Meeting Date	**25 May 2021**	**Agenda Item**	**2.3**
Report Title	Signal Update		
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Report Sponsor	Craige Wilson, Deputy COO		
Presented by	Craige Wilson, Deputy COO (SRO for Singnal Project Board)		
Freedom of Information	Open		
Purpose of the Report	To provide the board with a general Signal update.		
Key Issues	The paper was requested as an update for the Signal Project. The update spans the work being undertaken to streamline handovers and lists within the current system to support patient flow and the work related to the development of the system on a .net platform.		

Specific Action Required ***(please choose one only)***	**Information**	**Discussion**	**Assurance**	**Approval**
	☒	☐	☐	☐

Recommendations	Members are asked to: • **Note** the progress towards development of the current system on a new platform, as well as the significant work undertaken by the team in supporting patient flow and the flow strategy for SBUHB.

Signal Project Update

1. INTRODUCTION

This report will provide an update for the Signal Project up to May 2021. It includes the redevelopment of Signal on a new '.net' platform, such that it can be further integrated with other systems and realise the significant benefits that brings. This will be the 3rd iteration of Signal (V3). It also describes the work the Signal team are undertaking in order to standardise and streamline Signal on its current platform, in order to both streamline V3 and assist the organisation in delivering its patient flow strategy.

2. BACKGROUND

Signal was first developed and rolled out in Singleton Hospital in 2018 in order to enable accurate patient location. Its benefits, in terms of Multi Disciplinary Team (MDT) working, time saving and patient flow improvement as it was rolled out hospital wide became apparent and it was later rolled out to Morriston, Gorseinon and Neath Port Talbot hospitals.

The solution offers several different views of the same information captured in a streamlined and safe manner. It meets the needs of users to capture and use information traditionally captured on paper and whiteboards, including:

- Reception view to admit patients and manual check demographics against Welsh Patient Administration System / Portal.
- Triage view that identifies patients awaiting triage.
- Doctor's whiteboard view and doctors' post take list to support handover and MDT working. This view displays Patient Name, Date Of Birth, Hospital number, Date & time patient arrived, Bed location, Ward location, presenting complaint, latest National Early Warning Sscore (NEWS), Consultant, Specialty, Clerked by (displays doctors grade) Doctors plan, Doctors jobs, Period (24hrs period the doctors cover 9am to 9am over two days)
- Electronic nurses white board – replicates information previously entered manually onto a whiteboard with a live patient location within the department. The view displays patient name, bed location, ambulance handover, consultant, time next observations due, latest NEWS score, along with icons if the following applies sepsis screening completed, diabetic, blood sugar monitoring score, patient monitoring, nil by mouth, dementia, infection control, falls, learning disabilities and 'do not resuscitate. Nurse jobs will display once entered along with mobility comments recorded by Support Workers.
- Bed managers' information displayed as a green square, which indicates bed allocation and the bed location is displayed in the Bed Manager Bed allocated on Ward column. The bed managers also have a daily count of patients whose source of admission was 999
- Medically Fit patient view, which displays all patients in the hospital recorded as medically fit and the information generated regarding where they are in the discharge process.
- Pharmacy view, has three different views to support operational delivery, medication checks, drug history and handover

- Historical view to available for 60 days to support review and audit. This supports SEPSIS screening and review of NEWS scores.

Although Signal holds extremely accurate patient location data and has been instrumental in Covid19 recording, tracking and reporting, its limitations, as it has grown have become apparent. It is extremely challenging to integrate with other systems and operates on a platform which now holds too much information to enable further fields/development to happen. This has necessitated the build of Version 3 of Signal on a .net platform.

The project's scope is now to rebuild version 3 in a .net platform, allowing and preparing for integration with other systems such as the Welsh Nursing Care Record (WNCR) and the Welsh Clinical Portal (WCP). Building with reverse stapling to WCP, enabling the user to remain in the patient context and check blood results, for example, saving time. The team have also brought into scope the implementation of Imprivata, which allows the user to log on to Signal and other systems with the tap of a card, saving time to care and improving the user experience.

The team have also identified numerous opportunities for integration with both WNCR and WCP which will save time for both doctors and nurses and improve patient safety.

Patient Flow in version 2

The Signal team is working closely with the Patient Improvement Group to ensure that the development of Signal Version 3 continues to work alongside and support the patient flow strategy.

Version 2 currently enables a true multidisciplinary approach to patient care and discharge, including nurses, doctors, physiotherapists, Occupational Therapists, pharmacy and social services. It ensures wards are able to add tasks and receive updates from colleagues in order to facilitate timely discharge. It also provides substantial data related to delays and is able to categorise delays to enable follow up and analysis.

Version 3 patient flow

The Signal team have worked with the Patient Improvement Group and the Signal user group in order to maximise the use of signal to improve patient flow. The main elements are as follows:

Estimated Date of Discharge (EDD) – Signal v3 allows the user to see changes to the EDD and what the previous EDD was. This allows for greater interrogation of patients, where information has been amended.

'Reason in bed' – This field, similar to the EDD, allows the user easy access to view previous 'reason in bed', in order to allow greater interrogation of data to reveal the patient's journey and the sometimes complex reasons for their stay in hospital.

