Ambient Insight Comprehensive Research Report

The US Healthcare Market for Mobile Learning Products and Services: 2009-2014 Forecast and Analysis

The bottom line is: Healthcare education is mobile.

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Published: September 2010

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Executive Overview

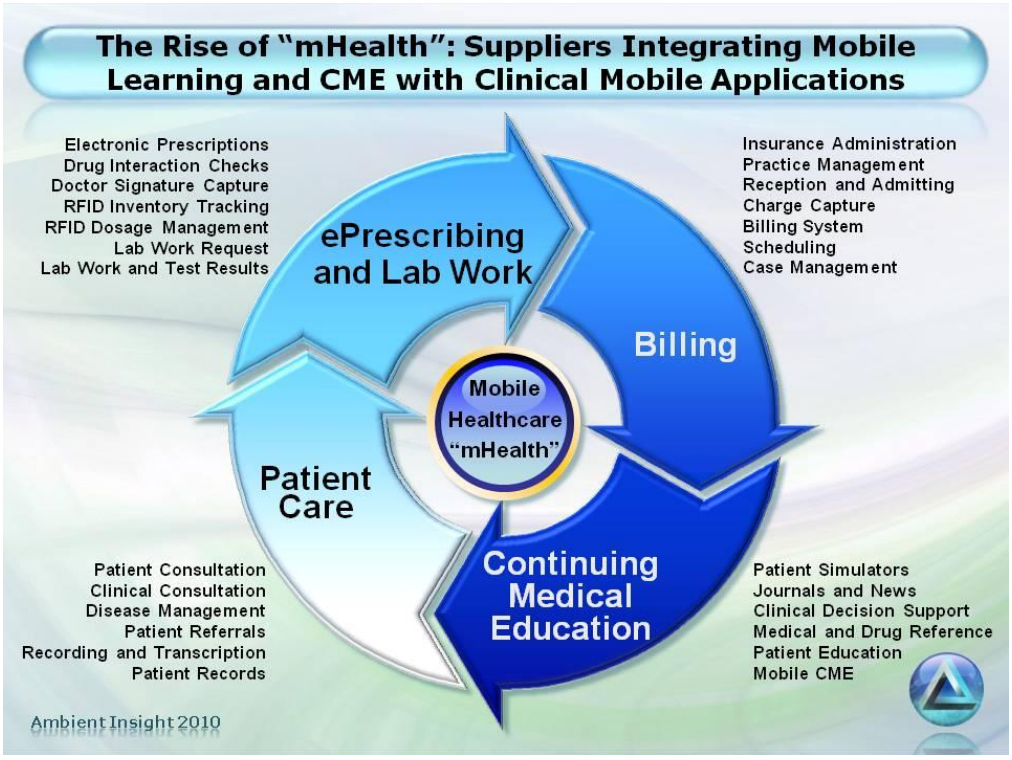
According to the Bureau of Labor Statistics, "ten of the 20 fastest growing occupations are healthcare related." Between 2008-2018, employment of home health aides is expected to increase by 50%. Healthcare workers will continue to need performance support and training.

Over the last several years, we have witnessed the acceptance and then the acceleration of mHealth. Mobile Health or mHealth means supporting medical and public health practices via mobile handheld devices, patient monitoring devices, and other wireless technologies.

Around the globe, mHealth is growing rapidly in concert with the widespread availability of mobile phones. In rural areas and in developing regions, mHealth connects healthcare professionals with patients living far away from health services. In developed countries, mHealth also enables a level of in-home care not previously possible.

Originally, mHealth referred to collecting and transmitting a patient's vital signs, clinical or community health data; but the term's usage has expanded to include a variety of patient education and performance support activities for healthcare practitioners—what we at Ambient Insight identify as Mobile Learning.

Figure 1 – The Rise of mHealth: Suppliers Integrating Mobile Learning into Clinical Applications



The US healthcare market for Mobile Learning products and services climbed to $104.44 million in 2009. Over the forecast period (2009-2014), overall demand will grow by a healthy 24% compound annual growth rate (CAGR) and revenues will reach $306.67 million by 2014.

