

Reporting to:	Trust Board, 30 March 2017						
Title	Renewal of VitalPAC Contract						
Sponsoring Director	Edwin Borman, Medical Director						
Author(s)	Sam Hooper, Medical Performance Manager						
Previously considered by	Executive Directors						
Executive Summary	<p>VitalPAC has been used at SaTH since 2008 for capturing patients vital sign observations and VTE assessments. In addition there are a number of modules available to us within the contract such as Careflow and Paediatrics. VitalPAC is embedded well within the Trust and the practice of our clinical staff, nursing and medical.</p> <p>There currently are no alternative products available that match our requirements and IT constraints.</p> <p>VitalPAC is an integral part of the work carried out by our clinical staff and is embedded in the working practice of 43 wards throughout the Trust.</p> <p>It is important that we continue with this product until such time that we have a plan to replace it as part of an Electronic Health Record (EHR) programme of work to be implemented throughout the Trust as required by the Carter Review.</p> <p>By renewing the term of the contract for 3 years we shall ensure that there is no indexation for that term. We shall also enable the Trust to have time to decide on our next steps for EHR and have clarity as to whether, or not VitalPAC system will be part of that programme of work.</p> <p>Option 1: To remain with the existing contract with a 2 year extension option, with Careflow in VitalPAC, at a cost of £243,090 per year.</p> <p>Option 2: To renew the VitalPAC contract directly via a new framework for a further 3 years.</p> <p>The renewal is being offered at:</p> <table> <tr> <td>First Year</td> <td>£214,550</td> </tr> <tr> <td colspan="2">(agreed in quarterly payments £53,637.50 payable 1.4.2017, 1.7.2017, 1.10.2017, 1.1.2018)</td> </tr> <tr> <td>Subsequent Years</td> <td>£240,030</td> </tr> </table> <p>There will be no indexation for the term of the contract. Saving of £28,540.</p> <p>Total new cost for 3 years £694,610</p>	First Year	£214,550	(agreed in quarterly payments £53,637.50 payable 1.4.2017, 1.7.2017, 1.10.2017, 1.1.2018)		Subsequent Years	£240,030
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Strategic Priorities <input checked="" type="checkbox"/> Quality and Safety <input checked="" type="checkbox"/> Healthcare Standards <input checked="" type="checkbox"/> People and Innovation <input checked="" type="checkbox"/> Community and Partnership <input checked="" type="checkbox"/> Financial Strength	Operational Objectives <p>To support patient flow and ensure patient safety.</p>
Board Assurance Framework (BAF) Risks	<input checked="" type="checkbox"/> If we do not deliver safe care then patients may suffer avoidable harm and poor clinical outcomes and experience <input type="checkbox"/> If we do not implement our falls prevention strategy then patients may suffer serious injury <input checked="" type="checkbox"/> If we do not achieve safe and efficient patient flow and improve our processes and capacity and demand planning then we will fail the national quality and performance standards <input checked="" type="checkbox"/> If we do not have a clear clinical service vision then we may not deliver the best services to patients <input checked="" type="checkbox"/> If we do not get good levels of staff engagement to get a culture of continuous improvement then staff morale and patient outcomes may not improve <input checked="" type="checkbox"/> If we are unable to resolve our (historic) shortfall in liquidity and the structural imbalance in the Trust's Income & Expenditure position then we will not be able to fulfil our financial duties and address the modernisation of our ageing estate and equipment
Care Quality Commission (CQC) Domains	<input checked="" type="checkbox"/> Safe <input checked="" type="checkbox"/> Effective <input checked="" type="checkbox"/> Caring <input checked="" type="checkbox"/> Responsive <input checked="" type="checkbox"/> Well led
<input type="checkbox"/> Receive <input checked="" type="checkbox"/> Review <input type="checkbox"/> Note <input checked="" type="checkbox"/> Approve	Recommendation <p>It is recommended that the VitalPAC contract renewal for 3 years is APPROVED as specified in Option 2.</p>

VitalPAC Background Document

VitalPAC is a mobile clinical system that stores, monitors and analyses patients' vital signs. It is used routinely and can assist in identifying deteriorating conditions and provide risk scores to trigger the need for further necessary care.

