



Feidhmeannacht na Seirbhíse Sláinte  
Health Service Executive

## HSE Board Briefing Template

**Subject: eHealth and Innovation**

**Submitted for meeting on: 27<sup>th</sup> May 2022**

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### **Statement of Strategic Objective for the HSE**

Implementing technology and eHealth solutions and accelerating the digitisation of our health service will support a culture of continuous improvement and innovation. It will allow for increased access, sharing, and analysis of information across the health service. Technology will enable predictive health delivery identifying where the services are needed most and support person-centred healthcare. Our Technology and eHealth solutions need to be radically overhauled.

Today our health service continues to be held back with inefficient, and often paper based patient interactions, with patient presence required due to the lack of tools rather than the patient need. While patient presence is critical in a health setting in some cases, it is not required in all settings. We need eHealth platforms that allow information to be shared across care teams with patient and service user consent, regardless of location. This will optimise the efficiency of our health care staff whilst also improving the experience for the patient by delivering safe, integrated, and high-quality care. Leveraging appropriate innovative and emerging technologies will enable a greater proportion of care to be delivered within community settings and allow patients to access care closer to home.

Without electronic information, there is limited data in information insights. Data and information are integral parts of the healthcare system, and are essential supports to the delivery of high quality, effective health and social care. People expect their health and care information to be available to them, and to those responsible for helping them, when and where they need it. At the same time, they want assurance that their personal information is being handled appropriately, safely, securely and in an approved and controlled way. Our current system lacks access to timely, accurate and robust data that is essential to informing decision making and assessing resource utilisation across operational, clinical and strategic departments.

The HSE eHealth vision is ***“eHealth provides connected and complete digital patient records across all patient pathways and care settings”***

The purpose of this briefing is two-fold:

1. To seek guidance and strategic direction in relation to required **EHR/eHealth transformation**
2. To provide updates to the Board on other elements of eHealth activity, namely **Sláintecare** progress; **Cyber Security; Digital Innovation; ehealth governance; Investment**

### **The Current Status Update:**

#### **1. eHealth**

The HSE ICT strategy, the Knowledge and Information Plan was completed in 2015; it followed on from the national eHealth Strategy published by the DOH in 2013. The Sláintecare plan published in May 2017 adopted

many of the goals from these two documents in relation to eHealth. The 2018 Sláintecare implementation plan was utilised as the guiding document for eHealth.

In 2019, the Department of Public Expenditure and Reform advised the HSE and Department of Health that they would not approve a national Electronic Health Record (EHR) programme until they had reviewed the outcome of the Childrens Health Ireland Hospital EHR programme.

Since 2019, the HSE has adopted a tactical ‘best of breed’ solutions approach to the deployment of technology solutions.

In 2022, the Department of Health informed the HSE that they want to refresh the 2013 eHealth Strategy which will be anchored in key themes such as Digitally Empowered & Engaged Patients, Digitally Secure Foundations, Digital Enablement of Workforce & Workplace and Connected Data-Driven Services and Insights. The HSE will be a key stakeholder during the development of the document. This will enable the HSE to update its strategy in line with Government’s strategy.

The Department of Health is bringing forward the Health Information Bill to ensure that Ireland has a fit for purpose national health information system that enhances patient care and treatment and supports better planning and delivery of health services, eHealth has engaged with the Department to ensure that they are fully informed in relation to the challenges from our perspective.

### **Electronic Health Record (EHR)**

A National Electronic Health Record (EHR) is a complete digital record of a patient’s journey, throughout their life, across all health and social care settings, for every citizen. An EHR contains the information documented by healthcare professionals when they interact with that patient—for example, the patient’s symptom history, past history of illnesses and operations, clinical observations made by the professional such as a blood pressure reading, blood and other test results, X-rays and scan results, prescriptions and other treatments, care advice, the course of the illness, preventive and public health activities such as immunisations, and activities undertaken by patients to stay healthy. The benefits of this approach are clear, and include:

**Comprehensive view of the patient** – Providers should strive to have dynamic patient-centered records that track the care continuum over the person’s lifetime, in sickness and health. Having a single, continuous record for a patient provides a holistic view of overall health for better diagnosis and lifetime treatment.

