ACADIANT

SMART—

Structured Mortality Analysis & Review Tool

Service Definition

G-Cloud 11

1. Introduction

Company Overview

Acadiant Limited is a London-based software company established in 2012. We are passionate about improving the healthcare landscape and patient care through software-enabled solutions.

We work closely with NHS clinical leadership to understand their operational and regulatory challenges, and build secure, compliant, easy-to-use solutions to address them.

Value Proposition

SMART—Structured Mortality Analysis & Review Tool, is a comprehensive mortality analysis software-enabled solution. As well as helping Trusts meet NHSI requirements for *Learning from Deaths*, SMART supports mortality and clinical leads in identifying cases of poor care to help drive improvement in quality and patient safety.

Acadiant developed SMART in partnership with the clinical leadership at three acute Trusts within the Mid and South Essex Hospitals Group—Mid Essex Hospital Services NHS Trust, Southend University Hospital NHS Foundation Trust sand Basildon & Thurrock University Hospitals NHS Foundation Trust—to enhance the mortality review process and improve patient care.

What the Service Provides

Our solutions:

- · Enable better allocation of NHS resources to save time, reduce costs, and to improve patient care
- · Minimise the cognitive burden on doctors, nurses, and hospital administrators
- · Interoperate and integrate with patient record and other systems
- · Provide a full, immutable, timestamped audit trail

SMART interoperates with a Trust's electronic patient record to pre-populate forms with patient demographics and relevant coded information. Authorised users don't need additional logins or passwords to use SMART as the software integrates, interoperates, and conforms with a hospital's current authentication systems.

SMART supplies as much relevant information as needed and provides simple, intuitive forms, making it easier to use than standard manual or spreadsheet processes. In addition, it's secure, enables safe sharing, and has a full,

immutable audit trail. This enables mortality reviewers to spend their time focused on meaningful reviews.

Modules include the Medical Examiner's Advice and Scrutiny Parts A & B, Structured Judgement Review, and second-stage, multidisciplinary panel Structured Judgement Review. The Medical Examiner's comments and the Structured Judgement Reviewer's insights are automatically carried through from one phase of review and to the next as a "golden thread," retaining institutional knowledge through all stages of the analysis process. In addition, Acadiant have built Emergency Department, Sepsis, and Learning Disability mortality review forms for Trusts to have a deeper understanding of mortality in their hospitals.

SMART provides dashboards and reporting for use in board decks and mortality meetings so teams can see trends at a glance and drill down for further information. SMART also provides individual dashboards for consultants' reflection and revalidation.

Real-time status boards. Please note all data is synthetic.

Mortality Leads can access reviews in realtime through status boards that track activity, scores and comments and the themes that emerge can help focus on areas for improvement in quality and patient safety.

We have also created dashboards from electronic patient records to reveal trends that might otherwise be missed by the human eye—including deaths by

day, time, ward, directorate, specialty, or consultant—that can indicate outliers for further investigation.
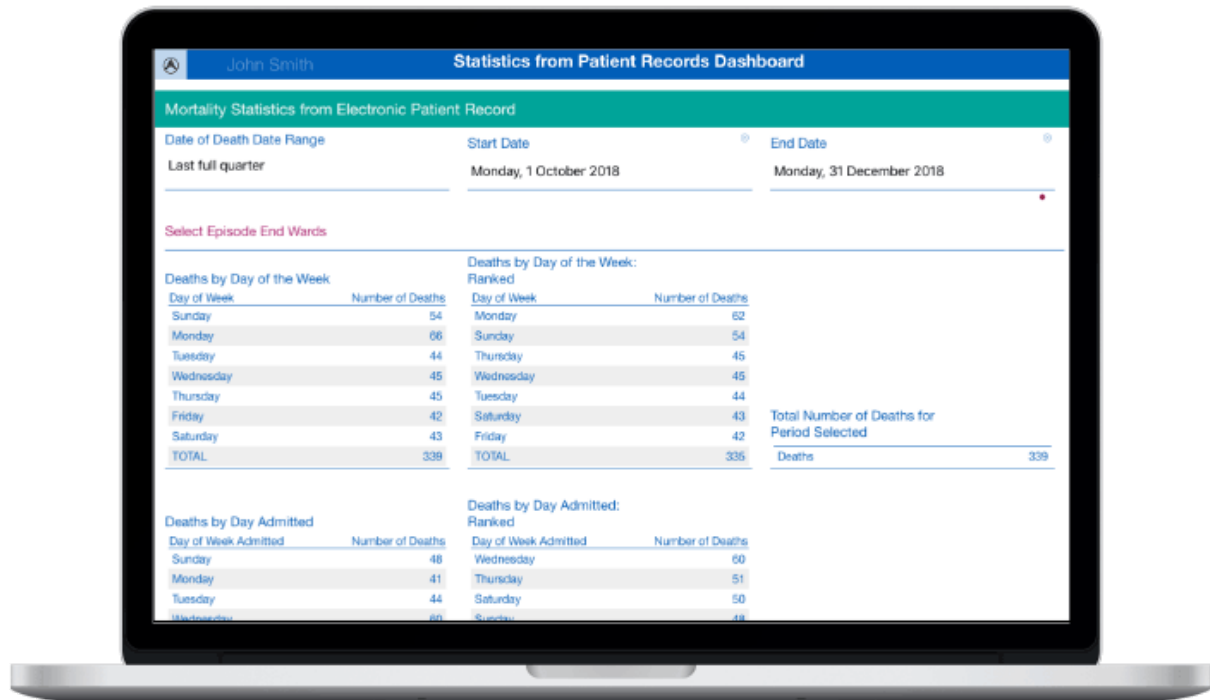
Statistics from Electronic Patient Records. Please note all data is synthetic.