It removes the need for paper charts and manages scheduled observations based on clinical need. VitalPAC helps reduce the time spent on routine tasks and frees up staff time for care. It achieves this by simplifying the documenting of patients' vital signs and assessments, and by the automatic calculation of Early Warning Scores. Patient deterioration is detected early and escalated to the relevant doctor or specialist team, which supports improved outcomes and shortening the length of stay. A case study of another Trust has demonstrated observations are 98% complete and take 40% less time to record. Calculating a patient's Early Warning Score (a way to identify deterioration) using VitalPAC reduces errors by 80%. VitalPAC is very much part of our 'business-as-usual' at SaTH and it would be detrimental to move back to paper or to change to a system that does not meet the current specification that we are using.

How it helps:

- It gives doctors, senior nurses and specialists real-time visibility of who their patients are, where their patients are and how their patients are
- Its escalations show audibly and visibly on their mobile device. Clear rules and localisation options avoid unnecessary repeats
- Doctors can respond more effectively using the real-time clinical and location information immediately available
- Customised handover lists can be created, allowing doctors to flag patients of particular concern
- Safe, informed handovers are well supported by the ability to combine notes, diagnoses and patient information
- Direct feeds can be provided for pathology and radiology results
- Doctors can refer patients to other specialties for advice or transfer without recourse to a fixed PC
- Doctors can carry out a range of assessments such as VTE, dementia, alcohol screening etc.
- It significantly improves patient safety, ward efficiency and compliance with care protocols.

Its capabilities include, but are not limited to:

- Clinical assessments and screening
- Handover
- Hospital @ Night + hospital 24/7
- Task management
- Outbreak control
- Alerting
- Messaging
- Escalations
- Patient referrals
- Patient lists
- Standard observations
- Specialist observations
- Fluid management
- Urinary catheter management
- IV/central line management
- Sepsis and AKI
- Advanced escalation

- Care delivery monitoring

VitalPAC integrates with our Patient Administration Systems and our electronic systems such as Patient Status at a Glance (PSAG/Ward Vision), Clinical Portal and many more. It is highly integrated within our clinical and IT systems at SaTH.

VitalPAC was rolled out at SaTH in 2008 and currently is embedded on 43 wards across the Trust. It has a number of modules available within the system some of which we have not yet implemented, but all these are available to us with additional implementation costs.

The modules available are:

1. VitalPAC modules

Modules extend the functionality of VitalPAC applications, delivering additional observations, assessments and screening protocols.

1.1. AKI ALERTING

The VitalPAC AKI alerts module is based on the national algorithm developed by NHS England, and is included in standard VitalPAC. If the module is enabled, AKI alert icons are shown in the patient list (with revised patient list filters) and in the patient banner. AKI alert icons can be viewed in VitalPAC NURSE, DOCTOR, CLINICAL and WARD.

1.2. ALCOHOL SCREENING

The VitalPAC Alcohol Screening module enables nurses quickly and easily assess a patient's alcohol consumption, determine if this is potentially harmful and whether further assessment is required. The initial screening is a modified version of the Paddington Alcohol Test (PAT) and is carried out on a VitalPAC hand-held device on admission. The assessment automatically calculates each patient's risk of harmful drinking and populates an alcohol assessment patient list on VitalPAC Clinical that can be viewed by the alcohol nursing team and/or intervention therapists.

1.3. FLUID MANAGEMENT

VitalPAC Fluid Management module integrates the recording of a patient's fluid inputs and outputs with standard VitalPAC observations. Once a decision is made to put a patient onto Fluid management, the nurse can add fluid inputs and outputs as they occur. VitalPAC auto-calculates the (x) hourly and 24 hourly cumulative totals, generates the accompanying graphs and asks the nurse to take appropriate action where the balance is severely under or over the patient target.

