

# A Guide to Healthcare Buzzwords and What They Mean: Part Two (M through Z)



## Meaningful Use (MU)

Meaningful Use is the phrase used in the 2009 HITECH Act to describe the standard providers must achieve to receive incentive payments for purchasing and implementing an EHR system. The term meaningful use combines clinical use of the EHR (i.e. ePrescribing), health information exchange, and reporting of clinical quality measures. Achieving meaningful use also requires the use of an EHR that has been certified by a body such as CCHIT, Drummond Group, ICSA Laboratories, Inc. or InfoGuard Laboratories, Inc. The term can also apply informally to the process of achieving the standard, for example “How is our practice doing with meaningful use?”

## mHealth

An abbreviation for Mobile Health, mHealth is a blanket label for transmitting health services, and indeed practicing medicine, using mobile devices such as cell phones and tablets. mHealth has large implications not only for newer devices like smartphones and high-end tablets, but also for feature phones and low-cost tablets in developing nations. Many different software and hardware applications fit under the umbrella of mHealth so the term is used conceptually to talk about future innovations and delivery systems.

# NLP

An acronym for Natural Language Processing, NLP is a field of study and technology that seeks to develop software that can “understand” human speech – not just what words are being said, but what is meant by those words. By “processing” text input into an NLP program, large strings of text can be parsed into more traditionally meaningful data. For example, narrative from a doctor in a medical record could be transferred into data for research and statistical analysis. If we had every medical record and narrative in history, we could search it and look for trends – and possible new cures and symptoms. IBM’s famous Watson machine that could “listen” to Jeopardy! clues and answer is an advanced example of NLP.

# ONCHIT

An acronym for “Office of the National Coordinator for Healthcare Information Technology,” the ONCHIT is a division of the Federal Government’s Department of Health and Human Services. The Office oversees the nation’s efforts to advance health information technology and build a secure, private, nationwide health network to exchange information. Although the National Coordinator position was created by executive order in 2004, the Office and its mission were officially mandated in the 2009 HITECH Act as a part of the stimulus package.

# Patient Engagement

Patient Engagement is a broad term that describes the process of changing patient behaviors to promote wellness and a focus on preventative care. “Engagement” can roughly be read to describe the patient’s willingness to be an active participant in their own care and to take responsibility for their lifestyle choices. Patient Engagement efforts can be as simple as marketing campaigns for public health and appointment reminders, and as advanced as wearable monitors that can transmit activity and exercise information so patients can

track their fitness. Improving the health system's ability to engage patients is considered key to lowering healthcare spending and attacking epidemics like obesity and heart disease.

## **Patient Portal**

A patient portal is software that allows patients to interact, generally through an internet application, with their healthcare providers. Portals enable communication between providers and patients in a secure environment with no fear of inappropriate disclosure of the patient's private healthcare information. Patients can get lab results, request appointments and review their own records without calling the provider. Patient portals can be sold as a standalone software module or as part of a comprehensive Practice Management/EHR package.

## **Patient-centered Care**

Patient-centered care is a healthcare delivery concept that seeks to use the values and choices of the patient to drive all the care the patient receives. As elementary as it sounds, developing a culture that places the needs and concerns of the patient – the whole patient – at the center of the decision-making process is a new development in the healthcare system. Patient engagement is at the core of patient-centered care, because the patient is the central driver of the decisions – as is only right!

## **PCMH**

An acronym for Patient Centered Medical Home, a PCMH is a model for healthcare delivery where most or all of a patient's services for preventative, acute and chronic primary care are delivered in a single place by a single team to improve

patient outcomes and satisfaction as well as lower costs. PCMHs may also operate under a different reimbursement structure, as they can be paid on an outcome basis or on a capitation model as opposed to fee-for-service.

## **PHR**

An acronym for a “Personal Health Record,” a PHR is a collection of health data that is personally maintained by the patient for access by caregivers, relatives, and other stakeholders. As opposed to the EHR model, in which a single hospital or system collects all the health information generated in the facility for storage and exchange with other providers, the PHR is maintained, actively or passively with mobile data capture or sensor devices, by the patient. The PHR can supplement or supplant other health records depending on the way it is used.

## **PPACA**

An acronym for the “Patient Protection and Affordable Care Act,” the PPACA was a federal law passed in 2010 to reform the United States healthcare system by lowering costs and improving access to health insurance and healthcare. The PPACA uses a variety of methods – market reforms to outlaw discrimination based on gender or pre-existing condition, subsidies and tax credits for individuals, families and employers, and an individual mandate forcing the uninsured to pay penalties – to increase access to insurance and lower healthcare costs.

