how you are presenting information and how everyone will understand the needs from a host of different documents rather than one.	Process First		No Wallace Whittle direct deliverable	N/A
				Nov	Mar-22		
2	PSCP/Design Team Contracts/Appointme nt Documents	We intend to provide the HLIP for LA and Currie & Brown response, Appointment including agreed schedule of deliverables; will this suffice?		PSC/HCP First Nov	PSCP TBC	No Wallace Whittle direct deliverable	N/A
				Nov	PSCP TBC		
3	Evidence of Board Competency Checks on Design Team/Contractors	We will provide competency checks for the PSC and the design team including any sub contractors (Tier 2); will this suffice?		PSC/HCP First Nov	PSCP TBC	We have provided CV's and experience previously so we assume no further input required other than a refresh?	91/12/2021
4	Clinical Brief	We can provide the SOA and clinical output specifications (prepared by the NHSL and healthcare planner) will be provided if this suitable?		First Nov	Final SOA	No Wallace Whittle direct deliverable	N/A

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#### **KSAR Evidence & Review Process**

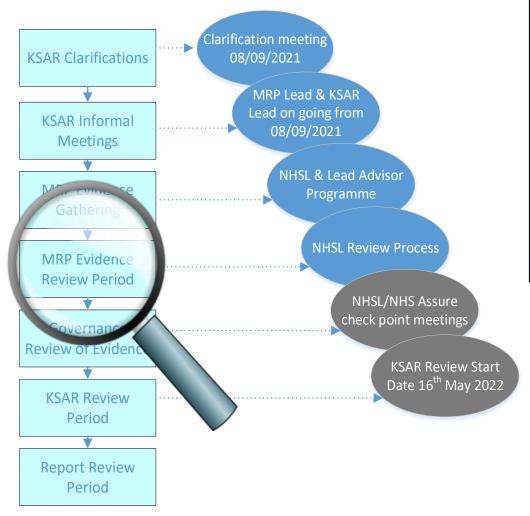




L	09-May	16-May 23-Ma	y 30-May	y 06-Jun	13-Jur	20-Jur	n 27-Jun	04-J	ul 11-Ju	ıl 18-Ju	25-Ju	01-Aug	08-Aug	15-Aug	22-Aug	29-Aug	05-Sep	12-Sep	19-Sep	26-Sep 03-	Oct 10-O	t 17-Oc	t 24-Oct	31-Oct	07-Nov	14-Nov	2
	Information change - NHS LA KSAR																										
_	EN ROMR	NHSSA Gap Analy	sis & Kick O	ff Meting																							
	'											NHS	Scotland R	eview													
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	15th May -	(IE) 16th May to 13th June (Gap) 13th June to 11th July (Documen 1. 20th May kick off presentation				nt Review)			nin technica		oth Augus	it to 10th O	ttober (KSA	r. Review)						10th October to 7th November (Factual)  1. Factual accuracy review of output report				14th November (comments)	November(Let		
ex		Confirm attendance	e for kick of	ff meeting					per week													v comments b	y 7th			SRO letter of acceptance on	
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#### KSAR Evidence & Review Process





