

## Mobile Clinical Adverse Event Reporting

### Background to the Project

Currently, clinical adverse event (CAE) reporting at University Hospitals of Coventry and Warwickshire is handled using a paper based system. This has all the attendant risks of inaccurate data being recorded. There are also delays arising from the logistical problems of paper handling and poor lines of communication to the existing CAE recording system. Feedback from the Clinical Governance team to the individual reporting the incident is limited or non-existent. Interpreting and transferring information from paper into the central incident recording database is a time-consuming and laborious task. Subjective

elements arise in assessment of risk elements and in the categorisation of the event by the Governance team.

In this project, Personal Digital Assistants (PDA) took the place of the paper forms used by the Critical Care Outreach Team. The objective of this project was for this innovative data capture approach, coupled with consistent analysis of the data and early feedback to clinicians, to both improve compliance with the requirements for reporting and reduce the impact of incidents over time. The 8 members of the Clinical Care Outreach Team kindly agreed to pilot the application and feedback their experiences.

### Developing the Solution

Savant worked closely with Coventry University's School of Design in developing the user interface for the application. It was recognised that the majority of end-users would not be familiar with using the PDA as a way of recording CAE data therefore the Outreach team were invited to a series of application design workshops and interviews. These were facilitated by the University and held at the Hospital. As well as informing Savant as to the best way to layout the screens, the workshops gave an opportunity for the end-user to handle and use the PDAs. The screen designs evolved quite markedly from the initial designs put forward by Savant's developers. Minimising the

need to enter text was a key requirement with drop lists and tick boxes being used whenever possible. A range of different PDAs was made



*A design workshop in progress*

available to the Team for selection and they eventually settled on a PDA with a built in keyboard. Each CAE has a strong narrative element that needs to be captured by the staff member who is reporting the event and it was felt that a keyboard was facilitate its entry.

### Services Offered

- Requirements gathering
- Application Design and Prototyping
- PDA Selection
- Implementation and Training
- Application Testing and QA

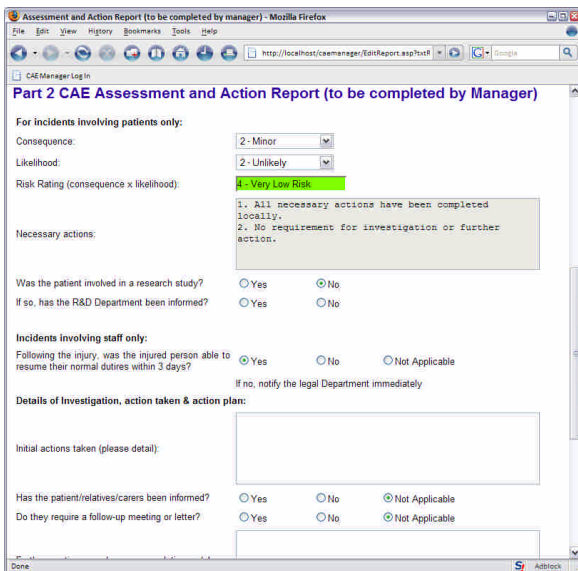
### Any useful PDA should have:

- A bright readable screen—even in direct sunlight
- Long battery life—8 hour shifts need to be covered
- WiFi, 3G and USB connectivity
- An easily replaced stylus—they get lost!
- Ruggedised protection—it's tough out there

## Implementing the Solution

With the PDA interface well understood, the workflow behind the form became the next focus. As well getting the CAE data to the Clinical Governance Team, we considered the various housekeeping functions that were also needed. To assure consistency in the assessment of the risk elements (i.e. consequence and likelihood), uniformity in the categorisation of the CAE and the entry of investigation details, a web interface was developed for the Critical Care Outreach Sister. In another innovative step, the Sister is automatically notified by email of any CAEs that had been recorded and need further details added before being forwarded to the Clinical Governance Team. When convenient the Sister can log on to the CAE Portal and view/edit the CAEs that have been

recorded by the team. The Sister can "reject" a CAE and send it back to the PDA it came from, for further editing. Alternatively the CAE is completed and flagged as ready to be recorded. At this point the Governance Team are informed via email that incidents are available to be recorded in their system. The Sister can also use the CAE Portal to maintain various lists e.g. Users and Categories and static data.



## Conclusion

With users comfortable using the PDAs, the project will next concentrate on feeding back relevant details of best practice to the PDAs, so that the person reporting the CAE can consider how best to reduced the likelihood of the same CAE happening again.

A successful PDA replacement for the old paper based forms was developed by concentrating on users and usability. The ease with which data can be captured combined with excellent escalation tools has streamlined the reporting process within the Trust.

Savant is an independent, well-established IT company specialising in developing software for the clinical, medical and healthcare sector. Since 1982, Savant has been developing software, relational databases and information management systems for a range of UK clients. Our projects include PULSE, the National Blood Service's life-critical control system used to ensure the safety and availability of the nation's blood supplies and Hematos, the National IT System for NBS Diagnostic Services, designed for use by blood transfusion centres and hospital testing laboratories

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## **Savant**

**For more details on our PDA applications and development please contact:**

Glyn Jones  
Business Development Manager  
Savant Enterprises Limited  
2 New Street  
Carnforth  
Lancashire

WWW: [www.savant.co.uk](http://www.savant.co.uk)  
Phone: 01524 737300  
E-mail: [pda@savant.co.uk](mailto:pda@savant.co.uk)