## **PQRS**

An acronym for the “Patient Quality Reporting System,” PQRS is a mechanism by which Medicare providers submit clinical quality and safety information in exchange for incentive payments. Physicians who elect not to participate or are found

unsuccessful during the 2013 program year, will receive a 1.5 percent Medicare payment penalty in 2015, and 2 percent Medicare payment penalty every year thereafter.

## **RAC**

An acronym for “Recovery Audit Contractor,” a RAC is a private company that has been contracted by the Centers for Medicare and Medicaid Services to identify and recover fraudulent or mistaken reimbursements to providers. There are four regions of the United States, each with its own RAC which is authorized to recover money on behalf of the Federal Government. A pilot program between 2005 to 2007 netted nearly \$700 million dollars in repayments and the program was made permanent nationwide in 2010.

## **REC**

An acronym for “Regional Extension Center,” a REC is a organization or facility funded by a federal grant from the Office of the National Coordinator for Health Information Technology to provide assistance and resources to providers who want to adopt an EHR and achieve meaningful use but need technical or deployment support to get their system up and running. There are currently 62 RECs in the United States who focus primarily on small and individual practices, practices without sufficient resources, or critical access and public hospitals that serve those without coverage.

## **Registry**

A Registry is a database of clinical data about medical conditions and outcomes that is organized to track a specific subset of the population. Registries are important to track the efficacy of drugs and treatment, as well as to analyze and identify possible treatment and policy opportunities to improve care. A registry can also be used to report PQRS.

# Telehealth

Telehealth is a broad term that describes delivering healthcare and healthcare services through telecommunication technology. Although the terms telehealth and mhealth can be used somewhat interchangeably, “telehealth” tends to focus more on leveraging existing technologies – phone, fax and video conferencing to deliver services over a long distance, or to facilitate communication between providers. Remote evaluation and management and robotics are both examples of care innovations that would fall under the telehealth umbrella.

## Value-based Purchasing

Value-based purchasing is a reimbursement model for health care providers that rewards outcomes for patients as opposed to the volume of services provided. Both through increased payments for positive outcomes, and decreased payments for negative ones, value-based purchasing seeks to lower costs by focusing on increasing quality and patient-focus. Accountable Care Organizations and Patient Centered Medical Homes are both examples of delivery systems that rely on value-based purchasing.

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## mHealth Gives Home Health a Whole New Meaning



One of the most exciting trends in modern healthcare can be found at the intersection of two larger societal changes: the

shifting demographics of an aging Baby-Boomer population, and the fast adoption of smart mobile devices and mobile application platforms. As robust, secure and intuitive mHealth applications are adopted, patients are more empowered to monitor and share their health data outside of a traditional medical office or hospital setting. As healthcare delivery system already short on providers becomes even more taxed, mHealth applications will allow the system as a whole (patients, caregivers, loved ones, and payers) to navigate health decisions in a more efficient and informed way.

This quote from the Deloitte Center for Health Solutions [2010 Survey of Health Care Consumers](#) says it all:

*“Boomers view tech-enabled health products as a way to foster control and ongoing independence for themselves, especially in light of the rise in incidence in chronic disease with aging, and their desire to reduce costs. Nearly 56% of boomers show a high willingness to use in-home health monitoring devices in tandem with care of their primary physician.”*

What are the advantages of pushing home health medical data from the source to the care provider?

- Minimum lag time between data collection and the clinician’s ability to review it.
- Reduction in errors associated with human intervention in data entry.
- Intuitive and simple interfaces promote active patient involvement and caregiver communication in healthcare management.
- Secure sharing of PHI (Protected Health Information) with patient, family members, and approved internal and external stakeholders in health.

Here are just a few of the companies and products available now (or in the near future) that might change your mind about

where and how health data is captured and shared. Each of these products automates the capture of health data and the transfer of the data in a usable format to an Electronic Health Record.

### **Near Field Communications**

NFC (Near Field Communications) is a wireless technology that allows for quick transfer of data between two sensors that are fairly close (an inch or two) together. The secure transfer allows for seamless data tracking inside caregivers' workflow. For example: medical supplies, drugs, injectables and fluids can be fitted with low cost sensors that are swiped past a patient's sensor to indicate they will be administered to the patient, and then again past the provider's sensor to indicate a finished procedure, capturing time of administration, dosage, and patient information without slowing down the care to enter this critical data by writing them down, typing them in, or just resolving to remember them for later entry.

