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dbMotion™ SmartWatch™

Accessible & Actionable Health Data for Population Management

SmartWatch is the breakthrough application from dbMotion that delivers comprehensive patient data to healthcare providers' fingertips. Its powerful technology achieves effective population management by providing data that has genuine meaning, data that is truly usable and data that is accessible in the exam room, unit or home.

More importantly, SmartWatch is 'smart'. It proactively alerts providers to situations that need attention – such as a diabetic patient whose HbA1c level is due to be checked within two weeks or a patient with COPD who has been admitted to a hospital across town.

Simply put, SmartWatch takes data that in the past was merely *available*, and makes it *accessible* and *actionable*. With unprecedented population management functionality, SmartWatch enables providers to monitor many patients holistically – regardless of the source, location or format of vital personal health information.

Delivering semantically organized information to improve population health management, preventive care, bio-surveillance

SmartWatch empowers care providers with information to deliver previously unattainable levels of care, such as:

Automatically notifying a provider when a diabetic patient requires microalbumin testing or an annual dilated eye exam. The result: improved chronic disease management.

Triggering an alert when a child lacking routine immunizations is seen in three different emergency departments over a six-week period with injuries indicative of domestic violence. The result: proactive child abuse interventions.

Signaling the provider when a 53-year-old male due for a baseline colonoscopy fails for the third time to appear at the gastroenterologist's office, triggering personal outreach about the importance of cancer screening. The result: increased compliance with preventive care recommendations.

Enabling providers to immediately notify government agencies when they encounter an otherwise healthy patient younger than 50 who died from the H1N1 virus or a college student who presents with tuberculosis. The result: comprehensive public health monitoring and research support.

Equipping providers with real-time notifications to monitor and intervene at all stages of patient wellness – for example, prompting a provider to initiate an alternative treatment with a congestive heart failure patient who is not on an ACE inhibitor, but has a contraindication to this class of medication. The result: effective population management.

Releasing data locked in silos

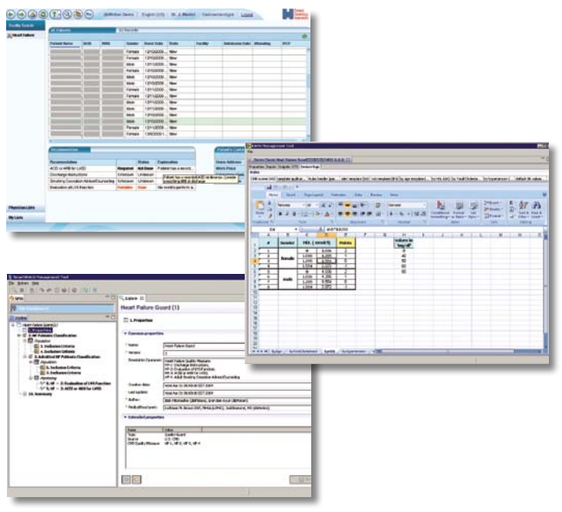
Legacy HIT systems don't offer the critical functionality necessary to help providers effectively improve the quality of care or reduce spiraling costs. The obstacles are numerous:

- Data sources are scattered across the many providers patients see over the course of their lifetimes
- Various clinical systems employ different vocabularies and nomenclatures
- Decision-support tools are often inadequate because they lack comprehensive information about specific patients; they also may be difficult to use and can't be readily integrated into familiar workflows or customized to fit specific user and/or provider needs
- Features inherent to existing decision-support tools fail to supply appropriate intelligent decision support – which will improve care while minimizing concerns about "alert fatigue"
- Lagging technology doesn't deliver tools enabling compliance with guidelines governing quality and reimbursement initiatives such as pay-for-performance (P4P) and the patient centered medical home

dbMotion's innovative SmartWatch provides unprecedented access to information locked in data silos. Built on a population-based analysis and monitoring framework, SmartWatch intuitively helps manage and track the progress of individuals or specified classes of patients. It leverages semantic interoperability – a platform allowing multiple HIT systems not only to share information, but to truly understand and make use of the incoming data. Plus SmartWatch delivers automated alerts and updates about patient conditions, events and activities directly to any screen or Smartphone via an easy-to-navigate clinical dashboard.

The result: The right knowledge is available to the right provider at the right stage of the care process – enabling use of the data's true meaning.

SmartWatch also ensures that the information now available is easy to understand and manage. Data is viewable through dynamic dashboard functionality, supported either by dbMotion's CareBoard™ application or other third-party inbox tools, enabling providers to "close the loop" by collaborating with colleagues or otherwise responding to relevant events.



Technological Underpinnings

Technology discussions can be daunting, and so-called innovations are virtually worthless if they are not easy to use. SmartWatch is constructed to work as intuitively as other software that is part of daily workflows.

The knowledge framework does the heavy lifting – capturing, translating and repurposing discrete data. Users are able to easily customize what they see and how they see it - without requiring programming expertise. Fibromyalgia, for instance, is not often found on chronic disease management menus. Providers who monitor and treat these patients using SmartWatch can input their own benchmarks and measures, triggering predetermined levels of response and care.