Better reporting – Although Signal v2 contains vast amounts of data to enable active management of patients and flow, retrieving retrospective data for analysis is

challenge in the current system. Version 3 will be built with a robust database, which will allow interrogation by the Information department, development of robust reports and potentially the use of Light foot.

Enabling a standardised 'Patient Screen At a Glance' (PSAG) board

The content on the Patient screen at a glance is extremely important to support good patient flow, as is the Boardround View. The Signal team are working with the PIG to establish the requirements for standardisation, at which point each board can be amended to include standardised fields. In respect of the Boardround, Information Governance have reviewed wards and signed off the ability for PSAG boards to convert to a fuller 'Boardround View'. Ahead of implementation of V3, a mechanism has been added to the board to enable access to the boardround view by clicking a button. This was implemented on 5 wards in Morriston, however the process had to stop due to the impact of the second Covid Wave. The Signal team are now preparing to support the 'Boardround Roadshow' by digitally enabling this view access as the roadshow moves through wards.

3. GOVERNANCE AND RISK ISSUES

The most significant risks currently relate to the introduction of other systems with data that crosses over with fields within Signal. The Signal team have conducted an in-depth analysis of these crossovers and risks, taking appropriate action to mitigate by 'future proofing' the Signal design.

Risk	Score	Mitigation
The Signal team continue to receive requests for enhancements to Signal. Most of these requests are documented and feedback is provided that due to development of v3, changes cannot be made in v2. However, there are some changes, particularly those related to Covid and med fit that need to be made in order to support the service. There is a risk that these changes may impact further on the v3 timeline.	9	- Ensure that all changes are considered and alternative options discussed. All changes should be rejected unless urgently required. - Ensure that in the event the change is an urgent request that needs to be implemented in v2, the v3 developers are made aware and have an opportunity to assess the impact of the change on v3 before the change progresses through the standard governance mechanisms.
Signal's value is based on its population by the MDT, if there's a reduction in use, this potentially impacts its value. There is a risk that lack of Signal team presence on wards over the last year due to Covid 19, has resulted in a reduction in staff Signal capability and use of Signal.	9	- Ensure an audit of usage is completed once the team are able to return to hospitals. - Employment of 2 new trainers to proactively support hospitals in the use of Signal and other systems.
The allergy field present in WNCR is also in existence in Signal, however as opposed to actively needing to delve into each record to find the patient's allergy, Signal displays this on the ward grid. This is an important field, indicating to both nurses, doctors and other	6	- Users are made aware that both systems need to be maintained during training. Anything updated in the allergies section of WNCR also needs to update Signal.

staff that the patient may have an allergy. There is a risk that the user updates WNCR, but negates to update Signal, resulting in inconsistency of information and potential harm.		- Integration of the allergy field would ensure this risk is eliminated and would save time for users.

4. FINANCIAL IMPLICATIONS

Due to the Signal v3 system being behind schedule, there are financial implications inherent in maintaining the 2 developers for the additional time required to complete the system. It has, however successfully developed a section which has enabled the mortuary team to avoid purchasing a stand-alone system. There are also other opportunities that can be explored to exploit the systems already well updated information, such as replacement of the costly acuity module.

5. RECOMMENDATION

It is recommended that;

- The Health Board continues to support the development of Signal V3 and its integration with other systems;
- **Notes** the progress towards development of the current system on a new platform, as well as the significant work undertaken by the team in supporting patient flow and the flow strategy for SBUHB.

Governance and Assurance		
Link to Enabling Objectives *(please choose)*	**Supporting better health and wellbeing by actively promoting and empowering people to live well in resilient communities**	
	Partnerships for Improving Health and Wellbeing	☐
	Co-Production and Health Literacy	☐
	Digitally Enabled Health and Wellbeing	☒
	Deliver better care through excellent health and care services achieving the outcomes that matter most to people	
	Best Value Outcomes and High Quality Care	☒
	Partnerships for Care	☒
	Excellent Staff	☐
	Digitally Enabled Care	☒
	Outstanding Research, Innovation, Education and Learning	☒
Health and Care Standards		
(please choose)	Staying Healthy	☐
	Safe Care	☐
	Effective Care	☒
	Dignified Care	☐
	Timely Care	☐
	Individual Care	☐
	Staff and Resources	☐

Quality, Safety and Patient Experience
Signal provides a platform that enables a multidisciplinary approach to patient care and discharge. It enables multiple users to update and view information, shared with the MDT. This has resulted in staff saving time to care through reducing duplication and better patient care through improved staff communication.
Financial Implications
Signal v3 development is included in the digital services plan and the Strategic Outline Programme (SOP) funding.
Legal Implications (including equality and diversity assessment)
There are no known legal implications.
Staffing Implications
Staffing requirements for project implementation have been planned and detailed. The required budget has been agreed as part of the SOP funding and no further staffing requirements have been identified.

Long Term Implications (including the impact of the Well-being of Future Generations (Wales) Act 2015). Signal contributes to timely discharge of patients and cohesive, multidisciplinary care, this can be viewed as a contribution to 'A Healthier Wales' goal, as part of the Well-being of Future Generations (Wales) Act 2015.	
Report History	There are no previous iterations of this report.
Appendices	In order to provide supporting information for this report, the Project Initiation Document (PID) and Change request all supply information relating to the projects objectives and roadmap. Appendix 1 – Signal PID Appendix 2 – Signal Change Request