[Gentag](#) makes the data sensors and applications that manufacturers can use to send data via cell phone to the hospital or physician for seamless inclusion in the electronic medical record (EMR). Monitoring of blood pressure, fever, weight management and urinalysis are just a few of the ways Gentag has improved data capture in healthcare.

[iMPak Health](#) makes a cholesterol monitor the size of a credit card that accepts a small blood sample to process for triglyceride levels. The data is uploaded wirelessly to a cell phone that transmits it to a health provider.

### **Smart Fabrics and Wearable Monitors**

Researchers at the Universidad Carlos III de Madrid in Spain developed a fascinating concept for an "[Intelligent T-Shirt](#)" that uses sensors woven into a washable fabric to create a hospital garment that does more than preserve the patient's modesty. The sensors in the fabric can detect and record



temperature, bioelectric impulses (for ECG monitoring), as well as the patients location, current resting position, and level of physical activity.

Copenhagen Institute of Interaction Design graduate Pedro Nakazato Andrade has designed a dynamic cast called [Bones](#) that collects muscle activity data around a fracture area by using electromyographic (EMG) sensors to report the patient's progress to physicians automatically. This could reduce the need for follow-up visits and imaging, or change the specifics of rehabilitation.

The [Basis Band](#) is a wristwatch-type accessory that monitors heart rate by directing light into the skin to image blood flow. It also uses a heat sensor for skin temperature changes, an accelerometer for recording movement and activity, and sensors for galvanic skin response. The band also gives customers access to a free, web-based health dashboard to oversee the data the device collects and transmits.

There are still some considerable hurdles to full adoption of mobile home health monitoring. Very few patients use only one medical device, so not only do monitoring devices need to work with networked EHR technologies, they have to be integrated with each other to present a comprehensive picture of health to providers and Health Information Exchanges (HIEs). Also, as patients navigate the system of generalists, specialists, and emergency care providers, the possibility of encountering multiple software and hardware platforms will require flexible, integrated solutions that can run on any device. As with any networked application of sensitive data, security and availability are major factors in a success deployment. Unless patients can count on the privacy of their data, and providers can count on the uptime of their software, healthcare systems won't be able to realize the full benefit of mHealth installations. On top of that, more monitoring of patient health means that there will be even more data to be collected on each patient, and on the population as a whole. While more

data means more opportunity for large scale research and analysis for the public benefit, it also means more data has to be secured and protected as a part of the health record, requiring even more security and storage resources. And finally, the Food and Drug Administration will have a large say in the future of mHealth application development through industry regulation. Device makers and application developers will certainly have to work within a governmental framework which will have a large say in the time-to-market of many possible products.

With all that being said, the opportunity to meet the demographic challenges of an already stressed healthcare system with mobile home health monitoring and Electronic Health Records will be one of the major themes of the future of both the health and technology industries.

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## **Learn This: Physicians, Smartphones and mHealth**

For the organized and busy professional on the go, the smartphone has quickly become a necessity on par with a person's house keys, wallet, or purse. The past five years have vaulted the smartphone from status symbol to must-have business tool by bringing data and communication capabilities from your office to the palm of your hand. With decision making and communication tools always at the ready, you can be productive from anywhere you are, and you are freed up to bring information to clients, meetings, and conferences without the hindrance of a laptop.

Physicians, practitioners and forward thinking healthcare

organizations are leading the charge to embrace mobile health, often called **mHealth**, or the practice of patient care supported by mobile devices. A survey conducted at the physician online and mobile community [QuantiaMD](#) in May of 2011 found 83% of physicians reported using at least one mobile device and 25% used both a phone and a tablet. Of the 17% surveyed who did not use a mobile device, 44% planned on purchasing a mobile device sometime in 2011. Physicians surveyed reported their top uses for mobile devices as :

- looking up drug treatments and reference material (69%)
- learning about new treatments & clinical research (42%)
- helping me choose treatment paths for patients (40%)
- helping me diagnose patients (39%)
- helping me educate patients (27%)
- making decisions about ordering labs or imaging tests (26%), and
- accessing patient information and records (20%)

## **Why is mHealth such a big deal?**

The reason the healthcare industry is moving so quickly to adopt **mHealth** practices: changing legislative, demographic and financial conditions are forcing providers and care organizations to seek efficiencies and cost-savings from technology. Many physicians purchased their mobile device not imagining it as a clinical tool, only to discover possible uses in patient care after adoption. Moreover, since mobile devices are built on platforms that allow for the development and distribution of healthcare-specific applications (apps) that support clinical practice, software companies are able to quickly respond to physician demand for new and better solutions.

