A New Prescription for Mobile Health
Overcoming the Barriers to Widespread mHealth Adoption
Introduction

By the end of 2013, the number of mobile-connected devices will exceed the number of people on earth, and by 2017 there will be nearly 1.4 mobile devices per capita worldwide.¹

The explosive adoption of mobile devices in the last decade has created new expectations around information access. Technology solutions that seemed impossible just a few years ago are now feasible, and in certain instances, available. In healthcare, for example, Mobile health (mHealth) was not being contemplated in a serious way as little as 5 years ago, but now there is a groundswell of support for innovative mobile solutions and healthcare organizations are looking to understand how to proceed to leverage this powerful trend.

Today, providers and patients alike are driving demand for innovative mobile solutions to increase access, quality and safety. However, while we see evidence that mHealth continues to expand, we should not mistake forward motion and expansion of app development for coordinated mHealth strategies that are transforming healthcare – yet.

This paper seeks to understand and describe some of the common barriers to mHealth adoption and provides an “mHealth prescription” (our advice) to help healthcare leaders keep pace and advance their mHealth agendas.

Common barriers to mHealth include:
- Misalignment of incentives to adopt mHealth technologies
- Lack of awareness about how to implement mobile
- Lack of collaboration among healthcare organizations
- Difficulty keeping pace with innovation

Our prescription to help overcome these barriers:
- Align with your strategy and identify the key business drivers for mHealth adoption
- Assess mobile readiness
- Partner with other mobile-ready healthcare organizations
- Simplify the mHealth journey

Understanding the Barriers to mHealth Adoption

There are multiple barriers to widespread mHealth adoption. This paper discusses those that present the greatest challenge to healthcare organizations, due to their broad scope and the number of stakeholders involved to address them.

**Misalignment of Incentives to Adopt mHealth Technologies**
Given that mHealth is often viewed as “consumer-driven,” healthcare organizations struggle to invest if it means less funding for other priorities. While there may be tendencies to push mHealth costs onto consumers, successful mHealth initiatives require some investment by healthcare organizations as well. This misalignment of incentives may deter healthcare organizations from investing in mHealth, which leads to the question, “Who should bear the costs?”

**Lack of Awareness About how to Implement Mobile**
Not an issue unique to healthcare, many organizations struggle to determine what they need to adopt a mobile solution. The intersection of health with technology means that hospitals and clinics need expertise which extends beyond traditional IT planning and support to provide guidance on technical, business, and design decisions for mobile implementation.

**Lack of Collaboration among Healthcare Organizations**
Collaboration among organizations to conduct research or enhance health delivery is readily seen in healthcare, yet there are still too few examples of effective mobile partnerships. There have been a few steps in the right direction, but many organizations still tend to think that their hospital or clinical practice has unique needs or processes.

**Keeping Pace with Innovation**
For a generally slow-moving industry, the pace of mobile innovation poses a challenge for healthcare organizations deciding which technologies to invest in. There is a balance between pursuing bleeding edge, “never been done” implementations and deploying safe, proven solutions that may no longer align with the strategic vision in a year or two. The tendency in healthcare is to invest in traditional “big builds,” while other industries are beginning to adopt more agile strategies that keep pace with technology trends. Furthermore, there are gaps in existing channels that allow healthcare providers to endorse and disseminate the apps that add value for their patients and broader community.
Our Prescription

Although Health IT is increasingly being recognized as an enabler of quality healthcare, investment in the right technology continues to be a challenge. It is critical that technology solutions (in particular mobile solutions) maximize value for providers and patients and align with the broader healthcare technology landscape.

To remedy the barriers that are frequently encountered with mHealth adoption, we offer the following four mHealth prescriptions:

1. Align with your strategy and identify the key business drivers for mHealth adoption

2. Assess mobile readiness

3. Partner with other mobile-ready healthcare organizations

4. Simplify the mHealth Journey
Our Prescription

1. Align with your strategy and identify the key business drivers for mHealth Adoption

When considering the incorporation of mHealth into your strategy, the business and clinical drivers for technology adoption should be clear for the end-users. Whether the solution is for patients or healthcare providers, they need to understand the value proposition that mHealth has to offer, particularly with respect to clinical workflow and business operations. Mobile applications can greatly improve productivity and standard of care by providing real-time data, clear reporting, and a single access point for information.

These drivers are often identified in key organizational strategies or even IM/IT strategy documents. Linking mHealth priorities back to how they will help satisfy the key strategic imperatives that are already well known will help support adoption.

Business Drivers
Case Study

VitaHub Chart
A lack of desktop workstations, lack of space to put in new workstations, and multiple electronic systems with different access points are problems that nurses and doctors face inside every hospital. Mount Sinai partnered with VitalHub to find a solution.