The market for Mobile Learning in the healthcare segment is opaque, as it includes portions of other learning technology buyer segments such as associations, NGOs, and non-profits; corporations and businesses; and higher education. The answer to the question, "Who is the buyer?" is not easily discerned. This report addresses that question, as well as "What do buyers want?"

Demand will remain robust throughout the forecast period. Sales of healthcare Mobile Learning packaged applications and content will outpace sales of both Mobile Learning services and technology products. The growth in content comes from a wide variety of companies.

There are new names such as QD Ideas, iAnesthesia, Nerdcore Learning, and SoundTells; and well-known consumer brands such as Weight Watchers and Men's Health; as well as veteran Mobile Learning suppliers such as Modality who continue to expand their product lines.

Suppliers who were already succeeding in one content category such as continuing medical education (CME) have enlarged their scope to provide products in additional content categories such as study guides and reference products or services. The personalization features of Skyscape's Mobile Learning product called CME STAT is just one example.

Many suppliers now offer an integrated system of medical information for mobile devices and often, as is the case with the popular Epocrates Rx, the reference material is provided at no cost. Suppliers have experimented with a variety of business models, from offering premium and free content to providing fee-based or subscription services.

Custom content service providers are partnering with veteran healthcare and medical content publishers such as Elsevier and Lippincott Williams & Wilkins and well-known brands such as Tylenol to create a wide variety of custom Mobile Learning content and hosted services.

This type of collaboration with authoritative third-party content providers is still a smart route for new supplies trying to enter the market and for existing suppliers attempting to expand their offerings.

The stunning advances in mobile device technology such as location-awareness, faster processing speeds, and high-quality digital imaging are contributing significantly to the growth of Mobile Learning. The availability of high-speed bandwidth and new device capabilities are enabling sophisticated multimedia Mobile Learning applications, including simulations and game-based learning.

However, the recent proliferation of operating systems and nonstandard browsers combined with rapidly evolving devices will create more chaos than certainty for developers planning to release Mobile Learning products in the foreseeable future.

Developers will weigh the odds between developing native apps to take advantage of unique device features or creating Web-based apps and

services to serve a cross-platform market. This report highlights the pros and cons of each option, as well as addressing other market inhibitors.

In response to the ubiquity of connected mobile phones and handhelds, the previous trend for suppliers to provide mobile devices pre-packaged with Mobile Learning healthcare content has diminished. This report offers new insights on the evolving supplier and buyer/user categories, as well as the growth percentages and revenue forecasts for specific healthcare Mobile Learning content types, services, and technology.

A 2009 study funded by the Agency for Healthcare Research and Quality and published in the Annals of Internal Medicine found that patient education on after-hospital care saves money by reducing re-admissions and ER visits by 30%.

Several factors in the healthcare ecosystem are converging to drive the growth of Mobile Learning, not the least of which is user expectations and readiness. The changing demographics of healthcare consumers coupled with an accelerated need among healthcare providers to achieve greater levels of efficiency, reduce medical errors, and improve patient outcomes creates a healthy environment for Mobile Learning suppliers.

The emergence of the so-called "Expert Patient" in the last few years has created a strong demand for consumer-facing healthcare content. In the last two years, there has been an explosion in the number of mobile consumer and patient education healthcare applications and content. The very latest trend emerging is the integration of social networking features into these products.

A totally new type of product that Ambient Insight refers to as "intelligent medical jewelry" has emerged in the last year. Many of these wearable devices provide procedural "step-by-step" instruction to patients or caregivers, and are defined as Device-embedded Learning products by Ambient Insight.

New suppliers continue to enter the market at a steady pace. New ***native*** Mobile Learning development tools and delivery platforms continue to come on the market including highly specialized tools designed to create Location-based Learning, augmented reality, flashcards, exams and practice tests, and applications that will run on ebook readers and dedicated gaming devices.

Consumers and healthcare buyers, who increased spending on Mobile Learning even at the height of the recession, are driving the current overall US Mobile Learning market. Since the recession began, the healthcare segment has added over 730,000 jobs. According to a May 2010 report by the US Bureau of Labor Statistics (BLS), the healthcare segment has been adding an average of 19,700 jobs a month over the last 2 years.