**Better coordination of care** – With digital records, clinicians can more easily coordinate and track patient care across practices and facilities. Clinicians across specialties and disciplines also collaborate on patient outcomes as a team to ensure better care.

**Sharing information** – The ability to share information across disciplines, specialties, pharmacies, hospitals and emergency response teams as well as have on-demand access to charts via mobile devices allows for better and more timely decision making, particularly in critical situations.

**Streamlined workflows** – EHRs increase productivity and efficiency while cutting down on paperwork. Patients and staff have fewer forms to fill out, leaving clinicians with more time to see patients. Referrals and prescriptions can be sent quickly, cutting wait times for appointments and pickups. Automatic reminders can tell patients when it’s time for annual checkups or alert them as they approach milestones that require regular screenings. With integrated patient tracking, billing and insurance claims can be filed in a timely manner.

**The power of data** – Continuous data collection allows for greater personalization of care, allowing providers to address health issues in a preventive manner. Also, ‘big data’ analytics and aggregated patient data may be able to alert providers to larger health trends such as potential outbreaks and which flu strains are prominent during each flu season.

**Greater efficiency and cost savings** – Digital records and integrated communications methods can significantly cut administrative costs, including reducing the need for transcriptions, physical chart storage, coding and claims management, as well as facilitating care coordination and reducing the time it takes for hard-copy communications among clinicians, labs, pharmacies and health plans.

**Reducing error** – Digital records allow for better tracking and more standardized documentation of patient interactions, which has the potential to reduce error. With digital paper trails, illegible handwriting in clinicians’ notes or prescriptions is no longer a problem and coding for procedures or

billing is easier. Integrated systems can also be set to flag drug interactions and other indicators of potential harm.

HIMSS (Healthcare Information and Management Systems Society) is a global not for profit advisor, thought leader and member-based society committed to reforming the global health ecosystem through the power of information and technology. The HSE utilises the HIMSS Health ICT framework and adoption model for its EHR programme, the framework is standards based and widely adopted in Europe and North America.

An EHR would move us from a position where patient records and key information is locked in a paper format and within specific organisations, to an environment where digital patient records are shared securely across care settings with appropriate consent. The 2019 Sláintecare Implementation Plan set out, under action 10.1 to “Implement [an] Electronic Health Record System”.

The HSE has developed a full business case for this EHR and received direction from DPER to the effect that the planned implementation of an EHR in the new Children’s Hospital should proceed initially, with any further deployment of EHR being considered only after the CHI programme has been fully implemented. Therefore, the national EHR programme is effectively paused, at least until the completion of the CHI implementation, a number of years from now.

However, the required eHealth transformation of the health service cannot wait, therefore a de facto Plan B is currently being pursued. Plan B takes a “best of breed” approach which sees tactical solutions deployed in specific care settings, with separate layers of integration between different systems. This is a sub-optimal way to deliver on the eHealth vision, in addition it massively increases complexity within the ICT and service landscape.

Furthermore, at current levels of eHealth investment, this approach is likely to take many years and see only sporadic breakthroughs in eHealth capability, rather than the transformation approach of “Plan A”.

A number of voluntary hospitals, who invested in acute electronic systems of their day in the middle 90’s are now at risk, as their existing solution are at end of life. They will have to progress with solutions as their systems are unsupported. They are asking the HSE to deploy EHR systems within their hospital/group.

A key decision for the HSE is which of the plans to adopt in the long term, EHR (Plan A) or the Best of Breed (Plan B).

**The Executive would recommend the EHR approach as it delivers the best outcome for patients and clinicians, however it is not funded.**

## 2. Cyber Security

In May 2021 the HSE was the subject of a cyber-attack, the Conti ransomware attack. Following the attack the Board engaged PWC to undertake a review to:

- i. Establish the facts in relation to the preparedness of the HSE in terms of both its technical preparedness [ICT systems and cyber protections] and its operational preparedness [including Business Continuity Management planning] for a strategic risk of this nature.
- ii. Identify the learning from this major incident to bring about improvements to the HSE’s preparedness for and response to other major risks and incidents that cause major business disruption.
- iii. Sharing those learnings within the HSE and externally with State and non-State organisations to inform their future preparedness.