When the DHSC Medical Examiner software is available, SMART will interoperate with it so no re-keying of information will be necessary.
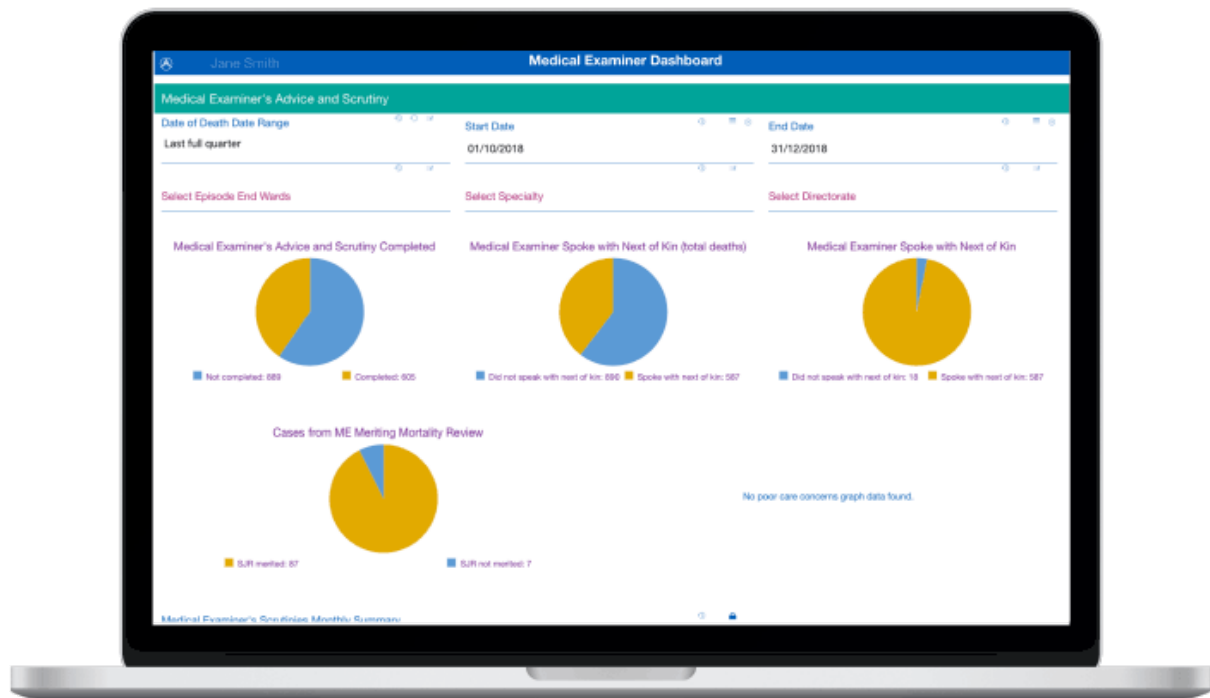
Medical Examiner Dashboards. Please note all data is synthetic.

Overview of the G-Cloud Service

SMART Outcomes

Trusts using SMART benefit from:

- Significant savings of senior consultant time compared with standard review processes, enabling them to focus on meaningful mortality reviews
- Pre-populated forms with relevant, coded patient information from the electronic patient record
- A "golden thread" of information that weaves through every stage of the mortality review
- Simplified reporting of care scores and easier identification of themes for focus and action
- A full, immutable, timestamped audit trail on a secure platform
- Better understanding of factors that contribute to their SHMI score and point to opportunities for quality improvement
- Better understanding of their overall mortality trends, including Emergency Department and outliers such as Sepsis and Learning Disability
- Significant reduction in time for the bereaved to collect the bodies of their loved ones, part of the *Learning from Deaths* objective of placing the bereaved at the centre
- Reduction in referrals to the coroner, as a result of the coroner's office having greater confidence in the quality of a Trust's mortality review process

As with all Acadiant software, the hospital retains ownership of its data, which can be downloaded as .csv, .pdf, .xlsx, or any preferred format, and used to populate templated board reports.