Applications can vary widely in quality, application, and cost, but are generally easy to acquire, test and adopt.

Reference works like Daviss Drug Guide ([iOS](#) / [Android](#)), Tabers Medical Dictionary ([iOS](#) / [Android](#)) and Netters Atlas of Human Anatomy ([iOS](#) / [Android](#)) are available in searchable, easy-to-use digital versions. Tablets, with larger, shareable screens provide even better opportunities in patient education and imaging diagnostics – without having to drag (or roll) a laptop into a care setting, and without the barrier of a screen that separates provider and patient.

## mHealth and EHRs

Even bigger opportunities are possible when mobile devices are tied into Electronic Health Records (EHRs) to give providers access to their patients history at a glance. With the HITECH provisions of the ARRA or Stimulus Act, healthcare organizations have incentives to adopt EHRs that fulfill meaningful use requirements in the next five years. While current adoption of EHR technology is only at around 20 to 25%, healthcare analysts David C. Kibbe, MD, MBA and Brian Klepper, PHD writing for [Kaiser Health News](#) predict that 2011 and possibly 2012 will find providers cleaning house to prepare for EHR adoption or upgrade, while some organizations will stay on the sidelines to avoid high switching costs from legacy electronic and paper systems .

The potential for care is enormous however, as mobile access to patient data in a secure setting would mean dramatic efficiencies for providers who normally have to rely on either a stationary computer or a retrieved paper record. Mobile patient data would also allow for easier compliance with hospital treatment protocols via alerts, and for consultation amongst physicians outside of their immediate location, as well as ePrescribing to cut down on time, resources, and fraud. Concerns about security, liability and reimbursement are still important issues for vendors, providers and patients but the demand for a more flexible and efficient healthcare system is driving software companies to offer more powerful

and interoperable products that meet these issues head on.

Providers aren't alone in pushing **mHealth** forward. Today's patient wants to be more informed about their care and the options they are presented with medically and financially. The same streamlined access to information that is winning over large numbers of caregivers is empowering patients to make healthier choices in their lifestyles, and a better decisions navigating the healthcare system. According to the [Pew Internet and American Life Project](#), nearly three quarters of American users (or roughly 59% of the entire US population) have used the Internet to research health information .

As both patients and providers become more accustomed to having their health decisions supported by mobile data, secure sharing of clinical, audio, and video data between patients and their caregivers will empower the healthcare system to tackle more of its challenges with technology.

## For Physicians: Starting with mHealth

If you don't have a smartphone, check out this [article](#) for recommendations. The same article includes advice on free and paid apps that any smartphone user will find helpful.

For medical-specific apps, start with the Big Boys:

- **Medscape** ([iOS](#) / [Android](#)) is a product of WebMD, and features full, free access to drug, diseases, protocol, CME and hospital directory information.
- **Epocrates** ([iOS](#) / [Android](#)) is a free drug reference app that also has a premium subscription feature for more in-depth info, as well as paid versions of the app for specialties and comprehensive drug interactions.
- **UpToDate** ([iOS](#), unreleased) is a web-based service for physician reference and evidence based treatment options

as well as CME for clinicians that is planning on releasing an iPhone app sometime this month. Check out [their site](#) to stay tuned for the apps release.

The ability to download apps (the Market for [Android devices](#) or App Store for [iPhone](#) and [iPad](#)) is built right into the device so users can quickly search for and install software without touching a desktop or laptop. These apps are a great way to get started using your device for mHealth applications, and both can be on your device within minutes of finishing this article.

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## **Interview With Doug Naegele of Infield: What (Text) Message Are You Sending Your Patients?**

***Q: Tell us about the process leading up to the creation of Infield and how you decided to focus on a mobile application?***

Infield has always been devoted to mobile. We were originally in the public health space, but we caught the "Health 2.0" bug and started looking at the intersection of patients and care providers. We honed in on texting because it includes the 60% of patients that don't have a smart phone.