The report outlined over 200 hundred recommendations across several thematic areas which were accepted by the HSE. Key strategic recommendations based on the findings included: -

- i) [REDACTED]
- ii) [REDACTED]
- iii) [REDACTED]

[REDACTED]

- i) [REDACTED]
- ii) Threat Detection & Response- HSE has augmented Cyber Threat Detection and Response capability through enhancement of current security partners' function and the addition of the Mandiant managed defence with 24X7 security operations in place now.
- iii) Enhanced Technology Controls-  
As [REDACTED]

The implementation of the recommendations is a multi-year programme which will require significant investment for all services within the Health Service.

### 3. Innovation

The Department of Public Expenditure and Reform published an innovation strategy in 2020, Making Innovation Real. The definition used is "The creation of a new, viable offering that adds value". The HSE has many forms of innovation, and these can be seen in action across the Health Service. Ranging from our implementations of Telehealth (340,000 virtual consultations in the past 24 months), Robotic Process Automation (3.8m transactions processed), deployment of RespriaSense across 20 hospitals.

The HSE is drafting an Innovation Strategy, which will be shared with the Board in Sept 2022. Work is underway to define the overall scope of innovations including a clear vision for where we want to be in 3 years. We are working with external partners in the MedTech and Life Sciences areas to co-create new innovations based on global trends and best practice.

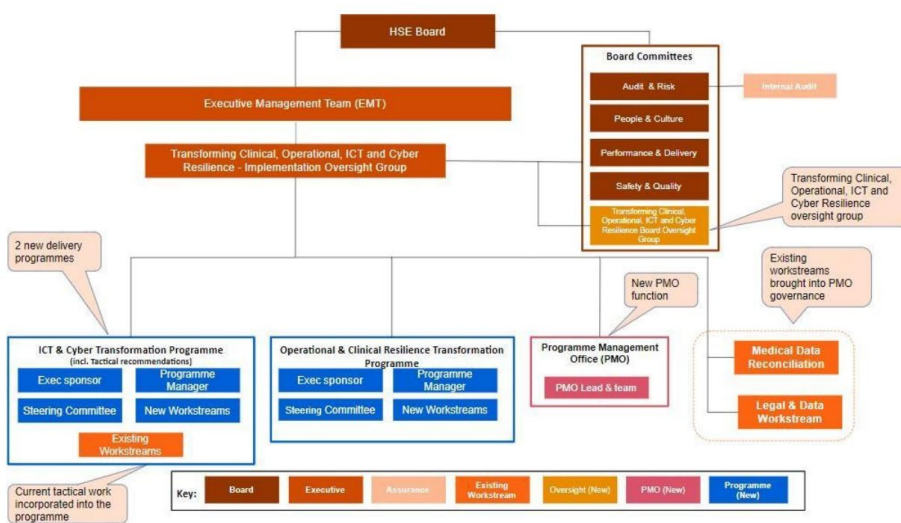
### 4. Governance

The transformation oversight group outline is recommended to be the oversight group pulling the multiple strands of eHealth into a single “Transformation and Oversight Group” chaired by the CEO. The roles of the CTTO and CISO are incorporated into the group. The oversight group will report to the Board. The strands will include: -

- i) Cybersecurity and cyber resilience
- ii) eHealth transformation (Sláintecare)
- iii) Digital innovation
- iv) Maintenance of existing systems

For reference an organigram of the structure is provided below:

**Overall Programme Governance**



The HSE executive is recommending the implementation of this structure.

**The Key Issues arising**

- i) Competing demands between short-term delivery of tactical ICT projects and the long term transformational programmes
- ii) Agreement between all the stakeholders on a funded strategy including eHealth Capital and associated revenue, Service Resources being made available to agreed programmes
- iii) Governance of national ICT programmes across the health service, especially in the voluntary system
- iv) Complexity of Health ICT programmes
- v) Challenges in managing Cyber security within the requirements of the health system
- vi) Continually ensuring that all our 2500+ systems are secure
- vii) Length of time it takes to bring a project from idea to delivery, through the approval process, procurement process and internal resourcing process.
- viii) Recruitment of ICT specialists in a very competitive market
- ix) The impact of unforeseen service lead demands on ICT resources

**The Assurance Process for the Board**

Today the HSE runs and manage the largest ICT estate in the country, from the size of our infrastructure (Servers, Desktops, Phones, Network etc.) to the number of calls managed by our helpdesk (450k annually). We successfully manage and deliver over 800 projects and programmes, from the very small to some of the largest in the country. Each major project has its own governance, mainly chaired by the relevant service lead or EMT member.