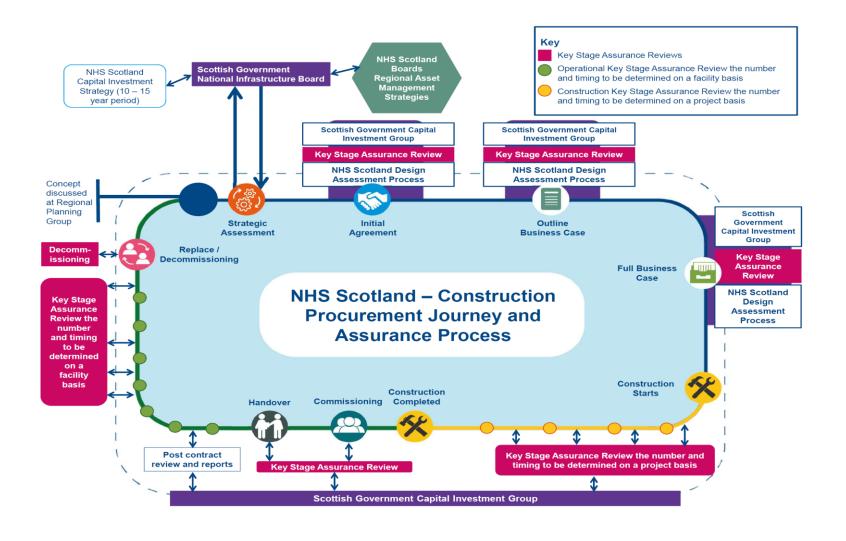




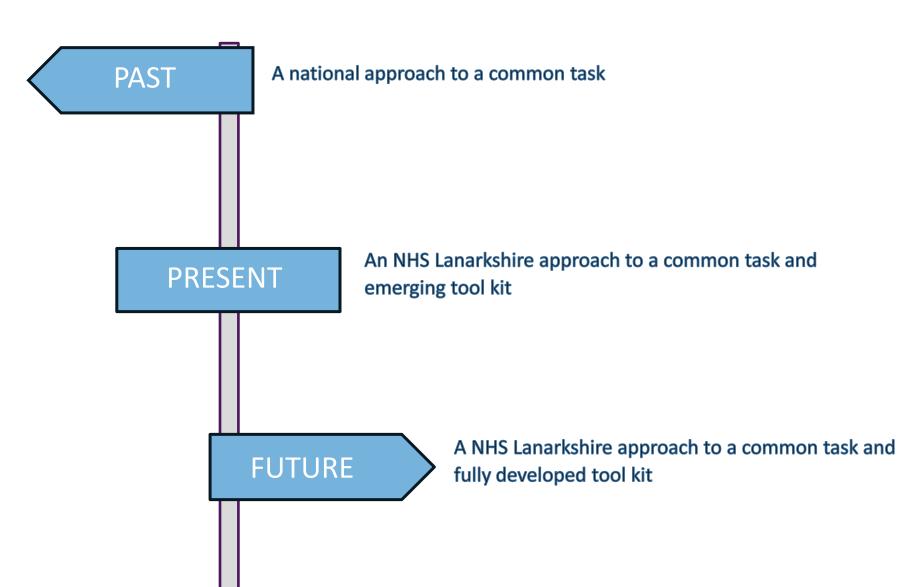
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## The KSAR Process: Aligning with the stages of SCIM















Key Stage
Assurance Review
Monklands
Replacement
Project

Carole Callaghan & Laura Gilchrist Assistant Project Managers, Monklands Replacement Project



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# **Information Sharing**



### **Initial Engagement Meeting**

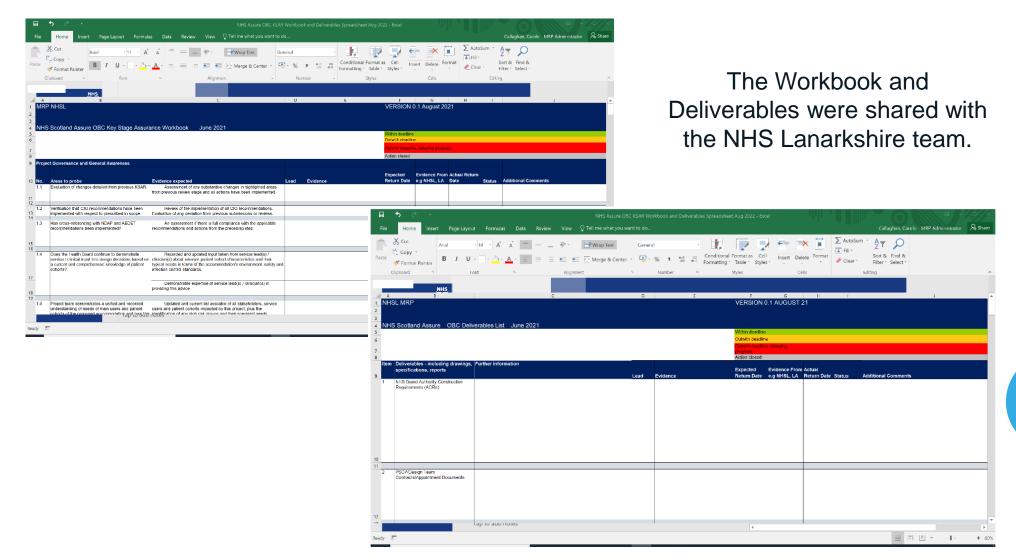
Early engagement with the NHS Assure team took place following confirmation of the implementation of the Key Stage Assurance Review.

