Royal Brompton & Harefield NHS
NHS Trust

Hospital Puts Patients First with Mobile Solution from Microsoft and Hewlett Packard

Summary

Staff at Royal Brompton & Harefield NHS Trust have to spend a lot of time transferring notes and updating patient records. As a leading research institution, the Trust needs to capture this information effectively and make it more accessible to medical staff and researchers. Using the Compaq TC1000 device from Hewlett-Packard, the Trust tested a solution based on the Microsoft® Windows® XP Professional Tablet PC Edition. This solution integrates with the hospital's electronic patient records system and has the potential to provide access to critical information from anywhere within the hospital, improving staff productivity and patient care.

Customer profile
Royal Brompton & Harefield NHS Trust is known for its leading-edge treatment and care of people with heart and lung disease.

Business Situation
Medical and nursing staff recorded notes and patient records on paper and there was no efficient way of sharing it.

Solution
Microsoft® Windows® XP Tablet PC's deployed among staff for mobile access to patient records and research information.

Benefits
- Tablet PC has full power and functionality of a notebook PC
- Lightweight with keyboard or pen option
- Enables on-the-spot data input and access – ensuring accurate patient records
- Costs less than similar devices, runs standard applications, saves time and requires little training, resulting in reduced costs.
- Enables doctors to spend more time with patients
- Ensures valuable information capture for research

Software and Services
- Microsoft® Windows® XP Professional Tablet PC Edition

Hardware
- Compaq TC1000

Situation
Royal Brompton & Harefield NHS Trust was established on 1 April 1998 following the merger of Royal Brompton Hospital and Harefield Hospital. It is based at sites in Chelsea, London and Harefield, Middlesex. The Trust is known for its leading-edge treatment and care of people with heart and lung disease.

The Trust is increasingly turning to new technologies in order to maintain its high level of research, while keeping costs down. However, at Royal Brompton, staff recorded notes and observations on paper, though systems have been in place for many years in AICU to gather patient information automatically. Information is available which was potentially useful to other medical practitioners and as a reference for researchers, but there was no efficient way of sharing it.

Mansel Chamberlain, Business Systems Manager, Royal Brompton Hospital, says: "Patient data recorded on paper is easily misplaced. Also, medical professionals may not have the full patient's history available before treatment."

With only 20 per cent of patient data contained in the electronic patient records, the hospital needed to increase the amount of patient information available.

"Government guidelines stipulate that patient records need to be fully accessible electronically by 2005 and we are working towards that goal," says Chamberlain. "We needed to ensure that the new solution integrated with our electronic patient records system." The Trust also wanted to cut down its administrative process and dedicate more time to face-to-face patient care.

Solution
The hospital looked for a mobile solution, enabling medical staff to access and update hospital data and patient information while on the move. In November 2002 it took the decision, to try out a solution based on the Compaq TC 1000 device from Hewlett-Packard, using Microsoft® Windows® XP Tablet PCs.

The Tablet PC is the evolution of the notebook PC, yet more versatile, the Tablet PC is based on Microsoft Windows XP Professional Tablet PC Edition, an operating system with the full capabilities of Windows XP Professional. Not only does the device run all Windows XP–compatible applications, it also offers enhancements that enable digital pen-based computing. This functionality is extended with Microsoft Office® applications such as Word, Excel, PowerPoint® and the personal information manager, Microsoft Outlook®.

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Theatre Manager
Royal Brompton Hospital

Using the Tablet PC, medical professionals can access hospital records and information held in any department, from anywhere in the hospital. Staff can look up medical records or update their notes while sitting with patients on the ward.

Royal Brompton's electronic patient records were already held in a Microsoft SQL Server™ database, so implementation of the Tablet PCs was fast and simple. Fiona O'Halloran, Public Sector Business Productivity Solutions Group, Microsoft, says: "A Microsoft infrastructure was already there, so integration was seamless."

Compaq TC1000 devices from Microsoft Partner HP were chosen for their lightweight, slim design and functionality. "The HP device is the best there is. It is versatile and adaptable – an ideal tool for people here," says Chamberlain.

The device's docking system expands its usability, standard applications such as Microsoft Word, Microsoft Excel, or email can be accessed from the desk with no synchronisation required. The docking station also supports easy transitions with multi-monitor docking profiles, allowing a dual screen set up.