Running transparently underneath other SmartWatch functionality is virtual patient object (VPO) enrichment; reinforcing a patient-centric approach, SmartWatch semantically and holistically associates alerts or notifications with other components of the VPO, as well as correlates patient events with other clinically relevant data.

Helping deliver optimal care across the continuum

Effective population management that leverages the true meaning of information, at its core, requires monitoring large populations over time, analyzing and reporting on performance and outcomes in order to realize improvement in healthcare delivery. SmartWatch delivers key functionality to simplify this seemingly impossible mission.

To be successful, providers need comprehensive information that allows them not only to follow their patients, but also to lead them – proactively ensuring they are getting preventive services and complying with the care plan, as well as keeping an eye on emerging conditions so interventions can be launched as soon as they are indicated.

Semantic Interoperability

SmartWatch leverages dbMotion technology for dynamic and real-time monitoring of specific patient populations, delivering clear and concise notifications and alerts about pertinent events associated with these individuals. For example, the primary care physician (PCP) wants to be notified if CHF patient Mrs. Jones has not undergone an echocardiogram in six months; does not have active prescriptions for ACE inhibitor or ARB, aspirin and beta-blockers; or did not attend smoking cessation support meetings as recommended.

In order to activate such an alert, a number of questions must be answered, such as: How to define the population? How to maintain the population as always-updated over time? In what HIT system is each piece of information stored? How is it accessible? How is it data coded, and in what structure? Is the information up to date? How does the system define CHF? A beta-blocker?

SmartWatch removes these barriers though semantic interoperability, aggregating and analyzing data according to well-defined semantic framework and knowledge modules; forwarding relevant population-based information to caregivers across the continuum.

Decision Support

Convenient decision support tools empower the application of clinical knowledge – via evidence-based guidelines, organization-specified protocols, or payer-approved treatment pathways – to optimize care. SmartWatch functionality then recommends a possible course of action, based on the information available. Notification about what needs to be done, when and by whom, is automatically generated to "close the loop." SmartWatch interfaces with external systems such as mail servers or EMRs to:

- Send e-mails to PCPs or attending physicians
- Update specific sections of the electronic medical record
- Provide notifications and alerts in an advanced, web-based physician desktop/inbox
- Update research and analytics databases

Advanced population management tools

Effectively conquering the population health management challenge is akin to achieving the summit of Mt. Everest. It requires accurately identifying target individual patients within a much larger population, and monitoring their status over time across the continuum according to multiple variables and preset quality guidelines.

Non-events are one of the greatest obstacles: How is it possible to know when something didn't happen, such as a diabetic neglecting his eye exam? As difficult as this is to monitor within a single HIT system, it is virtually impossible when data are spread across disparate sources and systems. Built on the dbMotion interoperability platform, SmartWatch effectively sets an alarm clock for every patient in a select population group, documenting when a previous visit, screening lab test or treatment took place and noting when the next action is due. No-shows and non-events trigger an alert so providers can reach out to the patient with a reminder.

A second significant challenge is monitoring emerging conditions such as diabetes. A patient may be approaching quality benchmarks that require eventual intervention. Providers need to know when the thresholds have been exceeded, so treatment can be initiated earlier, slowing progress of the disease and minimizing the occurrence of co-morbidities.

In short, SmartWatch automates and streamlines all the activities that define population management:

- Semantically harmonizing the format, terminologies and nomenclatures of information aggregated from different source systems
- Identifying target populations from cross-continuum information
- Applying knowledge to the harmonized information
- Simplifying alert and notification cycles
- Tracking no-shows and non-events
- Monitoring emerging conditions, as well as implementing exacting quality measures
- Communicating effectively with physicians, patients and other members of the care team

Reporting and analysis

In this day and age, it's not enough to simply practice good medicine; reporting on performance, quality and outcomes measures are also part of the care cycle. SmartWatch delivers the clinical intelligence needed to comply with these requirements – as well as instigates internal process changes to improve care delivery. SmartWatch enables analytic and reporting tools to reflect relevant quality measures. These can also be easily customized and reused to ensure the greatest value out of the data available.

Clearly, the healthcare industry is in the midst of transformation - the right tools and technologies will empower providers to successfully transition and leverage this evolution; and in the process, improve care and outcomes, reduce costs and simplify response to the ever-increasing demands for reports and analysis.

SmartWatch improves healthcare

- Advance preventive health efforts
- Provide proactive healthcare
- Increase effectiveness of population health management
- Simplify bio-surveillance and public health monitoring
- Support clinical research and clinical trials
- Leverage existing infrastructure and data in transformational ways
- Eliminate any need to centralize data
- Achieve interoperability through integration with the semantic framework
- Improve regulatory and P4P compliance
- Reduce administrative costs and effort

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About dbMotion

dbMotion is an innovative provider of health interoperability solutions for connected healthcare. It develops and markets the dbMotion™ Solution, a proven SOA-based platform that enables healthcare organizations and exchanges to meaningfully integrate and leverage their information assets, driving improvements in the quality, safety and efficiency of patient care. dbMotion transforms care through the creation of a virtual patient record that logically connects patient information in existing systems without requiring their replacement. By providing access to integrated patient information the solution connects care settings, bridging gaps that often exist between inpatient/acute care and community care, and demonstrates a compelling return on investment (ROI).

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