This meeting facilitated the exchange of key information such as:

- Key contacts
- Protocols of conduct for emails
- Dedicated MRP inbox for correspondence
- Dedicated MRP Teams channel for ease of information sharing

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## **KSAR** Workbook and Deliverables







## Formation of a Core Team

An internal KSAR core team was formed consisting of members of the MRP Team and the Lead Advisor team.

The core team considered each question posed by the KSAR Workbook and Deliverables in terms of the information required to answer the questions and how work to collate that information could be shared within the group.









# 7 Key Themes

There were 7 key themes to be explored within the review and, initially, each was assigned to an MRP team member to deliver:

Project Governance and General Arrangements Water and Internal Plumbing/Drainage Systems Ventilation Electrical **Medical Gases** Fire **IPC Built Environment** 







# **Tracking Progress**

A document was created in order to track the progress of collating the agreed information required.

Insert spreadsheet





# **Internal Gap Analysis**

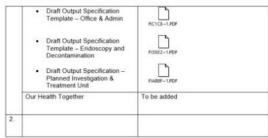
The MRP team carried out an internal gap analysis using the review template to assess the information that had been collated.

Gaps were identified by reviewers and detailed in the 'Feedback to Lead' section of the review page.

The core team established whether gaps were able to be filled with existing information or if any of it was a work in progress awaiting completion.

Tracking of document versions and 'live' documents is key to ensuring the information submitted to KSAR is consistent throughout.





#### **Summary of Evidence**

The evidence included in this review addresses the questions through the following

- The Design Approval Process outlines key design development activities. The
  document details how each activity was developed using methods such as
  collaborative workshops and stakeholder engagement. The document identifies
  the core group of stakeholders required to sign-off on designs, including Infection
  Prevention and Control and Clinical/Department Leads.
- The CoS Register details the clinical and non-clinical leads involved in the writing
  of the CoS documents, highlighting that the correct people have been included in
  the process.
- The CoS documents details current service models of each department, including
  what works well and where there is room for improvements. The service leads for
  each department are best placed to provide input about relevant patient cohort
  characteristic

#### Feedback to Lead:

- Is Design Approvals Process document the final draft? (Highlighted sections and comments to be left in?)
- Design Approvals Process document does not really discuss specific patient cohort characteristics and their typical needs, but does show that stakeholders such as IPC and Clinical/Department leads are involved in design process – is this enough to answer the question?
- Any abbreviations should be written out in full when first being used so it's clear what it stands for
- Should authors be added to CoS documents so that it's clear who has had input?





# **Collaborative Approach**





Throughout the process of preparing for the review, regular meetings were held between the NHS Assure team and NHS Lanarkshire.

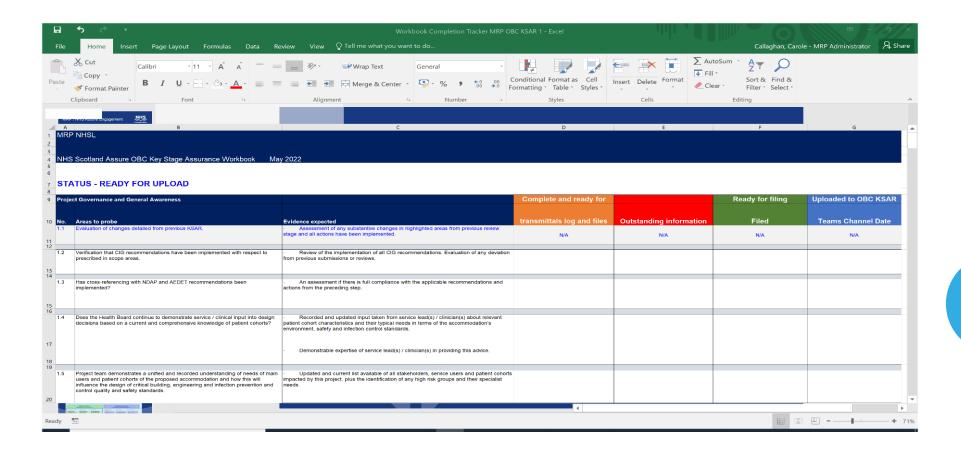
Regular informal meetings helped to create a collaborative environment in which both parties could assess progress towards commencement of review and be transparent with each other.





