

Real-Time Data Enhances Human Service Delivery

Mobile computing through handheld devices holds promise for improving the quality of family services, caseworker productivity, and on-the-job satisfaction.

By Marty Elisco, Motorola, Inc.

SOCIAL WORKERS AND OTHER HUMAN SERVICES WORKERS hold the complicated well-being of at-risk community members in their hands. They monitor their physical social, mental and economic health. They work in members' homes as well as in schools, hospitals, and other locations within the community.

In the process, human services workers are required to document daily activities, interactions, progress, findings, and results. Collecting this data while in the field then re-entering the data into the 'system of record' upon returning to the office occupies a significant portion of the caseworker's time.

In addition to the impact on workforce productivity, the lag time between when data is collected in the field and when it is visible in the system impacts service quality as well as the efficiency of the agency. While some caseworkers may enter the information at the end of the day, others may not enter information until the end of the week due to the huge volume of paperwork. Paperwork can also be misplaced, resulting in data that is never entered and is forever lost. In essence, paper-based processes are vulnerable. At best, they can slow the delivery of services, At worst, they can have a disastrous impact on a child or others in a risky situation.

Mobile computing offers a practical solution.

What is mobile computing?

Mobile computing technology allows caseworkers to collect and access client data on a handheld device in real time, at the point of client contact, extending the reach and value of existing IT systems. Familiar paper forms become electronic forms. And since the handheld device is connected to the cellular network, the data can be instantly transmitted into the agency's centralized system.

One major concern is the potential disruption that can occur when moving from a paper-based system to a mobile computing system—a risky venture that could have a detrimental impact on service delivery and safety. Fortunately, the move towards a real-time system can be implemented slowly and methodically, resulting in an evolutionary process rather than a revolutionary one. Changing from paper to electronic forms can be done in increments. For example, an agency could convert one additional form from paper to computer each month.

The benefits of mobile computing

Mobile computing delivers a wealth of benefits, positively impacting not only the individual caseworker, but also the client and the many government agencies involved in the delivery of services. Mobile computing:

- **Improves quality of the client visit:** Preparing for the visit and collecting required information during the visit now takes less time — the press of a few buttons provides a full up-to-the-minute history and less time is required to collect the data while on site with a client. Also, because of its small size, the device will not act as a perceived barrier between caseworker and client.
- **Improves the timeliness of services:** Human services agencies are beginning to leverage academic models and algorithms that run on high-end servers for decision support in the field, including Structured Decision Making (SDM). SDMs are computing models based on an actuarial analysis that process information collected by the caseworker to determine the best course of treatment.

Before SDM, professionals as well as caseworkers were required to review at-risk situations before treatment could be provided to the client or protective actions could be taken. However, in human service delivery, the length of time between when the risk situation is first recognized and when treatment or services are delivered is proportional to the likelihood of harm occurring to the client. SDMs improve the time it takes to make decisions.

- **Improves caseworker productivity:** Mobile computing eliminates the 'double touch' of the data (collection by paper and pen and subsequent data entry into the computer), and also simplifies the actual act of entering the data. For example, many fields on the forms can be automatically filled, such as client name, address and list of services due.
- **Improves caseworker on-the-job satisfaction—and retention:** By leveraging the technologies in a handheld mobile computer, agencies can eliminate many inefficiencies in today's business processes. As a result, workers view the agency as investing in minimizing non-value added activities, helping case workers to maximize their abilities to provide human services—and improve the lives of their clients.
- **Improves the quality of data:** The ability to enter data electronically eliminates errors that result from deciphering illegible handwriting. And the ability to enter some or all data on-the-spot prompts the collection of more detailed and more accurate information— instead of relying on memory at a later time.
- **Improves data availability—within and across agencies:** Since information is transmitted in real time, there is no lag time between when information is collected and when information is visible in the business systems. The new real-time business process dramatically increases the velocity of information flow.
- **Eliminates cross-agency duplication of efforts:** Interoperability between agency systems and the ability of the device to simultaneously access multiple systems enable the creation of a single electronic client record that can contain all the pertinent history for multiple agencies.
- **Paves the way for continuous improvement:** In addition to electronic forms applications, there are many other mobile computing technologies that can further improve the delivery of services when integrated into case management workflows.
 - > **Image capture:** The ability to incorporate photographs and videos into case files provides required proofs, enabling the swift action required to protect clients in risky and hazardous situations. In addition, caseworkers can capture images of critical documents, such as licenses and certificates that are otherwise difficult to collect.
 - > **Location-based services:** Using integrated GPS, supervisors can verify the location of field workers, confirm visitation, enforce working hours, and improve caseworker safety and management. Caseworkers can also access driving directions, ensuring efficient driving routes and prompt arrival times. Also, in the event of an emergency, the nearest caseworker can be routed to the incident.

Case Management in the Military

Twenty thousand Motorola mobile computers are now being used by medics in combat zones in Iraq and Afghanistan to record an injured soldier's name, vital statistics and the initial medical treatment, which is quickly transmitted to doctors and nurses at hospitals. Doctors can access this information from anywhere to learn what procedures and medications have been administered, saving precious seconds and alleviating redundant treatments.

The information is also batched and uploaded to a database in a central repository for a lifetime medical record that the U.S. Department of Veteran's Affairs can access.

- > **Biometrics:** Biometric technology (real-time use of biological identifiers like fingerprints) can be used to validate identities and confirm that the proper people are both receiving and providing services, preventing falsification.
- > **Bar code scanning and RFID:** If supplies are delivered to recipients, barcode scanning or RFID can track distribution and receipt by clients. Also, barcode scanning and RFID can be used to quickly acquire personal information contained in a driver's license barcode or chip.
- > **Access to personal productivity applications:** Workers can create and access Microsoft Word and Excel documents and email to improve productivity throughout the day.
- > **Crucial voice connectivity:** Each mobile device is also a cell phone or VoIP phone. As a result, case-workers can connect to clients, colleagues and supervisors throughout the day.
- > **Connectivity to peripherals:** Via Bluetooth or USB, peripherals such as headsets, monitors, or keyboards can be used to enhance the comfort of the caseworker using the device.
- > **Multiple means to collect narrative data:** Human services workers may prefer having multiple options to enter narrative data, and can do so via integrated keyboards, peripheral keyboards, or via voice recording.
- > **Remote management:** Back at the office, supervisors can monitor the fleet of devices while they are being used in the field. They can remotely update software if a form needs to be changed, be notified of an emergency, and lock down a device if it goes missing.
- > **Durability:** The rugged nature of devices means that IT maintenance costs are minimized: the devices are designed to last years without needing replacement.
- > **Hardware cost savings:** The ability to provide caseworkers with a single device for mobile voice as well as data eliminates the need to purchase more than one device per worker, substantially reducing capital and operational costs.

Mobile computing is already being used in other health and human service fields such as hospitals. With so many benefits to offer, it's only a matter of time before caseworkers in child welfare and other human services agencies experiment with it as well.

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