Dedalus

Dedalus Positioning Regarding HSSIB EPR Safety Findings

The recent HSSIB thematic review highlights persistent patient-safety risks associated with the design, implementation, and optimisation of EPR systems across the NHS. Many of these challenges, including usability, functionality, poor interoperability, limited user engagement, accessibility, and inconsistent governance, are well-recognised across the sector.

Dedalus fully acknowledges these issues, and much of our current roadmap, product design philosophy, and implementation methodology has been deliberately structured to address exactly these pain points.

Below is a summary of how ORBIS and the wider Dedalus ecosystem are designed to mitigate the safety risks described in the report.

1. Improving Usability & Reducing Design-Related Risk

HSSIB's findings repeatedly highlight complex interfaces, inconsistent workflows, and opaque information presentation as contributors to clinical error.

How Dedalus responds:

- ORBIS is built around a clinical-first UX framework, co-designed with frontline users to reduce cognitive load. Clinical content modelling enables EPRs to dynamically adjust forms, viewers, and order sets based on patient context rather than static templates [1].
- Context-aware clinical dashboards (e.g., longitudinal patient timeline, condition overview panels) reduce the risk of missed information [2].
- A structured Human Factors Usability Review is embedded into each implementation phase.

In alignment with PRSB (Professional Record Standards Body) guidance [3], ORBIS workflows and documentation templates are structured around nationally defined information models, ensuring consistent terminology, safer handovers, and reduction of documentation variability across Trusts. Incorporating PRSB standards helps mitigate the usability concerns highlighted by HSSIB by ensuring that the structure of patient records is predictable, standardised, and clinically relevant.

2. Strengthening Interoperability & Data Completeness

HSSIB emphasises fragmented systems, lost information, and poor interoperability as major contributors to harm. These gaps lead to incomplete clinical pictures and delays in care across organisational boundaries.

How Dedalus responds:

- ORBIS is built on FHIR-native APIs, supporting open exchange with third-party systems and Shared Care Records.
- Dedalus deploys a multi-terminology server (Ontoserver) to ensure SNOMED CT, LOINC, ICD and local codes are fully standardized, preventing semantic loss across organisations [4].
- Through an open platform ecosystem: Digital Connecting for Health (DC4H), seamless ingestion, indexing, and semantic linking of data from disparate systems using open standards are possible [5]. Cross-vendor integration accelerators ensure smooth connectivity with diagnostics, theatres, medications management and community systems.
- ORBIS interoperability is also aligned with national frameworks such as PRSB interoperability standards [3]and the NHS England Information Standard (ISN) catalogue [6], ensuring that structured data shared across systems retains semantic integrity. In addition, the platform supports the NICE (National Institute for Health and Care Excellence) interoperability principles [7] for safe data exchange, enabling accurate, standards-aligned information flows across organisational boundaries.

3. Reducing Configuration-Related Safety Risks

HSSIB highlights that local configuration often introduces new hazards when not governed properly. Uncontrolled customisation is a recurring root cause in multiple safety incidents.

How Dedalus responds:

- Dedalus has a dedicated clinical safety team. All configuration changes are reviewed through the DCB0129/0160-aligned Clinical Safety Framework, with clinical safety officers involved from day one. There are also clinical evaluation & safety assurance workflows that assures solving issues under structured governance [8].
- Automated configuration validation tools prevent error-prone manual changes.
- Terminology governance frameworks preventing divergence of meaning and ensuring consistency of data usage and decision support [4]. Dedalus configuration governance also incorporates recommendations from GIRFT (Getting It Right First Time) [9], ensuring that local configuration does not introduce unwarranted clinical variation, a key GIRFT theme that aligns directly with HSSIB's concern about variability-driven safety risk.
- Standardised, interoperable content libraries, reducing variation and ensuring validated content across all sites [1,10].

This approach reduces local variability, a key underlying cause cited by HSSIB.

4. Ensuring Safe, Real-World Implementation

Implementation failures, including lack of training, misaligned workflows, and inadequate infrastructure, appear repeatedly in HSSIB's review.

How Dedalus responds:

- The ORBIS implementation methodology uses workflow shadowing, end-to-end modelling and real-world scenario simulations to ensure alignment with practice. Training and workflow validation processes are mapped against NICE clinical pathways [11], ensuring that digital workflows faithfully reflect evidence-based best practice. This alignment minimises divergence between digital processes and clinical expectations, a misalignment repeatedly highlighted by HSSIB as a contributor to incident risk.
- Training follows the "day in the life of" model rather than generic classroom teaching.
- Pre-go-live readiness assessments include Wi-Fi mapping, device density testing and business continuity mapping, reducing operational risk. Dedalus supports incremental go-live models where safer.
- Evaluation of real-world implementation is performed to compare criteria before and after the implementation [12]. This ensures measurable safety and performance improvements are demonstrated rather than assumed.

These practices align directly with HSSIB's recommendations around implementation discipline and safe adoption.

5. Supporting Continuous Optimisation & Safety Monitoring

HSSIB stresses that many Trusts lack the capability to optimise their EPR post go-live. This creates long-term safety drift when systems are not continuously reviewed or updated.

How Dedalus responds:

- ORBIS includes optimisation cycles supported by the Dedalus clinical community of practice across UX, terminology, content, and safety [8].
- Integrated telemetry and user analytics help identify usability bottlenecks or risky patterns before they lead to incidents.
- As updates to standards (e.g., NICE, Royal College guidance) emerge, Dedalus provides curated, safety-reviewed content packs.
- Continuous optimisation cycles also incorporate updates from NICE guidance, PRSB standards updates, and GIRFT recommendations, ensuring that content, pathways, and workflows remain aligned with national clinical and operational standards throughout the EPR lifecycle.

6. Strengthening Shared Governance & Transparency

Safety is a shared responsibility. The HSSIB report makes it clear that EPR safety failures arise not only from technology, but from inadequate governance, poor interoperability, suboptimal configuration, lack of clinical context, and insufficient clinical involvement.

Given this, Dedalus places strong emphasis on shared governance structures that embed clinical expertise and transparency throughout the product lifecycle.

Dedalus approach:

- Joint governance boards: Clinical Safety Group, Interoperability Steering Group, Clinical Community of Practice, Change Advisory Board.
- Full transparency of safety cases, hazard logs, test scripts, and traceability matrices.
- Support for ICS-level convergence and multi-Trust standardisation to reduce local variation.

Dedalus Commitment to Safer Digital Transformation

The HSSIB report demonstrates that the problem in the NHS is not simply EPR technology, but the ecosystem surrounding its selection, configuration, and lifecycle management.
Ensuring safety requires an evidence-based, standards-aligned and clinically-led approach, precisely the foundation of Dedalus's methodology.

Dedalus's scientific work, product architecture and implementation methodology are directly designed to overcome these challenges, reduce variation, and deliver safer, more resilient EPR deployments aligned with NHS standards.

Dedalus's alignment with NICE, PRSB, and GIRFT principles further strengthens our commitment to delivering an EPR ecosystem grounded in national clinical, operational, and informatics standards.

We welcome continued dialogue with Trusts and ICSs on how scientific evidence, standardised architecture, and clinically-led configuration can support safer digital transformation and address the specific concerns raised within the HSSIB report across the NHS.

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