## **Readiness to Submit**

In preparation to formal submission, a new tracker document was prepared in order to cross-check when information was ready to be transferred across to the Teams channel.



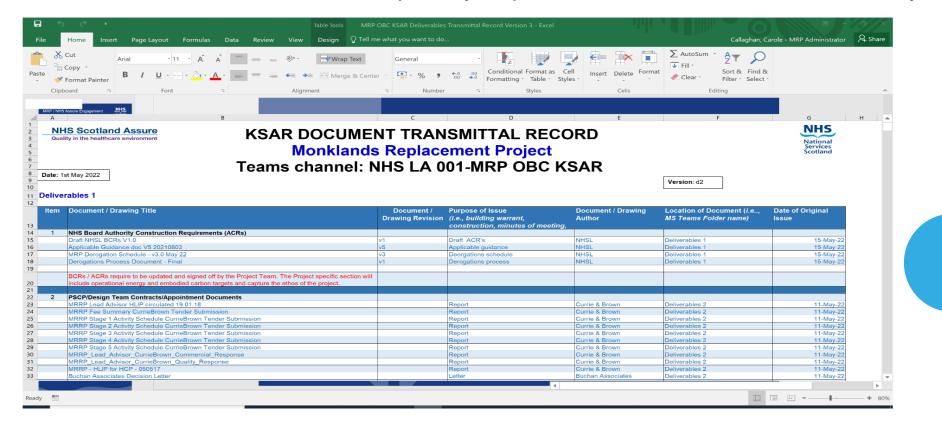




# **NHS Assure Transmittal Log**

The transmittal log is a key requirement for the KSAR Team and not to be underestimated in terms of time taken to complete and requirement for complete accuracy.

This is the main focus of the 2-week Gap Analysis period when the KSAR review formally kicks off.

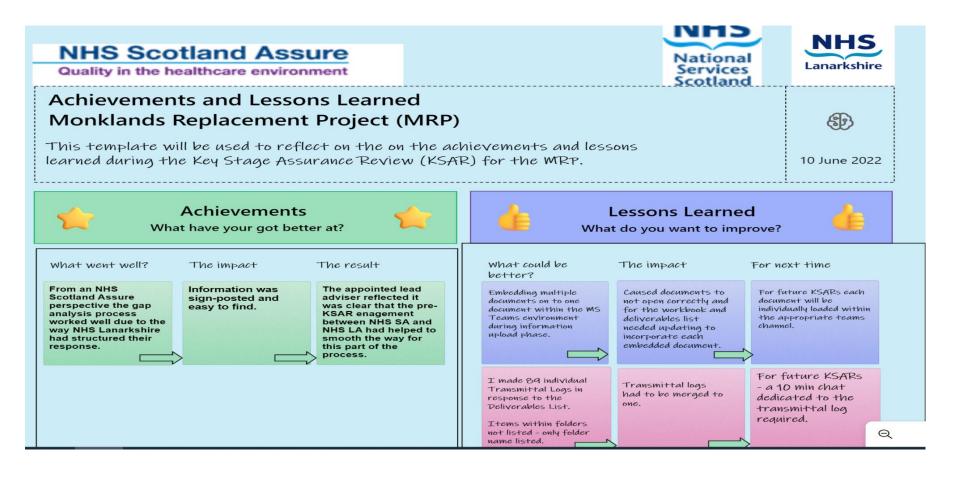






## **Lessons Learned**

Maintaining the spirit of collaborative working, the NHS Assure and NHS Lanarkshire team have also begun collation of lessons learned ahead of the full business case stage.





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Presenter Name (18pt)
Title/position (16pt)