Mobile technology can streamline care, release time for patients and improve data collection as well as make savings through reduced admissions and referrals

How mobile technology can improve healthcare

In this article...
- Outline of the Mobile Health Worker Project
- Key findings of the project
- Relevance of these findings for clinicians

Author
Kathryn Drayton is a district nurse at Northern Lincolnshire and Goole Hospitals Foundation Trust

Abstract

This article reports the key findings of the national Mobile Health Worker Project. The project involved services across a variety of locations and the results provide a clear picture of how mobile devices could benefit health professionals and the care that can be offered to patients.

The Mobile Health Worker Project (MHWP) set out to understand the requirements of mobile working for health professionals and to identify whether it could increase productivity and efficiency. The project involved health professionals from eight of the 10 strategic health authorities in England, with 764 health professionals contributing to the data analysis.

The initial phase of the project ran between September 2010 and September 2011 and involved 11 sites and 16 distinct services (Box 1). The second phase, using the same data collection methods, captured data at three-, six- and nine-month time frames. Six of the initial sites took part, but chose their own “go-live” dates to suit their organisations; all sites completed data collection by February 2012.

Method
All pilot sites used the Panasonic Toughbook as it had already been used successfully in clinical practice. Using the same product helped to eliminate variance that could be attributed to the device or connectivity issues. Staff were given the same training and collected data for analysis using the same tool during the data capture period. All sites were asked to collect data from participating staff using a standard baseline assessment tool, which was provided by the MHWP team (Box 2). Once baseline data had been collected, the sites were asked to collect further information in order to identify the impact of mobile devices.

Some health professionals volunteered and were excited by the project; for others, a decision made by NHS organisations to participate was the driver for the project at a local level. Each pilot site was supported by its own local project team, and the national team also visited on several occasions. During these visits the health professionals provided comments from patients or other staff members about the impact of deploying the technology, the difficulties encountered and the benefits of using the devices. This information was used to inform the findings.

Results
The full report of the project was published in January 2013 (Department of Health, 2013). Information was collected by 764 health professionals and the analysis was drawn from over 22,000 days of clinical recording. This represented over 107,000 patient contacts and more than 86,000 journeys. Around 1,500 comments were collected from patients and staff.

Benefits for health professionals
Health professionals reported benefits, specifically to work–life balance and being able to complete work in a timely fashion. All sites reported improved use of “dead time” as staff could access organisational

5 key points
1 The National Mobile Health Worker Project explored the benefits of mobile working for health professionals
2 Clinicians could view and share data between the clinical services involved in patient care and avoid duplication
3 Time spent with patients increased at one site by 104%
4 Data duplication decreased at one site by 92%
5 There was a reduction in “no access visits” of up to 50%
The use of the devices resulted in improvements in the quality and timeliness of clinical data recording, audit information and health professionals’ ability to comply with professional requirements in relation to recording data. Benefits for health professionals included the ability to view and share data between the clinical services involved in an individual patient’s care, and being able to avoid duplication.

Almost every site reported difficulties relating to collecting data for this project; this highlighted the problems the health professionals had using spreadsheets, saving files and returning them to project leads. We also found that staff turnover, leave, absence and rotational staff affected the percentage of data returns.

It was clear from the data that the adoption of appropriate mobile solutions had the potential to significantly improve productivity, efficiency and safety, and could allow services to continue to provide high-quality care with good outcomes. There was evidence that the time spent with patients increased – one site saw a 104% increase in this from the baseline period to the fourth data capture period.

Data duplication was shown to decrease at one site by 92%, freeing up time for clinical care. Journeys and travel time were cut even when clinical activity increased, which shows there was in increase in efficiency. Increased productivity was evident at many sites, with some being able to increase their capacity to see new clients.

There were also savings in admissions and referrals, as well as a significant reduction – up to 50% – in “no-access visits”.

Financial savings

We identified financial savings – unnecessary admissions and referrals were avoided because health professionals had access to clinical information, enabling them to make more informed decisions. NHS Tower Hamlets saved £16,707 per year per health professional by avoiding unnecessary admissions to hospital.

Savings were also made by reducing mileage due to better planning and avoiding back-to-base travel. “No-access” visits decreased as health professionals had access to secure entry codes or telephone numbers to enable them to reach patients. NHS Northampton saved £578 per year per health professional by reducing “no-access” visits.

To achieve these savings, it is vital that health professionals are involved in the planning and implementation of mobile technology. Staff also need ongoing support after the implementation phase; this must be factored in at the planning stage.

Supportive culture

There were significant variations in working processes across the sites and services involved in the project, and in the local planning and deployment of the project itself. Common issues at all sites were difficulty in maintaining the early benefits and being able to resource the project beyond the deployment period. Change management skills and clinical leadership appear to be key to realising ongoing benefits.

The study did not reveal any cultural barriers to technology. Patients reported feeling more confident about their care and health professionals reported being more satisfied as they could fulfil their role more effectively. Services were allowed to make local changes and use online resources at the point of care to improve patient choice and patient interactions. Some sites used electronic applications and moved to paper-light working. As a consequence of using mobile technology, two sites have successfully deployed electronic patient records.

Adapting to local needs

Mobile solutions cannot be standardised across services as requirements differ greatly. We have shown that benefits differ from service to service. Introducing technology brought challenges to local services, such as exploring connectivity from sites such as staff or patients’ homes, which required the support of information governance teams.

The future

There will continue to be significant advances in mobile technology and organisations like the NHS may find it difficult to keep abreast of these. Network providers are striving to improve accessibility, while system suppliers are looking at problems with connectivity. Exploration is being made into applications that can produce care records without connectivity, which can be synchronised with existing records when connectivity becomes available. In future, there will be a greater range of devices to support health professionals as well as a reduction in the cost of provision.

Conclusion

The evidence is now available for organisations to plan to deploy mobile devices successfully to support health professionals in care delivery and improve patient experiences. The findings of this project, along with the lessons learned, will assist organisations in achieving the benefits of introducing mobile working. NT

For more information about the project, visit tinyurl.com/mobile-health-tech

Reference