1.4. NUTRITIONAL SCREENING

The VitalPAC Nutritional Screening module screens all patients for risk of malnutrition on admission and regularly thereafter using BAPEN's 'MUST' protocol. A Nutritional Screening dashboard shows the screening results and status for all patients across the hospital, clearly indicating which patients are high risks.

1.5. DEMENTIA

The VitalPAC dementia module assesses all patients 75 years and older for dementia and delirium risks using the standard Department of Health protocol. Identified patients are referred for more specialist assessment and treatment. A dementia dashboard shows the screening results and status for all patients across the hospital, clearly indicating which patients are high risks.

1.6 ED

Emergency Department. VitalPAC ED module provides functionality so that observations can be recorded against an unknown or anonymous patient without the need to wait for the patient details to be recorded in PAS. Data is easily merged once the patient's identity is known or PAS is up to date. The module also links to continuous monitoring machines automatically charting observation and displaying alerts. This reduces the workload for staff in Majors and Resuscitation.

1.7 IPC MANAGER

The VitalPAC Infection Prevention & Control Manager Module supports the surveillance and reporting of infectious diseases and outbreaks. Tracks range of defined sentinel organisms and alerts specialist infection control teams in real time about patients with positive cultures, diarrhoea, nausea and vomiting (as identified by ward staff during routine observations) to enable early identification of infected patients and outbreak risks.

2. VitalPAC Observation Models

Observation models change the observation set, EWS calculation and protocol messages for specific patient types.

2.1. MATERNITY (additional module; available under change control)

The VitalPAC maternity observations model defines:

- The set of observations comprising a standard observation
- The set of observations comprising additional observations
- Abnormal and extreme values for some observations
- The method of calculating EWS for a maternity patient
- Protocol messages and observation interval timings
- TPR chart template

2.2. PAEDIATRICS MODEL A (additional module; available under change control)

Paediatrics Model A observation model offers a Paediatric EWS system and observation set that generates an Early Warning Score appropriate for paediatric patients.

2.3. PAEDIATRICS MODEL B (additional module; available under change control)

Paediatrics model B also offers a Paediatric Early Warning Score system, but makes use of a different range of observations, allowing trusts a choice of which model they prefer.

3. VitalPAC Business Intelligence (additional module; available under change control)

Business Intelligence is an SQL Server data warehouse and reporting system for the information in all VitalPAC modules. It provides a wide range of metrics on the system's use and the consistency of care delivery. This includes data on:

- Ward activity
- Volume
- Completeness and timeliness of observations
- Escalations

Templated reports can be customised by users and reports can be filtered to cover different periods. Data can be exported into Excel, Word, PDF and CSV formats.

4. CAREFLOW

Careflow is a secure, mobile, fully integrated clinical communication and alerting platform. It enables clinicians to deliver more efficient care coordination and faster clinical decision making. Careflow is interfaced to VitalPAC to provide a comprehensive clinical solution for front line clinicians using mobile technology.

The Supplier is providing Careflow for unlimited use but with restricted functionality aimed at supporting escalation management and doctor handover as well as Hospital at Night. This includes

- basic Careflow clinical communications for all staff
- handover capability for all ward based doctors
- VitalPAC alerts through Careflow
- escalation management for deteriorating patients using task management.

4.1. PATIENT LISTS

Careflow enables teams to manage a shared patient list showing who their patients are and where they are located. Lists can be created as a mixture of 'Smart' lists and 'Curated' lists.

Patients can be searched for and 'pinned' manually to the list. Lists also support clinical tagging and handover. Filters can be selected that reduce the list view based on demographics such as ward, consultant, site or clinical tags.

4.2. HANDOVER

Careflow enables all patient handover notes to be captured electronically. Handover notes are instantly available to all relevant team members. All entries are logged with a user and date/time stamp to create a robust audit trail. When patients move between teams, the handover notes move with them.