***Q: Your product is suitable for a large practice or a hospital. Can you describe how a client would use your product for specific populations or health issues or to enhance a service line?***

A clinic or hospital would enroll its patients into specific strings of messages based on the patient's condition. For

example, hypertension patients would receive a Heart Healthy Tip-of-the-week, while diabetics might receive weekly tips on diet and exercise. Physical therapy patients could receive texts about stretching or light exercise ideas. The goal is to keep the patient close to the provider in-between visits. An additional benefit to the provider is keeping patients on track with appointments and office visits, thereby driving revenue to the provider.

***Q: We talked about the client creating the content for the text messages – can you give some examples of text messages that a practice or hospital might send to a patient newly diagnosed with diabetes?***

Let's imagine the texts are coming from Valley General Hospital.

Week 1 text: "An after dinner walk often helps get 20-min of exercise. Join Valley General's walking club! 800-555-1212. Text STOP to stop"☐



Week 2 text: "Monitors and strips are often covered under insurance or Medicaid. Call us to learn more: 800-555-1212. Text STOP to stop"☐

Week 3 text: "Dizziness or shortness of breath can be serious. Valley Gen nurse line @ 800-555-1212. Text STOP to stop"☐

Week 4 text: "Stay on track with your appointments, even if you don't feel sick. Valley Gen. appt line @ 800-555-1212. Text STOP to stop"☐

What's important is that the patient is receiving gentle nudges to adopt a healthier lifestyle, while also receiving contact data to achieve those results. For the provider, the calls to action often result in increased revenue.

Patients can "Text STOP to stop" at any time to stop receiving

messages.

**Q: What's the process for connecting the patient with the messages, and who makes that connection?**

There are two ways. 1. At discharge: the discharge nurse brings up a simple Website that lists the conditions available (diabetes, hypertension, and obesity, for example). He or she chooses a condition, types in a patients phone number, and hits "send". 2. Self-directed: the patient is handed a business card with instructions on how to self-enroll. "Text HEART to 12345" for English-hypertension. Text "CORAZON to 12345" for Spanish-hypertension.

**Q: I was impressed that you offer the service in different languages – which languages are available or can you make any language available upon request?**

Offering content in multiple languages is crucial to reaching patients who don't use the Internet or e-mail. For example, young Hispanics are 5x more likely to text than use email in any given day. Infield can offer the content in any language that's supported on a mobile phone.

**Q: I've heard of obstetric practices texting pregnant women and giving them lots of support and information during their pregnancy. Are there other success stories about specific populations or specific illnesses or diseases?**

You're referring to [Text4Baby](#) "" a fantastic example of aggregating patients (pre-natal moms) and offering quick snippets of information. In addition, there are recent examples of texting increasing drug compliance and at-home therapy compliance. We're offering the ability for individual providers to customize the content and offer it to their patients exclusively.

**Q: Can Infield handle medication reminders or support group reminders or texts that would be sent on a different time line than 2 messages per week?**

Yes. We can change the intervals based on what's best for the



patient and the provider.

***Q: Could your product be launched in a community to improve the health of an entire community and maybe be supported by a grant?***

Yes. In fact, we are currently on a number of grant applications to offer health improvement through community health initiatives. We worked with the community centers to meet the grant requirements.

***Q: Where do you see mHealth going in the next two years? Can you give us a hint about functionality that your product might have in the near future?***

The ability for patients to support each other via mobile devices is something we're very excited about. So, instead of a gentle nudge to improve my health from my doctor, I got one from my best friend or coworker or walking partner. Patients helping each other – one-to-one – is what we're excited about.

✘ Doug Naegele is president of Infield, a provider of mobile solutions that bring patients closer to healthcare providers. Previously he held positions in healthcare banking, technology development, and drug discovery. The latter, at Vertex Pharmaceuticals, yielded numerous US patents and drug candidates for Hepatitis C and autoimmune disease. Doug holds an undergraduate degree from Harvard University and an MBA from The George Washington University. You can contact Doug here: [doug@goinfield.com](mailto:doug@goinfield.com) and his company website is [www.InfieldHealth.com](http://www.InfieldHealth.com).

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# **What is mHealth? A TED Talk**

# Predicts Healthcare In 2016

There's nothing I can say but close your door for 16 minutes and 59 seconds and watch this.

mhealth is short for "Mobile Health" and is medical and public health practice supported by mobile devices, like MP3 players and smartphones. [Here's a link](#) for more info on smartphones, medical applications and other fun stuff from Epocrates.