HP worked closely with the hospital to ensure the solution suits the way doctors, nurses and pharmacists work. Steve Gales, Senior Category Manager, Portable Business, HP, says: "HP has a very close relationship with Microsoft, ensuring that its applications and operating systems run effectively on our devices.

"Together we provide flexible wireless environments. For Royal Brompton & Harefield NHS Trust we developed high speed wireless network zones that utilise the device's integrated wireless antenna to work seamlessly – so doctors can move around but always remain connected."

Benefits
Versatile and Adaptable
The Tablet PC offers Royal Brompton & Harefield NHS Trust the full power and functionality of a notebook PC. It is easy to use, and small – about the size of an A4 pad. This means staff can carry the devices with them at all times. But it is even more versatile, with the option to use keyboard and mouse, or digital pen to take notes, input data, generate or annotate diagrams, or navigate the interface.

At Royal Brompton, the Tablet PC's Digital Ink technology makes handwriting-enabled applications much more powerful than ever before. Users can take notes, draw, or convert their own handwriting to text. Patient information can be inputted on the spot. "No more searching for missing case notes," says Chamberlain. "Now, patient records have the potential to be up to date and accurate."

The device is also ideal for capturing meeting notes saving people from having to write them up later. It also enables the quick distribution of action points.

Mobile and Efficient
The Tablet PC's grab and go docking station and Windows XP wireless support give medical staff the freedom to move about the hospital without losing network connections. HP's Compaq TC1000 device weighs only three pounds, and has an extended battery life.

"People don't have to be tied to their desks every time they want to enter new data," says Chamberlain. "Data can be accessed and analysed much more quickly than by manual research. It is a very powerful tool."

Cuts costs and Increases Productivity

Royal Brompton & Harefield NHS Trust, like most hospitals, needs to keep costs low and productivity high. Fortunately, the Tablet PC costs little more than a standard laptop yet provides the flexibility of an expensive mobile device. It also runs standard applications that were already in use at Royal Brompton. "There was no need to change the system, or slim down the applications to work on the device," says Chamberlain.

Nurses can potentially save the time they spend transferring written notes into a desktop. This constant data input means the Tablet PC has the potential to increase the scope and coverage of electronic patient records at the hospital. "Eventually we will have up to 80 per cent of our patient data available electronically," says Chamberlain.

The Tablet PC also reduces the amount of training that new staff need. Its familiar Windows interface is easy to use, and staff can choose between using a keyboard or digital pen. Paul Silvester, Theatre Manager, Royal Brompton, explains: "I have people that are very skilled doctors but they can't type. Tablet PC bridges the gap between handheld notes and a computer."

Improves Patient Care

Above all, surgeons can plan operation schedules at consultations, pharmacists can send prescription requests without returning to the dispensing department, and doctors can sign patient prescriptions remotely. Staff can even use the device to show people who can't move from their beds the results of tests such as x-rays.

"The device enables hospital staff to spend more time with patients, improving overall care as well as being an ideal way to capture valuable information and data that contributes to the hospital's pioneering medical research," says Chamberlain.

Working with mobile systems can bring enormous benefits to healthcare providers, but the sensitivities of the particular nature of NHS Trusts need to be taken into account as these systems are implemented. For example, HP and Microsoft are working with the relevant national bodies on ensuring that wireless systems implemented in Trusts are fully secure and that the users have full understanding of and confidence in that security, which ranges from securing patient data to undertaking physical measures to ensure the very attractive mobile devices are not lost or stolen.

In addition, HP and Microsoft are working with appropriate national bodies on other specific healthcare issues such as the way in which a wireless network interacts with patient connected equipment and how the devices feature in infection control procedures. The implementation of wireless networks using Tablet PCs in health Trusts demonstrates how the specific and unique needs of each customer can be taken into account, as these enormously flexible solutions are deployed.

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HP is a leading global provider of products, technologies, solutions and services to consumers and businesses. The company's offerings span IT infrastructure, personal computing and access devices, global services and imaging and printing. HP completed its merger transaction involving Compaq Computer Corp. on May 3, 2002.

For more information about Compaq Computer Ltd. products and services please call 0845 270 400, or visit http://thenew.hp.com/country/uk/eng/welcome.html.

About Microsoft

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- Solution Centers showcasing MS and HP solutions operating within complex, multi-vendor, and real world IT environments
- Enterprise .NET Solutions

HP brings unique capabilities to the Frontline Partnership

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