Essentially, the healthcare Mobile Learning market has been immune from the recession. Ambient Insight expects this trend to continue throughout the forecast period.

Ambient Insight has identified a distinct change in the healthcare buyer demographic and this report describes a dramatic shift unfolding over the forecast period. Clearly, there are significant revenue opportunities for suppliers that know who the buyer is in the healthcare segment.

What You Will Find in This Report

This report provides extensive examples of competitors, products, and buying behaviors to help suppliers understand the market. This is evidence-based data designed to help suppliers create sustainable business models, develop competitive products, execute on go-to-market strategies, and generate significant revenues and profit.

The two major sections in the forecast and analysis section of this report provide a demand-side analysis and a supply-side analysis. The demand-side analysis in this report breaks out the expenditures for Mobile Learning products and services by nine distinct buyer types in the US healthcare segment:

- Consumers
- Students
- Professional individuals
- Healthcare associations
- Providers
- Teaching institutions
- Government funding to organizations
- Direct purchases by government agencies
- Pharmaceutical, device, EHR, and publishing companies

The supply-side analysis in this report forecasts the expenditures for three major categories of Mobile Learning products and services for the US healthcare segment:

- **Packaged Applications and Content** - broken out by eight major content types:
    - Language learning
    - General education, study guides, and reference
    - Simulation and game-based Learning
    - Medical, health, nutrition, and fitness
    - Business, sales, and finance
    - Handheld decision support
    - Professional licensure, continuing education (CE), and continuing medical education (CME)
    - Professional training and development
- **Services** - including custom content development and software-sold-as-a-service (SaaS)
- **Technology** - including development tools, Device-embedded Learning, and installed platforms

NOTE: *A highly-detailed analysis of the overall demand for Mobile Learning in the US across all eight buying segments is included in a separate Ambient Insight report called, "The US Market for Mobile Learning Products and Services: 2009-2014 Forecast and Analysis"*

We provide an analysis of the US market including key findings, trends, market inhibitors, and market catalysts.

A great deal of innovation is occurring outside the US, and we also provide an overview of healthcare-related international Mobile Learning trends.

Answering the question, "who is the buyer?" can be a daunting task for suppliers competing in the US healthcare Mobile Learning market. This report provides an analysis of the buying behavior of the top buyers in the industry.

Finally, we identify the most lucrative revenue opportunities for suppliers and offer our recommendations to compete successfully in the US healthcare Mobile Learning market.

Methodology, Scope, and Definitions

Ambient Insight provides market revenue forecasts based on our proprietary Evidence-based Research Methodology (ERM). The ERM is an iterative process based on predictive analytics used to identify revenue opportunities for suppliers.

ERM progresses from general patterns (the big picture) to very precise particular patterns. It is used to create a forecast model comprised of relevant predictors.

The forecast model is refined as additional data becomes available. Ambient Insight triangulates baseline revenues from three analysis vectors that include:

- Supply-side analysis
- Demand-side analysis
- Product and Service category analysis

Once the baseline revenues are triangulated, Ambient Insight uses the data to forecast the Total Addressable Market (TAM). Ambient Insight uses the data derived from the ERM process literally as evidence to support our market forecasts.