To resolve these issues, VitalHub developed VitalHub Chart, a mobile application that aggregates patient data from a hospital’s EHR systems and displays that information in a digital patient chart on iPads used by healthcare professionals.

Determining how the EHR system would integrate with the app, initially launching on one platform to a pilot group, and incorporating feedback into a series of gradual builds, made it easier for Mount Sinai and VitalHub to acquire stakeholder buy-in on the value of using and developing an mHealth solution.
Our Prescription

2. Assess Mobile Readiness

Like most health IT initiatives, mHealth requires effective strategy and change management to be successful. It is critical that healthcare organizations committed to adopting mHealth solutions do so strategically and understand what it will take to be successful.

In order to understand these needs, an organization should assess its mHealth readiness by answering a series of questions. A mobile readiness assessment helps answer questions about what problems need to be solved; how equipped the organization is to solve them; and what needs to be done to ensure a successful solution will be implemented.

An assessment will also help understand mobile lifecycle maturity and ensure alignment to the organization’s strategic directions. For example, where there are no mobile solutions in place, it may require a full suite of services. In other cases, it may require solution optimization due to poor user interface/experience, or simply consolidation of applications.

See the assessment tool after the conclusion for more information on determining mobile readiness.

Readiness Case Study

Better

Better is partnered with and leverages the wealth of resources from the Mayo Clinic to provide premium medical care for their patients.

As a new initiative looking to partner with one of the largest and most prestigious medical organizations in the world, Better needed to perform a comprehensive assessment of the data, systems, processes and people that would provide the services exposed by the Better mobile application.

To this end, Better first did an inventory of the types of information available, then analyzed it further for completeness and coverage. Next, Better studied the systems and processes of the Mayo clinic to determine which had a suitable mobile-ready API. After utilizing the available APIs, Better created a new mobile-ready back-end for the functionality that wasn’t available as-is from Mayo.
Our Prescription

3. Partner with Other Mobile-ready Healthcare Organizations

All too often, individual healthcare organizations are working in parallel to solve the same problem for their respective organizations. Most healthcare organizations want to implement mHealth solutions to satisfy patient and provider demands. This means better integrating documentation and information access into clinical workflows, accelerating the pace in which they can deploy their solutions, and ensuring that their solutions continue to evolve as technology evolves. Not all healthcare organizations have the funds or the capabilities to meet these objectives.

Just as we are seeing healthcare organizations working more closely together around supporting care transitions and sharing of clinical information, we encourage readers to explore the viability of mHealth partnerships with peer organizations in order to reduce cost and avoid duplication of effort. This could include traditional partnerships with equal investments, to emerging partnerships allowing new organizations to leverage and extend existing successful mHealth solutions for their organizations. Forming collaborative partnerships spreads out costs and resources to more efficiently and affordably implement mHealth solutions.

Partnering Case Study

PatientKeeper
Smaller hospitals often struggle to access the capital they require to independently build out their own technology platforms. In south west Ontario, five small hospitals (the Alexandra Marine and General Hospital (AMGH) and the Huron Perth Healthcare Alliance (HPHA), which comprises Clinton Public Hospital, St. Mary’s Memorial Hospital, Seaforth Community Hospital, and Stratford General Hospital have come together to share a common Meditech® Magic health information system (HIS) platform.

The physician community was looking for a way to connect to their patient data remotely from their mobile devices. Through a partnership model, they ultimately selected a single mobile solution – PatientKeeper - that had out-of-the-box integration with Meditech, aligned with existing physician workflows, and offered a competitive pricing model.

PatientKeeper was ultimately rolled out across each of the organizations and achieved 65% physician adoption within 3 months of launch.
Our Prescription

4. Simplify the mHealth Journey

There are two parts related to this recommendation: avoid big builds and use existing apps.

Avoid Big Builds
There is a tendency for healthcare organizations to pursue big builds with regards to their technology assets. As a result of lengthy lead time for requirements gathering and development, this conventional approach may produce obsolete solutions by the time they are ready for deployment. One way to simplify is to partner with (leverage and extend) existing mHealth solutions. Another way is by shifting requirements and the development approach to a more agile focus on building rapid prototypes to demonstrate the solution at work before it is actually complete.

Use Existing Apps
In order to connect consumer demands with clinical use, an organization needs to identify the existing consumer apps that would provide new sources of clinical data to support decision-making. This provides a ready means of implementing mHealth without having to undertake the development oneself.

One of the key success factors for integrating consumer mobile apps with traditional data sets is to establish credible endorsement by the clinical community. Imagine a time when a patient leaves their physician’s office with not only a prescription for drugs, but also an mHealth prescribed app that their doctor has endorsed, which may or may not help support a more comprehensive data set.