SMART can be delivered from cloud infrastructure on the N3 / HSCN spine, from a public cloud, or in a private cloud.

Acadiant are available for support, to add, and to enhance modules.

A new Acadiant customer has three options to choose from for implementation:

1. Hosted at an existing partner Trust and delivered to the new customer via the N3/HSCN network
2. Hosted on-premise (private cloud) at the new customer's facilities

3. Hosted in a public cloud and delivered to the new customer via a secured Internet link

The choice of implementation will depend on the new customer's policies, preferences, and capabilities. All integrations are available regardless of hosting choice.

2. Data Protection

Information Assurance
Acadiant follow best practices in cooperation with our customers and in conformance with their standards in a highly integrated implementation. We work with on-site infrastructure teams to ensure system redundancy, facility diversity, and data backup.

Data Backup, Data Restoration and Disaster Recovery
For a hybrid cloud implementation we follow best practices for site diversity and online and offline backup in cooperation with our customers and in conformance with their standards in a highly integrated implementation.

For a public cloud implementation we review details of our customers' policies and standards to ensure conformance.

Privacy by Design
Data is kept private in compliance with best practice for medical information in the NHS. NHS data standards such as record retention are well documented within the context of GDPR.

3. Using the service

Ordering and Invoicing
The customer can email gcloud@acadiant.com to initiate the process of requirements gathering for integration and interoperation with the customer's existing clinical management systems. Acadiant would be engaged to fully assist the customer in identifying those requirements and planning a smooth implementation.

Availability of Trial Service
Acadiant offer an externally hosted demonstration site on which a prospective customer can safely explore the full functions of SMART using completely synthetic but realistic data while we together design the integrations and

interoperations required with the customer's existing clinical management systems.

On-Boarding, Off-Boarding, Service Migration, Scope etc.

On-boarding starts with meetings with Mortality Leads at the customer to ensure we map their process correctly to Acadiant functions. This will include establishing the "golden thread" of information starting with the patient record, through Medical Examiner Scrutiny and Structured Judgement Reviews, including specialised auxiliary care reviews and the generation of reports for internal and external delivery.

On-site sessions are available during the implementation period to ensure users of the system are successfully oriented and the processes embodied in the software are intuitive and obvious.

Each customer will have at least one designated Acadiant service manager throughout the subscription period. Extensions to SMART functions are explicitly supported under subscription. Acadiant expect the customer will often want to enrich its interoperation as the new mortality processes are embedded in the customer organisation.

All data contained in SMART is available for export in various formats at any time.

At the end of the contract, if the customer wishes, Acadiant can provide transitional access to SMART for an agreed period beyond the contract end date, at an agreed price, to ensure a smooth transition to a successor. All data is returned to the customer in a requested format such as .xlsx or other spreadsheet, or .csv. All personalised data will be deleted or destroyed. All access will be cancelled at the end of any transition period.

Training

Acadiant software is designed to be easy and intuitive to use, and generally little training is needed. However, we are happy to provide on-site training, email and telephone guidance, as well as any helpful documentation identified.

Service Management

New functions and bug fixes are delivered through a continuous deployment process. Planned maintenance windows may be scheduled in exceptional circumstances when some infrastructural works prevent continuous service. Notice is given in case of significant user interface enhancements.

Service Levels

SMART is designed for 100% uptime, though SLAs are determined with individual customers. Escalation of issues can be routed through the customer's Mortality Leads or IT staff as preferred.

4. Provision of the service

Customer Responsibilities

Permission must be granted for any integrations required by the customer. Appropriate IT staff must be made available to collaboratively implement such integrations. Relevant data requested by Acadiant must be made available.

Technical Requirements and Client-Side Requirements

SMART requires appropriate intranet or Internet access to link servers with client devices. Optimisations are built in to reduce bandwidth requirements wherever possible but reasonably low network latency provides the best user experience.

The choice of client devices is usually limited by customer policy but may include mobile devices running iOS or Android, or desktops running a vendor-supported version of Windows, Linux, or MacOS with a modern browser such as Internet Explorer 11, Microsoft Edge, Chrome, Safari, Firefox, or Opera.

An on-premise or hybrid server deployment requires physical or virtual servers running a vendor-supported version of Linux or Windows. Containerised deployments are also supported. A typical server cluster deployment will include a minimum of three servers, each of which has a suggested 64GB of RAM, 100GB of disk storage, and 2 CPU cores available. Detailed tuning of server hardware specifications occurs early in the implementation phase.

