



Mobile Technologies are Helping Improve Outcomes at the Point of Care

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Improving Outcomes at the point of care is a critical challenge for healthcare. Combining post acute processes and technology to provide a foundation for care provider collaboration via a common approach to secured electronic healthcare records is critical to the future success of the healthcare systems.

The following whitepaper has been developed to highlight innovative solutions and mobile technology that brings additional resources to the fingertips of nurses and homecare professionals at the frontline to support their clinical decision-making and contribute to improved client outcomes. With day to day changing patient needs, there is increasing evidence that mobile technology and applications will transform the industry and facilitate faster and better communications, as well as rapidly providing integrated outcome data to the front line field staff.

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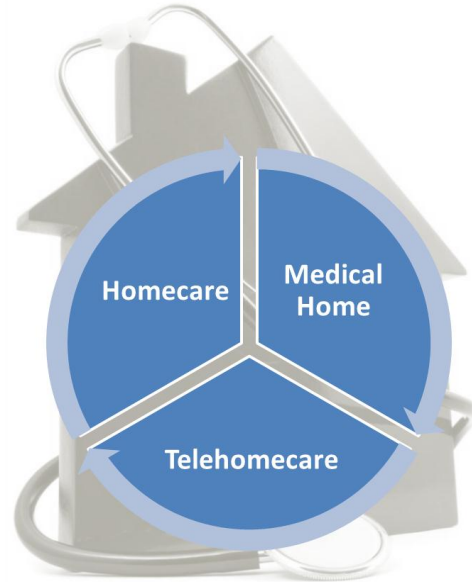
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Background

Homecare encompasses a wide range of community-based services that support a person in need of care. This type of care may be particularly appropriate for an individual who is more comfortable receiving care in the comfort of his or her own home or a common facility. Homecare continues to be a preferred care-delivery method and is an increasingly crucial component of the healthcare system. The benefits of homecare continue to be realized on a daily basis and, as the population ages and continued stress is put on the existing healthcare system, the ability to provide high-quality care to a large population of individuals is becoming a necessity.

The convergence of Homecare services, Telehomecare and the Medical Home will have profound impact on the future care models and will ultimately improve patient outcomes and the cost effectiveness of care delivery. With this approach reimbursements can also be tied to improved outcomes and the healthcare systems will become more efficient.

While many of these areas are underway today, few are integrated and providing the value of the connectivity, mobile work force and the data gathered.



This white paper will explore mobile healthcare solutions in use to gather, analyze and provide guidance on care delivery at the point of care.

Homecare	Health care and/or supportive care provided in the patient's home by healthcare professionals. Home care aims to make it possible for people to remain at home rather than use residential, long-term, or institutional-based nursing care. These services may include some combination of professional health care services and life assistance services. Professional home health services could include medical or psychological assessment, wound care, medication teaching, pain management, disease education and management, physical therapy, speech therapy, or occupational therapy.
Medical Home	Also known as the patient-centered medical home (PCMH) is defined as an approach to providing comprehensive primary care... that facilitates partnerships between individual patients, and their personal providers, and when appropriate, the patient's family typically done in a home setting.
Telehomecare	The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities.

Solution Overview

Substantial research demonstrates that nurses and other homecare professionals can influence patient outcomes in the area of homecare. Outcome-based care systems help coordinate the gathering of (i) initial patient assessments, (ii) patient reassessments, and (iii) discharge assessments, all using common measurements, including those defined by the HOBIC, interRAI and OASIS standards. HOBIC is the



acronym for Health Outcomes for Better Information and Care, an initiative of the Ministry of Health and Long-Term Care in Ontario, interRAI is a collaborative network of researchers in over 30 countries committed to improving health care for persons who are elderly, frail, or disabled with a goal to promote evidence-based clinical practice and policy decisions through the collection and interpretation of high quality data about the characteristics and outcomes of persons served across a variety of health and social services settings and OASIS is the acronym for Outcome and

Assessment Information Set, used primarily in the United States. The objective of these programs is to introduce a short set of standardized measures of patient status into nurses' admission and discharge assessments.

Electronic assessments can be built into nurses' and homecare professionals' visits at the point of care. Such assessments may include initial patient assessments, patient reassessments, and discharge assessments. With these assessments, nurses can assess their patients' statuses throughout the homecare process, compare their patients with others of similar age, gender and diagnosis, determine when patients are achieving their best outcomes, and know when patients are sufficiently prepared to care for themselves after discharge. The assessment data, when gathered in a common way and shared across a care team, helps to provide the data necessary to adjust care plans and to provide for the best care possible in the future.

The mobile assessment solution includes an integrated system that receives from a communication device (i) an identifier of a patient and (ii) a login credential associated with an individual. The individual is selected from among a list of individuals that includes a physician, nurse, other caregiver and

potentially a family member of the patient. The system then makes a determination based on the login credential that the individual is authorized to access a record of the patient. The patient record is stored in a database and is associated with the patient identifier.

During the assessment process the system prepares guidance which may include suggestions for the caregiver on the patient record, and provides the information to the communication device. The assessment includes a measurement to be taken (such as the patient's blood pressure, heart rate, wound condition, etc.). The system subsequently receives a measurement result from the communication device and updates the patient record based on the result. The result is associated with the measurement.