Healthcare organizations can better keep pace with technological innovation when deploying an mHealth solution by focusing strictly on what is necessary or using what already exists.

Simplifying the Journey
Case Study

Glooko
50% of people with diabetes do not keep logbooks, or if they do, many logbooks are inaccurate. Furthermore, the existing paradigm of keeping paper logbooks and sharing with healthcare providers does not work well. Glooko makes it easy for diabetes patients and their doctors to download data from multiple blood glucose meters into one view that includes a logbook and historical data.
Conclusion

Front-line providers and patients alike are using mobile technology and continue to drive demand for their healthcare organizations to provide mHealth options.

Successful mHealth adoption requires a shift in how organizations think about health IT. While some may not require separate mHealth strategies, a successful deployment of mHealth requires organizations to assess their readiness to adopt mHealth in a structured way. There is a great deal of potential for positive transformation that is enabled by mHealth. Within the context of your organization’s strategy and your level of mHealth readiness, a healthcare organization can plot a course to put the right mobile technologies and apps in the hands of its providers and patients to ultimately improve the experience and overall outcomes in care.

Our prescription to overcome the barriers to widespread mHealth adoption is:

1. **Align with your strategy and identify the key business drivers for mHealth adoption**
   Incentivize mHealth by promoting its capability to improve productivity and standard of care with access to real-time information, clear reporting, and a single access point for information.

2. **Assess mobile readiness**
   Develop and target the right strategies for a particular healthcare organization depending on their historical investment in mobile technology and capability to enable mHealth adoption.

3. **Partner with other mobile-ready healthcare organizations**
   Explore the viability of mHealth partnerships with peer organizations in order to leverage/extend their successes, reduce costs and avoid duplication of effort.

4. **Simplify the mHealth journey**
   Shift from “large, big builds” to smaller, more agile solutions and integrate existing consumer apps into your data set.
A Tool for Assessing mHealth Readiness

How ready are you to implement mHealth? The assessment tool below extracts sample questions from our mHealth Readiness Questionnaire that is used as a tool to help hospitals assess levels of mHealth readiness.

**TECHNICAL**
The Technical questions address factors such as infrastructure, data security, storage, platform selection, etc. Your IT department should respond to these questions.

- State of Existing Infrastructure
- Security Requirements
  - Operating Systems and Platforms
    - Do you know which OS the majority of your customers use?
    - Does a significant portion of your customers use smartphones?
    - Does a significant portion of your customers use tablets?

**BUSINESS**
The Business questions are used to analyze your strategy for implementation, measuring results, competitor awareness, etc. These should be reviewed by your executives responsible for strategy.

- Distribution Strategy
- Data Storage and Analysis
- Metrics and Expectations
- Development Cycles
- Competitive Analysis
  - Potential Partners
    - Do you have a contact list of companies that have done something similar?
    - Have you performed significant research about what others have done?
    - Do similar solutions exist?
A Tool for Assessing mHealth Readiness

DESIGN

The Design questions assess whether you have thought through layout, navigation, user flow, and visual elements. You should have a mobile UX/UI expert answer these questions.

› Functionality Best Practices

✓ Design Execution

- Have you taken into account the users' average physical ability, age, etc. affect the app's design?
- Have you created a repository of logos, icons, colors, and layouts?
- Have you accounted for how to adapt branding to suit the platform?

YOUR MOBILE READINESS SCORE 66/100

Note this is a sample tool.
About KPMG

KPMG’s experienced healthcare professionals are helping healthcare organizations enhance the patient experience, effectively integrate health services, improve service delivery and quality, and take costs out of the system.

Our Healthcare Advisory team uses a tailored approach to assist health ministries, regional health authorities/Local Health Integration Networks, community care access centers, hospitals, academic health sciences centers, smaller agencies, and physician practices to address their specific issues. We are able to offer clients a full suite of Management Consulting solutions as well as Audit and Tax assistance.

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About Pivotal Labs

Implementing a mobile healthcare solution can seem overwhelming. Issues of privacy and security must be paramount, yet the complexity is often daunting. Companies that make the leap, however, stand to realize enormous benefits.

The Pivotal Labs Healthcare group takes pride in delivering customized mobile experiences for patients and healthcare professionals. The rising use of technology in healthcare has raised many issues that our knowledgeable experts address with every project. When you engage our services, you can rest assured knowing that your data is safe and confidentiality regulations are followed. Our expert team can help you develop a mobile strategy that takes advantage of industry trends such as remote monitoring and patient engagement. Our services include planning features and functionality in the context of industry regulations and suitability for the end user’s environment.

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