Termination Process

The service may be terminated in accordance with the Call-Off Contract (in particular clause 18).

A Buyer who wishes to terminate the service should send a written notice to gcloud@acadiant.com, stating clearly the basis on which termination is sought and providing supporting documentation and evidence as necessary.

Upon acceptance of such a notice, Acadiant will contact the Buyer to discuss and aim to agree the return of data, the provision of any transitional services

(see section 3 above), and any further issues relating to the termination of the service.

5. Our experience

Aspects of our Service

- **Our experience.** We understand enterprise-scale challenges, as well as the importance of security, accountability, and compliance in highly regulated environments.
- **Any device.** Acadiant software runs on any device and operating system, and conforms to your hospital's environment.
- **Audit trail.** All our software solutions generate a full, immutable audit trail and are FHIR (HL7) compliant.
- **Simplified sign-on.** Doctors, nurses, and administrators don't need additional passwords or logins to use Acadiant solutions. We use your Active Directory, single sign-on, and role-based access control to recognise your authorised users.
- **Interoperability.** Our solutions can integrate and interoperate with systems you already have in place, including electronic patient records and hospital appointment systems.
- **Deployment options.** Acadiant solutions can be deployed on the N3/HSCN or in the cloud or in private cloud.

6. Clients

NHS Reference from **Tom Abell**, Deputy Chief Executive, Mid and South Essex University Hospitals Group.

NHS

Office of the Deputy Chief Executive

Mid and South Essex University Hospitals Group

REFERENCE: ACADIANT SMART PRODUCT

Approximate Start Date:	July 2017
Approximate End Date:	Ongoing and due to expand
Appx. Value of the Contract:	£500,000 to date
Site of Roll-out:	Three acute Trusts within Mid & South Essex University Hospitals Group

Acadiant's SMART product has been adopted across our three hospital sites within the Mid & South Essex Hospitals Group – Mid Essex Hospital Services NHS Trust, Southend University Hospital NHS Foundation Trust, Basildon & Thurrock University Hospitals NHS Foundation Trust. It is used by all those undertaking Structured Judgement Reviews and all Medical Examiners, for which the group has been an early adopter of the national NHS process. SMART integrates with the patient record (we have different EPR systems across the Trusts) to prepopulate forms. By bringing across existing data items from other Trust systems, SMART allows the mortality reviewer to focus their valuable time and energy on undertaking a meaningful mortality review. From

the beginning, Acadiant showed a real desire to understand user experience and reduce the cognitive burden on the users.

SMART has been well adopted, with quite rapid uptake on roll-out due to it being very intuitive, easy to use software. We saw 85% uptake of the software in the first month from Medical Examiners and Structured Judgement Reviewers. Because SMART replicates existing paper-based processes and reduces the complexity and workload, very little training is needed. Working with in-house champions, Acadiant provide frequent check in with users, available by phone, email, and in person to help.

Via easy-to-use forms and prepopulated information, the software is more straightforward to use than manual processes, with a full audit trail. Authorised users require no additional log in and the system is integrated and interoperates locally. Clinicians and governance staff can then access any and all reviews with just an NHS number and get a full understanding of the judgement on a death for requirements such as a serious incident investigation or coroner's inquest.

In addition to supporting data capture and clinical review of cases, SMART has become integrated with the Trusts' governance processes and acted as a catalyst for greater mortality learning, by informing Quality Improvement (QI) approaches and improved insight e.g. on incidents. The secure, immutable audit trail ensures a "single source of truth" and allows you to drill down into trends in time/place/care quality and run analyses that previously for us would not have been possible without extensive use of BI resources. Our Medical Directors, Head of Nursing for Mortality, and Chief Medical Officer in particular have been very impressed with the results, and feel that SMART has catalysed our improvement focus on reviewing care before death. SMART provides a really useful solution to any Trust who want meaningfully to improve the way Trusts learn from death and subsequently improve the care provided to patients.

In terms of working relationships, Acadiant work well with our IT and clinical team, understand the world from the Trusts' point of view, respond quickly and are continually adding new modules and features which don't incur additional costs or penalties. The speed in which they can implement upgrades to the suite is remarkable, allowing our projects to move along at the speed which has been required to see the improvement in performance. We have presented alongside Acadiant at national conferences helping others to understand the benefits of SMART (e.g. NHS Expo 2018).

Approved for and on behalf of Mid and South Essex University Hospitals Group:

13th May 2019

Tom Abell

Deputy Chief Executive

Mid Essex Hospital Services NHS Trust
Southend University Hospital NHS Foundation Trust
Basildon & Thurrock University Hospitals NHS Foundation Trust

7. Contact Details

For a demonstration of SMART or for more information please contact:

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Director, Acadiant Limited.

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