Handover in Careflow is standardized using SBAR (Situation, Background, Assessment and Recommendation). Handover can be extended to all clinical staff at an additional cost.

4.3. ALERTING

Careflow provides a powerful and scalable alerting capability using a 'publish/subscribe' model. As part of the VitalPAC solution this includes a number of VitalPAC specific alerts.

Subscribers can choose to go 'off duty' which stops alert push notifications being sent to their mobile device. When in 'off duty' mode, alerts remain accessible to the subscriber in their alert feed. VitalPAC EWS scores are included for High and Critical patients.

Full capability to enable escalation for non-VitalPAC standard alerts is available at an additional cost.

4.4. SECURE PATIENT IDENTIFIED MESSAGING:

Careflow enables encrypted patient centred messaging between teams and between individuals. Messages are sent via web and smartphones and notifications are sent via email and push notification depending on user preference. Transparent read receipt is provided on all messaging. Push notifications can be switched on and off for individual networks and groups.

4.5. **SECURE NON-PATIENT MESSAGING**

Careflow provides for peer-to-peer messaging for non-patient related messages on mobile devices.

4.6. **TASK MANAGEMENT**

Careflow provides a team-based approach to task management. Tasks can be raised and assigned a priority. Tasks are fully tracked providing transparency as tasks are progressed. Tasks can be assigned to individuals or teams. As supplied with VitalPAC, tasks are enabled for escalation management to ward-based doctors only. Wider task management use is available at an additional cost.

4.7. **HOSPITAL AT NIGHT**

Careflow fully supports Hospital at Night (H@N) with the added advantage that tasks do not disappear as the day shift comes on duty. Tasks can be managed through a traditional H@N central coordinator or a combination of peer to peer and central coordination. With full audit trail this is a powerful solution to support Hospital 24/7.

Careflow is the most recent module within VitalPAC and offers time savings notional benefit from improved handover process at an estimated £200k per year based on a current case study. In addition to this, the same study shows that replacing the historic pager has seen additional time savings notional benefit of £729k per year. With SaTH's current staffing challenges for both nurses and doctors, time savings are an imperative for future sustainability with the potential of £929k per year notional time saving benefit. This will be a module of VitalPAC that SaTH would look to implement over the period of the contract term.

Within the current market there are no alternative products available that match our specification requirements and IT constraints.

It is important that we continue with this product until such time that we have a plan to replace it as part of the Electronic Health Record programme of work to be implemented throughout the Trust, as required by the Carter Review.

VitalPAC has been acquired by System C in 2015. Agreement has been gained by Procurement and System C that no indexation will be applied for the term of the 3 year contract renewal.

VitalPAC historically has cost £243,090 per annum (£729,270, 3 year contract) which included Indwelling devices and VTE modules. The contract was under a CCS Framework via Specialised Computer Centre and ran for 3 years with the option to extend for a further 2 Years. The primary term expires on 31/03/17.

The Trust was approached prior to the extension period and offered an new contract via a direct award process, through a different framework, that allows System C to directly contract with the Trust and therefore offer a lower price.

As a result they offered additional functionality in Careflow which will take approx. 12 months to implement and 2 additional modules to indwelling devices and VTE (eg. nutritional screening fluid management) but these modules will require further evaluation by the VitalPAC Manager and Team before implementation.

A paper was presented to the Executive Directors on 1st February 2017 and it was approved for renewal with a request to further negotiate the price. Paul Adams from procurement and Edwin Borman met with System C and negotiated preferential terms of the contract and a further cost reduction in the region of £9,000

As a result, the new offer includes the additional functionality and a total saving over the 3 years of £34,660 (Total new cost for 3 years £694,610). The cost saving, additional functionality and proven technology therefore proves value for money, and as the direct award has been ratified and approved by the contract owner David Burns from Gateshead Health NHSFT Group, the Board can be assured of the validity of the contract.

The contract needs signing by the 31/03/2017, in order to ensure continuity of supply.