In addition to providing ICT services directly to the HSE eHealth also provide a range of solutions to voluntary hospitals and community services.

The new governance model will provide a single oversight for all eHealth, Cyber and Innovation aspects of eHealth within the Health Service. This oversight group will be chaired by the CEO.

### **The Key Performance Indicators**

Each project and programme undertaken by ICT has a business case, objectives, scope, benefits and key performance targets. Each project governance reviews the progress of their respective programme against the targets.

The Board Scorecard reflects the high level progress against the service plan, which details expenditure and progress across three broad categories:

- i) Foundational Infrastructure and Cyber Technology – containing 8 subcategories
- ii) National Programmes – containing 26 subcategories
- iii) Transformational Priorities – containing 16 subcategories

### **The Implications for Other Strategic Priorities / Service Plan**

eHealth is an enabler for all other services and strategic priorities. There is not one strategy or service plan element where ICT does not or could potentially play a role.

The HSE corporate plan outlined 6 objectives as follows: -

- i) Manage the Covid-19 Pandemic while delivering health services safely to the public.
- ii) Enhance Primary and community services and reduce the need for people to attend hospital.
- iii) Improve scheduled care to enable more timely access and reduce the number of people waiting for services.
- iv) Prioritise early interventions and improve access to person centred mental health services.
- v) Work to reimagine disability services to be the most responsive, person-centred model achievable with greater flexibility and choice for the service user.
- vi) Prioritise prevention and early intervention services focusing especially on children's health, obesity and alcohol harm.

To enable each objective to be delivered in full requires an EHR; point solutions will not enable a fully connected health system. Each objective would benefit from a share care record to enable seamless access to full patient records integrating primary and secondary care data, each objective requires electronic referrals and digitally enabled pathways to ensure timely and accurate referrals, and each objective requires access real time data and information. There are many other eHealth elements to deliver on the objectives where we have not yet scratched the surface such as Artificial Intelligence, Personalised Medicines, Genomics, medical device integration and big data management.

None of the objectives can be fully realised without the provision of a ***connected and complete digital patient records across all patient pathways and care settings.*** (Our eHealth vision)

## **The Approach to Stakeholder Management**

The eHealth landscape is complex and has many stakeholders.

### **Patients and Service users**

Patients and Service Users expect a digitally connected service where their information is known to their clinicians and care givers, that their information is shared with them digitally, that they can transact with the health service for example change appointments or upload additional information to their record in a safe and secure manner. Involving patients in patient facing systems is critical. eHealth has engaged with the Irish Platform for Patient Organisations (IPPOSI) on a number of occasions to work with them during the EHR business case and design.

### **Health Service**

eHealth is organised along the current service management lines to ensure that each EMT member and their relevant team has direct access to the relevant eHealth team (Acute, Community, Corporate etc.)

eHealth in partnership with the relevant service has also funded local teams at Regional Health Area (RHA) level in the RHA management, Acute hospitals and Community services to engage with the stakeholders and deliver on national priorities while supporting staff on the ground.

### **Government CIO and Department of Health**

The eHealth division work very closely with the Dept of Health and the Government CIO to ensure that we are aligned to strategies and that we can input to the development of policy and strategies.

The Department of Health has regular meetings with the eHealth division to oversee the capital expenditure and progress on key programmes. As part of the approval process the Government CIO's team must approve expenditure on all ICT related expenditure under circular 14-21. The DOH, Government CIO's team and the HSE have a monthly meeting to approve programmes and projects. In addition, the HSE has a number of projects which are subject to peer review under circular 14-21, given their size and scale (IFMS, NiSRP, NIMIS for example).