Scope

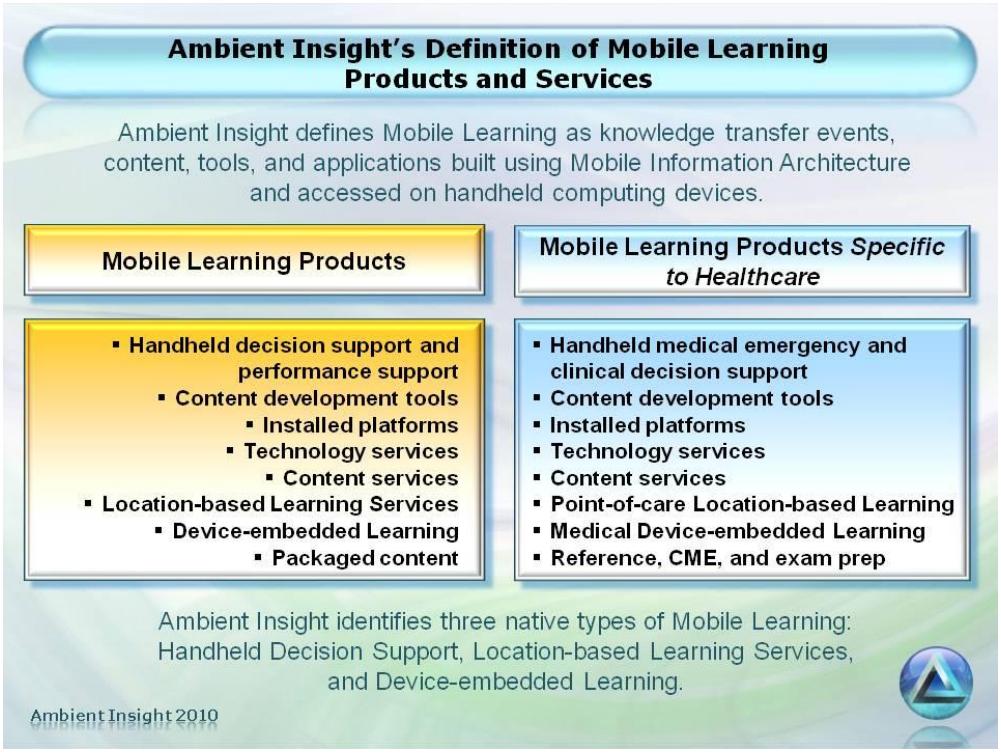
The data in this report are US-centric and only the buying behavior of US buyers is analyzed regardless of whether they buy from offshore vendors.

Definition of Mobile Learning

Ambient Insight defines Mobile Learning as knowledge transfer events, content, tools, and applications built using Mobile Information Architecture and accessed on handheld computing devices.

In our taxonomy, laptop and netbook computers, while mobile, are not considered handheld devices.

Figure 2 – Definitions of Mobile Learning Products and Services



Ambient Insight defines three major types of "native" Mobile Learning products: Handheld Decision Support, Location-based Learning services, and Device-embedded Learning.

It should be noted that there are mobile and handheld versions of the seven other learning product types tracked by Ambient Insight. To the extent that they have been modified substantially from their original format into mobile formats they are considered Mobile Learning products.

- **Handheld Decision Support** is an interactive application that provides sequential performance and decision support based on the input provided by the user. Handheld Decision Support is very common in corporate mobile field force, government first responder, and clinical healthcare environments.

- **Location-based Learning Services** are based on location-based services (LBS) technology. It is a type of knowledge transfer based on location-based intelligence enabled by wirelessly networked interfaces and sensors adapting to the presence of the user at a specific location. Global Positioning System (GPS) chips, Radio Frequency Identification (RFID) chips, and 2D and 3D bar codes are often used in this type of learning, particularly in clinical healthcare environments, first responder situations, museums, consumer education, and in the tourist industry.

- **Device-embedded Learning** is when the primary purpose of a handheld computing device is to enhance learning, access educational content, and assess and support performance. The device functions as a personal learning system. Examples in the healthcare segment include devices that provide procedural step-by-step information to patients and caregivers.

Although the terms Electronic Health Records (EHR) and Electronic Medical Records (EMR) are sometimes used interchangeably, this report uses the EHR term.

Related Research

Buyers of this report may also benefit by the following Ambient Insight market research:

- The US Market for Mobile Learning Products and Services: 2009-2014 Forecast and Analysis
- The Worldwide Market for Mobile Learning Products and Services: 2010 Research Brief
- The US Consumer Market for Brain Fitness Products: 2009-2014 Forecast and Analysis
- The Worldwide Market for Self-paced eLearning Products and Services: 2009-2014 Forecast and Analysis
- The US Market for Self-paced eLearning Products and Services: 2009-2014 Forecast and Analysis
- Private Investment Trends in the US Learning Technology Industry: 1999-2008 Longitudinal Analysis
- Ambient Insight's 2010 Learning Technology Research Taxonomy

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