Based on the clinical orders, information stored in the system can help provide a set of guidance to help the caregiver create a patient specific care plan based on the patient record (which reflects the received measurement result) and provide the care plan to the communication device. The care plan includes a task to be performed (such as providing blood-pressure medication,

etc.). The system subsequently receives a task status from the mobile communication device and updates the patient record based on the task status. The task status (such as a confirmation that the medication was administered or change in condition of a wound) is associated with the task.



This data is collected and stored in an electronic format that can be securely accessed by the entire care team.

Previously, assessments were paper based and were available only to a single care-giving individual until the results were manually entered into a clinical system. The error rate associated with paper-based

manual processes may be as high as 10%.

Paper-based forms are also susceptible to errors that arise from poor handwriting, missing pages, or unreadable data, any of which could require a caregiver to completely redo an assessment.

With the solution, caregivers and the entire care team can see the results of assessments in real-time and make changes to the care plan provided to the patient. A care plan can be changed just as quickly as assessment results are gathered. The care team no longer



needs to wait for information to be manually entered into a system because this process has been eliminated (along with the errors that may occur in paper-based processes).

Further, the solution brings together the care team with simultaneous access to electronic health records data. Hospitals, care centers, doctors, home and community care providers, community care access centers, insurance payers, government health systems, family members, and trusted advisors can all access a patient’s health record, simultaneously and in real-time. The care team may also be able to access other records of the patient, such as a personal healthcare record that is owned and maintained by the patient.

Outcome based care systems provide a framework for a standardized approach to care planning and care delivery to ensure the achievement of high quality, safe, compassionate and ethical care.

Central to an outcome based care system is the importance of making clinical decisions based on evidence at the client-nurse interface. The system is anchored by the principles of comprehensiveness, measurability, accountability, transparency and client collaboration.



Embedded in the outcome based care system is a focused electronic documentation system which helps to streamline paperwork, maximize consistency, and improve an agency’s ability to evaluate client outcomes. The foundation for a nursing workload measurement system is also a cornerstone of the system. The solution is the foundation of an integrated home health point-of-care mobility and administration system that enables efficiencies with; staff scheduling, tracking and travel management, electronic visit record and care plan administration and clinical management and outcomes.

This solution comes together in an integrated mobile application platform designed to allow you to have choices around devices, mobile operating systems, carriers, clinical and back office systems and to enable you to configure the solution for your use on your terms.

After initial use the technology care process improvements have enabled the following results:

Results of using mobile point of care solutions to improve the assessment process include	<ol style="list-style-type: none"> 1. Decreased workload for nurses and homecare professionals 2. Increased compliance and productivity with reduced operations costs 3. Increased collaboration of the care team and faster development of patient specific care plans 4. Improved management of clinical outcomes 5. Improve medication reconciliation compliance rates
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Summary

Capturing assessment, reassessment and discharge data at the point of care and analyzing that data in a collaborative approach across your agency will allow you to improve outcomes at the point of care. The assessment automation solution provides additional healthcare condition and information tools that helps bring best practices to your nurses and caregivers as they develop patient specific care plans.

The results may surprise you as you look to empower your front line care providers, importantly this process can be done with mobile technologies and solutions that connect your organization and enable a true care team approach. Taking this next step toward care automation will enable home healthcare workers to have more time to spend with patients, along with access to automated data like patient instructions and addresses will help cut down on verbal or written errors and your healthcare workers will process less paperwork, which helps increase efficiency, reduce errors and allows them to concentrate on more important tasks including improving the outcomes at the point of care.

Lessons learned from the front line

Clinicians are hands on learners

Multiple strategies for learning need to be employed for success

Clinical solution development is a complex and involved process

Leadership is key to any change initiative

Flexibility and adaptability will support achieving the vision

User acceptance of the application and navigation on a mobile device will likely exceeded your expectations

Value of Real Time Assessment – trending, management of client care and quality are transforming how you manage care in the community to deliver improved outcomes

About CellTrak Technologies

Founded in 2006, CellTrak Technologies, Inc. is the leading provider of integrated mobile solutions for the home healthcare, hospice, and private duty markets. Our patented software-as-a-service solutions run on GPS-enabled mobile devices via a homecare technology platform which automates workflow and reduces cost. Data is transmitted wirelessly to an internet site making the data available real time and secure instantaneous integration is provided to the back-end clinical systems and the payer networks. Healthcare professionals have delivered millions of successful visits via CellTrak.

The US Patent and Trademark Office awarded CellTrak Patent Number 8,019,622 “Home Health Point of Care and Administration System” on September 13, 2011. The patent recognizes the intellectual property CellTrak has contributed to healthcare technology since 2005 and includes 20 Claims with 22 drawings focused on Mobile Devices for Care Providers. Specific intellectual property includes; Staff scheduling, tracking and travel management, visit record and care plan administration and communications.

On September 15, 2011 CellTrak acquired Cambridge, ON based MedShare a leading provider of mobile clinical solutions.

For more information please visit: www.celltrak.com